

THE SARS COMMISSION

Final Report

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Spring of Fear

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Dedication

*This report is dedicated to those who died from SARS,
those who suffered from it, those who fought the disease,
and all those affected by it.*

CHAPTER FIVE: The Victims of SARS

Death on the Front Lines

Three medical workers on the front lines died during the SARS outbreak. One was a family doctor and the other two were nurses.⁷⁹³ The deaths shook the health care community, spawning calls for a better information flow to family doctors and better protection in the workplace for all who work in hospitals.⁷⁹⁴

Nelia Laroza

Nelia Laroza was the first of two nurses to die during the SARS outbreak. She worked at North York General Hospital and succumbed when SARS reappeared after authorities thought they had beaten the outbreak. She was 52 years old and died on June 29, 2003.

Her death sent shockwaves through the nursing and medical communities. Her funeral was attended by union leaders and politicians, including Ernie Eves, Ontario's Premier at the time. An honour guard of nurses, wearing black armbands, paid tribute to her at her funeral.

Nelia Laroza was known for her skills and was well respected by doctors and colleagues. She was an unlikely candidate to be struck by SARS because she was meticulous about precautions against infection.

A nurse who worked with her for a decade told the Commission:

... a great loss. And she was so paranoid about SARS that when they first came forward and told us, she always dressed in a gown. We were

793. A fourth medical worker, Adela Catalon, a nursing aide at a Toronto retirement home, also died of SARS, in the Philippines. Her story is told in the chapter "The Lapsley Family Doctors' Clinic."

794. Because the names of these three health workers and the particulars of their illnesses are already in the public domain, they are disclosed openly in this report.

100 percent dressed in gowns, she was 120 per cent dressed in gown. She was so paranoid about SARS.

And we just couldn't understand why she died.

Nelia Laroza feared SARS from its first outbreak at Scarborough Grace Hospital. She did not work there, but it was not far from her family home. Members of her family told the Commission that she bought masks and family members carried anti-bacterial hand wash at all times.

Whenever her daughter picked her up from work, she had to wait in the parking lot and call her mother on a cellphone. Nelia did not want her daughter to wait inside the hospital, fearing that the air was contaminated.

When she came home, she headed for the shower and changed her clothes before hugging any members of her family.

A doctor who worked with her had nothing but praise for Nelia:

She was a good nurse, very casual, without any sort of announcement, was very professional, good with her patients, and had the ability to pick up on if something was changing in them. She would identify it; she'd let you know.

Nelia was someone who, if she called you, and said "I'm worried about so-and-so," it would be because they've done this and this. Other people might not be as clinically observant or have the ability to communicate it ... Nelia was just very good that way. She was as good as it gets for anyone, she was just your good, basic, decent person.

Nelia followed the strict protection regimen even after the authorities declared that SARS was contained.

She worked on the orthopedic ward of North York General, where the second outbreak started and many of her colleagues became ill.

Toronto Public Health records show that she became ill with fever and muscle aches on May 16. She went to hospital on May 21, but was sent home with a diagnosis of "viral illness."⁷⁹⁵ She returned to the hospital on May 23 as a patient and was admit-

795. Toronto Public Health Case Review.

ted with a diagnosis of possible SARS. She died on June 29.

Nelia Laroza was born in the Philippines on October 10, 1951. She worked as a nurse for more than 20 years, 13 of them at North York General. She lived with her husband, Emiliano, daughter, Grace, and son, Kenneth. At the time, her children were 23 and 16 years old.

All were quarantined but only her son was infected. He recovered. More than 1,500 members of his school were also quarantined.

The doctor who worked with her told the Commission:

... she took great pride in her work and her kids, and ... Nelia [and I], we both followed protocol. But Nelia was seeing those patients, a larger number of patients more frequently. And I've often said, the reason that she contracted SARS is because she was a good nurse, in the sense that she was a bedside nurse, made good notes, looked after her patients.

Tony Clement, Minister of Health for Ontario at the time, had this comment on Nelia's death:

Anyone who works day in, day out to protect the rest of us from any manner of disease, when you lose one who is acting heroically, it's a loss for everyone.⁷⁹⁶

Tecla Lin

Tecla Lin was one of the first health workers to volunteer to take care of SARS patients, and the second nurse to succumb to SARS. She worked at the West Park Healthcare Centre, where ill staff from Scarborough Grace Hospital were brought into a SARS unit established especially to cope with the outbreak.⁷⁹⁷

796. CTV News report, July 4, 2003.

797. West Park Healthcare Centre, media release, July 21, 2003.

Ms. Lin's first shift was on March 24, 2003, and her last on April 2, 2003. The following day she had fever, muscle pain and a cough and on April 4 was admitted to Sunnybrook Hospital and later transferred to William Osler Health Centre. She died on July 19 from complications of SARS. Tecla Lin was 58 years old.⁷⁹⁸

Her husband, Chi Sui Lin, also developed a fever and after a brief quarantine period because of his wife's exposure to SARS was admitted to Toronto East General Hospital, where he died on April 26. Mr. Lin was 77 years old and had previous health problems.⁷⁹⁹

Ms. Lin was a popular and respected nurse who had a special empathy with patients. Her death devastated those who worked with her.

A doctor at West Park told the Commission:

When Tecla Lin died it was the worst. I did not think I was very well for a while. I did not want to go anywhere, I just wanted to be home. I was tired ... it was like [I] had been through an earthquake.

Tecla Lin was born in Hong Kong on December 18, 1944. She had more than 35 years' experience as a registered nurse in Hong Kong and Canada. She began her nursing career in 1968 in Kowloon, after graduating from the Government School of Nursing. For the next five years, she worked as an operating room nurse.

In 1973, she moved to Canada with her husband and two sons. From 1977 to 1998, she worked at the Doctor's Hospital in Toronto, where she developed specialized skills in monitoring intensive and critical care unit patients. During that time she earned a Bachelor of Applied Arts in Nursing and a Certificate in Critical Care Nursing from Ryerson University.

She worked at West Park part-time and also had another part-time job, at the Toronto Rehabilitation Institute.⁸⁰⁰

798. Toronto Public Health Case Review.

799. Toronto Public Health Case Review.

800. West Park Healthcare Centre, media release, July 21, 2003.

Survivors include her sons, Wilson and Michael Tang, who were toddlers when the family moved to Canada.

Michael Tang told the *Toronto Star*:

My mother died on the battlefield of SARS. She was ready and willing to take on risks and dangers. She died with a lot of honour and dignity.⁸⁰¹

Tecla Lin never told her children that she was caring for SARS patients. Michael Tang told the *Toronto Star*:

I don't believe she considered it a lethal career decision.⁸⁰²

Politicians and medical dignitaries attended her funeral at Elgin Mills Cemetery. Tecla Lin was a Buddhist and believed in reincarnation. Her sons placed items she would need in her next life with her body: her glasses, purse, makeup, photos of her deceased husband and a calculator.

Her son told the *Star*:

She always had tons of calculators.

Dr. Nestor Yanga

Dr. Nestor Yanga, a family physician working at a small family doctors' clinic in Toronto, was the only North American physician to die of SARS. Dr. Yanga, 55, was one of four doctors at the Lapsley Clinic in northeast Toronto. Two other doctors at the clinic also contracted SARS but survived. The story of the Lapsley Clinic is told elsewhere in this report.

Many of Dr. Yanga's patients were members of Toronto's Filipino community of about 200,000 people. When SARS struck, some its members who had attended a religious retreat started showing symptoms and came to the clinic to be checked.

801. *Toronto Star*, "Tecla and Chi Sui Lin," September 27, 2003.

802. *Toronto Star*, "Tecla and Chi Sui Lin," September 27, 2003.

Dr. Yanga examined a BLD (Bukas Loob Sa Diyos) member as well as other members of the S family, whose story is told earlier. Details about SARS had not yet reached all the family doctors, and he wore no protective equipment when he examined the patients. Late on April 4, Dr. Yanga developed fever, muscle pain and fatigue. The next day he began to cough and went to a SARS assessment clinic in nearby Markham. He was sent home and told to quarantine himself. When his condition became worse, he was admitted to Sunnybrook Hospital on April 8. He died on August 14, 2003, from complications of SARS.⁸⁰³

More than 2,000 people attended his funeral at St. Michael's Cathedral in downtown Toronto. The mourners included Tony Clement, then Ontario's Minister of Health, and Dr. Larry Erlick, then President of the Ontario Medical Association.

In a statement, Dr. Erlick said:

Dr. Yanga's caring and devotion to his patients serve as an outstanding example of the commitment and professionalism that define what it means to be a physician.

Doctors put their lives on the line every day that they go to work. Dr. Yanga demonstrated determination and dedication to the profession and to his patients – he is an example for us all.⁸⁰⁴

As the *Toronto Star* reported, many at the funeral wept as Dr. Yanga's younger son, Ronald, 16, said he was planning to buy a "Welcome home, Dad" banner when he got the news that his father had died:

I always thought he would be there forever and I wouldn't have even to think of him being gone ... It's hard to know that he's not going to be home anymore.⁸⁰⁵

Dr. Bina Comendador, a friend of Dr. Yanga, told *The Globe and Mail* newspaper:

803. Toronto Public Health Case Review.

804. Ontario Medical Association media release, August 14, 2003.

805. "Poignant tribute to MDs' rare spirit," *Toronto Star*, August 20, 2003.

He was the kind of person you could respect and really care about, and I think his patients felt that too. He would make you feel that you were special and that you were the most important patient.⁸⁰⁶

Dr. Yanga was a former president of the Canadian Filipino Medical Association and a dedicated general practitioner and church volunteer. According to friends, he was passionate about everything he did. He loved dancing, gardening and spending time with his two sons, Nelson and Ronald. At the time of his death they were 20 and 16.

Dr. Yanga was born on October 8, 1948, in Malabon, the Philippines. He studied medicine at the University of Santo Tomas in Manila. He specialized in surgery and graduated in 1975. He immigrated to Canada in 1981. In the same year, he married Remy, whom he had met during a visit two years earlier. He took his medical exams in Canada and interned at a hospital in Newfoundland and then at two hospitals in Toronto.

He studied at McMaster University and the University of Toronto, intending to become a psychiatrist, but he changed his mind in his third year and chose family medicine instead.

While at the Lapsley Clinic, Dr. Yanga assisted with surgeries at Scarborough Centenary Hospital and worked as a volunteer at the sexual assault centre at Scarborough Grace Hospital. He and his wife were dedicated members of the charismatic Catholic group Bukas Loob Sa Diyos (BLD).

Dr. Yanga had a lifelong passion for ballroom dancing, which he enjoyed with his wife. He was a consummate family man who reserved time for his wife and two sons.⁸⁰⁷

806. "A life cut short by Severe Acute Respiratory Syndrome," *The Globe and Mail*, September 5, 2003.

807. "A life cut short by Severe Acute Respiratory Syndrome," *The Globe and Mail*, September 5, 2003.

Patients and Families

The story of SARS is the stories of its victims. Only the details of these shattered lives can fully reflect the horror brought by the disease and our health system's inability to protect us.

As the SARS story recedes into history, it becomes easier to forget the nightmares this unexpected killer disease made real. It becomes more difficult to convince government to do what is needed to ensure that we are spared such horror in future. Listening to the victims' voices help us to absorb and accept the lessons of SARS, critical lessons that might spare us from similar catastrophes.

No one should ever forget the pleas of a woman who told the Commission of the almost incomprehensible anguish suffered by her family:

There are still questions that need answers. The most important one, why did we have to suffer through such political chaos just because some bureaucrats couldn't agree or get their facts straight. We are little people in the grand scheme of the SARS episode and it is the little people that suffered the most and [our voices] fell on deaf ears.

We need changes to our hospitals, we need changes to our public health care system and we need changes to all levels of government departments that deal with emergency measures. Someone has to do something before it is too late for more little people.

The victims of SARS are representative of our society. Some were ordinary working people, some were doctors and nurses, some were retired and some were immigrants trying to build new lives. Their stories can be grouped as those who died, the families of the dead, those who survived and their families, and the hidden victims who did not get SARS but saw their lives affected by it. Forty-four people died of SARS in 2003 and many thousands were affected, as victims who survived, or relatives and friends or those who had to face the isolation, discomfort, fear and stigmatization of quarantine.

Their stories say much about our health system and ourselves. Some reveal specific systemic failures, like the failure to have any consistent policy for hospital visitors during SARS. This is illustrated by the family whose father died after open-heart surgery. They were told by the hospital's cardiac coordinator that they could visit him before the surgery, but the decision was reversed by a nursing supervisor who the family felt was too arbitrary. The family did not get to see the father before he died. The problem here does not rest with any individual but with the lack of a system to assist families and visitors to navigate the visitor restrictions imposed by SARS.

Some of the worst stories come from the earliest days of the outbreak in March and April, before the system learned anything about SARS. However, many of the systemic weaknesses continued, and even in an improved system, nothing can take away the devastation caused by the deaths and the serious illness.

All the stories reflect the pain inflicted by SARS on many families. In many cases, some of the pain could have been avoided had the health system been more effective. The individual hospital could have done nothing more for the family of the mother and father with SARS who shared a hospital room. After the father died and hospital orderlies wheeled away his body, the mother remained for 20 days, visited only one hour a day by her family because SARS required visitor restrictions. The hospital did nothing wrong and can't be blamed for restrictions that left the dying woman unable to see her family the other 23 hours of the day. What was wrong was a hospital system inadequately protected against the onslaught of a deadly disease.

Some stories tell of courageous selflessness of those who became afflicted because they chose to help, such as the nurses' aide who volunteered to visit a friend's elderly mother because she was ill at home and needed nursing help when her daughter was at work. Unknown to anyone, the elderly woman's illness was SARS. She passed it to the Good Samaritan nurses' aide, who carried it to the Philippines during a vacation, where she infected her father. SARS killed both her and her father.

Or the hospital clerical worker who was asked by a nurse to help lift a patient. It wasn't her job, but she wanted to help. It was discovered later that the patient had SARS. The clerical worker infected her 62-year-old father, who died of SARS.

Many health workers became seriously ill from SARS and some died. Their stories are told later on in this section and in other parts of this report.

The stories of non-SARS patients, their families and their friends, who suffered because SARS interrupted the delivery of normal, day-to-day medical treatment for

other diseases and conditions, are told in the section called “The Wider Impact.” These are the stories of citizens who entered the health care system for a variety of reasons, caught SARS and died.

The stories of the victims, their families and their friends follow a pattern. First the confusion, fear and lack of information surrounding initial treatment. Then conflicting information about quarantine, and confusion, stress and heartbreak of hospital visitation restrictions. Then not knowing for sure what your relative died of, or hearing through the media that he or she died of SARS. And the heartbreaks of a funeral process thrown into chaos because those who needed to be there were too sick to attend, or because public health authorities imposed restrictions, or because people were just too frightened to attend.

The victims’ stories tell of individual misery but grouped together they show some common themes:

- *Poor communication with families.* Different people in authority seemed unable to provide consistent answers. People were not always told directly that their relative had SARS. They sometimes learned from the media or other sources.
- *Lack of clear and consistent visitation rules.* The inability to regularly visit their sick relatives, even to be with them and to say “I love you” before they died.
- *Inability to have a traditional funeral.* In some cases, funeral visitations were forbidden or restricted. Mourners had to stand off at a distance at one burial. For some, there was no closure.
- *Stigma of being associated with SARS.* One family that lived through hell because of SARS was told by a school that their children could not return to classes even after they successfully passed through the public health quarantine period. One daughter missed her final exams because her school refused to let her return to class.

In all of this we must remember that everyone who fought SARS, from hospitals to public health workers to high officials in government, were also victims in one sense because they had the misfortune to work in a system profoundly unprepared and starved by successive governments of the right resources to meet a crisis that no one expected and for which no one had planned. These administrators and front-line

workers had to cope with what they had. They cannot be blamed personally for the confusion and frustration and problems suffered by the victims of SARS. Instead of assigning blame, we must build systems and safety cultures that prevent what happened during SARS.

The Commission tried to contact all the families directly affected by SARS in Ontario. It was not successful in reaching them all. People moved, or in some cases the families contacted said they did not want to talk to the Commission or anyone about SARS.

The victims' stories that follow are as told to the Commission by the victims, their families and their friends. They suffered awfully from SARS and might recall events differently from someone seeing the outbreak from a different perspective. The Commission has not tried to corroborate details of the victims' stories. The purpose of telling the stories is to try to reflect the overall horror that smothered these peoples' normal lives during SARS, and not to confirm every detail.

A Descent into Horror

They were a family of four generations, well educated, intelligent and close to each other, until SARS arrived and placed them on a descent into madness. Only two generations emerged from the madness, shell-shocked survivors of a horror none of them could have imagined.

Like some other SARS stories, theirs began with seeking medical attention for a non-contagious medical complaint, in this case a broken hip. The elderly matriarch of the family fell and was taken to hospital for surgery. This was the second week of May, several days after the World Health Organization had lifted the SARS travel advisory for Toronto.

The surgery went well and the matriarch was well cared for by her daughter and son, both in their 60s. She also had the support of others, including a grandson we'll call Mr. U, in his 40s, his wife, Mrs. U, and their children. However, later during the week of surgery, the matriarch fell into a coma and died.

A small funeral was held but that night both the matriarch's son and daughter became ill with flu symptoms. Grandson U also reported feeling ill. All three had spent time with the grandmother during her hospital stay.

Mr. U's wife (Mrs. U) decided that all three needed to be checked, so she took them to hospital. There they were told they were probably SARS patients and they needed to go to the hospital handling SARS.

Mr. U recalled that a doctor told them there were only two beds left in the SARS ward. One of the sick people would have to go home. Mr. U decided that his mother and uncle were in worse shape than he and that they should get the beds. He had a high temperature but was sent home in a taxi, an unmasked threat to the taxi driver.

Public Health already had quarantined his wife and five children at home, but he worried about being too close to the children. So he moved to his mother-in-law's place because she was out of the country for two weeks. He and his family kept in contact by telephone as his condition deteriorated. The wife and children did not develop any symptoms.

Mr. U became so sick that he called an ambulance to take him to hospital.

In the midst of this, his wife received a telephone call from the funeral home that had handled the matriarch. The person on the line demanded to know why Mrs. U had not revealed to them that the matriarch had died of SARS. Mrs. U said no one had ever mentioned that the matriarch had SARS and that everyone assumed the three other family members simply got it from the hospital. She then called the hospital to ask if it was true. She said:

And that's how we were notified that [Mr. U's grandmother] died of SARS.

The nightmare worsened. Mr. U's mother died at North York General. Mr. U had arrived there by ambulance and the hospital administration insisted that he be told of his mother's death. Mrs. U said it would kill him but the hospital insisted and she had a doctor stand in the doorway while she delivered the news. Mr. U was so sick at the time he was given only a 20 per cent chance of living.

While trying to cope with all of this, Mrs. U received a call from Public Health, who wanted a list of everyone at the matriarch's funeral. She said the names would be in a memorial book at the matriarch's apartment but no one could go to get it because they were either in hospital or in quarantine. Public Health told Mrs. U to drive to the apartment and get the book, but to wear a mask.

Mrs. U drove to the matriarch's apartment building but the people she encountered were hostile and she left without going into the apartment:

If not for the fact that they were afraid to come near me, I honestly, I'm convinced that they would have mobbed me. The maintenance people, the people around the elevator. This was not pleasant. So I went back. I was shaking, Public Health called: "Did you get the list?" I told them no. I told them get it yourselves, and take some cops.

Another funeral was held, this one for Mr. U's mother. It was small because Mr. U, his uncle and his uncle's wife all were battling SARS in hospital. Then the uncle died. Only five people attended his funeral because he was a known SARS death.

Mr. U eventually pulled through, but his life and the lives of others in his family are changed forever. Five of them got SARS, three died and those left behind carry indelible scars.

The children will remember being confined to home and their mother asking friends to send their children to stand on the lawn outside the window and perform skits, wave signs and sing songs to cheer them up.

Their mother, Mrs. U, remembers the panic and the confusion:

That's what bothers me, is they allowed fear and panic to take over, and fear and panic is indicative of a lack of knowledge, not about the disease itself, but about procedure. And then right into the community, that people don't understand that a quarantined home is not a house of plague, there is a difference ... lack of information results in extreme responses that only makes the situation worse for everyone involved, and that's when you watch everything break down. The school systems break down in terms of response, public health breaks down in terms of what it can handle.

Mr. U will remember the fear:

I tell you, the fear, the gripping fear, that's what I will remember about SARS. Not so much that I was afraid. Sure I was afraid. It was the fear on the part of others, particularly the medical personnel. They were scared out of their minds. And as much as I can appreciate them being

scared, what I cannot appreciate is that they still had to do the job, although they were scared. Some could, some could not.

He sums up the SARS tragedy in four words:

It's a horror story.

Not Being Able to Say Goodbye

Mrs. J⁸⁰⁸ suffered the torture of not being able to be with her husband when he died in hospital of SARS. As if that was not enough, she was unable to locate his body for 10 days and had no say in determining his final rites.

Her husband was 68 when he suffered a stroke in late February 2003. He was treated in hospital, then sent March 20 to a rehabilitation hospital where he later developed respiratory problems and a fever. He was transferred to hospital on May 13.

Mrs. J visited him daily until the third week in May, when the hospital was closed because of SARS. She never saw him again because he died of SARS on June 16. Her husband's body was taken away for autopsy, but no one told her:

He died the 16th and I did not know what had happened with him to the 26th. Because they told me that he died and he is going to be cremated and I made arrangements with the funeral home and I told them, you know that you have to find out where is my husband's body.

She couldn't find out what happened to the body so she called a funeral home, where the operators made some calls and located her husband's remains. She said:

It was terrible. I called everywhere I can call and they did not tell me anything. That is the truth. They did not tell me that he died of SARS, they did not tell me where he was taken, they did not tell me that they were going to send him to the crematorium or whatever, they did not tell me nothing. I just found out from the funeral home that he was at the crematorium on the 26th.

808. As noted earlier, the initials of SARS victims have been changed. In this case, the initial J does not correspond to the victim's name and is not related to the J family whose story is told in the Scarborough Grace chapter.

After telling the Commission her story, she broke into tears:

I was a piece of glass; they looked through me.

Who Will Look After the Children?

The strained health system, stretched medical staff and a general lack of preparedness created special hardships for families with young children where one or more family members became ill.

One such family, the Ps, gave a detailed account of their ordeal to the Commission. It took four trips to emergency before Mr. P was diagnosed with SARS. The family are members of the Bukas Loob Sa Diyos (BLD) religious community, whose members came in contact with SARS. The BLD story is told elsewhere in this report.

Mr. and Mrs. P had two children, five and 11 years of age at the time. There were no provisions for the children in place when quarantine was ordered and when both parents contracted SARS and required lengthy hospital stays. The children were symptomatic but did not get SARS. Both parents did and survived. The children spent the critical period of their parents' illness in hospital. The parents had to deal with heart-wrenching anxieties, including the possibility of having to turn the children over to Children's Aid.

The Commission drew attention to this problem in its second interim report:

Whatever legal authority there is for quarantine, it will only work if emergency response plans provide the resources and machinery to help those who must go into quarantine ... For those individuals with children at home, the hardship and stress of quarantine proved to be even more overwhelming.⁸⁰⁹

Mr. P became ill on April 1, 2003. He was not feeling well at work and came home with a high temperature. After a couple of days, he phoned his family doctor, who asked him whether he got his flu shot. Mr. P hadn't, and the doctor prescribed anti-flu medication over the phone and advised Mr. P to drink lots of fluids. Mr. P did not

809. SARS Commission, second interim report, pp. 259-60.

get any better and his wife called an ambulance to take him to hospital. He was diagnosed with pneumonia. He made two more trips by ambulance to the emergency room. Each time he was put in isolation, x-rayed, diagnosed with pneumonia and sent home.

Mrs. P sensed that something was drastically wrong and on the third trip tried to get the doctors to admit him:

For the third time he ended up in the hospital after I called the paramedics ... he was examined, put in the isolation, just following the usual routine, being placed in the isolation room and being examined again. And this his third time visit the emergency ...

When the doctor came to examine him, he was told that he's experiencing pneumonia and he was prescribed sleeping pills. He was given a sleeping pill ... I was concerned when he called me and I decided that I wanted to speak with that physician who examined him at the emergency.

I got a hold of the attending physician ... I pleaded with him that this was his third time at the hospital and being told that he only got pneumonia ... I told the doctor that I'm only a housewife and I don't know what to do with him anymore, and I'm very, very much concerned about his condition, having the high fever and all the flu-like or pneumonia-type symptoms. And I pleaded with the doctor that they have to keep him for further tests or whatsoever for further examination.

But then I was told that I should come down and pick up my husband so that they could attend to other patients at the hospital. My plea to that doctor was ignored. I could not do anything but go to pick him up ... we just went straight home. We just prayed to God that being told three times by different doctors that it was pneumonia, we'll just take it from there.

Mrs. P became exhausted taking care of her husband at home. She booked off work and kept her kids home from school. She became more desperate until a nurse friend suggested taking Mr. P back to the hospital. She called the paramedics again and took him to hospital:

I was saying to the nurse that that's his fourth time in the emergency and – and he already finished his antibiotic by that time and his condition

was really, really worse ... About three or four hours later I was told that they're keeping him in for further tests. I should go home.

The next day Mrs. P was advised by the doctor in the infectious disease department:

that I should quarantine myself and the children and it's already been confirmed by them, after doing numerous tests, that he is a probable SARS patient ... and I was advised to stay in the house and that we're all being quarantined and that I would be hearing from public health to advise me what to in that situation.

Mrs. P developed a high fever and her daughter, too, was showing symptoms:

But then my daughter woke up maybe around 1:00 or 1:30 and crying about the pain on her ankle area. I was aware that one of the symptoms is feeling the fatigue and having joint or muscle pain, being associated with a high fever. I was very concerned about that and she's flushed with rosy cheeks and the high fever ... I decided that we have to call in for paramedics.

When the paramedics arrived, Mrs. P told them that the instructions from public health were to take them to the hospital where her husband had been admitted. But the rules called for the ambulance crew to take them to the nearest hospital, which they did.

Mrs. P and the children were kept in an isolation room well into the next day. She kept asking that her husband's hospital be contacted. She managed to reach her husband on a cellphone. He said the hospital had been looking for her and the children. A bulletin about the BLD congregation and its contact with SARS had now gone out to hospitals. Arrangements were made to admit her and the children to hospital:

They were taken in a separate ambulance directly to [hospital], accompanied by a nurse ... a female nurse. She was very, very good with my daughter, carrying my daughter. And of course we all cried.

Mrs. P, who was now admitted to hospital, started telephoning to get information on the kids:

I got a hold of the emergency department to inquire about my children. And I was only told that they're okay and someone will get a hold of me later that evening.

The parents were able to speak to the children by telephone. Friends and relatives visited the children, who were in separate but adjoining rooms.

Mrs. P took a turn for the worse. She was transferred to the intensive care unit, intubated and treated for two weeks until she recovered. The doctors wanted to intubate Mr. P as well, but he pleaded with them to hold off so he could continue talking to the children on the telephone. Mr. P said:

I pleaded with the doctor, I said, give me a couple of more days. If I don't improve, okay, go ahead but right now I have to talk to my kids and my wife and make sure that they're okay. I was already having problems breathing, just a few steps walking around a few steps, I would grab something. I was already huffing and puffing and was getting dizzy already. And then my wife got worse. She was taken to ICU before me. She was intubated and, I mean, the, she was already intubated, she was taken for ICU intubation and that made me even worse now because now my wife that, won't be able to contact my kids.

I told my kids that they are taking my wife to another room with no telephone but she's okay and that the doctors just decided to separate us now rather than put us in the same room. So I lied to them just to prevent them from worrying. I called them every time and every time it's very hard, emotionally because they're pretty young kids and I was already thinking about what would happen if something happens to my wife and then something happens to me. Where are they going to go?

The children spent a month in hospital. So did the parents. All recovered.

The Pain of Visitor Restrictions

Two other families who lost relatives to SARS told of how hospital visiting restrictions made dealing with the deaths so much more difficult.

One family had organized hospital visitation shifts to be with their father who was dying of cancer. SARS then forced hospitals to impose restrictions. A doctor wrote a

letter that the family was to show to hospital security staff. The letter noted that because the father was dying, one family member at a time could be at his bedside. When the man's son arrived to take his shift, a security guard took the doctor's letter and threw it in the trashcan.

A daughter-in-law told the Commission about what happened next:

My husband got very upset and tried to explain that his father was upstairs dying and he had to be there. But the security officer took it upon himself to disregard the special permission letter. My husband had a verbal argument with the security officer and they were about to phone the police and have him arrested for causing a disturbance until I happened to intervene and calm everyone down. With our insistence the security officer called upstairs to the nursing station to find out if indeed we were allowed in and sure enough we were.

You can imagine what my husband went through knowing that he may not be able to be with his father in the last moments. All because of what we judged was a security officer who thought his shoulders were a little too big and let a bit of power go to his head. Unfortunately, though, he had no compassion or common sense.

Perhaps in the future the security personnel who are hired should be a little more experienced in dealing with the public rather than just night patrolmen who really can't handle such extreme circumstances.

The Commission notes again that these stories are told entirely from the victims' perspective. This story and others, however, confirm the need to establish workable systems that in future outbreaks will help hospital staff do their jobs while assisting visitors to connect with those who are ill.

One Daughter's Loss

Mr. I was a 62-year-old family patriarch who succumbed to SARS. The outbreak turned the life of his family upside down and left many of its members traumatized. How it happened and the events leading up to his death contain elements of nearly everything that went wrong during the outbreak in Toronto.

There was a wrong diagnosis, bad communication, misleading or inadequate information, fear and stigma.

The story begins not with Mr. I, but with his adult daughter. She was a part-time clerical worker in a hospital, and was asked on a Saturday in March 2003 to help a nurse lift a patient out of his bed. It was not her job, but as a part-timer who wanted to keep her job, she was accommodating. Unknown to anyone, the patient had been in contact with SARS in the hospital's emergency room.

Several days later, she developed a fever but didn't think too much of it and so went to work. When she returned home she told her family that she still was not feeling well and that she still had a temperature. Her family and her parents shared a home. She called the hospital's health and safety department several times and left messages, but never received a response.

A couple days after that, she went to see a general practitioner who told her she had sinusitis and prescribed an antibiotic. Her condition worsened and by early Sunday morning, around 4 a.m., she went to another hospital, where she was x-rayed and again told that she had sinusitis.

Not feeling better by Monday, she telephoned public health. After a brief conversation, the public health worker asked to speak to her mother and said: "I think your daughter is having symptoms of SARS."

The health worker arranged for the woman to be admitted to the hospital where she worked part-time, but she was transferred to another hospital. The husband delivered her to hospital and when he returned home two or three hours later learned that the whole household would have to be quarantined and that they would have to clean her room and wash anything she may have touched.

Toronto Public Health sent them N95 respirators to wear and they settled into a routine of using one set of dishes and cutlery per person, washing everything with bleach for 20 minutes. The family had no dishwasher.

After five days, the family patriarch showed no symptoms and returned to work. The family said he thought he had finished his quarantine. His wife, who was keeping track of everyone's temperature, checked his, and it was 36.3°C, within the normal range. Mr. I worked a 12-hour shift and when he got back home, his temperature began to climb. It rose to 38 and an hour later was 38.2. He had no other symptoms and said he was feeling fine.

His condition worsened during the weekend and into the following week. He lost his appetite and was experiencing shortness of breath and coughing. His son-in-law was showing symptoms too. The two drove to a newly opened SARS clinic. The clinic admitted Mr. I. The son-in-law returned home. To the family's surprise, he rang the doorbell rather than using his key. He said:

They told me to be in strict isolation.

His mother-in-law cleared out a room for him. As she shut the door after him, she wondered why they sent him back home.

Mr. I's return to work after five days of quarantine turned out to be a big mistake. He had infected a co-worker and his place of employment had to quarantine everyone and shut down. The infected co-worker recovered.

The co-worker's illness and the economic impact on the enterprise weighs heavily on the surviving family. The media reported that Mr. I had broken his quarantine. However, the family maintains that they misunderstood how long the quarantine should last. The family told the Commission that on the day Mr. I went to work, he had a normal temperature and showed no symptoms.

Following Mr. I's trip to work, Public Health kept close check on the family's quarantine. They sent inspectors to the door and telephoned frequently.

It took a long time to get word to the family about Mr. I's condition after he was admitted. Hours into the night after the son-in-law's return, there was no word to Mr. I's wife about what was happening. There was no further word from the hospital into the next day. Mr. I's wife slept with her phone by her bedside, waiting for word, but the hospital never called. Her niece called the hospital, pretending to be Mr. I's daughter. She was told that he was in the intensive care unit and that he had a chest tube to drain fluids from the lungs.

It was more than two weeks before Mrs. I was allowed to see her husband. He was getting worse. She had to ask permission from the hospital and Public Health. The rules were that a person had to face imminent death before relatives were admitted. In fact, he lived several weeks longer. He was admitted on April 3 and died on May 25.

His wife went to see him every day. But his children were less frequent visitors. They had gone back to work and visits to the hospital did not go over well with their bosses and co-workers. One was even afraid of being fired after her quarantine ended.

SARS or its symptoms played havoc with various members of the family: Mr. I's wife, his two daughters, his son-in-law and one of the daughter's two children. Their temperatures were continuously checked during the quarantine period and when the six-year-old's went up suddenly and he lost his appetite, the family took him to a SARS clinic for a checkup.

The clinic decided to send him to hospital. They would not allow the mother to ride with him in the ambulance. She was near the end of her 10-day quarantine, still wearing a mask. The hospital would not let her in. Another relative had to bring some clothes for the child. The boy spent seven days in the hospital by himself. He had no visitors but he was in almost constant telephone contact with his mother. He even went to bed with the phone. Fortunately, he did not have SARS.

The family members are upset about the lack of information that was given them during the crisis. They have gotten on with their lives. But the widow still takes her own temperature every day and writes it down. "It's for my own peace of mind," she is reported to have said.

The point of this tragic story is not whether the father knowingly broke quarantine, and nothing would be gained at this time by an investigation into the issue. The story shows how the quarantine system depends on voluntary cooperation and systemic supports that encourage voluntary compliance.

The One Left Behind

He's not 50 yet, but Mr. K already is talking about having a shorter than usual life expectancy. But he considers himself lucky because he has a life after surviving a SARS cluster within his family. He survived, but his mother and younger brother didn't.

It began in early May 2003, when his mother, in her early 80s, broke her hip at home and was admitted to hospital. She was there for two or three weeks, and Mr. K and his younger brother took turns visiting her. She developed a fever and so did the two brothers.

The younger brother died of SARS June 19, followed by the mother two days later. Mr. K could not attend the funerals because he was in hospital fighting for his life.

Their deaths were part of the second SARS outbreak and it is Mr. K's personal belief that hospital precautions were relaxed too soon.

When his mother was first admitted to hospital, Mr. K said security and precautions were tight and visitors had to wash their hands and wear masks. Later security began to loosen:

I firmly believe that the loosening up has something to do with Toronto trying to say SARS is behind us and so on. I think the hospital was under pressure to loosen up so that it won't be seen as "we still have the virus around." I think if the hospital did not relax precautions my brother might not get sick and I might not get sick.⁸¹⁰

Mr. K had pretty much recovered from the effects of SARS. He is thankful that when he returned to work he had the full support of his employer and colleagues:

When I walked into the office no one avoided me, which is important. Being accepted back into society is important. I'm not sure everyone was that lucky.

The scars of SARS remain on his family, however. He has lost close contact with his brother's widow:

My sister-in-law definitely does not want to talk about that and doesn't want any people to know about it. I think she went through a prolonged period of denial. Even now she doesn't want to talk to me or my family.

Missing Mementos

Sometimes things that might appear less significant in the broader picture are the memories most remembered by the victims. Little things can provide some comfort in times of grief. Or like a drop of water in a dam that is on the verge of overflowing, little things can tilt the balance.

A 77-year-old woman went to hospital suffering from diverticulitis. While in hospital, she contracted SARS and later was transferred to another hospital, where she later died. On arrival, paramedics placed her personal effects, stored in a plastic bag, under

810. This perception, not uncommon, is discussed elsewhere in this report in the context of the relaxation of precautions through the Ontario system.

the bed. The bag contained her wedding rings, glasses, credit cards and false teeth. Somehow, it went missing and was never found.

Her daughter told the Commission:

So we ended up burying her without her teeth, without her wedding rings, without her glasses. She was buried with my sister's glasses and stuff like that. It was very difficult.

Added another daughter:

That was the final indignity. I keep hoping that I will wake up soon.

Secrecy, Insensitivity and Stigma

Victims often perceived the lack of information about SARS to be secrecy imposed by the medical establishment. They could not get clear answers they felt they needed to help them deal with radical changes in their lives. For instance, a man was in hospital dying of cancer and became exposed to SARS. His wife developed a slight fever and was admitted so she could be monitored and be with her dying husband. The husband died and the family wanted to plan his funeral but could not get an answer on when their mother would be released. She had been in hospital for more than three weeks but never displayed any signs of sickness other than fever. As one family member told the Commission:

They had already observed her for so long and she hadn't displayed any sickness of any kind except for a broken heart.

During the funeral planning, the funeral home called and said the father had died of SARS. There would have to be special handling of the body and a glass enclosure for the coffin. The family felt the father died of cancer and did not want the stigma of a SARS funeral. They were plunged into a frustrating search to get a definitive answer on the cause of death.

The coroner's office said an autopsy had not revealed SARS. A second autopsy test determined the same. However, Public Health authorities said there had to be a SARS funeral because they didn't know what they were dealing with.

The hospital discharged the mother, but she still could not attend the funeral because

she was quarantined. As the family told the Commission, the loss of their father was compounded by what followed his death:

What should have been a huge Italian funeral with several hundred people turned out to be a funeral with little more than 50 people in attendance. Nobody wanted to come to a SARS funeral and those that did kept their distance.

Nobody would answer any questions that we had. Nobody would tell us if my father-in-law or mother-in-law had SARS or what their suspicions were.

You can imagine my mother-in-law, who barely speaks any English and doesn't believe that she was sick in the first place, watching her husband's funeral on television and wondering why these people made her go through this.

All she wanted was a little bit of honour for her husband as she was not only robbed of that but also robbed of the closure to his death. She lives daily with questions that have no answers and no faith whatsoever in our health care system.

My family has gone through such a traumatic and horrific ordeal. In the end there is nobody to comfort us. There is a stigma that we are only now beginning to overcome. There are lifelong scars that we will go to our graves with.

In another case, the daughter of a woman who died of SARS said she and her sisters never did get official confirmation that SARS was responsible for her death:

We would often ask if someone could confirm the SARS diagnosis; we were told that it could take a couple of weeks and someone else said that it could take a couple of months, so we really just stopped asking. We thought when we heard, or we saw in the paper that she was one of the SARS statistics, that maybe the coroner had made the determination but ... someone from professional standard, I believe with EMS, said that they had it down as confirmed SARS for the transport so I guess it was confirmed, but we were not told.

Another family told about living with the stigma of a "SARS house."

Ms. Tecla Lin,⁸¹¹ a nurse who worked at West Park Hospital and whose story is told earlier in the report, lived with her husband in their family home. When both Ms. Lin and her husband contracted SARS and passed away, Ms. Lin's son found himself trying to settle his mother's affairs, including selling her house, which was mortgaged and costing him heavy monthly expenses. However, selling it for fair market price was hampered by the stigma of being the house of SARS patients:

In order to remove the stigma of the house, I had to do many things. I had to completely remove all of the personal belongs, possessions, furnishings completely, which meant selling everything, and I did that. Now it is very difficult just because there was so much stuff. There is a lot of stuff and I had to get new furniture, full furniture, and refurnish the house. And I did that and I put it up for sale this week. And it looks great and from the inside, the stigma is completely removed and that was a lot of work and cost a fortune, a small fortune, but that is the price of selling a house with a stigma attached to it.

A Simple Procedure, Then Death

Mr. L was no stranger to hospitals. He had health problems stretching back at least a decade. He had had a liver transplant, a triple bypass and prostate surgery, and he had diabetes. He may have been sickly and not young at 74 but his family did not expect him to die. His visit to the hospital was to get his nails clipped, a medical procedure for diabetics.

The story of Mr. L and his family, as told to the Commission, reflects the confusion in the early days of the outbreak and ends with their complaints about the lack of information and stigmatization within their community.

After the procedure, Mr. L returned home and developed a high temperature. The family doctor suspected a urine infection. His family drove him to a hospital, where they noticed there were more people in emergency than usual. Mr. L was admitted and when his family visited him the next day, things were not going well. He had trouble breathing and a nurse said he had had a very bad night. His breathing got worse and around 11 a.m. the family was told he would be taken to the intensive care unit. At 4:30 p.m. they were told Mr. L must go to another hospital because there was

811 Because Ms. Lin's name is already in the public domain, her name is used in this report.

no room in intensive care. At the new hospital, he was taken directly to intensive care. A doctor there began asking the family about Mr. L's liver, and his family recalls:

He had to go back and forth to the hospital so we are used to that. We said his breathing is what we were afraid of. There is talk about SARS going around. Do you think maybe he has it? We asked the doctor. He looked at us and said: "Do you think if he had SARS we would be like this? With no masks?"⁸¹²

During the night the family got a call that Mr. L was transferred to yet another hospital. Here he ended up in a closed room and the family had to wear masks, gloves and gowns. They were told they would not be able to go back. Hospital staff said they were not exactly sure if he had SARS.

Mr. L died while both his wife and his daughter were in the same hospital under quarantine. That is where they learned of his death:

We told my mom that my dad had died. I went to the bathroom. I just could not take it anymore. I was not crying. I was numb. I said to the nurse, "Can you bring me some Gravol?" I told her that my dad just died and she said, "Oh my God." My 25-year-old son had to go and sign all the papers for my dad because he was the only one not in quarantine.

The community in which the family lives reacted by stigmatizing them. Newspaper clippings about SARS were sent to the home, and a bakery they had frequented for 30 years declined to send food for the funeral:

After I was out of quarantine, I was walking at the mall to get some shopping and people would walk away from me. We wanted an open funeral and everyone to come but we were hearing so many people saying we do not know what to do, we should not come, but I said everyone is out of quarantine ... but there was an outbreak at a funeral home ... and we finally said we will just have a private service, we will not put anyone at risk.

812. As with the stories of other victims, the family recollection is described as reported and without verification because nothing can be gained by adversarial inquiry into who said what when. The point is the degree of confusion and misunderstanding that prevailed during SARS.

At the time the family spoke to the Commission, they had not received official word from the hospital about Mr. L's cause of death or his medical file.

Death While Waiting

SARS ended the life of a 79-year-old woman because she stayed in a hospital while waiting for a room in a long-term care facility. She lived alone and was taken to a hospital emergency room after she fell and injured her eye. Doctors said she was in good health, except for diabetes, high blood pressure and other health issues. They decided she should not live alone and would stay at the hospital while waiting for a long-term care opening.

She arrived at the emergency room March 6, 2003, and spent three days there before being admitted. Two weeks after Mrs. V was admitted, a public appeal was issued for people who had visited the hospital's emergency room to contact Public Health. Family members who contacted Public Health recall being told since more than 10 days had passed, they were in no danger.

Family members visited Mrs. V on March 21 and 22 and wore no masks and no protective clothing, believing that SARS was contained on the 4th floor. A few days later there was a public announcement that anyone who had even "delivered a package" to the hospital must go into quarantine. They did, but they had no contact with Public Health, which they had called following their first visit. The family members showed no SARS symptoms and did not become ill.

Mrs. V died at the hospital on April 26, almost six weeks after she arrived there. Relatives were not allowed to visit but kept in daily contact by telephone. Near the end, they were told they could visit but they did not want to take a chance of getting SARS.

Said one of her daughters:

I really feel deprived of those last moments with her. It's not like she was bedridden, sick and dying. I have not had closure.

Communicating Death by Telephone

One of the many horrible aspects of SARS was how relatives were told that someone close to them had died. Some people learned about the death of their relative while sick in hospital themselves. Others received telephone calls because SARS prevented them from being at the hospital.

The case of Mr. and Mrs. B illustrates the pain and confusion suffered by so many when SARS took a life.

Mrs. B was a healthy 89-year-old who lived with her husband, 87, in their own home. In May 2003, she fell and broke a hip. Doctors operated and successfully repaired the hip. Her daughter recalled:

She came through with flying colors. They'd already had her up. They wanted to know about convalescent care.

However, one week later doctors reported Mrs. B had SARS and had her moved to intensive care. She died the next day.

The daughter and some other members of the family were vacationing in Las Vegas at the time. They had planned the trip for some time and went ahead with it when Mrs. B did so well following the hip surgery. They were told of Mrs. B's death when they stepped off the plane on return:

We were landing. We didn't know. We get off the plane and my son-in-law and my grandson were there to meet us and, of course, looking at them I knew something was wrong and that is when they said that she had passed away.

The daughter and her husband had been at the hospital before their trip to sign papers related to Mrs. B's convalescence. They were told they would have to go into quarantine and wear masks sent to the airport for their arrival.

Mr. B was on his own at home. The hospital had phoned him to tell him his wife had died. His daughter was unable to help him because she was in quarantine. She recalled for the Commission:

There he was in the house, left alone, told of her death like that and told

that he had to stay in the house. The health department said he had to take his temperature each day. Nobody would go into the house, so they dropped off the thermometer at his doorstep for him to take his temperature. He had started at the time with some early dementia and I think the confusion was even worse.

He took his temperature one day and he phoned and said it was something like over 100. He was reading something 102, 104, and I said well, it can't be. So I phoned the health department and they said just tell him to put his thermometer in the cover outside the door.

His daughter went to see him as soon as her quarantine ended. She found that he had lost a lot of weight and was very depressed.

The family's troubles did not end there. Mrs. B's grandson, the daughter's son, was also quarantined. He did not tell people in his office why he was away until his quarantine was over. She said:

They almost threw him out and said, how could you do that when there were other people at risk who had families.

The family had problems finding out exactly how Mrs. B died. The doctor involved was not available. A nurse whom the daughter reached could offer no help. The phone call informing the grandson that she had died said only that a nurse found she had died during the night:

I have a real problem with that because I have no idea how she passed away. Was she looked after properly? I got no answers. To me, that is so wrong. Nobody should die alone.

Compassion in the Midst of Horror

These stories are painful to read, let alone to experience. However, not all was gloom and hurt for those who suffered through SARS and survived. There were stories of courage, hope and kindness. Some are reported elsewhere, but the following two are noted because they relate directly to victims and their families.

One involves a widow who was quarantined in hospital after her husband died of SARS. She was alone and frightened, and hospital staff avoided her because of their fear. They entered her room only to take her temperature – except one nurse who went every day to her room for 10 to 15 minutes, and talked and comforted her.

There is also the story of another widow comforted by another nurse. During the crazy days of her husband's illness, the woman met a nurse who pressed a piece of paper into her hand. The nurse said to call if she needed help. After her husband's death the widow did call. The nurse came to her house and took her out for lunch.

Health Workers

Nearly one-half of Ontario's SARS victims in Ontario were health workers, doctors, nurses, lab technicians, cleaners, ambulance drivers and others who daily walked into the face of SARS. Unlike the rest of us, they had little choice. SARS was where they worked and they couldn't run away from it, even if they wished.

The experiences of the health workers who became ill with SARS are especially chilling because they are so unexpected. We don't expect our doctors and nurses and other health staff to get ill, even though this is an unreasonable expectation. We particularly don't expect them to get ill because of their work. We like to see them only as the knowledgeable professionals who try to keep us safe from disease and who look after us when it does strike us. When they begin dropping ill, we realize we are in a health crisis in which we are all at risk.

Because they are so important to us, we often view them as if they are not subject to vulnerabilities. But they are humans. They are people like us who worried, became tired and watched their personal lives suffer from putting in brutally long hours in the fight against SARS. They lived in constant fear that they might infect their families. Hundreds of them were quarantined, which often meant forced separations from their families. Many faced ostracism by colleagues and neighbours and, whether quarantined or not, had severely limited contact with family and friends. At times the fear and ostracism lasted for months after SARS finally ended.

Some of the saddest stories are from those who saw their colleagues suffer, and in some cases die, from SARS. One doctor who lost a member of her team told the Commission:

When Tecla Lin died it was the worst ... I do not think I was very well for a while. I did not want to go anywhere, I just wanted to be home. I was tired ... it was like I had been through an earthquake ...

Working conditions were difficult for doctors and nurses treating SARS patients, and for their support staff. The experiences of many nurses during SARS have been

related elsewhere in this report, particularly in the Nurses' Survey section. One doctor told the Commission of one of the most difficult effects of treating SARS patients, was being shunned.

We were not allowed to go the cafeteria they were sending sandwiches to us, because we could not go to the cafeteria. If we walked in the corridor and somebody saw us, they would turn around. It was not only my experience, it was the experience of a lot of people ... It took me a while to understand the ones that had been nasty to me.

I will let it go. I have to work with them anyway. But something I feel, feel that there are two kinds of people, those who will and those who will not ... when they tell you are not welcome here in this room. You cannot be here, you are not responsible by coming in this room ... it is a stigma ... it is not nice. I mean, they are all physicians for goodness' sakes, and health care workers, and they are behaving like old maids.

The same doctor had praise for many who did pitch in:

I can tell you that the people who worked in that unit were all extremely dedicated people, that I will work with them any time, because it was a risky situation.

Being a medical worker did not seem to help those who were unfortunate enough to become infected with SARS. No one can say that they received preferential treatment. The experience of one hospital nurse illustrates that. It also shows the difficulty some doctors had in diagnosing SARS.

One nurse who worked in a hospital that had SARS patients answered a call from a patient in a special unit and became ill over the following days:

I wanted somebody to admit me at the hospital. So I went to hospital ... and then I waited there for seven hours and the doctor there sent me home. He said I only have a urinary tract infection. I asked him, should I have a chest x-ray. He said no.

During her seven-hour stay, she didn't get anything to eat. Just water. Ten days after her contact with the infected patient, she was admitted to hospital. She was sent home after four days.

No one from her own hospital called her to tell her about the SARS outbreak there. She found out from colleagues that one of her co-workers had died and seven people on her floor were sick. She recovered and tried to resume work but found she was too tired, and retired from nursing.

Hospital settings were familiar to the health workers who became ill. Sometimes that made their hospital stay more difficult since most had been in contact with death during the course of their work. One hospital lab technician had been in quarantine at home when she experienced SARS symptoms and was admitted to hospital.

She recalled that one nurse refused to make up her bed:

I know that some of them didn't really want to be in the room. So she refused to make my bed. She just threw my stuff. I said, "You don't understand, I need to clean the bed, I've been sweating a lot, I need to change the bed right down and make a clean bed." And she just refused to do it and she said I have to do it myself. And I could hardly stand up. I was really upset over that ... I had other nurses who came in the morning and changed the bed. I didn't have to ask them.

This and a handful of similar stories stand in stark contrast to the compassion demonstrated by the majority of nurses and other health workers.

As Dr. Avandano of West Park Hospital told the Commission, there were many health workers from all areas of the hospital who worked very hard to contain SARS:

I suppose we were enough, or maybe at times we were not enough, but I can tell you that the people who worked in that unit were all extremely dedicated people, that I will work with them any time, because it was a risky situation. The staff that cleaned, the housekeeping, did not want to go either. So we had a woman that was absolutely amazing, she was always there working, washing and cleaning. And at one point, [something spilled on her] and she was in a panic, and we just washed her. The pharmacist was all the time there, from eight o'clock until eight o'clock at night. The infection control nurse ... was all day there, the ward clerk in the TB unit worked there with his mask because there were so many papers coming and going.

By far the greatest fear among health professionals was the fear of bringing SARS home to family. What could be worse than infecting the people you love the most? As one health worker said:

I was more frightened of taking it to my family. I did not see anybody, did not touch anybody for almost two months. It was the hardest. You do not realize what it is to look at people's faces and to shake hands and to touch. You do not realize until you do not have it ... for instance, we were not to go to any stores, so we could not go to a store, we could not go anywhere, and yet we were working in quarantine. So you go home, and work, home and work, you do not go anywhere, no social life, nothing, nothing, nothing ...

I have two grandchildren that are very, very young. My daughter would pass with them on the front sidewalk when I was home so that I could see them ... I did not want to infect anyone. I was terrified of infecting somebody else.

Another doctor described for the Commission how hard it was to deal with precautions and protective equipment. Those treating SARS patients or suspected SARS patients started by using a surgical mask, gloves and a gown. Later the mask was replaced by the N95 respirator, headaddress and goggles when examining or treating patients:

... And we realized how difficult it was to maintain those precautions, so once you came out of the room, and you disrobed, what happened then? Should you take your mask off? What happens with contact with your hands? I mean doorknobs, hand railings, how about charts, paper, pens, I mean everything and anything. It was so hard to know exactly what to do. So, again eventually we simply donned another gown, started keeping the mask on, we didn't wear gloves ... but that was a huge question. We were more certain what to do at bedside ... But the big questions, even to this day continues to be is what should the team members do when they leave the room? You know, they are still on the same floor, you know, the rooms of the patients are 10 feet away, what do you do at the nursing station, I still think that is a big issue.

Like others who treated SARS patients, he experienced fear from friends and acquaintances, in one case months after the SARS wave had ended:

I was in a restaurant. We were having a gathering. There could have been 14, 15, or 16 people. It was someone's birthday. A close friend of mine ... we were sitting relatively close together ... By mistake, they gave him mine [food dish], and I got his, well, I didn't realize this so I took a

morsel, a single morsel off his plate, with one of the vegetables, and you should have seen the reaction when I said, "Here's your plate." His wife and his sister said, "You can't touch that."

I just looked aghast, I said what are you crazy? It's a month later, you know my wife, my kids, my mother, a lot of friends ... I've shaken hands, I've hugged, I've kissed, you know, it's not a big deal, it's gone, forget it, and you know what? He, he would have been okay had it just been him and me, but I think it was everybody else around him. It was a silly little thing, but I couldn't believe that eight or nine months later I was still a bit of an outcast ... I think if had I used my fingers, I would have understood, but with a fork?

Another nurse became ill with SARS after she looked after a patient in her hospital's SARS unit. The illness played havoc with her personal life and she still suffers some effects. Although her story has a terrible beginning, it does have a happy ending.

She was saving up to go to the Philippines to be married when the illness struck. As she told the Commission:

We planned to get married there, to have the ceremony there, since our family and my husband's family are all there. We planned to have the ceremony in 2003, the summer 2003, but since I got sick, we changed our plans. We let him come here, use his visa, but I wasn't recovering well yet, so instead of coming here to Toronto, he went to Vancouver for a month so that his visa would not expire. But at that time it was so sad because I had SARS so we have a problem with his family, of course I cannot blame his family, they were discouraging him from coming over because they learned that I was sick. [They feared that] he might get infected too.

I was so scared that the wedding would not be realized. But he really proved to them that he loves me and no matter what he said he would still come to marry me. He actually wanted to come to look after me because even though I was sick already ... My mom was the one doing the household chores for me since I was so sick. I was always tired, so that's why he wanted to come over. I asked him to stay in Vancouver for one month, because I needed some time. Then in August 2003, he came [to Toronto] and then we got married on September 25th.

The couple waited two years to have a child because she was prescribed the anti-viral drug ribavirin, which is deemed to be unsafe during pregnancy:

So, to make it safe, we did it after two years. I got pregnant after two years. It was so scary still. Maybe I was just paranoid, but I know that I had that medication, I was sick. I don't know what the long-term effect of that will be. Even now, I have severe headaches. Sometimes I am so short of breath and still last year, my blood was not normal. And when I got pregnant and I had my ultrasound, ...they said that I am carrying a Downs syndrome baby. So it scared me ... but when I gave birth, [the baby] was healthy

When a health worker gets sick, the effects on his or her family can be profound. One nurse worked at a Toronto hospital but lived in a city out of Toronto. She became infected while helping to admit a patient. The hospital did not know he had SARS.

She was admitted to a Toronto hospital and her husband and her three school-age children had to go into quarantine in their home city. She recalled her experience in an interview with the Commission, explaining what was going through her mind:

Just the dread of possibly infecting my family was the first thing that went through my mind. This fear for my family and then just the anxiety of not knowing whether or not I was going to have it ... And it's very tense trying to explain it to my husband and my kids. Wondering how it could happen. I don't think that kind of feeling, that kind of resentment hit until I was actually hospitalized.

The husband set up school for the children at home. As she told the Commission:

You know they would sit in our family room and he would ring the school bell and sit them down to do their homework from nine o'clock and then they would have recess when they usually had recess and lunch when they usually had lunch and then at three o'clock they were allowed to watch cartoons like usual.

The neighbourhood kids were not so understanding:

There were some kids that were just targeting the house. You know teenagers, what else is there to do, I guess. So they were throwing bottles at the house and trash on the lawn and stuff like that.

For the most part I truly believe most had no idea what was going on. Locally it wasn't big news so I guess most people, if they heard about it, didn't really associate it with something [there]. I had one neighbour who was very, very helpful who brought supplies to the family.

She said her husband faced some shunning after his quarantine:

He went into the bank and they were covering their faces or some silly thing like that. You have to expect that kind of thing because people are not sure what to do and they want to protect themselves so I didn't really hold that against them. It wasn't that bad.

The nightmare of passing SARS on to family came true for one doctor who contracted SARS and infected his 15-year-old daughter. Both survived. The dramatic impact on the family was relived on the first anniversary of the Toronto SARS outbreak on the TV Ontario program *Studio 2*.⁸¹³

The doctor noted that anesthetists sometimes resuscitate people and this has never been a problem for him, even when he had to try to resuscitate a woman with leprosy using the mouth-to-mouth method. But SARS was different:

We had an elderly man who was quite ill in the intensive care unit whose breathing was getting quite distressed. I happened to be the first available anesthetist that morning that entered hospital so I was asked to go and help out in the situation. And you have to bend down and look within a few inches of the patient's mouth. And even just that few seconds it took to do that I guess I was right in the stream of the virus being breathed in and out and I got quite a wallop of it. So even with the mask I had and that, I got I guess enough of it around the edges of the mask to become ill myself.

It happened so fast. I guess I was more like one of the sort of front-line border troops in a war that just got sort of mowed over by the initial blitz.

When symptoms appeared, he went to the emergency department. Several other medical staff were showing up with similar symptoms and all were sent to a newly

813. TVOntario transcript, *Studio 2*, March 15, 2004.

opened SARS ward at another hospital. He lost 20 to 25 pounds and became jaundiced from the side effects of the drugs, and anemic. He became extremely weak. As he said:

And it got worse when I found out my 15-year-old daughter had gotten sick and was admitted and probably had SARS as well.

When she got sick, I really felt somehow that maybe I should have, you know, immediately just put myself into isolation as soon as that – as soon as I was in contact with that patient. So yes, I certainly did feel a lot of guilt there.

His daughter also spoke on the TV program:

I never was angry. I was never upset at him. I didn't want him to feel guilty. It made me sad that he felt that way.

It all happened in a matter of hours. I started to feel really fluey, got into the shower and within half an hour I was feeling really bad. It was like a flu but it was, I would say, ten times worse. When you breathe, you feel pain in your chest and when you try to cough it's just like fire coming out your throat.

The ambulance came and all of a sudden these guys come out in these outfits that looked like space suits and it sounded like Darth Vader and it was like the scene from *E.T.* when the people come in and take him away. It was like that. And just the sound, everything was really strange and really scary and frightening. I could not stop crying.

There were a few moments when I thought to myself, I'm gonna die. I knew that it was really serious and there was a woman down the hall from me in the isolation ward and she was really sick, and she was screaming and really disoriented and crying. And then I found out a few days later that she died.⁸¹⁴

The daughter recovered and was in quarantine for about two months and, of course, missed two months of school but she said the experience changed her:

814. TVOntario transcript, *Studio 2*, March 15, 2004.

I was just sitting in my room alone and didn't know what was going to happen. I had a lot of time to reflect and to think about the way I was living previous to this. I had really, really negative self-esteem, really bad image. And throughout that time, I just only had myself and God and just my thoughts and I had to sort everything out. And I came out feeling just completely more connected with myself and had this really good relationship with myself. I was really happy. I was really positive. I thought, wow, I'm really a survivor of something this dangerous, this scary.

It was a wake-up call. Whether or not you admit it, everybody takes everybody for granted, you know. Your family is always there. When somebody almost dies or somebody is really sick, when you get better you're that much more thankful for it.

What gives me comfort is to know that believe it or not you cannot control many things. And sometimes you just have to take it a day at a time and see what happens. Just live your life and follow your goals and dreams.⁸¹⁵

The doctor also fully recovered. As he said:

I was lucky. I got over the physical stuff pretty promptly. By the time the quarantine was over I was actually basically sick of being sick. I found that first going out, even just walking, it felt like a walk around the block was a several-mile brisk hike. But within a month I was right back to where I had been before.⁸¹⁶

But his daughter worried about her dad when he went back to work:

I thought that maybe new diseases would come back. If something like that happens, well, what else? There are probably millions of other diseases we don't know about.⁸¹⁷

815. TVOntario transcript, *Studio 2*, March 15, 2004.

816. TVOntario transcript, *Studio 2*, March 15, 2004.

817. TVOntario transcript, *Studio 2*, March 15, 2004.

The Case of Dr. X

Early in SARS a nasty public controversy erupted over whether a health professional knowingly put hundreds of people at risk when he attended a funeral while sick with SARS-like symptoms. An estimated 150 people were quarantined because of what a public health official painted as an irresponsible action that could possibly spread SARS throughout the community. The media jumped on the story and many people became anxious that the SARS outbreak, already a terrifying situation, was about to get worse.

Dr. Hanif Kassam, acting York Regional Medical Officer of Health when SARS broke out in the spring of 2003, revealed this potential exposure at a news conference the day after Easter. He said the health professional had put “hundreds of individuals at risk” by exercising bad judgment. He went so far as to threaten to have the person charged by police if he did not stay isolated. The *Toronto Star* reported:

He should have known about the symptoms and taken the necessary measures to ensure that other people were not put at risk, Dr. Kassam told the news conference. He clearly doesn't know the gravity of the situation.⁸¹⁸

This scathing denouncement was made publicly despite the doctor's evidence that he had no symptoms before the funeral.

The health professional, Dr. X, was a resident doctor at a Toronto hospital at the time and vigorously denied the accusation. He had admitted himself into hospital with SARS-like symptoms after the funeral but protested that he had been symptom free before going to the funeral home and a church. At the time that Dr. Kassam made the accusations, the doctor had been isolated in hospital for almost two days.

Dr. X responded to the public attack and the two doctors fired back and forth at each other in the media, leaving the public trying to sort out the facts. There is much more to this story than contained in this brief summary and the Commission cannot make a finding of fact in this particular case. It can, however, note that the incident is an example of how easily things can escalate in times of crisis. It shows the need for those

818. York Health says he spread SARS, *Toronto Star*, April 22, 2003.

in authority to keep a cool head and measure their response when emergencies occur. Provocative personal attacks by those in authority are not helpful.

The public fight between Dr. Kassam and Dr. X was unfortunate and unnecessary. It caused considerable apprehension among the public, who were left with the impression that even the medical community, their best defence against SARS, was slipshod. If anything was learned from the incident it is the need for reasoned approaches and calm communication by those in positions of authority during times of public crisis. What was missing in this case was a measure of official restraint and non-provocative language, especially when the battleground of the dispute was the news media.

The Wider Impact

The stories of SARS victims, their families and friends are as plentiful as they are painful and are told in detail in this report. There were other victims who did not contract the disease but who nonetheless suffered from its spin-off effects. These are the hidden SARS victims, those who suffered stress and emotional pain resulting from disruptions in health care, and from the systemic lack of preparation, policies and simple systems to encourage consistent and fair handling of those who needed access to their sick relatives. These systemic failures resulted in great stress and anxiety.

Many hidden victims were members of vulnerable populations: the elderly, the physically and mentally impaired, and those who could not speak English. They had difficulty navigating through a health care environment that is complicated at the best of times but was especially confusing and frightening during SARS. Hidden victims were those who stood by as people close to them died alone because of visiting restrictions. They were people forbidden from accompanying a relative or friend to medical assessments or treatments. In some cases they were people who needed treatments but had to wait because SARS had turned the system upside down.

It is easy now to forget just how disrupted and confused the health care system was during the SARS outbreak. This was a new disease, and the system was unsure how it was spread, how it might be controlled and, in fact, whether it could be controlled completely. It was highly infectious and deadly and it seemed reasonable at the time that health care facilities and their staff do whatever was needed to stop it.

Most people understood the seriousness of SARS and the need for precautions at hospitals and other health care facilities. Many of the hidden victims felt, however, that the health care system was too rigid, cold and uncaring to people struggling with life and death issues. The daughter of a cancer patient, noting a no-visitor policy at a cancer treatment hospital, put it this way:

I know that this was all for safety precautions. I understand all that but you know when someone in your family is all alone there, then you feel angry at a certain point. You would wait outside and you don't know what he's doing in there.

There were many stories of people being handled with less sensitivity than might be expected. However, in these cases it wasn't simply health care staff being uncaring or mean. Systemic failures, not individual care facilities or staff, are behind what went wrong in the stories of the hidden victims. Lurking in the background of each case are signs of lack of preparedness, lack of policies and lack of simple administrative machinery that could have helped to avoid these horror stories.

The lessons from these stories are: Be better prepared for infectious outbreaks, build better systems to handle effectively all aspects of the crisis, be clear about who is in charge, and above all, communicate regularly and clearly with those affected.

Here are some of the hidden victim stories as told to the Commission.

A Case of Inconsistent Rules

Ms. K recalled how her elderly father became a bystander victim in the management of SARS. He was a patient at a Toronto hospital where he spent five weeks isolated from his family because of visiting restrictions introduced to curb the potential spread of SARS. He was paralyzed from the neck down with ALS, Lou Gehrig's disease. His physician refused the family visiting rights on the basis of hospital policy. The family tried to appeal the no-visitor decision. They called the hospital CEO and its Chief Medical Officer but did not hear back from either. They tried contacting Dr. Colin D'Cunha, Ontario's Chief Medical Officer of Health, and Dr. Sheela Basrur, the Toronto Medical Officer of Health. These offices referred them back to the father's physician, who had refused visiting permission in the first place. Ms. K said:

I was at the end of my tether. Nobody had explained to us why we couldn't see my father. It was like living in a pressure cooker. I could not

believe I was still living in Canada. It seemed as if [the hospital] and its physicians had become a law unto itself.⁸¹⁹

The daughter turned to the media for help. She emailed the *Toronto Star* begging for assistance. A reporter called the hospital community relations department and on May 5 the patient's wife received permission to see her husband. She had not seen him for 40 days. He died two weeks later.

As Ms. K told the Commission:

I should not have had to depend on the media call to see my father. My own call should have been enough.⁸²⁰

She said her mother still is unable to handle the fact of not having been with her husband in the final weeks before his death:

She is still traumatized that she could not fulfill her cultural and religious obligations to the full.

She is haunted by the memories of those five weeks and what she saw as the cold indifference of physicians in power. She says this cruelty must never happen again.⁸²¹

What was missing was a system through which families who felt unfairly dealt with could appeal to a senior hospital official or team of senior staff. Different health care staff had different views about access or visiting during SARS. Patients and their families should have had recourse to review such decisions without going to the news media.

The Man Who Died Alone

Similarly, a 96-year-old man who had been living with his disabled grandson was taken to a hospital in the Greater Toronto Area, where he was diagnosed as requiring chronic care. The man's daughter and his grandson visited regularly but one day

819. SARS Commission Public Hearings, November 17, 2003.

820. SARS Commission Public Hearings, November 17, 2003.

821. SARS Commission Public Hearings, November 17, 2003.

arrived to find the hospital closed because of SARS. The elderly man's condition was classified as chronic, but not critical; still he was not permitted visitors. The daughter tried unsuccessfully to have her dad's condition changed to critical from chronic so visits could resume; however, calls to the attending physician and the man's family doctor were not returned. The hospital said that when the man's condition became grave they would call her and she could visit just before he died. The only call she received was that her father had passed away.

Fifteen Minutes Too Late

One man told of trying to visit his 56-year-old mother at hospital outside the Toronto area. She was admitted just after Mother's Day, right at the height of the spring 2003 outbreak. She needed surgery on some toes affected by diabetes and he went to visit her before the operation. He told the Commission he was physically removed from the hospital by security staff despite his understanding that his mother had placed his name on a list of visitors and that this was all that was required to secure a visit.

Later he received a call from a nurse saying he should come to the hospital because his mother had had a heart attack. When he arrived he was allowed to go to the intensive care unit without any SARS screening. He talked with a doctor who said he was 15 minutes too late. His mother had passed away.

He described himself as "emotionally wrecked."

This is one more example of the misunderstandings that can lead so easily to a tragic sense of loss when there is no preparedness and no systems to ensure reasonable policies and sensitive communications.

High Anxiety and Nightmares

Enforced separations also created anxiety and pain for people in long-term chronic care facilities and their families. One woman told the Commission how she could not visit and care for her disabled mother for 29 days during the SARS crisis. The facility did not have any SARS cases but imposed visitor bans as a precaution. The mother had suffered a serious brain injury more than two decades earlier. She had been in long-term care since, receiving almost daily care from the daughter:

I promised her that I would remain at her side for as long as she needed me ... I have managed to be at her bedside every day or second day for the last 21 years. I am there to give my mother her personal care, to feed her, to assess her health and to advocate on her behalf.

The visitor bans caused her mother much distress because “I could not prepare her for the sight of staff in their space suits hidden behind their visors, goggles, masks, gowns and gloves.” The daughter said:

My mother will never be able to tell me what her experience was of those 29 days. For me there was high anxiety, nightmares.

The daughter told the Commission that she watched with interest as the Hospital for Sick Children⁸²² allowed one family member to be with each patient during SARS. A parent was allowed to be with a sick kid, but adult children were not allowed to be with their parent at this long-term care facility:

I and others feel that we are the parent and our loved ones the child, regardless of our blood relationship.

The daughter also said that the facility used the SARS experience to impose what she called greatly altered, reduced and awkward split visiting hours.

She said:

The administration has, by their actions, said that we were not needed during the crisis and that we are needed even less now, post-SARS. Of course, if our loved ones could, they would tell them differently. To me it feels like a hijacking. A hijacking of mine and my mother’s rights or as if Big Brother has come along and taken over and only when Big Brother says I can will I see my dear mother.

She said long-term care facilities should distinguish between visitors and hands-on family caregivers when deciding visiting hours.

822. The Commission is not saying or suggesting that the Hospital for Sick Children did anything wrong. They were following the directives and allowing parents to accompany ill children, as the directives permitted. The point is not that they did anything wrong, but that consideration ought to have been given for the needs of elderly patients.

This woman's criticism of her mother's long-term care facility is understandable. So are the restrictions placed by the home, when seen from an infection control perspective. The key is that these facilities should work with families so that policies blend the need for infection control and the needs of patients and their families. There is need here for discussion and explanation, not simply arbitrary restrictions. Perhaps there is something in the Hospital for Sick Children's approach that could be applied to other facilities.

Impact on the Elderly

Another woman told of how her family suffered trauma when access to her father was denied at both a hospital and his long-term care home. The 81-year-old father lived in a long-term care facility where visiting was restricted then cancelled because of SARS. She said:

This had a devastating impact on all seniors, both emotionally as well as physically. They might as well have been in prison. Tuck shops were closed. All activities run by the volunteers were suspended.

The father was suffering foot infections related to diabetes and was admitted to hospital. Doctors decided that his legs must be amputated. The day of the scheduled surgery the daughter arrived at the hospital and was denied entrance. The hospital had been closed to visitors because of SARS. She and her sister sat from 6:30 a.m. to 4:00 p.m. in the space between two sets of doors at the hospital main entrance. The father suffered amputations that were more extensive than planned without seeing his family before surgery or after. Both legs were removed at mid-thigh.

He returned to his long-term care home, where he coped but had trouble sitting in a wheelchair without legs as a counterbalance. He developed an infected bedsore. He was admitted to hospital again, this time another one, which was closed because of SARS a few days after he arrived. He was discharged after eight days, but he and his family were put into quarantine because of their connection with the hospital, which had active SARS patients. He had to cope without family help, and when his daughter telephoned a nurse to ask her to look in on him, she was told:

We are trying to go into his room as little as possible as we are afraid of catching something and spreading it to the other residents.

The daughter told the nurse the quarantine was only a precaution and nurses at the home had been issued protective equipment in the form of masks, gowns and gloves.

The father died unexpectedly on June 22. His daughter said that the next time hospitals are shut down by a medical emergency, seniors should be given the same considerations as children:

Seniors are much like children. Any change in routine causes extreme anxiety, stress and confusion. Seniors need to be able to have someone there with them during peak times of 7:30 a.m. and 9:00 p.m. Someone to speak for them when needed, to help understand medical diagnosis and treatment, and to help with medical histories. Someone to help them with the simplest task like raising or lowering their bed, with their meals, their personal hygiene and to reassure them, just to be there with them. These are all the things a family member would have been doing for them. To deny seniors this basic right is simply wrong.

Another case involving the elderly shows how SARS impacted the quality of life of many older citizens who came into contact with it. One gentleman went into hospital for a hip operation, contracted SARS, and infected his wife. Rehabilitation exercises are critical in recovering from hip surgery, but he could not complete his rehabilitation program because of SARS. Now he has difficulty walking.

The family was interviewed by the Commission. His daughter described what happened:

When you have a hip replacement, you've got to be up the next day. Well, he was. I remember the phone call after the hip replacement because he was about four days with therapy. He was so excited that he could walk so much better now, and I remember they were making him do the stairs and he was so happy. And then he got taken with SARS to another hospital and that was it for the therapy. For five weeks he lay in the bed with no therapy.

No therapist would go in with nobody knowing anything about SARS, nobody would even go in the room except the doctor. And even though he was well after one week, they wouldn't take him out of isolation because, well, they would release him to me but I'm untrained. But even if he went home, I tried two different nursing companies, private nurses, nursing companies and the second I said he's going to be in quarantine from SARS, that was it. They said no.

So I said to the hospital, if trained professionals won't come in because they don't know anything about SARS, I certainly am not a medical professional and able to protect myself or my daughter for him to come into my home or my brother's home. You know, they have children. And they said that's our only option. And it was a big fight with administration.

The daughter enlisted her MPP to get her father released to another facility, where he finished his quarantine in a private room. But it was too late for rehab.

The system, unprepared, could not cope with this man's pressing medical need. A system better prepared is required to prevent this kind of medical damage.

Shifting Policies and Practices

The Commission heard much about the lack of consistency and clarity of rules and restrictions put into place during SARS. A woman told the Commission her family's story of trying to navigate conflicting hospital policies and practices. On March 27, 2003, her father was in such pain from cancer that his wife and son brought him to a hospital in Greater Toronto Area. Only his wife was allowed to accompany him into the emergency department.

The next day, the wife went to visit him but was told by a nurse that visits were not allowed because of SARS. Later, the hospital said they would allow one visitor for one hour per day. Then they said someone would have to telephone ahead and provide the name of the visitor.

Said the daughter:

And so it went. Each day the rules seemed to change with respect to visitors. Not only with respect to the number of visitors but also when it came to washing our hands, having our temperatures taken or completing the sign-in sheet on the door where my father was staying. Sometimes these tasks were monitored and other times they seemed to be forgotten. It also seemed that some staff members seemed to enforce the rules more than others.

Four days after the man's admittance, the family was told that patient visits were suspended. The family called the hospital ombudsman, their MPP and some other

public officials. On April 1, the hospital said it would allow one visitor a day if the name was provided in advance. This policy created a problem when the man's 91-year-old mother wanted to visit. She was blind and hearing impaired and needed someone in the family to escort her through the hospital. The hospital at first allowed this, then changed its mind. The elderly woman had to find her way own way to her dying son's room. Later the man asked to be discharged so he could die at home.

His daughter told the Commission:

I truly believe that the quality of my father's life during his final days was affected by being kept isolated from his family. He needed our support and we were not allowed to be with him.

What difference would it have made if there was more than one visitor at a time? Or if the visitor stayed for more than one hour per day? Would that really put the hospital at greater risk? I don't think the health care administrators thought about the impact of those restrictions on patients in palliative care. Patients who had nothing left to hang on for, except seeing their loved ones.

Once again it is hard to fault the individual hospital and its staff. They were forced to make up visiting policies as they went along. The health system must understand the vital human importance of visits to the sick. Advance planning is needed to create systems and policies to ensure a safe, humane and sensitive health system during infectious outbreaks.

Hospitals Under Stress

Another woman's story illustrates the tension among hospital staff during SARS and how it reduced quality of care for patients who did not contract SARS. Her story is another example of the tremendous stress under which hospital staff, from doctors and nurses to cleaners and security staff, had to labour.

She told of how her father was in a Toronto-area hospital for hernia surgery in May 2003. The man was 85 years old and did not do well after the surgery, and his stay was extended. At first the family was allowed to visit frequently, then two SARS patients were brought to the hospital and visits were limited to one person at a time for five minutes:

This [admission of SARS patients] seemed to put the fear of death into the staff. Nurses didn't want to discuss the fact that two SARS patients were in their unit.

The father died in that hospital during the second week of June. Visiting was restricted when he died. His son and a granddaughter who had travelled from overseas were not allowed in to see him before he passed away. The daughter said:

For the last 17 days of Dad's life he never felt human contact. For a man who always reached for someone's hand to hold, whether it was his daughter's or one of his 10 grandchildren, all he got was a latex glove. The grandchildren are left with this awful image of not being allowed to be with their precious grandfather for the last week of his life.

The coroner's office ordered an autopsy. The daughter told the Commission that five months after the autopsy they still did not have the results, although they had been told he did not die of SARS:

We still don't have closure. A lifetime of love and caring that ended with neglect and loneliness.

Quarantine: Confusion, Controversy and Hardships

There had been no widespread use of quarantine in Ontario for 50 years, so it is not surprising that quarantine during SARS caused confusion, controversy and stress. By one official estimate, 15,000 to 20,000 Ontarians entered quarantine during the outbreak.⁸²³ But there is some confusion about how many people were under home quarantine, how many under work quarantine, how many were actually contacted by public health and how many quarantined themselves voluntarily without ever speaking to public health authorities.

It is likely that somewhere around 30,000 people observed quarantine during the outbreak in Ontario. Virtually all of those entered quarantine voluntarily. Sixty-five persons were issued Section 22 orders during SARS; one was served with a Section 35 order, and the latter was a matter of some controversy. Section 22 of Ontario's *Health Protection and Promotion Act* allows a medical officer of health to require a person to

823. SARS Commission Public Hearings, September 29, 2003.

take (or refrain from taking) any action specified in the order regarding a communicable disease. Action under the order can include directing a person to remain at home while a danger to others. Section 35, used for people who refuse to comply, allows the Ontario Court of Justice to issue an order directing compliance, and may also require police to help to enforce it by taking the person into custody and admitting the person involuntarily to hospital.

The glaring inadequacy of Ontario's antiquated *Health Protection and Promotion Act* is described in the Commission's Second Interim Report.⁸²⁴

The term "quarantine" is often misconstrued, and sometimes confused with isolation. Both are defences during infectious disease outbreaks. Public health officials must have the power to isolate those who are infected, and to quarantine those who might have been exposed to infection and might be infectious to others. The U.S. Centers for Disease Control and Prevention defines both:

Isolation refers to the separation of persons who have a specific infectious illness from those who are healthy and the restriction of their movement to stop the spread of that illness. Isolation allows for the focused delivery of specialized health care to people who are ill, and it protects healthy people from getting sick. People in isolation may be cared for in their homes, in hospitals, or in designated healthcare facilities.

Quarantine refers to the separation and restriction of movement of persons who, while not yet ill, have been exposed to an infectious agent and therefore may become infectious. Quarantine of exposed persons is a public health strategy, like isolation, that is intended to stop the spread of infectious disease.⁸²⁵

Ontario was not the only jurisdiction to use quarantine during the 2003 outbreak period. China, Taiwan, Singapore and Hong Kong were the main areas of Asia affected by SARS and they also responded with quarantine. However, the approaches to quarantine in Asia and Ontario were quite different. Some Asian jurisdictions set up police checkpoints, cordoned off entire villages, and even threatened to execute anyone who broke quarantine.⁸²⁶ In Ontario, public authorities used voluntary quar-

824. For more analysis of the legislation and the problems that arose during SARS, see the SARS Commission, second interim report.

825. CDC *Isolation and Quarantine (SARS)*, www.cdc.gov/ncidod/sars/isolationquarantine.htm.

826. Article by Brian Friel, National Journal Group Inc, October 21, 2005.

antine and in some cases provided food and supplies needed during isolation.

Ontario's quarantine involved staying at home for 10 days, after which the risk of having been infected was considered over. Quarantined individuals slept separately from other people in the home, wore masks when near others and were not to share personal items.

Toronto used work quarantine for health workers exposed to SARS but who remained healthy. These health workers continued at their jobs but stayed in home quarantine after working hours. They were expected to travel to work in isolation (i.e., not using public transit) and were asked to closely monitor themselves for signs and symptoms of SARS, including twice daily temperature checks. The idea of work quarantine was to ensure that there were enough health care workers available. If every health worker exposed to SARS had to remain in home quarantine, there would have been a tremendous, and perhaps impossible, strain on health facilities because of worker shortages.

Quarantine was discussed in the Commission's interim reports. The purpose of raising it here is to illustrate how quarantine disrupted the working and home lives of thousands of Ontarians who suffered considerable emotional and psychological strain because of SARS.

Public hearings and private interviews produced many individual stories of the hardships and stress caused by quarantine. People told the Commission of the stress of being isolated from family and friends, plus the anxiety they developed from fear that they might have SARS and pass it on to their children or other family members.

The Ontario Nurses' Association presented this collage of quotations from nurses who were quarantined because of possible contact with SARS at work:

Quarantine was very difficult. Not being near my family, not being able to touch them.

I was sleepless, stressed, feeling despair every time I went to work. I felt depressed, angry at how it was mishandled, especially isolated, suffered from insomnia and had a tremendous fear of bringing a deadly disease home to my children. The babysitter refused to babysit my child. Friends, family and parents of my child's classmates did not want their kids to play or contact my family.

I had several vivid nightmares during outbreaks that my children were ill with SARS. One night I woke and ran to the bed of my youngest who was clutching her forehead, convinced she was burning with a high fever. My youngest child was teased and isolated by her peers because her mother was a nurse at a SARS hospital.

My husband and children moved out for 12 days. Grandparents changed schedules to care for the children. There was stigma from friends outside of work. I suffered nightmares.

I was very much isolated from loved ones. My family thought I was going to die.

Just last week a number of ONA members who developed SARS after caring for SARS patients told me they continue to suffer severe emotional and physical repercussions of a disease that we still don't know that much about.⁸²⁷

Roughly 7,000 persons were sent into home or work quarantine because they had a connection to North York General Hospital, the epicentre of the SARS II outbreak. Some 4,000 were hospital staff. Bonnie Adamson, president and CEO of the hospital, told the public hearings of the tremendous hardships caused by quarantine:

For many of them the situation made them feel like pariahs in their own community. We heard reports of neighbours crossing the street to avoid houses where our staff lived and even an eviction notice to one of our staff members by nervous roommates ... Many were unable to attend important family milestones: weddings, graduations and even the funeral of parents, and these are events that could never, ever come back.⁸²⁸

Many of the stories of hardships during quarantine are anecdotal. However, hard evidence of the effects is found in a study by researchers in Toronto and New York. It found that of 129 quarantined persons studied, 28.9 per cent showed symptoms of

827. SARS Commission Public Hearings, September 29, 2003.

828. SARS Commission Public Hearings, September 30, 2003.

post-traumatic stress disorder (PTSD). Symptoms of depression were observed in 31.2 per cent.⁸²⁹

All respondents described a sense of isolation. The mandated lack of social and, especially, the lack of any physical contact with family members were identified as particularly difficult. Confinement within the home or between work and home, not being able to see friends, not being able to shop for basic necessities of everyday life, and not being able to purchase thermometers and prescribed medications enhanced their feeling of distance from the outside world. Infection control measures imposed not only the physical discomfort of having to wear a mask but also significantly contributed to the sense of isolation.

This study said that just making temperature checks caused anxiety in some people. It quoted two people as illustrations:

Taking temperatures was mentally difficult, said one.

Said another:

Taking my temperature made my heart feel like it was going to pound out of my chest each time.

Following quarantine, 51 per cent of respondents had experiences that made them feel that people were reacting differently to them: avoiding them, 29 per cent; not calling them, 8 per cent; not inviting them to events, 8 per cent; and not inviting their families to events, 8 per cent.⁸³⁰

829. Laura Hawryluk et al., "SARS Control and Psychological Effects of Quarantine", *Emerging Infectious Diseases*, Vol. 10, No. 7, July 2004 (Hawryluk et al., "SARS Control and Psychological Effects of Quarantine")

830. Hawryluk et al, "SARS Control and Psychological Effects of Quarantine".

Individual Stories

One of the most serious effects of quarantine was that it kept people apart when they needed to be near family and friends. In so many cases, a family member was ill, or dying of SARS, and those close to him or her were unable to provide normal care and comfort to the patient or each other.

Said one man who lost both parents to SARS:

Nobody could see each other. Finally I was able to get permission to go visit Mom because she was dying but I couldn't go next door to visit my sister or two doors down to visit the girls [his nieces].

When a death did occur, some people were not able to pay their last respects or attend funeral services because they were under quarantine. More is said about this under the section on funerals.

Quarantine affected many people who had no risk of exposure to SARS until they had to visit a medical facility for treatment of an existing condition, or for examination and tests. A kidney dialysis patient told of how he had to take treatment three times a week at a hospital. He complained about confusion over SARS quarantine. After one treatment, public health authorities called him and said he must be in quarantine, which included wearing a mask at home and not sleeping with his wife. Other dialysis patients told him they were not quarantined. However, every time he went for dialysis he was placed under a new ten-day quarantine. He complained to public health that he could be in quarantine for the rest of his life and maintained that only people sick with SARS should have been quarantined.

Shunning of people possibly exposed to SARS in some cases continued after a person ended the quarantine period and was symptom free. One woman told of how her adult son gave up a business connection, partly because the people with whom he worked found out he had been in quarantine:

... when this happened [quarantine] he had to stay home and he chose not to tell the other people in the office why he was home because people were very skeptical about being around people and whatever. When his time was finished with the isolation [quarantine] he did tell them why he had been off and things didn't go very well. They almost threw him out and said how could you do that when there was other people at risk who

had families that he worked with and it just got worse and worse ... I'm not saying that this was a whole result of this but this was kind of the icing on the cake ... they were very irate.

One woman whose family suffered three SARS deaths told of the effects on her children. Their father was in hospital desperately ill with SARS and they were quarantined at home:

My daughter missed her play, the school play that they've been working on all year, and I couldn't get the school to put it off for a week. She missed it. My kids were just so isolated and the school wasn't doing anything, and they were sending homework home. That's what they were doing, they were sending homework and leaving it on the porch.

To help ease the strain and break the boredom, the mother called friends and asked them to bring children over to hold signs, sing and perform skits while the quarantined kids watched from inside:

And they did and it made such a difference. I was so angry that my children's mental health was left to me. Like, where are all, where's public health, where are the schools, where's the school boards, you've got mental health issues going on here in quarantined homes, and nothing, nothing in the system.

The problems did not end when quarantine did. A daughter was not allowed to return to her high school after quarantine. She missed her Grade 11 final exams and was penalized 30 per cent of her marks for not being able to take the exams. Her mother said:

That's what my daughter's dealing with now. So, in Grade 12, she has to maintain an average over and above, aside from the fact that they didn't make up the materials she missed, they kept her out of school for a fair bit of that last term.

The schools didn't know how to respond or react, they had parents panicking ... The absurdity became that my kids, although not in quarantine, weren't in school, they were at the mall, because they weren't quarantined anymore ...

Another woman had to get public health to help her fight a principal who banned her daughter from school. No one in the family was ill or quarantined but the principal had heard that the woman's mother worked at an infected hospital. She said:

I knew the principal quite well at the school and he tried to ban my child going to school and then again I had to phone public health and she ... phoned over to the school and also faxed a letter to him that he could not do that.

Some schools were closed and students and staff ordered into home quarantine when officials feared students had been exposed to SARS. Quarantine affected 1,700 students at one school in the Greater Toronto Area.

One student told the media he was upset because he missed his girlfriend's prom night because he was in quarantine:

It's so hard for me right now, because I'm 19 years old, and whenever I'm not in school, I'm out. So for me to be stuck in my house is the hardest thing.

Mixed in with all the stories of hardships caused by quarantine were some stories of human kindness. Like the friends who gathered outside the home of the quarantined kids to perform skits, and the people who assembled outside a hospital to cheer on the work-quarantined staff.

Toronto Emergency Medical Services told this story to the public hearings:

We got a phone call from someone who said "my nine-year-old son's birthday is Friday. My whole family is in quarantine. Can someone please go buy a birthday present for my son?" And we took care of that ...⁸³¹

This last story is so typical of those health workers who went the extra mile to help the sick. The story of SARS quarantine, with all its problems, is the story of magnificent work by health workers and magnificent voluntary support from the public. As noted in the Commission's interim reports, systems are required to support and encourage this magnificent cooperation by health workers and the public.

831. SARS Commission Public Hearings, September 29, 2003.

No Chance to Provide Support

One woman told of the difficulties of not being with her companion when he went for cancer treatments. On April 8, 2003, she took him to a cancer clinic. She was not allowed to enter the hospital and sat between the double doors at the entrance while he sat in the waiting room for three hours. Another time he had a doctor's appointment and the results were expected to be grim, but she was not allowed in to give him support. In May he was very sick and she took him to hospital, where she was told she would have to wait in the car. She went home and eight hours later the hospital called and told her to come and pick up her companion. The man succumbed to his cancer not long after.

Critical Treatment Delays

One doctor told the Commission of a study her hospital did of cancer patients requiring treatment during SARS. The study showed that when SARS screening measures were first introduced, there was confusion because "we didn't know what we were doing":

We were dealing with sobbing patients, husbands threatening to bomb us because we wouldn't allow them in with their wives [newly diagnosed with cancer].

The doctor said directives relating to SARS were so frequent that information didn't get passed along in a timely fashion to staff and patients. One man was told he could bring his wife when he came for his treatment. When they got there she was turned away and had to wait in the car. Another man diagnosed with cancer was scheduled for treatment as SARS began. The treatment was delayed three months and of course he was distressed because the delay could give the cancer more time to spread.

SARS made hospital visits especially difficult for new patients. They were already traumatized by recent cancer diagnosis and were confused and even frightened by hospital systems and routine.

Said one patient:

For me my experience is so scary because the first day you come to hospital you know the diagnosis was cancer and there was no visitor with me.

That is something missing, the support. When I step into the hospital and I just get crying.

Said another whose husband had a brain tumour:

There is no reason a spouse can't be with them. He was unable to go anywhere without me. I could not leave him at all so why can't I come? There's no difference in SARS exposure information for either of us.

Her point is understandable considering that some brain injury patients are unable to record properly what doctors are telling them. Some are unable to take notes, like many patients do. Even patients without any brain impairment have difficulty absorbing and accurately recording what health care professionals tell them about diagnosis and treatment.

What is required is a system that plans ahead to minimize as much as possible the collateral impact of infectious outbreaks on necessary medical treatments.

Common Threads

A common thread in all these stories is the lack of someone to turn to for appeal. Most of these hidden victims could have found comfort in being able to approach one person at a hospital or other care facility who could have provided facts and explanations, and even overturned any access decisions that might have been made in the heat of battle. SARS was confusing and health workers under extreme stress made judgment calls that they thought best. In the absence of preparedness and consistent policies, they were often forced to make it up as they went along. For the hidden victims there was no one to turn to for explanation or discussion of those judgment calls. No person should have had to turn to the daily newspaper to gain access to a dying relative, as did the woman in the first story related above.

These stories also show what was seen in other aspects of the SARS outbreak: not being prepared. The health system needed simple policies and practices to meet the needs of not only victims, but family and friends and other innocent bystanders. Bad things always happen in times of crisis. That is part of life. However, policies thought out in advance, strengthened through staff training and applied consistently, would have prevented at least some of the grief suffered by these hidden victims.

Impact on the Chinese and Southeast Asian Communities

No ethnic group was more affected by the SARS outbreak than Toronto's 400,000-strong Canadian Chinese and Southeast Asian community. It was widely reported that the outbreak originated in Asia. The stigma was immediate, especially in those parts of the Greater Toronto Area where Chinese and other Asian restaurants and businesses are concentrated.

Citizens and tourists avoided people of Chinese background for fear that they carried the new disease. They avoided them on the streets, at work and at their places of business. Normally jammed with customers, these areas were deserted. Not only did tourists and restaurant customers stay away, but the Chinese Canadian residents stayed home as well.

The Chinese-Canadian National Council (CCNC) estimated the loss of income to businesses in the "Chinatown" areas at 40 per cent to 80 per cent, depending on the type and location of the business. The loss was substantially worse than that suffered generally by businesses across Toronto.

Politicians and public officials took notice of Chinatown's plight. Prime Minister Jean Chrétien and Ontario's Lieutenant Governor James K. Bartleman made photo-op dining visits to Chinese restaurants. Some Chinese Canadians said these gestures did not make a big difference, but others applauded the intervention.

The impact of SARS on individual Chinese and Southeast Asians Canadians went beyond business loss. Many service workers, including live-in caregivers and restaurant waiters, lost their jobs.

Members of the Chinese and Southeast Asian communities felt they were stigmatized unfairly, and were wrongly blamed for the emergence of SARS. They felt racism was at play. The Chinese-Canadian National Council's report blames the media, which always raises the spectre of the "shoot the messenger" exercise. But the problem was widely recognized and as noted earlier, public health stressed to the public that it was not easy to contract SARS and that race had nothing to do with getting it.⁸³²

832. SARS news conference, April 5, 2003.

Chinese Canadians noted that people moved away from them on subway trains and their children were sometimes shunned at school.

Hospitality workers felt the effects most directly. When customers avoided Chinese restaurants, waiters were sent home. Live-in caregivers caring for children and the elderly were especially vulnerable. About 70 to 80 per cent of them come from the Philippines under a government program. SARS had a great impact on their lives since, unlike health professionals, they have few guaranteed rights and little job protection.

Coco Diaz of Intercede, an organization for the live-ins, told the CCNC researchers:

There were many cases of unfair termination of employment during SARS. They were dismissed as if they were already carriers of the disease. Employers were most concerned with the elderly or children in the family and yet showed little concern for their employees.

She told of a live-in who contracted SARS by taking the elderly person in her care to the hospital. The live-in spent three months in a coma and had to undergo many months of rehabilitation.

Ms. Diaz reported that unfair dismissals intensified in April 2003 when the media reported the links of several new SARS cases to members of a Filipino Catholic group:

Immediately, some employers started to think that just because the workers are Filipino, then no, they cannot come and work.

Some who employed live-ins worried that their employees would get exposed to SARS during their days off and bring it back to the household. In some cases, live-in employees were quarantined for 10 days after returning from their days off, then were dismissed anyway when the quarantine ended.

To a live-in caregiver, the loss of a job also means the loss of a home, since they usually live with their employers. To lose a job is to jeopardize immigration status.

The Metro Toronto Chinese and Southeast Asian Legal Clinic told the Commission's public hearings that, ironically, Chinese and Filipino Canadians were the ones who fought on the front line as nurses, doctors, and other health care workers. Nursing is one of the few professions where Asians, particularly people of Chinese and Filipino descent, are well represented, the clinic said:

So while Asian Canadians on the street were being targeted, Asian Canadian health care workers were risking their lives for the people who were inflicted, inflicted with the disease. It is not a coincidence that the two nurses and the doctor who died from SARS, were persons of either Chinese or Filipino descent.⁸³³

The clinic noted that anti-Chinese sentiment has always been present in Canada, notably when Chinese labourers were brought to Canada to build the early railways. When the SARS outbreak occurred and was reported to have originated from Asia, racism based on fear of Chinese carrying the disease emerged again:

Images of Chinese Canadians wearing masks began to appear in mainstream media reports and this new fear the Chinese Canadian Community, while never spoken was certainly felt by members of the Canadian public ... It was also around that time that our clinic began to receive calls from individuals who became the casualty of SARS, although not in the medical sense.

While some workers lost their jobs in restaurants and other workplaces from the economic impact of SARS, others reported discrimination based on the idea that SARS was a Chinese or Asian illness:

We received a number of complaints from tenants who got kicked out by their landlord because they were Chinese. Some of them were new immigrants or recent immigrants from China but one of these tenants who called us was, in fact, a Canadian-born Chinese who had never set foot in China or in Hong Kong and who actually lived in Guelph outside of the epidemic centre of SARS. She was told by her landlord to move out ...

The clinic also heard from many workers of Chinese descent who were terminated or told to say home because of perceived fear from their non-Chinese colleagues:

There was a nursing home which served primarily Chinese Canadian seniors where some nurses refused to work because of a totally unfounded rumour that the nursing home residents had contacted SARS.

Hundreds of workers were left out in the cold. Especially hard hit were “undocumented workers,” workers in Canada illegally.

833. SARS Commission Public Hearings, November 18, 2003.

While they were out of a job, they had no access to unemployment insurance or other governmental benefits. They also could not or would not complain to the authority when their rights were being violated.

The clinic filed a formal complaint against the Immigration and Refugee Board, where staff started wearing masks at hearings for Chinese or other Asian claimants. These claimants had been in Canada for at least a year, since that is how long it takes for a claim to heard, and were not recent arrivals. The practice was dropped after the protest.

Such experiences left many Chinese and Southeast Asians stigmatized and humiliated. This simply should not happen. Communication and education are the keys to avoiding such stigmatization. Intelligent people who have been communicated the real facts know better than to participate in such shameful shunning. Time and again the Commission has seen that preparation in communicating clearly and effectively could have avoided many of the problems that arose during SARS.⁸³⁴

834. SARS Commission Public Hearings, November 18, 2003.

Funerals and the Suffering of the Families

The case histories of families who lost members to SARS are horror stories. Losing someone is bad enough, but with SARS there was fear of contagion throughout the entire family. There was the shocking reality of loss and the prospect of more losses. The bereaved were faced with trying to make funeral arrangements while they worried how deeply the virus had penetrated their family. Who would come down with the illness next?

Here is the recollection of one person who buried a family member who died of SARS:

They opened the casket just for the immediate family. We had to wear masks and gloves. Nobody came to the funeral home or the funeral; a lot of people were scared.

Another story illustrates the extreme ugliness of the SARS outbreak.

A man in his 70s experienced heart irregularities in early March and went to hospital. It was his wife's birthday. He was released the next day and when he got home he began having flu-like symptoms. He became sicker and his family doctor diagnosed double pneumonia. Eight days after first being released from hospital he was returned by ambulance.

While he was in hospital on a respirator, his wife was not feeling well. She was taken to the emergency department but nothing serious was diagnosed. The man died two weeks after his first visit to the hospital. The day after his death, the widow was admitted to hospital. Soon after, a daughter was admitted with flu-like symptoms. The family originally had been told the father had atypical pneumonia, some type of mysterious illness. The son told the Commission:

For the first two weeks we weren't allowed to see my mother ... The hospitals were all closed down.

Everybody was in quarantine. I had my sister's youngest, she's 14 years old, and was staying alone in my parents' house because her mom was in the hospital.

The family learned their father died of SARS when they went to the funeral home to make arrangements. While they were discussing the arrangements at the funeral home, Toronto Public Health called. After the call, the funeral director gave the family the news that SARS had killed their father. Toronto Public Health also had advised the funeral home personnel that the family should leave the building and enter into quarantine.

The funeral home held the body for 48 hours, then took the body to the cemetery for a graveside service. Public Health had told the family there could be no public funeral service. Only a half a dozen people attended the burial of a man who had hundreds of friends. More than 500 people attended a memorial service a couple of months later.

Various family members who either had the virus or were thought to have it recovered, except for the mother. She died three weeks after the father. She also had a graveside funeral, which meant bypassing many of her Jewish faith rituals, including sitting shiva and tahara, traditional washing of the body. The bodies of both the father and the mother were left sealed in plastic bags in their coffins. The son said:

... it was a real horror story. One of our Jewish rituals is sitting shiva, which is like a mourning period. We weren't able to do that for my dad. We barely had enough pallbearers at the funeral to bury him. We had to drive ourselves to the cemetery.

The son also recalled the desperation of trying to find out what was happening to his family:

My two nieces, this was my older sister who was in hospital with SARS, her two older daughters were taken to [the hospital] and when they took them in there it was almost impossible for me to keep track of what was going on. I've lost both my parents and you've got my sisters and my nieces here ... I need to know what's going on ...

Another nightmare involved a widow whose husband was shipped out for autopsy and cremation without her involvement. She had visited him in hospital one night but then she had to go into quarantine for 10 days. When she finished quarantine the

hospital was closed to visitors. Her husband died and was cremated without her knowledge, and she never got to say goodbye.

Importance of Funerals

The end of a life, although shocking, also is the start of a grieving and healing process in which the living begin to accept their loss and the need to carry on. With SARS, however, this process was often short-circuited, and in some cases completely blocked. Relatives and friends were denied normal bereavement and spiritual comfort because of fears about the spread of the disease. Some of these fears were based on misinformation or simple lack of information because our public health systems were overwhelmed. They had no prepared plan to deal with funerals and burials, and were unable to respond quickly and decisively.

Funeral homes, where comfort and healing is supposed to begin, found themselves disconnected from the public health and health care systems. More will be said later about the organization of the funeral industry and its role in public emergencies. The industry struggled with the effects of quarantines, contradictory information from government and the additional anguish of families unable to achieve proper closure. Quarantined families found it difficult to make funeral arrangements from home. Funerals were delayed, sometimes cancelled, and burials were conducted without mourners.

As one senior public health official told the Commission:

There were so many tragedies in this outbreak.

One heartbreaking image from the SARS outbreak was a burial scene in which a lone limousine delivered a victim's coffin to an open grave attended by two cemetery workers in "space suits," the term a funeral director used for the protective gear worn by the grave handlers. Another is the scene of family members standing afar in another section of the cemetery as a coffin is lowered into its grave. One cemetery manager told a funeral director the family would not be permitted to attend the burial because they had had contact with the deceased during his illness, but the director ignored this.

Throughout history, pandemics and epidemics have set up conflicts between dealing with the dead and protecting the living from the spread of disease. The need to restrict public gatherings often clashes with the human desire to pay final respects to

the dead. In the 1664–1665 Great Plague of London, city officials tried to stop public funerals, but people refused to obey and flocked to graveside services by the dozens.

Widespread deadly outbreaks also strain society's services for handling the dead. During the Spanish flu pandemic of 1918, which killed 50,000 Canadians, one Toronto undertaker reported stacking 23 bodies in his garage because there was no room inside the funeral home and help was difficult to get because of fear of the disease.⁸³⁵

In a health emergency such as SARS, funeral rites obviously must carry lower priority than the need to contain the virulent public health threat. However, there is evidence that more planning and much better communication could ensure that fighting a pandemic and burying the dead with dignity can be carried out without one seriously compromising the other. Fixing some underlying problems of where the funeral industry fits in the health care and public health systems and how it is regulated also would help funeral directors better carry out their important role. More will be said about that later.

SARS deaths confirmed the importance of the funeral process in our society. A death brings out high emotions. The rituals and ceremonies of funerals help people support each other and try to deal with those emotions. Visitations and body viewing bring reality and some comfort to mourners.⁸³⁶

The Ontario Funeral Service Association reinforced for the Commission this view of the importance of funerals and, for those who choose it, the viewing of the body:

It has been proven time and time again by psychologists and grief counsellors that having an opportunity to see the deceased is a big part of the grieving process. The embalming and the visiting play such a huge part in the process though it might be a small issue. In the SARS situation many

835. "More Deadly Than War Itself", *Legion Magazine*, January/February 2001.

836. The powerful need for a funeral process is dramatically illustrated by a bizarre Ontario historical event, the death of landscape painter Tom Thomson. Thomson drowned mysteriously in Algonquin Park in 1917. His body was found after nine days in the water and because it was decomposing, his friends buried him immediately. When the Thomson family in Owen Sound was informed, they ordered the body exhumed and shipped home for another funeral and burial. This caused much controversy and added to the mystery surrounding the death. However, the fact was that the Thomson family felt it could not accept the death and grieve properly without witnessing a funeral and burial themselves.

families were not allowed in the hospital. The concept of seeing the body for many people shows them that the person is dead.

In SARS some victims entered hospital and were never seen again. Religious rites were bypassed in some cases. Those left behind had no opportunity to confront the reality of death and to honour the life of the deceased. Last wishes could not be fulfilled. The relative of one victim said:

I am very upset over the way the burials were handled ... they seemed to have made it so hard for us to pay our respects.

Said the widow whose husband's SARS-infected body was shipped out for autopsy then cremated without her knowing it:

I went through Hell. If they told me the truth and said he had to be cremated because of the sickness I would say okay, but they never asked me ... they never told me. Nobody asked me nothing.

Body Transfers

Complications for burying those who died of SARS began with transfers, the process of picking up a body at hospital, taking it to another hospital for autopsy and eventually on to a funeral home. Funeral home staff encountered significant challenges in trying to complete transfers, mainly because hospitals had no standard procedures for removing the bodies of SARS victims. Rules and practices for body transfers during SARS varied from hospital to hospital.

Uncertainties created by lack of preparedness and misinformation, or lack of information, appeared to cause much of the confusion over body transfers. Early on it was not known how SARS was spread or even how long the virus might live after death. Some hospitals therefore became cautious of funeral home transfer people arriving for normal body pickups but who might have picked up SARS bodies from other hospitals.

The uncertainties about whether SARS might be spread by funeral home workers led hospitals to institute some procedures for body pickups, including donning of protective gear. However, because there was no overall prepared plan supported by policies, protocols and memoranda of agreement, the policies and practices varied from hospi-

tal to hospital. There was no consistency, and this made work difficult for the funeral industry.

These inconsistencies included the following:

- Some hospitals screened funeral workers at the front doors before allowing them in. At least one hospital required them to go to the emergency department for screening. However, others refused them entry, and hospital staff delivered paperwork and in some cases bodies for transfer to funeral home staff waiting outside.
- Some hospitals questioned funeral home employees about what other hospitals they had visited. If they had done SARS pickups at other hospitals, they were turned away.
- One hospital required funeral workers to wear protective gear when entering offices where body transfer documentation was to be picked up. For others, screening was enough. For still others, staff delivered paperwork to funeral home workers waiting outside.
- Funeral home workers found procedures used at a hospital on earlier pickups suddenly changed. Procedures for entering the hospital one week were different another week.
- Practices varied, even inside the same hospital. For instance, one funeral worker noted that medical staff wore protective gear but security staff didn't.
- When SARS appeared to be waning, one funeral operation continued to dress its workers in protective gear as a precaution. At least one hospital asked them to remove it.
- Post-SARS, some hospitals still required funeral home personnel to wear masks, while many did not.

One funeral home executive told the Commission:

They were tripping over themselves ... Hospitals started to say that if our personnel were in a SARS hospital to pick up a body then they wouldn't be allowed in other hospitals to pick up bodies.

It took a bit of time but they realized that we would run out of players to come to the hospitals.

In one case a hospital refused a funeral home employee access to pick up a body because the media had reported that someone in contact with SARS had attended a visitation at the funeral home.

Before SARS, the typical pickup procedure involved funeral home staff arriving at the hospital, presenting a permission slip, completing paperwork, obtaining the death certificate and meeting security to collect the body. When SARS arrived, procedures became confused because there were no effective planning or preparation, no standard systems, and no universal precautions for picking up a SARS body. As already mentioned, procedures varied from hospital to hospital and sometimes changed, leaving funeral home workers confused about exactly what they should do. Most hospitals required funeral staff to wear protective gear such as masks, gloves and coats. In one case, paperwork exchanges were done in a tent outside the hospital.

One funeral support service involved in body transfers told the Commission:

The rules changed at nearly every hospital, they were never the same and just when you thought you had the routine down, they changed the rules... . Different hospitals did different things.

Lack of communication helped to create confusing situations. For instance, workers from a funeral home transferred two bodies from one hospital in one day. The next day they heard through the media that the hospital had been closed because of SARS and anyone who had attended the hospital must go into quarantine. The funeral home operators decided to cancel the funerals and to store the bodies until after the quarantine period. They were upset that they had not been told of the closure and quarantine by the hospital or by anyone in authority.

The Toronto and District Funeral Directors Inc., an association of 60 Toronto-area funeral homes, advised its members in a faxed memo that:

Funeral homes will be made aware of SARS deaths from the Medical Officer of Health, prior to family contact.

Although every effort was made to make this happen, some cases inevitably fell through the fingers of a system that was unprepared and overwhelmed.

Embalming

Once a SARS body was at the funeral home there were other complications. Embalming, because it involved handling SARS-infected fluids, presented possible risks of spreading the disease. Also, the bodies of people suspected of dying of SARS likely would be partially autopsied. The dangers of working with SARS-infected bodies were confirmed later by a study of SARS autopsies that showed the coronavirus continued to live in the dead. Autopsies of 19 patients who succumbed to SARS in Toronto showed the virus was present in the lungs of all of them.⁸³⁷ It also was found in high percentages of bowel tissues examined.

Opening the body created exposure to airborne pathogens and required what the medical community calls taking universal precautions. In general terms, universal precautions involves using protective gear, including gowns, masks, gloves and shoe covers, to shield workers against spraying blood and gases during embalming. Surgical-type masks normally used by funeral homes were replaced by N95 respirators during the SARS outbreak. However, the Commission's investigations found only one funeral home that actually fit tested the N95 respirator before use.

Advice from public health on embalming was not always clear. One funeral director spoke with a local coroner's office, which advised him that it was okay to embalm as long as universal precautions were used. A letter from Toronto Public Health advised that embalming should be done using full respiratory precautions, including gloves, gowns, masks and goggles. However, the letter added:

Although we have no evidence of risk to staff who are using these precautions, it may be prudent to avoid embalming the body if possible.⁸³⁸

Some people in the funeral industry found this advice too vague to be helpful. They thought there should be specifics, especially considering that some other countries prohibited the embalming of SARS victims.

837. Mazzulli T, Farcas GA, Poutanen SM, Willey BM, Low DE, Butany J, et al. Severe acute respiratory syndrome-associated coronavirus in lung tissue. *Emerg Infect Dis* [serial online], January 2004.

838. April 2, 2003 letter to Toronto and Area Funeral Directors Inc.

Screening Measures

The risks for funeral home operators and staff did not come only from handling bodies. There also were the risks of contracting the disease from family and friends who had contact with the victim while alive. This latter risk also applied to funeral home visitors.

In one highly publicized case, a doctor who had been working with SARS patients showed up at a funeral home for a visitation and later for the actual funeral. After the funeral he felt unwell, found he had an elevated temperature and admitted himself to hospital, where he was isolated. Controversy erupted when the acting York Region Medical Officer of Health denounced the doctor in scathing terms for attending the funeral despite the doctor's evidence that he was not symptomatic until after the funeral. That controversy is addressed earlier in this report, but the upshot was that 150 people who might have had contact with the doctor were quarantined.

This kind of incident led to funeral screening measures. These measures included questions about possible contact with SARS, posting notices and establishing hand-washing stations. But screening of any sort is never completely effective. The experience of one funeral home illustrates this. One family went to a funeral home and passed the SARS screening tests. A visitation was held in the evening. The next day the family called the funeral home and said they had learned from public health that their relative had died of SARS and that the family was possibly exposed along with anyone at the visitation.

The home had to provide a list of names of everyone who attended the visitation so they could be quarantined. Four funeral home staff were quarantined.

As recounted earlier, one family learned of their father's death from SARS while at the funeral home making arrangements for his service, when public health called and told the operators to get the family out of the building because he had died of SARS:

We were making the arrangements for them and the phone rang. It was the Board of Health. They were saying that it was SARS and to get the family out of the building. They said that the family should be in quarantine and not together.

However, the Coroner's Office understood it was not a SARS death. It took two to three hours to confirm that the death was indeed from SARS. The managing director of the home told of the chaos resulting from the situation:

We had conflicting information from public health and the coroner.
There were so many phone calls that day. It was the day from Hell.

Three staff had to be quarantined, leaving only two funeral directors to handle the business.

In some cases when funeral directors and families met to make arrangements, everyone wore gloves and masks. In others, arrangements were made over the telephone. In still others, there were no usual arrangements, as bodies were taken directly to a crematorium or cemetery for burial.

Quarantines

Quarantines disrupted funeral home operations significantly. Staff quarantines required split shifting to prevent overlapping staff from infecting each other, borrowing staff from affiliated homes and in at least one case shutting down operations for a short period.

The same rules did not appear to apply to everyone. The funeral home that made the two normal pickups from a hospital then learned that the hospital was shut down cancelled the two funerals, which did not sit well with one of the families. A competing funeral home was in a similar situation but did not follow quarantine and went ahead with funerals. The family wanted to know why the rules were not applied uniformly.

Other awkward situations were created when funeral homes had to explain surcharges for infectious disease body handling. One family complained to the Board of Funeral Services about extra charges, but the Board held that the charges were proper. Handling the bodies of those who have died of an infectious disease does involve additional costs. Funeral employees must have personal protective equipment (PPE), more time must be spent disinfecting, and bodies sometimes need to be put in special bags. There also is the extra expense of staff time lost to quarantine and the costs for screening measures.

Funeral homes received no government compensation or relief for SARS expenses but the health care industry did. One operator said that quarantine of staff had cost \$14,000.

Funeral directors had the choice of passing on these costs to customers or absorbing

them. One funeral director said he made a deliberate decision not to absorb surcharges to demonstrate that special precautions were being taken. This he hoped would boost public confidence that his operation was doing what it could to prevent any spread of SARS. However, passing along costs risked creating an image of funeral operations profiting from disaster.

Public confidence certainly was an issue, as evidenced by the experience of a funeral home caught in the media spotlight early in the SARS outbreak. Some funeral home staff and people who attended a visitation were quarantined and the case was much reported by the media. A manager at the funeral home told of how the media exposure affected business:

Everyone knows the quarantine period was 10 days. So Canada Post informed us they would not deliver mail for two weeks. Our suppliers were concerned whether or not they should be sending their delivery people out. That's the reaction that we got.

The 2003 SARS outbreak was the first time Ontario had used quarantine in 50 years.⁸³⁹ A post-SARS study concluded that quarantine can cause considerable psychological distress and depression and that support should be available for persons at risk for adverse psychological and social consequences of quarantine.⁸⁴⁰

Said one man whose family was quarantined after attending the funeral home without knowing his father had died of SARS:

Then the whole thing ... dealing with the whole fear that everybody had.
We had friends that treated us like we were lepers.

In the end, most funeral homes and their clients simply coped as best they could. They watched television news, surfed the Web and talked to coroners and anyone else who could provide information. Experience gained in handling AIDS deaths was helpful. One of their most important jobs was to maintain public confidence that funeral homes were safe when precautions were being properly followed. As with other parts of the SARS story, impressive individual efforts were what got them through problems that were systemic.

839. SARS Commission Public Hearings, September 30, 2003.

840. Centers for Disease Control and Prevention, *Ahead of Print*, Vol. 10, No. 7, July 2000.

Associations

Funeral homes should be networked reasonably well through regulatory agencies and their own associations. All Ontario funeral establishments are regulated by the Board of Funeral Services, which is governed by the Ministry of Consumer and Business Services. There also are a variety of provincial and regional funeral associations that individual homes can choose to join. None of these connections, however, provided a lot of detailed and clear instructions for operating during the SARS outbreak.

The industry had mixed views on the effectiveness of the Board of Funeral Services (BFS) in its response to the crisis.

The Board of Funeral Services told the Commission that it first learned about SARS through the media. During March, April and May of 2003 it sent four communiqués to funeral establishments. Most of this information concerned universal precautions. The Board said it did not receive any communications from the provincial government, Toronto Public Health or any other health department.

Toronto Public Health provided some direction helpful to funeral establishments, but distributed it through Toronto and District Funeral Directors Inc. Membership in this association is voluntary and therefore only those who belong to the organization received the information.

Leadership seemed to be an issue throughout SARS, with more than one funeral home director saying that there was not enough leadership from the provincial government, public health or the funeral industry professional organizations.

The Funeral Issues

The SARS outbreak of 2003 killed 44 persons in Ontario. What if it had been a pandemic like the Spanish flu of 1918-19, which killed 20 to 50 million people worldwide, 50,000 in Canada? The 44 SARS fatalities produced enough disturbing stories about after-death care that one has to wonder about the extent of social disruption we would see with thousands of deaths.

Several critical after-death issues have been raised by the SARS experience. They are preparedness, leadership, communication and the role of the funeral industry in epidemics. By studying them, perhaps we can avoid some of the problems encoun-

tered in SARS and be better equipped to deal with the next serious public health threat.

As noted in the Commission's first interim report and other sections of this report, lack of preparedness seriously hampered the fight to contain SARS. Ontario was unprepared to deal with a major infectious outbreak. That failing spread beyond the primary health care system to become an issue in post-mortem arrangements. Better preparation would have helped the funeral industry to do its job without so much unnecessary distress to families who lost relatives to SARS. Better preparation could have helped to alleviate some of the hardship and additional grief suffered by the families and friends of the 44 killed by SARS.

When all is said and done, everyone got through the crisis. SARS was contained. Those who died of SARS were looked after. After-death precautions were taken to avoid spreading the virus. However, it wasn't easy and it wasn't pleasant and it was clearly more difficult than it should have been and produced unnecessary confusion and anguish. Some families will carry forever the scars of not having been able to arrange the proper final arrangements that their deceased relatives deserved.

Throughout its work the Commission heard complaints of lack of strong leadership in the SARS crisis.

One funeral director told the Commission:

There seemed to be no leadership anywhere. The Province was quiet. The Minister was quiet. The Board [of Funeral Services] was quiet. Everybody was quiet. There just was no leadership.

Another funeral service person noted:

There was very limited positive direction from health care. I had to go and seek it out. It was like pulling teeth.

One public health official cited the strong leadership of Bukas Loob Sa Diyos (BLD), the Roman Catholic charismatic group. Toronto Public Health quarantined 500 BLD members over the Easter weekend of 2003 because of SARS exposure.

Easter is their most important religious day and some might have been expected to break quarantine to attend services. However, Easter services were broadcast over cable TV, home delivery of Communion was arranged and one of their religious lead-

ers told them it was their religious duty to stay at home.

Better communication and networking throughout the primary health care system and the funeral industry could have lessened the problems seen in SARS after-death care. The Commission heard story after story of communication failure and of lack of networking that could have made a difference.

A pre-planned response involving the funeral industry, the Ministry of Health, public health, the hospital community, Emergency Measures Ontario and the office of the Chief Coroner, supported by agreed policies, procedures, protocols, memoranda of understanding and tabletop drill exercises would go a long way to prevent the problems that arose during SARS.

One funeral director told of a public health hotline that funeral homes could call for information, but he said that often no one answered and if they did he had no confidence in the information provided:

We had a hotline number to call if we had any concern with a deceased that we were supposed to pick up from the hospital to find out what the protocols were and what we were supposed to do. We were told that it was a 24-hour number but needless to say 90 per cent of the time no one answered.

Another noted that his operation had to turn to the World Health Organization website to get SARS information:

I got most of my information from the WHO website. A lot of what I received we obtained ourselves and disseminated it through Canada. The Health Canada website, I looked at it once.

The following quotation from one director seems to sum up the feelings of many in the industry:

It was frustrating that there was a lack of concrete information and there were a lot of maybes and third-party information and we needed clarity.

One front-line public health worker cited duplicated efforts by various government agencies seriously undermined effective communication:

We were required to provide the same information to four or five people. It drove us crazy.

Workers in health care and the funeral industry cited the case of conflicting information from different agencies. The example most often used was one office saying “don’t embalm” SARS corpses, another saying it is okay. Another was conflicting information on whether coffins should be closed.

Information was communicated during SARS but in many cases it was hedged and sometimes contradicted. Certainly there was not much information from the Province, the Coroner’s Office or medical officers of health that boosted the confidence of people in the funeral industry. As one funeral service director said:

No government stepped up and provided information. I had to watch the news to get information.

There was not enough information that, as one funeral director put it, “you could sink your teeth into.”

Funeral directors needed very specific information from public health authorities, especially early in the crisis, to questions such as: Is embalming allowed and if so under what conditions? Should there be an open or closed casket? Should there be a funeral at all? Should staff be quarantined? One said:

The press releases that went out were frightening. We needed to know how safe we were, how secure the public was, i.e., hand washing, tell us what the real risks are.

The breakdowns in communication resulted in additional stress for the bereaved. Funeral homes trying to cope with miscommunication or lack of communication were not able to supply confident answers to the families of victims. And of course, there were the cases in which lack of proper communication directly affected those trying to deal with a loss. One of the most dramatic of these was the daughter who didn’t know her mother had died of SARS until it was announced in the news media. The family was never told by anyone in the health system.

The Commission heard much from the funeral industry about how it feels it was left out of the loop during SARS. There were concerns that the industry is not well represented in pandemic planning. As the Ontario Funeral Service Association said:

During the SARS outbreak, we were not part of the inner circle and we should be because during a man-made catastrophe we deal with the end result of any epidemic or pandemic.

They told the Commission that anything that happened after death appeared to be an afterthought:

Funeral homes hold an odd place in society. They are ignored and neglected. This has to stop.

The Association said:

We are the first line of defence with doctors and nurses but we are not treated as if we are. Someone could die of pneumonia but the hospital, nursing home, the coroner does not have to tell us that the person had AIDS. Universal precautions are used in an embalming room, but that extra piece of information [knowledge of AIDS] may assist us in keeping our people secure.

Although regulation of the funeral industry is not within the Commission's terms of reference, many in the industry thought that structural problems in funeral home regulation contributed to the problems encountered during SARS. The industry is comprised of independent business people who offer a service to the public. Because of the importance of this service to society and the complications that can arise from it, the industry is regulated by the provincial government.

The ministry responsible for the funeral industry until 1991 was Health, for the obvious reason that many health issues are involved in handling the dead. Then the government placed regulation of the industry under Business and Consumer Services. The Commission heard many recommendations for placing funeral services back under the Ministry of Health because they are so closely linked to health care. One director said the move from Health was the worst thing that had ever happened to the industry and added:

We are in the health care business. We deal with the dead and the living and their health. We are now in an industry of dollars and cents [in reference to being under Business and Consumer Services].

Another funeral director suggested that governments and the health system should re-evaluate the importance of funeral workers. Still another said public health should recognize the funeral industry as a resource.

Some recognition did come later. In August 2004, as Dr. Bonnie Henry, Associate Medical Officer of Health, Toronto Public Health, told the Ontario Standing

Committee on Justice Policy, studying the adequacy of Ontario's emergency management statutes:

The funeral home association was an extremely valuable partner for us in SARS. The care of people who have died from an infectious disease is very tricky, and they're very skilled at assisting us in things like that.⁸⁴¹

The roles of individual funeral operations and their associations also were raised. Toronto-area funeral homes have 11 associations, including one federal, one provincial and nine district associations, to which they can choose to belong or not. When public health agencies pass along information to these volunteer associations, some funeral homes are likely to miss out because they don't belong to them all.

The only mandatory membership is with the Board of Funeral Services, which regulates funeral homes. Questions about the Board's role and effectiveness were also raised. Because it is a regulator, should it be expected to be an information network provider? Does it have the resources to carry out such a role?

Another issue cited was the fact that individual funeral operations made their own policies for handling SARS complications. There were no set standards for body transfers, body handling, visitations and body viewing. Some in the industry wondered if standards should be set and communicated by one entity within the industry. That way whatever messages had to be delivered to a grieving family – closed casket, no public funeral, no visitations – could be delivered with authority by one agency or association. As one funeral director said:

We need a central agency with authority to educate us and tell us what to do.

One funeral director told the Commission that during SARS:

There needed to be a front-line person with credibility to talk to the front-line people in the funeral end of things, telling them what they know, what they are recommending, and "here is what you go with."

One cited the example of contradictory opinions over whether victims who die of SARS should be embalmed. As noted previously, funeral directors attributed the

841. Justice Policy Hearings, August 18, 2004.

coroner's office as saying embalming was not a problem while Toronto Public Health said perhaps it was best to avoid embalming. One director said the embalming direction from Toronto Public Health was so vague that he placed several calls for clarification. None were returned.

What funeral directors seemed to need during SARS was recognition of their role in the health crisis and leadership to help guide them through it. They wanted better leadership within their own industry and from their governments, right from the Ministry of Health through to local public health boards.

Certainly many in the industry also feel that they should once again be under the regulation of Health.

Lessons Learned

Bad experiences usually carry good lessons, and this was the case with SARS. Wrapped within all the things that went wrong are some lessons for next time. Many funeral directors said that because of SARS they are prepared for the next crisis. As one said:

We are well positioned now because of what we went through. We are ready for pandemic influenza.

That is the optimistic view, and optimism is good, but it must be backed by a plan for future outbreaks of infectious disease. There needs to be a plan that will overcome the lack of preparation that made the SARS outbreak of 2003 more difficult and more painful than it should have been. This plan should consider:

- The importance of funerals and how outbreaks can be effectively controlled while the dead are buried with dignity and without compromising either.
- How to include the funeral industry in planning for a pandemic that will require special funeral and burial procedures.
- Special attention to the possibility that the next outbreak might bring deaths far in excess of the 44 deaths in Ontario from SARS in 2003.
- What role funeral directors have or should have in the health care and public health systems.

- How to provide the funeral industry with clear-cut direction, communication and leadership that will help it do its job effectively.
- What procedures are needed for the safe, uncomplicated and efficient transfer of bodies from hospitals and other health care facilities to funeral homes.
- How public health can communicate effectively with the funeral industry and provide one authoritative information point where funeral directors can get answers to questions and concerns quickly and clearly.
- The roles of the Board of Funeral Services and the funeral industry's numerous voluntary associations, and whether their effectiveness in keeping the industry informed can be improved.

One of the best lessons is how people summon their best abilities in times of crisis. Funeral service workers, despite concerns for themselves and their families and the lack of clear information, did a good job of protecting the public while carrying out their duties to grieving families.

One of the difficulties for funeral operations was trying to find out the cause of death. Public health either didn't know immediately or was slow to say. Most funeral homes decided to take precautions no matter what:

We learned that what was prudent was necessary.

Funeral services learned to split their shifts to reduce exposure among all staff. There were extra costs involved, however, said one director:

When things like this happen, competition or not, public safety comes first.

One large funeral operation used red tags on body bags to indicate that a person died of SARS. This helped funeral workers to know they were handling an infected body and remind them of the precautions needed.

Recommendations

Better preparation and communication obviously are the keys to major improvements in after-death handling during any serious infectious disease outbreak. The funeral industry's problems and concerns during SARS flowed mainly from these two areas.

Although some efforts were made to communicate with the funeral industry, these proved inadequate for lack of a plan agreed to and tested in advance. The funeral industry was largely left out of the loop during the crisis. Funeral directors interviewed by the Commission noted that they still have not been included in post-SARS discussions, and have received no recognition for their efforts during the crisis.

It is not within the Commission's mandate to report on funeral home regulation. It is clear, however, that there are underlying problems with regulation and administration that impact on performance in crisis. The mix of regulatory agencies and volunteer associations that funeral directors deal with needs review, including a reopening of the discussion of what ministry or ministries are best equipped to regulate the industry. Until it is clear exactly how the funeral industry fits into, and is directed by, the health care and public health systems, it will be difficult to plan for a health care crisis that requires special funeral and burial procedures.

Specific recommendations from the funeral industry include the following:

- Hospitals should have documents and bodies together in one place, such as the morgue, so funeral home employees do not have to enter public areas of hospitals.
- Bodies should be red tagged to indicate death from infectious disease. This would let funeral home workers know what they are dealing with during body transfers.

Any planning at any level, especially in public health units and coroners' offices, should involve the funeral industry. The Commission notes that the Canadian Pandemic Influenza Plan recommends that the Funeral Services Association of Canada and/or local funeral directors be involved in any mass fatality planning.

Only if the funeral industry is involved in planning will it be able to properly update its preparedness, which will include what policies and protocols are needed for body

pickups, embalming, visitations and other funeral arrangements, plus universal precautions and protective equipment.

As for communication, the best way to start improving it is to recognize up front that in any crisis it is always cited as a problem. Approaching the crisis acknowledging that is a start at dealing with it.

The industry should have a single voice during a crisis. This voice could play an important role in advising the public about how public health concerns might alter traditional funeral arrangements. A single voice would help strengthen public confidence.

The Commission recommends:

- That the underlying problems of regulation of the funeral industry should be addressed, including the questions of which ministry or ministries are best equipped to deal with the industry, and exactly how the industry fits into and is directed by the health care and public health and safety systems in relation to any public health problem or emergency that engages the need for special procedures for funerals and burials.
- That these problems be addressed by a lead ministry or agency selected by the Ontario government in conjunction with other affected ministries, the industry and local medical officers of health.
- That the funeral industry develop a single voice and communications point for dealing with government organizations such as public health, Emergency Measures Ontario, and the Ministry of Health and Long-Term Care, together with an internal communication system to ensure that one communication from government to one industry communications point will reach all members of the industry immediately.
- That a pre-planned response be developed for any public health or other emergency that engages the need for special procedures for funerals and burials; such planning to include the funeral industry, the Ministry of Health and Long-Term Care, public health, the hospital community, Emergency Measures Ontario and the Office of the Chief Coroner, supported by agreed policies, procedures, protocols,

memoranda of understanding and tabletop drill exercises, would go a long way to prevent the problems that arose during SARS.

- That Emergency Measures Ontario, in consultation with the Chief Medical Officer of Health, assume the initial responsibility as lead ministry for such planning.

Clergy and Spiritual Leaders

Spiritual comfort during an outbreak of a potentially fatal disease is an issue that deserves some comment. It was specifically raised by a Protestant clergyman, who asked the Commission:

What is the role of the clergy and spiritual leaders in the health care system of Ontario?

Because the issue is marginal to the Commission's terms of reference and produced only one response, the Commission makes no recommendation other than to say it needs to be addressed by the health system, the chaplaincy community and those it serves.

The clergyman noted that during SARS, clergy were barred from visiting patients in some hospitals, long-term care facilities and nursing homes. One Toronto hospital declared its chaplain non-essential staff during the crisis and sent him home. This was part of the overall attempt to limit SARS exposure and lessen the chances of spreading the virus. Some hospitals did allow clergy visits if precautions were taken, but a clergyman who addressed the Commission complained of inconsistency and different interpretations of rules established by health officials.

He summed up the problem:

There exists a large percentage of the population for whom religious faith is important. They deserve spiritual care at crisis points in their lives and hospital admission is almost always a crisis point.

While it varied from hospital to hospital, during the recent SARS crisis many clergy were denied access to patients. I want to be clear that when professional clergy visit they do so primarily and almost exclusively to people of faith.

He said that throughout the SARS crisis his parish was prevented from bringing the sacraments to a nursing home. He felt there was no reason why professionally trained

clergy cannot follow the same basic hygienic and infection control practices as doctors and nurses.

The clergyman is not alone in his belief that spiritual care is important to medical care. A study at the University of Pennsylvania shows that 45 per cent of a study group reported that religious beliefs would influence their medical decisions if they become gravely ill.⁸⁴²

Some medical practitioners feel that patients and the health system benefit from having clergy involved. A doctor writing in the *New England Journal of Medicine* said:

Even as we ponder whether or how we should step inside the religious worlds of our patients, we should also ask whether members of the clergy should enter more deeply into our clinical sphere. There is a great imbalance of power between patient and doctor. Often, I have been insensitive to this imbalance and have taken a patient's silence to represent tacit assent to my recommendations.

A member of the clergy can speak to a doctor at eye level and act as an advocate for a patient who may be intimidated by a physician and reluctant to question or oppose his or her advice. A priest, a rabbi, or an imam can help patients to determine which clinical options are in concert with their religious imperatives and can give the physician the language with which to address the patient's spiritual needs.⁸⁴³

Clergy visits have been part of the hospital system since the beginning. Some hospitals have their own chaplains, whom they pay to provide spiritual care to anyone who desires it. Clergy from outside the institution visit when requested by patients, patients' relatives or staff. They sometimes are asked by a hospital chaplain's service to volunteer to handle spiritual matters many hours a week in certain parts of the institution.

Rules and practices related to clergy visits, however, have become confused and inconsistent, mainly because of privacy concerns. It used to be, and still is the case in some hospitals, that visiting clergy are given access to a patients' list that includes religious

842. Do Patients Want Physicians to Inquire About Their Spiritual or Religious Beliefs If They Become Gravely Ill? *Archives of Internal Medicine*; Vol. 159 No. 15, August 9, 1999.

843. "God at the Bedside", Jerome Groopman, *The New England Journal of Medicine*, March 18, 2004.

denominations. Only clergy who have been pre-screened to ensure they have valid qualifications are allowed to see the list. An Anglican priest, for instance, is allowed to see the Anglican list, then proceeds to a nursing station and asks to visit the Anglican patients whom he or she has noted from the list. The practice, according to this clergyman, is to ask the patient if he or she would like the minister to stay and visit. If the answer is no, then the clergy person leaves:

They are not attempting to evangelize those who are weak and vulnerable but rather seek to bring comfort and support to people of faith.

The information on religious affiliation used to be collected by hospital admitting staff when patients arrive at the hospital. However, this clergyman told the Commission that very often the question of religious affiliation is not asked. Some staff think that asking for religious affiliation is a privacy issue, but he said the people being asked are free to note their religious tradition, or simply to say they have none.

He added:

For some reason the staff in the hospitals feel reluctant to put the question, thereby denying patients access to spiritual care. I would like to see a concerted effort by hospital staff to provide this information to community clergy. It's a question that needs to be thoroughly discussed hospital by hospital.

An Anglican chaplain has noted publicly that in at least one Toronto hospital she is now forced to make "cold calls" on patients, walking door to door in the hospital looking for Anglican patients.⁸⁴⁴ Sometimes she relies on sympathetic staff to tell her which patients might wish to see her.

A nurse who contracted SARS on the job and was hospitalized raised the issue of patient privacy before the Commission. She complained that while in hospital she felt abandoned, not having been visited by any managerial staff and the chaplain with whom she had worked closely. Later, when she asked the chaplain why he had not contacted her during her illness, he said he tried but hospital managers cited confidentiality concerns and refused to give him a list of names.

844. "Privacy laws force chaplains to make 'cold call'", *The Anglican Journal Canada*, April 2004 (The Anglican Journal).

She added:

And that was always something that was so special. that the chaplains were always there for the staff. They knew us. They knew what was going on in our lives.

A clergyman writing in the *Anglican Journal* said there is a concern among Ontario's churches that new privacy legislation will limit pastoral care in hospitals. The article said churches have asked for changes that "clearly state that providing basic information to clergy and religious caregivers is not a violation of the Act."⁸⁴⁵ and that chaplaincy be included in the definition of health care providers.

The clergyman who contacted the Commission expressed concerns about a climate of fear and mistrust, which had significant impact on the Toronto Asian community. He also noted that part of the SARS crisis occurred at Easter of 2003 and that warnings against large gatherings reduced church attendance. He said:

Fear is not a positive attitude. Faith can be an antidote to fear. People cut off from their spiritual traditions get unhealthy. People who find faith important find strength that helps them live their lives. We must guard against denying people their religious freedoms.

The Commission notes how one religious group managed to observe quarantine and still bring Easter services to its members. Bukas Loob Sa Diyos (BLD), Roman Catholic charismatic group, had its 500 members quarantined over Easter because of a SARS contact. Although there had been concern that some members might attend church despite the quarantine, the group's leaders arranged to broadcast Easter services over cable TV, and set up home delivery of Communion.

The clergy concerns brought before the Commission raise some sensitive issues that should be addressed. Few people would deny that there is a role for clergy in hospitals in offering spiritual support to those who want it. There are, however, those who resent any religious intrusion on their personal privacy. However, there are no overall policies or protocols that would provide some clarity and consistency to the situation. In order to address this gap, the Commission recommends that the Ministry of Health and Long-Term Care and the Ontario Hospital Association and the chaplaincy community engage in multifaith consultations toward the development of the

845. *The Anglican Journal*, April 2004.

policies and protocols required to address chaplaincy services during an outbreak of an infectious disease. These consultations could address the difficult questions of how to make chaplaincy service available to those who want it, without intruding on the privacy of those who do not.

CHAPTER SIX: The Nurses' Survey

Preface Nurses: ONA SARS Survey

In 2003, following the SARS outbreak, the Ontario Nurses Association sent out questionnaires soliciting the experiences of Ontario nurses during SARS. The ONA, founded in 1973, is the trade union representing 52,500 registered nurses and allied health professionals working in hospitals, long-term care facilities, public health, community agencies and industry.

The ONA received 1,536 completed questionnaires and provided them to the SARS Commission to help in its investigation. The questionnaires helped the Commission identify nurses who wished to be interviewed.

To analyze fully this rich mine of experience, the Commission needed outside help with the following mix of experience, expertise and reputation:

- the statistical expertise and experience to analyze, assess and interpret the information in the questionnaires;
- the capability and expertise to develop and implement an appropriate database;
- the capability and expertise to handle a large amount of raw data and accurately input the qualitative and quantitative answers into the database;
- sufficient experience and expertise to analyze issues arising from the SARS outbreak;
- the ability to safeguard the confidential information contained in the questionnaires;
- an in-depth understanding of the nature and characteristics of the Ontario health care system;
- a track record for meeting targets and objectives; and
- a sound reputation in the health care community.

The Commission retained the Hay Health Care Consulting Group, a Toronto-based subsidiary of the Hay Group, an international management consultant with world headquarters in Philadelphia. The Hay Group played a significant role in the report of the National Advisory Committee on SARS and Public Health, headed by Dr. David Naylor (“the Naylor Report”).

Nurses who responded to the ONA questionnaire provided a rich source of information on the experience of Ontario’s nurses during the SARS outbreak. They provide compelling observations on what went right during the SARS outbreak, what went wrong, what lessons we should learn. They give us a picture of the dangerous and frightening work of nurses on the front lines. The depth, scope and quality of the responses of these nurses give us a strong and candid insight into what actually happened.

This material is organized as follows:

1. Introduction
2. ONA SARS Survey: Hay Group Analysis
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Highlights of the report include:

- Two-thirds said the SARS outbreak changed their attitude to the nursing profession.
- More than half felt their SARS work was not adequately respected, or they were unsure if it was respected.
- Two-thirds said SARS affected their families through isolation, anxiety and fear.
- Almost two-thirds felt their health and safety had been compromised during the SARS outbreak.
- More than half were concerned about the adequacy of the protection they were given.
- More than three-quarters were unaware of any Ministry of Labour worker protection activity at their workplace.

These concerns are reflected in quotations such as:

I was torn between staying and quitting because my husband was scared.

One of our docs said you nurses are crazy to look after these people.

It was hard but we did it.

What happens the next time?

Nobody listens to nurses.

Fear ... job not worth risk of dying. Lack of trust that nursing was being protected.

Totally devastating on family life.

Dozens more of these quotations are found in the section "Selected Quotations from Individual Nurses." As the Hay Group analysis notes, the survey is not statistically representative of all nurses affected by SARS or of nurses in general. However, the responses provide invaluable insight into what it was like to be a nurse during the SARS outbreak.

1.0 Introduction

1.1 *The SARS Commission*

The independent Commission to Investigate the Introduction and Spread of Severe Acute Respiratory Syndrome (SARS) was established by the Government of Ontario as an investigation under section 78 of the *Health Protection and Promotion Act*. Mr. Justice Archie Campbell of the Ontario Superior Court of Justice was appointed Commissioner.

The Commission is investigating how the SARS virus came to the province, how the virus spread and how it was dealt with. It is looking at all aspects of the outbreak to provide a public report on what happened, what lessons have been learned and what improvements should be made.

1.2 *The Survey*

A survey conducted by the Ontario Nurses' Association regarding the experience of nurses in Ontario during the SARS crisis

As part of its investigation, the Commission was provided with responses to a survey conducted by the Ontario Nurses' Association regarding the experience of nurses in Ontario during the SARS crisis. The ONA conducted a survey of all its members in August 2003. This survey focused on the impact of the outbreak and spread of severe acute respiratory syndrome (SARS) on health care workers. The Commission has

now contracted with the Hay Health Care Consulting Group to assist in analyzing and interpreting the responses to these surveys.

1.3 Findings from the Survey

This report presents high-level results and key findings from the survey sent to Ontario nurses following the SARS crisis. The survey presented questions under the following headings:

- Background
- Impact Issues
- Protective Equipment
- Facilities Issues
- Health and Safety Committees
- Ministry of Labour
- Workplace Safety and Insurance Board
- Ministry of Health and Long-Term Care Directives
- Spread and Containment Issues
- Additional Feedback

1.4 Defining SARS Hospitals

According to the Ministry of Health and Long-Term Care (MOHLTC), the following hospitals treated at least one probable or suspected SARS case during either phase one or phase two of the SARS crisis in Toronto:

- Bridgepoint Hospital
- Credit Valley Hospital
- Hospital for Sick Children
- Humber River Regional Hospital
- Lakeridge Health Corporation
- Markham Stouffville Hospital
- North York General Hospital
- Rouge Valley Health System
- Southlake Regional Health Centre
- St. Joseph Health Care, Toronto
- St. Michael's Hospital
- Sunnybrook and Women's College Health Sciences Centre
- The Scarborough Hospital
- Toronto East General Hospital
- Trillium Health Centre
- University Health Network

- West Parry Sound Health Centre
- William Osler Health Centre
- York Central Hospital

For analytic and comparison purposes, these hospitals have been identified as SARS facilities in this report.

Two of these facilities, North York General Hospital and The Scarborough Hospital were forced to close as a result of the SARS crisis. These hospitals are known to be the most affected by SARS.

2.0 Background

Key Finding: Over half of respondents from SARS hospitals stated that they provided care to a suspect/probable SARS patient.

- The overall response rate was almost 10% of all nurses in GTA hospitals; therefore, the sample cannot be considered statistically representative of all nurses affected by SARS, or of nurses in general. The strength of the survey is in the quality and depth of responses by individual nurses and the insight it gives into their experience.
- The responses to the survey provide a perspective on nurses' experience during the SARS crisis in the GTA.
- 85% of responses came from acute care hospitals, 15% from other facility types (e.g., rehab, nursing homes, Community Care Access Centres)
- 83% of responses came from institutions defined by the Ministry of Health and Long-Term Care (MOHLTC) as SARS hospitals.
- 55% of responses came from seven SARS acute care hospitals: University Health Network (UHN), St. Michael's Hospital, Sunnybrook and Women's College Health Sciences Centre (S&WCHSC), The Scarborough Hospital, William Osler Health Centre, Southlake Regional Health Centre and North York General Hospital.
- The response rate for these seven facilities was as follows:

Hospital	Total ONA Members	Survey Responses	Response Rate
University Health Network	1,923	160	8.3%
St. Michael's Hospital	1,181	152	12.9%
Sunnybrook and Women's College Health Sciences Centre	1,653	140	8.5%
The Scarborough Hospital	956	100	10.5%
William Osler Health Centre	1,158	91	7.9%
Southlake Regional Health Centre	565	85	15.0%
North York General Hospital	798	84	10.5%

- 60% of responses came from facilities within the GTA; 93% of these responses were from nurses in acute care hospitals.
- Responses came from a very experienced group of nurses: 15% had >30 years' experience, 31% had 21-30 years' experience, 30% had 11-20 years' experience, and 22% had ≤10 years' experience.

3.0 Impact Issues

Key Findings: Two-thirds of respondents stated that the SARS outbreak changed their attitude toward the nursing profession. 54.5% of respondents did not feel that their work with respect to the SARS crisis was treated with adequate respect, or were unsure if it was respected. Overall, respondents from SARS hospitals felt more affected by the SARS crisis than did respondents from non-SARS hospitals.

- Two-thirds of respondents stated that the SARS outbreak changed their attitude toward the nursing profession. Rates were higher in SARS hospitals (68.6%) than in non-SARS hospitals (56.9%). Rates were highest in two SARS hospitals: North York General Hospital (81%) and The Scarborough Hospital (83%).
- Overall, 54.5% of respondents did not feel that their work with respect to the SARS crisis was treated with adequate respect, or were unsure if it was respected. More specifically, 42% did not feel their work was respected, while 12.5% were unsure. 45.5% felt their work was respected.
- Some of the respondents expressed concern over increased risk of being a front-line worker, desire to leave the field of nursing, an increased awareness of the dangers of the job, feelings that nurses are undervalued, a more acute awareness of infectious diseases, and intentions to use more precautions with patients.

- 7.6% of respondents reported experiencing SARS symptoms during or following the SARS outbreak. The two SARS hospitals with the highest rates of nurses reporting that they experienced SARS symptoms were North York General Hospital (18%) and The Scarborough Hospital (24%).
- At the time of the survey, 3.6% of respondents continued to feel residual symptoms that they personally associated with their exposure to the SARS illness, such as stress, anxiety, fear, fatigue and weakness; 32.4% said they did not feel residual symptoms, and 64% were unsure.
- Two-thirds of respondents felt that the SARS outbreak affected their family life. The most common themes for this impact were:
 - Isolation
 - Stress and/or anxiety
 - Fear for family's health
 - Family and/or friends concerned for the respondent's health
 - Quarantined, and friends and/or family quarantined
 - Emotional drain or depression
- 27% of respondents felt they were suffering post-traumatic stress as a result of the SARS outbreak (28% in SARS hospitals, 21% in non-SARS hospitals). North York General Hospital and The Scarborough Hospital had the highest rates: 57.1% and 47.0% respectively.

4.0 Safety Concerns

Key Finding: 58% of respondents felt that their health and safety were compromised at some time during the SARS outbreak.

- 58% of respondents felt that their health and safety were compromised at some time during the SARS outbreak.
- 15% of respondents declined work as a result of the SARS outbreak.
- 5% of respondents refused to work as a result of SARS, although 34% considered refusing work.

5.0 Protective Equipment for Staff

Key Finding: The vast majority of respondents had not been fit-tested for or trained in the use of personal protective equipment (PPE) before SARS. Many respondents found the PPE to be difficult to use and fit properly, and most experienced some form of side effect from the use of PPE.

- 82% of all respondents were required to wear some form of personal protective equipment (PPE). The rate was higher in SARS hospitals (84%) than in non-SARS hospitals (71%).
- Examples of PPE that respondents were provided included gowns, gloves, protective eyewear, masks, Stryker suits and boots.
- 27% of respondents said that they were not provided PPE at the beginning of the SARS outbreak but were required to wear PPE at a later time. Some of these respondents said that they were instructed to wear PPE during the second wave of SARS, when dealing with suspected SARS patients, or at some point in the early stages of the outbreak.
- Of those who were provided masks (78% of respondents), nearly all (95.5%) were given N95 respirators or equivalent.
- Only 5% of respondents had been fit-tested and/or trained and instructed in the care, use and limitations of PPE before SARS. However, after the SARS outbreak over 67% of respondents were fit-tested and/or trained and instructed in the care, use and limitations of PPE.
- 23% of respondents did not feel they were given clear direction at all stages of the SARS outbreak as to what PPE they should have been wearing and in what circumstances. This rate was generally higher in the Toronto acute care SARS hospitals.
- When direction was provided, respondents indicated that it came from infection control, administration or management and other sources. Instructions came in many forms, including emails; verbal announcements in person; memos, bulletins or letters; staff meetings or announcements from management; daily updates and broadcasts.
- 54% of respondents expressed concern with the direction and/or the adequacy of the protection they were given. Those who provided details mentioned the following types of concerns:
 - Changing protocols
 - Concerns over proper mask fitting
 - Lack of communication
 - Lack of available adequate equipment
 - General confusion

- Timing of mask fitting
- Lack of proper instruction on mask type and use
- Insufficiently sterile conditions or risk of cross-infection
- 53% of respondents experienced confusion about which masks would provide the necessary protection.
- 44% of respondents indicated that they raised issues with management regarding availability, type or use of PPE. Rates were higher in designated SARS hospitals (46.5%) than in non-SARS hospitals (34%). The rate was substantially higher (57%) for respondents who worked in designated SARS units.
- 45.5% of respondents felt that the supply of masks and/or other PPE during the SARS crisis was inadequate; 43.5% felt there was adequate supply, and 11% didn't know.
- Overall, 35.6% of respondents were told to save a mask for reuse. The rate was consistent between SARS and non-SARS acute care facilities (35% and 34.5% respectively), but 67.7% of respondents from non-acute non-SARS hospitals were told to reuse a mask.
- 26% of respondents were told at some point that the cost of masks and/or other PPE was an issue.
- 30% of respondents stated that concerns were expressed about the perception created among the public by staff wearing masks.
- 34% of respondents felt there was not enough training on the proper use of PPE; 56% felt the training was adequate, and 10% didn't know.
- 34% of respondents did not know if Stryker suits (or other full body protection) were available for staff use in the facility; 38% felt there was adequate supply of full body protection, and 28% felt there was not.
- 54% of respondents were not trained in the use of full body protection; 28% were trained, and 18% did not know.
- Fewer than 10% of respondents used a Stryker suit or other full body protection during the SARS crisis. Most uses were for treating SARS or probable SARS patients, for intubation/extubation/bronchoscopy and in isolation units.
- Over 70% of respondents experienced some side effects from the use of PPE, including headaches, shortness of breath, facial rash, fatigue and dizziness.
- 50% of respondents experienced problems with masks not fitting properly, and 8% were told to return to work without a properly fitted mask.
- 67% of respondents were advised of the importance of wearing properly fitted masks.
- 26% of respondents indicated that risk assessments were conducted on their unit to identify SARS hazards and protection that was necessary; 46% said risk assessments were not conducted, and 28% didn't know.
- 70 respondents identified themselves as having had suspect/probable SARS. 19 of

these individuals (27%) felt they had acquired the illness due to poor fit-testing for PPE.

6.0 Ministry of Labour

Key Finding: Most respondents were unaware of any interaction between their facility and the Ministry of Labour (MOL), or of whether the MOL had come to inspect their facility.

- 92% of respondents said neither they nor their family members contacted the MOL and that they were not aware of others who had contacted the MOL during the SARS outbreak for advice or to lodge a health and safety complaint; 8% said they had contacted the MOL or knew someone who had.
- 81% of respondents were not aware of whether the MOL issued any orders or provided any advice regarding the SARS outbreak; 15% of respondents said that the MOL had not provided advice, and 4% said it had.
- 77% of respondents did not know if the MOL had visited their facility at any time on any SARS-related matter; 19% of respondents said that the MOL had not visited, and 4% said it had.

7.0 Wage Loss

Key Finding: Many respondents were quarantined, but few lost income as a result of experiencing potential SARS symptoms.

- 29% of respondents were quarantined (either home or working quarantine) during the SARS outbreak. Rates were higher in SARS hospitals (30.7%) than in non-SARS hospitals (18.7%).
- Of respondents who were quarantined:
 - 57.5% were quarantined for 10 days or more.
 - Only 4.3% indicated that they experienced SARS symptoms while under quarantine; 48.5% were unsure whether or not they had SARS-like symptoms. The remaining 47.2% did not experience SARS symptoms while under quarantine.
- Only 9% of respondents lost hours or income as a result of experiencing SARS symptoms; 70% did not, while 21% were unsure.
- Of respondents who lost hours or income as a result of experiencing SARS symptoms:

- 10% stated that they lost hours but not income (as they received special “SARS pay”).
- 19% stated that they lost income because they were not allowed to work a second job or overtime during the crisis.
- The majority of respondents did not submit Workplace Safety and Insurance Board (WSIB) claims, and did not know whether their employers had interacted with the WSIB regarding SARS matters.

8.0 Spread and Containment Issues

Key Finding: Some respondents (12%) reported that they or other health care workers were not listened to when they reported possible SARS symptoms in patients.

- 18% of respondents reported that they were aware of instances where possible SARS patients were inappropriately handled. For example, respondents mentioned patients who were not put in negative pressure or isolation rooms, inadequate precautions taken for patient transfers, people not being treated as SARS patients and improper screening.
- 17% of respondents reported that they were aware of suspect or probable SARS patients who were not identified promptly.
- 12% of respondents reported that they were aware of circumstances where they or other nurses or health care workers were not listened to when they reported possible SARS symptoms in patients. The rate was higher in SARS hospitals (14.2%) than in non-SARS hospitals (8.8%). All of these respondents mentioned raising concerns regarding transfers of patients, hearing about other facilities (particularly North York General Hospital) through the media and having difficulty getting doctors to screen or assess patients.
- Respondents provided a broad range of suggestions regarding how the spread of SARS and the health risk created to workers could have been dealt with within their facilities:
 - More or better communication, information and/or instructions
 - PPE worn earlier and at all times
 - More attention by management and other leaders to what nurses and other front-line staff said
 - More or proper isolation or negative pressure rooms
 - Better infection control practices
 - More thorough screening

- 17% of respondents stated that their employer arranged for transportation for staff on working quarantine; 62% did not know if their employer did this.

9.0 Compliance with MOHLTC/Facility Directives

- 48% of respondents reported that they witnessed failures to comply with MOHLTC or facility directives during the SARS outbreak by physicians, screeners, visitors, patients, nonprofessionals or professional staff; 40% did not, and 12% were unsure.

10.0 Additional Feedback

- 66% of respondents identified sources from which they sought the latest information on SARS. Examples included:
 - Internet/computer/web (271 responses, 27.9%)
 - News/media (266 responses, 27.3%)
 - Newspapers (186 responses, 19.1%)
 - TV (175 responses, 18.0%)
 - Hospital email/intranet (164 responses, 16.9%)
 - Email (119 responses, 12.2%)
 - Ministry of Health and Long-Term Care (110 responses, 11.3%)
 - Bulletins/memos/postings (109 responses, 11.2%)
 - Management (77 responses, 7.9%)
 - Work/hospital (general) (61 responses, 6.3%)
 - Co-workers/word of mouth (48 responses, 4.9%)
 - Infection control (47 responses, 4.8%)
 - Radio (44 responses, 4.5%)
 - Meetings/forums/briefings (29 responses, 3.0%)
 - Hotline/telehealth/voicemail (26 responses, 2.7%)
 - World Health Organization (25 responses, 2.6%)
 - Ontario Nurses Association (21 responses, 2.2%)
 - Public Health (19 responses, 2.0%)
 - Communication/SARS binder (12 responses, 1.2%)

(Note that the question used to collect these responses was open-ended, and the answers were not mutually exclusive. For instance, “Internet” could be the ONA website, “bulletins” could be ONA bulletins, and “news/media” could include TV.)

SARS and Nurses

Selected quotations from the Hay Group/ ONA questionnaire

Introduction

The ONA's 2003 survey of nursing experiences during SARS garnered 1,536 completed questionnaires. These respondents replied to a series of questions ranging from impact on family life to experiences with personal protection equipment (PPE) to how health institutions addressed health and safety issues.

The thousands of comments supplied by ONA members are too many to include in this report. Following is a sampling of the answers given by the nurses in their responses. The complete list of questions and all replies can be found in the documents archived by the Commission.

Q1.4 Do you still experience any residual symptoms that you associate with your exposure to SARS illness? Please explain.

The fear of contracting SARS is still very strong. We see 60 patients/day in my unit, as well as assisting with bronchoscopies. Hopefully none will ever have SARS.

Fear of going to work sometimes. Anxious. Repeat tasks at work, easily frustrated at work and home. Want to be alone lots of times.

I hated to see my children upset because I wore a mask. They couldn't ... hug me. People in other cities were relieved I wasn't going to see them.

I still have periods (especially when discussing SARS outbreak) when I am teary eyed and angry that as front line workers we were put at such a high risk to contract such a horrible disease.

Only stress related. Also I find after any type of activity my muscles are very sore but it is improving. My shortness of breath is improved greatly.

Still become fatigued easily. Short-term memory has been affected. Unable to do the physical things I did prior to SARS. Short of breath with exertion.

Q1.5 Describe the impact of SARS on you and your family: personally, medically, socially, emotionally.

While placed on work quarantine, being “trapped” at home alone was very hard and I felt a lot of sadness and loneliness.

Personally we were all stressed out because of little information and when information was received confusion with daily changing of directions and the fear of the unknown if I should bring something so serious to my family.

Personally and emotionally traumatic as classmates of my son were pulled out of school when he went. My ex-husband refused to care for his son during my quarantine to rule out SARS for fear of exposure.

Afraid of spreading SARS to family nightly depressed. Getting very hypoxic at work wearing N95 mask. Broke out with facial rash around mask. Friends did not want to meet us as healthcare workers.

Family worries about SARS and they don't want to come to visit me. Not welcome to visit them.

Fear that I may contract illness and bring it home – spread it.

Fear. Job not worth risk of dying for. Lack of trust that nursing was being protected.

While no one at home got SARS, my children were very afraid that I would get it. They asked me every day if anyone at work had it. My children are 15 and 12.

Emotionally draining. There was fear, anxiety, a feeling the hospital may not be telling you everything. Then, we became one of four SARS designated hospitals and that was just thrust upon us with no input. I found out by watching TV news.

Made me realize the high risk involved in my career. We are so susceptible to these new viruses. Reinforced the good practices of good hand washing, the ease of spread of this disease.

There was not a lot of information or safety being a front line caregiver. I really feel that it was only luck that kept a lot of medical staff from dying.

I experienced stress and anxiety re working in critical care with full isolation. Precautions instituted throughout 12-hour shifts. This caused fatigue, headaches, difficulty concentrating. My family worried re risk of exposure to me and them.

My family was afraid for me and themselves. They also wouldn't tell anyone that I was a nurse.

For the time of the two outbreaks didn't attend any social functions, didn't visit grandchildren, cancelled a conference, limited contact with people in crowded areas ie: stores, grocery shopping etc. The neighbours, relatives would not visit from out of town ...

My family were worried I would get sick. Friends reluctant to be exposed to me or my family. I already have a disease – well managed and stable. SARS could have changed that or could have been fatal because of my disease.

Wearing a mask, gown, gloves, and goggles for entire shifts for weeks on end was exhausting. I came home and slept for 1-2 hours after each eight-hour day for the first two weeks. Not seeing anyone smile because of the masks was depressing.

Every day there was anxiety about the uncertainty of possibly having contact with SARS and bringing it home.

Worried about bringing SARS home to family. My daughter was married end of April. Worried family would be quarantined, some guests cancelled.

Did not go out much – family worried I would bring home – didn't see my grandchildren for many weeks, forced isolation to protect my own.

Hesitant to say I was a nurse as some people in general public were afraid of nurses. Didn't go out much as we were advised not to mix with large crowds.

Workers from other parts of the hospital backed away from us once they found out that we work with SARS patients. Parents at my daughter's school weren't as friendly. My husband was fearful for me. Social activities were cancelled.

I absolutely hated my job. This did take a toll on my patient care, which only further increased my anxiety.

Totally devastating on family life.

It felt like being in a war because of the danger element. We were also shunned by others who were fearful of being contaminated by us because I am a nurse.

I was not prepared for how working with SARS patients would change my professional and personal life. The unit became like a war zone with fear: high anxiety amongst all the staff. Personally I was shunned from common places in my community ie the school my children attend.

Loss of shifts due to bed closures very frightening – fear of the unknown ... did not want to tell people where you worked as felt shunned.

Being the single parent of two children, and their sole supporter it was quite frightening at first especially as more staff were contracting the disease. But I adjusted and learned to cope. I reassured the children and they believe in me.

My ill husband's homecare nurses refused to care for him because SARS in my hospital. Moved him to relatives outside city for care. I was quarantined and barred from several hospitals when trying to take him for appointments. I was in physio for injury – treatments cancelled, impaired my recovery.

I hated going to work and putting me and my family at risk; I feel that I did not sign up for this. No choice in the matter.

I was mostly angry at the lack of info that we received from our hospital. I never knew whether there were ever any SARS patients in the hospital. Reading memos and info takes time and often we were too busy with patient care to read these in a timely fashion.

Slept in a separate room from spouse, family wore masks at home.

Socially, some friends afraid to have contact with me and my husband. Unable to visit elderly grandparents in nursing homes. They didn't understand why.

I was on work quarantine once for 7 days. It was difficult to wear a mask at home when around family members, difficult to breathe, often just went to my room so

didn't have to wear mask. Older son got groceries. Afraid my 12-year-old son would be alienated at school.

I am scared for next SARS. I will not work in SARS unit again!

My spouse was the most fearful that I would contract SARS. He was worried for my health and also for our family. When I got the call that I had to do quarantine, I'll never forget those words "there has been a breach in the isolation technique" and that I may have been exposed. I burst into tears.

Barred from social family events. Husband insisted that I stay away from his children, grandchildren. I felt I had to conceal fact I was an RN from other acquaintances also. My doctor for 35 years insisted I stand outside his office building while I waited for consultation.

Very difficult and uncomfortable due to double gowning and gloves, shields, goggles, hand cover, hot inside the room, difficult to breathe due to mask on face. I tried hard to restrict social activities or no socialization at all, keep all clothes and things separated from the rest of the family.

I was isolated from my grandchildren for 6 months by my worried son. I missed them.

Very much isolated from loved ones. My family thought I was going to die. I was very drained physically and emotionally. In fact, I was asked by my spouse's company to quit or spouse to quit for the company's staff safety.

Very scary[,] not enough information given to us by hospital. Difficult to get the right mask. Unable to see family for a period of time. It has brought fear in me that has never gone away.

My family was apprehensive and frightened for me. They think that I should quit nursing – it's unsafe. My social life was NIL. I felt emotionally drained and tired and lonely.

Terrible. Developed panic attacks. Went to physician for Ativan. Had fights with husband and teenagers.

Personally, many people did not want to see me at all. When encountered people on the street, people would move away as quick as possible when they heard I was a nurse at North York. Even my dermatologist couldn't get out of the office quick enough.

I was stressed emotionally by the hospital's attempt to bring in a specific SARS team and the miscommunication that was involved. I was "in charge" during this time and felt that I had all the responsibility and no control.

I experienced fear ... and social isolation from family, friends and strangers. We weren't provided with adequate education re: updates and SARS. Led to frustration, anger, resentment towards my hospital and profession. Morale was at a low. Isolation gear worn fit unwell and exhausted.

I was afraid for my life and that of my family. When in a charge nurse position I assisted at hospital-wide codes and did not feel we received the appropriate equipment needed for protection.

It gave me a different outlook on life and made me realize how hazardous our job really is, when I looked after SARS patients and when SARS patients were in our unit. Isolated myself from my family and very depressed and worried about being a victim and still have paranoia. Nursing will not be same.

It is indescribable. I felt scared, isolated, anxious. There was no leaving work at work. I dreamed of it. It was all anyone talked about. It was all over the TV. No getting away from it.

My best friend refused to have physical contact with me; I was refused a cab ride to hospital; I was shunned by a clinic to have a non-medical procedure performed; I can't describe the magnitude of stress felt over my job and discrimination experienced.

Fear of family members. Felt like a leper. My children were not allowed near some other children. Nightmares 1st few days. Husband had anger towards me when my mask fitting failed after I worked on SARS unit.

Q1.6 Have you suffered post-traumatic stress as a result of the SARS outbreak (i.e., depression, anxiety, sleeplessness, fear tendency, nightmares)

Concerned about my future as a healthcare provider. Have no interest in providing "hands on" healthcare nursing.

What will be next? Will SARS or something worse return? I no longer feel safe going to work.

Afraid that SARS will return, afraid to get sick and die.

I feel mixed emotions daily about working in healthcare.

Fear of masks, hate my job now.

Anxiety has increased greatly. Very concerned (suspicious) with anyone with respiratory symptoms.

We all live in fear of the return of SARS and the threat of having to care for SARS patients with no training.

Anxiety. When will it occur again? What will be the next outbreak and will it be worse?

Yes. The whole experience was extremely stressful. Our unit was short staffed all the time because nurses could not work in other hospitals. I was asked to do overtime. Currently suffering depression and on antidepressants.

Depression, anxiety, sleeplessness, stress. I will not work in the nursing field again as we have to wear the isolation gear constantly. I don't get paid enough to die for my job or put my family at risk.

I feared for my life every day.

I've seen a psychiatrist due to feelings of insecurity, tensions, squabbling at work related to who should/should not be sent to work in the SARS unit. I was told because I was junior staff I would have to work there whether I wanted to or not. I've become adjusted to working in that area.

I have been off work since July 7. I have been diagnosed with depression, but I feel it may really be PTSD.

I went through a very emotional period this summer, where I would break down and cry for no reason. I am concerned about a career change.

I noticed my youngest child voiced concerns and appeared anxious when I was going to work. This always made me feel sad.

I experience sleepless nights in which I lie awake and wonder what if. What if I had gotten sick, what if it returns or something worse attacks us. What do we do?

Would like to leave the hospital and I'm distrustful.

I find I have become extremely nervous in dealing with the public. I don't want to speak to patients or visitors without wearing a mask.

I now hate my job, depression, not sleeping.

I quit my job and found a safer one. Feel much better now.

I feel isolated. Do more research for myself to look out for myself. The hospital only cares about money and how they look to the public and media.

Depression. Wondering what future of this profession holds.

Still have a little fear – which was brought back when having the mask fit testing done recently. Fear of it happening again and wondering if I will be lucky again.

I was depressed. Felt like I did not want to save lives anymore.

Never had a nightmare from work, except when wearing the mask. I was upset with my decision to become a nurse. I continue to reflect on my choice to be a nurse. I mean I could have been anything. Why did I choose a profession that put my life at risk with very little benefits?

Some days I feel extreme anger, other days, anxiety about being at the hospital, afraid to take off masks. Some nightmares of disasters.

Angry, agitated, argumentative at work. Became quite withdrawn at home. Felt that no one could understand it without going through the experience.

For the first month and a half my moods were very up and down. I cried a lot. I was unable to deal with my 3 children. Noise bothered me a lot. My sleep was very interrupted.

As well my partner was let go from his job because of association with me. He was told it was a restructuring but he was treated with such disrespect by his employer of 8 years.

It is often the subject of dreams. Fear of possible future exposures.

Q1.9 Has SARS and the response to it changed your attitude towards the nursing profession? If so, please explain.

It has made me prouder of my job. I have been happier in my job, mainly because the situation proved what nurses are made of. We pulled together as did other members of the healthcare team – that touched me deeply!

As front-line workers, we are at extreme risks, but often employers do not react quick enough to protect their employees, putting them at increased risks.

Thought about leaving the profession despite a usually positive attitude towards nursing. Still a thought if I feel like I will be forced into performing tasks/duties without adequate training.

Realize it's every man for himself. Management took care of SARS but no one cared for the caregivers.

Do not want to provide "hands on" nursing care. No, little or any protection for healthcare providers dealing with the unknown.

It opened up my eyes again to the dangers that surround the nursing field and makes you really think more re: your profession as it is really not appreciated and recognized enough.

Since I trained in the 70's, isolation techniques have not been taken as seriously by the new grads as they figure there's a drug for everything.

Learn to look out for yourself and trust your instincts. When in doubt, be extra cautious.

SARS has helped the general public witness the importance of our profession and will help build more respect for it.

A wakeup call to return to better techniques – cleaning[,] housekeeping, infection control measures, swabs, keeping infection data etc.

I would not encourage someone to enter nursing.

There is no room for a casual attitude.

After 30 years of nursing, I feel the risks aren't worth it. This is not what I went into nursing for.

I feel that nurses were the front line workers and needed to be listened to more than they were.

Nursing has always been about caring for others. Nurses now have to speak up for themselves and not rely on administration to protect us.

It seems to me that we had become lax in isolation protocols and in general "clean" ideals over the years. Visiting hours and protocols seem non-existent and patients and relatives have a full run of hospital. Need to return to a more regulated policy of visiting.

Just to be more protective of my health. But I will still nurse and enjoy it.

Things do seem to be getting worse. I am beginning to feel like nursing is almost not worth the risk anymore. The pay we receive for working in these circumstances is very poor. I am not sure anymore whether being a nurse is worth risking myself or my family and friends.

I still enjoy my work. I find it fulfilling but I am very concerned what I will be potentially exposed to and or expose my family to in the future.

Who knew my work could kill me or my family?

If this is the new normal ... I would have quit two years ago. Now money is really the reason I go to work.

Distrust of upper management. It felt like they were more worried about budget and public opinion then caring for their staff.

Aware that self-protection as well as good technique with patients is more important than ever. Even more devastating illnesses could come along. We're either a "bridge" or a "defense wall" to their spread.

Nurses are devalued. Any other profession in the same situation would have received danger pay. We literally suffered; rebreathing our own carbon dioxide and soaking in

our own sweat – feeling like we would pass out. Many people got headaches from the masks.

I really hate wearing protective garb. It takes away the personal feelings with patients ie. speaking with patients in crisis, behind a mask.

If another outbreak, I would consider retiring.

For the most part I always felt I had the control to protect myself ie being vigilant, re needle stick TB exposure. But with new disease ... the risk factor(s) in this career have increased significantly.

Have never seen anything like it in my 30 years of nursing. There is now a “new normal.” I’m managing for now. Not sure how long I want to continue to nurse.

Couldn’t work through it again. Not enough staff. We are all burnt out[,] it was overwhelming. It was frightening[,] I was scared for my family.

I enjoy nursing however I feel that the upper management had no clue re: the care involved in nursing a SARS suspect/probably case.

Yes, I feel that nurses’ opinions need to be respected. ie. the situation at NYGH. I also felt that my hospital lessened the SARS restrictions too soon. I am proud of all the nurses who cared for SARS patient and I grieve the ones who lost their lives.

I feel very vulnerable to life threatening illness. I don’t feel confident that we will be protected. I was planning a move out of the city. SARS just hastens my decision.

Despite the stress related to SARS I realized that this was a crisis, and this was my duty to be a nurse who could make a difference. My 82-year-old aunt sent me a thank you card that referred to me as a “hero.”

I was always aware that being in the profession could one day cause my death. But I never realized how easily my family’s health could be compromised [–] not even the police nor fire prevention departments have this concern.

We must not take things for granted. We must be vigilant. Rigid personal cleanliness specially when in close contact with clients. We need more counselling and info RE: SARS.

You can see the nurses who are dedicated and not nursing to “just make money.” I respected a few of the nurses more than I used to.

Each and every day I asked myself why am I exposing myself and my family to this. If I wasn't so financially in debt I think I would have left.

If it happens again I will leave. I had to wear full gear daily for 6 months for my full 12-hour shifts. Too hard on my family. It is not worth potentially making my family sick or kill them.

I'm embittered that we worked so hard in emergency to protect everyone and were not appreciated by the rest of the staff in the hospital and in fact emergency was treated like a leper colony.

It brought out more sense of belongingness and great pride for the nursing profession for toughing out such exhaustive outbreak.

Nurses as front line workers are in more danger of being exposed to an illness or disease, but are not appreciated by the healthcare systems, or the media/public, as so. We expose our quality of health when at work, but it goes unrecognized.

Emphasizes the crisis in healthcare in this province. Nurses overworked, underpaid. Hospitals understaffed. The low pay, job stress, and heavy workload aren't worth dying for.

I am so proud of myself and my colleagues who worked together and bravely faced our fears and still cared for our patients in spite of terrible discomfort – but I'm afraid of the next outbreak of whatever – can the system not break down?

I still love caring for patients. However I find administration and the public don't seem as concerned. E.g. administration has all its policies in place to protect itself but when it comes to staff we're on our own. Managers on call unable to answer questions.

Some people displayed selfishness that made me wonder why they are in the profession.

Don't trust the hospital, patient or system to protect me. The masks we were forced to wear failed the “mask fit test.” Now 5 months later now I am to be fitted and tested in another way by Occupational Health.

It amazes me how inconsistent the occupational health is in different places [-] there was no standard procedure.

The poor morale and increasing anxiety/frustration is enough to make all of us find new careers. We never saw our CEO during the crisis, our director was not very helpful or supportive; but administration has done nothing more than pay lip service to show their appreciation.

Paradoxically, it has strengthened my resolve to stay in the profession.

Once again it was obvious how the system could not have succeeded without nurses, yet we have fallen back into the same scenario post SARS. We do work in a profession that can be life threatening but we are certainly not compensated for it.

I still love nursing and knowing what I know now I would still choose to be an RN but now there is a sense of danger that comes with being in this profession that wasn't there before.

Do not wish to care for these patients. Training took place after SARS outbreak – way after outbreak occurred. Feel government and management dropped the ball too early – hence SARS II outbreak.

My attitude has become more negative. I feel the government views nurses as expendable. The “new normal” is acceptable only to those who don't have to work in it. Nurses are generous giving people, but I don't think we should have to “give” with our very lives.

I always knew this was coming – I thought perhaps we were better prepared. My fear is it will happen again. Are we really ever safe?

Q2.5 Did your facility have adequate isolation/negative pressure units throughout the SARS outbreak? If not, at what stage did they have adequate isolation/negative pressure units and do they still have them?

I don't think it was always a question of adequate isolation/negative pressure rooms, but a break in compliance. People got tired of goggles they couldn't see with or masks that bothered them and with no one supervising became non-compliant.

Never. Very poorly organized!! Infection Control Manager was terrified and did not know what to do.

There were NO windows in the doors of the rooms until SARS2 (only for ICU patients). How can you adequately care for someone if you can't see them?

Q3.5 If you were not provided PPE at the beginning of the SARS outbreak, were you required to wear PPE at any subsequent time? If so, when?

Basically the masks were in poor supply. You had no choice. You had to cope with what was available. You had no choice. They were too big, very claustrophobic, itchy, irritating to the skin and very difficult to breathe in for any period of time.

It was the respirologist that expressed concern near the beginning of the outbreak that we were not adequately protected. Hospital provided the things when that MD made his suggestions. Did not happen as quickly when nurses voiced concerns.

Q3.8 Were you given clear direction at all stages of the SARS outbreak as to what PPE you should be wearing and in what circumstances? If so, by whom?

They kept changing the protocols. Everyone was going day to day because no one knew for sure.

Directions changed every shift. You really didn't know what could be happening.

Yes, but it was very confusing. Communication was not consistent throughout the hospital ie each unit seemed to be doing thing[s] different.

Nursing managers were very considerate in keeping us informed as to what to wear etc. As well the unit educator and the screening personnel.

Our infection control team was phenomenal in their efforts to ensure that we were protected and kept up to date on all changes and directions.

Not in the beginning and after 1st outbreak we were told to remove our PPE – even masks. Nurses were very confused. Those who kept our masks on were told by our medical director to take them off, they were no longer needed even though we had many patients in ER at the time with respiratory problems.

Yes but it was a constant changing learning as we went. Old principles that have for some reason been ignored over the years as being old and unnecessary.

The information was often slow to trickle down to our unit even though well designated the SARS area. Often the info took days to reach us via memo from the infection control department.

Q3.10 Explain any concerns you may have had with the directions and/or the adequacy of the protection you were given.

Goggles were too big, masks were very heavy. I found it hard to breathe at times, increasing headaches, skin irritations.

I had no concerns. I always felt protected at work and felt we were kept up to date even though the direction from the MOH changed sometimes daily, even hourly.

The hospital seemed to be deciding for the staff how much protection we needed.

There were long delays between when infection control and upper management held meetings about protection changes and when that information was passed on to staff caring.

Eye protection kept changing. No one seemed to know for sure. They handed out one kind and then said we had to share, then handed out another kind and said discard the first pair. A lot of wastage.

Most of my concerns arose because this was new to all of us. There had to be uncertainties and I preferred to be told "we just don't know" than receiving information or direction that proved inadequate. Was it airborne or not?

Masks were horrible and even after being test fitted, manager had trouble getting the proper ones for each individual. Memo book was overwhelming and no one had time to read it all.

The magnitude and potential exposures were not initially recognized or known. This was understandable given the lack of knowledge. I do believe the hospital did do things quickly when risks were identified.

Nobody really knew what they were doing. We were to believe whatever they told us with respect to what protected us. They could only base the information on what they were learning on a daily basis. The 2nd SARS outbreak proved it was all a guessing game.

Q3.11 Did you experience any confusion around which masks provided the necessary protection? If so, please explain.

Certain masks were causing headaches and breathing difficulties, and still other tolerable masks were not readily available.

Masks that irritated my eyes. I lost a few sets of contact lenses because of the fibres in the masks. Manager did little to resolve the problem.

We were [guinea] pigs. Our manager was our hero. She battled for us on a daily basis.

Q3.13 Do you know/did you witness anyone who raised concerns about PPE? If so, when; with whom and what was the response?

Doctors did not always wear their masks and were spoken to by nurses that everyone had to follow the rules re: PPE.

Many of our staff did ... and we were belittled and shouted at.

There was questioning as to why everyone wasn't complying. We were told to do what we felt we should do.

Everyone hated them but we didn't get any response other than: this is the new normal.

Yes, many nurses raised concerns about PPE. However, I am one of the few nurses who believes that we were given the best information and equipment that was available at the time even though it changed from day to day as our understanding of this new virus became updated.

Basically all faces wore the same mask. Incorrectly sometimes.

Masks and gowns became very scarce and often we would have to recycle used ones.

People began to hoard masks when they became available and weren't considerate to others.

Q3.15 Were you ever told to reuse a mask (e.g., were you advised to save your mask in a baggy for use on another occasion)?

That made me so angry. The first two days we were asked to put masks in [a] baggy and bring them in a bag next day. I did not do this – I didn't want to carry that thing home to my family.

We wore them into the cafeteria but everyone did something different. Some hung them around neck, others put them on hands, tray or table, dirty side down.

I refused. I felt this practice was unsafe.

Q3.16 Were you ever told that the cost of masks and/or other PPE was an issue? If so, by whom?

They complained about the cost of the masks (maintenance man) in charge of getting them. He told us to wear them till they were wet with perspiration.

Certain masks were put away only to be used by staff with breathing issues because they were too expensive for all SARS staff to use.

Some masks were more expensive than others and therefore deterred from being used.

I'm not sure who actually said it but we just got word in the OR that the duck bill mask[s] for allergic people were too expensive, that's why we were not getting the supply in the OR.

Management would send out weekly email indicating cost of SARS outbreak on the facility.

We were told gowns were expensive to use and not to use even if we wanted to.

Save the budget for the hospital was said. A much bigger priority than nurses' lives and our families' lives.

I was told by an infection control nurse that I was using too much hand gel and gloves and that I was costing them too much money.

We were told that we had to cut back because there were not enough supplies because all supplies had gone to the war effort USA and Iraq.

Q3.17 Were concerns expressed about the perception created amongst the public from staff wearing masks? If so, please explain.

We are not allowed to wear N95 in cafeteria. They said this would scare the customers.

Towards the end of the first outbreak hospital asking for staff to take masks off, wanted the public to think things are back to normal.

Difficult to deal with small children – they are scared of masks.

We were not allowed to exit the hospital with masks on.

Patient confusion. Poor communication as sounds muffled. Poor eye contact and increased anxiety. Misunderstand and verbal abuse from family.

Public was alarmed but accepted precaution. Public initially fairly informed about the spread and how transmitted.

General public were concerned if we were wearing masks that we must have [had] contact with SARS.

One elderly lady I knew in hospital was quite scared by all the “masked” people. They looked like ghosts to her.

Our patients are elderly and some confused/scared by masks. Couldn't hear us or understand as couldn't see expressions on our faces.

When in quarantine and forced to work I had to wear mask from my car, walk two blocks from parking to my hospital[,] was harassed on the stand[,] had a pop can thrown at me, taunted by teens pointing and screaming SARS at me on the street. Residents complained to superintendent when I was leaving for work.

It was scary and felt like a huge barrier to care.

Our manager wanted the masks off quickly after SARS I, and we were criticized if we wore one.

We felt like we were lepers, outcasts, especially when we had to still go to work with no time off.

The public was very frightened about SARS and seeing staff wearing protective gear made them more frightened.

We all felt ostracized already [-] that just contributed to it.

Our hospital places more emphasis on perceived public approval at expense of safety of patient, public and staff.

I was concerned that some staff wore their masks on the bus on the way home – the public should have been concerned about that!

Originally we were not allowed to wear masks in hallway – told that we may be creating a “panic.”

When we went on quarantine after a night shift ... we were told to wear our mask in the car until we got home and my neighbours saw me and thought I had SARS.

Patients could not hear everything especially when they were hard of hearing or if they read lips.

The public treated anyone wearing a mask as a leper and would avoid us.

Q3.23 Did you ever experience any side/health effects from the use of PPE? If so, give the details.

Our unit is super busy. No such thing as a 5 minute break every hour! We got chest tightness with difficulty breathing, dizzy, sweating, raw hands from constant gloves, fogged glasses. Awful!

Our floor has inadequate ventilation (old wing) so the PPE made me very hot and increased my headaches and several times I came close to fainting. Red rash and exco-riation from masks.

Confusion, headaches, skin peeling, cracks from washing – redness from solution, tired.

I found wearing the PPE for 12 hours exhausting and I found by the end of 8 hours your level of awareness and response decreased greatly.

It was a horrible experience, I could hardly see due to fogging and I was entirely soaked, my uniform under the Stryker suit was wet, my hair was wet and my hands were wrinkled like after a long bath. I could not leave the patient, since she was too unstable. There was nobody to relieve me.

Had panic attack when I could not breathe or see through my extremely foggy goggles and face shield.

My throat was constantly irritated wearing the N95 mask, I always had the sensation of a hair tickling my nose or little bugs crawling around my mouth and nose. Also fatigue from high CO₂ levels.

Fatigue, moodiness, acne! I was pregnant and had a miscarriage. Could it be related? We will never know. Two other females in my area had miscarriages.

My doctor told me I had “mask-induced asthma.” I have no history of asthma but needed to be on steroid puffer while wearing the masks. That is why I tried to switch to latex-free.

I'm [a] claustrophobic person, so that I felt SOB [short of breath] all the time with mask (face shield). Also my face broke out rashes from the irritation of the mask. Dermatologist consult was not available until the whole outbreak was over.

A headache every night. For weeks, I felt very lightheaded at work and would become confused “hazy.” I required a lot more sleep. My skin totally broke out with acne.

I had terrible cankers/mouth ulcers after the first month of wearing the masks continually. Also, I have had terrible “bouts” with migraine headaches, which are new for me. Both of these issues have been treated by my family MD.

We checked our O₂ saturation levels after having worn our N95 for over an hour. Our saturation levels were less than 94%, yet when the masks were off, we had saturation levels greater than 97-98%. That's significant and helped explain our exhaustion for days after.

3.34 Did you raise any concerns with management regarding the side/health effects of using PPE? If so, what response did you receive?

We were told we would have to get used to it or consider working elsewhere.

Was given opportunity to try masks less irritating and they were made available for my use.

They apologized for the ill-fitting masks and employee health did manage to find more comfortable ones.

It was discussed. Nothing could be done except trying different masks.

We mentioned our decreased oxygen levels with masks on. We were encouraged to take frequent breaks in order to remove masks.

Not much was done because PPE were a necessity and there were not alternatives at that time.

One of the doctors suggested we should have an oxygen bar to go to on breaks – management just laughed!

Response: you've got to be kidding! We're nurses we're expected to do our jobs. We were actually told that if we couldn't deal with the conditions and dangers involved in nursing we should not be in the profession.

I was treated rudely and made to feel that it might not have been ... mask related. I mean we could say 100% for sure but it was the only thing I had on my face and since it have not had any problems. Started wearing "duck bill mask."

Nothing could be done – had to wear a mask. It was something I just lived with.

Q3.25 Did you need/receive any accommodation regarding the use of PPE? If so, provide the details and any problems you experienced.

Management provided good supply of bottled water to make us more comfortable and [kept] us updated.

We were told about the five-minute break per hour “take off mask,” but workload didn’t allow it most of time.

Were given increased breaks away from the patient care area to remove masks and equipment.

I was assigned to a SARS patient without PPE instruction; I had to ask someone for instruction prior to going in room.

We were encouraged to take more breaks although staff was not available to do so, we were provided bottled water for our breaks.

Q3.26 Prior to the SARS outbreak, had you ever been formally fit tested and/or trained and instructed in the care, use and limitations of PPE?

Q3.27 After the SARS outbreak were you fit tested and/or trained and instructed in the care, use and limitations of PPE? If so when (i.e., first outbreak, second outbreak, or actual date if known)?

This was normal isolation procedure in the 1970’s. Things have become very different with less precaution in recent years.

We were fitted for N95 masks, but not until after the second outbreak was almost over.

Not fit tested. Took self-study course on isolation precautions and trained years ago on isolation.

In the USA but not here in Toronto.

After 2nd outbreak, but fitting was up to individual to have it done in a testing area.

I had my mask fitting on July 31/03. The mask I wore throughout the SARS was the wrong type.

My fit test was after the 2nd outbreak and after I was quarantined for exposure to SARS in June. Only was fit tested, no instructions on care/use or limitations.

It seemed that 1st group of people fit-tested were management, not the front-line bedside nurses.

Q3.31 Were you ever advised of the importance of wearing properly fitted masks? If so, when?

I was not personally told this but ignorance is bliss. Like I said, we wore masks for a weekend only to be tested Monday morn to fail.

From the start we were advised of importance. However no one was sure if they were fitting properly.

Q3.32 Did you have any discussions with management regarding fit testing? If so, what are the details?

I felt that it was too late! I guess we may be adequately protected for the next outbreak.

It was very discouraging to have mask fitting sessions after all was over. How unsafe were we from the beginning[,] did they care or didn't they know the importance.

I know SARS has been a huge learning experience, but there should have been previous fit-testing, and even now it's the end of August, why have I not been fit-tested yet? Nurses should be fit-tested first.

She was upset because if she gets me a special mask "my budget goes through the roof."

Many could not get a fit test done because the times were fully booked.

I was very upset that fit testing started many weeks after we had been potentially exposed. The masks I had been wearing prior to testing all failed.

It was difficult for emergency nurses to leave to get tested for 1-2 hours. Extra staff wasn't available to cover. Eventually, some fit testing had to be done in the ER to accommodate (during 2nd outbreak).

Why were we not fit tested prior to SARS?

Q3.33 Do you have any knowledge of and/or did you witness anyone having any discussions with management regarding fit testing? If so, what are the details?

When one nurse asked why she was not being sent home until proper masks were here, she was told: "Can't afford to send you home! Too many people don't pass the fit test."

Staff that did not pass were 1st told not to report for duty, but then due to staff shortages did return.

One staff was sent to crisis intervention after she failed the fit test several times and became upset and concerned for her safety – inappropriate!

Every effort was made to protect our workers, as far as I could discern.

There were questions being asked by staff all [the] time and above answers were given. Above was written: We can't afford it at the present, we are not on the list yet, we are at the bottom of the list, there are not enough fitters in the Toronto area.

Q4.2 Were you ever discouraged from treating SARS as a health and safety issue? If so, by whom?

When staff failed fit test at peak of 2nd outbreak still expected to work with the potential for exposure.

One of our staff physicians said "we nurses were crazy to look after these patients."

Q4.3 Did you ever feel that your health and safety were compromised at any time during the SARS outbreak? Please explain.

Lack of effective and timely communication along with leadership led to confusion and improper infection control practices thus exposing staff to potential dangers.

The workload – not able take breaks – leads to exhaustion and carelessness regarding use of PPE.

There was no information about the disease or its transmission. It was not treated seriously at the beginning.

Who do you trust?

The hospital is dirty. I was afraid to touch everywhere.

An anesthetist provided an epidural for a labour patient during the outbreak without proper PPE in place and then informed staff she [had] just intubated a suspected SARS patient.

The entire time other healthcare professionals were constantly becoming ill and they were wearing same protective equipment?? Who was going to be next???

It was my opinion that the unit on which I worked “let down our guard” too early. We stopped wearing masks prematurely.

I was torn between staying and quitting because my husband was scared. I wasn't eating very well, worried I might develop low immune response and get sick.

Who wouldn't be scared when you see and hear how many healthcare workers got infected.

Physicians who did not comply with precautions despite being reminded to do so caused increased safety concerns.

Felt threatened at all times.

We had a constant running battle in terms of visitors. For a period of time they were not allowed. When they came we felt they should still have been kept out. SARS screening and PPE for them was not good enough. Visitors routinely wore PPE wrongly. Sometimes people would sneak in. They often lied about contacts.

Staff seemed to be getting sick no matter what precautions we were taking.

Isolation doors being left open! Discarded PPE on the floor! Patients with respiratory symptoms almost being sent to a retirement home until staff questioned the decision – patient was later found to have SARS!

I was exposed[,] visitors were sneaking in and the instructions as to what is safe [were] always changing.

We were told too many untruths by our medical support team.

No one seemed to really understand how the transmission occurred, therefore you felt vulnerable even wearing PPE.

When doctors removed their mask after they have been in emergency or other areas and they came to our unit.

Constantly. Many staff did not wear their masks on units so on phones etc. Managers walking all over the hospital without PPE.

Q4.8 What hazards/concerns arising from SARS, if any, did you bring to the attention of management and/or the Joint Health and Safety Committee (JHSC)? What was the response?

Some people not following procedure – management spoke to them.

There was reassurance but I detected they were or felt as helpless as I did.

Visitors not following instructions to stay away or limit their stay during visit. Some are very persistent to stay.

During the outbreaks, I was concerned of the limitless entry of visitors. Many hospitals up to this day do not let visitors in. Visitors must wait until patient is returned to their respective units.

On a couple of occasions, I informed my patient care manager of patients/visiting without being screened at the entrance or phone screened. My patient care manager immediately took action and changes/recommendations were implemented.

We were concerned about the stress of the whole situation. Fear of contacting SARS. Response was nothing really 'til the end we were given one day of relief.

At the beginning of the first outbreak when people who knew we were nurses or our children's mothers were nurses – what we should do i.e. sending our children to school – not socializing or hugging anyone in case we were passing on SARS to them.

Physical exhaustion as well as mental – nothing done about it.

Public wearing the visitors tags were collected in a plastic bag, and handed out again – no sterilization, very receptive.

Paper towel dispensers are not proper for good infection control. Nothing yet has changed.

I constantly suggested that a few responsible managers should run the show so we know who was in charge but there were too many managers – no one truly responsible or accountable. Response to this ... not appreciated.

Q4.9 Did the JHSC meet more frequently during the SARS outbreak? Did they communicate with you?

Sometimes little communication back to the staff nurses. We often felt like we were in the dark with most recent info.

It was like pulling teeth with a wrench!!

Q6.1 Were you quarantined (home or working quarantine)? If so, for how long and how often?

What the hell is working quarantine? You should either be quarantine[d] or not. I did not agree with this approach. How do you get to work and back without jeopardizing the public.

It was a joke! I had unprotected exposure which was not observed until 9 days after. I was then placed on home quarantine for 1 day. Then on day 14 I was called by public health saying my quarantine should have been 14 days instead of 1.

Working quarantine had to be the most stupid thing ever. Either you are quarantined or not. Too much opportunity to compromise the quarantine technique.

Q7.1 Were you regularly informed of the MOHLTC directives, including updates? If so, how?

Our administration was superb in doing this on a daily basis, updates came regularly.

Hospital email not easily accessible for most. I would check before going to work on my home computer because there is no time when you're at work.

I believe information was withheld from time to time in the interest of panic.

Q7.2 Were the directives explained by your employer or anyone else? Please explain.

They were very good. I read all of them. I felt the communication was really important. It looked like the administration was being “on top of things.”

Staff were updated continually – at one point with daily staff meeting by unit director.

Regular open meetings were held weekly.

The employer/infection control explained directives. We never directly saw any directives – our unit manager also had talks with us daily at one point.

Occasionally – however the explanations were not consistent.

The email info was daily and we were to read and ask questions if we had some.

They were very good. I read all of them. I felt the communication was really important. It looked like the Admin was being “on top of things.”

Sometimes. Different resources had different answers.

To best of employees' ability. Often employer was unsure exactly what was being directed.

Ministry of Health directives were posted where everybody can read regularly.

It was passed to management to pass to staff nurse. Often the info was skimpy and ambiguous by the time it reached the next shift, or the shift after that. Usually info was passed verbally.

We were regularly informed, but what we were told seemed to change, literally, by the hour so I don't know if they were updates or incompetent communications.

Q7.4 If you were advised of/read the directives, did you find them confusing? Please explain.

Directives were confusing, cumbersome, changed daily if not more frequently. There was no way anyone could be certain they were doing the right thing.

I believe the entire situation was confusing and it didn't matter what the directives said. Everyone was confused and nobody knew anything for sure.

Too long – more concise would have been better.

At times contradictory. It seemed filtered and possibly to suit CEO/management not staff.

There was no evidence base to support many of the measures. It is difficult to make intelligent people do things when you can't explain why.

They changed so frequently, it was hard to stay current, especially when being off work for a few days.

Q7.6 To the best of your knowledge, did your facility follow the directives? If not, provide details.

They seemed to be scared to make any decisions, concerned to rock the boat – sent unit the directives via computer but did not enforce them all.

Many MDs were slack in their infection control practices.

Many service staff working in stores etc. not wearing PPE justifying it because they work in remote areas of hospital.

After the 2nd outbreak we were treated a little humanly, otherwise to administrators we nurses never exist.

Unsafe conditions, dangerous to patients. Could not get help quickly when patient crashes. Baby monitors infection for isolation room. Could not see monitor and gear on.

Visitors were the largest issue – the hospital totally abrogated responsibility.

I didn't think they did. There was an air of arrogance, defensiveness by senior management.

Q7.7 How was the March 29, 2003, directive requiring PPE to be worn by “all staff when in any part of the facility” applied in your facility? Were you and staff members in your unit provided with PPE consistent with the latest MOHLTC directive?

MDs came thru wrong entrance to hospital and did not do SARS screening. We saw them enter through Emergency. We reported to our nurse manager.

We never had unprotected exposure to any SARS point in our hospital. We were met at the door with the appropriate PPE for the area we worked in, along with a handout and signage.

MD's refused to co-operate[,] only wore PPE if it was demanded by the nurse. On one occasion, I refused to assist MD because of safety for the patient and myself.

Q7.8 How was the May 31, 2003, directive requiring full SARS precautions (PPE) to be worn by facility staff “in all patient care areas” applied in your facility? Were you and staff members in your unit provided with PPE consistent with the latest MOHLTC directives?

This was not fully applied. That day was the only day I was told I did not need a mask. I had no mask on and guess what – I was exposed to a suspect SARS patient.

I felt like that we were “closing the barn door after the fire was started.”

It was very strict. Even when the government said the outbreak was over our hospital insisted we continue to use protective gear. I know of a few that didn't and it turned out disastrous.

It was very hard to follow all directives but the fear of SARS drove us all to compliance.

Q7.9 Please provide any further comment about the directives.

The directives were hopelessly general and open to interpretation.

I just want to forget about that period.

On the whole it was all dealt as well as could be expected on such short notice. Everyone tried their best. Well done.

I felt that the people at the POC were not really aware of what was involved in hospital work and patient care, so the impact of directives was not always thought out in advance.

As nurses we need to be allowed to use some clinical judgment on when/where to wear PPE.

It is okay to have directives. Please ask the front line workers for inputs. Do not treat us like a cattle ranch and one kind of masks does not fit all. The MOHLC should try wearing an uncomfortable mask for 12 hours and then come and talk to me and tell me what to do. Treat us with RESPECT.

It was much too late, many of our staff were already sick with SARS by then.

Will it ever be over?

It seemed I learned more from TV or friends. No one ever seemed to know what the right thing to do was. Complete disorganization and utter lack of communication. Pitiful.

People are still wearing their PPE at times when caring for patients. I think they are still scared of the unknown.

They made a concerted effort. It was a learning experience for everyone. It wasn't perfect at the time but we learned from it and would be better now I think.

Nurses were compliant, physicians were vague and occasionally mocked our ideas, blaming ONA for being too fussy.

I was afraid of dying.

Q8.1 Are you aware of any situations where patients were exhibiting SARS symptoms and were not appropriately dealt with (e.g. not placed in adequate isolation, not reported to Public Health)? If so, please provide details.

Patients were not always screened properly or not at all. Placed in wardrooms only to find out two days later that they have possible symptoms.

Public health was impossible to contact. Very slow response.

I simply did as I was directed by the charge nurse; I never had time to look into the directives on my own. Patient care takes up all my time and energy.

Nobody listens to the nurses!

Q8.3 Are you aware of any circumstances where you or other nurses/health care workers were not listened to when they reported possible SARS symptoms in patients? Please provide details.

People at times felt we overreacted.

The MD's opinions were more relevant to managers than the RN's who worked daily at bedside.

The nurses were spoken to very badly and told they were overreacting and dismissed their concerns.

We really had to fight to get to be heard. Symptoms were not taken seriously at times.

Q8.4 How could the spread of SARS and the risk that it posed to workers have been better dealt with within your facility?

Hand washing was slack and workers weren't properly trained.

Infection control measures could have been in place before the outbreak. We deal with communicable diseases all year.

Make the doctors accountable for ignoring the screening protocols.

Listen to the nurses.

All persons exhibiting symptoms should have been suspected until completely ruled out.

If we hadn't let our guard down 1-2 weeks early, the second outbreak would not have occurred or been as severe.

Listen to nurses!!! We are the primary care giver. ID team was not listening.

Protocols were changing every 15 minutes by the same person. Doctors didn't follow the protocols but the nurses did.

Never should have sacrificed healthcare safety for ministry of tourism. Nurses said that as long as we practiced safe measures we were safe. Once we relax – boom 2nd outbreak.

I think everyone was doing their best but because of the “unknowns” it was very difficult.

More communication, I am aware of the confusion, but I should not get my updates by the media; which is based on their interest.

Many of my colleagues who became “SARS” sick contracted the illness by going to another unit to help out. So the issue about staffing shortage is a contributing factor. Also at the ER level better infection control practices. Perhaps ER should have separate rooms for patients with fever.

They could have listened to the nurses sooner. We had valid concerns that fell on deaf ears.

I don't know that it could have. After all this was new and unexpected. We learned from this and now would be better prepared for another situation like it.

Masks should never have been discontinued after the first outbreak.

The hospitals should have been locked down for all visitations and full protection should have been in place until the last patient went home or died.

It was kept a secret from nurses far too long and we should [have] been more aware immediately in regards to what kind of virus we were nursing with.

Q9.1 Did you witness any failure to comply with Ministry/facility directives during the SARS outbreak by any of the following persons? Physicians, screeners, visitors, patients, non-professional, professional staff?

Some patients and visitors became very abusive and angry and refused to comply.

Visitors were very non-compliant with masks and did not listen even with repeated reminders.

Visitors didn't seem to understand the seriousness of the risk. Physicians had to be informed/asked to please comply.

Some physicians were angry they had to line up with the rest of the staff to go through the screening process during the 1st SARS and didn't like to have their temperature taken and have to wash their hands.

Some physicians refused to wait in screening lines – bypassed screeners and security people.

Breaches everywhere: human error, forgetfulness, laziness, letting up guard, lack of enforcement.

I witnessed an emergency physician walk past the screeners handing out protection. The security guard told him he was required to wear N95 gloves, gown. He said "I know I'm the emergency on call" and kept walking. At this time our emergency was a SARS assessment clinic for the region.

Q10.2 If your facility was able to prevent the spread of SARS to health care workers, please share with us any details about health and safety/infection control measures and/or procedures etc. that you are aware of that protected the health and safety of your members during the SARS outbreak.

I'm sure if it returns we will hopefully be more aware and cautious.

We were just damn lucky!!

Q10.3 What sources did you seek for the latest SARS information?

Watching the news, the newspaper. They were more up to date than the nurses working with the patients.

We did regular updates on events posted on a "SARS" bulletin board; read different newspapers, website, listened to interviews with doctors, researchers on SARS.

I called our hospital's SARS hotline, read memos, listened to the news etc.

The evening news on TV and newspapers and family. I learned more from the above sources than I did from my employer.

I called another community health centre almost daily. I went on websites. I attended some of the daily POC press conferences.

Most important aspect especially with this kind of outbreak; to always let all the staff know the situation ... honestly ... support them in whichever way they can. Improvement and more latest techniques re: Infection Control.

Infection Control – although early on I said to our person “I hear it’s a chronic virus” and she said – don’t listen to the media. The media was an important source of information to us.

I disagree that hospital administrators should have the power to police directives set by the MOH and that MOH should ensure that the directives are enforced.

Q10.4 Any additional comments (is there anything else that you would like to tell us or that you think we need to know)?

Be more involved, never assume others know, grapevine unreliable. Don’t just complain to other staff, ask management and go to the person and find out for yourself.

Healthcare is definitely not prepared for this type of emergency. Policies and procedures need to be in place. Listen to the nurses!!! They are the front line.

I believe we let guard down too soon after initial outbreak. Everything seemed to clam up after travel advisory. I felt biggest sense of distrust after this and began to look out for myself more so then because less info was forthcoming then.

Nurses worked in hot disgusting circumstances [with] inconsistent info and were poorly protected. It was like we were disposable.

I was proud of my facility; I felt they tried hard to protect staff and community. Everyone went out of their way, management worked odd hours side by side with other hospital employees to do whatever was necessary. Some even brought us coffee.

I think the outbreak was handled as best as the healthcare system could. We are short

staffed and stressed on the job regularly. The Ontario government needs to make healthcare a priority because there will be something else and a lot of the older nurses will just leave.

In our past experience we have never dealt with anything like this. I think overall we all did the best we could with what we knew. Now we know better. Needs to be set up permanently so that we never get caught off guard again. It will happen because now the spotlight is off.

I know personally that as a happy contented worker in ER my whole outlook changed. The face of nursing itself changed. When you only see eyes, can no longer touch with bare hands to assess skin temperature[,] tone etc.

This situation was very disruptive for clients with mental health problems. I wonder if anything could have been done to make this situation easier for them?

We were treated so poorly considering what we had to go through. We were not treated with respect. We were kept in the dark about everything. It was very upsetting.

SARS was totally mismanaged.

If SARS occurs again I'm sure you will see a big retirement [of] RNs in Ontario. Physically[,] emotionally we were exhausted. Not enough staff, no refreshments, poor communication, not enough isolation equipment.

What happens the next time?

Very important to listen to nurses' concerns. Nurses often not taken seriously or respected. Morale on our unit is at an all time low.

Doesn't surprise me that this has happened. It will happen again. I know how to protect myself at work re: unusual precautions – but SARS has put a new perspective on nursing for me.

A lot of nurses were afraid. Especially the ones with children. You could see that they wanted to cry or run off the unit when they found out they were caring for the SARS patients that day.

I can't believe how nurses were so left out and they were the ones doing the actual screening and giving care.

Nursing has now become very hazardous profession and ONA has an uphill battle ahead in negotiating a contract which will attract nurses to remain in the profession or to encourage anyone to enter the profession. We are headed for disaster. The exodus has started.

For the 1st time I was hiding the fact that I was a RN to avoid people shunning me. I felt very isolated. I resented people saying it's my job to take the risks of SARS.

Don't ever force us to do SARS again please! Have it as a voluntary job for staff who want to get paid more. We didn't even get paid more.

It will happen again and we better be prepared. We will see an exodus of nurses unless the pay reflects the risk. The nursing shortage is already critical and will now be worse.

I felt very isolated and not informed quickly enough. Feel the Hospital is looking after itself first, staff second.

I feel that we took our guards down too soon. I expected the precautions to continue until Sept. with the first outbreak.

Nursing will never been the same anywhere. We are now careful and more aware and mask will also be a part of us.

Physicians need to be more accountable regarding precautions. They are the worst offenders.

Medical institutions were not ready and we became one big experiment to see what practices would work.

Management should have to communicate with staff. Staff was kept without proper information.

It was hard but we did it.

Our manager always wanted us to remove our masks after SARS I, for public relations.

I realistically think that you will see significant numbers of RN's leaving the profession within the next 5 years. Many feel this problem is perhaps just the 1st of many to come, and while most of us have been "lucky" this time – who knows about the next one.

SARS has changed everything. I no longer feel safe at work. Friends have been lost. My family suffered much stress and anxiety. I feel there will be a large exit from nursing if SARS happens again.

They (hospitals) should stop worrying so much about business, if everyone is sick there won't be any business and no one to care for them.

This was a terrible period to work in and has left me physically and emotionally exhausted. I still have anxiety thinking about it and how unrecognized the role health professionals played in SARS 1 and 2. I cannot even speak about it.

I feel that the disorganization, lack of leadership and education greatly put our unit at risk and it is purely by luck that we had no healthcare workers contract SARS.

SARS has changed the face of healthcare especially for me as a nurse. The joy of being a nurse is replaced by fear.

All I want is for hospital to admit they made a huge mistake in dealing with this. They need to do something for the families whose members died as a result.

Cleanliness in our hospital is way down on list of priorities. The priority in our hospital is "public relations." Far removed from safety and what would be in the best interest of client and staff.

It is unforgivable that management and our infection control specialist doctors were not held accountable for their action.

We can learn a lot from the mistakes made this time. I hope we do.

I feel very angry and betrayed becoming so ill by just carrying out my job; I don't know if I will ever be able to feel the same way about the hospital. I have worked for 26 years.

How can a mask that fits a 300-pound construction worker fit a 95-pound healthcare worker?? What were they thinking??

I feel the press did more harm than good. Our patients coming to the SARS Clinic for assessment were extremely upset with reporters and camera crews photographing them. It was a "Privacy Issue" as well as an issue of "Respect."

Our cleaning staff is overwhelmed, I don't feel that they could follow infection protocols when [they] are overwhelmed (this I feel is the source of spreading germs).

Nurses are mercies of God. Do not let them run away! Provide money, support, love or you'll have no nurses left!

CHAPTER SEVEN: Aftermath

Airport Screening

Airport screening was a controversial matter that, in the end, turned out to contribute little or nothing to the fight against SARS. When SARS was over, it was clear that airport screening was ineffective and that the most effective screening point was the first portal to the health system, whether it be advice from a family doctor or a trip to a hospital emergency room.

The screening measures were the subject of great bickering between the Ontario and federal governments, which regrettably showed the tendency of governments sometimes to fight rather than fix. The lesson learned is that in crisis governments must forgo political sniping and join together in the job of protecting the public.

Health Minister Tony Clement at one point wrote federal Health Minister Anne McLellan to complain that screening measures at Pearson International Airport in Toronto were not vigorous enough to prevent SARS from entering Ontario.⁸⁴⁶ Two and a half weeks later, the WHO issued a travel advisory against Toronto, and McLellan was accused in the House of Commons and elsewhere of bringing on the advisory by ignoring requests for better screening of people entering the country.

Medical professionals questioned the effectiveness of the airport screening. For example, Ontario's then Commissioner of Public Safety and Security, Dr. James (Jim) Young, told the CBC that the chances of the screening process catching someone with the disease were slim:

The airport isn't picking the cases up. People come in, and then they get sick and they go to hospital. We ask them questions if they're sick and we pick them up there.⁸⁴⁷

846. Letter from the Honourable T. Clement, Minister of Health Ontario, to the Honourable A. Anne McLellan, Minister of Health Canada, April 4, 2003.

847. "Airport screening ineffective against SARS," CBC news online, www.cbc.ca, June 11, 2003.

Dr. Andrew Simor, a microbiologist at Sunnybrook, said the airport screening measures were put in place largely to try to satisfy the World Health Organization (WHO):

The reality is I don't think it was really warranted and I think the costs used for airport screening could well have been spent on other sorts of control measures.⁸⁴⁸

On April 3, 2003, a WHO official described the Pearson Airport screening as an example of best practices.

SARS was not detected by any measure utilized by Health Canada at Canadian airports, as described in the Naylor Report:

As of August 27, 2003, an estimated 6.5 million screening transactions occurred at Canadian airports ... None had SARS ... The pilot thermal scanner project included most inbound and outbound international passengers at Toronto's airport ... and again none were found to have SARS.⁸⁴⁹

The federal government instituted airport screening on March 18 in hopes of decreasing the risks of travellers importing SARS from Southeast Asia. The initiative began with Health Alert Notices (HANs): posters directing arriving passengers to pick up information on signs and symptoms of SARS and to see a physician if the symptoms developed. This information was printed on 8" by 11" yellow cards and included key telephone numbers.

Vancouver and Toronto international airports received the yellow HANs first, then the initiative was expanded to 12 other airports that received international travellers who might have been in the Far East. Also included were 18 land border crossings to the United States.

On April 3, the federal government distributed "cherry cards" to passengers departing Toronto's Pearson Airport on international flights. This was expanded on April 7 to include Toronto Island Airport and the train stations:

848. "SARS threat persists, screening wanes," *Toronto Star*, November 20, 2003.

849. Naylor Report, p. 205.

With the advent of SARS transmission in Toronto, Health Canada implemented similar HANs in a different color (cherry) to mitigate the risk of exporting SARS cases. The cherry-colored HANs were distributed to persons departing for international destinations from Toronto's Pearson International Airport. Passengers with symptoms or signs of SARS were asked to self-defer their travel. In these instances, Health Canada requested airlines to waive their policies on non-refundable tickets, and while many did so, the refund and rescheduling policies and conditions were not uniform.⁸⁵⁰

Six days later, in-flight distribution of yellow cards and contact forms began on nine airlines with flights from Asia. The program underwent a series of expansions and revisions, the most significant being the implementation of thermal screening at airports. On May 23, six thermal scanners were set up in Toronto's Pearson Airport for all incoming and outgoing international travellers. This followed a pilot study started May 8:

In parallel to these measures, Health Canada initiated a pilot study on May 8, 2003, on the use of infrared thermal scanning machines to detect temperatures $>38^{\circ}\text{C}$ in selected international arriving and departing passengers at Vancouver's International and Toronto's Pearson International airports. Thermal scanning complemented other measures in the overall screening process by helping to triage the large volume of passengers who transit airports. Any passenger with an elevated temperature reading was referred to the screening nurse for confirmation, completion of the screening protocol, and referral to hospital, if necessary.⁸⁵¹

A study by the Public Health Agency of Canada (PHAC) provided statistical data regarding the number of travellers screened during SARS:

As of July 5, 2003, a total of 1,172,986 persons received either yellow or cherry HANs. A total of 2,889 persons answered yes to at least 1 screening question on the HAN and were referred to secondary screening according to protocol. None of the 411 outbound passengers who were

850. R.K. St. John, A. King, D. de Jong, M. Bodie-Collins, S.G. Squires, T.W.S. Tam, "Border screening for SARS, *Emerging Infectious Diseases* 11, no. 1 (2005), <http://www.cdc.gov/ncidod/EID/vol11no01/04-0835.htm> (St. John et al, "Border Screening for SARS").

851. St. John et al, "Border Screening for SARS".

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referred for secondary screening in Toronto were asked to defer their travel. All persons were cleared, and none were referred for additional medical examination.

In addition, 763,082 persons (467,870 inbound and 295,212 outbound) were screened by the thermal scanners. Only 191 persons had an initial temperature reading of 38°C and were referred for secondary evaluation. No data were collected systematically to correlate thermal scanner results with results of temperature taking by secondary screening nurses. Some of the persons arriving or departing Toronto and Vancouver airports were screened by both HAN and thermal scanning measures.⁸⁵²

It became apparent that airport screening did not work and that the best way to identify SARS cases was at the first point of entry to the health system, Dr. Young said on the CBC. Later studies supported what Dr. Young claimed at the time. The PHAC study concludes:

We suggest that in-country, acute-care facilities (hospitals, clinics, and physicians' offices) are the de facto point of entry into the health care system for travelers with serious infectious diseases.

One of this study's authors, Dr. Ron St. John, was quoted in another article as saying:

They didn't detect any SARS ... Sometimes what seems like a reasonable thing to do doesn't turn out that way.⁸⁵³

Another study, from the U.K., reported in the *British Medical Journal*, has similar findings:

Entry screening is unlikely to be effective in preventing the importation of either SARS or influenza. The incubation period for SARS is too long to allow more than a small proportion of infected individuals to progress to symptomatic disease during flight to the UK from any destination.⁸⁵⁴

852. St. John et al, "Border Screening for SARS".

853. "Screening methods used during SARS outbreak had limited success: study" The Canadian Press, December 28, 2004.

854. *British Medical Journal*, September 23, 2005.

Dr. Naylor gave a presentation to the Standing Senate Committee on screening systems that were used during SARS. He stated that there is a need for information in people's hands and for a good public health infrastructure to support the information being handed out:

Absent that, you have to focus on two things. One is information. You have to put masses of information in the hands of people. Assuming that most people are good, well intentioned and want to do the right thing, they will bring themselves to public notice quickly if they have suspicious symptoms and have been travelling. Second, you need a strong, local public health infrastructure so that when someone phones and says, "I have this information packet, I was just in wherever and I have the symptoms that match, I am worried that I may have X or Y," there is an instant response. Someone is at the house in 30 minutes. They get the information about what to do on the phone. They are transported, with appropriate precautions, to an emergency room that has an isolation area. They go into hospital, if need be, and into a negative pressure room, if that is required.

There must be a local system that knows how to respond to the traveller who has concerns or suspicious symptoms. We believe, and we have recommended, as I think honourable senators will have read, that there is a need for a multilateral, international process to reconsider travel screening; but also that we need in Canada to take a sober and critical look at the results of our screening activities. Millions of people went through thermal scanners and card systems with no cases detected. Let us have a critical look at it and decide what we need to do as a country in terms of information for travellers and screening.

Quarantine officers are another issue that has been covered in the report in some detail. We need a proper set of quarantine officers at all ports. This is all there. The United States government has become increasingly concerned about global travel as a means for the spread of new or re-emerging communicable diseases ... A National Response Guidelines Manual has been developed by the U.S. Department of Transportation which provides a "big picture" for those involved in both planning for and responding to a quarantinable, communicable disease incident at an airport.⁸⁵⁵

855. The Standing Senate Committee on Social Affairs, Science and Technology, chaired by Senator Michael Kirby, October 9, 2003.

The Commission agrees with Dr. Naylor's observations, as set out in the Naylor Report:

Screening for a rare disease like SARS in a large population (i.e., millions of travelers) is both difficult and ineffective with an extremely low likelihood of actually detecting cases.

Also, travel screening fails to detect those who may be incubating the disease – these individuals would still be symptom-free. Screening healthy people for infectious diseases should be based on certain premises: that a disease is present in the general population, that it can be detected by screening measures, and that there is a high risk of transmission by asymptomatic individuals. None of these conditions were met by SARS. In the absence of such features, screening healthy people is expensive, possibly highly intrusive, and can create a false sense of security or needless anxieties.⁸⁵⁶

The screening program was well intentioned and was somewhat helpful in that it provided some information to the public. However, it turned out in SARS to be an ineffective measure with the potential to divert resources from more effective work and can create needless anxiety in individuals and a false sense of public reassurance.

856. Naylor Report, p. 206. The Naylor Report made a series of recommendations to ensure that travel screening is imposed only when evidence suggests it will be effective, to improve quarantine officer resources, to improve communication of health risk to travellers and the travel industry and to develop cooperative intergovernmental protocols to these ends. The Commission endorses the thoughtful recommendations of Dr. Naylor, listed at p. 207 of his report.

The SARS Alliance

During the second SARS outbreak, the Ontario government decided to concentrate the treatment of SARS in four key hospitals that became known as the SARS Alliance. It was a decision made in an emergency, but one that was not widely acclaimed.

The SARS Alliance was a stopgap measure for a provincial or regional emergency plan that, as noted elsewhere in this report, Ontario did not have in place.

The hospitals designated were North York General Hospital, St. Michael's Hospital, Scarborough General Hospital and the William Osler Health Centre. The idea behind the move was to concentrate the treatment of SARS to these four hospitals. This would pool the expertise that had developed and, it was hoped, would free up other health care facilities to carry out their normal functions without the heavy burden of dealing with SARS patients.

Tony Clement, Ontario's Minister of Health at the time, said in a media release:

We are concentrating the treatment and expertise of SARS at four key sites around the Greater Toronto Area to ensure we quickly identify and contain the disease during this current wave of cases ... This will help us protect the capacity of the health care system as well as ensure that the health care system in the GTA keeps running safely and efficiently.⁸⁵⁷

Mr. Clement said the four hospitals would work together:

... to develop a plan for moving patients in alternative levels of care, establish specialized units with dedicated staff, formalize agreement on staffing, resources and supplies, and ensure transfer protocols are in place.⁸⁵⁸

857. Ontario Ministry of Health and Long-Term Care, media release, Canada News Wire, May 27, 2003.

858. Ontario Ministry of Health and Long-Term Care, media release, Canada News Wire, May 27, 2003.

People interviewed by the Commission and those who spoke at the public hearings praised those who volunteered to work at the Alliance hospitals, but generally the move received a lukewarm reception.

The most critical comment came from an emergency medicine physician who worked in various capacities during the outbreak. In a submission to the Commission, he said that the SARS Alliance provided minimal, if any, benefit:

NYGH, Scarborough General frequently did not have beds. Etobicoke General was not prepared until late to accept patients, and St. Michael's Hospital appeared to limit its transfers to intubated patients. The cost was prohibitive as nurses and other were given 2x contract pay. The non-SARS hospitals still had to care for SARS patients while waiting for beds and were not being paid the same rates. This pay inequity led to tremendous anger with some staff taking leave of absence or resigning.⁸⁵⁹

In hindsight, the physician said, it would have been better to protect some hospitals that provide specialized care such as trauma, burns, surgery and oncology from accepting SARS patients.⁸⁶⁰

The additional pay at the SARS Alliance hospitals was clearly a contentious issue. The Naylor Report noted that it created inequities, as health workers at other hospitals who had treated SARS patients did not get the benefit of double-time pay. Dr. Naylor also noted that the Ministry of Health and Long-Term Care did not sanction the move:

The SARS Alliance hospitals chose to provide double-time pay to those individuals working in SARS affected areas/SARS units. The OMHLTC did not sanction this action. It was heavily criticized from an equity perspective since other hospitals that treated SARS patients did not provide the same benefit to their staff. Further, staff were provided the additional salary whether or not the SARS unit they worked on actually treated SARS patients. As a result, in some cases staff treating SARS patients received no added compensation benefit, while others who did not treat SARS patients did receive additional compensation.⁸⁶¹

859. Dr. Laurie Mazurik, submission to the SARS Commission, September 7, 2003, p. 2.

860. Dr. Laurie Mazurik, submission to the SARS Commission, September 7, 2003, p. 2.

861. Naylor Report, p. 154.

The Ontario College of Family Physicians paid tribute to those who volunteered when North York General Hospital was asked to become a SARS Alliance hospital. The College's Executive Director and CEO, Jan Kasperski, told the Commission at its public hearings:

... they quickly stepped up to the plate. I can tell you that no one was thrilled with the idea, but it was their own colleagues, their co-workers, who had fallen ill, and they wanted to bring as many of them as possible back into their own institution so they could care for them ... Several family physicians and our residents volunteered to act as the attending physicians on the SARS ward.⁸⁶²

The president and CEO of a Toronto-area hospital was not impressed with the SARS Alliance as a response to the crisis:

I think there needs to be much more focus on infection control so that you can handle these things ... Designating a SARS hospital [is not enough]. Next week it's some other disease.

She said she favoured a more general approach:

This was an outbreak. We didn't know what it was. So you're designating something [SARS Alliance] way after the fact. Its [success depends] on how you deal up front with something that you don't know about. My own view is that you have to, as much as possible, put in place mechanisms which control the possibility of those outbreaks occurring.

She told the Commission that such precautions should include universal precautions and building hospitals that can handle the virulent diseases that may be on the horizon:

I think what you need [is] to have hospitals that can deal with outbreaks of infectious diseases. You need hospitals where, when people come into an emergency department, it's not like a cattle car and they're all put together ... I think somebody talked about the reality of coming into an emergency department with somebody sitting, or in the next cubicle, two

862. SARS Commission Public Hearings, October 29, 2003.

feet away. Hospitals aren't designed to deal with these diseases, whether it's emergency departments, intensive care units, etc.

But she said that newly constructed hospitals are taking these problems into account:

Hospitals are built now to handle the really virulent diseases that you get. If you look at the evolution, for instance, of intensive care units in the country, it used to be that an intensive care unit [ICU] was one big room and there'd be a nursing station at the front and you'd sit and watch all the patients ... Over the years, new ICUs are built now where they're all individual rooms. One of the reasons is that if you get [an outbreak], you have to shut down the whole ICU ... If any hospital would have to shut down an intensive care unit, it would be a mess. So there is now a move towards having ICUs that are individual rooms with individual air pressure systems so if you have a patient in a room with a infectious disease, you could handle that through negative air pressure.

The SARS Alliance was a decision made in the middle of a crisis, and it is hard to fault the government for trying to get control over the situation. But it would have been much better to have an emergency plan in place that had already considered and resolved the issues that arose when the SARS Alliance hospitals were designated during SARS.

Ministry of Labour Investigations

The Ministry of Labour, pursuant to the *Occupational Health and Safety Act*, investigated the SARS deaths of nurses Tecla Lin and Nelia Laroza and of physician Nestor Yanga⁸⁶³ and conducted occupational illness and critical injury investigations into the illness from SARS of 146 health workers. Although these investigations and the legal decisions arising from them are not at the core of the Commission's mandate, they do come within its outer margins and warrant brief comment here.

Investigations into the deaths of Ms. Laroza and Ms. Lin recommended the laying of charges under the *Occupational Health and Safety Act*. In the case of Dr. Yanga no such recommendation was made.

To guard against potential conflict of interest, the charge screening process was conducted outside the Ministry of Labour, by Crown counsel at the Ministry of the Environment. Following these reviews, decisions were made not to lay charges in connection with either the death of Ms. Laroza or the death of Ms. Lin.

The decision whether to lay charges as a result of any Labour investigation, including these investigations, is made in the end by Ministry legal advisors on the basis of investigation reports and of legal and quasi-judicial considerations, for example: Are there in law reasonable and probable grounds to believe that there has been a violation of the *Occupational Health and Safety Act*? Is there a reasonable prospect of conviction if charges are laid? Are defences open to the potential accused, such as due diligence or necessity? Is it in the public interest to proceed with charges in particular case? The basis of the legal decision not to lay charges in these cases is beyond the reach of the Commission because the legal opinions that underpin those decisions are the subject of a claim of solicitor-client privilege asserted by the Ministry of the Attorney General.

863. The names of Ms. Lin, Ms. Laroza and Dr. Yanga are used here because the circumstances of their illnesses and deaths are in the public domain.

None of the critical injury⁸⁶⁴ and occupational illness⁸⁶⁵ investigations into how 146 health workers contracted SARS recommended the laying of charges.

These investigations were seriously hampered by the fact that they did not begin until February 2004, leaving insufficient time for a full and thorough investigation before the expiry in March 2004 of the time for laying charges imposed by the one-year limitation period under the *Occupational Health and Safety Act*.

In all, the Ministry received 146 occupational illness and critical injury notifications and three fatality notifications.⁸⁶⁶ Under the *Occupational Health and Safety Act*, employers must notify the Ministry in writing of a critical injury within 48 hours of the occurrence⁸⁶⁷ and of an occupational illness within four days.⁸⁶⁸ This timely notification allows the Ministry the opportunity to quickly investigate the events that led to the critical injury or occupational illness and to prevent its recurrence.

864. A probable case of SARS was considered a critical injury.

865. A suspect case of SARS was considered an occupational illness.

866. There were major problems with the notification process. The Ministry told the Commission:

The majority of these notifications were received after employers were ordered to do so by MOL inspectors. (Ministry of Labour, submission to SARS Commission, March 15, 2006, p. 19)

867. Section 51. (1) of the Act states:

Where a person is killed or critically injured from any cause at a workplace, the constructor, if any, and the employer shall notify an inspector, and the committee, health and safety representative and trade union, if any, immediately of the occurrence by telephone, telegram or other direct means and the employer shall, within forty-eight hours after the occurrence, send to a Director a written report of the circumstances of the occurrence containing such information and particulars as the regulations prescribe.

868. Section 52. (2) of the Act states:

If an employer is advised by or on behalf of a worker that the worker has an occupational illness or that a claim in respect of an occupational illness has been filed with the Workplace Safety and Insurance Board by or on behalf of the worker, the employer shall give notice in writing, within four days of being so advised, to a Director, to the committee or a health and safety representative and to the trade union, if any, containing such information and particulars as are prescribed. R.S.O. 1990, c. O.1, s. 52 (2); 1997, c. 16, s. 2 (12).

Note that the Act defines “Director” as follows: “Director means an inspector under this Act who is appointed as a Director for the purposes of this Act; (‘directeur’).”

On February 24, 2004, teams of inspectors were assigned to begin investigations at Toronto Emergency Services, St. John's Rehabilitation Centre, North York General Hospital, the Scarborough Grace and Scarborough General Division hospitals, and Mount Sinai Hospital. On March 3, 2004, another team was assigned to begin an investigation at Sunnybrook.

The investigations faced a time constraint because section 69 of the *Occupational Health and Safety Act* states that charges must be laid within a year of the event under investigation:

Limitation on prosecutions

69. No prosecution under this Act shall be instituted more than one year after the last act or default upon which the prosecution is based occurred.
R.S.O. 1990, c. O.1, s. 69.

The delay in starting the investigations meant that Ministry inspectors were pressed for time. Observers familiar with the investigation said the late start date did not leave the investigators enough time to do a proper investigation, that they basically ran out of time.

The problem was not the competence of the investigators or the quality of their investigation, both of which appeared to the Commission to be high, but the delay in giving the investigators the go-ahead to proceed.

In explaining why these investigations were not begun earlier, the Ministry said:

Investigations of the fatalities and preparation for the investigations into the occupational illnesses and critical injuries began prior to the receipt of the reports. The reports were received by MOL in early February 2004, and the MOL was then able to continue its investigations into all 146 occupational illness and critical injury notifications and the 3 fatality notifications.

The MOL carries out a significant number of highly complex investigations such as structural collapses, geological stability, and asbestos removal each year involving input from various experts and information from a wide variety of sources. For the most part, these investigations involve long standing generally accepted scientific, engineering and/or medical standards.

The SARS investigations, however, presented an even higher level of complexity. Information with respect to SARS continued to evolve from day one of the outbreak until well after the emergency was declared over. The criteria for a diagnosis of SARS changed during and after the outbreak as did the information with respect to its transmission. As a result, the MOL was required to analyse all of the POC [Provincial Operations Centre] directives issued during the outbreak as well as the evolving information from the WHO and other organizations involved in the ongoing monitoring of SARS.

Unlike the overwhelming majority of workplace hazards, SARS was not a hazard localized to one particular workplace or even one area within a workplace. Contact tracing with respect to each worker, as reported by Toronto Public Health, had to be followed up by the MOL to attempt to determine where a worker had contracted SARS (i.e., a workplace, a public gathering or location other than a workplace). The movement of workers diagnosed with SARS was tracked within hospitals as well as from one facility to another to determine what precautions had been taken to ensure the disease was not spread within a facility, to the public at large and to the facility where a worker may ultimately have ended up. Details such as where and in which order personal protective equipment was put on and removed was analyzed.⁸⁶⁹

The investigations were begun very late into the one-year window for the laying of charges. No matter what difficulties faced the Ministry, and whatever the validity may be of its reasons for starting the investigations so late, it does not generally enhance the reputation of any regulatory and enforcement body if investigations are launched so late that investigators do not have sufficient time to do their work properly.

Public confidence is vital for any regulatory and enforcement ministry. In the case of the Ministry of Labour, this means that investigations into critical injuries and occupational illnesses arising from a disaster of the magnitude of SARS must be commenced expeditiously.

869. Ministry of Labour, submission to the SARS Commission, March 15, 2006, p. 20.

Public confidence in the process of investigation and in the decision to prosecute also requires an element of openness. The system under which the SARS labour investigations proceeded, and under which the decision was made not to prosecute, lacks the degree of openness necessary to secure public confidence.

Whenever a worker safety charge is laid and then proceeds to court, the principle of open justice requires that the proceedings and any decision to terminate proceedings short of a trial take place in public.

The difficulty occurs in cases like this, where the investigation recommended that charges be laid in certain cases and not others, where there have been no court proceedings, and where the public and the families of the deceased and the affected health workers are left completely in the dark.

Public accountability and openness require a better system to inform the public and those affected by these important decisions.

Because this issue is at the outer margin of the Commission's terms of reference, the Commission has no mandate to propose prescriptive solutions. Any prescriptive solution to this problem requires extensive consultation with health worker unions, the Ministry of Labour and the Crown law officers who bear the ultimate responsibility to decide whether charges of this nature will proceed. The solution is tangled up in a knot of laws that govern worker safety, privacy and freedom of information, and Crown privilege.⁸⁷⁰ It is time to cut that knot.

The Commission therefore recommends legislative amendments and policies in relation to the waiver of potential Crown privilege claims, that in such cases where charges do not result from Ministry of Labour and other investigations of deaths and critical injuries in health workplaces, the results of the investigation and the reasons for the decision not to prosecute be made public.

Another problem arose during the course of the worker safety investigations, and also in the investigation by the North York General Joint Health and Safety Committee, that requires comment. That problem has to do with the amenability of

870. These problems are not insurmountable even within the current state of the law, as seen by the extensive reasons given publicly by Attorney General Roy McMurtry for a number of decisions not to prosecute high-profile cases, including those of Dr. Henry Morgentaler and the Honourable Francis Fox.

doctors to the system that protects worker safety and investigates workplace deaths and injuries.

Difficulties arose during the Ministry of Labour death and critical injury investigations and the North York General Joint Health and Safety Committee investigation in respect of the status and obligations of hospital doctors under worker safety legislation. Doctors, by the nature of their work, are often obliged to give orders and directions to nurses and others that could affect their safety in the workplace. But every doctor is not an “employer” within the meaning of current safety legislation. Many doctors whose work has a profound effect on worker safety have arguably no obligations under safety legislation and arguably no obligation to cooperate with investigators who try to find out what happened in a worker’s death or critical injury.

The problem is clear; the solution, less so. Independent doctors will be concerned about any legislation or regulation that makes them look like hospital employees or employers of hospital staff. Any solution must take account of these legitimate concerns about physician independence.

But those concerns should not frustrate the ability of our worker safety systems to get to the bottom of what has happened in the death or critical injury of a health worker. It makes no sense that two doctors work side by side, a hospital administrator and an independent physician in the hospital, each of them with a profound effect on the safety of hospital employees – one of them within the worker safety regime and the other completely exempt from that protective framework.

Worker safety in hospitals and in other health care institutions requires reasonable legislative measures to include all physicians within the worker safety regime without interfering with the essential independence of the physician and without making her a hospital employee.

Such legislative measures may need to include not only the *Occupational Health and Safety Act* but also those statutes which govern the administration of health care institutions and the medical profession.

It would be presumptuous for the Commission to recommend a prescriptive solution at this time. That task will require a good measure of consultation and a thorough analysis of the complex professional and statutory framework within which doctors work in health care institutions.

The Commission recommends the amendment of worker safety, health care and professional legislation to ensure that physicians who affect health worker safety are not excluded from the legislative regime that protects health workers. Because the prescriptive solution will require consultation and analysis and time and patience, it is essential to start now.

Seven Oaks: A SARS Footnote

Introduction

In the fall of 2005, an outbreak of legionnaires' disease⁸⁷¹ swept the Seven Oaks Home for the Aged in Toronto, infecting 70 residents, 39 staff, 21 visitors and five other people who lived or worked nearby. Twenty-three residents died.⁸⁷² The outbreak brought back memories of SARS and initially some talk about whether SARS was back.

Unlike SARS, legionnaires' disease is not spread by person-to-person contact. Instead, people are infected when they inhale mist from a water source with high concentrations of the *Legionella* bacteria. The source of the Seven Oaks outbreak was likely its cooling tower.⁸⁷³

Seven Oaks brought back memories of SARS⁸⁷⁴ largely because of the mystery surrounding its causative agent, which was not identified until October 6, 2005, nearly two weeks after the first residents started getting sick.

The Ministry of Health commissioned an expert panel to investigate the response to the outbreak. The panel comprised two physicians who led the fight against SARS and another who had chaired an important SARS policy study.

871. A type of pneumonia caused by the *Legionella pneumophila* bacteria, it was first identified in 1977 after causing 34 deaths at a 1976 American Legion convention in Philadelphia.

872. Ministry of Health and Long-Term Care, *Report of the Expert Panel on the Legionnaires' Disease Outbreak in the City of Toronto September/October 2005*, December 2005, p. 4 (Seven Oaks Report)

873. "Given the high attack rate in the Seven Oaks facility, it seems very likely the long-term care home's cooling tower was the source, despite the fact that the home and its water and cooling systems were well maintained and that the maintenance program met current standards" (Seven Oaks Report., p. 28).

874. CNN sent a reporter to Toronto to cover the Seven Oaks outbreak. In a report broadcast on October 5, 2005, he said: "Keep in mind it was just two years ago there was a severe outbreak of Severe Acute Respiratory Syndrome, or SARS, right here in Toronto. Forty-four people died. There were certainly a lot of jitters in the community about that back then."

The Seven Oaks report provides the Commission with an opportunity to comment on developments in the health system since SARS.

The report said:

The Legionnaires' outbreak was the first time since SARS in 2003 that Ontario faced the threat of an illness that could not be easily or quickly identified. It was also the first opportunity to test the lessons learned from SARS.⁸⁷⁵

Seven Oaks and Worker Safety

As noted throughout this report, the Ministry of Labour was largely sidelined during the SARS outbreak. When the Centers for Disease Control and Prevention (CDC) sent a team to Toronto to investigate the infection of nine health workers at Sunnybrook on April 13, 2003, for example, no one thought to notify the Ministry of Labour that a worker safety investigation was being conducted at Sunnybrook.

Two years after SARS, the Seven Oaks panel investigated an outbreak in a workplace where nearly 30 per cent of the victims were workers, but the Ministry of Labour was not an integral partner in the investigation⁸⁷⁶ and the panel's membership did not include a worker safety expert.

This does not reflect on the qualifications and expertise of the three panel members, who are leaders in their fields and internationally recognized. It does show that worker safety is still not taken as seriously as it should be. It also meant that the panel, unfortunately, was not given the kind of worker safety expertise this type of investigation requires. That this would have been of value was demonstrated in a letter the Ministry of Labour sent to the Ministry of Health in February 2006. The letter identified issues that could have been better understood if the panel had had Ministry of Labour and worker safety representation.

The Seven Oaks report said:

875. Seven Oaks Report, p. 4.

876. The expert panel did interview one or more officials at the Ministry of Labour. See page 41 of the Seven Oaks Report for a list of organizations that were interviewed.

Aftermath

EMS workers were wearing a higher level protection, including N95 masks, as is the norm for their practice. EMS workers have a different standard for personal protective equipment because they regularly go into environments where the health risks are unknown. Their standard PPE is designed to protect them from toxins and chemical contaminants in the environment as well as infectious disease. Although the differences in PPE are based on science and practice, they are not well understood in the workplace.⁸⁷⁷

Labour responded:

In MOL's view, based on "science and practice", EMS workers would require a supplied air respirator or a self-contained breathing apparatus for suitable protection against "unknown" chemical hazards. An N95 respirator would not be suitable, for example, where the unknown risk was from carbon monoxide. The use of an N95 in the presence of carbon monoxide may result in serious disability or death to the EMS worker. In fact, EMS workers use N95 respirators for protection against unknown infectious agents and for protection during high-risk aerosol generating procedures such as intubation and pulmonary suctioning. An N95 respirator is not suitable for protection against unknown "toxins of chemical contaminants". This report, in endorsing this incorrect use of N95 respirators, may lead to significant morbidity and mortality among EMS workers when exposed to unknown chemical health risks.⁸⁷⁸

The Seven Oaks report said:

Ontario does not have specific standards for environmental maintenance.⁸⁷⁹

Labour responded:

877. Seven Oaks Report, p. 21.

878. Appendix to February 22, 2006, letter from Virginia West, Deputy Labour Minister, to Ron Sapsford, Deputy Health Minister.

879. Seven Oaks Report, p. 29.

This statement is not correct. In fact, the *Occupational Health and Safety Act and Regulation* contains requirements to prevent Legionella growth in water and ventilation systems.⁸⁸⁰

Any deficiencies in the Seven Oaks report do not reflect on its distinguished authors, who, unfortunately, were not provided with sufficient worker safety expertise. These deficiencies are, however, sadly reminiscent of problems during the SARS outbreak when the response to the outbreak lacked sufficient involvement of the Ministry of Labour and of independent Ontario worker safety experts.

Also reminiscent of SARS and the sidelining of the Ministry of Labour was the recommendation of the Seven Oaks report that Labour's standard-setting powers regarding worker safety be given to the Ministry of Health.

The Seven Oaks report recommended:

3.2 Clarifying the responsibilities of different ministries and ensuring consistent messages (i.e., making the Ministry of Health and Long-Term Care responsible for establishing policy regarding the appropriate infection prevention and control measures in an outbreak and the Ministry of Labour responsible for enforcing and ensuring compliance with that science-based policy).⁸⁸¹

SARS demonstrated that worker safety requires an independent regulator with two important roles. First, the regulator must be responsible for the development of worker safety standards that reflect the latest scientific research, occupational health and safety expertise and best practices, and the standards recommended by other agencies, such as the National Institute for Occupational Safety and Health (NIOSH). Second, once safety standards are set, the regulator must ensure that all workplaces are aware of and in compliance with those standards.

It would be improper for the Ministry of Health, as the Ministry that funds and oversees the health care delivery system, to regulate itself and the system for which it is responsible. This would place it in an untenable position.

880. Appendix to February 22, 2006, letter from Virginia West, Deputy Labour Minister, to Ron Sapsford, Deputy Health Minister.

881. Seven Oaks Report, p. 35.

The Seven Oaks report also argues against taking a precautionary approach to personal protective equipment:

While many may think that, in terms of infection prevention and control, “more is better” – that is not the case. There are serious and inherent risks – to health care providers, to patients and to the system – in using higher-level precautions when they are not required.⁸⁸²

The report lists six risks related to what it called an inappropriate use of higher-level precautions:

- Personal protective equipment is uncomfortable and difficult to put on, so it is often misused or worn improperly
- Errors are more common
- Workers tend to become over confident in their equipment and neglect other key measures, such as hand hygiene
- Health care providers experience health problems (e.g., rashes, problems breathing)
- Patient care may suffer
- It is costly and uses supplies that may be required when the system is faced with diseases that require that level of protection⁸⁸³

Representatives of health workers took issue with the report’s arguments against the precautionary principle:

On page 22, the report lists the “Risks of Inappropriate Use of Higher Level of Precautions.” We do not accept that any of the factors on this list offer a compelling argument against accepting the precautionary principle and providing better respiratory protection. The first risk cited is that “personal protective equipment is uncomfortable and difficult to put on, so it is often misused or worn improperly.” The work environment of an HCW [health care worker] is not known for its ease or comfort. It is our

882. Seven Oaks Report, p. 22.

883. Seven Oaks Report, p. 22.

experience arising from SARS that most workers are prepared to accept a certain level of discomfort if they believe it may save their lives. We have seen no evidence to support the statement that because the equipment is uncomfortable or difficult to put on that it is *often* misused or worn improperly. Our experience during SARS was that workers had never been fit-tested, nor had they received prior training about putting on and wearing N95s and other new PPE – consequently, they made errors. However, the problem was lack of training and experience, problems which can be readily addressed.

The next risk cited is that “errors are more common.” We have no idea of what kind of errors are being referred to, or what evidence there is of these “errors.”

Next, the report states that “workers tend to become over-confident in their equipment and neglect other key measures such as hand hygiene.” It is [a health workers’ union’s] experience that this is true in some instances, especially around the use of protective gloves and hand-washing. This has been documented in studies and anecdotally. However, no one has suggested that protective gloves should be abandoned because workers fail to wash their hands properly. The focus has been on developing guidelines on when gloves should be worn, what kind of gloves should be worn and ongoing training to ensure that workers wear gloves appropriately and practice good hand hygiene. Consequently, we do not find this a compelling argument to decide not to provide N95 respirators.

Another risk listed is that “health care providers experience health problems (e.g., rashes, problems breathing).” In the early 1990s when HCWs began to develop latex allergies that were in some cases life-threatening, no one suggested that HCWs should no longer be provided with gloves to protect them from infectious agents. Once the allergy was better understood, scientists and manufacturers worked to develop alternative gloves that would not make HCWs sick. Within less than 10 years, it was rare to find an HCW who could not be accommodated back into her workplace using a non-latex or low protein latex glove. It is simply unacceptable for the Panel to suggest that because some PPE may cause health problems that workers should not be offered proper respiratory protection. Most workers will be able to find an appropriate N95 respirator that will not cause a rash. Some workers may need other accommodations.

Aftermath

The report states that “patient care may suffer.” [A health worker union] does not know what evidence the Panel is using to support that statement. It is our position that in cases where workers are afraid of contracting an unknown illness and where they believe that their employer is not taking all reasonable precautions to protect them, it may have an effect on the quality of care they are able to deliver.

The final risk is that higher level precautions are “costly and uses supplies that may be required when the system is faced with diseases that require that level of protection.” If we believed that N95 respirators were unjustified, we would accept that statement. However, since it is our position that in cases where there is a risk of airborne infection, N95s should be used, we do not accept it.⁸⁸⁴

Other representatives of health workers also took issue with the Seven Oaks Report’s arguments:

A day in the life of a health care worker is replete with all varieties of discomfort. While health care workers (like all workers) would prefer not to wear respirators, they are prepared to adjust to discomfort when necessary to make the very air they breathe safe for themselves and safe to pass on to patients and family. Firefighters, steelworkers, chemical workers and others have for decades routinely crouched in cramped, confined spaces for hours at a time, dragged down by much heavier respiratory protection than the N95 respirators ... Given information and training about hazards and the need for respiratory protection, all workers tolerate the discomfort.⁸⁸⁵

If the Commission has one single take-home message it is the precautionary principle that safety comes first: that reasonable efforts to reduce risk need not await scientific proof. The Ontario health system needs to enshrine this principle and to enforce it. It is the most important single lesson of SARS, and it is a lesson ignored only at our collective peril.

884. Letter from OPSEU to Premier Dalton McGuinty, January 24, 2006.

885. Letter from ONA to Premier Dalton McGuinty, December 15, 2005.

Conclusion

Seven Oaks showed the good side of Ontario's response to SARS: the excellent worker safety approach taken at North York General Hospital,⁸⁸⁶ with the new infection control system under Dr. Kevin Katz in which health workers were enabled to choose the highest level of protection; the good communication between Toronto Public Health and the Ministry of Labour; and the fine leadership shown by Dr. David McKeown, the Medical Officer of Health for Toronto.

Seven Oaks also showed the bad side of Ontario's response to SARS systemic problems that remain unfixed; the problems at the provincial laboratory; the two solitudes between infection control experts and worker safety experts; the exclusion of the Ministry of Labour from the centre of the investigation and the subsequent report; the occupation by the Ministry of Health of worker safety territory, where one would expect greater presence and collegial involvement by the Ministry of Labour; the failure to ensure effective consultation with safety officials from health worker unions; and the strong echo of the turf wars between the health system and the worker safety system that so bedevilled SARS.

Seven Oaks demonstrated that many worker safety lessons of SARS have not been learned.

The Ministry of Labour must be independent in setting workplace standards and in enforcing them. It must be an integral member of the response to any infectious disease outbreak. It must be directly involved in any post-event review of any infectious disease outbreak in which workers have gotten sick. Any post-event review of an infectious disease outbreak in which workers have gotten sick must include worker safety experts.

The Seven Oaks outbreak also demonstrates the continuing reluctance of the health system to fully accept the importance of the precautionary principle in worker safety. Until this precautionary principle is fully recognized, mandated and enforced in our health care system, nurses and doctors and other health workers will continue to be at risk from new infections like SARS.

886. North York General Hospital was one of seven hospitals that treated cases.

CHAPTER EIGHT: It's Not About the Mask

Introduction

One of the biggest bones of contention during SARS was the N95,⁸⁸⁷ a respirator that protects much more than a surgical mask⁸⁸⁸ and that was mandated for health workers caring for SARS patients.⁸⁸⁹

Although Ontario law since 1993 required that anyone using an N95 had to be properly trained and fit tested⁸⁹⁰ to ensure proper protection, few hospitals complied with this law. Some medical experts even denied the very existence of this legal requirement.

Fit testing was the subject of official confusion and heated debate.

887. Using highly efficient filtering materials, N95 respirators are one of the nine types of disposable particulate respirators that are independently tested and certified by the National Institute for Occupational Safety and Health in the United States, which is part of the Centers for Disease Control. "The N indicates that the respirator provides no protection against oils and the 95 indicates that it removes at least 95% of airborne particles during 'worst case' testing using a 'most-penetrating'-sized particle." (Yassi, Annalee MD, MSc, FRCPC et al., "Research Gaps in Protecting Health Workers from SARS," *Journal of Occupational and Environmental Medicine* DOI: 10.1097/01.jom.0000150207.18085.41) (Yassi et al, "Research Gaps in Protecting Health Workers from SARS").

888. In this chapter, *respirator* will refer to a respiratory protective device like the N95 that has been independently tested and certified. *Masks* will refer to any respiratory device like a surgical mask or the PCM 2000 that has not been independently tested and certified.

889. The N95 was sometimes required in other areas of hospital even when not caring for SARS patients. As noted below, the provincial directives for the use of the N95 changed throughout SARS and were not always clear or consistent.

890. Fit testing helps users select a respirator that best fits their faces and teaches them how to get a proper seal each time they use respirator, a procedure known as a *seal check*, and how to safely don and doff a respirator. A test verifies that the chosen respirator works properly. There are two types of tests. One is called a *qualitative fit test* and "relies on the user's subjective response to taste odour or irritation." The other is a *quantitative fit test* and "relies on an instrument to quantify the fit of a respirator." (Healthcare Health and Safety Association, *Respiratory Protection Programs* (2nd edition [Toronto: Healthcare Health and Safety Association, 2000]).

This chapter outlines how fit testing and the N95 became lightning rods for all the underlying problems of worker safety in health care.

Respiratory Protection: A Fundamental Worker Safety Issue

The real problem during SARS was not the N95 respirator or fit testing but deep structural contradictions in worker safety in the health care system. This included both embedded resistance within the health care system to worker safety experts and to the Ministry of Labour and Ontario's failure to recognize, as an aspect of health worker safety, the precautionary principle that reasonable action to reduce risk, such as the use of a fitted N95 respirator, need not await scientific certainty.

There were two solitudes during SARS: infection control⁸⁹¹ and worker safety.

Infection control insisted that SARS was mostly spread by large droplets which do not travel far from an infectious person. Given that case, in their view, a surgical mask was sufficient to protect health workers in most situations. Worker safety experts said workers at risk should have the higher level of protection of an N95. They said not enough is known about how SARS is spread to rule out airborne transmission by much smaller particles, and besides, hospitals are dynamic places where unforeseen events and accidents can always happen. Infection control relied on its understanding of scientific research as it stood at the time. Worker safety experts relied on the precautionary principle that reasonable action to reduce risk should not await scientific certainty.⁸⁹²

891. "Nosocomial infections, acquired by patients as a result of receiving health care, are under the purview of IC [Infection Control]" (Health Canada. *Prevention and control of occupational infections in health care: An Infection Control Guideline*. [Ottawa: Health Canada, 2002], p.2).

892. This is a good place to note that Dr. Sheela Basrur, Chief Medical Officer of Health, has taken steps to improve this situation. Only time will tell if these steps are effective. She notes in her letter of March 9, 2006, to Ms. Linda Haslam-Stroud, RN, President, Ontario Nurses' Association:

We recognize the need to ensure that the perspectives of occupational health and infection control receive consideration. In light of this, an occupational health physician is included in the membership of PIDAC and has been sitting on the committee since the inception of PIDAC in 2004. However, we see the importance in continuing to strengthen our links with the occupational health field and a physician delegate from the Ministry of Labour is now also sitting on PIDAC. This highlights our commitment to ensuring that occupational health and safety expertise is brought to the table during all PIDAC deliberations now and in the future. We are confident that building on this approach will assist in ensuring stronger linkages between occupational health and infection control on matters of science.

PIDAC refers to the Provincial Infections Diseases Advisory Committee.

A good illustration of their differences is the controversy over how far large droplets travel from an infectious person. Many infection control experts believe large droplets travel no more than one metre from the infectious person,⁸⁹³ and they use this one-metre rule as a guide for what respiratory protection to wear. Worker safety experts are critical of this rule both on a scientific basis⁸⁹⁴ and as a practical matter. They suggest that even if the one-metre rule could be proven scientifically, it is not realistic or safe in a workplace.

Dr. Diane Roscoe of Vancouver General said:

It is not an easy thing for health care workers to remember. This is a three-metre or this is a one-metre thing, and this is not. And what am I supposed to do.

As a result, said another expert at Vancouver General,

893. To take one of many references, one respiratory protection manual says: "It has been a generally accepted infection control notion, based on epidemiological observations, that diseases spread by large droplets typically are not spread to others via the respiratory tract when more than 1 meter from the source" (Healthcare Health and Safety Association of Ontario, *Respiratory Protection Programs*, 2nd edition, p. 1).

894. See Bob Janssen, MSc, ROH, Senior Policy Analyst, "A Scientific Review – The Influenza Pandemic: Airborne vs. Non-Airborne Transmission and Considerations for Respiratory Protection" Vancouver: Policy & Research Division, WorkSafeBC, December 2005:

One should be aware of the effects of droplet evaporation and the resultant diminution in size of ejected droplets. A 30 μm droplet dries to a 5 μm droplet within seconds under normal indoor air conditions. This means that a large droplet, as it evaporates, will not settle to the ground but become a free-floating entity. This has implications for the 3 foot rule, the basis for infection control precautionary measures, since it is commonly believed that large droplets ejected upon sneezing or coughing will follow Stoke's Law and fall to ground within a 3 foot distance from the person's face. It is evident that it is commonly believed that the 3 foot rule is a division between an unsafe and safe distance.

There is no indication that the 3 foot rule takes into consideration the evaporation factor and the drift factor of airborne droplets, as discussed above. No scientific evidence is offered by WHO, DHHS-CDC, PCAH, or other medical authorities in explaining the rule. If large droplets quickly evaporate to free-floating small droplets, then the 3 foot rule applies only to droplets greater than about 50 – 100 μm in diameter for which there is insufficient time chance for evaporation to take effect before they fall to the ground from a height of 5–6 feet. Free floating small droplets readily go beyond the 3 foot radius. Therefore, if the majority of ejected droplets following a sneeze are evaporated to a size that is free-floating after only seconds in air, the 3 foot rule becomes illogical and not particularly helpful from a disease transmission perspective.

We always start with the highest level of precaution ... We don't use droplet precautions in our hospital, never have, because we've always believed that droplets have been aerosolized so we only have one category, that's airborne, and you always start with the highest level of precaution and then as the clinical situation becomes clearer, you step back on your precautions – and we have found that the easiest for workers to understand rather to try to figure out when to wear a surgical, when to wear an N95, you know, how close am I to the patient, do I need to put on a mask – it's just simpler for them to remember that this patient's got respiratory symptoms, yes, put on an N95, do the appropriate precautions.

Dr. Elizabeth Bryce of Vancouver General said:

Even if you did determine [the distance from the patient] ... like poof, you know you are this distance, you put on a mask and presto, and you step back a foot and you no longer need a mask ... [health workers] are moving in and out of the “danger zone” for sure for droplets. They are in and out when they are in a room. And it is just simply easier for everyone and safer for them to put on some sort of respiratory protection when they step into the room ... You've got the patients moving around and the staff moving around. It is very hard to keep the spatial separation and just – we just feel it is safer too.

The point is not who is right and who is wrong about airborne transmission, nor is it how far large droplets travel. The point is not science, but safety. Scientific knowledge changes constantly. Yesterday's scientific dogma is today's discarded fable. When it comes to worker safety in hospitals, we should not be driven by the scientific dogma of yesterday or even by the scientific dogma of today. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

The debate about respiratory protection and fit testing can be understood only in the context of the heavy burden of disease that fell on hospital workers, paramedics and others who worked in Ontario's health system during SARS. Two nurses and a doctor died from SARS. Almost half of those who contracted SARS in the health system were people who got the disease on the job.

Table 1 – Probable and Suspect SARS Cases Contracted in Health Care Settings⁸⁹⁵

	Phase 1	Phase 2	Total Number of Suspect and Probable Cases	Percentage of Total Number of Cases (375)
Health workers	118	51	169	45%
Patients	23	35	58	15%
Visitors	20	23	43	11%
Total	161	109	270	72%

Most of these workers were nurses whose jobs brought them into the closest and lengthiest contact with sick patients. And this does not show the full burden of SARS on nurses, paramedics and other health workers. Nurses sick with undetected SARS inadvertently brought illness, and in some cases death, home to their families.

Again and again nurses were told they were safe if they would only do what they were told by the health system. Again and again these scientific assurances, though well intentioned and issued in the best of good faith, turned out to be tragically wrong.

It is no wonder that nurses became alarmed when they saw their colleagues sicken and die. It is no wonder that they became angry when they saw such incidents recur again and again with no apparent improvement in their safety.

As SARS continued and more health workers fell ill, the resulting justified lack of confidence in health care safety systems fuelled a heated debate about the need for the N95 respirator and for the safety requirement that workers be fit tested and trained in its use.

Some infection control experts argued in good faith that the fit testing law was ill advised; that N95 respirators were not needed because SARS was droplet spread, not airborne; that the Provincial Operations Centre was wrong to require fitted N95s; and that nurses would be safe if they followed the advice of their employers instead of the safety procedures required by law.

Nurses pushed back with understandable heat, saying that hospitals should follow safety laws. Nurses took the reasonable position that if hospitals did not obey the law,

895. Dr. Colin D’Cunha, presentations, SARS Commission Public Hearings, September 29, 2003.

then the Ontario Department of Labour should fulfill its enforcement mandate and make them do so.

This is not the place to enter into that acrimonious debate. Nurses are angry, with good reason, that so many got sick and that safety laws were not respected or enforced. It must be noted that the experts who campaigned against the N95 and fit testing undoubtedly acted in good faith, doing what they believed was in the best interests of health workers and the health system. It would be too easy to personalize this debate and point out that some of those who most vociferously oppose the N95 and fit testing, and who were most disdainful of nurses and independent safety experts who prefer precaution, were the very people on whose watch nurses became sick despite the assurances that they were safe. Whenever someone presides over a system that fails and then leads a campaign against greater precaution, it is easy to forget that there are bigger issues at stake, more important things than arguing over who is right and who is wrong.

Scientific uncertainty and scientific debate can go on forever. We do not need a personalized debate or further recriminations. What we do need is a common-sense approach to worker safety in hospitals coupled with a measure of scientific humility in light of the terrible and sometime fatal failures in scientific advice and hospital safety systems during the SARS outbreak. What we need to do is to follow the precautionary approach that reasonable steps to reduce risk need not await scientific certainty. It is better to be safe than sorry.

The only way to make nurses and other health workers safe is to transcend the turf wars that hampered the fight against SARS. These turf wars continue even after SARS proved that hospital safety systems failed to protect workers.

On the one hand, some experts believe that in the face of a still relatively unknown disease like SARS, you can avoid a precautionary approach, start with the lesser protection of a surgical mask and ramp up to an N95 if and when it's needed.

On the other hand are independent safety experts like those in British Columbia, which stopped SARS in its tracks, like those from the Centers for Disease Control and NIOSH and like those from the Ontario Department of Labour say, who that experience dictates a common-sense precautionary approach, starting with a higher level of protection that is reduced as the clinical situation is clarified.

Until this precautionary principle is fully recognized, mandated and enforced in Ontario's hospitals, workers will continue to be at risk.

Airborne and Droplet Transmission

At the heart of the mask debate is the question of airborne transmission. Is SARS spread mostly by large droplets? What is the risk of airborne transmission?

It is instructive to set the stage for the story of the N95 with a nutshell description of how SARS is transmitted from person to person.

Droplets from the breath of an infected person can contaminate surfaces and articles on which they land:

Viable organisms may survive long enough in droplets deposited on environmental surfaces to contaminate the hands of caregivers and then be further transmitted.⁸⁹⁶

Objects thus contaminated are called *fomites*. Fomite transmission occurs when an infectious droplet contaminates a fomite (the surface on which it lands) and is then spread by the hand of someone who touches it.⁸⁹⁷

A study of the Toronto outbreak looking at environmental contamination in SARS outbreak units detected SARS on frequently touched surfaces in rooms occupied by patients with SARS (including a bed table and television remote control) and in a nurses' station used by staff (on a medication refrigerator door).⁸⁹⁸ SARS has been found to remain stable for 24 to 48 hours in urine, 36 hours on plastic surfaces, 72 hours on stainless steel and 96 hours on glass surfaces.⁸⁹⁹

Droplet transmission, the primary mechanism for the spread of SARS, occurs when

896. Healthcare Health and Safety Association of Ontario, *Respiratory Protection Programs*, 2nd edition, p. 1.

897. Fomites have been defined as "objects, such as clothing, towels, and utensils that possibly harbor a disease agent and are capable of transmitting it" (U.S. Army Medical Research Institute of Infectious Diseases, *Medical Management of Biological Casualties Handbook*, 4th edition: U.S. Army Medical Research Institute of Infectious Diseases, 2001], p. A-5; and as "articles that convey infection to others because they have been contaminated by pathogenic organisms. Examples include handkerchief, drinking glass, door handle, clothing and toys." Last, John M. Last, *A Dictionary of Epidemiology*, p. 72.

898. T.F. Booth, B. Kournikakis, N. Bastien, et al., "Detection of airborne severe acute respiratory syndrome (SARS) coronavirus and environmental contamination in SARS outbreak units," *Journal of Infectious Diseases* 191 (2005):1472-77 (Booth et al, "Detection of airborne severe acute respiratory syndrome (SARS)).

899. World Health Organization, *Consensus Document on the Epidemiology of Severe Acute Respiratory Distress Syndrome* (Geneva: WHO, 2003), p.29.

large droplets are transmitted to a paramedic, nurse, doctor, visitor or family member from an infected person's respiratory tract by coughing, sneezing or even normal breathing.⁹⁰⁰ They are too small to see but are heavy enough to fall quickly to the ground and can be breathed in by someone in close proximity to the infectious person. Close personal contact is thus required for droplet transmission.

At the smallest end of the scale are droplet nuclei, so tiny and light that, depending on the conditions, it is thought that they can remain suspended in the air for several hours,⁹⁰¹ and can also:

travel considerable distances in the air and may be readily inhaled into the lung.⁹⁰²

In some cases, it is believed that large droplets can themselves become droplet nuclei:

Larger droplets that are dispersed into fairly dry air can actually begin to "dry out" and become droplet nuclei.⁹⁰³

Diseases spread by droplet nuclei or evaporated droplets are generally considered to infect others through airborne transmission.

Airborne transmission, associated with diseases like measles, chickenpox and smallpox, occurs when droplet nuclei or evaporated droplets from an infected person remain suspended in the air. These nuclei or droplets may remain in the air for a long time and may also travel through the air to be inhaled a distance away by someone who had no contact with the infected person.⁹⁰⁴

900. "Droplets are ejected from the respiratory tract during coughing, shouting, sneezing, talking, and normal breathing. The size and number of droplets produced is dependant on which of these methods generated the particles" (Dr. Annalee Yassi and Dr. Elizabeth Bryce, *Protecting the Faces of Health Workers: Knowledge Gaps and Research Priorities for Effective Protection Against Occupationally-Acquired Respiratory Infectious Diseases* [Occupational Health and Safety Agency for Healthcare in BC, April 30, 2004], p. 5.

901. Yassi et al, "Research Gaps in Protecting Health Workers from SARS".

902. Yassi et al, "Research Gaps in Protecting Health Workers from SARS".

903. Healthcare Health and Safety Association of Ontario, *Respiratory Protection Programs*, 2nd edition, 2005), p. 2.

904. "Airborne transmission: occurs by dissemination of either airborne droplet nuclei or evaporated droplets (sub micron particles) containing microorganisms that remain suspended in the air for long periods of time. These microorganisms can be widely dispersed by air currents and may be inhaled by persons even when standing a distance away from the source patient" Infection Control Standards Task Force, *Final Report* [Toronto: Infection Control Standards Task Force, December 2003], p. 5.

Research has shown that most viruses are spread through large droplets, only a few through airborne transmission:

... most viruses which cause respiratory and gastrointestinal disease in humans, must be contained in large droplets ... in order to survive outside the body and transmit disease from person-to-person. This includes such common respiratory pathogens as influenza, respiratory syncytial virus (RSV) parainfluenza viruses, the common coronaviruses and others. The notable exceptions are measles, varicella zoster virus (chickenpox) and smallpox[,] which apparently can survive in small diameter droplets or droplet nuclei and can be transmitted by air over long distances.⁹⁰⁵

Although believed to be spread mostly by large droplets, SARS is also transmitted when the droplets become aerosolized through medical procedures like intubation, bronchoscopy⁹⁰⁶ or a type of assisted ventilation known as a BiPap, or bilevel positive airway pressure device.⁹⁰⁷

All these procedures and treatments were used during the SARS outbreak. Almost a quarter of SARS patients were intubated, a procedure that places a tube into the windpipe or trachea to open the airway for oxygen, medication or anesthesia. Because these aerosolizing events were so common in the treatment of SARS, it defies the evidence to dismiss it as simply a droplet-spread disease.

Some scientists say that a mere cough or sneeze can produce airborne viral particles. Dr. Annalee Yassi, one of the country's foremost occupational medical experts, said researchers now know that there is always an airborne component of a cough or a sneeze. A cough or a sneeze never produces just large droplets. She told the Commission:

There is unquestionably some airborne spread even if it's only when people are coughing or sneezing, never mind nebulized and ventilated

905. Protecting the Faces of Health Workers, p. 16.

906. "Bronchoscopy is a test to view the airways and diagnose lung disease. It may also be used during the treatment of some lung conditions" (*MedLine Plus Medical Encyclopedia*, <http://www.nlm.nih.gov/medlineplus/ency/article/003857.htm>).

907. "Bilevel positive airway pressure (BiPAP) delivers a higher pressure on inspiration, helping the patient obtain a full breath, and a low pressure on expiration, allowing the patient to exhale easily. BiPAP is a common choice for neuromuscular disease" *Gale Encyclopedia of Surgery*, <http://www.answers.com/topic/mechanical-ventilation>.

and so on. It's always never purely droplet spread. It's droplet spread that's at least aerosolized in certain circumstances.

The jury is still out on the extent of airborne SARS. A strong current of scientific opinion suggests that the distinction between airborne and droplet transmission is not as clear-cut as some insisted during SARS. A recent study co-written by Dr. Allison McGeer of Mount Sinai concluded:

Accumulating evidence suggests that the distinction between droplet and airborne transmission may not be as clear-cut as previously thought.⁹⁰⁸

The Centers for Disease Control (CDC) agrees that airborne transmission of SARS cannot be ruled out and that N95 respirators should be used:

The transmission of SARS appears to occur predominantly by direct contact with infectious material, including dispersal of large respiratory droplets. However, it is also possible that SARS can be spread through the airborne route. Accordingly, CDC has recommended the use of N95 respirators, consistent with respiratory protection for airborne diseases, such as tuberculosis.⁹⁰⁹

The WHO takes the same position, that the risk of airborne transmission requires the use of the N95:

In view of the possibility of airborne transmission, current guidelines issued by the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) state that health workers should wear N95 masks or higher-level protection during all contact with suspected SARS patients.⁹¹⁰

A Health Canada December 2003 draft agreed with the CDC and WHO, although reluctantly, because it resisted the evidence of airborne transmission:

908. Matthew P. Muller and Allison McGeer, "Febrile respiratory illness in the intensive care unit setting: an infection control perspective," *Current Opinion on Critical Care* 12 (2006):37-42.

909. Centes for Disease Control, *Interim Domestic Guidance on the Use of Respirators to Prevent Transmission of SARS* (Atlanta: CDC, May 3, 2005).

910. Derrick et al., "Protecting healthcare staff from severe acute respiratory syndrome: filtration capacity of multiple surgical masks," *Journal of Hospital Infection* 59 (2005): 365-68.

Currently, N95 respirators or equivalent are recommended by Health Canada, WHO and the CDC for the care of SARS patients even though the evidence shows that SARS is spread by droplet transmission.⁹¹¹

Since SARS, a considerable body of research and scientific opinion suggests it was wise to take a cautious approach and require the N95 respirator.

As one CDC expert told the Commission, in a hospital you never know when one of those aerosol-generated events will happen. That is one of the reasons why the CDC recommends routine airborne protection for SARS:

But in health care facilities, when you have people in, you just don't know sometimes when you're going to have an aerosol-generating procedure happen, and it could happen precipitously. And because of those issues and because of issues like this, we're going to continue to recommend airborne precautions.

Experts who opposed the use of the N95 and fit testing argued that because SARS is largely droplet-spread, the level of respiratory protection didn't matter, as long as health workers wore some kind of respiratory device. Even a surgical mask would do.⁹¹²

It is not contested that a great deal of evidence points to the fact that SARS is usually spread by large respiratory droplets. The important word here is "usually." Highly contagious viruses spread by smaller aerosols have high reproduction numbers, or R_0 .⁹¹³ Measles has an R_0 of 15. Experts expect that a person with measles could pass the disease to roughly 15 others at the start of an outbreak in the absence of prevention measures. SARS's R_0 was about 3. A person with SARS could on average pass the disease to roughly three others at the start of an outbreak in the absence of prevention measures. There were, however, enough super-spreaders, people with a very high viral load who could spread SARS to more than 20 people in some cases,

911. Health Canada, "Infection Control Precautions for Respiratory Infections Transmitted by Large Droplet and Contact Infection Control Guidance If There Is a SARS Outbreak Anywhere in the World, When an Individual Presents to a Healthcare Institution with a Respiratory Infection" (Ottawa: Health Canada, December 17, 2003).

912. SARS Commission Public Hearings, September 29, 2003.

913. The average number of people an infected person can be expected to pass the disease to at the start of an outbreak in the absence of prevention measures.

and super-spreading events like intubations, to prove that every case was not average and many were not.

The WHO consensus document on SARS said:

A basic reproduction number (R0) of approximately 3 is consistent with a disease spread by direct contact or larger virus-laden droplets that travel only a few meters rather than by lighter airborne particles. By contrast, if a disease is transmitted by aerosols, a single person can infect an entire room by coughing, as can happen with measles and influenza.⁹¹⁴

On the worker safety side of the droplet vs. airborne transmission debate were those who took a more cautious approach. Yes, said experts who took this position, all signs point to the fact that SARS is usually spread by large droplets, but we don't know enough about the disease to rule out airborne transmission. With this uncertainty, they suggested, let's be cautious and use the N95.

The two sides were balanced well in the Naylor Report. First:

Given that SARS was being spread primarily via droplets, some informants questioned whether N95 masks were necessary.⁹¹⁵

But then:

Others stressed that the disease should be treated as airborne until more information was available.⁹¹⁶

A leader in the effort to contain SARS in Ontario told the Commission that, despite evidence that SARS was mostly spread by large droplets, he still supported a precautionary approach and the use of N95 respirators:

914. WHO, *Consensus Document on the Epidemiology of Severe Acute Respiratory Syndrome (SARS)*, p. 12.

915. Naylor Report, p. 30.

916. Naylor Report, p. 30. The full quotation reads as follows:

A controversial directive was the requirement that health care workers wear fit tested N95 masks. Neither the fit testing (a complex operation requiring a subject to try various mask designs while a bitter-tasting gas circulates underneath a hood), nor the appropriateness of the N95 standard itself had been fully discussed by the SAC. Given that SARS was being spread primarily via droplets, some informants questioned whether N95 masks were necessary. Others stressed that the disease should be treated as airborne until more information was available.

There isn't enough data reported yet from the SARS outbreaks to really know. There's been some literature published to suggest that an N95 is no more effective with a SARS patient. Let's for argument's sake say, for a regular SARS patient not requiring a high-risk procedure, then a properly worn surgical mask [would be fine], and intuitively if it's droplet, that should be the case.

I'm not comfortable with that yet and I'm not sure why. Maybe it's because my colleagues got sick. Maybe it's because I know the backlash from the providers and the unions. I'd rather from a strategic point of view say let's just keep doing this until all the evidence is in, that we're able to evaluate it properly and then we can back off. I'd rather ... than say maybe we were wrong this time, let's go back to the N95.

Three years after the outbreak, one physician who caught SARS and strongly supports the use of N95 respirators told the Commission that we still don't know enough about SARS:

I mean there are still people who say they were just droplets and even surgical masks should stop the droplets. I am not sure how they got sick then. So it could be that there are things about SARS we don't know.

It was largely on the basis of Toronto's Sunnybrook disaster on April 13, when nine health workers caught SARS, that the CDC decided in favour of the precautionary approach and opted for airborne precautions.

One CDC expert told the Commission:

And it's largely because of this event here, the Toronto cluster – not only this event though: there's also clusters in Hong Kong and elsewhere where people have been wearing droplet-level precautions and still gotten sick.

Now, it's usually an aerosol-generating infection as far as I'm aware. It's always associated with some aerosol-generating procedure of some type. And in Hong Kong, it was the use of aerosized nebulized bronchodilator therapy medications and a bunch of medical students all got sick who were wearing masks.

When you look at the R0, it suggests it's probably not airborne, it's not airborne in the same sense as measles or anything like that. And when you look at epidemiologic links, people down the hallway, around the corner, they're not getting sick. But, in health care facilities, when you have people in, you just don't know sometimes when you're going to have an aerosol-generating procedure happen, and it could happen precipitously. And because of those issues and because of issues like this, we're going to continue to recommend airborne precautions.

Nothing brings home the point of airborne SARS risk better than the May 28 disaster at North York General, when workers caught SARS despite their use of the personal protective precautions they were told would keep them safe. As late as May 28, the lesson of airborne risk had not been learned. A scientific study of the incident said:

In this case, just as in previous cases, either contact, droplet, or airborne transmission might have occurred.⁹¹⁷

The CDC reported this incident in its journal *Emerging Infectious Diseases*. The authors,⁹¹⁸ some of them well-known figures in the SARS outbreak, concluded that the mechanism of transmission of the virus from patient to worker could have been airborne rather than droplet:

Two explanations may account for the transmission observed in this case: 1) an unrecognized breach in contact and droplet precautions occurred, or 2) an airborne viral load was great enough to overwhelm the protection offered by droplet precautions, including non-fit tested N95 disposable respirators. If the last form of transmission was responsible, airborne virus may have been generated by the coughing patient before her cardiopulmonary arrest or due to a "cough-like" force produced by the airway pressures created during asynchronous chest compressions and ventilations using the bag-valve-mask ...

917. M.D. Christian et al., "Possible SARS coronavirus transmission during cardiopulmonary resuscitation," *Emerging Infectious Diseases*, Vol. 10, No. 2, February 2004 (Christian et al, "Possible SARS Coronavirus Transmission").

918. Michael D. Christian, Mona Loutfy, Clifford McDonald, Kenneth F. Martinez, Mariana Ofner, Tom Wong, Tamara Wallington, Wayne L. Gold, Barbara Mederski, Karen Green, and Donald E. Low.

The final line of protection against occupational exposure is protection equipment. The use of N95 respirators offers a level of protection against airborne transmission of SARS. However, for any form of respiratory protection to perform at the level of its full potential, it must be properly fitted to provide an adequate seal. The N95 disposable respirators used by health workers in this instance were not fit tested to ensure an adequate seal. Thus the exact level of protection afforded by the N95 respirators for each person in this case is unknown. Nonetheless, a higher level of respiratory protection should be considered in environments with a potentially very high SARS-CoV load, *such as* that associated with aerosol-generating procedures. [emphasis added]⁹¹⁹

Nothing could show better the scientific reasons for the N95 and for fit testing.

The body of evidence and scientific opinion about airborne SARS is too extensive to discuss in detail here. Reference is made below to evidence that the original transmission of SARS in the Metropole Hotel on February 21, 2003, to Toronto's index case and at least 15 others that may have been airborne,⁹²⁰ to disasters in other countries (like Amoy Gardens in Hong Kong) and to evidence of airborne SARS in a Toronto hospital.

Because of this risk of airborne transmission, Ontario during SARS required workers with close patient contact and sometimes those in other areas of hospital to wear fitted N95 respirators to protect against the risk.

In the context of this risk, the following issues arise:

- N95 respirators and surgical masks
- Ministry of Labour approval
- SARS decision to require N95s
- Confusing directives during SARS
- Failure to train
- Ministry of Labour sidelined
- Confusion: N95 "equivalent"

919. Christian et al, "Possible SARS Coronavirus Transmission".

920. WHO, *SARS: How a Global Epidemic Was Stopped* (Geneva: WHO, 2006), p. 8.

- Was the N95 necessary?
- Was fit testing necessary?

The Difference Between an N95 Respirator and a Surgical Mask

While surgical masks⁹²¹ and their lower-standard cousins, procedure masks,⁹²² have long been used to safeguard health workers, they were originally intended primarily to protect patients.

One study said:

Surgical masks were developed to prevent the wearer's exhaled secretions from contaminating the operative field.⁹²³

Surgical masks, which must meet far less stringent regulatory standards than respirators,⁹²⁴ are believed to offer the wearer some protection.⁹²⁵ But this protection is

921. "Surgical masks ... are of two main types: (1) flat-pleated or duck-billed in shape, conforming to the bridge of the nose with a flexible piece, affixed to the head with two ties and (2) pre-molded conforming to the bridge of the nose with a flexible piece, adhering to the head with a single elastic" National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic* [Washington, DC: National Academy of Sciences, April 2006], p. 16).

922. "Procedure masks are flat/pleated or duck-billed in shape and fasten to the head with ear loops. All procedure masks have some degree of fluid resistance, but they are not required to meet the same standards as surgical masks" (National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic*, p. 16).

923. Yassi et al, "Research Gaps in Protecting Health Workers from SARS".

924. The regulatory approval for surgical masks is far less stringent than that of independently certified N95 respirators There are no minimum standards or standardized testing methods for surgical mask filter efficiency. (WHO, *Avian Influenza, including Influenza A (H5N1), in Humans: WHO Interim Infection Control Guideline for Healthcare Facilities* [Geneva: WHO, February 9, 2006], p. 41).

The U.S. Food and Drug Administration, in approving surgical masks for sale, does not address the fit of the mask, or its effectiveness:

Food and Drug Administration's regulatory requirements do not address the fit of medical masks, which can make the total filtration efficiency of questionable value. Masks approved by the FDA for medical use are designed to be worn by an infected person, health worker or member of the public to reduce transfer of body fluids that may spread infection. (National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic*, p. 32).

limited because a surgical mask doesn't create a tight seal around the mouth and nose of the wearer and always leaves gaps. As one study of respiratory protection explained:

The device is placed over the nose and mouth and held in place by straps placed behind the ears or around the head but more usually around the back of the head and neck. The device fits fairly loosely and a tight seal is not feasible where the outside edge of the mask meets the skin of the face. Most users in the healthcare industry tend to wear surgical masks rather loosely; considerable gaps are usually observed at the peripheral edges of the surgical mask along the cheeks, around the bridge of the nose and along the bottom edge of the mask below the chin.⁹²⁶

The problem with a surgical mask is that not all the air breathed in by a health worker passes through a surgical mask's filtering materials, regardless of the filtering quality of those materials. A recent study by the Institute of Medicine of the National Academies, whose authors included Dr. Allison McGeer of Toronto's Mount Sinai Hospital, said:

The loose fit of most medical masks [i.e., surgical and procedure masks] leaves gaps that could allow substantial contaminant leakage into and from the mask ... Medical masks may be used as barriers against disease transmission by fluids, especially blood, and some large droplets, and they are designed to prevent release to the environment of large droplets generated by the wearer. They are not designed or approved for the

Standard surgical masks are considered a Class II device by the US federal Food and Drug Administration (FDA) which require pre-market sales approval. This means that to obtain approval as an item for sale, the manufacturer must demonstrate to the satisfaction of the FDA that the new device is substantially equivalent to similar masks currently on the market. There is no specific requirement to prove that the existing masks are effective and there is no standard test or set of data required supporting the assertion of equivalence. Nor does the FDA conduct or sponsor testing of surgical masks. Yassi and Bryce, *Protecting the Faces of Health Workers*, p. 17).

925. Health Canada's *Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare* says: "Masks are also worn to protect the HCW from acquisition of infections transmitted by large droplets. Surgical masks are considered adequate for this purpose. It appears logical to use a mask when within 1 metre of a coughing patient" (Vol. 25S4, July 1999, p. 27).

926. Yassi et al, "Research Gaps in Protecting Health Workers from SARS".

purpose of protecting the wearer against entry of infectious aerosolized particles potentially surrounding the wearer and his mask.⁹²⁷

A Toronto physician who was involved in treating SARS patients said:

The trouble with ordinary surgical masks are you lick them and you stick your nose in them and they have big holes in the outside part and so forth. Let's face it, they're a joke. But surgeons use them to this very day. They're cheap and they're comfortable. We still use them. Surgical masks protect mainly the patient.

Studies have shown that surgical masks, because of their inability to create a tight seal, are less effective against smaller droplets and droplet nuclei than N95 respirators. Even wearing as many as five surgical masks does not raise their ability to filter out smaller airborne particles to the level of an N95 respirator.⁹²⁸

Designed to create a tight seal around the mouth and nose of the wearer, an N95 respirator provides a far higher level of protection to the wearer than surgical masks. Respirators rely:

on the breathing action of the user to draw air through the filtering medium. On inhalation a negative pressure is created as the air is drawn through the medium. Respirators of this type are considered tight fitting because they rely on a good seal between the user's face and the respirator itself in order to work properly.⁹²⁹

As one U.S. expert explained to the Commission, masks and respirators are designed for different purposes:

927. National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic*, p. 32.

928. A recent study that examined whether wearing as many as five surgical masks was sufficient protection from the SARS virus concluded: "Our data confirm previous findings that the filtration of submicron-sized airborne particles by a single surgical mask is minimal ... Although greater filtration was afforded by multiple masks, with an approximate doubling in the filtration factor when five masks were worn compared with a single mask, the absolute filtration factor remained low and well below the minimum fit factor of 100 required for a respirator" Derrick et al., "Protecting healthcare staff from severe acute respiratory syndrome," 365–68).

929. Healthcare Health and Safety Association of Ontario, *Respiratory Protection Programs*, 2nd Edition, p. 11.

Masks are meant to protect something else, e.g., a surgical field, or someone else from getting whatever the wearer of the mask may have. They are not designed to protect the wearer of the mask from whatever is floating around in the air. Respirators, on the other hand, are designed to protect the wearer and that's one of the reasons why they need to be form-fitted.

Ministry of Labour Approval

The N95 is part of a family of nine respirators introduced in July 1995 under a new NIOSH standard known as 42 CFR Part 84.⁹³⁰

NIOSH, the National Institute for Occupational Safety and Health, is part of the Centers for Disease Control and Prevention, the U.S. agency responsible for worker safety research, standards, evaluation and education.

Because there is no Canadian agency that tests and certifies respirators, the Ministry of Labour, in regulating workplace safety, often relies on NIOSH. A ministry official said this was the case with NIOSH's new respirator standards:

And we essentially accepted these new [NIOSH respirator] approvals and – and we basically said these are the respirators that we want to see used.

The ministry began to phase in the new standards in 1995. The phase-in period expired in May 1999, after which only new NIOSH-tested respirators would be approved for use. As the phase-in period was expiring, the Ministry of Labour advised:

It is Ministry of Labour policy to continue to accept both the new approved respirators under Part 84 and the old respirators for dusts, mists and fumes, approved under the old Part 11, up until May 10, 1999, as long as the old respirators are in good physical condition and are appropriate for the type and concentration of an airborne contaminant.

930. National Institute for Occupational Health and Safety, "NIOSH change will save healthcare industry millions," news release, August 25, 1995.

After May 10, 1999, Inspectors will issue orders under clause 25(2)(h) of the *Occupational Health and Safety Act* to require the new respirators or filters.⁹³¹

Clause 25(2)(h) of the Act requires that an employer:

take every precaution reasonable in the circumstances for the protection of a worker.

This change in the ministry's respirator standards was also reflected in the Policy and Procedures Manual of the ministry's Operations Division. Section 10.17 of the manual, dated April 1, 2000, said:

In issuing orders for new non-powered air purifying filter/respirators the following wording is suggested:

“Pursuant to section 25(2)(h) of the OSHA, the employer shall ensure that respirators used in the workplace meet the current standards to ensure the workers wearing air purifying particulate respirators for exposure (i.e. state hazard i.e., asbestos, welding fume, lead, silica, etc.) in the (state area or location) are adequately protected.”

The narrative of the report can provide explanatory material such as:

“It is a reasonable precaution to provide respirators approved to the new NIOSH standard referred to as 42 CFR 84 since these new filters are tested to new and more demanding testing requirements than those tested under the old NIOSH approval system. The new testing provides better evidence of the filters' ability to remove airborne particulates and thus the workers will receive better protection from the particulates.”

Before SARS, N95 respirators were not widely used in most Toronto hospitals. Some did stock N95 respirators for use in treating tuberculosis patients. At some other hospitals, however, health workers treating TB cases used respirators that the hospitals felt were equivalent to an N95 even though they were not independently tested and certified. (The issue of equivalency is discussed below.)

931. Ontario Ministry of Labour, “Ministry updates respirator policy for NIOSH approved particulate respirators,” January 18, 1999.

Regardless of what type of respirator their hospitals stocked, most health workers interviewed by the Commission said that before SARS they had never seen an N95 respirator, had never used one and had not been trained in its use either at school or on the job.

The Decision to Require N95s

On the evening of March 26, just hours after the provincial emergency was declared, a critical meeting was held at the Provincial Operations Centre (POC). With the outbreak gathering momentum, the men and women who led the fight against SARS decided what measures, including respiratory protection, were needed to contain the new disease.

The atmosphere among the attendees, who included Drs. Jim Young, Colin D'Cunha and Sheela Basrur, was understandably tense. One participant recalled the mounting concern over the worsening situation:

I got paged late Wednesday night and asked if I would come down to the emergency centre because they were going to, now the province was involved. People were very upset that things, we were hearing stories now not only about people coming back to Scarborough Grace Hospital unwell but people were arriving in other emergency departments around the city sick, so it was no longer confined to Scarborough Grace Hospital but now patients were showing up at Scarborough General, at North York, at Centenary, and so things were kind of ... we did not have a handle on what was going on.

SARS was spreading so fast that it overwhelmed efforts to trace the contacts of SARS patients and find out where the infection was coming from and where it was going. No one knew how far it had spread in Toronto. No one knew where it was spreading. Dr. Don Low said:

We recognized that we had lost control, that we were not able to identify patients.⁹³²

932. Interview with Dr. Donald Low in *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science 2* (2004) (Dr. Low – Biosecurity and Bioterrorism Interview).

Amid this uncertainty, it was clearly evident from the devastating outbreak at Scarborough Grace that health workers were terribly vulnerable to the new disease and that the health care system had failed thus far to protect them.

As Table 2 below indicates, of the initial 128 SARS cases at Scarborough Grace, 47, or 37 per cent, were staff at the hospital, and seven, or 6 per cent, were non-hospital health workers, including EMS personnel. At least eight members of health workers' households were also infected. The disturbing bottom line: of the 128 cases, 62, or 48 per cent, were either staff at the hospital, other health care workers or members of health workers' households.⁹³³

Table 2 – SARS Cases at Scarborough Grace Hospital⁹³⁴

Contact Setting	Number	Percentage of Total Cases (128)
Hospital – Staff	47	18%
Patients	18	37%
Visitors	14	14%
Other health workers	7	6%
Close contacts	38	30%
Total number of health workers and members of their households	62	48%

If health workers were this vulnerable, no one appeared to be safe.

The fact that SARS had infected so many health workers led those trying to contain the Scarborough Grace outbreak to conclude that more protection was needed. Heightened precautions implemented at Scarborough Grace in late March included the requirement that all health workers use N95 respirators:

Following the initial investigation, contact and droplet precautions were implemented for all patients in ICU on March 22, and the ICU and

933. Varia et al., "Investigation of a nosocomial outbreak of (SARS)"

934. Varia et al., "Investigation of a nosocomial outbreak of (SARS)"

emergency department were closed on March 23. On March 24, following the identification of staff and patient cases not linked to the ICU or emergency department, the hospital was closed to admissions, outpatient clinics were closed, and discharged patients were placed into quarantine at home for 10 days. Along with an increased emphasis on hand-washing, additional precautions, including the use of gowns, gloves, N95 or equivalent masks, and eye protection, were implemented for all patient care, and single or negative-pressure rooms were used for all febrile patients. Dedicated equipment was used for all patients, and patients were restricted to their rooms except for medically necessary tests. Staff wore N95 masks at all times in the hospital.⁹³⁵

In the face of a new, unknown disease, and mindful of the experience of Scarborough Grace, provincial officials decided on March 26 that affected health workers outside of Scarborough Grace also needed the higher protection of N95 respirators.

Dr. James Young told the SARS Commission public hearings that the decision was taken from a precautionary approach:

We chose, for means of protection, to use the N95 mask. We believed from the beginning that it was droplet-spread, but we believed, until we were more certain, that we should use the more protective N95 mask.⁹³⁶

One expert told the Commission that officials decided to err on the side of caution:

Even then we started talking N95. If I remember correctly that Wednesday night, we started because we did not know how this thing was transmitted and we assumed the worst, which is the right thing to do, and that's why N95s. Either that night or the next, the decision was made to buy every N95 in North America. We bought out the market by the weekend.

Dr. Low said:

In the early days, that's what kept me awake at night: the thought that we would always be remembered as the epicentre for a new endemic disease

935. Varia et al., "Investigation of a nosocomial outbreak of SARS"

936. SARS Commission Public Hearings, September 3, 2003.

which eventually would find its way across North America. But early on, we didn't know how it was transmitted. We couldn't say that it wasn't airborne-transmitted. And therefore we assumed the worst and made the decision. We were going to require that everybody in the city wear an N95 mask in a health care facility.⁹³⁷

N95s Were Hard to Wear

It quickly became evident that health workers would have a difficult time doing their jobs while using an N95.

Respirators were uncomfortable to wear, restricted human interaction (an important part of patient care) and added significantly to health workers' workloads. One study of the experience of health workers during SARS said:

Wearing a mask was the precaution most frequently cited as most bothersome ... The most commonly cited difficulty with the mask was physical discomfort (92.9% [1588/1710] of respondents).⁹³⁸

The ONA survey found:

Over 70% of respondents experienced some side effects from the use of PPE [personal protective equipment], including: headaches, shortness of breath, facial rash, fatigue, dizziness, and others.⁹³⁹

The ONA and OPSEU told the Commission public hearings that wearing N95 respirators for a long time caused fatigue, probably because of reduced oxygen intake.

One health worker told the Commission:

We had it on for our whole 12-hour shift, right? We changed our masks, our gloves, our gowns, everything, but you were donned, except on break time, in this, and the thirst and the fatigue was phenomenal that we went

937. Dr. Low Biosecurity and Bioterrorism Interview.

938. L. Nickell et al., "Psychosocial effect of SARS on hospital staff: survey of a large tertiary institution," *CMAJ* 170 (2004): 793-98.

939. Hay Group, "Nurses' Perspective on the Outbreak of SARS in Toronto" (March 2006), p. 10.

through. We were so tired and so listless.

Another health worker said:

Question: So it was very hot?

Answer: It was very uncomfortable and I remember we had a cardiac arrest and I ended up being the one that was doing the chest compressions and I had never been so hot in my entire life, thinking, how did I manage to get this job?

A third health worker simply said:

I was very uncomfortable in it – you can't breathe through these fibre-glassy things.

The ONA and OPSEU told the Commission public hearings that pregnant workers especially noted fatigue because their breathing was already restricted by the pressure from the growing fetus:

The mask restricts breathing and increased carbon dioxide levels. The mask restricts successful exhalation because, as you exhale, the air containing carbon dioxide is trapped in the mask and then you breathe it in again.⁹⁴⁰

The Registered Nurses Association of Ontario told the Commission:

Nurses complained about a constant burning irritation of the throat, tightness in the upper chest, headaches, allergic skin reactions, swollen lips and tongue, dizziness, lethargy, sleep disorders and the exacerbation of other health problems such as asthma. Some nurses reported that they could taste and feel the fibres from the mask and were concerned about long-term implications of prolonged mask use.⁹⁴¹

During and after SARS, some experts in and out of government used the discomfort of wearing an N95 as an argument against a precautionary approach.

940. SARS Commission Public Hearings, November 17, 2003.

941. SARS Commission Public Hearings, November 17, 2003.

In the words of one health workers' union, these experts argued that "personal protective equipment is uncomfortable and difficult to put on" and that this was a reason not to use respirators. Representatives of health workers say their members accept the discomforts of wearing N95 respirators if it means they are protected. As one union stated:

A day in the life of a health care worker is replete with all varieties of discomfort. While health care workers (like all workers) would prefer not to wear respirators, they are prepared to adjust to discomfort when necessary to make the very air they breathe safe for themselves and safe to pass on to patients and family. Firefighters, steelworkers, chemical workers and others have for decades routinely crouched in cramped, confined spaces for hours at a time, dragged down by much heavier respiratory protection than the N95 respirators ... Given information and training about hazards and the need for respiratory protection, all workers tolerate the discomfort.⁹⁴²

It is hard to argue with the union's point of view.

N95 Respirators and POC Directives

Comfortable to wear or not, the N95 respirator, with its recognizable, face-hugging shape and its frequent media use to illustrate the outbreak, came to symbolize the battle to contain SARS.

For health workers, along with being the source of much discomfort, the N95 respirator was also the subject of a great deal of confusion over who should wear an N95, where it should be worn and how it should be properly used.

Unclear directives were a significant cause of this uncertainty.

Issued by the POC, directives were meant to ensure that measures to contain the outbreak were based on the best expert advice and were consistently applied. While there is no doubt that directives on N95 respirators were at times confusing, those who prepared the directives made a remarkable effort under pressure. From a standing

942. ONA letter to Premier McGuinty, December 15, 2005.

start they helped to create a system that in the end stopped SARS. The wonder is not that there were problems with the directives. The wonder is that these dedicated men and women were able to produce from nothing a system that did the job.

When the March 26 decision was made to mandate the use of N95 respirators, for example, experts like Dr. Low stayed up late into the night to craft appropriate directives. Dr. Low recalled:

That night we sat down and came up with policies and procedures that we sent to all the hospitals the next morning.⁹⁴³

Directives on N95 respirators were at times confusing because of the massive systemic weaknesses that hampered efforts and capabilities. Those preparing the directives did the best they could under difficult circumstances with insufficient resources, infrastructure and planning. One expert involved in preparing directives recalled:

Whatever information we had, we then issued new orders and directives as to how we thought hospitals should react. And the kinds of questions that were thrown at us, when the volume I likened to taking a shower in Niagara Falls. It was colossal, and we had to set rules as to how many people were allowed in to interrupt us ... We were so short of infectious disease human intellectual resources, that the people who were in Toronto were either quarantined or were themselves struggling with maintaining their own hospitals.

Regardless of the reasons for the directives' failings, reality is that on many occasions the directives did not provide sufficient advice to health workers, their supervisors or their employers.

Consider the first hospital directive issued by the POC on March 27. It required only staff in emergency departments and clinics to wear N95 respirators:

All staff in GTA [Greater Toronto Area] and Simcoe County hospital emergency departments and clinics to wear protective clothing (gloves, gown, eye protection and mask – N95 or equivalent).

943. Dr. Low Biosecurity and Bioterrorism Interview.

Yet, as ONA and OPSEU noted in their joint submission to the SARS Commission, workers in the rest of the hospital were not required to take any special precautions:

This distinction between what protection was recommended for which groups of workers in the same facilities arose again and again throughout the crisis. Both unions were constantly trying to establish which areas were required to wear what personal protective equipment (PPE) and why.⁹⁴⁴

Problems with the March 27 directives appeared to have been addressed in the next few days, when two new directives extended the use of respirators to all health workers in affected facilities. On March 29, 2003, a POC directive to acute care hospitals in the GTA and Simcoe County required the wearing of an N95 respirator or equivalent by “all staff when in any part of the hospital,” “for hospital staff who are required to visit a patient care unit” and “for direct patient contact.” And on March 31, 2003, the requirement was extended to long-term care facilities in a directive that said:

All GTA/Simcoe County staff must invoke gown, glove, N95 mask (or equivalent), and eye protection precautions and cohort nursing protocols, whether or not they have identified possible SARS patients.

In a matter of days, new directives had a different message.

Directives on April 1, 2003, and April 3, 2003, appeared to require health workers to wear N95 respirators only in SARS patients’ rooms and for direct contact with any patient in intensive/critical care units or emergency departments.

ONA and OPSEU noted in their joint submission to the SARS Commission:

One example of such a change is found in two consecutive Directives for Acute Hospitals. The March 29 Directive for All Acute Hospitals in the GTA/Simcoe County required that “All staff when in any part of the hospital ... Use an N95 (or equivalent) mask (ensure mask is fit tested).” The April 1 and 3, 2003 Directives to All Ontario Acute Care Hospitals (which replaced the March 29 Directive above, and others) required staff to wear an N95 mask in SARS patients’ rooms, and for direct

944. OPSEU/ONA Joint Report on Health & Safety Matters Arising from SARS, November 2003, pp. 4-5 (ONA/OPSEU Joint Report).

contact with any patient in Intensive/Critical Care Units or Emergency Departments.⁹⁴⁵

The April 1, 2003, POC directive to all Ontario acute care hospitals said:

All HCWs and staff entering the room of a SARS patient in ANY location ...

Use an N95 mask

—

For direct contact with any patient in Intensive/Critical Care Units or Emergency Departments HCWs must ...

Use an N95 mask

—

Patients with suspected or probable SARS must be placed in single isolation rooms, or cohorted with other SARS patients and treated using contact, and respiratory precautions. N95 masks, or equivalent, must be worn by anyone entering the room.

The April 3, 2003, POC directive to all Ontario acute care hospitals said:

All HCWs and staff entering the room of a SARS patient in ANY location ...

Use an N95 mask

—

For direct contact with any patient in Intensive/Critical Care Units or Emergency Departments HCWs must ...

945. OPSEU/ONA Joint Report, p. 8.

Use an N95 mask

Patients with suspected or probable SARS must be placed in single isolation rooms, or cohorted with other SARS patients and treated using contact, and respiratory precautions. N95 masks, or equivalent, must be worn by anyone entering the room.

Health workers undoubtedly felt like yo-yos, told one thing one day, another the next, by the people who, acting in good faith, were supposed to keep them safe in a dangerous workplace.

The ONA and OPSEU noted in their joint submission that the confusion caused by the directives helped to undermine the confidence of health workers in the system that was supposed to protect them:

If workers throughout a facility are required to wear certain personal protective equipment (PPE) one day, and the next day only workers in the Emergency department are required to wear this PPE, and there is no explanation or rationale offered, it is difficult to be confident that every precaution is being taken to protect the health of our members.⁹⁴⁶

The uncertainty over who should wear an N95 and where they should wear them was exacerbated by the fact that the N95 was a completely new piece of protective equipment for most health workers.

An Ontario Nurses' Association (ONA) survey of its members⁹⁴⁷ found:

Only 5% of respondents had been fit tested and/or trained and instructed in the care, use and limitations of PPE (personal protective equipment) before SARS.⁹⁴⁸

946. OPSEU/ONA Joint Report, pp. 7-8.

947. The independent Hay Group summarized the survey's results for the Commission. The complete Hay Group report is available in Volume 2 of the Commission's final report.

948. Hay Group, "Nurses' Perspective on the Outbreak of SARS in Toronto" (March 2006), p. 8.

Since so few health workers had been taught how to properly use this new piece of protective equipment before SARS, health workers and their employers and supervisors were particularly reliant on the guidance of POC directives.

The directives were not only confusing, but during the early part of the outbreak they also lacked sufficient detail. For the first month and a half of the outbreak, the POC directives failed to explain in sufficient detail how to properly apply and remove an N95 respirator.

As the ONA and OPSEU said in their joint submission:

On April 20, for the first time detailed direction was given on matters such as ... procedures such as applying personal protective equipment, removing personal protective equipment ...

These directives offer the first concrete evidence that the POC had begun to recognize that employers, supervisors and workers did not understand how to implement the previous Directives. It is surprising that in an acute hospital setting accustomed to caring for patients with infectious diseases, that such detail was necessary.⁹⁴⁹

Directives issued on April 20, 2003, detailed procedures for applying and removing personal protective equipment.⁹⁵⁰ Directives issued a few days later, on April 24, 2006, provided more detailed instructions.⁹⁵¹

949. OPSEU/ONA Joint Report, pp. 10-11.

950. Procedure for removing protective equipment on exit from the room:

While still inside the room:

- Remove gloves
- Remove gown (discard in linen hamper in a manner that minimizes air disturbance)
- Decontaminate hands with alcohol hand wash; do NOT use patient bathroom to wash hands
- Leave room, bag specimens, etc.

After leaving the room:

- Use alcohol hand wash again
- Remove face shield/fluid shield and discard
- Remove N95 mask. Remove hair cover
- Use alcohol hand wash again
- Put on new hair cover, N95 mask and gown
- At least once per hour, wash hands at nearest hand washing sink to remove residue from alcohol hand wash and reduce skin irritation

But by then, more than six weeks into the outbreak, dozens and dozens of health workers and members of their households had already contracted SARS, including two who were to die from it.

Confusing directives hindered the ability of health workers to protect themselves. Confusing directives hindered the ability of their employers and supervisors to know exactly what respiratory protections were needed to protect their employees. And confusing directives undermined the faith of health workers, their employers and their supervisors in the recommendations of those in charge of the fight to contain SARS.

An important lesson from SARS is that during a public health emergency, directives on respirator protective equipment need to be clear and complete. They need to be

951. Routine procedure for applying personal protective equipment prior to entering patient room:

- Wash hands (do NOT use patient washroom to wash hands)
- Put on a disposable hair cover
- Put on a face shield. Use either a surgical mask with attached face shield (“fluid shield”) over the N95 mask or a full-face plastic shield.
- Put on 2 pairs of gloves

While in the patient room:

- Remove first pair of gloves after providing direct patient care
- Keep second pair of gloves on for remainder of stay in the room

Routine Procedure for removing protective equipment on exit from the room:

While still inside the room:

- Specimens to be placed in a clean specimen bag using a two person transfer method
- Remove second pair of gloves
- Remove gown (discard in linen hamper in a manner that minimizes air disturbance)
- Use alcohol hand rinse; do NOT use patient bathroom to wash hands

Just prior to leaving or immediately after leaving the room:

- Use alcohol hand rinse again
- Remove face shield/fluid shield and discard
- Remove N95 mask and discard
- Remove hair cover and discard
- Use alcohol hand rinse again
- Put on new N95 mask or equivalent and gown
- At least once per hour, wash hands at nearest hand washing sink (but NOT in a patient washroom) to remove residue from alcohol hand wash and reduce skin irritation

developed before the emergency strikes and not made up from scratch after it begins. They need to be developed in concert with all workplace parties to ensure that they are accurate, are consistent with worker safety laws and best practices, can be understood and will work.

Lack of Training

It was bad enough that directives, at least during the first part of the outbreak, often lacked sufficiently detailed information. What made things worse was the lack of training.

The ONA members' survey found that 44 per cent of respondents felt that during the SARS outbreak there either was not enough training on the proper use of personal protective equipment or they didn't know.⁹⁵²

Many health workers interviewed by the Commission were not taught how to use N95 respirators when first required to use them. Often they were not properly taught until they were fit tested, which typically happened only long after the outbreak.

The following are representative of health workers' comments to the Commission:

Question: And did anybody ever show you how to use it properly? Was there any training?

Answer: No. I just looked at the box and put it on the way the box said to put it on.

—

I really did not receive any formal training on the use of the equipment. You were pretty well [told] there's equipment there, you figure out yourself how to put it on. And certainly the missing piece with me was that I didn't have any formal training in how to remove it properly.

952. Hay Group, "Nurses' Perspective on the Outbreak of SARS in Toronto" (March 2006), p. 9.

—

Answer: There were no instructions on the memo [provided by the employer] for how to put on an N95 mask. Actually, I didn't know there was a way to put it on until after.

Question: And I guess you didn't know that there was a way to take it off?

Answer: Right. The memos did say in what order to take your gear off, like one set of gloves and then the next, but it didn't say specifically how.

—

Question: Were you – at some point were you fitted for your mask?

Answer: Yes, I was.

Question: When was that, in the fall ... Was it after the second outbreak, or after the hospital shut down?

Answer: After the hospital shut down.

Question: And prior to your fitting, when you started wearing the N95 mask, did anyone give you training and education on how to properly apply the mask and how to make sure you get a proper seal?

Answer: No

—

But what we didn't have was – the first day [was] anybody [who] taught us how to really put those masks on. So we didn't know whether we were putting them on properly or not.

—

Question: Did you get training on how to properly don the equipment, how to properly remove the equipment, how to properly put your masks on. Did you get any of that in the first part of SARS?

Answer: No.

—

Question: So, you just go in and get a mask and you're expected to figure out how to use it properly and that's the complete extent of the training of the personal protection equipment, really?

Answer: Until, yes.

Question: Until the fit test?

Answer: Well, no. Because I guess somebody shows you once, you start talking to people and they tell you, fit it here and somebody else you work with has been already been shown.

Question: Right. But was there a formal [training] – like someone come around that [provided formal instruction]?

Answer: No, there's a little pamphlet that came in the box of them when you got the first ones that basically told you what to do.

—

Question: And had you at that point [i.e., during the SARS outbreak] been given any instructions on how to properly wear a mask?

Answer: No.

—
Question: And were you given any in-service training on how to properly put the equipment on and take it off?

Answer: Oh, not till far, far later. Months after.

—
Question: You had said that you were not fit tested prior to that.

Answer: No.

Question: But you have been since?

Answer: Yes.

Question: And did someone show you [during the fit testing process] the proper way to put on that respirator, that mask?

Answer: Yes.

Question: During SARS, prior to you being fit tested, were you shown how to put it on?

Answer: No.

—
Question: How did you know how to put that N95 on initially?

Answer: It's from colleagues.

Question: Prior to the fit testing taking place, did anybody ever give you training on how to properly apply your mask, how to get a proper seal.

Answer: Training? I don't remember any training.

—
Answer: We weren't given an official in-service until the middle of the second SARS.

Question: And who did that for you?

Answer: You know what, I'm not really sure. Someone in regards to the education, like the nurse educator and stuff. We thought it was kind of ridiculous because, you know, at this point, we'd been through the first SARS and halfway through the second.

In cases where health workers were taught to use N95 respirators during SARS, health workers on day shifts in some cases appeared to have a greater chance of getting trained than their colleagues on nights.

One nurse said:

Professional practice leader came – it was the second day – came up to the unit, and they had signs, and it showed you the appropriate way to don and take off your garb, which we put outside the rooms. I said to her, this is great that we have this, but the staff's coming on at 7:30 [in the evening], are you going to be able to come back and explain all this to them? And she said to me, oh no, can't you do that?

Another nurse had a similar experience:

Question: So, there wasn't an educator that came on the unit and [provided formal training]?

Answer: That's my big issue. There is no education except for Monday to Friday. Basically 9:00 to 5:00, sometimes in the evening. So, if you do permanent night shift you have absolutely no education for off-hours.

Question: Mostly occurred Monday to Friday during the day shifts?

Answer: Yes. And I brought it up over and over. Nursing is

24/7. They need to be accommodating, especially when most of the staff are nurses, for night shifts, somebody needs to be coming in at nights for in-services and education, and it just doesn't happen.

Less attention also appeared to have been paid to training medical residents and fellows. One physician told the Commission:

There were no training sessions for the residents or the fellows. I think there were training sessions for the nurses and I think there were for the staff physicians, but there weren't for the residents and the fellows, which is – the reason for that is because resident and fellows rotate between hospitals and it is harder for the infection control service to capture them, but at the same time, it is a bit of a deficiency because residents and fellows have a lot of hands-on with patients.

As an indication of the consequences of poor training, some health workers told the Commission they were not told a good seal could be jeopardized by facial hair or by inserting something between the skin and the respirator.

An occupational safety consultant told the Commission that respirators work properly only if there is direct contact between the face and the respirator:

What the intent is, you need to have a proper seal. And what is a proper seal? A proper seal is there can be nothing such as beard growth, or beard or, you know, even face deformities fall into this. You've got to be able to have skin-surface-to-respirator contact. So as long as you've got that contact and it allows you to feel the negative pressure within your respirator, then there's absolutely no reason why it wouldn't be safe.

One health worker with a beard who caught SARS despite his unfitted N95 had never been told that the N95 required a tight fit around the face. When asked if he had been given any instructions, he said no:

Answer: No, I was never given any instructions.

Question: Did you get that when you were fit tested?

Answer: Yes.

Question: And was there anything that you learned that you weren't doing at the time or ...?

Answer: Yes. In regards to ensuring a seal between the mask and the face. I was not doing that at the time in 2003.

A respiratory protection manual said:

Facial hair can prevent a good seal between the skin and the respirator. Therefore, employees required to wear tight fitting respirators should be required to be clean-shaven where the respirator seals to the face unless there is a specific medical or religious reason for facial hair. In these cases, the employee can be reassigned to a position that does not require the use of a tight fitting respirator.⁹⁵³

Another health worker who caught SARS more than two months into the outbreak placed facial tissue between her skin and her N95 because of an allergic reaction to the respirator. She told the Commission:

Question: Do you know who you contracted SARS from?

Answer: I'm assuming it was [names patient].

Question: And you recall wearing a mask with her.

Answer: I had to shove Kleenex in it so it wouldn't touch my skin because I had an allergy to it. So I was wearing a mask, but I doubt it was in any way effective.

A hospital assistant who caught SARS in late May 2003 wore a surgical mask under his N95 respirator, unaware that inserting something between the respirator and the face can prevent a tight seal.

Question: But with this particular patient, you said you had on two masks.

953. Healthcare Health and Safety Association of Ontario, *Respiratory Protection Programs*, 2nd edition, p. 31.

- Answer: Two masks.
- Question: Which one did you put on first?
- Answer: First I put that one [surgical mask] and the second one I put that [N95].
- Question: Indicating the surgical mask first and then the one that sticks out [N95]. Do you know what the second one was? Do you know what kind of mask that was?
- Answer: They are two colours, one was white [surgical mask], one was grey like this [N95] ... but I was using only white because it's a little bit bigger and it would fit over my nose.
- Question: Now, have you ever been fit tested for an N95 respirator?
- Answer: No, I don't remember that ...
- Question: And did anyone show you how to put on that top mask [N95]?
- Answer: Yeah, the nurse told me that you have to put like this first [surgical mask] and then comes this [N95] and put it on. Or she will put it on for me because I was very attached with that nurse up to now.
- Question: Prior to SARS, were there occasions where you would wear two masks?
- Answer: If it is very serious, the patient. Otherwise it is usual we put the mask on like that.
- Question: And would you always wear the surgical mask and then the other mask [N95] over the top?
- Answer: Not always. When the patient is very serious and if they were ... the patient was, then we wear two. Otherwise my one mask is fine.

To send a man like this into SARS without training does not reflect well on the way the health care system protected its workers.

Another health worker also told the Commission that she wore a surgical mask underneath her N95 until she found out that that ruined the seal. Luckily, she did not contract SARS.

Lack of training underlay most problems. Very few hospitals had a respiratory training program to ensure that workers when called upon to use the N95 were properly trained and fitted as required by law. Respirators can become hazards if not worn properly and can spread infection if not removed properly after contact with a sick patient.

Once SARS struck there was little time to correct years of neglect and bring training up to speed. But even then more could have been done to ensure that hospitals knew about the training and fit-testing requirements and did their best to train up quickly and efficiently.

An important lesson from SARS is that safety training needs to be in place before emergency strikes. Once an emergency strikes, the emergency response and directives should include a requirement for whatever training is urgently needed to protect responders.

Ministry of Labour and Respiratory Protection

No safety device will protect a worker if he or she does not know how to use it properly. A medical study has noted:

Previous efforts to improve infection control in the hospital and elsewhere have demonstrated that the efficacy of an intervention does not guarantee its success. The best respirator or medical mask will do little to protect the individual who refuses to wear it or who does not use it correctly.⁹⁵⁴

To ensure protection, Ontario law requires employers to train and supervise workers in the proper use of safety equipment.

954. National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic*, pp. 39-40.

Section 10 of Ontario Regulation 67/93 requires:

10. (1) A worker who is required by his or her employer or by this Regulation to wear or use any protective clothing, equipment or device shall be instructed and trained in its care, use and limitations before wearing or using it for the first time and at regular intervals thereafter and the worker shall participate in such instruction and training.
- (2) Personal protective equipment that is to be provided, worn or used shall,
 - (a) be properly used and maintained;
 - (b) be a proper fit;
 - (c) be inspected for damage or deterioration; and
 - (d) be stored in a convenient, clean and sanitary location when not in use. O. Reg. 67/93, s. 10.

Section 27 (1) of the Occupational Health and Safety Act requires:

27. (1) A supervisor shall ensure that a worker,
 - (a) works in the manner and with the protective devices, measures and procedures required by this Act and the regulations; and
 - (b) uses or wears the equipment, protective devices or clothing that the worker's employer requires to be used or worn.

During SARS, the health workers who wore a surgical mask underneath their respirator, stuffed facial tissue underneath their respirator or wore the respirator over a beard cannot be faulted. They had not been trained, as required by law, on the proper use of respirators. None of their supervisors, as required by law, appeared to notice that respirators were not worn properly. That so many health workers were not properly trained, supervised or equipped reflects a deep systemic problem in the health care sector. Before and during SARS, much of the health care sector were unaware of the personal protective equipment requirements of Ontario work safety laws.

As a senior health administrator with significant experience in other sectors told the Commission:

I can draw the conclusion from my 30-odd years of working in various industries, and I think that hospitals would be less aware of occupational health and safety at that time [i.e., during SARS] than what I found in other industries.

If there was a general lack of awareness of worker safety regulations among hospitals, provincial officials did little to remind them of hospitals' legal obligations during much of the outbreak.

The March 29, 2003,⁹⁵⁵ and March 31, 2003,⁹⁵⁶ directives contained nonspecific references to fit testing (i.e., "ensure mask is fit tested," and "masks must be fitted appropriately"), but these were insufficient for a health care system that was largely unaware of both fit testing and the fact that it was a legal requirement. It was not until May 13,

955. The March 29, 2003, POC directive to GTA and Simcoe County hospitals said:

For all staff when in any part of the hospital ...

Use an N95 (or equivalent) mask (ensure mask is fit tested)

For hospital staff who are required to visit a patient care unit ...

Use an N95 mask (ensure mask is fit tested)

For direct patient contact ...

Use an N95 mask (ensure mask is fit tested)

956. The March 31, 2003, POC directive to GTA and Simcoe County long-term care facilities said:

All GTA/Simcoe County staff must invoke gown, glove, N95 mask (or equivalent), and eye protection precautions and cohort nursing protocols, whether or not they have identified possible SARS patients ...

Note: N95 masks must be fitted appropriately

POC directives to GTA and Simcoe County community care access centres:

Full protocol precautions for staff

Invoke gown, glove, N95 mask (or equivalent), and eye protection precautions and cohort nursing protocols, whether or not they have identified possible SARS patients.

Masks and gowns may be reused but must be changed:

- Following contact with a SARS patient
- When wet or soiled

N95 masks must be fitted appropriately

2003, that the POC first issued directives⁹⁵⁷ explicitly reminded health care institutions of their legal duties regarding N95 respirators and other personal protective equipment. All six directives issued that day contained the following language:

Personal protective equipment must be properly used and maintained consistent with the Occupational Health and Safety Act Reg. 67/93 s.10. N95 or equivalent masks must be qualitatively fit tested to ensure maximum effectiveness. (See NIOSH website at www.cdc.gov/niosh - Publication No.99-143).

These requirements had been in place as a feature of Ontario safety law since 1993, but many hospitals officials told the Commission they become aware of this only on May 13, 2003.

Provincial labour officials also did too little to ensure that worker safety regulations were enforced.

As noted elsewhere in this report, despite the large number of health workers who got SARS, the Ministry of Labour was largely on the sidelines. Reminders to employers of their worker safety obligations were not issued until late in the outbreak, and the Ministry of Labour, unlike its counterpart in B.C., did little during most of the SARS outbreak to ensure that employers were aware of and were meeting their statutory duties.

The Ministry of Labour conducted no proactive inspections of SARS hospitals in March 2003. During that month, nearly half of the SARS cases in the initial outbreak at Scarborough Grace were either health workers or members of their households, and six health workers at Mount Sinai also caught SARS.

Despite the events at Scarborough Grace and Mount Sinai in March 2003, the Ministry of Labour conducted no proactive inspections of health care settings with SARS patients in April 2003. Yet, during that month, the list of health workers contracting SARS grew. Affected hospitals included Mount Sinai, York Central, Sunnybrook and North York General.

957. On May 13, 2003, the POC issued six directives: Directive to Ontario Healthcare Providers in Community Settings and Community Healthcare Agencies (Excluding Community Care Access Centres); Directive to all Community Care Access Centres; Directive to all Ontario Non-Acute Care Facilities; Directives to all Ontario Acute Care Facilities; Directives to all Ontario Acute Care Hospitals for High-Risk Procedures Involving SARS Patients Critical Care Areas; Directives to all Ontario Prehospital Care Providers and Ambulance Communications Services.

Nor did the Ministry of Labour conduct proactive inspections in May 2003, when the second phase of the outbreak began. None was undertaken until June 12, 2003, in the face of a growing number of health worker complaints and work refusals. By that time virtually all 51 health workers⁹⁵⁸ who caught SARS during the second phase of the outbreak had become infected.

It cannot be proven that health workers caught SARS because of unclear and confusing directives, because they were not trained or because the Ministry of Labour did not enforce worker safety regulations.

But SARS did demonstrate the importance of meticulous attention to worker safety measures. As one study found:

Experience from Hong Kong suggested that infection among “protected” health workers was related to how well the precautionary measures were used. In a case control survey, they found no infection in staff using complete precautionary measures, whereas infected staff had omitted at least one of the precautionary measures.⁹⁵⁹

A key lesson from SARS is that while health workers needed to pay meticulous attention to their respiratory protection, the lack of clear directives, the lack of training and the lack of enforcement found during SARS made that task difficult and sometimes impossible.

No hospital or nursing home can be totally safe. They cannot even begin to be safe if workers are not properly trained and supervised in their use of safety equipment and if the government does not enforce its own safety laws.

Confusion over N95 Equivalent Respirators

It should have been crystal clear to health workers what type of respirator would protect them against SARS. Instead, as the ONA nurses' survey found, this was often not the case:

53% of respondents experienced confusion about which masks would provide the necessary protection.⁹⁶⁰

958. Dr. Colin D'Cunha, presentation to the SARS Commission Public Hearings, September 29, 2003.

959. Philip W. H. Peng et al., “Infection control and anesthesia: lessons learned from the Toronto SARS outbreak,” *Canadian Journal of Anesthesia* 10 (2003) 984-97.

960. Hay Group, “Nurses' Perspective on the Outbreak of SARS in Toronto” (March 2006), p. 6.

Part of this uncertainty was because instead of specifying that only N95 respirators were to be used, the directives required N95 or equivalent respirators. The term “equivalent” was open to interpretation.

To worker safety experts like Dr. Gabor Lantos, the term “equivalent” was puzzling. Dr. Lantos told the SARS Commission:

They are still talking about N95 masks or equivalent. As an engineer, I don't know what an equivalent is. It's either an N95 or it's better.⁹⁶¹

Many in the health system interpreted “equivalent” to mean masks with the same manufacturer's specifications as an N95 but which had not been independently tested and certified. One such device was the PCM 2000 mask. (As noted above, we will use the term *respirator* to describe only respiratory protective devices that have been independently tested and certified.)

A health worker who got SARS told the Commission that his hospital haphazardly provided a variety of respiratory protective devices, including N95s and PCM 2000s, without differentiating between them:

Question: ... do you have a sense of what different kinds of respirators and masks were potentially used?

Answer: There were for sure many N95 masks but also duckbill masks [i.e., PCM 2000] as well and, unfortunately, it seems very haphazard what in fact is put outside each individual patient's room. The little trolleys and dollies outside every room, and it's really, as I say, an assortment of equipment but not always standardized ...

This doctor noted the problem:

Question: What do you understand to be the difference between an N95 respirator and other forms, such as duckbilled or surgical mask?

Answer: Okay, so my understanding was that the N95 mask had been certified to filter out 95 per cent of the aerosol

961. SARS Commission Public Hearings, November 18, 2003.

particles. The duckbill mask [i.e., the PCM 2000] is one step below that but better than the ordinary surgical mask and in, with tuberculosis for instance, if the patient wears a duckbill mask and the health practitioner wears a duckbill mask, the risk of transmission is almost zero. What is not known is with a viral infection whether the duckbill mask offers any protection or not. I must say at the time, my recollection is that [his health care institution] said, yeah, use the N95, but it wasn't like no, but the fact that there were duckbill masks available suggests that, you know, that may be good enough. You don't have to have an N95.

During SARS, there was a wide divergence of opinion over what constituted an N95-equivalent respirator.

On one side were Health Canada, the Ministry of Health and Long-Term Care and experts at some major Toronto teaching hospitals who believed that an N95-equivalent respirator did not need to be independently tested and certified.

This was Health Canada's position:

4. Health Canada recommends wearing an N95 mask or equivalent. What does "equivalent" mean?

It should be noted that NIOSH is an American agency, and there is no equivalent agency in Canada which certifies masks for industrial use. N95 masks have been tested and certified by NIOSH. For more information on NIOSH, testing and certification, visit <http://www.cdc.gov/niosh/homepage.html>

Health Canada recognizes that many institutions and other health settings may not use N95 masks that are NIOSH approved, and considers masks fulfilling the following requirements as the "equivalent" to NIOSH certified N95 masks:

- Filter particles one micron in size or smaller
- Have a 95% filter efficiency
- Provide a tight facial seal (less than 10% leak).

5. Are N95 masks considered an "equivalent" to the TB masks?

Yes, NIOSH approved N95 respirators/masks or equivalent meet and exceed the TB mask criteria.

If your health care facility masks meet the filter and fit criteria of #4 (above), they can be considered equivalent to TB masks.⁹⁶²

An April 11, 2003, document prepared by the Ministry of Health and Long-Term Care and entitled “Questions and Answers” took a similar position:

Q3. Are the PCM 2000, P-95 and R-95 masks equivalent to the N95 mask?

A3. Yes.⁹⁶³

An article by Toronto experts in the *Canadian Journal of Anesthesia* contained in a footnote the following description for a PCM 2000 mask:

N95-equivalent mask ...⁹⁶⁴

An article published in a British medical journal in June 2003 and written by three experts at a major Toronto teaching hospital also appears to suggest that the PCM 2000 is equivalent to an N95:

As a result of the transmission of SARS to health workers, N95 (or equivalent) masks are currently mandatory in Toronto for all medical personnel. They fulfill the filtering efficiency criteria of the National Institute for Occupational Safety and Health (NIOSH) N95 standard by protecting against droplet and airborne transmission of 95% of particles greater than 0.3 microns in size. These masks will offer a high degree of protection against the contact and droplet spread of the coronavirus. The N95 masks should be fit tested using an appropriate “fit test kit” according to the manufacturer’s instructions. The PCM 2000 Tuberculosis masks meet the N95 filtration criteria and fit the majority of wearers adequately. They do not require routine fit testing. N95 masks can be worn continuously for 8 h whereas PCM 2000 masks can only be worn continuously for 4 h.⁹⁶⁵

962. Health Canada, “Infection Control Guidance for Respirators (Masks) Worn by Health Workers – Frequently Asked Questions – Severe Acute Respiratory Syndrome (SARS),” revised 2003-06-05.

963. http://www.health.gov.on.ca/english/providers/program/pubhealth/sars/docs/qa_041103.pdf

964. “Intubation of SARS patients: infection and perspectives of health workers,” *Canadian Journal of Anesthesia* 53 (2006).

965. “Anaesthesia and SARS,” *British Journal of Anaesthesia*, 90 (2003).

Experts at another major teaching Toronto hospital took a similar position, suggesting that PCM 2000 masks, even though they were not NIOSH approved, were the equivalent of N95s because they had the same technical specifications. One expert at this hospital told the SARS Commission:

... because we didn't know what we were dealing with, so we went with an N95-equivalent mask, which had been our mask for TB ... for decades. The brand is PCM 2000 masks, and they're N95-equivalent. They're not NIOSH-approved masks, but they have the same filtration ... The manufacturer would tell us what filtration the mask has ...

This infection control expert noted that PCM 2000 masks met Health Canada's guidance:

We were confident in them, and they were widely used across Canada, and Health Canada had no problems with those masks.

The Ministry of Labour took a very different position on what was equivalent to an N95. It told the Commission that it accepted the term "equivalent" in directives because this allowed health workers to also use the protection of higher-rated NIOSH-approved respirators like the N99 or N100.⁹⁶⁶

One ministry official told the Commission:

Now, if somebody uses an N99 or an N100, they are equivalent and would provide even higher protection.

This approach was reflected in a document that the Ministry of Labour prepared for its staff, which appears to have been issued in early April:

Problem: Refusal to work with or serve a patient, client or inmate with possible SARS and symptoms e.g. fever, cough, history of travel or contact with confirmed SARS case, in healthcare setting or in corrections facilities.

Solution: Health care facilities and corrections facilities must implement the infection control measures required by MOHLTC and public health units. These include gloves, gowns, **N95 or better respirators**, eye protection, hand-washing facilities, plus the appropriate training and respirator fit testing.⁹⁶⁷ [emphasis added]

966. The minimum efficiency of each tested filter is to be greater than or equal to 99.97% for N100 filters and 99% for N99 filters.

967. Document entitled "SARS Scenarios" which was attached to a copy of the Ministry of Labour's SARS protocol which it provided to the SARS Commission in the course of its submission at the public hearings.

Ministry of Labour officials told the Commission that they would have preferred to have seen the phrase “N95 or better” in the directives. But the directives continued to refer to “N95 or equivalent.”

The Ministry of Labour said it would not, without appropriate independent testing, accept the manufacturer’s specifications as being sufficient proof that a respirator was equivalent to one certified by NIOSH.

During SARS, the Ministry of Labour was asked whether a European-approved respirator was an N95 equivalent. At the time, there was concern about supplies of N95 respirators and officials wondered if there might be appropriate substitutes in Europe. A Ministry of Labour official consulted with NIOSH, learned that the European test was less rigorous than NIOSH’s and was told NIOSH would accept the European respirator only if it passed its own tests.

This official told the SARS Commission:

So the question is: Is that equivalent?

Now, certainly at the Ministry of Labour, we don’t have a laboratory that’s testing respirators, approving respirators. We don’t have people that are doing the research and so we’re going to rely on NIOSH.

And if NIOSH had said to us their professional opinion is it is equivalent, then we would have considered making a statement to say we’ve done some research, we consulted with an expert in the field and we have concluded that, you know, it is equivalent or it is adequate.

And NIOSH was being very, very careful. And the position that NIOSH was taking is that the efficiency is not the same and certainly the European respirator was less efficient.

Now the only way NIOSH would be willing to make a comment would be if [the manufacturer] would submit their respirator to NIOSH, have it go through the N95 approval testing and if it met the criteria then they would be issued, I guess, approval as an N95.

The debate over what was an equivalent respirator continued after SARS.

On March 3, 2004, one Toronto hospital wrote to the Ministry of Labour after it had issued an order requiring the hospital to provide health workers with NIOSH-approved respirators, and not the PCM 2000:

Further to our discussion, our Infection Prevention and Control department wanted to get clarification on the MOL order regarding change to “N95 or better” in our policies.

- Can you indicate the specific regulation or standard that is the basis for the MOL requirement that N95 is the minimum protection and other masks without the N95 under the NIOSH criteria are not acceptable e.g. PCM 2000
- Can you provide the evidence that supports the MOL's requirement

On March 23, 2004, the Ministry responded:

The inspector's order gives the regulatory requirement. The contravention is of the compliance order issued.

The CSA Standard Z94.4-02 Selection, Use and Care of Respirators G4.3.1, page 67, indicates there are three filter efficiencies for non-powered particulate removing respirators (95%, 99% and 99.97%) and one efficiency for powered air-purifying respirators (99.97%). A P100 respirator has better filter efficiency than an N95 and is acceptable for use. A powered air-purifying respirator with a 99.97% efficient filter also has better filter efficiency than a N95.

The CSA Standard Z94.4-02 Selection, Use and Care of Respirators 2.1, page 1, indicates an accepted respirator to be a respirator tested and certified by procedures established at testing and certification agencies recognized by the authority having jurisdiction. The Ministry of Labour, as that authority, recognizes NIOSH testing and certification. The N95 respirator or respirator with better filter efficiency must be tested and certified by NIOSH.

There are several reasons the Ministry of Labour recognizes NIOSH testing and certification:

1. Assurance that the respirator/filter has met a recognized standard of efficiency.
2. Assurance of consistent quality since manufacturers of NIOSH approved respirators must submit to NIOSH a quality assurance plan.
3. Assurance that in the event of a serious problem being identified NIOSH has the power to issue a stop sale order to the manufacturer.
4. For respirators that are not approved by a recognized testing and certification agency such as NIOSH, the Ministry does not have the same assurance of quality and performance.

While undoubtedly acting in the best of good faith and with the best of intentions, it is surprising that so many experts took the position during and after SARS that a PCM 2000 is equivalent to an N95. In an age when independent testing is the norm in so many product areas, from the crash worthiness of automobiles to the safety of household appliances, it seems remarkable that anyone in charge of health worker safety would be content to rely solely on the manufacturer's specifications without independent certification.

By not providing NIOSH-certified and -tested respirators, employers accepted a lower standard of protection. Regrettably, they also appeared to place greater reliance on advice from Health Canada, a federal agency with no jurisdiction over Ontario workplaces, than on the higher standards of protection required by the provincial ministry in charge of worker safety in Ontario.

An important lesson from SARS is that in any health emergency, the Ministry of Labour must be actively engaged from the start to ensure adherence to safety standards and to ensure that there is no confusion in the workplaces over what equipment is required to protect workers.

Evidence of Airborne Transmission

During SARS, there were multiple episodes of transmission that could not be readily explained by droplet spread alone, and there were episodes and situations where airborne transmission appears to have been involved in transmission.

In the Amoy Gardens housing complex in Hong Kong, cases appeared rapidly in several different apartment buildings in manner atypical of contact or droplet transmission.⁹⁶⁸

Spread to health workers in Toronto during aerosol-generating procedures, including endotracheal tube intubation or bronchoscopy,⁹⁶⁹ is another example where airborne transmission has been invoked during nosocomial spread.

The pattern of spread of SARS associated with sick patients travelling on aircraft suggests that airborne transmission could have occurred during the flights.⁹⁷⁰

Another example is the super-spreader event at the Hotel Metropole, when at least 16 people, including the index cases in Toronto, Vancouver, Singapore, Hanoi and Hong Kong, were infected in February 2003.

According to the World Health Organization:

Professor LJJ's infected body fluids must have been aerosolized, as indicated by the traces on the inlet of the elevator lobby fan. Anyone who stepped out of the 9th floor lift [i.e. elevator] shortly after the event would have been exposed, while those who walked past room 911 [i.e.,

968. I.T.S. Yu, Y. Li, T.W. Wong, et. al., "Evidence of airborne transmission of the severe acute respiratory syndrome," *New England Journal of Medicine* 350 (2004): 1731-390 (Evidence of airborne transmission of SARS Article).

969. M. Ofner, M. Lem, S. Sarwal, M. Vearncombe, A. Simor, "Cluster of severe acute respiratory syndrome cases among protected health-care workers" – Toronto, Canada, April 2003," *MMWR* 52 (2003): 433-436; D.C. Scales, k. Green, A.K. Chan, S.M. Poutanen, D. Foster, et. al., "Illness in intensive care staff after brief exposure to severe acute respiratory distress syndrome," *Emerging Infectious Diseases* 9 (2003): 1205-10.

970. W.H. Seto, D. Tsang, R.W. Yung, et. al., "Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of SARS," *Lancet* 361 (2003): 1519-20 (Seto et al, "Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of SARS")

the index patient's room] may have been at risk for a longer period. Presumably, by morning there was no longer any viable virus, or else staff had quickly disinfected the area without becoming exposed. It certainly appears that only those who were on the 9th floor that night were at risk. Thus, the "miracle" of none of the hotel staff getting SARS could simply have been due to their not having been exposed to the virus.

The rooms in the hotel, atypically, were pressurized; so infected aerosols could not have entered from the corridor. The WHO team dismissed theories that the virus was transmitted through elevators, door handles, or handrails. "In this hotel, these are unlikely scenarios," the report [by the WHO team of Health Canada experts] said, "because other guests would have made similar contacts, and indeed, staff would have had intense exposure risk. Staff who served the subject floor did not get infected."

The contamination occurred in the corridor of one wing of one floor, and never moved up or down the building or endangered people inside their rooms.⁹⁷¹

The single most dramatic spread of SARS was the Amoy Gardens outbreak. More than 300 people in four separate Hong Kong buildings caught SARS. Airborne spread was at first dismissed as the likely transmission mechanism as opposed to:

person-to-person spread, contamination of communal facilities (such as elevators) and thus indirect contact transmission, and problems with sewage disposal resulting in fecal-oral transmission.

A later study⁹⁷² suggests airborne transmission as the likeliest explanation. This research says it is likely that the exhaust fan in bathroom of the index cases drew aerosols (generated by coughing or flushing virus-laden stool in toilets) from the bathroom into common building airshafts. These aerosols would rise with the warm humidified air currents and be transmitted to the residents in upper levels of the apartment complex. Natural wind currents likely then permitted the spread to other buildings as the contaminated air plume left the building of the index case. This

971. WHO, *SARS: How a Global Epidemic Was Stopped* (Geneva: WHO, 2006), pp. 147-48.

972. Evidence of Airborne Transmission of SARS Article.

theory is supported in a mathematical model. On this basis, airborne transmission appears to provide the single best mechanism explaining the varied attack rates in the different floors and buildings within the Amoy Gardens complex.

Some experts regard this as a landmark study because it provides a fresh perspective on the droplet-versus-airborne debate. They suggest the initial Amoy Gardens investigation did not seriously consider airborne transmission because of the current bias in favour of the large-droplet theory.⁹⁷³

Noting that research into airborne transmission has been neglected, some researchers suggest SARS provides an opportunity to critically re-evaluate how respiratory diseases are spread:⁹⁷⁴

The SARS epidemic provides an opportunity for the critical reevaluation of the aerosol transmission of communicable respiratory diseases. Prevailing thought has focused on determining whether an infectious agent has “true” airborne transmission. We find it more useful to classify the aerosol transmission of diseases as obligate, preferential, or opportunistic, on the basis of the agent’s capacity to be transmitted and to induce disease through fine-particle aerosols and other routes ...

There are probably many diseases with opportunistically airborne transmission – infections that naturally cause disease through other routes

973. “In the official investigation, airborne transmission was not seriously considered, because the current paradigm, as initially described by Charles Chapin in 1910, supports the belief that most communicable respiratory infections are transmitted by means of large droplets over short distances or through contact with contaminated surfaces” (Chad J. Roy and Donald K. Milton, “Airborne transmission of communicable infection – the elusive pathway,” *New England Journal of Medicine* 350 [April 22, 2004], www.nejm.org) (Roy, and Milton, “Airborne transmission of communicable infection – the elusive pathway”)

974. Roy, and Milton, “Airborne transmission of communicable infection — the elusive pathway”:

What underlies the low repute of airborne transmission today? First, the two diseases whose aerosol transmission is most widely acknowledged, measles and tuberculosis, have been largely controlled through vaccination or drug therapy. As a result, the impetus to understand the aerobiology of infectious diseases has faded. Second, contamination of water, surfaces, and large-droplet sprays can be easily detected. It is difficult, however, to detect contaminated air, because infectious aerosols are usually extremely dilute, and it is hard to collect and culture fine particles. The only clear proof that any communicable disease is naturally transmitted by aerosol came from the famous experiment by William Wells, Richard Riley, and Cretyl Mills in the 1950s, which required years of continual exposure of a large colony of guinea pigs to a clinical ward filled with patients who had active tuberculosis.

(e.g., the gastrointestinal tract) but that can also initiate infection through the distal lung and may use fine-particle aerosols as an efficient means of propagating in favorable environments. For all three classes of diseases that are communicable through aerosols, the agent must be capable of initiating infection, with some reasonable probability, by means of a small dose delivered to the lung in a single airborne particle.

The current analysis of the outbreak at Amoy Gardens suggests that SARS has at least opportunistically airborne transmission.⁹⁷⁵

Two more recent studies also suggest the possibility of airborne spread in hospital wards. One examined a nosocomial outbreak in a Hong Kong hospital.⁹⁷⁶ The other detected the presence of the SARS virus in the air in the room of a SARS patient in Toronto:

Severe acute respiratory syndrome (SARS) is characterized by a risk of nosocomial transmission; however, the risk of airborne transmission of SARS is unknown. During the Toronto outbreaks of SARS, we investigated environmental contamination in SARS units, by employing novel air sampling and conventional surface swabbing. Two polymerase chain reaction (PCR)-positive air samples were obtained from a room occupied by a patient with SARS, indicating the presence of the virus in the air of the room. In addition, several PCR-positive swab samples were recovered from frequently touched surfaces in rooms occupied by patients with SARS (a bed table and a television remote control) and in a nurses' station used by staff (a medication refrigerator door). These data provide the first experimental confirmation of viral aerosol generation by a patient with SARS, indicating the possibility of airborne droplet transmission, which emphasizes the need for adequate respiratory protection, as well as for strict surface hygiene practices.⁹⁷⁷

975. Roy, and Milton, "Airborne transmission of communicable infection — the elusive pathway."

976. "The analysis of the temporal-spatial spread of SARS from the index case patient to other inpatients in the ward suggested that airborne spread through virus-laden aerosols possibly played an important role. Unlike other reports of airborne outbreaks, we were unable to document the existence of the infective agent in aerosols. Such documentation was simply impossible in early March 2003, when the infective agent was yet to be identified. SARS was unlikely a communicable disease with obligate airborne transmission, such as tuberculosis, but there was evidence to suggest that SARS could have at least opportunistic airborne transmission under special circumstances when virus-laden aerosols could be generated" (I.T.S.Yu et al., "Temporal-spatial analysis of severe acute respiratory syndrome among hospital inpatients," *Clinical Infectious Diseases* 191 (2005):1472-77.

977. Booth et al., "Detection of airborne severe acute respiratory syndrome (SARS), 1472-77.

An editorial that accompanied the article noted:

Airborne transmission of the severe acute respiratory syndrome (SARS) coronavirus (CoV) has been the favored explanation for its transmission on an aircraft and appeared to explain a large community outbreak of SARS in the Amoy Gardens in Hong Kong. The article by Booth et al. in this issue of the *Journal of Infectious Diseases* suggests that airborne dissemination of SARS-CoV may also occur in the health-care setting. A patient with SARS who was breathing quietly but coughing occasionally in a hospital room contaminated the surrounding air with SARS-CoV, as shown by experiments conducted during the SARS outbreak in Canada in early 2003.

Several viruses and other pathogens, such as *Mycobacterium tuberculosis*, have been shown to be transmitted by airborne dissemination. However, the possibility of airborne dissemination of SARS-CoV has been controversial. The important work by Booth et al. has shown beyond doubt that SARS-CoV aerosol generation can occur from a patient with SARS ...

Because none of the SARS-CoV cultures were found to be positive and host infection was not involved, the authors rightly avoided drawing a conclusion of airborne *transmission* of SARS-CoV. Definitive proof of transmission will need to come from experiments similar to those performed by Riley et al. in the 1950s, which involved exposure of guinea pigs to air shared by patients with active pulmonary tuberculosis. In vitro viral culture tests may not be sensitive enough for this purpose. However, if SARS-CoV is naturally airborne (produced by breathing and coughing), as was shown by Booth et al., then there is sufficient concern that it can be transmitted successfully by air ...⁹⁷⁸

Were N95 Respirators More Protective than Surgical Masks?

Despite the evidence of airborne SARS, and despite the fact the N95 was specified by Ontario and the CDC and the WHO for protection against SARS, doubts remained that these safety precautions had been proved necessary beyond a scientific doubt.

978. Tommy R. Tong, "Airborne severe acute respiratory syndrome coronavirus and its implications," *Journal of Infectious Diseases* 191 (2005).

Health Canada said:

International SARS studies have not shown a difference in efficacy between surgical masks and N95 respirators in preventing transmission of the SARS coronavirus. Recommendations will be reviewed as further evidence emerges.⁹⁷⁹

Two studies of how health workers got SARS, one by a Hong Kong team led by Dr. W. Seto⁹⁸⁰ and another in Toronto led by Dr. Mark Loeb,⁹⁸¹ suggest no substantial benefit to wearing a surgical mask over an N95 respirator.

Citing those studies, one expert told the SARS Commission:

You have to go back to the early days. So there's some stuff from Hong Kong that were published in *The Lancet* in May. And there is some data out of the Scarborough Grace hospital from, particularly, in their intensive care unit from very early in the outbreak before they realized what they were dealing with. And it looks at nurses in the ICU there and what personal protective equipment they used and whether they were protected or infected. The things that fall out of that as being statistically significant are if you put on a mask consistently, and it did not matter much if it was an N95 mask or surgical mask, and did some hand hygiene consistently, and there is similar kind of data from Hong Kong.

Despite the opinion of this expert and others, there is no consensus on the conclusions that can be drawn from these two studies.

A Vancouver team of researchers who conducted a major study on respiratory protection commissioned by the Ontario Hospital Association's Change Foundation acknowledged the importance of these two studies, but also pointed to their shortcomings:

979. Health Canada, "Infection Control Precautions for Respiratory Infections Transmitted by Large Droplet and Contact Infection Control Guidance If There Is a SARS Outbreak Anywhere in the World, When an Individual Presents to a Healthcare Institution with a Respiratory Infection," December 17, 2003.

980. Seto et. al., "Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of SARS".

981. M. Loeb, A. McGeer, B. Henry, et. al., "SARS among critical care nurses, Toronto," *Emerging Infectious Disease* 10 (2004): 251-55.

Seto and colleagues showed that wearing any mask was protective against SARS in a case-control study of 13 HCWs [health care workers] who developed SARS and 241 controls who did not. Regularly wearing gowns was protective in univariate analyses, but only mask (surgical or N95) use was significant in the multivariate analysis.

The conclusions from this study must be viewed with caution because of the small number of cases and because the study excluded HCWs from one hospital with a large outbreak where exposure to aerosolizing procedures was likely.

In another study, Loeb et al. constructed a retrospective cohort of 43 intensive-care unit nurses from Toronto. Eight of the 32 nurses who had direct contact with a patient with SARS later developed SARS themselves. Regular use of N95 respirators and surgical masks was associated with protection from SARS when compared with irregular or no mask or respirator use ... There was a trend toward increased protection from the N95 respirators in comparison with surgical masks, but this was not statistically significant. Again, the number of cases limited the power of this study.⁹⁸²

Experts who questioned the value of N95 respirators over surgical masks also pointed to the fact that SARS was controlled in Vietnam without their use:

Although a great deal of attention was focused on the need for N95 respirators or even respiratory protection with higher protection factors, it is also worth noting that in Vietnam, N95 respirators were not available until the third week of the outbreak. However, this did not prevent Hanoi from becoming the first affected jurisdiction to effectively control SARS; masks and barriers with spatial separation were thought to be the key control factors.⁹⁸³

Vietnam did indeed control SARS despite an initial lack of N95 respirators. But as Table 3 indicates, Vietnam also had the highest percentage of health workers among its SARS cases.

982. Yassi et al., "Research gaps in protecting health workers from SARS."

983. Yassi et al., "Research gaps in protecting health workers from SARS."

Table 3 – Comparison of Percentage of Health Workers Who Got SARS in Ontario and in Other Jurisdictions⁹⁸⁴

Jurisdiction	Number of HCWs Who Caught SARS	HCW Cases as Percentage of Total Cases
Vietnam	36	57%
Ontario	169	45%
Singapore	97	41%
Hong Kong	386	22%
Taiwan	68	20%
China	1,002	19%

The fact that N95s were not used at first in Vietnam, where 57 per cent of those who got SARS were health workers, hardly supports those who campaign against the N95.

The debate over whether N95 respirators were really necessary for routine patient care is actually two separate debates. The first is whether it was the right decision to require the N95 in late March 2003, during the difficult early days of the outbreak. The second is whether, in hindsight and with the benefit of all the scientific research to date, the decision can be seen in a different light.

It is difficult to fault the early decision to require the use of N95 respirators. The officials who led the response to SARS were taking a prudent approach in the face of a mysterious new disease. As Dr. James Young told the SARS Commission public hearings:

... we were dealing with an outbreak where we did not know for sure that it was a virus, we did not know for certainty what virus it was, we did not know what symptoms and what order of symptoms SARS presented with.

We had a vague idea that some of the symptoms might include fever and cough. We did not, for example, for some period of time, realize that

984. WHO SARS Summary, July 31, 2003; Ontario data is from the Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearings, Sept. 29, 2003.

about 30 per cent of patients also could produce – present with diarrhea. We did not know how long it incubated for. We did not know with certainty whether it was droplet-spread or whether it was airborne. We did not know when it was infectious. We did not have a diagnostic test for it and still do not have an accurate diagnostic test. We had no way of preventing it, we had no vaccine and we had no treatment.

What we had was an illness with many unknowns and virtually no knowns.⁹⁸⁵

Knowledge about SARS was slow in coming, whether it was about how it spread or how far it had in fact spread.

Dr. Young told the SARS Commission's public hearings:

... it's not like a forest fire which, in and by itself, can be difficult enough to control, but if I want to know the size of a forest fire, I can get above the forest fire, see where it is and build a barrier so that the forest fire does not jump over that barrier, and even if it does, I may be able to have a series of smaller fires I can put out.

The theory in controlling something like SARS is the same, but the difficulty and the problem is, I have no idea where it is. I only know where it was 10 days ago and I have to not only catch up that 10 days, I must get further ahead.⁹⁸⁶

To take Dr. Young's analogy further, if you don't know where an outbreak currently is, you don't know in real time if it's expanding or contracting. You also don't know in real time whether your current containment efforts, including levels of respiratory protection, are working.

Under these circumstances, and in view of the initial scientific uncertainty over SARS, provincial officials cannot be faulted for taking a better-safe-than-sorry approach to worker safety and respiratory protections by mandating the use of N95 respirators.

Now, with the benefit of post-SARS scientific research and the arguments of those

985. SARS Commission Public Hearings, September 30, 2003.

986. SARS Commission Public Hearings, September 30, 2003.

who opposed in good faith the use of the N95, can this decision still be questioned in hindsight?

Much remains unknown about SARS and about our understanding of how respiratory infections are spread. Research since the outbreak has shed some light on SARS and its mechanisms of transmission. The research shows how little was known during the outbreak and how much remains unknown even now about this new disease.

As noted above, knowledge about how SARS is transmitted has evolved significantly since the outbreak. Some recent studies suggest that it may be spread by airborne transmission. These studies lend further weight to taking a prudent precautionary approach to the protection of health workers against a new disease whose method of transmission is not fully understood.

In addition to all the research that suggests a risk from airborne transmission, there is another important reason to remain cautious about how SARS is transmitted and thus to require a higher level of protection than just a surgical mask.

One senior occupational medical expert suggested that the high number of health workers who got SARS is itself reason enough to use higher levels of respiratory protection:

Clearly the high morbidity and mortality associated with SARS – that's another reason to utilize the N95. A lot of literature dealing with SARS tends to talk about contact and droplet transmission. There are some reports about Vietnam and about how they only wore surgical masks. So it's still controversial in the literature about what would be appropriate from a transmission basis. However, there is reason to recommend airborne precautions and N95 due to the high morbidity and mortality associated with this disease.

Dr. Annalee Yassi told the Commission there was very little downside to using a higher level of protection:

Even if we don't have strong evidence that the transmission of infection would have been different had there not been N95s, we do know that N95s do protect better than surgical masks. There was really no downside, other than some trivial cost factor. It is trivial in the bigger picture when you look at the billions and billions of dollars spent on the outbreak. The extra little cost of an N95 versus a surgical mask is more than made up for by the

better degree of protection that it provides ... If health workers felt more protected wearing an N95 when someone is coughing and sneezing, then why not. It was the right decision then and it still is the right decision.

Although scientific research into SARS transmission continues, it appears that the initial dogmatic statements dismissing the possibility of airborne transmission were premature. SARS demonstrated the importance of taking precautionary approach to transmission of a new respiratory disease and to requiring the best system of respiratory protection for hospital workers.

Setting aside the ongoing droplet-versus-airborne debate, the Commission heard other compelling arguments favouring a precautionary approach requiring higher levels of respiratory protection.

A number of witnesses remarked that unforeseen events and accidents happen in hospitals that might inadvertently generate aerosolized particles. Experts note that even if SARS is primarily droplet-spread, no one knows when an incident might happen in a hospital to cause the inadvertent generation of aerosols.

One CDC expert said:

... when you look at the R0 it suggests it's probably not airborne in the same sense of measles or anything like that. When you look at epidemiologic links, people down the hallway, around the corner, they're not getting sick. But in health care facilities, when you have people in, you just don't know sometimes when you're going to have an aerosol-generating procedure happen and it could happen precipitously, and because of those issues and because of issues like this, we're going to continue to recommend airborne precautions.

Nora Maher, an occupational hygienist with the Occupational Health Clinics for Ontario Workers, told the SARS Commission's public hearings:

In determining how to control a hazardous exposure, it is important to take into account the chance of human error. No worker wants to make a mistake; no one sets out to undertake a task with more risks than necessary. The best controls will be those that have a failsafe or backup mechanism built in and to evaluate.⁹⁸⁷

987. SARS Commission Public Hearings, November 17, 2003.

Opposition to Fit Testing

Fit testing⁹⁸⁸ was the most contentious safety issue during SARS.

Nurses and their unions were quite properly angry that hospitals were ignorant of the long-standing 1993 legal requirement for fit testing:⁹⁸⁹

- One prominent hospital infection control director insisted in a June 2003 memo to health workers that “Canadian regulations have never required fit testing in the healthcare setting.” Nothing could have been more untrue. While no one questions the good faith of this person, there is something profoundly wrong with a system in which a person in this position can be so utterly wrong about worker safety in hospitals.
- An article by some Canadian experts in the *British Medical Journal* made the same point: “Fit testing had never been required in the Canadian health care setting.”⁹⁹⁰

988. Fit testing helps users select a respirator that best fits their faces and teaches them how to get a proper seal each time they use respirator, a procedure known as a *seal check*, and how to safely don and doff a respirator. A test verifies that the chosen respirator works properly. There are two types of tests. One is called a *qualitative fit test* and “relies on the user’s subjective response to taste odour or irritation.” The other is a *quantitative fit test* and “relies on an instrument to quantify the fit of a respirator” (Healthcare Health and Safety Association, *Respiratory Protection Programs*).

989. Section 10 of the Ontario Regulation 67/93 requires:

10. (1) A worker who is required by his or her employer or by this Regulation to wear or use any protective clothing, equipment or device shall be instructed and trained in its care, use and limitations before wearing or using it for the first time and at regular intervals thereafter and the worker shall participate in such instruction and training.

(2) Personal protective equipment that is to be provided, worn or used shall,

(a) be properly used and maintained;

(b) be a proper fit;

(c) be inspected for damage or deterioration; and

(d) be stored in a convenient, clean and sanitary location when not in use. O. Reg. 67/93, s. 10.

990. Sue Lim, Tom Closson, Gillian Howard, and Michael Gardam, “Effects of outbreak policies: collateral damage: the unforeseen effects of emergency outbreak policies,” *Lancet Infect Dis* 4 (2004): 697-703.

- Health Canada also seemed unaware of this Ontario requirement. A Canada Communicable Diseases Report on the April 13, 2003, intubation at Sunnybrook said: “In addition, at the time these exposures occurred, fit testing was not recommended by Canadian public health authorities; such testing has been mandated in the United States since 1972.”⁹⁹¹

Officials at a number of hospitals told the Commission that they only become aware of the legal requirement of fit testing when the May 13, 2003, directives⁹⁹² were issued.

As a result, fit testing did not begin in most hospitals until May 2003. Most health workers who used N95 respirators were not fit tested until June 2003. Not surprisingly, the proper fit of a respirator was a problem for many health workers. The ONA survey found:

50% of respondents experienced problems with the masks not fitting properly, and 8% were told to return to work without a properly fitting mask.⁹⁹³

Unions were angry that so many health workers had to go through SARS without being fit tested as required by law.

ONA and OPSEU said in their joint presentation at the public hearings:

Finally, fit testing began, sporadically due to union complaints and a nurse's June 6th work refusal. The Ministry of Labour ordered that the

991. Health Canada, “Cluster of severe acute respiratory syndrome cases among protected health care workers – Toronto, April 2003,” Canada Communicable Diseases Report volume 29-11, June 1, 2003.

992. All six directives issued that day contained the following language:

Personal protective equipment must be properly used and maintained

consistent with the *Occupational Health and Safety Act* Reg. 67/93 s.10. N95

or equivalent masks must be qualitatively fit tested to ensure maximum effectiveness. (See NIOSH website at www.cdc.gov/niosh -Publication No.99-143.)

993. Hay Group, “Nurses’ Perspective on the Outbreak of SARS in Toronto” (March 2006), p. 10.

nurse be fit tested before being required to work in a workplace that required respiratory protection.⁹⁹⁴

Fit testing was a hot-button issue for the health system, but for different reasons. Many in the health care system questioned the scientific basis for fit testing and were angry at the logistical challenge of a procedure that, in their view, had limited value.

One prominent infection control practitioner said:

We want to point out that fit testing of masks, or the lack of fit testing of masks in Canada, we believe to be a red herring and was not part of the reason for transmission of the SARS virus.

The Ontario Medical Association told the SARS Commission public hearings:

At the time when mask fit testing was first proposed, we followed the directive but we did ask for the scientific evidence that this fit testing would make a difference.

In our own comprehensive literature search, we have not found any evidence to support mask fit testing as it is being proposed in Ontario. In fact, we have been instructed during the current planning of this massive project not to ask for the evidence.⁹⁹⁵

An infection control practitioner told the Commission in a confidential interview:

I think people in Canada did not see that this was a really big issue, the fit testing of the N95 masks, and I think a lot of experts in Canada still do not believe that it is a big issue. It may be a big issue in industry, where you are wearing N95 or N99, N100 masks for chemicals, where you are dealing with vaporized chemicals; that is probably or certainly is a whole different level of protection you require. But a lot of experts still believe that for biologic agents, there is not good evidence that you need to go through all of this; extra protection that is offered through the fit testing is not necessary for biologic agents.

994. SARS Commission Public Hearings, November 17, 2003, p. 13.

995. SARS Commission Public Hearings, September 29, 2003, pp. 47-48.

Part of employers' frustration over fit testing was that it meant they would have to carry many different types of respirators, at a time when there was much concern over respirator shortages. As was noted in the second interim report, getting enough supplies of N95 respirators was a widespread problem during SARS.

The Ministry of Health and Long-Term Care noted the problem of masks during its presentation to the Commission at public hearings:

The lack of a domestic mask supplier and an insufficient inventory of masks to deal with the infection protocols as the emergency progressed was also problematic.⁹⁹⁶

An article in *The Lancet* by some Toronto experts describes the particular challenge of getting enough masks:

... submicronfiltering masks (e.g., N95 masks) were in variable supply, because before SARS such masks were used only for patients with airborne infections and hence most facilities would have only kept a limited supply. With 211 hospitals in Ontario alone requiring these supplies, Canadian suppliers rapidly ran out of stock. There was no pre-existing supply stock-pile, and our mask supplies were obtained from foreign manufacturers. Because SARS was a worldwide threat, there was great difficulty in acquiring masks from other countries, since foreign governments understandably wanted to keep such supplies for their own citizens.⁹⁹⁷

St. Michael's Hospital said at the public hearings:

Supplies were particularly problematic as there is not enough masks available in the system for optimal safety. After fit testing having supplied the right type of mask for the right staff member complicated the issue. The requirement for mask fit testing was a significant challenge. St. Michael's Hospital went to great lengths to comply with provincial directives with respect to fit testing.⁹⁹⁸

996. SARS Commission Public Hearings September 30.

997. Sue Lim, Tom Closson, Gillian Howard, and Michael Gardam. "Collateral damage: the unforeseen effects of emergency outbreak policies. *Lancet Infectious Dis.* 2004;4(11): 697-703"

998. SARS Commission Public Hearings, September 30 2003.

Some experts argued during SARS that fit testing was not necessary because it was sufficient to teach users to perform a seal check.

An infection control expert who argues against the N95 and against fit testing told the SARS Commission in a confidential interview that a seal check is a good substitute for a fit test:

An N95 mask, the more important thing is the design of the mask rather than the fit testing. A well-designed N95 mask applied properly so the person knows to fit it around his face and does the test for the seal has a 93 per cent effective seal in terms of protection.

... if you fit test it, you could get that up to 95 per cent and that is a marginal difference, so the issue around fit testing these masks, to say that was a large issue in the middle of this outbreak I think was a huge mistake, and a huge disservice to those people taking care of the patients.

On the particular issue of whether a seal check is a substitute for a fit test, recent research indicates that “a seal check should not be used as a surrogate fit test.”⁹⁹⁹

On the overall value of fit testing, a study by the Institute of Medicine concluded:

By contrast, the ability of an individual wearer to obtain good face piece fits is far more varied and is a function of the facial dimensions of the wearer, the training received by users to ensure that the device is properly placed on the face each time the respirator is donned, and how closely the

999. “Guidelines issued by the Centers for Disease Control and Prevention and the World Health Organization state that health workers should wear N95 masks or higher-level protection during all contact with suspected cases of severe acute respiratory syndrome. Before use, the manufacturer recommends performing a user seal check to ensure that the mask is fitted correctly. This study aimed to test the ability of the user seal check to detect poorly fitting masks. This study is a retrospective review of a mask-fitting programme carried out in the intensive care unit of the Prince of Wales Hospital in Hong Kong. In this programme, all staff were tested with two types of N95 mask and one type of N100 mask. The results of the documented user seal check were then compared with the formal fit-test results from a PortaCount. Using a PortaCount reading of 100 as the criterion for a correctly fitted mask, the user seal check wrongly indicated that the mask fitted on 18-31% of occasions, and wrongly indicated that it did not fit on 21-40% of occasions. These data indicate that the user seal check should not be used as a surrogate fit test. Its usefulness as a pre-use test must also be questioned.” J.L. Derrick, Y.F. Chan, C.D. Gomersall, S.F. Lui “Predictive value of the user seal check in determining half-face respirator fit,” *J Hosp Infect.* 59 (2005): 152-55.

device matches the size and shape of the wearer's face. Coffey et al. (2004) have demonstrated that subjects who wear most N95 filtering face pieces without prior fit testing fail to achieve the expected levels of protection, and that persons passing a qualitative or quantitative fit test will achieve the expected level of protection (Coffey et al., 2004).¹⁰⁰⁰

One expert who campaigned heavily against the N95 and fit testing went so far as to say that because we got through SARS without fit testing, we therefore did not need fit testing:

We got through SARS I and managed it, controlled it, without fit testing for the N95 masks.

The logic of this confident assertion is not immediately apparent. Ontario certainly managed to get through SARS I without fit testing, but almost half of those who got SARS were health workers. The fact that we got through SARS without fit testing in an outbreak where 169 health workers caught it on the job is no argument against the evidence that fit testing provides a better level of protection.

Some who campaigned against the N95 and fit testing distorted the debate by setting up a straw man to knock down. They suggested inaccurately that the N95 and fit testing had been held up as the magic bullet against SARS. No one ever said the N95 and fit testing were magic bullets.

No one ever said that fit testing "is the answer." Yet those who campaigned against fit testing did so on the inaccurate basis that those in favour of fit testing said it was the answer. One hospital expert who wrongly insisted that no Ontario law required fit testing put it like this:

In SARS, both myself and many of my colleagues believe that fit testing is not the answer to protecting health workers.¹⁰⁰¹

To the Commission's knowledge, no expert in worker safety suggested that the N95 respirator or fit testing were the be-all and end-all to containing SARS. No expert in worker safety believed the N95 respirator or fit testing could, or should, be singled out as ends in themselves.

1000. Institute of Medicine of the National Academies, "Reusability of facemasks during an influenza pandemic: facing the flu: report brief" (April 2006), <http://222.nap.edu>.

1001. Michael Gardam, Fit testing memo, June 2003.

These attacks on the N95 and fit testing, this focus on one component only of the hierarchy of safety controls so absent from Ontario hospitals during SARS, is just one more piece of evidence that the health system during SARS lacked a basic understanding of worker safety principles.

Safety experts regarded N95 respirators and fit testing not as magic bullets but as simply one part of a respiratory protection system that should include:

- A hazard assessment of the workplace
- The selection of appropriate respiratory protection based on the hazard assessment
- Health assessment and ongoing surveillance of respirator users
- Fit testing
- Initial and ongoing training and education¹⁰⁰²

Perhaps the most important respiratory protective lesson from SARS is the importance of focusing not just on one protective component, whether it's the N95 respirator or fit testing. To return to the title of this chapter, it's not about the mask; and it's not about fit testing. It's about a whole system of safety controls in which the respirator and other personal protective equipment are simply the last component, the final line of defence.

That bigger safety system, of which the respirator is just one small part, is known as the hierarchy of controls. It is a fundamental principle of the worker safety discipline of occupational hygiene.¹⁰⁰³ Among these controls, personal protective equipment is the last line of defence, not the first:

... all available options for controlling the hazard should be put into place and that when these controls are not possible or not sufficient to control the risk, personal protective equipment such as respirators should be implemented. The hierarchy of controls is as follows:

1002. Healthcare Health and Safety Association, *Respiratory Protection Programs*, pp. 15-16.

1003. Occupational hygiene, which is often called industrial hygiene in the U.S., is defined as follows: "The science and art of anticipating, recognizing, evaluating, and controlling chemical, physical, biological, ergonomic hazards that are in or originate from the workplace" (Salvatore R. DiNardi and William E. Luttrell, *Glossary of Occupational Hygiene Terms*, [Fairfax, VA: American Industrial Hygiene Association, 2000], p. 106).

1. Engineering controls
2. Administrative controls
3. Work practices
4. Personal protective equipment.

These controls are meant to address hazards through control at the source of a hazard, along the path between the worker and the hazard and lastly, at the worker.

Controls that are implemented at the source should be put into place first. These include using engineering controls such as enclosing the hazard or using local exhaust ventilation. An isolation room with negative pressure ventilation is an example of an engineering control aimed at the source of the hazard.

Controls that are implemented along the path should be put in place next. These include general exhaust ventilation or the use of shielding or barriers.

Administrative control and workplace practice controls are also critical. These controls include such program components as processes to ensure early recognition and appropriate placement of patients who are infectious, surveillance for detection of outbreaks, adequate cleaning and disinfection of patient care equipment and the environment and education programs for health care workers about identifying and managing risk.

If, after implementing controls at the source and along the path does not eliminate the worker's risk of exposure, then controls at the worker can be put in place. These include the use of personal protective equipment such as respirators and eye protection.

The essential point from the hierarchy of controls is that employers should not rely exclusively on personal protective equipment (PPE) to protect workers. All other means of control should be used to protect workers and PPE used only when other controls have not eliminated or reduced the hazard significantly.¹⁰⁰⁴

1004. Healthcare Health and Safety Association of Ontario, *A Guideline for the Development and Implementation of a Respiratory Protection Program for the Prevention of Occupational Infections in Health and Community Care Workplaces – Final Draft*, (Toronto July 23, 2003), p. 11.

Worker safety principles like the hierarchy of controls are not new. They had been developed long before SARS. Worker safety experts knew how to use these systems, these processes, these procedures and this equipment to protect nurses and other health workers.

As Health Canada noted in a worker safety manual issued in 2002, close cooperation between worker safety and infection control is essential for the safe operation of a health care facility. Health Canada's *Prevention and Control of Occupational Infections in Health Care* says:

A component of the [worker safety] program relates specifically to infection control and must be planned and delivered in collaboration with the Infection Control (IC) program of the workplace ... This document supports the close collaboration of OH personnel with those responsible for the IC program ... It notes the essential collaboration of both groups working together where responsibilities overlap, especially in the management of outbreaks.¹⁰⁰⁵

Tragically, this knowledge was not used during SARS. This expertise was ignored.

As one hospital said in its submission to the Commission:

It was interesting to note that an occupational hygienist was part of the CDC team called in to help review how SARS was being spread; earlier recognition and utilization of local professional resources (e.g. through the Canadian Registration Board of Occupational Hygienists, the University of Toronto graduate program in occupational hygiene, etc.), may have helped contain the problem much sooner.

It is time for Ontario to stop the turf wars and remove the barriers that prevented the use of this expertise during SARS to protect health workers.

1005. Health Canada. *Prevention and Control of Occupational Infections in Health Care: An Infection Control Guideline* (Ottawa: Health Canada, 2002), p. 1.

Progress Since SARS

Some experts who campaigned during SARS against fit testing have come to accept that any worker required to wear an N95 respirator should be fit tested as required by law.

One infection control expert who opposed fit testing said after SARS:

... if you need an N95 mask, it should be fit tested and that's one issue, and I don't think anybody's going to argue with that anymore.

A senior Ministry of Labour official who bore the brunt of the hospital establishment's opposition to fit testing told the Commission that the climate has changed:

I think they have moved on. Now the question you get nowadays is when should you use the N95? One doesn't have the same resistance to fit testing. The big question is when do we need N95s.

Part of the change of heart may be due to the large number of post-SARS studies in support of fit testing.

Representatives of health workers, however, have detected continuing resistance to fit testing. They have:

... participated in many government round tables that have discussed personal protective equipment during a response to an outbreak. We have been told the science of respirator fit testing is not perfect, and thus fit testing does not guarantee that a respirator will be completely effective in protecting against airborne hazards. While this seems to be news to the MOHLTC, the occupational health and safety community has long been well aware of this. The response of safety professionals and researchers is to strive to improve fit testing, not abandon it.¹⁰⁰⁶

1006. Letter from ONA to Premier McGuinty, December 15, 2005.

As noted earlier, the current Chief Medical Officer of Health has taken steps to try to bridge the wide gulf separating infection control and worker safety. However, only time will tell whether her efforts will bear fruit.¹⁰⁰⁷

Conclusion

Those in charge of the system that failed to protect health workers during SARS undoubtedly acted in good faith. But during most of the outbreak they were regrettably unaware of their occupational safety obligations under Ontario law. They were unaware until reminded late in the outbreak that when health workers have to use N95 respirators, employers must ensure that the respirators fit properly and that health workers are trained in their limitations and safe use. This has been Ontario law since 1993.

The Ministry of Labour may have acted in good faith, but it did little until late in the SARS outbreak to proactively inspect health care workplaces to ensure that health workers were using the appropriate respiratory protection and were properly trained in its use. The absence of the Ministry of Labour was especially significant because the health care system had little experience or expertise in N95 respirators or the respiratory protection programs necessary to ensure that N95s safely provide their intended level of protection.

The fact that about 45 per cent of all SARS cases were health workers demonstrates how badly respiratory protection and other worker safety issues were handled.

The primary role of occupational health and safety laws, regulations and systems is solely to protect workers in many workplaces.

1007. Dr. Sheela Basrur notes in her letter of March 9, 2006, to Ms. Linda Haslam-Stroud, RN, President, Ontario Nurses' Association:

We recognize the need to ensure that the perspectives of occupational health and infection control receive consideration. In light of this, an occupational health physician is included in the membership of PIDAC and has been sitting on the committee since the inception of PIDAC in 2004. However, we see the importance in continuing to strengthen our links with the occupational health field and a physician delegate from the Ministry of Labour is now also sitting on PIDAC. This highlights our commitment to ensuring that occupational health and safety expertise is brought to the table during all PIDAC deliberations now and in the future. We are confident that building on this approach will assist in ensuring stronger linkages between occupational health and infection control on matters of science.

In health care settings, occupational health and safety protections perform a double duty, safeguarding workers while also shielding patients and visitors.

As the Ontario Nurses' Association and the Ontario Public Service Employees Union told the Commission in their joint submission:

Workplace health and safety is important in any workplace, but in a healthcare environment it's doubly important. If workers are not protected from health and safety hazards, patients and the public are not protected either. It's that simple.¹⁰⁰⁸

Scientific knowledge changes constantly. Yesterday's scientific dogma is today's discarded fable. When it comes to worker safety in health care, we should not be driven by scientific dogma. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

Until this precautionary principle is fully recognized, mandated and enforced in our health care system, nurses and doctors and other health workers will continue to be at risk from new infections like SARS.

1008. SARS Commission Public Hearings, November 17, 2003.

Did Politics Intrude?

There is widespread suspicion that political and economic pressure affected Ontario's response to SARS. Union officials, nurses, doctors, people who fell ill, families of those who died asserted again and again their feeling that someone, somewhere, somehow, exerted pressure to minimize or hide SARS, or not call a SARS case SARS, or declare SARS over because of its devastating effect on the economy.

Those who assert these suspicions point to the timing of the World Health Organization travel advisory imposed against Toronto on April 23, 2003. The advisory was lifted on April 30 only after high-level political intervention by the Minister of Health, who flew to Geneva with public health officials. That was followed in mid-May by the relaxation of precautions, the new normal, announcements that SARS appeared to be over and that the health system and the economy could return to business as usual. Those who assert this view point to the disastrous May 23 news conference where news of the second outbreak was pried out of officials only in the face of skilful cross-examination by the media. They also point to the patients at North York General who had SARS in April and May, although the hospital and public health officials failed to diagnose and disclose these cases as SARS.

The suspicions, with one exception, are unfocused and unspecific and they name no names or events or alleged events or conversations or documents. Some who hold these suspicions point to politicians or government in general terms; others point to hospitals or public health or physicians.

In all the interviews and documents and investigations, only one specific allegation of pressure emerged, not that there was pressure to hide SARS, but that there was pressure to back off an investigation into health worker safety. The allegation surfaced during the followup interview of a confidential source that the Ontario Cabinet Secretary, as the result of a phone call from the CEO of Mount Sinai Hospital, directed the Ministry of Labour to cancel a worker safety investigation scheduled for Mount Sinai on June 13, 2003. Immediately upon receipt of this late-breaking allegation, the Commission interviewed 13 witnesses, some more than once, and examined documents that included contemporary emails, memoranda and various government

and hospital paper trails obtained by way of subpoena. The results of this investigation are found in Chapter Three, under the heading “June 13 Cancellation at Mount Sinai,” and do not form part of this chapter.

As for the persistent yet vague suspicions of improper political and economic pressure, the Commission noted in its first, 2004, interim report that it had at the time of writing found no evidence of political influence on public health decisions:

The Commission on the evidence examined thus far has found no evidence of political interference with public health decisions during the SARS crisis. There is however a perception among many who worked in the crisis that politics were at work in some of the public health decisions. This perception is shared by many who worked throughout the system during the crisis. Whatever the ultimate finding may be once the investigation is completed, the perception of political independence is equally important. A public health system must ensure public confidence that public health decisions during an outbreak are free from political motivation. The public must be assured that if there is a public health hazard the Chief Medical Officer of Health will be able to tell the public about it without going through a political filter. Visible safeguards to ensure the independence of the Chief Medical Officer of Health were absent during SARS. Machinery must be put in place to ensure the actual and apparent independence of the Chief Medical Officer of Health in decisions around outbreak management and his or her ability, when necessary, to communicate directly with the public.¹⁰⁰⁹

The first interim report also said:

... the Commission has not at this stage of its investigation found any evidence of political interference with public health decisions during the SARS crisis. There is however a perception among many who worked in the crisis that politics somehow played a part in some of the public health decisions. Whatever the ultimate finding may be on this issue, Dr. D’Cunha’s approach left too many colleagues with the perception that he was too much a political animal and too little an independent public health professional.

1009. SARS Commission first interim report, p. 56.

It is impossible to say, in the end result, that Dr. D’Cunha’s difficulties made any ultimate difference in the handling of the crisis. Although his colleagues were frustrated by his approach to things, the crisis was to a large extent managed around him. It is hard to say that the overall result of the SARS crisis would have been different with someone else at the helm.¹⁰¹⁰

The Commission noted similarly in its second, 2005, interim report:

While the Commission has not, to date, found any evidence of political interference during SARS, the problem is that many people suspected political interference and many were convinced that politics were at work behind public health decisions. The mere perception of political interference, whether true or not, will sap public confidence and diminish public cooperation.¹⁰¹¹

This section will deal with:

- The nature and content of the suspicions;
- the evidence of key witnesses, such as the Premier and the Minister of Health, who would have been in a position to exert influence; and
- the evidence of key witnesses such as public health, hospital officials and physicians who would have been in a position to observe any influence.

The conditions that fostered such suspicions include:

- the timing of the travel advisory and its lifting, followed shortly by the relaxation of precautions and the “new normal”;
- the intense desire of everyone in the health system and the community, exhausted and weary of SARS and at the end of their tether, that SARS should be gone, and their fervent hope that it was in fact gone;

1010. SARS Commission first interim report, p. 55.

1011. SARS Commission second interim report, p. 17.

- The regrettable perceptions created by Mayor Mel Lastman's outburst against the World Health Organization and the invocation by some officials in the office of the minister of health and the Chief Medical Officer of Health of the minister's name and authority when requesting information from front-line public health and hospital workers;
- The Commission's steps to investigate the suspicions of political and economic pressure; and
- The Commission's analysis and findings.

These suspicions of political and economic pressure on public health and hospital decisions in order to protect the economy and hospital finances have two common elements. First, they are strongly held by those who hold them. Second, those who hold them are unable to point to any evidence to support their suspicions.

The suspicions were voiced by a health union leader in the context of the WHO travel advisory, its effect on the economy and the political effort to reverse it:

Answer: Quite clearly economic interests took over at an early stage. Quite clearly doctors put pressure on authorities to get back to normal ... The business community started to get on board and economic interests took priority here and the whole health and safety of members took a back seat with the WHO advisory in April. The whole thrust of trying to get it reversed centred around economic factors.

The ball was dropped in the middle of May. [Minster Tony] Clement sent out the signal that the crisis was over and then we have the second outbreak. North York General, St. John's and the Whitby wing of Lakeridge Hospital.

My concern is that the economic interests predominated at expense of health and safety of members.

Question: How does one prove it? ... How can you prove it was linked to economic reasons?

Answer: Why was the whole thrust of the provincial government centred around getting that advisory lifted? That was the sole preoccupation of the Minister of Health. His job should have been to protect the health and safety of the people in the province and they didn't do that.

The suspicions in the context of hospital's finance were expressed by two nurses at North York General:

There was a lot of pressure from the media, from the politicians, from the business community, that the city was going to lose so much money and all I kept thinking was how much money will they lose if this gets out of control ...

The whole thing was being kept hidden because they were afraid of a panic, afraid of the impact on the economy ...

As noted elsewhere in the report, one North York General emergency room nurse said she thought there was tremendous pressure to downplay SARS:

... There was a tremendous pressure on the politicians from the business community, or perceived pressure, to downplay the danger of SARS. That the danger was to downplay it to the staff who were looking after the patients. And to put the staff at risk. And to put all of the community at risk because you're not containing it strictly.

These suspicions were voiced at the public hearings by Dr. Jan Kasperski, Executive Director and CEO of the Ontario College of Family Physicians:

Bowing to political pressure, the new normal was put into place, mostly to reassure tourists that Toronto was open for business.¹⁰¹²

Dr. Kasperski continued with a thoughtful analysis of the lack of support given to front-line family physicians by the health system, but he pointed to no evidence to support a suspicion that the "new normal" resulted from political pressure to reassure tourists.

Although these witnesses were convinced that economic and political pressures were somehow at work, they were unaware of any actual evidence of such pressure. Also unaware of

1012. SARS Commission Public Hearings, September 29, 2003.

such evidence was a doctor at North York General who held similar suspicions:

Question: Did you sense that SARS had gone away and wasn't a problem?

Answer: I didn't think it had gone away. There was, well, significant if you would political pressure to relax the protocols and restrictions, my personal opinion obviously, but with trying to get Toronto off the WHO travel advisory.

Question: What do you mean by political pressure?

Answer: If you were aware of the media, there was pressure because of the way it affected Toronto coming into the summer, to get Toronto off the WHO travel advisory because of the, if you will, the political, economic effect it was going to have. There was this will to have SARS go away and be declared resolved. And the impression that it started at a public health, governmental level rather than within a particular hospital ...

Question: On the question of political pressure, which means different things to different people, we're obliged to see if there was any actual evidence of political pressure. Do you know of any actual evidence of political pressure?

Answer: Exerted by politicians? No, I'm not aware of that. I know that there was a will, if you will, a general will in the community to have Toronto declared SARS-free, you know?

The doctor's observations are significant for two reasons. First is the assumption that underlies most suspicion of pressure, the assumption that the relaxation of precautions and the new normal and the announcements that Toronto was open for business, because they followed so closely the economic disaster of the travel advisory and the political effort to have it lifted, must have been connected to them.

The second reason the doctor's observations are significant is that as soon as he thought about what he meant by "political pressure," he crystallized his suspicion into the proposition that there was a general will in the community to have SARS over

and to be SARS-free.

This doctor's insight goes a long way to explain the widespread suspicion that there was political and economic pressure to say that SARS was over. The doctor is correct that there was a general will in the community to be SARS-free. Everyone wanted SARS to be over. Politicians, health officials, emergency officials, nurses, business people, doctors, hospital officials, paramedics, patients and everyone touched in any way by SARS wanted it to be over and gone.

Front-line workers were exhausted. The restrictions of masks, the constant changing of gowns and gloves, the inability to breathe easily through the N95 respirator, the total disruption of hospitals – indeed, the terrible disruption of every health system workplace and every health worker's daily tasks – their inability to fulfill their professional calling and give patients the kind of personal care so disrupted by SARS, the inability to treat cancer and cardiac patients who needed medical care: All this and more created a profound sense of frustration and a strong desire for a SARS-free return to the normal work of caring for the sick.

There may for this reason be a sense in which the wish is fodder to the thought, a sense in which people throughout the system created in themselves their own pressure to believe that SARS was gone.

Reasons for Suspicion

The perception that SARS was politically driven arose principally from two circumstances:

- The trip by the Minister of Health and senior officials to Geneva to secure the reversal of the WHO travel advisory.
- The coincidence in time between the lifting of the WHO travel advisory on April 30 and the lifting of the emergency and the proclamation of the new normal in mid-May, based on the belief that SARS was gone.

The evidence that the Geneva trip and the lifting of the emergency and the proclamation of the new normal were not politically motivated is noted in this section. This evidence is uncontradicted and the reasons for considering it plausible are reviewed below.

There were also less prominent reasons for the perception, including:

- The perception that the office of the Chief Medical Officer of Health was within the political sphere of the Minister of Health, a perception fostered by the invocation of the Minister's name by some officials when asking for operational information of a medical nature.
- The bizarre attack by the Mayor of Toronto on the World Health Organization, combined with the economic boosterism of some public announcements that SARS was over.
- The intergovernmental bickering, particularly the partisan-sounding attacks by the Ontario government on the federal government.

This is a convenient place, before turning to the major reasons for the perception, to deal with these issues.

The Minister's trip to Geneva and his reasons for it were fully in accord with the thinking of the public health and public service professionals whose advice he accepted throughout the crisis. They were convinced that the WHO decision was wrong and was based on inadequate medical and scientific information. Because of the structure of the WHO, in one sense an international political organization, the only way to bring these scientific and professional concerns to its attention at the highest level was an intervention at the political level by the Minister of Health. There was nothing inappropriate in the Minister taking this step in accordance with the views of the public health and scientific leaders.

As for Mayor Lastman's outburst against the WHO,¹⁰¹³ little need be said except to emphasize that public communication during a public health crisis should be thoughtful, measured and nonpolitical.

As for the economic boosterism of some public announcements that SARS was over, it must be remembered that every level of government was properly concerned not only with the health problems posed by SARS but with its economic devastation. There is nothing wrong with economic recovery measures so long as they do not

1013. "Where did [the WHO] come from? ... They sit somewhere, I understand Geneva, I don't even know where the hell they came from, but Geneva or someplace and they make decisions..." – Mayor Mel Lastman, at a press conference, April 23, 2003.

influence public health decisions or public disclosure of an infectious risk. The remedy against any political interference that might flow from economic recovery measures is not to discourage such measures. The remedy is to ensure, as recommended, the scrupulous structural separation of politics and infectious outbreak management.

As for intergovernmental bickering, the Commission in its first interim report noted the bad provincial-federal communication that impaired our response to SARS and the need to avoid it the next time we are faced with such a crisis. The Ontario government never lost any opportunity to criticize the federal government on any issue, from airport screening to financial compensation. The provincial attacks seldom appeared constructive and smacked at times of gratuitous “fed-bashing.” Nothing displays this anti-federal bias more than a curious document received by the Commission at the beginning of October 2003, in the last days in office of the Eves government, purporting to be a brief submitted on behalf of the government of Ontario.¹⁰¹⁴ It consists of a lengthy partisan attack on the federal government’s SARS activity. Although disavowed by the Premier and the Minister of Health as any reflection of the position of their government, it does reflect within the ranks of senior government advisors a deep hostility to the federal government and a reluctance to miss any opportunity to blame things on it.

Although an element of healthy tension is inevitable in Ontario’s relations with the federal government, there is no room during a health crisis to indulge in this ritualistic intergovernmental bickering. As noted in the Commission’s first interim report, it is essential for governments during a public health crisis to resist their natural temptation to criticize each other. It is imperative for governments in a crisis like SARS to rise above their traditional bickering and work together in the wider public interest.

The unnecessary invocation of the Minister’s name by some within the office of the Chief Medical Officer of Health, when asking for operational information or giving operational directions, created in some quarters a perception that the operational response to SARS was politically driven. While there is no evidence that this was the case, it does emphasize the importance of a clear line between what is public health and what is politics. The government has started to clarify this line in legislation according a measure of political independence to the Chief Medical Officer of Health. This important process will remain incomplete until the government imple-

1014. Although the document is marked “Confidential,” the Commission did not solicit the document in any way, did not receive it under any promise of confidentiality and acknowledges no basis on which this government submission should be considered confidential. It will form part of the Commission’s record of public documents transmitted to the Ontario Archives.

ments the balance of the Commission's earlier recommendations in this respect and in respect of the independence of local medical officers of health.

One similar factor that may have contributed to a blurring of the lines between politics and public health was the special role of Michael McCarthy, a senior political aide to Health Minister Tony Clement. He was perceived to be very close to Dr. Colin D'Cunha, the Chief Medical Officer of Health, and to involve himself from time to time in operational matters. There is no suggestion of wrongdoing on his part and the Commission makes no criticism of Mr. McCarthy.

The problem was not so much the role of any particular person but that the dividing line between what is political and what is public health was not made as clear during SARS as it should have been. It would be wrong to treat any public health crisis as just one more "hot potato file" to be carried and managed politically by those in the Minister's office in the same way as physicians' fees or hospital funding. Public health crises, for all the reasons given above and in the Commission's interim reports, require the utmost public confidence that no political consideration can or will interfere with medical public health considerations by the Chief Medical Officer of Health.

One way to ensure a bright line between politics and public health, so essential to public confidence, is to ensure that ministerial aides stay clearly on the Minister's side of the line without appearing to become players in their own right in the operational response to a public health crisis. The government has taken steps in the right direction by giving the Chief Medical Officer of Health a large measure of independence. Further steps need to be taken in this direction, as recommended in the Commission's interim reports in respect of the role of the Chief Medical Officer of Health and the local medical officers of health.

Evidence of Premier and Minister of Health

The question of economic motivation and political pressure were put to Premier Ernie Eves and Minister of Health Tony Clement.

Mr. Eves said that the government's approach to SARS was to avoid politics and act on the advice of public health and public service professionals like Dr. James Young and Dr. D'Cunha and to back them up:

I made a decision rightly or wrongly at the outset that this was not, that people should not be playing politics with this issue. I felt that it was far

too important an issue. It went right to the safety and health of Ontarians. So I purposely took a role that was not in the limelight; I did not go to appear before TV cameras every day. I thought the best thing we could do is hire the best medical and scientific brains we had or obtain them from other jurisdictions if we did not have them and empower Dr. D’Cunha, Dr. Young and others to I regarded this as a medical and scientific problem and I would like to think that is the way that it was handled. I am sure in hindsight there are always things that we think of that human beings could have done better, but I really think that we approached this on that basis ...

The Premier’s Chief of Staff said:

From day one, the first day was a Wednesday, I think, of SARS I, the message back to Drs. D’Cunha and Young was, whatever you need, you got.

And the Premier added that his message to take away was:

And the cost, we will sort out how we pay for it later.

Mr. Eves said that on May 17 he accepted with some reluctance the advice of public health officials to lift the emergency, and only after he asked repeatedly:

Are you absolutely positive that this is the right thing to do, that we are getting the right information, are you sure this is all right?

And only after he received repeated assurances from Dr. D’Cunha and Dr. Young that the absence of new cases and the advice of medical and science advisors warranted the lifting of the emergency:

I think that they really, from their best judgment, and from what they knew at the time, felt that it was the right thing to do. I have tremendous amount of respect for the abilities of both Dr. D’Cunha and Dr. Young. I cannot perceive either one of them ever doing something that was expeditious as opposed to appropriate or correct and I think that they acted in their best judgment.

In respect of his overall role as Minister of Health in the SARS crisis and his approach to it, Mr. Clement said:

Mr. Clement: Basically I was the point guy from the government of Ontario's perspective and then had to create a management structure for Drs. Young and D'Cunha that would allow each of them to do what they had to do under their respective acts, and get the job done ...

I believe that the Minister has to be very much involved with the organization of dealing with the medical emergency. Very much has to be involved in all major decisions, has to vet all major decisions, very much has to be involved with the communication to the public on a regular ongoing basis and has to be involved with ensuring that whatever is done, whatever is decided upon is implemented, that there is avenues by the stakeholders, the nurses, the doctors, the public health officials, all these avenues to, if there is something going wrong, they have to be able to talk to the Minister about it. It cannot just be the hierarchy. So that's how I conceived my role and I believe that it was the appropriate definition of my role ...

I was involved at all levels. I would be a frequent participant in the POC [Provincial Operations Centre] meetings. I would be an occasional participant with Dr. D'Cunha at his initial meetings and I was a frequent participant with the conference calls with the Premier's office and the Cabinet office and that was just the formal meetings. Then there were informal meetings that took place throughout the day and night on an as-necessary basis where I was more often involved than not. I was up to my eyeballs in it. I believe that that is the appropriate role. In terms of the communications, I believe we had something like 47 press conferences, and I was involved in over a dozen of those, so I was not an intrusion but where and when necessary to put an elected, empathetic face that was not a doctor but was suffering with the rest of us, I was there. I was there to communicate major messages such as over the Easter weekend, when we were afraid of community spread, as well as interact frequently

with my federal counterpart, which fortunately was a very strong relationship, a very positive relationship. So, that's the role that I played ...

Question: Is there a risk here that the whole issue becomes too much of a political issue?

Mr. Clement: No I think we were quite at pains to make sure that did not happen, actually. I was conscious of that issue. There is an ingrained check and balance on that, which is if you are seen as exploiting this issue for political purposes, you are absolutely crucified and rightly so. That is an ingrained check and balance on that, and I was quite at pains to make this as nonpolitical as possible. I insisted that the Opposition health critics be briefed ...

As for the decision to travel to Geneva to seek withdrawal of the WHO travel advisory, Mr. Clement said:

Can I just say one thing about the WHO on the politics front? The reason that I went along was because I wanted Dr. Brundtland, head of the WHO, Director General, a former Prime Minister, a former politician, I wanted her to see the whites of my eyes. It's one thing for public health officials to go over there and say don't worry, everyone is on side, we've got everything under control, we'll do whatever you ask us to do. The public health officials can say that, but she would want to know that there is political will, that the politicians understand how serious this is, and that the politicians are willing to do what's necessary to meet the concerns of the WHO, which as it turned out hinged on the borders. That was the only outstanding issue. We've convinced them that the disease was not being communicated in the community and we've convinced them that our infection control was working in the hospital setting such that our rate of new infections was radically down.

So the only issue we faced in Geneva really was in federal responsibility and we were able to give them the assurance because I had worked with Anne McLellan on the ground in Geneva to give them the best of assurances. I wanted her to see the whites of my eyes. I thought that it was important for her to know that the politicians were engaged and that we

knew that if we failed that, it was not only a failure in our own community, if this thing got exported to the Third World, this could be a potential catastrophe of unimaginable proportions, and I wanted her to know that I knew that. Because she had a responsibility to the world. She had the responsibility of making sure that this didn't come to South Africa, or didn't come to India, or didn't come to some place that didn't have the public health infrastructure that we have.

So that's why that was important, but I did not make the argument based on politics. I made the argument based on facts. I said, here is our rate of infection, here is our rate of community spread, here is what we are going to do with the federal government when it comes to border crossings. Please make the decision based on the facts, Director General, don't make the decision based on other extraneous factors, including politics. The facts were on our side, so this was not a political appeal, it was a factual appeal to the facts on the grounds on that day on April 30th rather than where they were on April 18th. Sorry, I wanted to get that point out because it was most definitely not a political gesture, it was a strategic gesture to convince her in the language that she would understand, factual language, and also as a former prime minister respecting that politicians have to be accountable and have to be part of the solution, and not just public health officials.

As for the government's approach to public disclosure of SARS risk, Mr. Clement said:

Very early on, I decided, you have to make a decision, you have to make a decision how you're going to treat this with the public, and there is always advice, and I did receive advice to play it down, there is no issue, there is no problem, we got a little problem at Scarborough Hospital, let's not create a sense of panic in the public. I rejected that advice to this extent, I believed that what would create a greater sense of panic in the public is a lack of information given the fact that death was occurring.

And so very early on, even before the state of emergency was issued, I made a deliberate conclusion that we were going to give the public as much information as we had on a real-time basis, even on a daily basis, in order that they knew exactly what we knew, and Dr. [Richard] Schabas has been critical of that, but I think that it was the right thing to do.

And I would do it again, because the alternative is to hide information from the public, and I think that would actually create more of a problem. It would create a problem of credibility with the government and the public health officials, and it would create a problem of assuming far worse than potentially was the case, which would actually fan panic rather than actually contain the panic. So yes, guilty as charged, we communicated with the public at every available opportunity and I think that was the right thing to do.

The Commission asked Mr. Clement about his state of knowledge before the disastrous May 23 press conference where the facts of the North York General outbreak emerged only under media cross-examination of Dr. [Donald] Low. Mr. Clement said that going into the press conference, he was aware of a few cases but not of the magnitude disclosed by Dr. Low, who had arrived directly from the field a few minutes before the press conference without telling the Minister or the other government officials what he later told the media:

Question: So going in to the press conference, had you had any kind of a briefing from any of the officials as to what might be happening?

Mr. Clement: Well, we usually have a briefing before every press conference, and we did so in this case, but it was literally a couple of minutes of briefing, because he had just arrived in time, as I recall, this is my recollection now. And so he didn't, he didn't tell us any of this during the time before we were working on our speaking notes for the press conference. So it was news to us.

Question: And so do you recall what your understanding of the situation was prior to hearing him respond to the media question?

Mr. Clement: Well, we had a few cases, but not in the magnitude that he was expressing.

As for the existence of any pressure to declare SARS over prematurely, Mr. Clement said:

Question: Was there a pressure that you could feel that grew during April as far as the WHO travel advisory and the issues that arose out of that, to be able to declare this victory?

Mr. Clement: I am glad that you mentioned that. I never felt any pressure from inside the government. There was certainly pressure from the media, and I thought to myself as the cases declined, I thought, you know, they are going to start to ask me whether this is over, and I would be the craziest health minister alive to declare this as over. You could go through every single tape and interview I did of where I was asked probably a dozen times on TV, is this over? My response was exactly the same. In early May, which is after the travel advisory, I said no, this is not over; we have to continue to be vigilant.

There could be a recurrence, so our jobs continue to ensure that we have the right procedures in place in case there is another outbreak of this or any other communicable disease. I said that ad nauseam because I knew that if I ever declared it over and it wasn't over, I would be strung up from the nearest lamp post, I knew that as a politician, as well as a human being, I knew that. So, I never declared it over. Never, ever, ever, in my discussions with stakeholders, with the media, with the POC, with the Premier, I always said we have to be continually vigilant because this may not be over.

Question: Why do you think you were getting the sense that the media was putting pressure on you? Was it a new turn in the series of stories for them?

Mr. Clement: I think there is a notion to want to declare something, they wanted to get on to other things institutionally, so yes, they were waiting for somebody to declare it over, sure. But it wasn't me.

Question: Did you get a sense that those who were working on the issue had the same view as you did? Were there people in there in that group that were also feeling pressure or creating pressure?

Mr. Clement: No, not at a senior management. No. Evidently, this is human nature, people on the ground wanted this, there is a normal human reaction to think that this is over and now we could get back to normal. My point to them always was we will never get back to normal, that is why I'm the one who coined the phrase "the new normal." At a Science Committee meeting, I said we had to get a new normal because we were never going back to normal but we were in the midst of creating the new normal when the second outbreak obviously occurred, but I got a sense after the fact, after the second outbreak, that human nature did its thing again and there were some people potentially who may have let their guard down because they thought that it was over. But they never got that signal from me, or I never got that feeling from anyone in the senior management group.

Question: Now the senior management group is?

Mr. Clement: I mean the POC, Dr. Young, Dr. D'Cunha, Phil Hassen ...

...

Question: Did you sense pressure? You mentioned the media. What about the hospitals themselves, the doctors?

Mr. Clement: They were desperate to get back on track. Their queues were lengthening and that is how doctors get paid. The hospitals obviously wanted to get out of the situation where every hospital in the GTA [Greater Toronto Area] was in restricted access. Obviously we handled the second outbreak in a different way. Having learned a little bit, we learned that it is easy to

shut down a hospital but not so easy to boot them back up again. It is a very complicated task, actually. So I would say the hospitals and doctors wanted to get back to normal, as quickly as possible at which point I would say to them, remember, we are never going back to normal we're going to a new normal of infection control, the likes of which we have never seen before but yes, sure we want to normalize the new normal as soon as possible.

Question: Was there a sense of pressure from the federal government?

Mr. Clement: No, to be fair, no I wouldn't say that. They were not that close to the ground to even make that suggestion, I wouldn't think.

Question: What about the city? Business community? Were you sensing anything coming?

Mr. Clement: I was sensing that everybody wanted this to be over as soon as possible but again, it is not as if I had a conversation or a meeting X on day Y where the mayor said to me, get on with it, nothing like that that you could, I guess it was through the media that you got a sense that people wanted to be over this, and we all did, but we knew that there had been recurrences in other, a recurrence in Singapore, a recurrence in Taiwan, the situation in China wasn't under control yet, so I made it pretty clear that we will not do anything in haste that we would regret later. I felt pretty clear about that.

Question: There is certainly concern expressed to us, and it often does not have specific genesis, but that it was economics that drove this from about the WHO travel advisory on.

Mr. Clement: Yes, that is not true.

Question: They will say that you sent the signal. You obviously

didn't send a direct signal. I think that they are taking your participation in response to the WHO has been a signal, that it was the economics of it that drove you to take a higher public profile at that point in time?

Mr. Clement: No. I went there I went to Geneva because they had to hear the facts from a combination of public health officials and elected officials and I wanted them to make a decision based on the facts, so no, that is not true.

When I say pressure, I was aware that people wanted this to be over, but it is like being aware of the weather. Just because they wanted it to be over does not mean that it is going to be over. I want to make that absolutely clear. It is not as if it had any influence in my decision making whatsoever. In fact, quite the opposite, because I saw the danger of declaring prematurely that it was over and I was absolutely committed to not declaring premature victory, so I want to make pretty clear that fact outlined and highlighted to me why we could not declare prematurely that the war against SARS was over.

This evidence from the Premier and the Minister of Health, as noted below, is uncontradicted. There is no evidence in any document or from any witness or confidential informant interviewed by the Commission to suggest the contrary of what they assert in respect of the lack of any political pressure to hide or downplay SARS or to say prematurely that it was over.

Their evidence is plausible because, for reasons expanded on below, it would be political suicide for anyone in their position to attempt to hide SARS or to exert influence to secure a premature declaration that SARS was over.

Evidence from Senior Officials

The Commission interviewed many senior officials with the Provincial Operations Centre, the Ministry of Health, the Science Committee, hospitals and Public Health who were in a position to see the exertion of political influence if it existed. Some of

them were quite properly irritated by the invocation of the Minister's name by some of those associated with the Chief Medical Officer of Health when requesting information from the field. But not one of them recalled any form of political pressure to hide SARS or to say it was over when it was not. All of them said that their message from the Minister of Health and the Premier was that the government stood ready to do whatever was necessary and to commit whatever resources were necessary to assist the professional public health management of the SARS crisis. All say that there was no political pressure to minimize or hide SARS, to say that cases were not SARS, to say prematurely that SARS was over or to hide the second outbreak.

Their evidence is typified by this comment by one of the most senior government officials involved in SARS:

The politicians were amazing. They had not a minute of doubt or criticism of our work. When SARS II broke out they said it was "too bad" and "do what you have to do to get it under control." The politicians led. The premier said, "Fix it. Do what you have to do. You have the resources." They never second-guessed or made political decisions. The politicians got out of the way. They made exactly the right decision to let the professionals run it. We received nothing but encouragement and pats on the back.

This observation is typical of all responses by those who dealt with the political reaches of government, and these responses support the evidence of the Minister of Health and the Premier.

Evidence from the Health System

Typical of the evidence from hospitals is this account from one of the most senior administrative physicians at North York General in charge of the SARS response:

Question: Some have said that there may have been a combination at play provincially, that there was a disincentive to declare cases to be SARS because of economic impact, political impact. You recall the WHO travel advisory and a contingent of politicians and others off to Geneva to try to persuade them otherwise, and WHO in late April dissolved it. After that point in time, was there a disinclination at all levels to call

something SARS because of the potential consequences? Did you ever sense that was becoming a factor in decisions?

Answer: I never felt any pressures about that. I never felt indirectly any pressures on the part of anybody I interacted with about that. You know, the calls were being made and I didn't get a sense that Toronto Public Health was saying, look, it's bad for the economy. They just didn't have an epilink and they didn't meet the criteria and they actually didn't meet the criteria, as identified at the time. So it wasn't like they met the criteria but let's not call it SARS. They didn't meet the criteria and it turned out not to be as black and white as that in hindsight, but at the time, the knowledge said you need an epilink. And you needed all three and they didn't have all three so they weren't SARS.

Question: Did you ever sense that, at any level, your level included or above, that there was political pressure being brought to bear on anybody?

Answer: I wasn't aware of any political pressure being brought to bear in our institution. I wasn't aware of any.

Question: Nothing caused you to wonder about it?

Answer: I read the news and listened to the news like everybody else. You know, we were hoping that SARS was over, and it would have been nice if it was, but if it wasn't, then we needed to deal with it. So it wasn't about trying to call it quicker than it should be. The question more pertained when people were discussing it about whether or not WHO was calling it right in terms of the travel advisory given that it seemed to be a hospital-based phenomenon. But I don't even remember when that discussion occurred. That might have been in SARS II when it became more clear. So I might be merging thought processes from three years ago together too close in time in retrospect. So I just,

there wasn't a sense, as I look back at it, I don't have a sense that that really played into our interactions with the health care system, the ones that I'm aware of. I don't have any sense. After the fact, in SARS II, I didn't have a sense that that was the case either.

This evidence that there was no pressure to hide SARS or to say that SARS cases were not SARS or to declare SARS over prematurely is consistent with everything said by Ministry of Health and public health officials.

It is implausible to think that officials in the Ministry of Health would be able, even if they wanted to, to conceal a plan to hide SARS. This huge and complex ministry could not turn on a dime, and it was difficult enough for it to respond to the daily demands placed upon it by SARS, let alone to participate in some form of yet undetected secret pressure. It was all it could do to manage the systems and complex interactions with other levels of government, the federal government, the local public health agencies, the hospitals, and above all its many internal divisions, including the office of the Chief Medical Officer of Health and the hospitals branch. It is implausible to think that an organization so complex and so difficult to coordinate internally could successfully conceive, manage and successfully execute a conspiracy of silence to hide SARS or its return.

It was a frustrating time for many in the Ministry, and some of them expressed their frustration when dealing with front-line hospital people. One middle-level Ministry manager told a hospital official who contemplated closing a Toronto emergency ward in mid-April because of short-staffing due to SARS that "the Ministry has no appetite for more closings." It is clear from the entire conversation, including the fact that the manager backed off immediately when challenged, that he was not reacting to political pressure or expressing Ministry policy but simply venting a personal frustration shared by many in government and on the front line. Although the line between political pressure and personal frustration is objectively clear, expressions of personal frustration can easily be taken by outsiders already suspicious of political pressure as a sign that political pressure is at work.

Another natural response of front-line managers was driven by their desire for clarity and bright lines in the diagnosis of SARS despite the lack of a reliable or timely clinical test. One thing to fall back on was the epilink requirement before a SARS diagnosis could be made. As noted often in this report, the case definition for SARS set by Health Canada in conjunction with the World Health Organization case definition required recent contact with a SARS patient or recent presence in a SARS-affected

area like Hong Kong or China. Recent presence or actual presence at the time of diagnosis in a SARS hospital with SARS patients did not qualify as an epilink. If you had been to China, you had the required epilink, but if you were in North York General Hospital one floor down from the SARS ward, you did not have the required epilink. In hindsight this sounds counterintuitive, but at the time it was not only the standard generally accepted by every expert in the field but indeed the only standard there was.

One senior scientist at the centre of the SARS response, devastating in his criticism of Ontario's lack of preparedness, insisted nonetheless that it was science alone that drove Ontario's response to SARS:

Science drove policy.

As noted in the section on North York General Hospital, the belief that SARS was over was not limited to North York General. The focus on recovery was universal. One Doctor, who held a prominent leadership role during SARS, agreed that although there was no pressure to say SARS was over, after the travel advisory there was a mindset that everyone wanted it over:

Question: When it comes to the question of the relaxation in precautions, in hindsight you get certain people who say that it must have been a political decision, the guard must have been let down for economic reasons, and people say this and I say, well, how can you prove this and they say that it must have happened.

Answer: No, there was no pressure that I ever saw to hurry things.

Question: But was there a mindset that everyone wanted this to be over?

Answer: Everybody wanted it to be over, and Carolyn Abramson in the *Globe* said that once they ... things changed once they lifted the travel advisory, the travel advisory was a sort of a shift in the whole psychology in the city and all of a sudden everybody now was together. When the travel advisory came down, there was the City, the Province, Health Canada, everybody

was outraged and fighting together, and then when they got the travel advisory turned back, everybody celebrated about that and once everybody were getting back to normal and everybody was ... that is part of why the lack of leadership. There should have been somebody who said ... nobody questioned it. [Dr.] Jim Young went off to China to talk about our successes and how we controlled it. [Dr.] Bonnie [Henry] went with him and [Dr.] Tony [Mazzulli] went with him and nobody said, "how do you know it is over?" including myself. None of us said "well, just because," and it is such a simple question to ask and we blew it. It is just amazing everybody blew it.

The desire to see the end of SARS was natural. People had worked beyond the normal limits of endurance, it was a frightening experience, and everyone wanted to see the end of the spread of SARS. The fact that everyone on the front lines and throughout the system wanted it to be over may in hindsight suggest over-optimism, but it provides no evidence of political or economic pressure.

Inherent Problems of Proof and Disproof

How can one ever be satisfied beyond a reasonable doubt or even on a balance of probabilities that a thing like political pressure does not exist? Judicial experience shows that it is inherently difficult to prove a negative. This is particularly so with a thing as subtle and elusive as political or economic pressure. In the first place, those who improperly exert such pressure or improperly succumb to it are unlikely to admit it unless confronted with a document. In the second place, such matters are not typically committed to documents. In the third place, such pressure can be so subtle as to defy proof. In the fourth place, there may in fact be no such pressure but underlings may create self-imposed pressure to do what they think will please their masters.¹⁰¹⁵

How can an investigator be satisfied there was no improper pressure? Improper pressure is a hard thing to find and a harder thing to prove or disprove. Even if one interviewed every single Ontario politician and Ministry and Public Health and hospital employee, and everyone denied such pressure, that would not, because of the four problems of proof mentioned above, prove there was no improper pressure.

The only thing an investigator can do is to interview the key figures and a large

number of those who played a part in Ontario's response to SARS and those affected by SARS, from the highest officials to the front-line workers, and test their evidence against the entire body of interviews with witnesses and confidential informants and documentary evidence and the logic and experience of human behaviour.

The Commission's Investigation

The work of the SARS Commission was highly publicized in the media and by newspaper advertisements and the Commission website and the public hearings. Confidentiality was promised to anyone who wished to come forward. The Commission conducted hundreds of confidential interviews and examined thousands of documents without finding any evidence of such improper pressure.

Analysis

No one at the public hearings, not even those who were highly critical of government and public health and hospitals, was able to recall any evidence of such pressure.

All of the key figures, including the Premier, the Minister of Health, senior officials in the Ministry and in Public Health and hospitals, and doctors, denied and refuted the suspicions that anyone exerted or succumbed to improper pressure to minimize or hide SARS or to declare prematurely that it was over.

This evidence is uncontradicted by any evidence turned up in the Commission's investigation described above. The evidence supports the assertion of the key figures that there was no such pressure.

These uncontradicted denials and refutations are plausible for the following reasons:

- It would be political suicide to try to hide SARS or suppress evidence of its return because it would be so difficult to hide such an explosive fact and the risk of exposure would be too high. As Health Minister

1015. An example of the latter two problems is furnished by the remark by King Henry II: "Will no one rid me of this turbulent priest?" The king's remark resulted in the murder, by four of his knightly hangers-on, of the Archbishop of Canterbury. Did the King order the murder? Did he hope the knights would fulfill his wish? Did the knights follow orders? Did the knights merely want to please their master by bringing about what they thought he wanted?

Clement said in response to questions by Mr. Hunt, Commission counsel:

I knew that if I ever declared it over and it wasn't over, I would be strung up from the nearest lamp post, I knew that as a politician, as well as a human being, I knew that.

...

There is an ingrained check and balance on that, which is if you are seen as exploiting this issue for political purposes, you are absolutely crucified and rightly so. That is an ingrained check and balance...

- It would be political suicide to try to hide SARS or suppress evidence of its return because the conspiracy of silence required to achieve it would require the participation of so many people at so many levels that leaks and exposure and disgrace would be inevitable.
- To exert improper pressure effectively in a complex health system full of feisty independent professionals and potential whistleblowers would require not only the knowledge of a large number of people but also their continuing silence to this day. The fact that no one has come forward with any evidence or even any specific allegation of improper pressure makes it highly implausible that such evidence exists.
- The Commission asked hundreds of people in confidential interviews, many of whom distrust officialdom and those in authority, if they knew any evidence of such improper pressure. No one recalled any such evidence.
- The Commission from confidential informants and by way of subpoena obtained and examined thousands of contemporary emails and documents from government and hospitals and found no evidence of such pressure.

Finding

On the basis of this evidence and this reasoning, the Commission finds that there was no political or economic pressure brought to bear on the health system or Public

Health or hospitals in order to minimize or hide SARS or to say that a SARS case was not SARS or to declare prematurely that SARS was over.

13 Essential Questions

Introduction

SARS raised serious questions. Thirteen of the most important ones are addressed here. Some answers are terribly clear. Were health workers adequately protected? Clearly not. Other answers are less obvious. Could SARS II have been prevented? If so, how? This section will summarize these answers as they emerge from the Commission's evidence and findings.

It is too easy after a public health crisis to assign individual blame. This is not to say in hindsight that mistakes were not made or that systems should not be blamed. But honest mistakes are inevitable in any human system. There is always more than enough blame to go around if good faith mistakes made in the fog of crisis are counted in hindsight as blameworthy.

The approach of this Commission as set out in its mandate and as reflected in its approach is not to apportion blame but to find out what happened, to figure out how to fix the problems revealed by SARS, to learn from these tragedies and to give a legacy of betterment to those who died, those who fell ill, those who suffered so much and those who fought it with such courage.

1. Why Does SARS Matter Today?

It is fair to ask, in respect of this final report, after so many reports and investigations, the Naylor Report and the Walker Report and the Commission's 2004 and 2005 interim reports, so what? What is gained now by telling in detail the story of SARS?

Why does SARS matter today, more than three years after the event, after the government and the media have moved on to other crises, after those who suffered from SARS have moved on as best as they can?

After every disaster like SARS the years recede and memories fade. There is always pain that has been forgotten, and things we choose not to recall. If we forget the suffering and courage seen in the SARS crisis we diminish the sacrifices of Tecla Lin, Nelia Laroza, Dr. Nestor Yanga and all those who died and those who suffered. Their suffering and courage should not be in vain.

We must remember SARS because it holds lessons we must learn to protect ourselves against future outbreaks, including a global influenza pandemic predicted by so many scientists. If we do not learn from SARS and we do not make the government fix the problems that remain, we will pay a terrible price in the next pandemic.

2. How Bad Was SARS?

The numbers, that 375 people contracted SARS and 44 died, do not tell the complete story of how bad SARS was. They do not reflect the unspeakable losses of families affected by SARS. They do not reflect the systemic failures that permitted these deaths and illnesses.

SARS had Ontario's health system on the edge of a complete breakdown. The wonder is not that the health system worked so badly during SARS, but that it worked at all. SARS also badly hurt Ontario's international reputation, setting up an unfortunate link in the minds of many in other countries between Toronto and a mysterious deadly disease.

Worst of all, SARS demonstrated how many earlier wake-up calls had been ignored, and how few of their warnings had been heeded. Many of the fault lines that appeared during SARS were identified by earlier investigations and commissions, notably the Krever Inquiry into tainted blood and the O'Connor Inquiry into tainted water.

SARS may be the last wake-up call we get before the next major outbreak of infection, whether it turns out to be an influenza pandemic or some other health crisis. That is why we cannot forget how bad SARS was, and how much terrible suffering and loss we must avoid the next time around. The tragedy of SARS, these stories of unbearable loss and systemic failure, give the public every reason to keep the government's feet to the fire in order to complete the initiatives already undertaken to make us safer from infectious disease.

3. What Went Right?

Despite its deep flaws, the system was supported by people of extraordinary commitment. What pulled us through was the hard work and the courage of those who stepped up and fought SARS. What went right in a system where so much went wrong is their dedication in the midst of chaos and enormous workload pressures. It was a tireless fight in the fog of battle against a deadly and mysterious disease. We should be humbled by their efforts.

SARS produced so many heroes that it is impossible to identify them all and no attempt has been made to do so. Some happen to be mentioned in this report when their names are essential to the narrative.

One hero was the public, which rose magnificently to meet the challenge. Any fight against infectious disease depends above all on public cooperation. SARS could not have been contained in Toronto without the tremendous public cooperation and without the individual sacrifice of those who were quarantined. It is essential to ensure that the spirit of cooperation shown during SARS is not taken for granted. It must be nurtured and promoted.

4. What Went Wrong?

SARS took hold because of a confluence of systemic weaknesses in worker safety, infection control and public health. The Commission's first interim report identified 21 deep systemic flaws in public health infrastructure. The second interim report identified serious shortcomings in health protection and emergency management laws. This final report identifies further areas of unresolved problems, particularly in the domain of health worker safety. Because of these systemic weaknesses, SARS was a disaster waiting to happen.

The public health system was broken, neglected, inadequate and dysfunctional. It was unprepared, fragmented, uncoordinated. It lacked adequate resources, was professionally impoverished and was generally incapable of fulfilling its mandate.

Ontario was not prepared for a public health crisis like SARS. It didn't even have a pandemic plan.

There was a grave lack of worker safety expertise, resources and awareness in the health system, a lack whose impact was compounded by a similar lack of infection control expertise and resources. Not only that, but infection control and worker safety operated as two solitudes, and public health and hospitals operated as separate silos. And the Ministry of Labour was sidelined.

Also missing were two key components of a safe workplace: Neither internal responsibility systems nor joint health and safety committees were, in general, fulfilling their intended roles and responsibilities.

The trust of health workers in the ability of government, safety laws, and their employers to safeguard them and their colleagues was broken. Health workers learned that those in charge were poorly informed and inadequately advised to make pronouncements on worker safety and personal protective equipment. A prime example was the lack of awareness throughout the health and hospital system of the legal requirement for respirator fit testing.

5. Were Precautions Relaxed Too Soon?

In May 2003, the government implemented a series of measures that led to the relaxation of precautions on May 13 and to the lifting of the provincial emergency four days later. But SARS had not gone away. How could victory over SARS have been declared when it was spreading undetected at North York General Hospital? Were precautions relaxed too soon?

Knowing when to announce the “all clear” is very difficult. There were similar instances during the Spanish flu pandemic of 1918–1919, when victory was declared too early. Decision makers are in a tough spot during a public health emergency. React too early in a preventive mode and they may be accused of having generated another “swine flu” problem. Lift precautions too early and they may be accused of recklessness and bowing to political pressure.

There is no easy answer to the question of whether precautions were lifted too soon. In hindsight it turned out to be a mistake because as soon as precautions were relaxed the SARS cases simmering undetected at North York General flared up into the second outbreak. But the decision was made at the time in good faith on the best medical advice available and after two incubation periods with no new detected cases did it appear appropriate to relax the precautions and institute the “new normal” with precaution levels higher than they were before SARS.

As noted in the report, one of the underlying reasons for the second outbreak was the lack of any system to ensure surveillance of the kind that would have detected the North York General cases before they spread. Although the relaxation of precautions triggered the second outbreak, its more underlying cause has more to do with the lack of systems to ensure adequate surveillance.

6. Who Is There to Blame?

No one. The evidence throws up no scapegoats. This will disappoint those who seek someone to blame.

It is too easy to seek out scapegoats. The blame game begins after every public tragedy. While those who look for blame will always find it, honest mistakes are inevitable in any human system. There is always more than enough blame to go around if good faith mistakes made in the heat of battle are counted in hindsight as blameworthy.

More important than blame is to find out what happened, to figure out how to fix the problems, to learn something from these tragedies, to give a legacy of betterment to those who died and those who fell ill and those who suffered so much.

This was a system failure. We were all part of it because we get the public health system and the hospital system we deserve. We get the emergency management system we deserve and we get the pandemic preparedness we deserve. The lack of preparation against infectious disease, the decline of public health, the failure of systems that should protect nurses and paramedics and doctors and all health workers from infection at work, all these declines and failures went on through three successive governments of different political stripes. We all failed ourselves, and we should all be ashamed because we did not insist that these governments protect us better.

It is also hard to find blame because blame requires accountability. Accountability was so blurred during SARS that it is difficult even now to figure out exactly who was in charge of what. Accountability means that when something goes wrong you know who to look for and you know where to find them. That kind of accountability was missing during SARS and remains blurred even today. What we need is a system with clear lines of authority and accountability to prepare us better for the next infectious outbreak.

7. Was Information Withheld?

There is no evidence that information was deliberately withheld. But there is much evidence of serious communication failure.

Bad communication is a steel thread throughout the story of SARS. Poor communication exacerbated a confusing and terrible time. This happened again and again. In February and early March 2003, health workers in Ontario, unlike their colleagues in B.C., were not alerted to the emergence of a mysterious new disease in China and Hong Kong. Until mid-May 2003, directives failed to remind employers of their worker safety legal obligations. And over and over when new hospital outbreaks were detected, there were inordinate delays before all workers who might have been exposed were contacted.

Bad communication between governments and agencies and hospitals is evidenced in many cases throughout this report. Although a real effort was made by government and public health to give the public timely and accurate information, performance was mixed. In some instances public communication was excellent, as in the work of Dr. Sheela Basur, the Chief Medical Officer of Health for Toronto. In some instances, like the disastrous May 23 press conference, public communication was like a train wreck.

8. Did Politics Intrude?

The Commission finds on the basis of the evidence and analysis set out in this chapter that there was no political or economic pressure brought to bear on the health system or public health or hospitals in order to minimize or hide SARS or to say that a SARS case was not SARS or to declare prematurely that SARS was over.

9. Was SARS I Preventable?

There is an element of speculation in any attempt to say whether a disaster could have been prevented by this measure or that measure. History is full of what-ifs. Like every other historical what-if, there is an element of speculation in any attempt to say whether the SARS disaster could have been prevented, by earlier isolation and investigation, by a differently configured emergency room, by different infection control procedures, worker safety precautions or training or alertness.

The short answer is no, SARS I was not preventable. No country escaped SARS entirely. Vancouver certainly did better than Toronto. Although the presentation of the index cases was much different in each case, there are enough similarities to warrant comparison in terms of preparedness and worker safety systems. There was undoubtedly an element of good fortune that saved Vancouver from the devastation that SARS wrought on Ontario. But it must also be said that Vancouver made its own luck with better preparedness and systemic strengths.

It cannot be proven that SARS I could have been prevented if Ontario's systemic weaknesses in preparedness, surveillance, worker safety, infection control and public health had been adequately addressed before SARS. It is likely that SARS I could have been contained more quickly and with less damage had the right systems been in place in Ontario.

In B.C., even if the province was luckier than Ontario in the presentation of its index case, SARS was, nonetheless, more effectively contained in a jurisdiction with better preparation and more robust and more collaborative worker safety, infection control and public health systems.

British Columbia provides a useful example of how well things can work and how well health workers can be protected when there is a strong safety culture. It provides an example of how things can and should work in Ontario.

10. Was SARS II Preventable?

We will never know if SARS II could have been prevented.

What can be said, for the reasons set out below, is that the opportunity was greater to prevent SARS II than to prevent SARS I, and that SARS II could have been caught earlier and its impact lessened had the right systems been in place.

First, as a mostly nosocomial outbreak, SARS spread primarily within the contained space of health workplaces. Unlike a flu pandemic, it did not spread uncontrollably in the community. Second, it spread precisely in the kind of workplaces that should be optimally prepared to protect patients, visitors and workers from infectious diseases. Third, it occurred more than two months after Mr. T presented at Scarborough Grace Hospital. It is one thing to be caught off guard, as Ontario was, at the start of SARS. It is another to have failed to learn enough over a two-month period to prevent a major recurrence.

The problem was that these factors, which should have made it easier to prevent and control SARS II, were undermined by the many systemic flaws revealed by SARS, including insufficient surveillance, inadequate infection control expertise and resources, a lack of worker safety resources and expertise, blurred accountability, and inadequate communication systems between hospitals and public health.

11. Were Health Workers Adequately Protected?

The answer is no. It is tragically clear that health workers were not adequately protected. This is demonstrated by the heavy burden of disease on hospital workers, paramedics and others who worked in Ontario's health system during SARS. Two nurses and a doctor died from SARS. Other health workers fell ill, including paramedics, medical technicians and cleaners, and many of them unknowingly infected their families. Almost half of those who contracted SARS were health workers who got it on the job. It would have been one thing if all had been infected at the start of the outbreak when little was known about the disease. The full extent of worker safety failings during SARS is revealed by the fact that workers continued to get sick in April and up to the end of May, long after the Scarborough Grace outbreak.

**Table 1 – Probable and Suspect SARS Cases
 Contracted in Health Care Settings¹⁰¹⁶**

Category	Phase 1	Phase 2	Total Number of Suspect and Probable Cases	Percentage of Total Number of Cases (375)
Health Workers	118	51	169	45%
Patients	23	35	58	15%
Visitors	20	23	43	11%
Total	161	109	270	72%

Many factors contributed to this. There was a lack of worker safety resources and expertise in the health system heading into SARS. The health system generally did not understand its obligations under worker safety laws and regulations. There was a lack of understanding of occupational safety as a discipline separate from infection control. Infection control and occupational safety operated as two solitudes. The Ministry of Labour was largely sidelined during SARS; its ability to play a greater

1016. Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearings, Sept. 29, 2003.

enforcement and regulatory role as required by law to protect workers had been seriously undermined by funding and resource cuts in the 1990s.

12. Are We Safer Now?

The short answer is yes, somewhat safer. The long answer that we are not yet as safe as we should be.

The Commission's first interim report, in April 2004, addressed the deep problems of public health infrastructure in Ontario and what must be done to make us safer. The Commission's second interim report, in April 2005, addressed glaring deficiencies in Ontario's health protection and emergency response laws and what must be done to correct them.

Although the Ontario government and individual hospitals have taken significant steps to improve our level of protection from infectious outbreaks such as SARS, serious problems persist. Much remains to be done. What has been accomplished thus far, though commendable, marks the beginning of the end of the effort to fix the problems revealed by SARS. The end will not be reached until Ontario has a health system with robust and collaborative infection control, worker safety and public health functions.

As the Commission's second interim report said:

After long periods of neglect, inadequate resources and poor leadership, it will take years of sustained funding and resources to correct the damage.¹⁰¹⁷

13. What Must Be Done?

SARS revealed a broad range of systemic failures: the lack of preparation against infectious disease outbreaks, the decline of public health, the failure of systems that should protect nurses and paramedics and others from infection at work, the inade-

1017. SARS Commission, second interim report, p. 297.

quacy of infection control programs to protect patients and visitors to health facilities, and the blurred lines of authority and accountability.

SARS taught us lessons that can help us redeem our failures. These lessons are reflected in the Commission's recommendations for change.

Perhaps the most important lesson of SARS is the importance of the precautionary principle. SARS demonstrated over and over the importance of the principle that we cannot wait for scientific certainty before we take reasonable steps to reduce risk. This principle should be adopted as a guiding principle throughout Ontario's health, public health and worker safety systems.

If we do not learn this and other lessons of SARS, and if we do not make present governments fix the problems that remain, we will leave a bitter legacy for those who died, those who fell ill and those who suffered so much. And we will pay a terrible price in the face of future outbreaks of virulent disease, whether in the form of foreseen outbreaks like flu pandemics or unforeseen ones, as SARS was.

SARS taught us that we must be ready for the unseen. SARS taught us that new microbial threats like SARS have happened and can happen again. And it gave us a first-hand glimpse of the even greater devastation a flu pandemic could create.

There is no longer any excuse for governments and hospitals to be caught off guard, no longer any excuse for health workers not to have available the maximum reasonable level of protection through appropriate equipment and training, and no longer any excuse for patients and visitors not to be protected by effective infection control practices.

As the Commission warned in its first interim report:

Ontario ... slept through many wake-up calls. Again and again the systemic flaws were pointed out, again and again the very problems that emerged during SARS were predicted, again and again the warnings were ignored.

The Ontario government has a clear choice. If it has the necessary political will, it can make the financial investment and the long-term commitment to reform that is required to bring our public health protection against infectious disease up to a reasonable standard. If it lacks the necessary political will, it can tinker with the system, make a token

investment, and then wait for the death, sickness, suffering and economic disaster that will come with the next outbreak of disease.

The strength of the government's political will can be measured in the months ahead by its actions and its long-term commitments.¹⁰¹⁸

1018. SARS Commission, first interim report, p. 210.

CHAPTER NINE: Recommendations

Introduction

The first interim report, *SARS and Public Health in Ontario*, focused on public health renewal. The Commission said:

Because government decisions about fundamental changes in the public health system are clearly imminent, this interim report on the public health lessons of SARS is being issued at this time instead of awaiting the final report ... The fact that the Commission must address public health renewal on an interim basis is not to say it is more important than any other urgent issue such as the safety and protection of health care workers. It is simply a case of timing.¹⁰¹⁹

The Commission set out 21 principles for reforming the shortcomings of the public health system demonstrated by SARS. It also made recommendations to address urgent problems that had to be corrected to prevent another tragedy like SARS, including a lack of provincial public health leadership, insufficient public health capacity and resources, inadequate provincial laboratory capacity, a lack of central public health coordination and expertise, an absence of public health emergency preparedness, and a lack of public health links with hospitals, health workers and others.

The second interim report, *SARS and Public Health Legislation*, focused on public health legislation. The Commission said:

This second interim report deals with legislation to strengthen the *Health Protection and Promotion Act* and to enact emergency powers for public health disasters like SARS or flu pandemics. It is produced now to respond to current government plans for further amendments to *Health*

1019. SARS Commission, first interim report, p. 1.

Protection and Promotion Act and radical changes to the *Emergency Management Act*.¹⁰²⁰

The Commission made recommendations regarding Chief Medical Officer of Health independence and leadership, local public health governance, public health legal preparedness and emergency legislation, public health resources, and overhauling the *Health Protection and Promotion Act*, including strengthening health protection powers and clarifying infectious disease reporting requirements.

This third and final report makes recommendations arising from the story of how SARS devastated Ontario and was not contained until 375 people contracted the disease and 44 died. Not surprisingly in an outbreak where nurses, doctors and other health workers constituted the largest single group of SARS cases, many of the recommendations address worker safety issues. As the Commission noted in its second interim report:

Suggestions have been received for legislation to strengthen occupational health and safety protection for health workers. That issue will be dealt with in the final report. Occupational health and safety is a vital aspect of the Commission's work.¹⁰²¹

The Commission benefited greatly from written and oral submissions delivered during the course of the public hearings and in response to several calls for submissions from the beginning to the end of the investigation. Many submissions and presentations from the public hearings are on the Commission's website.

The submissions from government, hospitals, unions and many sectors of the health community noted significant improvements since SARS and significant areas where more needs to be done. These submissions constitute just under a banker's box of material. This material, together with all public records of the Commission's work, have been transmitted to the Archives of Ontario¹⁰²² and will be available to the public according to archival policy.

1020. SARS Commission, second interim report, p. 1.

1021. SARS Commission, second interim report, p. 1.

1022. The Commission has transmitted to the Archives of Ontario all non-confidential material. The Commission's report is by its terms of reference subject to Ontario's privacy and freedom of information legislation, in the sense that the report itself is publicly available and must respect the confidentiality of personal health information. Because the Commission is independent from government, its confidential work product is not subject to those statutes. Much of the

Precautionary Principle

In *The Commission of Inquiry on the Blood System in Canada*, Mr. Justice Krever said:

Where there is reasonable evidence of an impending threat to public health, it is inappropriate to require proof of causation beyond a reasonable doubt before taking steps to avert the threat.¹⁰²³

The importance of the precautionary principle that reasonable efforts to reduce risk need not await scientific proof was demonstrated over and over during SARS. The need to apply it better is noted throughout this report.

One example was the debate during SARS over whether SARS was transmitted by large droplets or through airborne particles. The point is not who was right and who was wrong in this debate. When it comes to worker safety in hospitals, we should not be driven by the scientific dogma of yesterday or even the scientific dogma of today. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

A precautionary approach also was in use at Vancouver General Hospital when it received B.C.'s first SARS case on March 7, 2003, the same day Ontario's index case presented at Scarborough Grace Hospital. When dealing with an undiagnosed respiratory illness, health workers at Vancouver General automatically go to the highest level of precautions, and then scale down as the situation is clarified. While the circumstances at Vancouver General and the Grace were different, it is not surprising that SARS was so effectively contained at an institution so steeped in the precautionary principle.

In Ontario there was a systemic failure to recognize the precautionary principle in health worker safety, and in the identification and diagnosis of a respiratory illness that mimicked the symptoms of other, better-known diseases. Amid this systemic absence of the precautionary principle, it is not surprising that in Ontario, unlike in Vancouver, SARS caused such devastation, infecting 375 people, including 169 health workers, and killing 44, including two nurses and a physician.

Commission's work product consists of confidential informant interviews, notes and documents produced or obtained under a promise of confidentiality that attracts in law.
1023. The Krever Report, p. 295; see also pp. 989-994.

The Commission therefore recommends:

- That the precautionary principle, which states that action to reduce risk need not await scientific certainty, be expressly adopted as a guiding principle throughout Ontario's health, public health and worker safety systems by way of policy statement, by explicit reference in all relevant operational standards and directions, and by way of inclusion, through preamble, statement of principle, or otherwise, in the *Occupational Health and Safety Act*, the *Health Protection and Promotion Act*, and all relevant health statutes and regulations.
- That in any future infectious disease crisis, the precautionary principle guide the development, implementation and monitoring of procedures, guidelines, processes and systems for the early detection and treatment of possible cases.
- That in any future infectious disease crisis, the precautionary principle guide the development, implementation and monitoring of worker safety procedures, guidelines, processes and systems.

Public Health System

SARS showed that Ontario's public health system is broken and needs to be fixed. Since then, while much progress has been made, after long periods of neglect, inadequate resources and poor leadership, much more remains to be done. Every recommendation to the Commission in respect of public health noted the need for more resources.¹⁰²⁴

1024. One of the best examples is the July 19, 2006, submission by Dr. David McKeown, the Toronto Medical Officer of Health, who noted in particular these six problems:

1. The role and authority of Public Health with respect to non-reportable diseases must be strengthened.
2. The reporting capability of iPHIS [the integrated Public Health Information System] must be improved. In addition, the Ministry of Health and Long-Term Care (MOHLTC) must move forward more rapidly to enable electronic reporting of cases from laboratories, hospitals and physicians to local Public Health.
3. The MOHLTC and the College of Physicians and Surgeons of Ontario must develop mech-

As the Commission's second interim report said:

As the province moves into the latter stages of Operation Health Protection, stages when significant funding will be required, the challenge will be to provide the necessary resources to sustain the momentum for change despite the government's other budgetary pressures.

The point has to be made again and again that resources are essential to give effect to public health reform. Without additional resources, new leadership and new powers will do no good. To give the Chief Medical Officer of Health a new mandate without new resources is to make her powerless to effect the promised changes. As one thoughtful observer told the Commission:

The worst-case scenario is basically to get the obligation to do this and not get the resources to do it. Then the Chief Medical Officer of Health would have a legal duty that [he or she] can't exercise.

To arm the public health system with more powers and duties without the necessary resources is to mislead the public and to leave Ontario vulnerable to outbreaks like SARS.¹⁰²⁵

SARS also disclosed many problems with the *Health Protection and Promotion Act* that

anisms to enable all licensed physicians in the province to receive urgent health alerts electronically.

4. The MOHLTC must clarify the role and authority of Public Health with respect to infection control in hospitals and other institutions.
5. Overall public health capacity must be strengthened. This requires an enhanced budget, not just a change in the cost-sharing formula. In addition the human resources issues are serious and growing, in particular with respect to Community Medicine physician specialists who are critical in an infectious disease emergency.
6. The full independence of the Chief Medical Officer of Health role is required. The current position combines this independent role, which may lead to conflict between government interests and health needs of the public.

1025. SARS Commission, second interim report, p. 303.

were the subject of extensive recommendations in the second interim report.¹⁰¹⁹ These included problems arising from the necessary use of a blunt instrument like the Code Orange status, and confusion about infectious disease reporting obligations.

The Commission therefore recommends:

- That the Government complete the process of fixing the public health system, including:
 - Conducting the major overhaul of the *Health Protection and Promotion Act* recommended in the Commission's second interim report to remove dangerous uncertainties like the confusion about infectious disease reporting obligations that occurred during SARS, and to provide authorities with the ability to provide a more tightly focused response than was possible under the blunt instrument of the Code Orange status;
 - Completing the review of the Mandatory Health Programs and Services Guidelines, and moving from a system of guidelines to a more accountable one based on performance-linked program standards;
 - Establishing the Ontario Health Protection and Promotion Agency;
 - Revitalizing the Central Public Health Laboratory; and
 - Providing sufficient and sustained funding for public health.

Ontario Agency for Health Protection and Promotion, and the CMOH

Although there is much wisdom in the proposal for an Ontario Agency for Health Protection and Promotion, the recommended structure¹⁰²⁰ fails to take into account the major SARS problem of divided authority and accountability.

1019. SARS Commission, second interim report, pp. 404-416.

1020. See Final Report of the Agency Implementation Task Force, *From Vision to Action: A Plan for the Ontario Agency for Health Protection and Promotion*, March 2006; Report of the Agency Implementation Task Force, *Building an Innovative Foundation: A Plan for the Ontario Agency for Health Protection and Promotion*, October 2005.

As the Commission noted in its second interim report:

... the SARS response was also hamstrung by an unwieldy emergency leadership structure with no one clearly in charge. A *de facto* arrangement whereby the Chief Medical Officer of Health of the day shared authority with the Commissioner of Public Safety and Security resulted in a lack of clarity as to their respective roles which contributed to hindering the SARS response.¹⁰²¹

An important lesson from SARS is that the last thing Ontario needs, in planning for the next outbreak and to deal with it when it happens, is another major independent player on the block.

The first report of the Agency Implementation Task Force said:

A body at arm's-length from the government was recommended in the Walker, Campbell and Naylor reports, was a commitment in *Operation Health Protection* and aligns with the successful experience of the INSPQ [L'Institut national de santé publique du Québec].¹⁰²²

The Commission in fact recommended a much different arrangement in its first interim report, and warned against creating another “silo,” another autonomous body, when SARS demonstrated the dangers of such uncoordinated entities:

First, the structure of the new agency or centre, which will combine advisory and operational functions, must reflect the appropriate balance between independence and accountability whether it is established as a Crown corporation or some other form of agency insulated from direct Ministerial control.

Second, it should be an adjunct to the work of the Chief Medical Officer of Health and the local Medical Officers of Health, not a competing body. SARS showed that there are already enough autonomous players on the block who can get in each other's way if not properly coordinated. There is always a danger in introducing a semi-autonomous body into a

1021. SARS Commission, second interim report, p. 323.

1022. Report of the Agency Implementation Task Force, *Building an Innovative Foundation: A Plan for the Ontario Agency for Health Protection and Promotion*, October 2005, p. 16.

system like public health that is accountable to the public through the government. The risk is that such a body can take on a life of its own and an ivory tower agenda of its own that does not necessarily serve the public interest it was designed to support.¹⁰²³

Consequently, the Commission recommended that the Chief Medical Officer of Health have a hands-on role at the agency, including a seat on the board.¹⁰²⁴

The Agency Implementation Task Force took a completely opposite approach, recommending against giving the Chief Medical Officer of Health a seat as a voting member of the board, and recommending a very autonomous role for the agency.

This proposed arrangement ignores important lessons from SARS.

The Commission, far from recommending a completely arm's-length organization, pointed out the need for the Chief Medical Officer of Health to be in charge with the assistance of the agency, which should, albeit with a measure of policy independence, be operationally accountable to the Chief Medical Officer of Health.

The Commission therefore recommends:

- That the government reconsider in light of the lessons of SARS the Agency Implementation Task Force's recommendation regarding the relationship between the Chief Medical Officer of Health and the agency.

1023. SARS Commission, first interim report, p. 19.

1024. The first interim report said:

To ensure that the new Ontario agency complements the service mandate of the public health system, the relationship must be clear between the new Ontario agency and the Chief Medical Officer of Health. Unless he or she has a clear say in the ongoing work and overall direction of the agency, and the ability to mobilize the resources of the agency to meet a public health problem when required, the agency will not fulfill its role as a source of support to public health operations. The Chief Medical Officer of Health must have more than a token role in the direction of any such agency. If the new agency is to have a Board of Directors, the Chief Medical Officer of Health, if not its Chair, should be at least its Associate Chair. To the extent the agency is operational as opposed to purely advisory, the Chief Medical Officer of Health must, in the face of a public health problem, be able to direct the operational resources of the agency so as best to meet the problem at hand, whether the resources are epidemiological, laboratory, or other.

SARS Commission, first interim report, p. 188.

Emergency Plans for Orderly Hospital Closure

Before SARS no one was prepared for the possibility that a hospital might need to be closed to contain an infectious disease outbreak. Yet this is what happened on three occasions during SARS, at the Scarborough Grace Hospital, York Central Hospital and North York General Hospital. No one in Ontario had had to do this before. SARS demonstrated the immense difficulty of closing a hospital in the middle of an outbreak, when no one had done it before, when no one had planned for this possibility, and when no exercises and education had been conducted to train staff on how to do it. It is to the credit of all those involved in closing Scarborough Grace, York Central and North York General that they accomplished the task despite having never had the experience of and knowledge from doing so before.

The Commission therefore recommends:

- The development of emergency plans for orderly hospital closure to avoid problems of the kind that arose at the Grace, York Central and North York General, to cover all eventualities and in particular:
 - Effective means for immediately notifying staff at the institution of any potential risk.
 - Effective means for immediately notifying staff not on duty at the institution of any potential risk.
 - Systems for rapidly securing the names and tracing information of everyone at the hospital at the time including visitors to patients.
 - Amendment of the *Health Protection and Promotion Act* to ensure duty to identify for purpose of public health tracing.¹⁰²⁵

1025. The second interim report said:

A submission to the Commission from a group of experts, who were all closely involved in the SARS response, recommended that the reporting sections of the *Health Protection and Promotion Act* be amended to support the work of health units in tracing the contacts of patients with infectious diseases:

The current HPPA does not give specific reference to contacts of infectious cases. Release of information on the cases as well as contacts is essential for infectious disease control. This was a major obstacle during the management of the SARS outbreak. We believe that

- Prearranged, rehearsed protocols for police assistance.
- Immediate medical backup for those dependent on the hospital, such as obstetrics, dialysis and oncology.
- Effective means for immediately informing the public, families of patients and the wider hospital community.
- That hospital emergency closing plans be rehearsed and reviewed on a periodic basis to reflect lessons learned in training exercises and emergency management best practices.

Effective Distribution of Outbreak Alerts

When Mr. T presented to the Grace on March 7, 2003, health workers did not know to be on the lookout for unusual respiratory illnesses. Unlike their counterparts in B.C., they had not been alerted to the emergence of a mysterious new disease in China and Hong Kong. Three years after SARS, public health officials told the Commission there is still no means to communicate quickly and effectively with Ontario's physicians. SARS demonstrated that alerts and other communications need to quickly reach all workplace parties, including employers, health workers, unions and Joint Health and Safety Committees.

The Commission therefore recommends:

- That the Ministry of Health develop and implement an effective

the requirement to report contacts referred to specifically in the legislation will allow practitioners to provide this information to their medical officer of health.

The amendments to Regulation 569, effected in Regulation 01/05, address this issue.

Contacts initially identified or later traced are included in most of the lists specifying additional information that must be reported to the medical officer of health. In particular, it is included in the case of SARS, TB, influenza and febrile respiratory illness. This means that those who have reporting obligations under the Act are now required to provide contact information.

Source: SARS Commission, second interim report, p. 199.

means to alert all workplace parties, including health workers, employers, unions and Joint Health and Safety Committees, in a timely manner about infectious disease threats.

- That in preparation for the possibility of a public health crisis like SARS or a pandemic, health institutions develop and implement effective means to communicate to their workers information regarding the outbreak, the health risk, the containment strategy, and measures to protect workers, patients and visitors.

Directives

Directives on N95 respirators and other worker safety issues were prepared without appropriate oversight by the Ministry of Labour, adequate input from worker safety experts, and sufficient participation by workplace parties including unions, employers and Joint Health and Safety Committees. The inadequacies of directives do not reflect on those who prepared them, and who deserve praise for their remarkable effort under difficult circumstances with insufficient resources, infrastructure or planning. Regardless of the reasons for the directives' failings, the reality is that for most of the outbreak they failed to provide the detailed advice that health workers, their supervisors and their employers needed. Workplace parties also reported their continuing difficulties in providing feedback to the Provincial Operations Centre on issues that arose when implementing directives.

The Commission therefore recommends:

- That in any future infectious disease crisis, the preparation of directives involving worker safety be supervised, reviewed and approved by the Ministry of Labour in a process that is transparent and easily understood by all workplace parties.
- That in any future infectious disease crisis, directives involving worker safety be jointly prepared by infection control and worker safety experts to reflect their overlapping responsibilities and thereby ensure that patients, workers and visitors are kept safe.
- That in any future infectious disease crisis, directives involving worker safety be prepared with input from the workplace parties who have to implement them, including employers, health worker representatives

and Joint Health and Safety Committees.

- That in any future infectious disease crisis, directives and other communications involving worker safety reference the specific applicable sections of the *Occupational Health and Safety Act*, and its regulations, so that employers and workers are fully informed of worker safety legal requirements.
- That the Ministry of Labour and the Ministry of Health cooperate in developing and implementing an effective communication system for receiving timely feedback from workplace parties, including employers, unions and Joint Health and Safety Committees, regarding any problems encountered when implementing worker safety directives, policies, procedures and systems.
- That when issuing any communication affecting worker safety, the Ministry of Health consult with the Ministry of Labour, and ensure that there are clear, specific references to relevant worker safety laws, regulations, guidelines and best practices, and that employers are fully informed of their legal obligations to protect workers.

Effective Crisis Communication

There were many systemic problems with crisis communications during SARS. Workplace parties, including unions and the Ministry of Labour, told the Commission of their difficulties in receiving directives in a timely manner and in gaining access to Ministry of Health websites. Employers and workers' representatives often had great difficulty in receiving timely responses to questions to the Provincial Operations Centre, Ministry of Health and the Ministry of Labour, on important issues, including work refusals, safety of pregnant workers, and safety of immunocompromised workers. Workers' representatives also said they were not aware of such internal Ministry of Labour documents as the 1984 agreement with the Ministry of Health and the protocol dated April 2, 2003. In some cases, media reports were more informative on SARS than communications by health institutions to their workers.

The Commission therefore recommends:

- That the Ministry of Labour and the Ministry of Health cooperate in developing and implementing an effective communication system to

ensure that in the event of an infectious disease outbreak all workplace parties, including front-line health workers, employers, unions and Joint Health and Safety Committees, receive relevant communications, including directives, in a timely manner.

- That in the event of any future infectious disease crisis, the Ministry of Labour provide in a timely manner clear direction and information regarding guidelines for work refusals, pregnant workers and immunocompromised workers.
- That in the event of an infectious disease outbreak, any protocol regarding the Ministry of Labour's response, such as the Ministry's April 2, 2003, protocol, be communicated in a timely manner to employers, unions, Joint Health and Safety Committees and other workplace parties.

Risk Communication

The story of the psychiatric patients and the clusters of family illness in May at North York General demonstrates the importance of clear communication and a clear understanding of the respective roles and responsibilities in an outbreak investigation. Front-line nurses and physicians believed these patients had SARS. Public Health believed these patients, while not classified as having SARS, were being treated as persons under investigation and were being investigated and monitored. The hospital, in good faith, sincerely believed that SARS had been ruled out. In good faith, it also repeated this message to staff and tried to convince staff they were safe. This led to an important disconnect at North York General between what front-line nurses and physicians saw and what the hospital told its employees. The Commission accepts that everyone involved was doing what they thought was right. The problem was that staff in good faith were given assurances with a confidence that was not warranted in the circumstances.

The Commission therefore recommends:

- That the Ministry of Health ensure that the respective roles and responsibilities of public health and hospitals during an infectious disease outbreak are clarified and clearly understood by all parties.
- That public health and hospitals jointly develop processes to ensure that public health advice to hospitals regarding patient diagnosis in a

disease outbreak, especially with an infectious disease like SARS that is difficult to identify, clearly reflect all the attendant health risks.

- That risk communication to staff reflect a precautionary approach, that it is better to err on the side of caution, especially when dealing with a little-understood new disease like SARS.

Listening to Front-Line Health Workers

During SARS, front-line doctors, nurses and other health workers had the greatest clinical experience in diagnosing and treating SARS patients. Yet there was no process in place to ensure that their voices and experience were heard.

At North York General, for example, before the events of May 23, 2003, some nurses, doctors and other health workers worried that, despite what they were being told, SARS had not gone away. The hospital felt, based on consultations with outside experts, including Public Health, that the psychiatry patients and the family cluster of illness in May were not SARS. Hospital officials believed in good faith that staff concerns were unfounded and that they needed to convince staff that it was safe. What angered health workers was that their concerns, which turned out to be well founded, were dismissed, and the well-intentioned messages of the hospital were disconnected from front-line staff concerns.

The Commission therefore recommends:

- That effective processes and systems be established to provide a path for communication and consultation with front-line staff.
- That the health concerns of health workers be taken seriously, and that in the spirit of the precautionary principle health workers be made to feel safe, even if this means continuing with levels of heightened precautions that experts believe are no longer necessary.

Listening to Unions

Just as hospitals should listen more carefully to the concerns of nurses and other front-line health workers, the Ministry of Health would be well advised to listen more carefully to the reasonable concerns of health worker unions which have enormous

front-line experience in the actual problems of worker safety on the ground. Their expertise is reflected in the thoughtful and detailed presentations by unions that represent Ontario's health workers, and in particular the joint work of the Ontario Nurses' Association and the Ontario Public Service Employees Union. The problems of worker safety have been explicitly recognized by Minister of Health George Smitherman speaking to an audience of nurses in May 2005:

One of the things I was struck by ... [was] the number of nurses that work in environments, hospital environments perhaps more particularly, that actually are unsafe ... We have a lot of work to do on that.

It is important for Ministry officials to take this ministerial direction seriously. It is important for Ministry officials to avoid any impression that the Ministry has adopted an adversarial or dismissive attitude towards those who voice the legitimate concerns of those at risk on the front lines.¹⁰²⁶

Surveillance

One of the most important systemic failures of SARS was the failure to quickly identify clusters of illness among staff and to convey that information to infection control practitioners at affected hospitals and to those leading the fight against SARS. These systemic failures prevented the timely identification of SARS cases at the Grace and at North York General, the sites of the two largest nosocomial outbreaks.

Before May 23, 2003, when it appeared that SARS had been contained, there was no system-wide surveillance in place to ensure that undetected cases were caught. Responsibility for surveillance for undetected cases of SARS was left to individual institutions and to front-line practitioners. Any system that might have identified clusters of illness or death could have been helpful. However, surveillance standards at individual hospitals in Ontario were insufficient and not mandated. Witnesses told the Commission that such surveillance is possible only with a sufficiently resourced infection control function.

1026. One example of this impression arose after a Ministry of Health official, responding to union concerns that safety issues had been ignored in pandemic planning, did not address the issue on the merits but dismissed the well-expressed union concerns by saying, "I am not sure we will ever meet the expectations of organized labour regarding health and safety..." This comment led the union to believe "that key bureaucrats in MOHLTC view occupational health and safety as a partisan issue, with occupational health and safety proponents as their adversaries."

The Commission therefore recommends:

- That appropriate surveillance standards be established, mandated and funded in Ontario hospitals.
- That special care be paid to identifying clusters of illness among staff and to initiating immediate investigation.
- That where suspicious clusters of illness are identified, this be communicated to health workers, especially to those who might have been in contact with sick staff, or have worked in the same areas of the hospital.
- When an outbreak appears to be waning of a difficult-to-diagnose infectious disease like SARS, system-wide surveillance be implemented to ensure that undetected cases are identified.
- Infection control functions in Ontario hospitals and in public health be sufficiently resourced so that they could contribute to, and participate in, system-wide surveillance when an outbreak appears to be waning of a difficult-to-diagnose infectious disease like SARS.

Infection Control

Many witnesses have told the Commission that, since SARS, infection control standards and practices have improved at hospitals affected by SARS. It will be important to ensure that improvements occur across the health system. Witnesses voiced a concern that as memories of the SARS outbreak fade, so will attention to infection control. Part of that concern is over the lack of consistent system-wide policies on visitor access at hospitals. They also told the Commission that many Ontario hospitals are in older buildings whose structure does not lend itself to modern infection control practices.

The Commission therefore recommends:

- That the Ministry of Health ensure that all Ontario hospitals have infection control personnel, resources and program components, including surveillance, control and education, consistent with Canadian

recommendations and best practices.¹⁰²⁷

- That consistent and clear visitor policies be developed across the health system to ensure that visitor access, while important in caring for the ill, does not overcome infection control standards.
- That the Ministry of Health and every health institution develop consistent, safe and humane policies to lessen the impact of infectious outbreaks on the vital priority for the sick to receive visitors, unless medically dangerous.
- That visitors be educated to their important role in keeping hospitals safe, and to the need to respect limits on the number of visitors, particularly where the illness is not serious or life-threatening.
- That the Ministry of Health help hospitals to incorporate leading practices in infection control standards into facility design and renovation.

Safety Culture in Health Workplaces

The heavy burden of disease that fell on nurses, doctors and other health workers demonstrated the lack of a safety culture¹⁰²⁸ in the Ontario health system. A single event like the spread of SARS at the Grace was warning enough that a safety culture

1027. "It's critical that all hospitals have specific human resources, in the form of ICPs (Infection Control Professionals) and support staff, for an effective infection prevention program," says Dr. [Richard] Zoutman. Such programmes must include surveillance (counting infections), control (interventions to prevent them from occurring), and education components.

Source: Queen's News Centre, "Canadian hospitals below standards for preventing infection," Tuesday, August 05, 2003, http://qnc.queensu.ca/story_loader.php?id=3f2fb55a816fc.

1028. A definition of safety culture suggested by the Health and Safety Commission in the U.K. is as follows:

The safety culture of an organisation is the product of the individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's health and safety programmes. Organisations with a positive safety culture are characterised by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventative measures.

was lacking. The fact that health workers continued to get sick in April and May after the events at the Grace demonstrated the extent to which a safety culture was lacking. Nothing better demonstrates the absence of a safety culture than the inability to fix worker safety problems in a timely manner once they have been identified by a tragedy like the Grace.

The Vancouver experience demonstrated the value of a safety culture in health workplaces. Expressions of this safety culture included the close cooperation and mutual respect between infection control and worker safety, the emphasis on listening to health workers, and the deployment of joint teams of infection control and worker safety experts to Royal Columbian Hospital after a nurse contracted SARS.

In Ontario, infection control and worker safety disciplines generally operated as separate silos during SARS. Until this divide is bridged and infection control and worker safety disciplines begin to actively and effectively cooperate, it will be difficult to establish a strong safety culture in Ontario.

As a landmark study on worker safety in health care said:

... if the safety climate within healthcare was better and workers had more confidence in their employers' commitment to worker health and safety, employees would have more confidence in the messages and direc-

A positive safety culture implies that the whole is more than the sum of the parts. The different aspects interact together to give added effect in a collective commitment. In a negative safety culture the opposite is the case, with the commitment of some individuals strangled by the cynicism of others. From various studies it is clear that certain factors appear to characterise organisations with a positive safety culture.

These factors include:

- The importance of leadership and the commitment of the chief executive
- The executive safety role of line management
- The involvement of all employees
- Effective communications and commonly understood and agreed goals
- Good organisational learning and responsiveness to change
- Manifest attention to workplace safety and health
- A questioning attitude and a rigorous and prudent approach by all individuals

Source: The Institution of Engineering and Technology, "IEE – Health and Safety Briefing 07 – Safety Culture," <http://www.iee.org/Policy/Areas/Health/hsb07.cfm>.

tives they received during a crisis situation such as SARS. The relatively low profile of occupational health and safety within healthcare is perhaps best reflected in the observation that very few focus groups, aside from those containing health and safety professionals, seemed to be aware of occupational health and safety professionals at all. Tasks such as fit-testing of respirators often fell to infection control practitioners, not to occupational health and safety professionals (although this appears to vary from facility to facility) as it would have in other industries.¹⁰²⁹

The study identified the following organizational factors that promote a safety culture:

- There is general agreement that the safety-related attitudes and actions of management play an important role in creating a good or bad safety climate.
- Studies of safety program effectiveness in non-healthcare settings have repeatedly shown that a positive or supportive safety climate is an important contributing factor to good safety performance. Specifically, it is known that as safe behaviours are adopted throughout an organization, increasing pressure is put on non-compliers to “come in line.”
- It has been shown that the safety climate has an important influence on the transfer of training knowledge.¹⁰³⁰

While important research has been conducted on infection control standards,¹⁰³¹ worker safety experts have noted that similar research has not been undertaken in occupational health and safety.¹⁰³²

1029. Dr. Annalee Yassi and Dr. Elizabeth Bryce, “Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases” (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), p. 67.

1030. Dr. Annalee Yassi and Dr. Elizabeth Bryce, “Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases” (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), pp. 32-3.

1031. See Zoutman et al., “The state of infection surveillance and control.”

The Commission therefore recommends:

- That the Ministry of Labour use its enforcement and standard-setting activities, and the Ministry of Health its funding and oversight activities, to promote organizational factors that give rise to a safety culture in health workplaces.
- That the Ministry of Labour and the Ministry of Health jointly promote a safety culture in health workplaces that emphasizes close cooperation and collaboration between infection control and worker safety experts, and reflects the principles and practices of their respective disciplines.
- That in preparation for the possibility of a future infectious disease outbreak, the Ministry of Labour and the Ministry of Health jointly establish teams of trained and equipped infection control experts, occupational physicians, occupational hygienists and Labour inspectors who could be rapidly deployed to sites of workplace outbreaks.
- That occupational health and safety standards, including optimal staffing levels for worker safety practitioners, be established, similar to the SENIC standards for infection control.¹⁰³³
- That once occupational health and safety standards are established,

1032. “Certainly more research on what levels or standards are needed to promote effectiveness in occupational health, similar to the SENIC studies for infection control, is needed.” Source: Dr. Annalee Yassi and Dr. Elizabeth Bryce, “Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases” (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), p. 67.

1033. The most important determinants of successful general nosocomial infection control programs in

hospitals have been understood since the mid-1980s when the Study on the Efficacy of Nosocomial Infection Control (SENIC) was published. The following organizational factors were found to be important in determining effective infection control and lower rates of nosocomial-transmitted disease: having one infection control practitioner per 250 acute care beds, having at least one full-time physician interested in infection control, having an intensive surveillance program for nosocomial diseases and having intensive control policies and procedures. However, in a recent survey of 172 hospitals in Canada, only about 60 per cent of hospitals had evidence of compliance for each of the SENIC factors. The number of institutions who had all four factors was likely much less.

the Ministry of Health provide consistent and sustained funding and strategic planning to ensure that these requirements are achieved, and the Ministry of Labour ensure they are maintained through its enforcement and monitoring functions.

- That the best practices of worker safety disciplines and infection control be reflected in hospital accreditation standards.
- That additional resources be dedicated by the Ministry of Health for the training and certification of worker safety experts, including occupational physicians and occupational hygienists.
- That worker safety programs at health care institutions include training for workers, management, officers and directors on their roles and responsibilities with regard to worker safety laws and regulations.
- That the Ministry of Training, Colleges and Universities, in collaboration with the Ministry of Health, the Ministry of Labour and Ontario institutions that train health care professionals, establish baseline standards on occupational health and safety and infection prevention and control measures and procedures, to be incorporated into the curricula of medical and nursing schools and schools for the allied health professions in Ontario colleges and universities.

Regional Infection Control Networks

The Ministry of Health has helped to improve infection control standards in health care by establishing Regional Infection Control Networks. To promote a safety culture in health care, it will be important that these networks foster close cooperation and collaboration between infection control and worker safety.

The Commission therefore recommends:

- That Regional Infection Control Networks have, as integral

Source: Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), p. 67.

members, experts in occupational medicine and occupational hygiene, and representatives of the Ministry of Labour.

- That members of Regional Infection Control Networks be fully educated in the requirements of the *Occupational Health and Safety Act*, and its regulations.
- That regional Infection Control Networks, in dealing with worker safety issues, consult on an ongoing basis with the Ministry of Labour, workplace parties and worker safety experts.

Role of the Ministry of Labour

Despite its legal mandate to protect workers, the Ministry of Labour was largely sidelined during SARS. It was not given a role in the SARS response commensurate with its statutory duties. It was also not consulted before West Park Healthcare Centre's old tuberculosis unit was opened to accept sick health workers from the Grace, even though its perspective would have been very germane to the decision. The outbreak at the Seven Oaks Home for the Aged demonstrated that issues still remain unresolved about the role of the Ministry of Labour during an infectious disease outbreak.

The Commission therefore recommends:

- That the Ministry of Labour have the lead responsibility for setting and enforcing work safety policies, procedures and standards in the health care sector, as it does in all workplaces.
- That the Ministry of Health, as the Ministry that funds and oversees the health care delivery system, not be placed in the position of acting as an independent worker safety watchdog over its own system.
- That the Ministry of Health have the lead responsibility for developing and implementing infection control measures in the health care sector to protect patients, residents and/or clients.
- That the Ministry of Labour and Ministry of Health develop protocols, processes and procedures to ensure effective and active cooperation and coordination where their respective worker safety and infection control responsibilities overlap.
- That in any future infectious disease crisis, the Ministry of Labour

have a clearly defined decision-making role on worker safety issues in a future Provincial Operations Centre, and that this role be clearly communicated to all workplace parties.

- That the role and authority of the Ministry of Labour be clearly defined during a declared emergency. Under the *Emergency Management and Civil Protection Act*, the *Occupational Health and Safety Act* prevails, and, as such, the Ministry of Labour's mandate to communicate and enforce occupational health and safety standards for workplaces under provincial jurisdiction will remain during an emergency. How the designated lead ministry in any emergency will interact with the Ministry of Labour, so that the Ministry of Labour can continue to fulfill its mandate, should be established prior to an emergency.
- That in any future infectious disease crisis, the Ministry of Labour be consulted when health facilities that had previously been decommissioned, such as West Park's old tuberculosis unit, are reopened in response to exigent circumstances.
- That the Ministry of Health and the Ministry of Labour work together to establish an agreement and mechanism, including information technology systems, to share information related to outbreaks of infectious diseases. Such information sharing should include information about Ontario's health care facilities. The objective is to ensure compliance with the reporting of occupational illnesses to the Ministry of Labour under the *Occupational Health and Safety Act*, and to ensure that the Ministry of Labour has at its disposal all relevant information to appropriately address outbreaks of infectious diseases in health care and other workplaces.
- That the Ministry of Health and the Ministry of Labour work together to establish integrated enforcement strategies to improve compliance with occupational health and safety legislation and with legislation administered by the Ministry of Health.
- That the Ministry of Health establish a process, similar to the one available under the *Occupational Health and Safety Act*, to hold directors and officers of health care organizations accountable for compliance with provincial legislation. This may be accomplished by performance

specifications in contracts or service agreements that the Local Health Integration Networks will establish with health care organizations.

The Ministry of Labour and the 1984 Agreement

During SARS, the Ministry of Labour deferred its worker safety responsibilities to the health sector, believing the health sector had the expertise and capabilities to protect workers in a manner that was consistent with provincial laws and regulations. It did this, in part, because of a 1984 Memorandum of Understanding with the Ministry of Health that was unauthorized by statute, unclear, not disseminated to interested parties like the unions, and of questionable legal authority to the extent that it might require ministry personnel to fetter their discretion and so fail to fulfill their duties in workplaces affected by infectious diseases.

The Commission therefore recommends:

- That the 1984 agreement between the Ministry of Health and the Ministry of Labour be replaced by an agreement that ensures that the Ministry of Labour, in consultation and cooperation with the Ministry of Health, take the lead in investigating infectious disease outbreaks that affect workers in a workplace.
- That the existence of any agreement setting out the respective roles and responsibilities of the Ministry of Labour and the Ministry of Health in a public health emergency be fully communicated to unions, employers, Joint Health and Safety Committees and other workplace parties.

Ministry of Labour Investigations and Prosecutions

When the Ministry of Labour decided not to lay any charges in connection with the deaths of Tecla Lin, Nelia Laroza and Dr. Nestor Yanga it did not disclose the reasons for doing so.

After SARS, critical injury and occupational illness investigations were begun very late in the one-year window for instituting prosecutions, and investigators had a very limited period to complete their work.

The Commission therefore recommends:

- Legislative amendments and policies in relation to the waiver of potential Crown privilege claims, such that in such cases where charges do not result from Ministry of Labour and other investigations of deaths and critical injuries in health workplaces, the results of the investigation and the reasons for the decision not to prosecute be made public.
- That Ministry of Labour investigations into critical injuries and occupational illnesses arising from a disaster of the magnitude of SARS be commenced and completed expeditiously.
- That a review be undertaken of section 69 of the *Occupational Health and Safety Act*, as to whether the limit on the institution of a prosecution to no more than one year after the last act or default occurred be amended.

Ministry of Labour Proactive Inspections

For reasons set out in this report, the Ministry of Labour did not conduct any proactive inspections of SARS hospitals during virtually all the outbreak. Labour's approach was vastly different from what occurred in British Columbia, where the workplace regulator began proactive inspections in early April 2003 and paid special regulatory attention to a hospital where a nurse contracted SARS. This was a missed opportunity in Ontario, although we will never know what impact that might have had on the SARS response.

The Commission therefore recommends:

- That in any future infectious disease outbreak, the Ministry of Labour take a proactive approach throughout the outbreak to ensure that health workers are protected in a manner that is consistent with worker safety laws, regulations, guidelines and best practices.
- That in any future infectious disease outbreak, the Ministry of Labour's proactive approach be clearly communicated to all workplace parties, including the Ministry of Health, public health units, employers, workers' representatives and Joint Health and Safety Committees.

- That in preparation for the possibility of a future infectious disease outbreak, the Ministry of Labour prepare effective operational plans for playing a proactive role, including establishing and training teams of occupational physicians, hygienists and inspectors to spearhead any proactive effort.

Investigations Led by the Ministry of Health

During SARS, a team from the U.S. Centers for Disease Control (CDC) was invited by the province to investigate the incident at Sunnybrook on April 13, 2003, when nine health workers were infected. Because of systemic failings, no one thought to invite the Ministry of Labour to participate, or to advise it that such an investigation was taking place. Similarly, after the Seven Oaks outbreak of legionellosis in the fall of 2005, the Ministry of Labour was not invited to participate in a Ministry of Health investigation into the response to the outbreak. In addition, the Seven Oaks investigation also would have benefited from the inclusion of worker safety experts.

The Commission therefore recommends:

- That the Ministry of Labour play an integral role in any future Ministry of Health investigation into an infectious outbreak where workers were infected, such as occurred at Sunnybrook and Seven Oaks.
- That the Ministry of Labour be given the responsibility for ensuring that any worker safety-related findings in any future Ministry of Health investigation be consistent with worker safety laws and principles.
- That any investigation into an infectious outbreak where workers were infected, such as the investigations at Sunnybrook and Seven Oaks, include experts in occupational hygiene and other worker safety disciplines.

Ministry of Labour Physician Resources

Prior to SARS, the Ministry of Labour's complement of inspectors and physicians had been sharply reduced. SARS also revealed that many Ministry of Labour inspectors lacked sufficient health care-related training. Since SARS, the Ministry of Labour has hired additional inspectors, including some dedicated to the health care sector, and increased its health care-related staff training. But it has not increased its occupational physician cadre, which had once had province-wide coverage but is now concentrated in Toronto.

The Commission therefore recommends:

- That the Ministry of Labour expand its internal resources of occupational physicians and ensure that their capabilities are available province-wide.

Worker Safety Laws and Regulations

The evidence reveals widespread, persistent and ingrained failures by the health system to understand and comply with Ontario's safety laws including the *Occupational Health and Safety Act* and related regulations. Ontario's worker safety laws are based on the Internal Responsibility System.¹⁰³⁴ SARS revealed an important structural problem when implementing the Internal Responsibility System in the health care sector: the fact that physicians often make worker safety decisions even though they may not be hospital employees.

The Commission therefore recommends:

1034. The Ministry of Labour described the Internal Responsibility System as follows:

Employers, workers and others in the workplace share the responsibility for occupational health and safety. Each party is responsible to act to the extent of the authority that they have in the workplace. This concept of the internal responsibility system is based on the principle that the workplace parties themselves are in the best position to identify health and safety problems and to develop solutions. This concept emerged from the Royal Commission into health and safety in mines in Ontario in 1976 and was soon adopted as the basis of the new *Occupational Health and Safety Act* in 1978.

Source: Ministry of Labour, presentation to the SARS Commission, November 17, 2003, p. 6.

- Worker safety in hospitals and other health care institutions requires reasonable legislative measures to include all physicians within the worker safety regime without interfering with the essential independence of physicians and without making them hospital employees. Such legislative measures may need to include not only the *Occupational Health and Safety Act* but also those statutes that govern the administration of health care institutions and the medical profession. It would be presumptuous for the Commission to recommend a prescriptive solution at this time. That task will require a good measure of consultation and a thorough analysis of the complex professional and statutory framework within which doctors work in health care institutions. The Commission recommends the amendment of worker safety, health care, and professional legislation to ensure that physicians who affect health worker safety are not excluded from the legislative regime that protects health workers. Because the prescriptive solution will require consultation and analysis and time and patience, it is essential to start now.
- That the Ministry of Labour conduct a meaningful review of the *Occupational Health and Safety Act* and related regulations in consultation with workplace parties and worker safety experts to examine how the Internal Responsibility System can better be implemented in the unique conditions of the health care system.
- That the Ministry of Labour and the Ministry of Health work together to harmonize requirements addressing health and safety in legislation and/or regulations administered by both ministries, which may overlap or conflict.
- That the Ministry of Labour and the Ministry of Health work together to review possible statutory or regulatory amendments to enhance the process for reporting, tracking and sharing of information, and removal of any barriers to information sharing related to outbreaks of infectious disease.

Joint Health and Safety Committees

The evidence reveals that Joint Health and Safety Committees, a fundamental component of Ontario's worker safety regime, were often sidelined during SARS.

The Commission therefore recommends:

- That in any future infectious disease outbreak, the emergency response ensure the involvement of Joint Health and Safety Committees in a manner consistent with their statutory role in keeping workplaces safe.
- That worker safety programs at health care institutions include training for senior management on their roles and responsibilities with regard to Joint Health and Safety Committees.
- That management and worker representatives on Joint Health and Safety Committees be provided with appropriate training and sufficient time from their other duties to fulfill their JHSC obligations in a meaningful way, especially during public health crises.

Ontario Agency for Health Protection and Promotion, and Worker Safety

On June 22, 2004, Health Minister George Smitherman released a three-year public health action plan called Operation Health Protection. It indicated that the Ontario Health Protection and Promotion Agency and its new laboratory would begin operations in the 2006/7 fiscal year.¹⁰³⁵ It will be important for the Agency to play an active role in worker safety issues.

1035. The action plan said:

An Agency Implementation Task Force is being struck to provide technical advice on the development and implementation of the Agency. Together with the advice of international and national experts, the Ministry will establish the Agency by 2006/07.

Source: Ministry of Health and Long-Term Care, *Operation Health Protection: An Action Plan to Prevent Threats to our Health and to Promote a Healthy Ontario* (June 22, 2004), p. 23.

The Commission therefore recommends:

- That just as NIOSH, the main U.S. federal agency responsible for worker safety research and investigation,¹⁰³⁶ is part of the Centers for Disease Control (CDC), so the Ontario Agency for Health Protection and Promotion should have a well-resourced, integrated section that is focused on worker safety research and investigation, and on integrating worker safety and infection control.
- That any section of the Ontario Agency for Health Protection and Promotion involved in worker safety have, as integral members, experts in occupational medicine and occupational hygiene, and representatives of the Ministry of Labour, and consult on an ongoing basis with workplace parties.
- That the Ontario Agency for Health Protection and Promotion serve as a model for bridging the two solitudes of infection control and worker safety.
- That the Ontario Agency for Health Protection and Promotion ensure that it become a centre of excellence for both infection control and occupational health and safety.
- That the mandate of the Ontario Agency for Health Protection and Promotion include research related to evaluating the modes of transmission of febrile respiratory illnesses and the risk to health workers.

1036. The duties of NIOSH (the National Institute for Occupational Safety and Health) include:

- Investigating potentially hazardous working conditions as requested by employers or employees.
- Evaluating hazards in the workplace, ranging from chemicals to machinery.
- Creating and disseminating methods for preventing disease, injury, and disability.
- Conducting research and providing scientifically valid recommendations for protecting workers.
- Providing education and training to individuals preparing for or actively working in the field of occupational safety and health.

See: http://www.er.doe.gov/ober/humsubj/appendix_b.pdf. Naylor Report, pp. 52-5.

This research should also identify the hierarchy of control measures required to protect the health and safety of workers caring for patients with the respiratory illnesses.

Pandemic Planning

As occurred during SARS, there is now a debate over how influenza is spread and how health workers should be protected during a pandemic. Some experts believe influenza is mostly droplet-spread and surgical masks would be sufficient protection for health workers. Others believe that airborne transmission is a possible means of spreading influenza, and health workers should, as a result, wear fit-tested N95 respirators when caring for people suffering from a pandemic flu virus. The Commission is not in a position to wade into this evolving scientific debate. However, it is worth noting how the CDC has used the precautionary principle in addressing this issue. The CDC is saying, in effect, we don't know enough about how a pandemic influenza might be spread, so it's better to be safe than sorry. It is the kind of precautionary approach all pandemic planners should carefully consider.

The Commission therefore recommends:

- That the precautionary principle guide the development of pandemic-related worker safety policies, practices, procedures and guidelines.
- That in the development and implementation of the Ontario pandemic plan, the Ministry of Labour have responsibility for, and oversight over, all worker safety policies, practices, procedures and guidelines.
- That the Ministry of Labour ensure that the Internal Responsibility System and Joint Health and Safety Committees play a meaningful role in a pandemic response.

Pre-Planned Emergency Response Regarding Funerals

The families of SARS victims often were unable to have a traditional funeral. In some cases, funeral visitations were forbidden, or restricted. Mourners had to stand off at a distance at one burial. For some, there was no closure. Learning from this will be important in the event of another public health crisis like SARS, or if there is a flu pandemic.

The Commission therefore recommends:

- A pre-planned response involving the funeral industry, the Ministry of Health, public health, the hospital community, Emergency Measures Ontario and the office of the Chief Coroner, supported by agreed policies, procedures, protocols, memoranda of understanding and tabletop drill exercises to prevent the problems that arose during SARS.

Emergency Legislation

Ontario has passed into law the *Emergency Management and Civil Protection Act*, to fill the emergency power vacuum that existed at the time of SARS. It is understandable that the government, in its determination to have some kind of law in place before the next emergency struck, did not stop to address all the specific emergency legislation problems noted in detail in the hundred pages of Chapter 11 of the Commission's second interim report of April 5, 2005. These problems are serious but easily remedied now. They include:

- The overreaching power to suspend the *Habeas Corpus Act*, the *Elections Act*, the *Legislative Assembly Act*, and other constitutional foundations of ordered liberty under law.
- The power to lock up journalists without trial for violating gag orders.
- The failure to blueprint compensation for those who really need it, such as those quarantined, medical workers deprived of their livelihood and those whose jobs are disrupted.
- The failure to protect medical decisions of the Chief Medical Officer of Health from Emergency Commissioner encroachment.

- The failure to carry out clause-by-clause legal and constitutional scrutiny and obtain a detailed bill of health from the Attorney General.
- The confusion between the emergency powers and the regular *Health Protection and Promotion Act* powers.

It is understandable that the government in its desire to get the emergency legislation into place before the next disaster did not pause to address and to answer in detail the flaws referred to in the Commission's April 2005 report, flaws which are serious but easily remedied. The government has taken no public position in respect of the detailed flaws noted by the Commission. It is not as if the unimplemented recommendations have been considered and rejected for publicly stated reasons. The unimplemented recommendations have simply not been addressed publicly. The problems that have not been addressed and answered are noted in the chart at the end of this section.

The problem is not with the good intentions of those who will administer and exercise the emergency powers. The problem is that these awesome powers represent a profound change in our legal structure and raise issues that need to be addressed further in this statute that so fundamentally alters our system of government by law. Extraordinary powers like those in the *Emergency Management and Civil Protection Act* are inherently dangerous and require now the sober second thought and detailed legal clause-by-clause review and publicly stated justification which they did not explicitly receive before.

Ontario's emergency legislation brings to mind what President Lyndon Johnson said about the potential danger of all laws:

You do not examine legislation in the light of the benefits it will convey if properly administered, but in the light of the wrongs it would do and the harms it would cause if improperly administered.

The Commission recommends the review and amendment of the emergency legislation in accordance with the unimplemented recommendations in Chapter 11 of the Commission's April 2005 second interim report.

Emergency Recommendations

Topic	Recommendation	Status
Encourage Compliance	<ul style="list-style-type: none"> • Include basic blueprint for compensation for loss caused by emergency powers, for example, quarantine wage loss. 	Not yet implemented
Prevent Prepare Cooperate	<ul style="list-style-type: none"> • Provide for integration of emergency plans, and include explicit requirement that emergency plans establish clear allocations of powers and lines of authority. 	Not yet implemented
Clarify Overlap with Existing Public Health Powers	<ul style="list-style-type: none"> • Clarify the relationship between the emergency powers conferred by this Bill and the powers conferred by the HPPA. 	Not yet implemented
Primacy of CMOH	<ul style="list-style-type: none"> • Recognize explicitly the primary authority of CMOH in respect of the public health aspects of emergencies. 	Not yet implemented
Emergency Commissioner Must Consult CMOH	<ul style="list-style-type: none"> • Require consultative exercise of powers as between the CMO and the CEM. 	Not yet implemented
Emergency Powers	<ul style="list-style-type: none"> • Attorney General to conduct detailed clause-by-clause review of each proposed power for viability against legal and constitutional challenges. • Clarify whether the Bill incorporates the specific public health emergency powers listed in Commission's second interim report. 	Not yet implemented

	<ul style="list-style-type: none"> • No power of compulsory immunization before evidence as to its efficacy is available. • Review compulsory immunization legal issues to develop procedures that encourage immunization of health workers and public, akin to school-child immunization system 	<p>Accepted</p> <p>Not yet implemented</p>
Property Seizure	<ul style="list-style-type: none"> • Clarify whether the Bill mandates the seizure or expropriation of property. • Subject each proposed power to a thorough practical, legal, and policy analysis prior to adoption. • Where such analysis is not possible before enactment, impose a sunset period of no more than 2 years on the proposed power. 	<p>Accepted</p> <p>Not yet implemented</p> <p>Not yet implemented</p>
Power to Override All Other Laws	<ul style="list-style-type: none"> • Clarify whether the Bill's purported override of other laws and legal rights affects collective agreements. • Insulate fundamental statutes from the Override • Reposition the Override to highlight its importance. • Review constitutional legitimacy of the Override. 	<p>Not yet implemented</p> <p>Not yet implemented</p> <p>Not yet implemented</p> <p>Not yet implemented</p>
The Information Override	<ul style="list-style-type: none"> • Clarify the scope of the government's power to compel the disclosure of information. 	<p>Not yet implemented</p>
Declaration Standard	<ul style="list-style-type: none"> • Amend the standard applicable to the declaration of emergencies so as to rely on the reasonable perception of the decision-maker. 	<p>Accepted</p>

Emergency Orders	<ul style="list-style-type: none"> Amend the standard applicable to the making of emergency orders so as to rely on the reasonable perception of the decision-maker. 	Accepted
Power to Implement Emergency Plans	<ul style="list-style-type: none"> Ensure there is no unintended conferral of powers. 	Not yet implemented
Access to Courts	<ul style="list-style-type: none"> Provide for access to legal process during emergencies. 	Not yet implemented
Basket Power	<ul style="list-style-type: none"> Incorporate an objective reasonableness standard into the language governing the use of this power. 	Not yet implemented
Occupational Health and Safety	<ul style="list-style-type: none"> Require emergency plans to provide for advance consideration of potential OHS issues. 	Not yet implemented
Concurrent Powers	<ul style="list-style-type: none"> Provide that conferral of new emergency powers does not derogate from existing powers. 	Accepted
Liability Shield	<ul style="list-style-type: none"> Provide protection from liability for acts which are necessitated by an emergency and which are authorized by other statutes but not the EMA – and vice versa. 	Not yet implemented

APPENDICES: Letter of Appointment

Ministry of Health
and Long-Term Care

Office of the Minister
10th Floor, Hepburn Block
80 Grosvenor Street
Toronto, ON M7A 2C4
Tel: 416-327-4300
Fax: 416-326-1571
www.gov.on.ca/health

June 10, 2003

The Honourable Mr. Justice Archie G. Campbell
130 Queen Street West
Toronto, ON M5H 2N5

Dear Mr. Justice Campbell:

This letter will confirm your appointment as an independent Investigator, pursuant to section 78 of the *Health Protection and Promotion Act*, to investigate the recent introduction and spread of Severe Acute Respiratory Syndrome (SARS). I would like to express my thanks for your valuable input into the development of the Terms of Reference for this inquiry, a copy of which is appended hereto.

As you are aware, persons who disclose information to you in the course of your investigation will be protected from any adverse employment action, pursuant to Section 9.1(1) of the *Public Inquiries Act*.

As indicated in the Terms of Reference, you will deliver your reports to me and I will release them to the public. You will receive resources and support staff through the Ministry of the Attorney General, pursuant to paragraph 7 of the Terms of Reference.

In accordance with the attached Order in Council, all Government ministries, agencies, boards and commissions and their employees have been directed to co-operate with your investigation and to respect its independence.

On behalf of the Government and the people of Ontario, I thank you for agreeing to accept this most important mandate.

Yours very truly,

Tony Clement
Minister

Order in Council

Ontario
Executive Council
Conseil exécutif

On the recommendation of the undersigned, the Lieutenant Governor, by and with the advice and concurrence of the Executive Council, orders that: Sur la recommandation de la personne soussignée, le lieutenant-gouverneur, sur l'avis et avec le consentement du Conseil exécutif, décrète ce qui suit:

WHEREAS the Minister of Health and Long-Term Care has appointed the Honourable Mr. Justice Archie G. Campbell to investigate the recent introduction and spread of Severe Acute Respiratory Syndrome ("SARS") pursuant to section 78 of the Health Protection and Promotion Act;

WHEREAS the Minister of Health and Long-Term Care has provided Mr. Justice Campbell terms of reference for the investigation in a letter dated June 10, 2003;

WHEREAS persons who disclose information to Justice Campbell in the course of his investigation will be protected from any adverse employment action;

AND WHEREAS it is desirable to support Mr. Justice Campbell's investigation and to mandate full co-operation with him by all Government ministries, boards, agencies and commissions:

ALL Government Ministries, Boards, Agencies and Commissions, and their employees, shall assist Mr. Justice Campbell to the fullest extent in order that he may carry out his investigation;

ALL Government Ministries, Boards, Agencies and Commissions shall respect the independence of the investigation;

THE Attorney General shall furnish Mr. Justice Campbell with the resources and support referred to in paragraph 7 of the terms of reference for the investigation.

Recommended: _____
Minister of Health and
Long-Term Care

Concurred: _____
Chair of Cabinet

Approved and Ordered: June 10, 2003
Date

Lieutenant-Governor

O.C./Décret 1230/2003

Terms of Reference

Independent SARS Commission Terms of Reference

1. The subject matter of the investigation shall be:
 - (a) how the SARS virus was introduced here and what measures, if any, could have been taken at points of entry to prevent its introduction;
 - (b) how the SARS virus spread;
 - (c) the extent to which information related to SARS was communicated among health care workers and institutions involved in dealing with the disease;
 - (d) whether health care workers and patients in health care treatment facilities and long-term care facilities were adequately protected from exposure to SARS, having regard for the knowledge and information available at the time;
 - (e) the extent of efforts taken to isolate and contain the virus and whether they were satisfactory or whether they could have been improved;
 - (f) existing legislative and regulatory provisions related to or that have implications for the isolation and containment of infectious diseases, including the quarantine of suspected carriers;
 - (g) any suggested improvements to provincial legislation or regulations, and any submissions that the Province of Ontario should make concerning desirable amendments to federal legislation or regulations; and,
 - (h) all other relevant matters that Mr. Justice Campbell considers necessary to ensure that the health of Ontarians is protected and promoted and that the risks posed by SARS and other communicable diseases are effectively managed in the future.

2. The investigation shall be conducted in a manner that does not impede ongoing efforts to isolate and contain SARS.
3. Mr. Justice Campbell may request any person to provide relevant information or records to him where he believes that the person has such information or records in his, hers or its possession or control.
4. Mr. Justice Campbell shall hold such public or private meetings as he deems advisable in the course of his investigation.
5. Mr. Justice Campbell shall conduct the investigation and make his report without expressing any conclusion or recommendation regarding the civil or criminal responsibility of any person or organization, without interfering in any ongoing criminal, civil or other legal proceedings, and without making any findings of fact with respect to civil or criminal responsibility of any person or organization.
6. Mr. Justice Campbell shall produce an interim report at his discretion and deliver it to the Minister of Health and Long-Term Care who shall make the report available to the public. Upon completion of his investigation, Mr. Justice Campbell shall deliver his final report containing his findings, conclusions and recommendations to Minister of Health and Long-Term Care who shall make such report available to the public.
7. To conduct his investigation Mr. Justice Campbell shall be provided with such resources as are required, and be authorized by the Attorney General and shall have the authority to engage lawyers, experts, research and other staff as he deems appropriate, at reasonable remuneration approved by the Ministry of the Attorney General.
8. The reports shall be prepared in a form appropriate for release to the public, pursuant to the *Freedom of Information and Protection of Privacy Act*.
9. These terms of reference shall be interpreted in a manner consistent with the limits of the constitutional jurisdiction of the Province of Ontario.

In the event that Mr. Justice Campbell is unable to carry out any individual term of his mandate, the remainder of these terms of reference shall continue to operate, it being the intention of the Minister of Health and Long-Term Care that the provisions of these terms of reference operate independently.

Commission Team

Commissioner

Mr. Justice Archie Campbell has served as a Superior Court trial judge since his appointment in 1986 as judge of the High Court of Justice of the Supreme Court of Ontario, after posts as deputy attorney general and senior Crown counsel.

For approval to serve as Commissioner I am grateful to the Honourable Heather Smith, Chief Justice of the Superior Court, and to the Honourable Warren Winkler, Regional Senior Judge for Toronto.

To my judicial colleagues who shouldered my share of work during the SARS investigation, and to Chief Justice Roy McMurtry for his continuing support and encouragement, I owe a debt of gratitude.

Commission Team

To hand-pick your own team is a rare opportunity. It was my great fortune to work with a small team, the brightest and the best, on whom depended the work of the Commission. Any merit that accrues to the work of the Commission is entirely to their credit.

Counsel

Doug Hunt, Commission Counsel, a leader of the Ontario bar and a former assistant deputy attorney general for criminal law, has earned the highest professional respect through his work in the courts as leading counsel and through his continuing service in many capacities to the administration of justice.

His wise counsel and advice, legal learning and superb judgment complimented his skill in the thoughtful and effective management, with great distinction, of a complex and challenging project. No Commissioner has been better served by counsel.

Associate Counsel

Jennifer Crawford, associate Commission counsel, is a 10-year assistant Crown attorney with an excellent reputation in the courts, seconded through the generosity of Mr. Paul Culver, Crown Attorney for Toronto.

An indefatigable, thoughtful, and enormously dedicated worker, tough-minded yet scrupulously fair, meticulous in her insistence on factual accuracy, gifted with the highest level of professional skill and judgment, she exacted the highest standard of professional performance from herself and inspired her colleagues to do the same.

Senior Adviser

Mario Possamai, a former journalist and seasoned investigative researcher, performed outstandingly and produced magnificent work as a senior advisor. No colleague could be more helpful and supportive. No researcher could be more determined or produce work of greater thoroughness, thoughtfulness and depth.

Investigators

It was the Commission's privilege to enjoy the services of three highly experienced and widely respected police officers, who served successively as senior investigator to the Commission: Deputy Chief Ron Bain of the Peel Regional Police Service (now retired), Superintendent Eugene Kerrigan of the York Region Force and Acting Inspector Rick Huffman of the Toronto Police Service.

These officers displayed the highest level of investigative skill and judgment in the same manner that has distinguished their outstanding careers in law enforcement.

They were ably assisted in a part-time capacity by Barry Hill, a retired Toronto Police officer.

The Commission is grateful to Chief Armand La Barge of York Region for the secondment of Superintendent Kerrigan and to Chief William Blair of the Toronto Police Service for the secondment of Acting Inspector Huffman.

Editor

To the task of editing and producing the Commission's reports to the highest standard Jim Poling, Sr., a master of the English language and a most skilful, thoughtful, and effective editor, applied his great depth of experience as a journalist, editor and author.

Administrators

The Commission was extremely well served by David Henderson as Chief Administrative Officer and by Kathy Genore as Manager, Finance and Operations, a key member of the Commission team who made an enormous contribution to its work. Their deep experience in the management of independent Commissions ensured the smooth running of the Commission's work. The taxpayer is well served by the tight fiscal accountability they ensured as watchdogs over the expenditure of public funds.

The Commission is grateful to Sarina Kashak, Manager Court Operations Durham for Ms. Genore's secondment to the Commission.

Communications Officer

The Commission benefited greatly from the skill and wise advice of Peter Rehak, admirably suited to the job through his distinguished record in journalism, television, and Commission administration.

Support Staff

The challenging tasks of office support in a demanding working environment were achieved cheerfully, with great skill and competence, by Clita Saldhana, Andrea Luedecke, Sandra Leal, Arlette Al-Shaikh, and Abbie Adelman with welcome assistance from Anita Tse of Hunt Partners LLP. They displayed the finest qualities of grace under pressure.

Consultants

Peter Lawson, a member of the Ontario bar and a legal researcher of formidable ability, assisted the Commission in a number of legal research projects. Michael O'Driscoll, a member of the Ontario bar and a legal consultant, also made a valuable contribution.

For medical research, the Commission is grateful to Dr. David Naylor, President of the University of Toronto, for recommending the services of Dr. Adrienne Chan, Dr. Christopher M. Booth and Dr. Sheldon Singh, who so ably assisted the Commission in a number of medical research projects.

Note on Public Hearings

SARS Commission Public Hearings List of Presenters and Commissioner's Remarks

September 29th, 2003

Opening Remarks — Mr. Justice Archie Campbell
Upon commencing at 10:00 a.m.

Mr. Justice Campbell: Good morning. Since March of this year forty-four (44) members of our community have lost their lives to SARS. Will you please stand for a minute of silence to remember those who died.

(Moment Of Silence)

Mr. Justice Campbell: Thank you. These three (3) days of public hearings were announced in early August and were widely advertised. We invited those who wished to make public submissions to do so. The response has been strong. We added five (5) hours to this week's hearings. We will hold the further public hearings on November the 17th to accommodate those who applied but could not be heard this week because so many had applied.

This is an investigation under the *Health Protection Act*. We conduct the investigation mainly by confidential personal interview. We have spoken so far to around ninety (90) people, perhaps closer to one hundred (100) as of today. We've spoken to victims of SARS. We've spoken to some of those who have lost family members. We've spoken to health care workers who became ill, some of them gravely ill, with SARS.

It is very difficult for people who have been through this to talk about the grief and to discuss their loss, even in a confidential interview. I thank those who have shared their

experiences with us and those who will be speaking to us in the months ahead. Although the interviews themselves are confidential, their stories will be told in the public report with due concern for their personal privacy.

These public hearings represent a very small portion of our work and they give to those who have asked an opportunity to reach a wider public audience. The transcripts of these proceedings will be available on the Commission's public web page.

The public has a right to know what happened during the SARS outbreak in Ontario. My job is, first, to investigate and to report publicly on what went right, what went wrong, what lessons should be learned. The full Terms of Reference are on our web page. I think a few copies are available here today. And I, in the report, will make public recommendations to improve our ability to protect the public and health care workers against deadly infections like SARS.

The *Public Inquiries Act* protects from any form of workplace reprisal every person who speaks to the Commission at these public meetings or in private interviews or who approaches us with information. The Commission cannot make findings of civil or criminal liability against any person or organization.

Please keep in mind these public hearings are not a forum to point fingers or to allege blame in relation to individuals. We are still in the information-gathering phase of the investigation and during these public hearings I will not question the presenters. I will not question any presenter at this time, except perhaps for clarification.

At a later stage in the investigation, we will continue to interview in depth people about detailed problems, particular problems, specific concerns and at that phase of the investigation, we will probe more deeply.

We have a lot of people here today. All the time slots have been scheduled in advance, and as you can see, it's a pretty tight schedule. If you have not registered to speak but you would like to speak to us; if there's something you want to tell us and you want to have a confidential interview, please speak to members of Commission staff who are here today.

For the presenters, I really would ask you please respect your time limit so that each presenter has a fair chance to be heard.

Ontario Nurses' Association
Registered Nurses Association of Canada

Ontario Medical Association
Ontario Association of Community Care Access Centres
Community Coalition Concerned About SARS
Dr. Colin D’Cunha – Chief Medical Officer Of Health
The Ontario College of Family Physicians and the Family Physicians Toronto
Sunnybrook & Women’s College Health Sciences Centre
Toronto Emergency Medical Services

September 30th, 2003

Dr. Richard Schabas
Dr. James Young
St. Michael’s Hospital
Customs Excise Union Douanes Accise
Canadian Union of Public Employees
Service Employees International Union
Ontario Public Service Employees Union
Ontario Ministry of Health and Long-Term Care
North York General Hospital
Scarborough Hospital
Ontario Hospital Association
Ontario Association of Radiologists

October 1st, 2003

Peterborough County-City Health Unit
Association of Local Public Health Agencies
York Regional Public Health, Health Services Department, Public Health Branch
Ontario Long Term Care Association
Victorian Order of Nurses
Ontario SARS Scientific Advisory Committee
Mr. David McKinnon and Dr. David McLeod
College of Respiratory Therapists of Ontario
College of Physicians and Surgeons of Ontario
Humber River Regional Hospital
York Central Hospital
University Health Network
William Osler Health Centre
Rouge Valley Health System
The Hospital for Sick Children

November 17th, 2003

Upon commencing at 9:00 a.m.

Mr. Justice Campbell: As we begin this second session of public hearings, it's important to us to remember again the deaths from SARS of forty-four (44) members of our community. Their deaths and the sacrifices made by the front-line workers, all of those who suffered from SARS and all of those who fought it continue to motivate the work of all of us who are concerned about the outbreak and everyone who investigates it in the search for the facts of what happened and of the lessons we must learn.

Beginning in August of this year, a series of newspaper ads and radio announcements invited public submissions from anyone who wished to speak out in public about SARS. From September 29th to October 1st, we heard thirty-seven (37) presentations and in the next three (3) days, we will hear from the rest of those who asked to be heard in public.

It's important to note that those who present at these hearings are not questioned or cross-examined publicly. This investigation under the *Health Protection and Promotion Act* is driven by confidential personal interviews. There's no provision for adversary-type hearings and there's no provision for cross-examination. During the course of this investigation questioning, as in any other investigation, takes place during the course of the confidential interviews. We have followed up in the confidential interviews with a number of those who presented at the last sessions and we will continue to do so with those who presented then and those who present in these sessions.

We've interviewed about two hundred (200) people and hundreds of interviews and followup interviews remain to be conducted. There is a great mass of documents to analyze.

In order to present the public with a full account of what happened in the SARS outbreak, in order to make sensible recommendations for future change, a great deal of work remains to be done. It will be approximately a year before I can be confident that the facts have been thoroughly enough investigated to support a final report that tells the public what happened and answers the questions that the public need to have answered.

In the meantime, other reports have been released to the public. Dean Naylor's excellent report for the federal government, *Learning from SARS: Renewal of Public Health in Canada*, is extremely helpful, provides great insight and sheds a lot of light on many

of the areas under investigation by this Commission. Senator Michael Kirby's Commission – Senate hearings have produced a similarly outstanding and very useful report on public health infrastructure, after hearing from the wide range of public health people including some of those involved in the recent SARS outbreak.

Dean David Walker's forthcoming report to the provincial Ministry of Health is expected to explore in detail a number of research areas with a focus on future recommendations in the nature of policy lessons learned from SARS and health systems approach to consider for the future. One of our tasks is to integrate the results of all that work into our detailed investigations, the findings and analysis of the introduction and spread of SARS in Ontario.

The next two (2) days of public hearings, tomorrow and Wednesday, and today, will accommodate the balance of those who asked to make public statements. During the daytime session today, we're also having an evening session, but during the daytime session we'll hear from those invited by the Commission to explore a fundamental yet somewhat ignored issue of critical importance.

And that critical issue is workplace health and safety. It is fundamental that we understand that hospitals are workplaces. It's fundamental we understand that hospitals, like all workplaces, are subject to a system of legal obligations under the *Occupational Health and Safety Act* and regulations; that legal system is designed to protect the health and safety of hospital workers and other health workers; that legal regime depends on the principle of internal responsibility supported by a system of workplace health and safety committees and enforced and supported by a system of inspection and investigation through the Ontario Ministry of Labour.

The application of workplace health and safety principles in hospitals during the SARS outbreak will provide a focus for most of the daytime presentations today. This evening, we will continue with presentations by family members and concerned citizens affected by SARS.

Ontario Nurses' Association and Ontario Public Service Employees Union
Registered Nurses Association of Ontario
Service Employees International Union
Canadian Union of Public Employees
Ontario Ministry of Labour
Ontario Hospital Association
Occupational Health Management Services
Occupational Health Clinics for Ontario Workers Inc.

Dr. Peter Strahlendorf
Bernadette Stringer
Lisa Karunakaran
Kathleen Valin
Linda Rumble
Christine Gibson
Jan Nichols
The Toronto Health Coalition and Families Advocating for Reform of the
Coroner's Office
Susan Fraser

November 18th, 2003

Ontario Health Coalition
Ontario Public Health Association
Medical Staff Association of the Rouge Valley Health System and the Coalition of
Family Physicians of Ontario.
Dr. Joyce Nyhof-Young
Ontario Restaurant Hotel and Motel Association
Ontario Council of the Canadian Federation of University Women
Metro Toronto Chinese & Southeast Asian Legal Clinic

November 19th, 2003

CMO Health Care
Canadian Centre for Emergency Preparedness
James Ashton
Ontario Pharmacists Association
Association of Ontario Midwives
Dr. Jean-Louis Durier
Elivery Solutions Inc. and Dr. McQuigge
Micrylium
GE Lighting Canada
Bonnie Case

Mr. Justice Campbell: Thank you for your presentation. That concludes this second session of public hearings – in the course of the six (6) days of public hearings for a total of about seventy-five (75) presentations on behalf of many organizations and many individuals affected by SARS.

On Monday night, two (2) evenings ago, we heard how SARS affected families. The presentations by family members and their personal stories were compelling. It was

difficult for people to talk about their grief and we thank them, and all participants who came here, for sharing their experiences, their thoughts, their recommendations with us in public.

These public hearings represent but a very small portion of our work and they give, to those who have asked, an opportunity to reach a wider public audience. The bulk of our work consists of confidential personal interviews and we have so far conducted about two hundred (200) of those.

Those who present at the public hearings, you obviously noted, are not questioned or cross-examined publicly. Questioning takes place during the course of our confidential interviews and not in public. We have conducted follow-up interviews with a number of those who presented at the last public session. We continue to do so with them and we will continue to do with a number of those who presented at the earlier sessions and at these sessions.

Again, I wish to thank everyone who participated in these hearings. The purpose of these Public hearings is now fulfilled. Everyone who asked to make a public presentation has now been heard and no further public hearings are scheduled at this time. The investigation continues. Thank you.

Note

Transcripts of the public hearings are available on the Commission's website, which will remain active for another year at www.sarscommission.ca and after that on the website of Ministry of Health and Long-Term Care.