Limiting the Collateral Damage of SARS:
The Ethics of Priority Setting

by

« Marian H. Adly »

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« Institute of Medical Science »
University of Toronto

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Abstract

The 2003 Severe Acute Respiratory Syndrome (SARS) outbreak in Canada highlights a broad range in ethical challenges, particularly in priority setting. Presently, a leading theory in ethical priority setting is Daniels’ and Sabin’s Accountability for Reasonableness (A4R), which enhances fair and legitimate procedural decision making in typical healthcare settings. A4R attempts to mitigate conflicting interests and facilitate fairness in deliberations over priority setting issues. Whether this framework may be applied to public health emergencies has yet to be examined. This qualitative study describes the outbreak through the lens of A4R and explores the applicability of A4R in atypical or emergent circumstances.

Findings from 25 structured key informant interviews of public health officials suggest refinements to the framework may be required for emergency events. The presence of such a framework may minimize collateral damage during and after a response. The lessons may guide future preparedness efforts such as pandemic planning.
Acknowledgments

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I want to also dedicate this thesis to Sheela Basrur. You will always be remembered for your gracious and remarkable leadership. You will always live on, inspiring many. God Bless.

Forever remembered and respected will be Justice Archie Campbell. I also dedicate this thesis to you.

Additionally, I would like to honor and remember all of the victims of SARS.

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# Table of Contents

Acknowledgments .......................................................................................................................... iii  
Table of Contents ........................................................................................................................... iv  
List of Tables ................................................................................................................................. ix  
List of Figures ................................................................................................................................. x  
List of Appendices ......................................................................................................................... xi  

Chapter 1 Introduction .................................................................................................................... 1  
1  Introduction................................................................................................................................ 1  
1.1  Purpose of the Study ........................................................................................................ 1  
1.2  Background ...................................................................................................................... 1  
1.2.1  SARS Outbreak......................................................................................................... 1  
1.2.2  Public Health Role and Response.............................................................................. 4  
1.2.3  Public Health in Canada............................................................................................ 5  
1.3  Risk and Preparedness...................................................................................................... 8  
1.4  Organization of Thesis ..................................................................................................... 8  

Chapter 2 Literature Review.......................................................................................................... 10  
2  Literature Review..................................................................................................................... 10  
2.1  Public Health.................................................................................................................... 10  
2.2  Governmental Obligations............................................................................................... 11  
2.3  Emergency Management................................................................................................. 13  
2.3.1  Mitigation.................................................................................................................... 13
3.2.3 Sample..................................................................................................................... 31
3.2.4 Data Collection ........................................................................................................ 31
3.2.5 Data Analysis .......................................................................................................... 32
3.2.6 Research Ethics ....................................................................................................... 33

4 Results................................................................................................................................... 34

4.1 A4R + Empowerment..................................................................................................... 34

4.1.1 Condition #1: Publicity ........................................................................................... 34
4.1.2 Condition #2: Relevance ......................................................................................... 42
4.1.3 Condition #3: Revision/Appeals ............................................................................. 47
4.1.4 Condition #4: Enforcement ..................................................................................... 52
4.1.5 Condition #5: Empowerment ................................................................................. 57

4.2 Collateral Damage............................................................................................................ 64

4.2.1 Economic Impact ..................................................................................................... 65
4.2.2 Psychosocial Consequences/Burdens ................................................................... 70
4.2.3 Trust ....................................................................................................................... 78
4.2.4 Stigma ..................................................................................................................... 80
4.2.5 Resentment .............................................................................................................. 83
4.2.6 Disruption to Critical Health Infrastructure ............................................................ 93

5 Discussion............................................................................................................................. 98

5.1 A4R+Power Conditions ................................................................................................. 98

5.1.1 Condition #1: Publicity ........................................................................................... 98
List of Tables

Table 1 page 26  Stages in Priority Setting using Programme Budgeting and Marginal Analysis (PBMA)
Table 2 page 27  Accountability for Reasonableness
Table 3 page 31  Key Informant Interviews
# List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>page 14</td>
<td>Incident Command System (ICS) Structure</td>
</tr>
<tr>
<td>Figure 2</td>
<td>page 14</td>
<td>Relationship between Incident Command System and Unified Command (UC)</td>
</tr>
<tr>
<td>Figure 3</td>
<td>page 122</td>
<td>Emergency Management Cycle</td>
</tr>
<tr>
<td>Figure 4</td>
<td>page 126</td>
<td>Proposed Priority Setting Scheme: Sum of Its Parts – Decision Making and Resource Allocation</td>
</tr>
<tr>
<td>Figure 5</td>
<td>page 127</td>
<td>Venn Diagram Representing Priority Setting, Decision Making, &amp; Resource Allocation</td>
</tr>
</tbody>
</table>
# List of Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix 1</td>
<td>Priority Setting Questionnaire, version 3 (Final Draft)</td>
</tr>
<tr>
<td>Appendix 2</td>
<td>Priority Setting Questionnaire, version 2</td>
</tr>
<tr>
<td>Appendix 3</td>
<td>Priority Setting Questionnaire, version 3 (First Draft)</td>
</tr>
<tr>
<td>Appendix 4</td>
<td>Study Consent Form</td>
</tr>
</tbody>
</table>
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A4R</td>
<td>Accountability for Reasonableness</td>
</tr>
<tr>
<td>A4R+Power</td>
<td>Accountability for Reasonableness including the Empowerment Condition</td>
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<tr>
<td>BC CDC</td>
<td>British Columbia Centre for Disease Control</td>
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<td>BC</td>
<td>British Columbia</td>
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<td>C2</td>
<td>Command and Control</td>
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<td>CDC</td>
<td>Centers for Disease Control and Prevention (U.S.)</td>
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<td>CEA</td>
<td>Cost Effective Analysis</td>
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<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
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<td>CMOH</td>
<td>Chief Medical Officer of Health</td>
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<td>CUPE</td>
<td>Canadian Union of Public Employees</td>
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<td>ED</td>
<td>Emergency Department</td>
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<td>EAP</td>
<td>Employee Assistance Program</td>
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<td>EMA</td>
<td>Emergency Management Act</td>
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<td>EOC</td>
<td>Emergency Operations Center/Centre</td>
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<tr>
<td>EQ</td>
<td>Emotional Quotient</td>
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<tr>
<td>GTA</td>
<td>Greater Toronto Area</td>
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<td>JIC</td>
<td>Joint Information Center/Centre</td>
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<td>IC</td>
<td>Incident Commander</td>
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<td>ICS</td>
<td>Incident Command System</td>
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<td>ICU</td>
<td>Intensive Care Unit</td>
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<td>IOM</td>
<td>Institute of Medicine</td>
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<td>IQ</td>
<td>Intelligence Quotient</td>
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<td>MHS</td>
<td>Ministry of Health Services</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>MOHLTC</td>
<td>Ministry of Health and Long-Term Care</td>
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<tr>
<td>PBMA</td>
<td>Programme Budgeting and Marginal Analysis</td>
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<tr>
<td>PHA</td>
<td>Public Health Agency of Canada (aka, “CDC North”)</td>
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<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
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<tr>
<td>ProMED</td>
<td>Programs for Monitoring Emerging Diseases</td>
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<tr>
<td>RRT</td>
<td>Regional Response Team</td>
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<tr>
<td>SARS</td>
<td>Severe Acute Respiratory Syndrome</td>
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<td>SARS-CoV</td>
<td>Severe Acute Respiratory Syndrome Coronavirus</td>
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<tr>
<td>TPH</td>
<td>Toronto Public Health</td>
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<tr>
<td>UC</td>
<td>Unified Command</td>
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<tr>
<td>VCH</td>
<td>Vancouver Coastal Health</td>
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<td>VCMA</td>
<td>Vancouver Census Metropolitan Area</td>
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<td>WHO</td>
<td>World Health Organization</td>
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</tbody>
</table>
Chapter 1
Introduction

1 Introduction

1.1 Purpose of the Study

The purpose of this study is to examine priority setting within the context of a public health emergency. Using the 2003 Canadian outbreak of severe acute respiratory syndrome (SARS) as the case study, a retrospective analysis of this event may provide prospective applications for future pandemic and emergency preparedness activities. To evaluate how priority setting took place within Canadian public health systems (in Ontario and British Columbia), I conducted a qualitative study applying the ethical framework of ‘accountability for reasonableness’ (A4R) and the proposed fifth condition of empowerment. The data collected was compared against A4R to evaluate its applicability. To my knowledge, there has been no previous study examining A4R within the public health system, particularly during an emergency outbreak, despite numerous studies of applying this priority setting framework within a healthcare/medical setting.

1.2 Background

Emerging and re-emerging diseases continue to threaten health security. Public health confronts these threats with a mandate to protect the health of the community as a whole. The profession manages risks through promotion, protection and prevention. Successes are highlighted in the fact that infectious diseases of previous generations, such as typhoid, yellow fever, cholera, scarcely exist in areas with established public health institutions and infrastructure (i.e., developed nations in this case Canada). Unfortunately, developing and under-developed regions of the world continue to struggle in battling “old world” diseases such as malaria, typhoid, plague, yellow fever and cholera in addition to chronic conditions. The confluence of emerging and re-emerging health threats and globalization no longer provides nations such as Canada the security that geographical boundaries once provided. In short, distance no longer provides immunity. The past few decades have witnessed an explosion in commercial air travel as well as an exponential rate of global exchange with regard to people, goods and materials. Health security is only as strong as its weakest link. This highlights the growing interdependence of globalizing trends; an arrangement that includes risks and benefits. As a result, a zoonotic virus traversing the species barrier into humans in rural China poses a public health threat to urban areas in Canada. This was the story of SARS.

1.2.1 SARS Outbreak

The 2003 outbreak caught Canada off-guard. SARS arrived into Toronto, Canada on February 23 unbeknownst to anyone on a commercial flight from Hong Kong into Pearson International Airport. Luckily, there was no spread from the index case in the airport or on the plane. Nor was there “further spread of the virus from travel-related cases … with the exception of the index case.” Unfortunately, SARS took its first victim in the index case and several family members
not without first exposing others within the emergency department (ED) of a hospital, creating the epicenter of the SARS outbreak.

At the time, there was no knowledge or awareness that such a threat existed. Over the coming weeks, information began to trickle into Toronto. Some public health officials initially suspected bioterrorism considering it was only 2 years post 9/11 when terror alert was high.

SARS arrived in British Columbia on March 6th. Unlike Ontario, the index patient “went directly from the airport to their physician in Vancouver … [and subsequently] sent directly to the emergency room of [Vancouver General Hospital].” Within minutes the patient received “full respiratory precautions … [after 10 minutes] was moved to a private room in the emergency room … and transferred to a negative-pressure isolation room [2 hours later].” As time went on, the Vancouver Census Metropolitan Area (VCMA) identified 5 patients with SARS; all of which fully recovered. One of the key stakeholders in responding to SARS in VCMA was the British Columbia Centre for Disease Control (BC CDC). In fact, “[w]hen SARS arose in Ontario, a comparable agency did not exist … [and] responsibility for communicable disease control had shifted over … to local health boards, which created a decentralized system.”

April 15th presented its last and fifth SARS case in BC with no subsequent outbreaks.

On March 12, the World Health Organization (WHO) alerted the global community of an “atypical pneumonia,” affording the new virus 3 weeks of lead time to proliferate. In fact, “public health officials [in Canada were not aware] that the mystery pneumonia had entered their city until March 13” and at the time there was no name for the new infectious agent. Thanks largely to ProMED (Programs for Monitoring Emerging Diseases), the internet service alerted medical and public health subscribers around the world of the new threat, even before the media reports were released on the 13th.

How does a team setup an action plan against an invisible unnamed threat? What is the response to a public health threat with no clear case definition, an uncertain and variable range of symptoms, an unknown mode of transmission, no diagnostic test, no name, no evidence-based medicine or knowledge, no treatment and no clear understanding of the risks it posed particularly the mortality rate? The combination of unknowns came together into a perfect storm. Yet, efforts were organized and commitments resolute. The collective will to act in the face of such uncertainty to contain the threat, even at risking their own lives, illustrates the extraordinary efforts of so many unnamed heroes.

The outbreak lasted from February through June 2003 in two epidemiological waves. The first phase (aka, SARS I) lasted from February 23-April 21, 2003. SARS transmission “was limited primarily to hospitals and to house-holds that had … contact with patients.” There was limited community transmission. The fact it originated and proliferated only in hospital-settings (aka nosocomial), disrupted the continuity of healthcare services for the wider community. Furthermore the nosocomial threat complicated efforts to contain SARS. The “[i]dentification of early symptoms of SARS was much more difficult in persons who were exposed as inpatients, … [thus requiring a] longer period of post-exposure isolation and monitoring … for this medically complex group.” As a result, “potential cases of SARS were cared for as if they had SARS until … ruled out.” However, patients were not the only ones threatened in the clinical setting. SARS was also being “transmitted to multiple staff members … it was difficult to identify all
possible exposures within the 10-day incubation period." Suddenly, healthcare workers were caring for their own.

By March 21st, Scarborough-Grace Hospital shut down its Emergency Department (ED) and Intensive Care Unit (ICU). By the 23rd, the hospital closed down to new hospital admissions and instituted severe restrictions on new patients and visitors. The Ontario Health Minister declared SARS a "reportable" disease under provincial law on March 25th, facilitating efforts at tracking the new threat. The second hospital affected was Mt. Sinai which closed its ED and ICU the very next day and ordered "all exposed hospital workers to quarantine themselves." The very same day, the Ontario Premier Ernie Eves declares a provincial emergency. The declaration of emergency was made under the authority of the Emergency Management Act (EMA) and allowed for resources to be fast-tracked, particularly financial resources. The fast-track enabled local jurisdictions to respond. This was the first emergency declaration in Ontario.

By the 27th, a Code Orange was instituted requiring all hospitals in the Greater Toronto Area (GTA) (44 in total), to "close down to all but essential care" and the Ministry issued mandatory directives to improve infection control. This also mandated that all "workers [in hospitals, outpatient sites and clinics] were required to use gloves, gowns, eye protection and N95 respirators for all contact with patients." Also on the 27th, the Public Safety Commissioner created the SARS Operations Centre within the Health Ministry to "translate policies from the [newly formed Scientific Advisory Committee] to hospital directives." The level of uncertainty and absence of evidence-based medicine for the SARS-CoV required the ad hoc formation of a Scientific Advisory Committee. The next day, York Central Hospital, the 3rd affected hospital, identified an "undetected SARS patient who spent 12 days in the hospital without isolation." York Central Hospital closed its ED and ICU and sent approximately 3,000 staff, patients and visitors into quarantine.

On March 31, the Epidemiology Unit was created at the Ontario Public Health Branch to centralize data collection of all SARS cases across the province, and infection control measures (but not a Code Orange) was extended to all [160] hospitals in the province." On April 12, a difficult intubation procedure took place at Sunnybrook & Women’s Health Care Centre, the largest ambulatory center in the province; thus, infecting 11 healthcare workers despite wearing full personal protective equipment (PPE) as mandated. Consequently, Sunnybrook closes its ED and ICU on the 20th and is the 4th hospital casualty. By then WHO issued a travel advisory warning against travel to Toronto on the 23rd. Officials feel 10 days after Sunnybrook, and with no new cases, that the outbreak is nearly eradicated. Canadian officials flew to Geneva, Switzerland to present accurate epidemiological data in an effort to lift the travel advisory. The 3-month travel advisory was reversed within 6 days.

By the end of the first wave, elated officials and responders celebrated a successful end to the outbreak and "prematurely declared [it] over." As a result, "enhanced hospital and community infection-control measures had been relaxed when the outbreak was initially believed over." SARS was declared over on May 9 me and by the 17th the Premier ends the declaration of emergency. However, unbeknownst to them, SARS was stirring within a hospital preparing for round two. Once discovered, the celebrations came to an abrupt end, again pushing the limits of healthcare and public health systems in the City of Toronto, York Region and the Greater Toronto Area (GTA). Only 3 days later, North York General identifies a possible new cluster of SARS cases. Unfortunately, SARS went "[u]nrecognized … among inpatients with underlying
illness, [thus causing] a resurgence, or a second phase, of the outbreak, which was finally controlled through active surveillance of hospitalized patients." SARS cases were identified according to the case definitions of Health Canada, a federal health agency. Individuals were identified as ‘probable’, ‘suspect’ or not meeting the case definition. The tradition was to only count “probable” cases for “official record-keeping.” There was a slight difference in the case definition between WHO and Health Canada. Rather than requiring a chest x-ray, Health Canada only required a “clinical finding of severe, progressive pneumonia.” It is uncertain why Health Canada did not implement the WHO definitions. Early on, this had little effect. However, later in the outbreak, the “disparity would prove consequential.” Furthermore, there was a third category in Ontario of “persons under investigation” which only added to the confusion in accurately counting cases.

Voluntary quarantine was widely implemented during the outbreak. Public health officials directed “all persons in a hospital during a defined period to be considered contacts and were quarantined for the 10 days immediately after their last day in the hospital” or upon exposure to suspect SARS cases. However, there was “considerable pressure to lengthen the quarantine period to 14 days. [Epidemiological data from TPH] did not support quarantine longer than 10 days.” At one point, TPH had approximately 23, 103 contacts under quarantine, each one requiring follow up phone calls and tracking by public health nurses. Of the 2,132 potential cases of SARS, each required “health authorities … [to] quarantine up to 100 contacts … and … investigate[d] 8 possible cases.” The population of the City of Toronto is approximately 3 million which amounted to nearly 1% of the population under voluntary quarantine.

Following successful containment and eradication of SARS, largely thanks to “active in-hospital surveillance for SARS-like illnesses and heightened infection-control measures,” a new epidemic transpired: an epidemic of blame. The outbreak resulted in 38 deaths, 375 ‘probable’ cases in GTA and the largest SARS outbreak outside Asia. Of the 375 cases (3 imported), 199 were in the City of Toronto and the remaining 176 were in neighboring significantly smaller jurisdictions, particularly York Region. On the other hand, the BC experience was dramatically different with only 5 cases (4 imported) and no deaths. By mid-summer, SARS “disappear[ed] as mysteriously as it appeared.” Overall, the response was a remarkable victory; in spite of this, victory did not come easy. The implications of a public health emergency befallen upon a community caught off-guard amplified the collateral damage. As a result, a barrage of reports and public criticism erupted. Despite the importance of constructive criticism, the ability of numerous public health professionals at all jurisdictional levels to end the SARS threat while severely under-resourced deserves the utmost praise. An important point to highlight is that if SARS had arrived through Mexico rather than Canada, the subsequent course of events could have evolved into a North American catastrophe. In fact, just this year, this has proven to be the case with the H1N1 influenza outbreak. The Canadian experience will provide valuable lessons for handling public health emergencies and disasters of the 21st century.

1.2.2 Public Health Role and Response

SARS challenged the Canadian health system. A health system is comprised of networked sub-systems addressing “preventive, acute and chronic care.” This may include and is not limited
to clinical medicine (acute and chronic), public health (preventive) and public safety (acute). Despite this, health systems have evolved to center around hospitals. Limited surge capacity strictly limits the system’s overall ability to mobilize and respond to disruptive events (i.e., disasters and emergencies). Furthermore, health systems around the world adopted a just-in-time business/organizational model leaving the system inflexible, barely keeping up with health demands, focused nearly exclusively on tertiary care and ill-prepared to adapt and respond to short-term or long-term social, fiscal, legal constraints, not to mention emergency events.

The evolution of the dominant perception of a split healthcare system remains unclear. Perhaps it is rooted in the decoupling of professions between medicine and public health, separate financing mechanisms, or clashing interests. While this discourse may require additional research, there is no doubt that SARS revealed weaknesses between the sub-systems. The weakest areas in the response existed at interfaces between public health, clinical medicine and emergency medical services/public safety. For instance, the Campbell Commission highlighted that the “immediate demands of public safety [during SARS] required that public health, as its first priority, look after its core business of protecting … from infectious disease;” unfortunately, this was difficult “despite the best efforts of individuals attached to all … groups involved, they simply could not connect effectively.” Moreover, the Commission further emphasized the “significant weaknesses in the links between public health and hospitals … [and the] lack of clarity as to the respective accountability and authority of public health and hospitals in a hospital-based outbreak.” These were further compounded by the fact that “[p]ublic health links with nurses, doctors, other health care workers and their unions and professional organizations were often ineffective during SARS.” These gray areas consumed and bewildered decision makers as interests clashed, perceptions twisted and expectations overwhelmed.

Much of public health response at the present day remains unchanged from practices employed decades and even centuries ago. Isolation and quarantine are viewed as archaic measures in separating healthy from infected or exposed individuals. However, these basic public health measures, arguably, brought the Canadian SARS outbreak to an end.

SARS “took society back to a pre-therapeutic era: no definitive diagnostic test, a non-specific case definition and no effective vaccine or treatment.” The degree of uncertainty around SARS unleashed intense real-time ethical dilemmas for decision-makers. In fact, there was little to no evidence-based medicine, policy or science related to human infection of coronaviruses, the cause of SARS. For example, enforcing isolation or quarantine for confirmed or suspected cases in the absence of a clear case definition or any diagnostic tests defied decision-makers’ and frontline responders’ abilities to work through the fog of war. It was deemed justifiable to restrict liberty and cast the quarantine net wide due to the “uncertainties of risk.” Additional ethical challenges range from fairness, equality, conflicting interests, legitimacy, power, justice and priority setting. All of these issues will be addressed in this analysis.

1.2.3 Public Health in Canada

Canada is a federation of provinces and territories. The federal government allocates funds, particularly for health, through the provinces and territories. Each province or territory employs a distinct organization, laws, regulations and governance mechanisms with regards to the provision of health services; each as distinct as their varied geography and climate. Similar to
state power in the United States, the power lies with the province or territory. Yet, the “financial and operational responsibility for public health had increasingly been shifted to municipalities [in Ontario] such that at the time of the SARS outbreak, funding was shared equally between the two levels of government [provincial and municipal].” This “funding shift” further decentralized the system affording each municipality the ability to implement health programs that best fit the health needs of their populations; however, the degree of variability across Canada has in some ways undermined seamless coordinated efforts across jurisdictions in a public health emergency such as SARS. High variability existed particularly within the province of Ontario due to its decentralized structure. At the time of the SARS outbreak, Ontario was the “only Canadian province that does not have a regionalised healthcare system so that each Ontario hospital functions semi-autonomously as a private not-for profit organization. Hospitals operate independently of public health, rehabilitation and long-term care facilities.” Each of the 37 public health units in Ontario functions semi-autonomously; though currently there are efforts by the Ministry of Health and Long-Term Care (MOHLTC) to form “local health integration networks, which will, in part, aid in future planning for … emergencies.” In an effort to regionalize in Ontario, these “networks will oversee the implementation of acute and chronic care, as well as public health services.”

Many confuse “public health with publicly-funded health care” in Canada. The Constitution Act “outlines the division of health responsibilities across jurisdictions between provinces and federal government.” Though the healthcare system in Canada is publicly funded through a single-payer system according to the Canada Health Act, the public health system is not addressed and is funded through a distinct financial envelope. It is the Department of Health Act which “offers a broader public health mandate … [and recognizes the] Minister of Health as responsible for ‘the promotion of the physical, mental and social well-being of the people of Canada, the protection … against risks to health and the spreading of diseases and the investigation and research into public health including the monitoring of diseases.’”

Public health is regulated by “all levels of Canadian government – federal, provincial/territorial and municipal.” However, the roles of who does what was unclear with some key issues largely absent in the laws. For example, there was no “clear legal mandate [requiring] provinces/territories to share health surveillance data with each other and the federal government” with regard to disease surveillance activities. In fact, throughout the SARS outbreak the sharing of this information was voluntary and was without clear lines of communications across jurisdictions. However, under the Health Protection and Promotion Act, local Medical Officers of Health [in Ontario] were responsible for the local response to SARS. It was the province, specifically the Public Health Branch in the Ministry of Health, which local public health units [all 37 at the time of SARS] looked for guidance.

The interface between clinical medicine and public health had in some ways contributed to a gray zone of uncertainty and vulnerability evident during SARS. One finding highlighted this point “underlining the need for public health organizations to become more involved in hospital surveillance and [particularly] in the control of nosocomial infections.” Collectively, clinical medicine and public health together should make up the healthcare system. History and professionalization has set the two on divergent paths and at-times created rivalries, thus contributing toward the “unhelpful divide between advocates of more clinical spending and champions of public and population health.” Ideally, in meeting the best interests of the population it serves, the “population approach of public health and the individualized approach
of clinical medicine [should be] … complementary … [where] the opportunities for each will vary according to the disease and risk factor, and what interventions are available. However, finding the right balance is important.”

The experience of SARS challenged many to consider “as to whether the Canadian public health system is minimally equipped and organized to deal with even a modest-sized outbreak of a new communicable disease.” More specifically, it is widely realized that the “Public Health Branch of the Ministry of Health had become dysfunctional both internally and in terms of its relationships with the local public health units [during SARS]:” particularly due to chronically under-funded mandates. This may be a similar trend in other countries where the “funding of personal health services has taken ever greater priority over public health,” especially as healthcare costs continue to rise. As a result, “public health moved to the background” and received “much less attention” resulting in chronic under-funding. Pre-SARS, numerous reports highlighted this trend of weakening public health and the vulnerability it poses. Reports include but were not limited to:

- 1974 *A New Perspective on the Health of Canadian* by Health Minister Marc Lalonde;
- 1993 A declaration and recommendations compiled by an Expert Working Group by Health Canada’s Laboratory Centre for Disease Control met in Lac Tremblant;
- 1998 *Commission of Inquiry on the Blood System in Canada* by Mr. Justice Horace Krever;
- 2000 *Emerging Solutions* (36 recommendations) devised by Quebec;
- 2002 *Healthier Together: A Strategic Health Plan for Newfoundland and Labrador*;
- 2002 *Building on Values: The Future of Health Care in Canada* by Honorable Mr. Roy Romanow; and

Why these reports did not reverse the trend of the decline of public health has yet to be elucidated. The reports consistently highlighted concerns though the “drumbeat of disease prevention and health promotion, [yet] governments [had] steadily committed virtually all new health spending to areas other than public health.” Moreover, “hospital infection-control programmes were also under-funded and poorly supported.” By 2003, SARS arrived in Canada and it was too late to reverse the trend, enabling for a well-resourced response.

Post-SARS, the reports continued to resonate similar messages:

- *Learning from SARS – A Renewal of Public Health in Canada*;
- *A Report of the National Advisory Committee on SARS and Public Health* (aka Naylor Report) by Dr. David Naylor;
- *Reforming Health Protection and Promotion in Canada: Time to Act* by the Standing Senate Committee on Social Affairs, Science and Technology; and
- *Campbell Commission*.  

Currently, efforts to reverse this trend in Canada are evident in several reforms efforts catalyzed by the SARS experience:
• The creation of a federal agency for public health in Canada known as the Public Health Agency (PHA) or “CDC North”;
• Increase in public health funding;
• Revision of organizational capacity and patterns of public health governance by adopting a regional health authority model similar to British Columbia. As a result, Ontario will move away from the quasi-municipal/county health units toward a regionalized system. This will involve transforming 37 individual health units into health regions. Public health and health legislation will be re-examined and harmonized across jurisdictions, particularly for public health emergencies;
• Cultivate an enhanced public health workforce through increased training, education and funding;
• Enhance optimal business processes and information and knowledge systems; and
• Adopt a National Strategic Capacity.70

Despite this, there continue to be concerns about the political will to fully adopt lessons learned toward enhancing future preparedness and response efforts rather than retro-fitting bureaucracies.

1.3 Risk and Preparedness

The sense of urgency in constructing and executing decisions absent of proven methods, robust infrastructure and readily available resources to meet surge needs further magnifies the potential for harm and serious ethical, economic, political and social implications for society. However, there are distinct differences between threats. For example, the realization of a potential anticipated threat, such as pandemic influenza, versus a spontaneous new threat, such as SARS, makes a stronger case for reacting and preparing for expected infectious threats by anticipation. In this case, a lack of preparedness for pandemic influenza should be less tolerable than an unexpected, newly emerging disease, such as the case with SARS. SARS caught the world, Canada and the public health community off-guard. Yet, public health should be in a perpetual state of being on-guard where complacency is rarely justified. Nonetheless, there is a clear justification for the need to prepare for both, more so with pandemic influenza or other more familiar anticipatory threats. The only similarity that is consistent with both old and new threats is predicting when they will occur. This blindness to upcoming threats to global health security sets a firm justification for the importance of a responsive, resilient and effective public health system.

With SARS, there was no initial understanding of the cause or control of the disease. It challenged all perceptions of expertise and knowledge. It was a time that physicians, nurses, public health officials, first responders and scientists all turned to each other seeking answers. In the initial stages of the outbreak, there were no answers.

1.4 Organization of Thesis

This analysis offers a descriptive account of how priority setting issues were handled by governmental public health system during the 2003 Canadian SARS response and the subsequent collateral damage. To evaluate the description of priority setting, I chose to use the ethical framework of ‘accountability for reasonableness’ developed by Daniels and Sabin and the fifth
proposed condition of empowerment by Jennifer Gibson et al. I will justify my application of this framework among the range of priority setting frameworks. To-date, ‘accountability for reasonableness’ is the central ethical framework used by scholars of priority setting within healthcare settings.

The discussion will begin in Chapter Two with a literature review. An exploration of the obligations of a government to its citizens within a social contract, defining public health as well as ethical concepts will be provided. In addition, the concepts of priority setting, emergency management as well as collateral damage will be examined. Each of the concepts will be defined along with the fusion of their application within the context of a public health emergency.

Chapter Three will outline my research questions and my research methods applied as well as their rationale. I will describe why among the variety of priority setting frameworks, ‘accountability for reasonableness’ was selected as the lens for this analysis.

Chapter Four will analyze the operational and ethical challenges public health officials experienced during priority setting and decision making in response to SARS. The objective is to test the framework against the data from key informant interviews to evaluate its application during a public health emergency. The data from respondent interviews will be organized into the conditions of the priority setting framework as well as featured in themes that represent the collateral damage during the response and recovery phase of the emergency event.

I will discuss the findings and evaluate areas of fit and mis-fit of the framework in Chapter Five. Incompatibilities will be identified along with consequences. Emerging themes will be further highlighted and explored.

In Chapter Six, I will conclude with key findings.

Findings suggest that refinements to the framework may be required considering the context of an emergency and given efforts to minimize collateral damage during and after a response. The lack of a fair procedural decision making process is at the crux of the priority setting debate. These lessons are germane to pandemic influenza and future emergency planning.
Chapter 2
Literature Review

2 Literature Review

I will explore several key concepts and employ various lenses to understand the events of SARS transitioning from general to specific concepts. Public health will be defined followed by an exploration of government obligations in the provision of public health services. This will contribute to discussing governmental obligations toward its respective society, thus introducing the concept of the social contract and more specifically governmental obligations. This will be followed by the concept of emergency management and more specifically emergency management law and how this relates to institutions facilitating public health emergency responses. Operational issues to public health emergency responses will be discussed within the widely-accepted emergency management framework of the Incident Command System (ICS). This will lead to the heart of this analysis, exploring ethical concepts and values (e.g., justice) including priority setting issues. This will lend toward exploring priority setting frameworks to guide the operations within the context of an emergency in both the substantive and procedural issues. Finally, collateral damage will be defined and briefly discussed.

2.1 Public Health

I will begin by defining public health and explore government public health systems, particularly expectations and obligations. Through this, I intend to establish a foundation upon which “serves the important function of demonstrating the extent of the complex web of interests and implications … an incident [such as SARS] can provoke.”

The primary objective of public health is simply to combat morbidity and mortality, and to preserve and protect population health. As defined by the Institute of Medicine (IOM) report The Future of Public Health in 1988, public health is, “what society does collectively to assure the conditions for people to be healthy. This requires that continuing and emerging threats to the health of the public be successfully countered.” The IOM outlined the public health mission as to generate organized community effort to address the public interest in health by applying scientific and technical knowledge to prevent disease and promote health. The mission of public health is addressed by private organizations and individuals as well as by public agencies. But the governmental public health agency has a unique function: to see to it those vital elements are in place and that the mission is adequately addressed.

In 2002, IOM published a subsequent report titled The Future of the Public’s Health of the 21st Century, which further defined the public health system as a “complex network of individuals and organizations that have the potential to play critical roles in creating the condition for health.” The heterogeneity of the profession comprised of “governmental public health agencies and the associated efforts of private and voluntary organizations and individuals” highlights the profession’s complexity in function and versatility in efficacy. Collectively, these diverse stakeholders within the profession “serve as stewards of the basic health needs of
entire populations, but at the same time [must unite to] avert impending disasters.”

Public health is “[complex and adaptive] … [and comprised] of interacting components together with
the networks of relationships among them that identify an entity and/or a set of processes [that
are goal-driven].” Its “far-reaching agenda”, suggests “the need for cooperative behavior and
relationships built on overlapping values and trust.” This fosters inter- and intra-relations and
reciprocal workings in the interests of protecting, preserving and managing the public’s health.
In short, because public health is inherently diverse and eclectic, adopting a systemic response
would strengthen responses to public health threats.

A “truly systemic view of current [public health] … considers how this set of individuals,
institutions and processes operates … involving a complex network of interrelationships, an
array of individual and institutional actors with conflicting interests and goals and a number of
feedback loops.” Thus, “public health systems consist of all the people and actions, including
laws, policies, practices and activities that have the primary purpose of protecting and improving
the health of the public.” It is vital to see public health as a multi-dimensional and multi-
reactive system that involves the role of numerous stakeholders, such as governments/states,
health institutions (i.e., hospitals and clinics) as well as a multitude of professions (physicians,
nurses, epidemiologists and paramedics). Since it relies on many stakeholders in order to be
effective, it must adopt an approach that is sensitive to the unique perspectives and needs of the
different actors. In order for the public health system to work efficiently from within and
between the greater-community, it should recognize the relational interdependencies within a
community. Public health institutions cannot function successfully in silos that are independent
of each other.

Similar to the U.S. public health system as reported in the IOM report, the Canadian public
health system was fairly well organized but weak; largely due to operating with severely
constrained funding and resources. It is unfortunate that the “public has come to take the success
of public health for granted.” Part of public accountability “involves acknowledging the more
complex relationship between public health and the public, one that addresses fundamental
issues … involving characterization of risk and scientific uncertainty.” As a result, “[p]ublic
health accountability addresses the responsibility of public health agents to work with the public
and scientific experts to identify, define and understand at a fundamental level the threats to
public health, and the risks and benefits of ways to address them.” Yet, the SARS experience
presented challenges to this notion due to its unpredictable nature and the lack of evidence-based
knowledge to guide responses. The degree of uncertainty and the lack of understanding of this
new threat presented far-reaching implications for public health and society as a whole.

2.2 Governmental Obligations

This section will explore a government’s obligations to protect its citizens’ health through its
public health institutions. The concept of a social contract is defined as a “state’s rights and
obligations with respect to its citizens.”

Surely, “public health authorities have a mandate to protect the populations’ health. It is crucial
that they act ethically.” So, “public health agents should offer public justification for policies
in terms that fit the overall social contract in a liberal, pluralistic democracy.” In a
representative democratic government it “is compelled by its role as elected representatives of
the community to act affirmatively to promote the health of the people,” even though it ‘cannot
unduly invade individuals’ rights in the name of the communal good.”87 Given that taxpayers in Canada fund public health, the government is obliged to apply the principles of proportionality and legitimacy in fulfilling its part of the social contract. Proportionality includes financial and executive elements. Further analysis of the financial element illustrates that the public health system, particularly local health units, ought to provide the most effective public health means at a reasonable cost. However, “if a measure is not cost effective, then public health authorities have an obligation to inform the public about the lack of effectiveness and the risks. In some cases … the evidence for, or against, effectiveness may be unclear. In such instances, the principle of transparency may suggest that public health officials state honestly the lack of conclusive evidence, leaving the judgment to the individual [decision maker].”88 As a result, “offering moral reasons … for policies that infringe general moral considerations” may contribute to “maintaining public trust”, resonate as “less morally troubling” and “in principle, could find acceptable.”89 Such action underscores reciprocity in trust between a government and its citizens. This further emphasizes an inclusive and transparent approach to public health.

The executive element of proportionality calls for public health to activate appropriate responses depending upon the severity of the threat. Within the social contract, there is an implicit expectation by a society that, in exchange for forgoing a certain degree of liberties, their government, i.e., public health, would gain greater authority to act, especially during threats where risks are uncertain and, potentially, high. Proportional actions to threats reinforce trust from the community; thus lending legitimacy and authority to government. Ill-proportioned actions (over-, under-, or no reaction) will result in distrust from the public as well as unintended harm (i.e., collateral damage), calling into question the degree of power and authority entrusted in government. Over-reaction was highlighted in the SARS response in Canada and an under-reaction with the response to Hurricane Katrina in the United States. At times, desperate times may call for desperate measures, recognizing that “the central commitment to collective well-being [may] require a much more robust embrace of paternalism.”90 While the “government is a central player in public health … [its] use of its police powers for public health raises important ethical questions, particularly about the justification and limits of governmental coercion and about its duty to treat all citizens equally in exercising these powers.”91 However, if there is trust, the public is willing to permit more paternalistic authority and responses; this is particularly so during emergency events. With all this, “public health authorities will have to form a judgment as to the combination of measures that will be maximally effective. They will need to decide when to initiate and when to end an intervention.”92 At times, “the decision to intervene [may be difficult] since public health authorities may be acting under conditions of scientific uncertainty … interventions [need to be] well-targeted and timed, then public health officials may prevent untold economic and social harm [i.e., collateral damage]. However, if the interventions over-reach [their mandate], officials will be accused of disregarding essential economic interests and fundamental human rights,” thus breaching the social contract and damaging credibility and trust.93 The “only safeguard against the misuse of authority is transparency and an open acknowledgement that new evidence may necessitate a reconsideration of policies.”94 “Above all, public health authorities need to maintain the public’s trust,” with their decisions and actions remaining transparent to society in order to justify what otherwise may be civil rights violations en masse.95 A transparent priority setting formula that identifies the “least intrusive alternative that can best achieve the health objective” will reinforce a society’s trust in public health, therefore establishing accountability and fortifying the social contract.96
2.3 Emergency Management

The goals of emergency management are to,

1) Reduce, or avoid, losses from hazards;
2) Assure prompt assistance to victims; and
3) Achieve rapid and effective recovery.  

The objective is to provide a framework to coordinate people, resources, efforts and objectives in the event of an emergency. Simply put, it builds order out of what otherwise would be chaos.

The framework is comprised of four main components which “do not always, or even generally, occur in isolation or in this precise order. Often phases of the cycle overlap and the length of each phase greatly depends on the severity of the [emergency].”

- Mitigation;
- Preparedness;
- Response – Efforts to minimize the hazards created by a disaster or emergency.
- Recovery – Returning the community to normal.

2.3.1 Mitigation

This phase attempts to minimize the effects of an emergency event by “eliminate[ing] or reduc[ing] the probability of a disaster occurrence, or reduce the effects of unavoidable [emergencies].” Usually, it’s “effectiveness will also depend on the availability of information on hazards, emergency risks and the countermeasures to be taken.”

2.3.2 Preparedness

The goal of emergency preparedness is simply to plan a response. This phase attempts “to achieve a satisfactory level of readiness to respond to any emergency situation through programs that strengthen the technical and managerial capacity of governments, organizations and communities.” While the objective is clear, actualizing it may be complex. The broad spectrum of response and affected stakeholders (governments, organizations and individuals), each with different (and often time competing) interests, objectives and intentions need to come together to “develop plans to save lives, minimize [collateral] damage and enhance [emergency] response operations.”

Preparedness measures may take the form of building “logistical readiness to deal with emergency events [which] can be enhanced by having response mechanisms and procedures, rehearsals, developing long-term and short-term strategies, public education and building early warning systems. Preparedness can also take the form of ensuring that strategic reserves of food, equipment, water, medicines and other essentials are maintained in cases of national or local catastrophes.”
2.3.3 Response

The objective for response is “to provide immediate assistance to maintain life, improve health and support the morale of the affected population.” While the primary focus is “is on meeting the basic needs of the people until more permanent and sustainable solutions can be found,” it may be further complicated depending on the nature of the event. For instance, a geographically isolated event such as a fire or bomb will require a different response plan compared to an unknown infectious disease outbreak, as was the case for SARS. As a result, this may prolong this phase beyond its capacities and capabilities, delaying the onset of recovery and burning out systems, resources and efforts.

2.3.4 Recovery

Once the emergency event’s heightened sense of urgency, threat and risk is minimized and “brought under control, the affected population is capable of undertaking a growing number of activities aimed at restoring their lives and supporting infrastructure. There is no distinct point at which immediate relief changes into recovery and then into long-term sustainable development,” though a smooth transition from “recovery to on-going development” is ideal. This phase is not only distinguished by its constructive activities to coordinate either normal or new normal conditions, but especially in instigating blame and identifying accountabilities for failures during the response. This may be accomplished constructively, though more often is handled destructively, prolonging resentment well into the recovery phase and beyond. Usually recovery “activities continue until all systems return to normal or better [conditions].”

2.4 Emergency Management Law

It is important to briefly highlight the importance of emergency management law. Emergency management laws vary and continue to be revised to facilitate a fast-tracked decision-making and response to resource needs. Legal frameworks have provided a blueprint to guide public health’s urgent, in some cases paternalistic, rapid responses while respecting ethical norms toward populations and other stakeholders. These laws attempt to enshrine powers that are proportional to the threat, and thus at times may require “limitations on the rights of individuals in the face of public health threats. [These are] firmly supported by legal tradition and ethics … [and may] permit governments to infringe on personal liberty to prevent a significant risk to the public.”

This notion is particularly important considering that the laws will outline: a) who is authorized to make decisions; b) how decisions will be made; c) who is accountable for various response and recovery aspects; and d) how resources will be provided or redistributed (particularly financial, material/logistical, information and human). For instance, the declaration of emergency during the SARS outbreak was the first time such a declaration was made in Ontario. The declaration authorized an expedited wealth of financial resources alleviating any concern of financial burden on municipalities during the response. This enabled decisions makers and responders to focus efforts exclusively on actions and liberate them from fiscal anxiety. The declaration of emergency delivered a clear message that the priority was on action and not financial restraint. The intersection between emergency management laws and priority setting warrants further exploration which is beyond the scope of this analysis.
According to the “Emergency Management Act (EMA), [the government of Ontario] declared a Provincial Health Emergency, giving it the power to impose widespread restrictions on all non-urgent hospital admissions at the hospitals in the [GTA]. Formal government directives restricted ambulatory and inpatient medical and surgical activities to urgent cases, severely restricted visitors, expanded respiratory isolation rooms and mandated the use of personal protective equipment (PPE) by staff in high-risk areas.”\textsuperscript{109} Moreover, EMA provided “the province flexibility to take swift and decisive action if necessary – confining individuals who refused to abide by quarantine orders… closing down borders; commandeering buildings; handing down orders to doctors and to hospitals.”\textsuperscript{110}

The emergency declaration was the first implementation in the province. The emergency known as a \textit{Code Orange}, was implemented and mandated the following:

- The closure of hospitals to all but “essential care”;
- Hospitals may continue to receive patients needing urgent medical care (unless the ED and ICU are closed);
- Elective services are either suspended or limited to the most serious medical conditions;
- Tightly restrict access to hospitals;
- All authorized personnel entering the hospital would undergo mandatory screening;
- Every hospital is to create a SARS unit (requiring retrofitted negative pressure ventilation systems);
- All hospital personnel required to wear an N95 mask as well as specified PPE (originally N95 masks were originally designed for use in the field of construction and not medicine);
- Part-time staff working at multiple hospitals were prohibited from multi-site employment; and
- Patient transfers between hospitals were stopped.\textsuperscript{111}

These aggressive efforts all contributed towards the successful nosocomial containment of SARS and helped minimize opportunistic community outbreaks.

### 2.5 Incident Command System

The Incident Command System (ICS) is a “best practices” tool that standardizes “on-scene, all-hazards incident management system in use by firefighters, hazardous material teams, rescuers and emergency medical teams.”\textsuperscript{112} It is the most widely used structure for organizing complex incidents. ICS originally developed to better respond to devastating California wildfires in the 1970s where the collateral damage in cost, lives lost and structural damage was unprecedented.\textsuperscript{113} The system recognizes the importance of including cross-jurisdictional actors while minimizing conflict and confusion, thus providing an “effective coordination among local, state [and provincial] and federal responders at the scene of a response [and] is a key factor in ensuring successful responses to major incidents.”\textsuperscript{114} The purpose is to synergize authority and power of various stakeholders, particularly government structures, across jurisdictions including across private and non-profit entities. In order to achieve a command system under one leader, an Incident Commander is designated to manage relationships and roles to minimize confusion, conflict and duplicated efforts.
Critical features of the ICS system include “an integrated and flexible structure that emphasizes cooperation and coordination in local, [provincial] and federal responses to complex multi-jurisdictional, multi-agency incidents. This structure is necessary to use resources effectively” in an effort to “enable integrated communication and planning by establishing a manageable span of control … [dividing] response into five manageable functions essential for emergency response operations”:

- Command;
- Operations;
- Planning;
- Logistics; and
- Finance and Administration.

The ICS may adopt a different command structure under a Unified Command (UC) structure. The primary difference is that under a UC structure, there are “individuals designated by their jurisdictional authorities jointly [to] determine objectives, plans and priorities and [to] work together to execute them.” Adding this structure to the ICS “brings together the ‘Incident Commanders’ of all major organizations involved in the incident in order to coordinate an effective response while at the same time carrying out their own jurisdictional responsibilities. The UC links the organizations responding to the incident and provides a forum for the entities to make consensus decisions [and to work together in] an integrated response team.” The “[u]se of a Unified Command does not necessarily mean that all participating organizations will be equally involved in all management decisions. Depending on the nature of the incident, there will likely be a lead agency with primary authority or responsibility.” In that case, representatives from other agencies would defer to the Incident Commander from the agency with primary authority and
responsibility at the incident [U.S. National Response Team, not dated]. In other cases, different individuals might take on this role of “focal point” of the Unified Command during different phases of the incident.\textsuperscript{119} Figure 2 illustrates an ICS/UC system.

While several professions have adopted this model within their day-to-day activities and language, particularly military, EMS, fire, police and other first responders, other professions particularly public health and medicine are new to the language and mindset.

The system is developed on the premise that “[t]ime is of the essence.”\textsuperscript{120} As a result, the Incident Commander (\textit{aka}, Unified Commander) “should develop synergy based on the significant capabilities that are brought by the various representatives. There should be personal acknowledgement of each representative’s unique capabilities, a shared understanding of the situation and agreement on the common objectives [\textit{aka}, priorities].”\textsuperscript{121} All individuals who partake in the system must be agreeable to the following core commitments:

- Agree on common incident objectives and priorities;
- Have the capability to sustain a 24-hour, 7-day-a-week commitment to the incident;
- Have the authority to commit agency or company resources to the incident;
- Have the authority to spend agency or company funds;
- Agree on an incident response organization;
- Agree on the appropriate Command and General Staff position assignments to ensure clear direction for on-scene tactical resources;
- Commit to speak with ‘one voice’ through the Information Officer or the Joint Information Center (JIC), if established;
- Agree on logistical support procedures; and
- Agree on cost-sharing procedures, as appropriate.\textsuperscript{122}

Though disagreements are inevitable during any emergency response, a system such as this would help streamline roles, responsibilities, information, decisions, authority and priorities, thus minimize misunderstandings and miscommunications which fuel discrepancies. If a consensus is not reached, the final decision would be deferred to the “UC member representing the agency with primary jurisdiction over the issue.”\textsuperscript{123} The framework’s weakness lies within its recommendation for handling persistent disagreements, suggesting that they be removed from the formal system and handled in a forum referred to as the Regional Response Team (RRT) “where differences can be thoroughly discussed and to assist in resolving the disagreement.”\textsuperscript{124} However, it does not elucidate what a RRT is and who comprises such a unit.

Overall, the ICS/UC is “an excellent vehicle (and the only nationally recognized vehicle [in the U.S.]) for coordination, cooperation and communication.”\textsuperscript{125} There have also been several studies examining how best to apply this structure in the field with a focus on maximizing efforts and minimizing barriers.

Historically, emergencies are managed with a “‘command and control’ approach,” however there are proposals to shift into “a dynamic and network-centered approach that has the flexibility to move resources and assets where they need to be.”\textsuperscript{126} This implies that decentralizing the system into a network of ICS/UC structures may emphasize a “collaborative processes … [rather than] centralized processes.”\textsuperscript{127} However, work continues to further investigate centralized, decentralized and mixed systems within emergent contexts.
2.6 Ethical Considerations

2.6.1 Bioethics

It would be “a mistake to simply import the familiar bioethical perspectives and concerns that were designed to address conflicts between individuals in a clinical or research context into a discourse that really call for … a framework that is attentive to the communal aspects and values of public health.”[^128] The focus of bioethics is on the patient-physician relationship, more specifically on the patient’s rights, though it has continued to expand to include other stakeholders involved in medical care as well as clinical research. In fact, several bioethical frameworks have developed and included “ethics of care, casuistry and virtue-based ethics.”[^129] In addition, reports issued by the U.S. government, such as the Belmont Report, further legitimized the concerns through institutionalizing the importance of ethical inquiry. However, the focus of public health upon a population rather than the individual patient requires a different ethical framework: public health ethics.

2.6.2 Public Health Ethics

The scale of ethical challenges has also challenged public health to adopt an ethical framework to guide its population-based activities to reduce morbidity and mortality. This triggered the need to develop such a framework to “help public health professionals recognize the multiple and varied moral issues in their work and consider means of responding to them.”[^130] Unlike bioethics, public health ethics has only just recently evolved. Also contrary to medical care “many public health programs are imposed on people by governments and not sought out by citizens.”[^131] Considering “its population-based focus, however, public health continually faces dilemmas concerning the appropriate extent of its reach and at what point the work of public health professionals is infringing on individual liberties in ethically troublesome ways;”[^132] these concerns are further exacerbated in a public health emergency. This is “the core of public health practice … to protect the common good, to intervene for such ends even in the face of uncertainty [sometimes] … necessitate[ing] limits on the choices of individuals on grounds of communal protection against both hazard and paternalism.”[^133] The justification for “limitations on the rights of individuals in the face of public health threats are firmly supported by legal tradition and ethics.”[^134]

The profession of public health is distinguished from other health sectors by its “‘police power’: ‘coercive action under state authority to encourage educational efforts … seize property, close businesses, destroy animals, or involuntarily treat or even lock away individuals.’”[^135] In fact, the legal tradition of ‘police power’ reinforces the profession’s “inherent and unabashedly paternalistic” efforts.[^136] In the context of a “liberal, pluralistic democracy, the justification of coercive policies, as well as other policies, must rest on [ethical justifications] that the public in whose name the policies are carried out could reasonably be expected to accept.”[^137] With this greater power, requires a greater need to justify paternalistic efforts that may otherwise undermine democratic freedoms. Also referred to as ‘reason-giving,’[^138] “public health officials and society have a general duty to inform the individuals of the situation and to explain the reasons for the limitations of their freedoms. However, there is an important reciprocal duty to do as much as much as possible to assist the people whose rights are being infringed. This places an onus on public health authorities to ensure that those [for example] under quarantine have access to food, medication, and would be psychologically and financially supported.”[^139]
Also with this greater power introduces the potential for greater harm. Burdens or harms by public health may “fall into 3 broad categories: risks to privacy and confidentiality, especially in data collection activities; risks to liberty and self-determination, given the power accorded public health to enact almost any measure necessary to contain disease; and risks to justice, if public health practitioners propose targeting public health interventions only to certain groups.”

2.6.3 Principle of Nonmaleficence

Principle of nonmaleficence (do no harm) states that one “ought to act in ways that does not cause needless harm or injury to others.” Yet it is unlikely to act in ways that completely avoids unintended harm, particularly in the response to a new viral outbreak where multiple stakeholders are involved in responding with uncertainties. The important feature with the principle of nonmaleficence is “to avoid needless risk and, when risk is an inevitable aspect of an appropriate [act], to minimize the risk as much as is reasonably possible.” Though this is one of the central ethical principles in Beauchamp’s bioethics, there is a valid application to public health, even at the population or community level.

2.6.4 Principle of Double Effect

There may be instances where “an action will produce both good and bad effects” this is referred to as the principle of double effect. This principle suggests “an action should be performed only if the intention is to bring about the good effect and the bad effect will be an unintended or indirect consequence [i.e., collateral damage].” Though this ethical principle is applied within medical contexts, there is an application for public health; particularly in a public health emergency. The principle of double effect has 4 conditions that must be met:

1) “the action itself must be morally indifferent or morally good;
2) the bad effect must not be the means by which the good effect is achieved;
3) the motive must be the achievement of the good effect only; and
4) the good effect must be at least equivalent in importance to the bad effect.”

2.6.5 Precautionary Principle

Another ethical principle is also evident within public health practice: the precautionary principle. The principle “provides a starting point for the ethics of risk management … [and] stipulates an obligation to protect populations against reasonably foreseeable threats, even under conditions of uncertainty.” Evolving out of the “context of environmental hazards, the precautionary principle seeks to forestall disasters and guide decision-making in the context of incomplete knowledge. Given the potential costs of inaction, it is the failure to implement preventive measures that requires justification.” Only recently has the principle “been explicitly invoked in the context of epidemic threats where pre-emptive actions may burden individuals and impose limits on their freedoms. Nevertheless, the precautionary principle has implicitly guided public health interventions designed to limit or forestall epidemic outbreaks.” An example of the challenge in applying this principle was evident in “quarantine in the case of SARS [where h]ealth officials had to act without full scientific knowledge about the nature of disease transmission. [In order] to avoid catastrophe, they took action that proved unnecessarily extensive.” However, the luxury of looking back affords many the conclusion that actions were ‘unnecessarily extensive’; however, as this analysis will present, decision
makers were faced with a catastrophic potential which warranted controversial actions. And the “only safeguard against the misuse of authority is transparency and an open acknowledgement that new evidence may necessitate a reconsideration of policies.”

2.6.6 Justice

Considering public health is “more relational and less individualistic … issues of trust, neighborliness, reciprocity and solidarity [are] central.” Other moral considerations within public health ethics include but are not limited to:

- Producing benefits;
- Avoiding, preventing and removing harms;
- [Priority setting;]
- Producing the maximal balance of benefits over harms and other costs (utility);
- Distributing benefits and burdens fairly (distributive justice) and ensuring public participation, particularly affected parties (procedural justice);
- Respecting autonomous choices and actions, including liberty of action;
- Protecting privacy and confidentiality;
- Keeping promises and commitments;
- Disclosing information as well as speaking honestly and truthfully (transparency); and
- Building and maintaining trust.”

There is no precedence among the moral considerations. However, “in particular cases, some of the same general moral considerations may limit or constrain what may be done in pursuit of public health … [thus,] conflicts may occur among [these] considerations.” This may warrant “each may have to yield [to others] in some circumstances … [or] one general moral consideration [may] … have priority over another.” There may be a “need to balance general moral considerations in particularly circumstances when conflicts arise.”

Perhaps the “most important asset public health can have is the public’s trust that work is being done on its own behalf.” This is further emphasized in the “Bellagio Statement of Principles [highlighting] ‘public health efforts are more likely to succeed in an atmosphere of social solidarity and trust, including the trust of disadvantaged people.’”

The general moral consideration of justice suggests that the fair distribution of benefits and burdens (aka, distributive justice) and in ensuring public participation and affected stakeholders are afforded the opportunity to participate (aka, procedural justice). Certainly, “[e]xplicating the demands of justice in allocating public health resources and in setting priorities for public health policies, or in determining whom they should target, remains among the most daunting challenges in public health ethics.”

The principle of distributive justice entails 2 central considerations:

1) “seeing to it that people receive that to which they are entitled, that their rights are recognized and protected (noncomparative justice); and
2) the application of laws and rules are with the distribution of burdens and benefits (comparative justice).”
Concerned with the “distribution of social benefits and burdens … [distributive justice] attempts to resolve questions … by providing a detailed account of the features of individuals and society that will justify making distinctions in the ways [benefits and burdens are distributed].”\textsuperscript{160} Furthermore, its central notion of fairness in treatment suggests that “‘[s]imilar cases ought to be treated in similar ways.’”\textsuperscript{161} And “social consequences must be considered if a community is allotted resources unequally, and these consequences must be balanced against the benefits to that community or others.”\textsuperscript{162} Another important feature, directly relevant to SARS, is the notion that “programs are implemented fairly … [this] is even more important if restrictive measures are proposed. Injustice is wrong for its own sake, and also for the material harms it can evoke. Social harms result if social stereotypes are created or perpetuated.”\textsuperscript{163} “Distributive issues remain highly contested.”\textsuperscript{164}

Procedural justice is concerned with \textit{how} decisions are made. The objective is to achieve a process that is viewed as \textit{legitimate} and \textit{fair}.\textsuperscript{165} Decisions to determine how to allocate finite resources within healthcare and public health systems are difficult and, at times, contentious. These decisions are tied to very personal concerns of health and well-being. The decision to support, reduce/increase, or not support some programs may mean a compromised quality of life or even death to a segment of the population. And in some cases, this may be inevitable. But is this justifiable? \textit{Who} should decide for \textit{whom} these resources are provided?

The discussion, of course, should also address why other interests also have moral claim. This acknowledges “[r]easonable people, who have diverse moral and religious views about many matters, [may] disagree morally about what constitutes a fair allocation of resources to meet competing healthcare needs.”\textsuperscript{166} However, “[s]uch a process, even when procedurally fair by most standards, must not result in decisions based solely on the will of the majority.”\textsuperscript{167} Rather “[w]e should expect, and respect, such diversity in views about rationing healthcare [and public health].”\textsuperscript{168} As communities and the populations of nations become increasingly homogenous, the need to ensure a fair and legitimate process for deciding \textit{who} will get \textit{what when, how and why} becomes increasingly important. “Nevertheless, we must arrive at acceptable social policies despite our disagreements.”\textsuperscript{169} This concern introduces the “problem of legitimacy: Under what conditions should we accept as legitimate the moral authority of those making rationing decisions?”\textsuperscript{170}

Furthermore, “[s]olutions to these inevitable disagreements [should] be reached through a system of fair procedures.”\textsuperscript{171} “Procedural justice requires a society to engage in a democratic process to determine which public health functions it wants its government to maintain, recognizing that some infringements of liberty and other burdens are unavoidable. There should be open discussion of what a society gains from good public health and why such benefits often cannot be obtained through less communal or more liberty-preserving methods.”\textsuperscript{172}

“Indeed, deliberations, particularly around significantly burdensome proposals, must be scrutinized to ensure that the views of the minority are given due consideration.”\textsuperscript{173} This emphasizes the importance of democratic principles and including the public in the deliberations of how to allocate collective resources to meet collective and individual health needs. Those who may be adversely affected by non-transparent, exclusive decision making may perceive the process as unfair, agenda-driven and may bear the burdens of the system. As a result, “[h]ighly
burdensome programs should be preceded by public hearings, not just votes, so that minority views can be heard and considered.”¹⁷⁴ The concern isn’t really majority versus minority; rather it is really between the powerful (engaged) versus the vulnerable (or disengaged).

“Public health professionals must go through the steps of an ethics analysis to assure the public of their integrity. The public must feel confident that public health professionals will offer only those proposals that will improve the health of the public, that proposed measures are minimally burdensome, and that a fair procedure has determined that the magnitude of the problem and the ensuing benefits justify overriding conflicting moral claims … This process, then, must be integrated, constant, and ongoing.”¹⁷⁵ If this is achieved, then the public, which was enabled “a broader social deliberation [in the decision making process will perceive] that rationing decisions are fair and are made through an exercise of legitimate authority.”¹⁷⁶ The concept of procedural justice will be revisited in priority setting.

One report suggests the importance of flexible shifting between public health ethics and bioethics within the healthcare system between the public health and medical subsystems:

“In an effective health system, these interests are in a dynamic balance . . . The importance given to individual and collective interests will shift according to the nature of the health risk being addressed. When a health risk primarily affects an individual, clinical ethics will predominate and a high value will be placed on individual interests. When a health risk affects a population, however, public health ethics will predominate and a high value will be placed on collective interests (Public Health Agency of Canada, 2006a: 14).”¹⁷⁷

Such a multiplicity of potential moral scenarios along with the wide array of general ethical considerations suggests the inherent nature of ethical values within public health practice; thus the importance of continued exploration and refinement of public health ethics. Adopting a framework that is rooted in individually-focused bioethical principles would only undermine the public in public health.

### 2.6.7 Priority Setting

Priority setting is simply determining who gets what, when, how and why. Regardless of this simplistic definition, this is a complex process that continues to challenge individuals, groups, institutions/organizations and governments. Identifying priorities within a substantive context is fundamental and does not seem to be sufficiently examined among emergency responders. On the other hand, ensuring ethical values in the procedural process of priority setting is equally important and insufficiently addressed within the context of public health emergencies. This is the heart of this analysis. How priority setting is conducted needs further examination to better understand values such as legitimacy and fairness as well as understanding who is harmed and who is rescued. Understanding how this is done and targeting this process for enhancement may have an impact on the degree of collateral damage in a public health emergency, or any emergency for that matter.

Priority setting frameworks may be distinguished and “conceptualized as dialectical opposites [and may be based upon either] substantive or process criteria.”¹⁷⁸
2.6.7.1 Substantive Priority Setting

Substantive priority setting frameworks may include “traditional discipline-specific approaches to priority setting (e.g. from philosophy, law, political science, medicine and health economics).” However, these frameworks “are insufficient because they are not grounded in actual experiences of priority setting … and the values that they contribute to priority setting conflict.” While, “[p]hilosophical theories of justice (e.g., utilitarianism, egalitarianism, communitarianism) lead to different outcomes[,] there is no agreement about which theory is correct.” Though “[e]conomic approaches (e.g., cost-effectiveness analysis) are helpful, [they] are practically limited and emphasize values (e.g., efficiency) about which there is no consensus. Legal approaches tell us what is unacceptable (e.g., discrimination) not what is right. Organizational ethics approaches tell us that organizational decision making should reflect organizational values, but not how to achieve that goal.”

Considering the variety of frameworks available to assist decision makers in the substantive issues of priority setting, there is no gold standard. The determination to apply a framework may rely on the context, decision makers, the issues on-hand and the preferred values. With regards to values, “[o]ther values important to priority setting include equity, the health of individuals [and] communities, the ‘rule of rescue’ and democratic decision making. Unpacking these values helps to clarify choices, but reasonable people, having diverse moral views, disagree about what constitutes a fair allocation of resources to meet competing healthcare needs. In the absence of consensus on guiding principles, the problem of priority setting becomes one of procedural justice – legitimate institutions using fair processes.”

2.6.7.2 Procedural Priority Setting

The ethical dilemmas involved in priority setting during a public health emergency continue to present daunting challenges in preparing for the next threat. “Priorities must be set among competing opportunities because demand … exceeds available resources.” Indeed, there are plans for neatly designating protocols to be followed when a threat evolves. However, the degree of threat directly affects how a plan is translated into action. Unfortunately, high risk situations and a lack of evidence-based science, medicine and guidelines only contribute to chaos and the proliferation of disorder, resulting in high human and financial costs to society. The risk of compounding a threat with additional unintended harms is collateral damage. The “failure to be clear about reasons … has important consequences.” To minimize this, greater attention to how priority setting is achieved during the response and recovery phases of an emergency is warranted; thus focusing on the process of decision making.

“Since we cannot reach agreement on what priority setting decisions should be made, we must seek agreement on how they should be made— that is, [to] focus not on getting the ‘right’ priority setting outcomes, but on using a ‘good’ priority setting process.” (emphasis added) ‘Good’ referring to ‘fair’. A suggested ethical framework emphasizing the value of fairness in the procedural process of decision making is ‘accountability for reasonableness’ (A4R). “[G]rounded in justice theories emphasizing democratic deliberation,” A4R “assure[s] people fair equality of opportunity.”

Procedural priority setting outlines a roadmap to guide the coordination of multiple stakeholders along with their resources, interests and well-meaning intentions. It will challenge a wide range
of perspectives: stakeholders with different and sometimes divergent interests come together and identify common clear objectives and targets. It emphasizes the importance of collective decision making and management during disruptive events while trying to minimize conflict, friction, duplication, confusion and competition; however it does not prescribe how to do this. In fact, “[t]here is little research on how decision making bodies deliberate and make actual priority setting decisions. Knowledge of actual practices is crucial to advance the understanding of priority setting … [especially in light of the] increasing demand for evidence-based policy making.”190 While this was true 10 years ago with health care, it is more so now. This also applies in the context of public health decision making.

Perhaps the greater challenge lies in the pursuit of a priority setting framework representative of a “synthesis that integrates [the] dialectical opposites into an ethical framework incorporating both substantive and process criteria.”191

2.6.7.3 Economic-Based Priority Setting Framework

“Economists’ approaches to setting priorities are based on the costs and benefits of health services, using the principles of opportunity cost and marginal analysis. The basic principle is that to do more of some things we have to take resources from elsewhere, by either doing the same things at less cost or reallocating resources from other areas of care. This requires accurate measurement of the costs and benefits of healthcare programmes.”192

2.6.7.3.1 CEA

Cost-effective analysis (CEA) is the dominant paradigm applied in healthcare priority setting. CEA compares two or more courses of action and their relative expenditure (costs) and outcomes (effects).193 The ultimate goal is to employ economic analysis to guide decision makers to ensure “more lives could be saved, more diseases could have been prevented or cured, if priority had been given to the most cost-effective services.”194 However, CEA is “not meant to provide a formulaic solution to resource allocation problems [therefore] it need not be highly contextualized;” though it may become more context specific which would only lead “to less use of cost-effectiveness information in the health policy dialogue.”195 Rather, it provides a general comparison between standardized health interventions, judging them as whether they are “highly cost-effective, highly cost-ineffective or somewhere in between;” thus, toward “enhancing allocative efficiency in a variety of settings.”196

The “central measure used in CEA is the incremental cost-effectiveness ratio (C/E ratio).”197 Representing the “difference in costs between two interventions divided by the difference in their effects,” the C/E ratio provides an “incremental price of a unit health effect from the [proposed] intervention,” where a low C/E ratio indicates a ‘good buy.198 However, one of the limitations of applying CEA is it “does not consider societal benefits because the effects of interventions are valued in terms of health only … [and that there is no agreed upon standard] in which health outcomes are measured and valued.”199

Providing the best outcome for the maximal number of individuals is in agreement with utilitarian theory. “The utilitarian allocation criterion prescribes that … opportunity costs (i.e., benefits that may result if resources are invested) should not exceed the benefits that can be expected from whatever employment of resources that is under consideration. Otherwise, the community as a whole will be worse off.”200 “Justice is thus achieved by maximizing aggregate
healthcare benefits, and by ensuring that health units have equal resource costs … [anything short of this would indicate an] arbitrary and unjust resource allocation.”

This would require “examin[ing] incremental health benefits that [may] result from increases in resource expenditure … [thus, this] is the task of CEA.” However, in order to compare the various types of health services, there is a need to standardize interventions into comparable units. This is the “objective of cost-utility analysis (CUA), where the benefits are expressed in terms of utility; or cost-benefit analysis (CBA), where the benefits are expressed in terms of money;” both contributing a means in evaluating overall CEA.

“The hope is that this type of analysis will provide data on the quantity and quality of the resources used and saved by adopting a particular … program.” This will facilitate decisions to consider whether “moving resources from cost-ineffective interventions to cost-effective ones [will] enhance the allocative efficiency of the health sector.”

Narrow “applications of CEA, such as the appraisal of a new version of an existing drug in a specific country, … remains an appropriate method although it should be realized that this does not inform decision makers on the best use of health resources.” However, in recent years, there has been an interest for broader applications.

As a result, the concept of generalizing CEA (GCEA) “across settings” is endorsed by the WHO to provide “analysts with a method of assessing whether the current mix of [health] interventions is efficient as well as whether a proposed new technology or intervention is appropriate.” The “specific feature – not addressed in traditional CEA which typically evaluates new interventions in comparison with the current mix – categorizes GCEA as a different, more fundamental type of economic analysis.”

While “economic approaches [such as CEA] are helpful, [they] are practically limited and emphasize values (e.g., efficiency) about which there is no consensus.”

2.6.7.3.2 PBMA

Another economic approach is programme budgeting and marginal analysis (PBMA). To my knowledge, this has not been applied outside the context it was originally suggested for: clinical medical care. It is essentially a resource management framework, first introduced to “[optimize] benefits with available resources” within the healthcare setting. It “recognizes the need to balance clinical autonomy with financial responsibility.” The framework emphasizes “explicit rational decision making,” while “making trade-off decisions to maximize health and non-health benefits from available resources.” It presents an interesting “way of thinking” about economics; that is, unless opportunity cost and the margin are considered, ‘benefit’ (however defined) will unlikely be maximized for the given resources. PBMA is based on the same economic principles as cost-effectiveness analysis and other economic frameworks, which have been applied in health care resource allocation.

PBMA’s seven stages provide a “practical set of steps” to assist “managers and doctors to set priorities that obtain maximum patient benefit from limited resources” and recognizes the “need for a more holistic economic approach to resource management.” In other words, the concepts of PBMA “suggest that decision makers should re-allocate resources at the margin to get the best overall benefit within available resources. The approach has been used over the last three
Table 1: Stages in priority setting using PBMA
from Mitton et al. (2008)

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<th>Determined the aim and scope of the priority setting exercise</th>
<th>Will the analysis examine changes in services within a given programme or between programmes?</th>
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<td>2</td>
<td>Compile a programme budget</td>
<td>The resources and costs of programmes combined with activity information</td>
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<tr>
<td>3</td>
<td>Form a marginal analysis advisory panel</td>
<td>The panel should include key stakeholders in the priority setting process</td>
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<td>4</td>
<td>Determine locally relevant decision making criteria</td>
<td>The advisory panel determines local priorities (maximizing benefits, improving access and equity, reducing wait times, etc) with reference to national, regional and local objectives</td>
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<tr>
<td>5</td>
<td>Identify where services could grow and where resources could be released through improved efficiency or scaling back or stopping some services</td>
<td>The panel uses the programme budget along with information on decision making objectives, evidence on benefits from service, changes in local healthcare needs and policy guidance to highlight options for investment and disinvestment</td>
</tr>
<tr>
<td>6</td>
<td>Evaluate investments and disinvestments</td>
<td>Evaluate the costs and benefits for each option and make recommendations for change</td>
</tr>
<tr>
<td>7</td>
<td>Validate results and reallocate resources</td>
<td>Re-examine and validate evidence and judgments used in the process and reallocate resources according to cost-benefit ratios and other decision making criteria</td>
</tr>
</tbody>
</table>

decades in various healthcare contexts, both within and across programme areas, to aid decision makers in operational planning and resource allocation activity.\textsuperscript{215}

However, when outlining the ethical considerations for PBMA, it was suggested to use “[o]ne approach, and probably the most widely promoted in addressing fairness in priority setting, which is Daniels’ and Sabin’s ethical framework of accountability for reasonableness.”\textsuperscript{216}

“Decisions should, of course, be based on rigorous economic data.”\textsuperscript{217} This cannot be practical during a public health emergency unless economics develops a sub discipline that conducts fast-tracking real-time economic forecasts and analyses. Nonetheless, “even if relevant, timely and accurate evidence on costs and benefits is generated as part of the priority setting process, resources are unlikely to be shifted unless the pragmatic and ethical considerations are adequately addressed.”\textsuperscript{218}

The weakness in acknowledging the normative values in priority setting misses the most critical: economic principles do not enshrine ethical values in the procedural decision making processes. Moreover, “[p]erhaps the most important challenges lie in incorporating organizational context and ethics into economists’ approaches to priority setting, while making economics, an integral part of managers’ and doctors’ management process.”\textsuperscript{219} Contrary to this is the application of a framework to guide decisions and actions during an emergency. As a result of examining these issues within an emergency, I would suggest that “perhaps the most important challenges lie in incorporating organizational context and [situational awareness] into [emergency managers’] approaches to priority setting while making [ethical considerations] an integral part of [emergency] managers’, doctors’, [and public health experts’] management process[es].”\textsuperscript{220}
2.6.7.4  Ethics-Based Priority Setting Framework

2.6.7.4.1  A4R

‘Accountability for reasonableness’ (A4R) “focuses on ensuring fairness in how decisions are made,” and is rooted in democratic deliberative tradition. The framework focuses on ensuring the ethical values of fairness and legitimacy in the procedural rather than in the substantive issues of decision making processes. Originally developed by Norman Daniels and James Sabin to guide healthcare decisions and priorities for health management organizations in the United States, the framework has received acclaim and been implemented in various contexts around the world. However, to my knowledge, it has not previously been applied within the context of public health and, more specifically, within a public health emergency. In essence, the ‘accountability for reasonableness’ is the central ethical framework used by scholars” and is considered the gold standard for priority setting.

| Table 2: Accountability for Reasonableness |
| Craig Mitton et. al. Health Economics 2008 |

| Publicity | Make the priority setting processes, decisions and rationales behind them, accessible to managers, public health officials, physicians, nurses, first responders, patients and the public. |
| Relevance | The rationales for priority setting processes and decisions should be based on principles, reasons and evidence that managers, public health officials, physicians, nurses, first responders, patients and the public can agree are relevant. |
| Revision/Appeals | The mechanism should allow people to challenge decisions and facilitate resolution of disputes, if necessary, by revising decisions in light of further evidence (knowledge or information). |
| Enforcement | Voluntary or public regulation mechanisms should be established to ensure that the first three conditions are met. |

Daniels and Sabin identify two key problems at the heart of healthcare decision making in identifying priorities: legitimacy and fairness. The legitimacy problem poses the question: under what conditions should authority over priority setting decisions be placed in the hands of a particular organization, group or person? The fairness problem poses the question: when does a health management organization or clinician, or in this case a public health official, have sufficient reason to accept priority setting decisions as fair? An institution’s priority setting decisions may be considered legitimate and fair if they satisfy four conditions of ‘accountability for reasonableness’: relevance, publicity, appeals and enforcement.” The 4 conditions of ‘accountability for reasonableness’ are described in Table 2.

These two values are just as important within public health as in clinical applications. I would argue they may be more critical in dealing with public health emergencies. The strength of ‘accountability for reasonableness’ is in its ethical roots, based in theories of democratic deliberation. This underscores the link between priority setting processes within the framework of ‘accountability for reasonableness’ and the broader democratic processes.

The multiple levels of decision making within the SARS response highlight an array of decision making and priority setting complexities and ethical challenges. They vary from the macro,
meso and micro levels and include, but are not limited to, the World Health Organization at the international level. Within the Canadian context, they include the Provincial Emergency Operations Center (EOC), multiple municipal EOCs, institutional and organizational EOCs (i.e., hospitals), decision-making circles within unions, professional organizations and in clinical settings. Decision making *within* each of the respective aforementioned groups was not transparent and received criticism as described in previous reports. This analysis will further examine these issues through the data.

Though A4R is currently the gold standard, it does not resolve all concerns with respect to how best to ensure ethical decision making processes. For that matter, it is not feasible to expect one framework to do this. One particular “limitation of ‘accountability for reasonableness’ is that it does not sufficiently explain how an institution might go about operationalizing the model. For example, how should institutional administrators go about putting the relevance condition into practice?“[^224]

Moreover, though critiques on A4R have been minimal, there have been studies suggesting refinements to the framework. For example, it has been suggested to amend A4R to include a fifth condition referred to as the “empowerment condition” (referred to as A4R + Power). This new condition states that “there should be efforts to minimize power differences in the decision making context and to optimize effective opportunities for participation in priority setting.”[^225]

Interestingly enough, all the priority setting models examined all developed exclusively with healthcare challenges in mind. While this is warranted and necessary, it is also important to highlight the interdependencies between preventive, primary and tertiary health services and how best to identify health priorities and target resources to maximize benefits for the most. No model has been developed in response to public health challenges. Moreover, none of these models have been applied within a public health emergency, to my knowledge, to-date. This analysis will do exactly that.

### 2.7 Collateral Damage

There is no doubt that unintended harms will result in any emergency response. Simply put, collateral damage is unavoidable. However, how emergency decision makers and responders react to emergency events will directly impact the degree of collateral damage.

The term collateral damage evolves from military application. According to the *United States Air Force Intelligence Targeting Guide*, collateral damage is defined as the “unintentional damage or incidental damage affecting facilities, equipment or personnel occurring as a result of military actions directed against targeted enemy forces or facilities. Such damage can occur to friendly, neutral and enemy forces.”[^226]

A definition is also provided by the United States Department of Defense as the “unintentional or incidental injury or damage to persons or objects that would not be lawful military targets in the circumstances ruling at the time. Such damage is not unlawful so long as it is not excessive in light of the overall military advantage anticipated from the attack.”[^227] In short, collateral damage is “damage aside from that which was intended.”[^228]
When faced with an emergency, decisions and responses fall into one of four categories:

1) No reaction;
2) Under-reaction;
3) Balanced reaction; and
4) Over-reaction.

During a public health emergency, no, under- or over-reaction will be certain to unleash a barrage of unintended harm. Striking a perfectly balanced response is difficult to achieve, especially when faced with an unknown threat clouded with high degrees of unprecedented uncertainty. As a result, an emergency event may trigger a cascade effect eliciting secondary harm enveloped in the intent to protect. However, achieving a perfect reaction is not the objective. Rather, the process of ascertaining a balanced reaction to be proportional to the threat will in of itself contribute toward minimizing unintended harm.

2.8 Synthesis

These concepts contribute to a better understanding of converging dynamics in a public health emergency such as SARS. Through an examination of the data and the discussion, I hope to illustrate an inter-relationship between instituting ethical priority setting procedures during a public health emergency in an effort to minimize collateral damage during the response and recovery phases. There is no doubt that a “lack of planning and the decentralized nature of the [Canadian] health care system meant that disruptive control measures had to be put in place to control the outbreak … [ultimately resulting] in considerable confusion, fear and costs [thus collateral damage].”229 While the A4R framework has not been applied within a public health context, let alone an emergent event, this study will explore the SARS response employing the framework as a lens. This study explores this framework’s applicability in an atypical or emergent circumstance and how it may contribute toward mitigating conflicting interests, ensuring a greater degree of fairness and accountability and facilitating deliberations over priorities. More specifically, this analysis will evaluate SARS in Canadian public health systems through the lens of A4R to identify variables that may “enable decision makers to make holistic and optimal decisions for infrastructure under risk, based on in-depth and comprehensive consideration of hazards and mitigation impacts.”230
Chapter 3
Research Questions & Methods

3 Research Questions & Methods

3.1 Research Questions

1) Were the conditions of A4R + Power (publicity, relevance, revision/appeals, enforcement and empowerment) and the values (legitimacy and fairness) adequately addressed during the 2003 Canadian SARS outbreak?

2) How did the absence or presence of ethical priority setting, influence the degree of collateral damage, if any, during the response to a public health emergency (in this case the 2003 Canadian SARS outbreak)?

3.2 Methods

3.2.1 Design

For this study, I employed qualitative study methods to explore the relationship between ethical priority setting and collateral damage within a public health emergency. The concept of “describe, evaluate and improve” was also used in my study to examine the Canadian SARS outbreak.\(^{231}\) A case study is “an empirical inquiry that investigates a contemporary phenomenon within its real-life context” and was used to describe the case.\(^{232}\) Priority setting in public health, let alone a public health emergency, is “complex, context-dependent and involves social processes.”\(^{233}\) I will describe how public health officials and responders made decisions with regards to setting priorities at the meso- (provincial governance structures) and micro- (local governance structures – such as local health units) levels, and evaluate it against the conditions of ‘accountability for reasonableness’ + Power. I have selected ‘accountability for reasonableness’ in contrast to other priority setting frameworks since I am most interested in examining the procedural issues of how decisions were made in a high-stress context as opposed to what decisions were made. In addition, I also examined if values of fairness and legitimacy, which are at the heart of A4R, and how they were maintained or lost throughout decision making processes. Employing an economic model for this analysis would fail to recognize that economic-based models assist decision makers with only evaluating substantive priorities during a crisis. Economic models have no proven value to ensure fairness and legitimacy in the procedural decision making processes. This does not go without pointing out the potential findings economics-based models may provide in descriptively evaluating the response decisions of the SARS outbreak. However, this exceeds the scope of this analysis. I will conclude with findings demonstrating key elements and existing gaps in fair and legitimate decision making processes in an effort to improve and narrow gaps between what to do and what one ought to do.\(^{234}\)
3.2.2 Setting

The study examined public health units at the local/municipal, provincial, regional and federal levels in Ontario (City of Toronto and York Region) and British Columbia (Vancouver) during the SARS outbreak which took place between February–July of 2003. The health authority in each respective province oversees a range of health services ranging from public health to clinical services.

3.2.3 Sample

Study participants were acquired through theoretical and snowball/chain sampling and comprised of specific public health officials at the local/municipal and provincial levels of government who were involved in the management, coordination and decision making during the 2003 SARS outbreak. A total of 25 semi-structured key informant interviews were conducted using a questionnaire. Key documents and transcripts of interviews with public health officials were sampled. Theoretical and snowball sampling methods along with inter-analysis meetings helped determine which individuals were ‘key’. Included in the individuals sampled were senior public health administrators and managers.

3.2.4 Data Collection

There were two sources of data: (1) key documents (e.g., reports, articles), and (2) 25 one-on-one semi-structured interviews with key informants (see table 3).

For each interview, I brought equipment and forms. Equipment included a digital recording device and extra batteries. Forms included a consent form and a copy of the question guide. In addition to audio recording, extensive notes were taken during each interview.

There were no challenges in the availability of interview participants. Due to secondments and reassignments during the response, all interviewees are identified by their home jurisdiction during 2004-2005 data collection time period; the time range of collecting the data. Interviews were audio taped and transcribed. Structured interviewing methods were applied. Interview participants were asked to describe their experiences during the outbreak and the interview guide used was developed through several drafts (see appendices 1, 2 and 3) and revised through team research meetings. The question guide focused on several key areas:

- Personal reflections during the 2003 SARS outbreak;

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**Total:** 25
• Priority setting issues and challenges;
• Decision making issues and challenges; and,
• Resource allocation issues and challenges.

The question guide was modified during the study to further explore emerging themes as data collected proceeded. For example, as several informants early in the process highlighted issues with unions, work quarantine and ability to disagree at the decision making tables, I routinely reviewed and revised the question guide so as to capture this data in subsequent interviews. Once saturation was achieved, the focus of my efforts shifted from interviews to analysis.

Interviews were scheduled with public health officials at the local/municipal, provincial and federal levels. Interviews were arranged at locations that were convenient for each interviewee. All but two interviews were conducted in-person. The remaining were recorded and conducted over the phone since they were from British Columbia and scheduling difficulties prohibited meeting while visiting the province.

While a grant afforded me the opportunity to travel to British Columbia to capture data in-person, two interviews were conducted by phone due to scheduling challenges. At times, appointments required rescheduling multiple times to ensure accommodation. Each interviewee was provided a consent form (see appendix 4) as well as a brief overview of the research. They were counseled that all information provided would be held in the strictest confidence possible and that results would be incorporated into the study in a non-identifiable fashion. All interviewees were informed in advance as well as in person about any concerns about recording the session. Due to the nature of the topic, I made every effort to ensure the respondent was comfortable and agreed to the interview conditions. Upon meeting, I made sure to ask again regarding the recording device offering to take notes if they dissented. No study participants refused interview recording.

Formal unstructured interviews using the question guide (see appendices 1, 2 and 3) lasted approximately 1-1.5 hours, in some cases longer. Though the question guide was used for each interview, I accommodated each interviewee style by fostering more discussion for an unstructured approach. Points were clarified and in some cases, more time was spent exploring new points and themes. In a few cases, follow-up interviews were conducted to capture additional information on unique concepts, practices or stories.

Recordings of interviews were transcribed. Transcripts were reviewed along with the audio recordings to ensure for accuracy, consistency and authenticity. All transcripts were then reviewed for initial codes and reviewed with the research team through interim-analysis meetings. Subsequently, all transcripts were incorporated into a qualitative analysis software, in this case QSR NVivo© version 8.0, for further analysis and organization. Various themes and sub-themes emerged which are provided in the Results section.

3.2.5 Data Analysis

The data was analyzed through applying:

• Open coding;
• Axial coding; and
• Evaluation.

In open coding, the data was examined for issues that related to central and emerging concepts and themes. During axial coding, the concepts were categorized by themes which also included the four conditions of ‘accountability for reasonableness’: publicity, relevance, revision/appeals, and enforcement. In addition, I have also included the proposed fifth condition of empowerment. During the evaluation phase, the descriptive data were compared under overarching priority setting themes, particularly between decision making and resource allocation challenges. The priority setting framework was divided up into decision making and resource allocation themes with a range of associated sub-themes under each respectively. In addition, codes within the conditions of A4R+empowerment (i.e., transparency and inclusion under the publicity condition) were evaluated with the data. In addition, themes from the data (transcripts) were triangulated with multiple data sources including reports and other literature examining the SARS response. Concepts were compared, contrasted and contributed towards bridging the gap between experience and theoretical models for facilitating ethical actions during public health emergency events. The findings of the data and the frameworks were “formalized and made explicit through the [results and discussion] of the findings.”

The open and axial coding processes were conducted through the utilization of NVivo8®, which is a qualitative analysis software program. The program permitted organization of all transcripts (totaling over 1,000 pages) into manageable process of analysis. The program allows the user to analyze each transcript identifying customizable themes for each transcript. Each transcript approximated 3-4 hours of analysis. The themes identified in the software package as nodes which can be structured into “trees” permitting the user to identify relationships between the themes or nodes of the data.

Based on the data, I have adapted interviewee responses into the ‘accountability for reasonableness’ framework, highlighting the intrinsic importance of these concepts. The ‘input’ to the interdisciplinary research phase will be the description of priority setting developed in the SARS study. I will compare the model description (how they did priority setting) with ‘accountability for reasonableness’ (how they should do priority setting) to evaluate and describe areas of fit and incongruence.

3.2.6 Research Ethics

Approval for this project was obtained from the Research Ethics Board from the University of Toronto. Written informed consent was obtained from each participant before being interviewed. An overview of the research, the audio taping of the session and a personal background was provided to each participant before obtaining informed consent. All data was kept confidential and viewed only by the research team. No individuals have been identified without their explicit agreement.
Chapter 4
Results

4 Results

Though the ‘accountability for reasonableness’ framework was first proposed to ensure ethical considerations in the procedural decision making processes of healthcare decisions, it remains to be applied within the context of an emergency event, particularly in a public health emergency. This analysis offers a descriptive account of how priority setting issues were handled during the SARS response by public health officials and responders through the lens of A4R+Power.

Following this, an exploration of unintended harms and collateral damage will frame the difficulties and challenges in ensuring fair decision making processes during the public health response to contain SARS.

4.1 A4R + Empowerment

4.1.1 Condition #1: Publicity

The publicity rationale highlights the importance of a transparent and accessible decision process. Decision making networks occurred during SARS outbreaks through:

- Emergency Operations Centers (at the federal, provincial, local/municipal, institutional and professional levels);
- Teleconferences (at the federal, provincial, local/municipal, institutional/organizational, i.e., hospitals);
- Scientific Committee/s; and
- Professional (within unions, professional organizations and within clinical settings).

While data presents divergent perspectives on the accessibility of decision making, many expressed frustration at the lack of inclusion.

During the SARS response, to the best of my knowledge, there was no participation of members of the public at-large in decision making processes. In fact, the greater concern was the failed inclusion of critical/key response stakeholders. While decision making during emergency events strongly contrasts non-crisis instances, there are implicit minimal expectations as to key players to include. This is where I will focus this condition on examining the inclusive nature of the ‘war rooms’.

The data is divided according to perceptions of inclusivity or the lack thereof into the following categories:

- Jurisdictions;
- Professional groups; and
- Institutional.
4.1.1.1 Perceptions across Jurisdictions

Perspectives from local jurisdictions expressed concern of the lack of presence from federal and/or provincial officials in participating in local decision making processes. The descriptions below highlight the importance of including federal officials and the second quote emphasizes the importance for provincial presence in local decision making tables.

“There were attempts at transparency and I think good faith attempts at transparency, but there is only so much you can achieve with 28 people around the table, the conference line connected to the federal government and 20 people around their table, and … looking back, I’d have said: Feds, they can send their most Senior person down, we need to invite them down as an observer for that Table right off the bat, but that didn’t happen until SARS II.”

“I would probably say one of the people that was frequently missing from our regular teleconferences was Ministry representation. Which was frustrating because when you’d hear the directives and stuff and people had questions … there probably would have never been a better time when you have multiple… probably 20, 25 people on this conference call all from multi-jurisdictional disciplines, all kinds of healthcare disciplines, that you would really have… to hit a broad audience and it’s unfortunate when questions arose it was always well we’ll take that down to the POC today and we’ll report back on it tomorrow.”

Perceptions from local jurisdictions of emergency operations centers (EOCs) were described as not being transparent enough. Moreover, distrust and doubt evolved when explanations underlying many of their directives for frontline efforts were not communicated or provided due to either the lack of time or clear justifications for decisions. In a way, the EOCs efforts at various levels may have been “both isolated and isolating.”

“a lot of the decisions then became arbitrary and so they were getting information from me in a way that normally I don’t communicate, and we’re not always aware and I didn’t feel I had a lot of time to talk to and explain why, and here’s all the reasons, here’s the reasons why this, this and this… and I did have an internal process but I didn’t have time to give that out. Would it have in hindsight … been better to have taken the time to explain? I’m not sure I can even answer that because right now thinking back while I was making those decisions that were this many over here that still had to be made, so I’m not sure that even if I would want to, I could do it. What we can do and we had done is talk about why decisions were made and sometimes we don’t like the decision but let’s live with it.”

“Sometimes actually I would have been able to do a better job had I told them why I had to make the decision the way I did. I didn’t always communicate that, I just told them do it this way and I think in retrospect I think I would have gained a lot more in terms of trying to be more explanatory but it’s really, really difficult. I mean even if I were to have
another outbreak if I was all alone it’s hard for me to sit down and to explain to somebody for 10 minutes something that will take me one minute to say do it and do it this way and get back to me at this time. So it’s a luxury.”

The respondent below describes a recurring theme of the uncertainty of the structure and function of the EOC. As a result, the perception of its political nature, at the expense of being inclusive, contributed toward distrust, frustration and diminished transparency.

“It was very political, it was, the EOC and all of these people, lined up in rows of desks with phones … answering phones. But at least my perception of the EOC was that they were just a funnel for everything. They never actually produced, they never actually answered any questions. The requests came in and went out through there but they didn’t actually do any of the answering themselves. I mean maybe that’s unfair, I’m sure they did do … make a lot of decisions themselves but when it came to actual decisions about cases, is this person an actual case, is this exposure a legitimate exposure and what decisions do we have to make because of this exposure – do we have to close the school, do we have to close the hospital – all happened downstairs. So I think that was a real disconnect and it really did annoy a lot of people.”

Respondents consistently described frustration at the absence of certain jurisdictions or stakeholders in decision making circles, particularly early in the response. The passage below exhibits this concern at the lack of including municipalities in the provincial decision making processes from a local point of view.

“Probably the most important piece of that is that municipalities need to have a voice. So, that’s why I think … if they’re going to be making decisions, municipalities need to have that voice at the table. Because there is impact to their business.”

“If there’s a change or if I want to do anything, I need regional Council approval. Now, I didn’t need to, in this circumstance it’s a provincial emergency. Under normal operating conditions, I need to. So, I guess what I’m trying to say – in recognizing the way decisions are made … you’re making decisions on behalf of the municipalities, yet they don’t have a voice. So, that’s where it got all complicated. Because we were sitting here saying why are we not being consulted on these changes.”

The following perspective continues to highlight the frustration at the lack of a local voice and how a local health unit responded to questions from a hospital.

“We certainly didn’t feel often that the decisions made at the Provincial level were inclusive in the sense that sometimes decisions were made which didn’t make sense when implemented at the local level and we also felt that there was inadequate communication about those decisions. What would often happen is that a decision about a particular measure to prevent
the transmission of SARS would be issued by the provincial committee … – because it was declared a provincial emergency; [there were] provincial committees of various kinds. The information would come out, it would come to us, it would come to our local hospitals, we would talk at our local hospitals and the local hospital would say: ‘We don’t understand this decision and we’re not sure that it works for us and we don’t think the decision takes into account our issues and the difficulty of implementing it at the local level.’”

Despite the numerous quotes critiquing the lack of inclusivity in decision making from local responders, the provincial respondent in the passage below highlights the challenges in inclusivity.

“Initially it wasn’t a very consultative process because we just didn’t have time, we had to react, we had to get on top of this because we were always afraid of it getting out into the community and once we were in a situation where there were going to be cases that presented that didn’t have any epidemiological links we were screwed because then it’s out and you have no way of knowing which group you are going to quarantine because it’s out there. That was always our big fear … community spread without any epi links and then you’re into a different crisis – we had leveled the crisis, so that’s was a balancing act. Yes we wanted to get lots of good scientific advice and lots of good on the ground advice but we also had to make a lot of quick decisions, otherwise this thing was going to spin out of control.”

“Probably – things went so quickly in the first one that…and frankly you can’t… it’s not effective to try to bring everyone in and have a round table discussion – it was not at all practical. Specific examples: probably the remainder of the Management Team that was not focused on SARS felt excluded from the bulk of the decisions that were made; and ok they felt excluded – we should have had a mechanism to keep them informed, we didn’t, so sorry, next problem.”

An opposing viewpoint at the local level illustrated the condition within their respective organization. S/he described below the deliberate effort to be inclusive of frontline responders, and more importantly exhibited a perceptive understanding of the stresses and burdens responders experienced in the trenches and presented them an opportunity to share their feedback of ground conditions. This passage provides an insightful illustration of the delicate nature of the circumstance; particularly when communicating with responders as opposed to the decision makers housed in meeting rooms. A balance existed, one that was not recognized by some in the urgency and pressures to act. Some managers illustrated an emotional quotient (EQ) or an intelligence recognizing the human side of emergency management in fostering a sense of inclusion. This was exhibited in their communications styles and illustrated an implicit awareness of the dual importance between the how and what in communications.

“We didn’t even call it meetings, we called it like touchbase time, or… we tried to kind of have a casual sort of informal … people talk more when
they’re more relaxed. I mean everybody knows that. So we didn’t want to have this big formalized meeting where we had agendas and note-takers and that was sort of not the purpose of what we were trying to achieve. We wanted them to feel that they could talk to us, and that’s why we were here. And we needed their information to help make decisions on our end, and we let know that – this isn’t us making all the decisions, this is you giving us information to make the decisions. So you’re as much a part of this process as we are. And we’re all in this together. And again, compared to the Public Health it seemed to make a really big difference in how we dealt with our staff versus how they dealt with their staff.”

4.1.1.2 Perceptions across Professional Affiliations

Emergency management services, particularly paramedics, were also excluded from the decision making tables. Similar to nurses and physicians, they were on the frontlines. Their role as gateways to hospitals and their patient distribution networks in hospital-to-hospital, community-to-hospital and hospital-to-clinic or nursing facilities raised concerns with taking a hospital-based outbreak into the community or vice versa. One respondent expressed frustration at many of the myopic provincial directives providing guidelines to hospital practitioners. “As the changes came down, and because the manner in which they came down, the language in the inclusively of who a healthcare provider or healthcare worker – those were the terms they used in many occasions – it was unclear to us if it applied to paramedics. So it created… every time we got a new directive, what we did is we had to scan it all. And it was pretty evident to see that it was facility-driven for a hospital or long-term care facility, and they talked to healthcare workers but did that include paramedics. And we always had to ask the question. And we always had to go back and say does this mean.”

The human resource landscape of public health and healthcare in Canada includes several critical unions. Nurses and paramedics bore the brunt of the SARS burden given the nature of their professions, which placed them in the direct path of risk as frontline responders. They too were managed through their unions. Interestingly enough, unions were not always included in the decision making circles at multiple levels of governance and across jurisdictions. As directives and decisions on how responses should be carried out, the voices of the organizations representing the frontline responders were missing. Whether this was intentional or unintentional has yet to be clarified. However, this contributed to a sequence of disruptive consequences during the response only diminishing trust, thereby escalating conflicts. The passage below illustrates the perspective of a union representing nurses.

“Well, I can already tell you, it was communicated to me quite clearly from the union that they didn’t feel that… they didn’t understand why the decisions were made, and who the decisions were coming from. As much as I would include, ‘Here’s the latest policy directive … here it is and it’s signed by provincial people.’ They still they looked to me, I’m their boss. So they don’t understand some of the changes and the reasons for that. Again, that goes back to the whole communication. I was frustrated with
the timeliness and the frequency of the changes, and how do you get it out there, how do you talk to people, how do you … that was a challenge. So, I think, as an employee, that most of things were how is going to affect me, my family, and what are you as my corporation doing to support me. Those will come forward in the next, regardless of whether they had a positive or a negative experience. They will. They’ll come forward. Because those are the important things; making sure that you and your family and that the workforce is protected … But there is a lot of misinformation, which is natural. I’m recognizing – I have already told you the challenge – and I recognize that that is a challenge, a huge challenge. So, just as I’m sitting there saying to you that we need to have municipal representation at the provincial level, I just don’t know what the avenue is for the CUPE [Canadian Union of Public Employees]. But I think CUPE should be part of the stakeholder information-sharing group. I just … fundamentally, I just can’t bring them in the EOC, because I just don’t think that they’d say ‘Good move’ to have a union representative in an Emergency Operations Centre.”

The passage below reveals the paramedic perspective and the frustration at being excluded from decisions regarding directives for safety, patient transfers and continuity in the provision of their services to non-SARS related calls. Issued directives did not provide guidance for how their paramedic networks should respond to SARS and non-SARS calls, what personal protective equipment (PPE) to use, and the fact that quarantine directives would cripple EMS systems with a severe shortage of first responders. The quote below highlights this point.

“So, that was one thing that wasn’t happening with the communication centres. They were trying to send them to other… So, what I did is I drafted up an agreement between the three hospitals and ourselves, so that we could ensure that specific conditions and where criteria met that we can ensure that patients were repatriated to the originating facility. And it made a lot of sense. And, in fact, it took several weeks to get it through. And I could see then why it took so long for us to get information related to paramedics is because at any given time there were no more than three or four people in the ambulance group emergency operations centre. Which blew my mind! Because they were really representing the core provincial EMS piece. And at times it was very frustrating because we didn’t understand the relationship. Because remember, we’re not a provincial service any more. Now, we have standards and everything, but we have a municipal voice.”

4.1.1.3 Perceptions across Institutions

Including institutions, particularly hospitals, in considering closures due to the nosocomial spread also proved problematic. The inability to identify and accurately diagnose individuals with SARS was complicated by the fact that its initial symptoms don’t appear too different from a bad cold, the flu or pneumonia. Considering that hospitalized patients are in the hospital due to other illnesses further strips medical practitioners from clearly distinguishing SARS from non-SARS hospitalized patients; worse yet, those with SARS co-infections; hence the importance in
identifying the epidemiological link. This is one of the reasons why the outbreak largely remained confined within hospital settings. As a result, hospital closures were inevitable and necessary. Early in the outbreak, there were stories of hospital CEOs excluded from the decision making tables considering whether to close them from new patients. The respondent below describes the importance of including institutional leaders, particularly of hospitals, in considering whether to shut down facilities due to possible SARS exposure.

“No, I don’t think it’s disruptive if you’ve got all the senior people in those organizations. It’s very different when you’ve got people at different levels. Like when I had the CEO of [a] Hospital … When you have somebody senior you tend to process things faster and they tend to understand I believe because they are at a senior level. So I think it’s a good idea to have more inclusivity but I also think that sometimes decisions need to be made on an urgent basis and if you don’t have the time you gotta do what you gotta do.”

The respondent below described the inclusion of one CEO by teleconference and how their role was limited to observer while others deliberated on the closure of their respective hospital.

“Well they were actually present in the teleconferences of the hospitals … s/he [a hospital CEO] was there, [s/he] was listening in, and [s/he] was essentially told that we’re gonna have to close this place down and [s/he] was participating in a 45 minute teleconference that lead up to closing the hospital down. So we talked about it. Ultimately the decision was you have to close it down, how can we assist you in achieving that goal, and here are the reasons why it’s being closed down. At a certain point … I mean [s/he] doesn’t want [the] hospital closed down because [s/he] doesn’t want [his/her] operations to be distracted or interrupted because [s/he] has a whole bunch of physicians, surgeons, everybody that’s working for him that [s/he] has to be accountable for but [s/he]’s not always taking the larger picture. Is closing down the hospital or keeping it open going to in any way allow for further spread of the disease and if we kept it open yes it would have so we had to make a decision. The president of the workplace, no, we didn’t include but we had a chat afterwards. Once again, whose role and responsibility is it to make certain decisions and everybody has a vested interest. The one thing that makes me different from everybody else is that my vested interest is the people of York Region and sometimes I will have to make very tough decisions that will make a lot of people unhappy but it is for the people of the Region of York.”

4.1.1.4 Other

As the outbreak continued, a greater effort in including otherwise excluded stakeholders in the decision making circles was made. As this continued, one respondent described a meeting was nearly too inclusive.
“The Ministry ones were huge, they had people from all over the Province. I mean, primarily it was Toronto and the GTA, the areas that were affected, but people like in Collingwood and places just north of here that were concerned the whole thing was spreading more, they participated too. I think at one point they had like something like 120 people, or it was too crazy it was ridiculous.”

One respondent addressed the need to keep the decision making meetings small to facilitate rapid decision making.

“It’s better if it’s clear at the beginning about what the point of it is and what decisions have to be made. So clearly when you get too many people and everyone’s competent and interested and thoughtful and everyone wants to have a say so it’s often better to leave people out if you have to make some decisions and just make sure you’ve got some key people who you know are responsible and make decisions and then try to get a consultation either ahead of time or afterwards with the other stakeholders rather than try and involve them all in the same call because everyone’s at different speeds. You want everyone at the same speed.”

While information about the response was communicated with the public through media outlets, many responders were disappointed by how they received critical updates. Rather than being informed through their respective health units or organizational affiliations, many times they received the information through standard media outlets (television, radio, internet and newspapers), reinforcing the importance of communications.

“We should have heard about it without having to tune in to the television.”
4.1.2 Condition #2: Relevance

The relevance condition specifies that decisions should be grounded in “principles, reasons and evidence … [that] health stakeholders can agree are relevant.” “Relevance means reasons; decisions must be based on the best scientific and public health information available.”

There are two poignant examples illustrating the challenges in addressing this condition. The two examples below illustrate challenges in sufficiently addressing the “fundamental interest [that] all parties have in finding a justification all can accept as reasonable.” Both examples describe the issue of national and international travel advisories.

4.1.2.1 Example #1

This example explores the concept of a national travel advisory within Canada. British Columbia was increasingly concerned over the outbreak in Ontario. The respondent below describes increasing frustration at the lack of accurate public health data in determining if the situation was worsening. British Columbia and other provinces simply had no access to accurate epidemiological data. For that matter, no one did. The lack of this real-time information inhibited their abilities to make informed decisions in preparing responses based on evidence.

Shortly after the international travel advisory issued by WHO, provinces began to consider the idea of a nation-wide travel advisory. The intra-Canadian travel advisory would have prevented individuals from traveling between British Columbia and Ontario. This contemplation is evidenced in the following description:

“I mean there was often a lack of information and frustration because Ontario couldn’t get its data together and it had problems which you can read about in any one of a dozen reports. There was an issue around the Easter weekend when the WHO issued the travel advisory because they didn’t have information, clear information, coming out of Toronto and there was a time when we thought there was community spread ongoing in Toronto and we were worrying as to whether a travel advisory within Canada should be issued and whether we should advise BC residents about going to Ontario. That was the weekend that the WHO issued their travel advisory and I think other provinces shared that concern. The reason that we actually didn’t was because somebody from Health Canada who we knew and trusted had been to Ontario, on a teleconference with us, told us that her best estimation was that there was no community spread so we relaxed but we came very close to doing it because of a lack of information, lack of definitive information. But then it became highly politicized backwards and forwards.”

Furthermore, provincial authorities were further challenged by the lack of case law or a precedent in issuing such an order within Canada as well as lack of a federal leader for advice. The respondent below describes how this influenced current reform and that such a mechanism now exists.
“And then we had some difficulties … the only difficulties we had within Canada we’re trying to determine if we needed to issue a travel alert within Canada and who would do that. And Health Canada said no … their mandate only existed with international travel so that if you needed to issue a travel alert within Canada you had to figure out who would do that, it would be our responsibility to do that. But there’s never been a system set up by which you would predetermine under what circumstances you would issue a travel alert or a travel advisory. We have that now but we couldn’t get it throughout the SARS thing … And part of the problem with Health Canada was a political … at the top it’s a political organization with the Ministry as opposed to a chief public health officer. One of the recommendations from Naylor was create a standalone public health agency to act more like the CDC and appoint a chief public health officer who could be free to speak on these issues without having to feel that there was a political tilt in the way. We have that now so we’re much better positioned to sort of manage these things in future I think … to make decisions that aren’t politically biased or influenced.”

The respondent below describes the mechanism that currently exists detailing a set of criteria listed to guide decision makers in making reasonable decisions on actions. This adds clarity, transparency and legitimacy since jurisdictional representatives deliberated and agreed to the reasons and principles that would empower authorities to enact a travel advisory within Canada.

“Well they’ve subsequently developed the criteria under which you might consider issuing a travel advisory so then you at least had the people around the table saying are the criteria met, if they’re met then we’ll advise.”

### 4.1.2.2 Example #2

The second example continues to examine the decision whether to issue a travel advisory, except this description is at the federal and international levels. The travel advisory in this scenario was issued by the World Health Organization (WHO). A retrospective analysis reveals that the travel advisory, initially made to protect other nations from additional spread of SARS through global travel, was issued at the lowest peak in the epidemiological curve. At the time, WHO received inconsistent, incomplete information. This combined with alarmist media headlines contributed towards WHO to side on the side of caution; thus issuing the advisory.

The travel advisory alarmed public health authorities and politicians alike in the City of Toronto. Few outside of Toronto realized the decreasing epidemiological trend of SARS cases since the data collection lagged behind responses. WHO was faced with a decision without receiving accurate timely information and issued a decision based on weeks old data. According to WHO’s perspective, they had clear, accurate rationale to justify their decision to limit the risk SARS posed to the global community.

The description below illustrates the frustration of the travel advisory in Toronto and what that meant for burned out overworked public health officials who were under the impression that
SARS was nearing an end, which was really the case. The travel advisory mandated a mindset of guilty till proven innocent.

“So that was kind of the uptake on the WHO and my demands that we actually do something to show that we were serious about transmission. It was one of the most frustrating things was when we were declared an affected area what it meant was that basically…when someone presented with the symptoms that could be SARS, they were assumed to have SARS until we could prove they didn’t have SARS.”

In Toronto, it was quickly determined the line of communication (local-to-provincial-to-federal) was the culprit that delivered flawed data to WHO. It was essentially this flawed information sharing and communications combined with limiting additional risk-taking that provided the rationale for WHO’s decision.

“They [Health Canada] communicated with the province and the province communicated with us [City of Toronto]. The way that it was set up is that there were barriers put in place that didn’t allow us to communicate directly with Health Canada and most of the people in Health Canada were in Ottawa and the issues were happening in Toronto and you really had to be there to understand what was happening. And eventually … basically after the WHO put on the travel advisory in the City of Toronto which if you look at the epi curve it was the second day that we had no new cases and suddenly they put this travel advisory. So it had a lot to do with information … the right information not getting out to the right authorities. So after that we had a very interesting teleconference and Health Canada sent a senior person to be the liaison on the ground and it changed.”

In an unprecedented move, Provincial authorities traveled to WHO in Geneva, Switzerland to present accurate epidemiological data in an effort to reverse the travel advisory. The Province quickly communicated with Toronto Public Health to coordinate and organize epidemiological data. The respondent below, from Toronto Public Health, described the rush to provide accurate data to Provincial authorities.

“And they all flew off to Geneva and got the thing reversed, first of all, WHO declared us whatever we were, a travel warning or whatever. Two weeks after the peak of the epidemic, I mean you think it’s clear decrease in cases, when you look at the epi-curve more or less, it made no sense at all. Well I went over there and there was pressure on people to get them information …we’re faxing them stuff on the airplane … charts and everything- epi curves, local epi curves … everything … without realizing the pressure that it put people under.”

Another respondent described the frustration at amassing the public health data from Toronto Public Health since they had resorted to using post-it notes in the absence of a functional and efficient software program to keep up with epidemiological information:
“We had sticky notes on a wall. And things kind of quieted down in the evenings so we would stay till midnight or later most nights and try to actually figure out what was going on in the outbreak which actually should be an epidemiologist’s role in the outbreak is transmission and that was when the WHO put the travel advisory into effect, it was because they weren’t confident that there was enough community transmission, the outbreak wasn’t under control. And honestly we just didn’t know because the … I mean there really needed to be more priority on data, dealing with the data, and we just didn’t have the time or the resources to do that. We would stay late a lot of nights, the epis would kind of get together in the office and try to figure out from the charts which were, you know, hastily sketched nursing notes who was giving it to whom and did we really have a sense of were we actually containing it, did we know about all the contacts, did we know about all the cases and did we know who got it from whom. And so we had the sticky notes on the wall which is like so low tech and I wish we had taken a paper because it was really funny. But the day we realized we had to move offices and we’re like we can’t move sticky notes because everything is always on the wall. I wish we had a picture of this, you know, it was pretty neurotic actually.”

Below, a Provincial authority described the success of convincing WHO to lift the travel advisory, which would have remained for 3 months had it not been for ensuring that they received convincing, accurate, reliable epidemiological evidence that there was no need at that particular time for an international travel advisory against the City of Toronto.

“And so by the end of the meeting and then within hours, WHO met again and lifted the travel advisory – we became worldwide news that I flew to Geneva and got them to lift the advisory and so that was my sort of interaction with WHO to try to get us back on track and we seem to be doing so.”

Unfortunately, the damage from the WHO travel advisory had already been done. This will be further explored under the collateral damage section.

4.1.2.3 Evidence

Any “construal of the goal will be ‘reasonable’ only if it appeals to reasons, including values and principles, that are accepted as relevant by people who are disposed to finding mutually justifiable terms of cooperation.”

The respondent below describes the challenges at gathering credible evidence to inform decisions and provide the rationale and justification for decisions. Communications challenges and barriers complicated the process of reason-giving and information sharing.

“So the constant challenge was keeping up with the information and making sure that it was communicated to everybody. So, because things were coming down through a new process you had a Provincial operations centre that was now providing scientific information as well as medical
 directives. And you had a network… or a distribution network that was really unknown at the time in terms of was it meeting everybody’s needs – but they had to make some tough decisions in a very short period of time. So, the questions that came down… You had a system, especially in EMS, that was not used to having direction come down and change… things changed that quickly. Put it that way, change was really difficult for everybody. But, at the same time, you had a real environment that was all of a sudden totally different. People were getting… healthcare workers were getting sick. And they were getting sick from exposure at hospitals. So, you had a real change in the psyche of the frontline healthcare worker. We were… they were no longer in control. They had issues of… of being able to get answers to information … we didn’t have any answers … the feedback mechanism was very slow. So, you got ‘Yah, we got your question, but we don’t know what the answer is.’ So, the fear of the unknown was unbelievable. So, day-to-day we dealt with a lot of communications, trying to put together… trying to … provide people with the accurate information, and to dispel the rumours. That became a real challenge. And that’s how we re-developed … that’s how we re-assigned our management team to look at communications in the frontline.”

“So lack of information was a key barrier to an effective response during SARS. Now despite the fact that there were hospital representatives or people who had worked in a hospital sector who were part of the decision making at the provincial level, and there were Public Health Representatives who were part of the decision making at the provincial level – ah, early on during the first phase of SARS it was unclear who was involved in the decisions and the pathways of communication were not helpful. Later on we started having better communication, where we had a chance for example, the Public Health people such as myself got to hear from on a regular basis Public Health people who were working with the provincial government, who could then explain what the decision making process had been, better explained the reasons for the decision, what had been considered and what the intent was, but early on that information was not available.”
4.1.3 Condition #3: Revision/Appeals

The revision/appeals condition requires a mechanism for challenges, ongoing review and revision of decisions as new information develops or context changes. By its nature, a disaster is perpetually unpredictable and disruptive. While this was the case for SARS, there was no formal review process in revising decisions. Challenges to decisions seemed to be welcomed, though there were a myriad of barriers that indicated otherwise. Notwithstanding this, reviews did take place, at the very least daily, and sometimes more often during the peak of the outbreak, through ad hoc meetings.

4.1.3.1 Mechanisms for Challenges

With no formal mechanism for challenges, 20 out of the 25 respondents felt comfortable to express dissent or disagreement in decision making processes while the remaining 5 expressed varying degrees of discomfort.

One respondent highlighted their frustration with the little attention afforded to examining fairness in the decision making processes. Like the majority of respondents, the respondent was adamant about having the opportunity to express his/her point of views during the deliberative process while trying to emphasize the intent of honest feedback rather than the perception of promoting an alternate agenda.

“Oh ya, there are a lot of, well-opinionated people ... But you put them in a position where they know that they have to make a decision and the dissent is, is honest dissent and it’s not picky you dissent. [T]here’s been no discussion in any of the reports or anything else about people complaining about not having enough information and that’s a whole sort of side issue around, and that dealt to some extent with some personalities but, no one talked about not being able to voice their view or dissent or anything.”

Another respondent reflected a similar sentiment when asked if there was ever a time they needed additional money or equipment. They simply responded,

“No, I needed attention.”

Tensions strained relationships and response dynamics as fatigue and stress took effect, thus compromising the quality and integrity of the deliberative process.

“It depends which environment. Here [at the institutional level], no [problems with disagreement]. And there were times when it got a little heated sometimes with people who had different opinions on the direction that we should have gone. But my boss was very open to ‘Okay, let’s work this whole example through. And let’s logically come to where we should be going with this.’ Over there [emergency operating center], that wasn’t the case.”
Personalities also played a limiting role for some participants who were perceived as not being agreeable. Rather than revising decisions, the composition of the participants of the decision process was unilaterally revised – a contrast to the democratic principles advocated by A4R.

“Yes, they felt comfortable. In fact one stakeholder was very comfortable at disagreeing. It had to do with personalities I think and I always tried to welcome disagreement or challenges. There was one particular stakeholder where it got to the point of it being toxic to the rest of the group and they had to be told to essentially not participate. But for the most part people had questions, they had ideas, they had thoughts, differing views, differing opinions and for the most part they were respected. But in any emergency somebody needs to take control and command and that what I believe my role was and sometimes I had to say, sorry, but we’re gonna have to do it this way and that’s the way it’s gonna have to be.”

One respondent highlighted the pre-crisis relationship dynamics as indicative of the receptivity of colleagues to participate in information sharing and collective decision making during a crisis.

“I believe so, although I mean that depends on the pre-existing working relationships of the individuals. I don’t think that changes during an emergency. If you create an environment in which the members of a team feel free to voice their issues of concerns before an emergency then that will be the case during an emergency. What’s different in an emergency I think is that there is less time to make decisions and therefore less time for discussion, less time for the airing for different points of view and more pressure to come to a decision … I think that the patterns of decision-making which were established in our organization before an emergency tend to set the stage for how decisions are made during an emergency. What’s different is that during an emergency, there is less time to make decisions so that puts more pressure on the decision-making process; leaves less time for discussion and airing of views, less time for reaching consensus and so all other things being equal, it’s likely that decisions will be made by leaders in the absence of consensus more frequently during an emergency than, than would be the case when an emergency is not taking place. That, if we believe that consensus decisions are usually of better quality then, then non-consensus decisions because they take more account of, of the issues and lead to more buy-in, and therefore better implementation, then that could mean that in an emergency decisions are not as good.”

The lack of robust relationship building prior to disaster is evident in the perceptions and tensions during the response. Below, one respondent highlights these issues as two affected provinces dealt with uncertainties in case definitions.

“Was everybody comfortable with the disagreement … at all times? I know our people in BC were comfortable with expressing disagreement. I
think at times there may have been other players who weren’t totally happy with that and maybe because they were more under the gun in Ontario … So no, I think there was a culture which was … and I think you have to have that. If you’re gonna deal with a new issue you gotta be able to learn and if you’re gonna be able to learn you have to be comfortable with questioning.”

The remaining 5 respondents expressed discomfort at expressing disagreement at the decision making circles. Though it was communicated that disagreements would contribute to the discussions, the social pressure in group meetings indicated otherwise. In the passage below, one respondent described disagreements as “career limiting”:

“I think it might have been career limiting – disagreeing too loudly.”

Another respondent discussed how s/he recognized that their disagreement would trigger fallout among the group and essentially submitted to group pressure to “go with the flow”.

“There was only one time when I really disagreed and didn’t feel comfortable with the decision that was made and yet clearly recognizing that I wasn’t going to have any influence over the decision and it caused a lot of fallout for our staff time that really wasn’t productive time but that’s ok, I mean that’s life.”

One respondent, when asked if they felt comfortable to disagree responded:

“No. I felt comfortable. But feeling comfortable to disagree and being listened to are two different things. I can recall, and I did not attend that many planning, steering, war room meetings. There were I recall a bit of a power struggle going on quite openly. There were repercussions, senior management; we lost a lot of Directors, not just in SARS.”

4.1.3.2 Mechanisms for Ongoing Review and Revision

Multiple daily teleconferences and meetings within and between organizations and jurisdictions provided an opportunity to review decisions, directives and operational plans.

“At the table we would have discussion and disagreement and sometimes things would change and some of that was based on as we learned more about the SARS organism some of our recommendations would change. And that did create some conflict among staff.”

The urgency to make decisions and the collective dynamic of group think implicitly discouraged disagreement.

“I felt like I could dissent but at the same time…and I believe that sometimes you cannot build consensus and you don’t have time to go through the iterative process of trying to get closer to it, you just don’t
have the time so somebody has to just bite their tongue, bite the bullet, whatever and accept and support what is being the majority decision.”

One respondent described that though there were opportunities to disagree in the war rooms, there were other pressures to discourage it, thus limiting revisions.

“I definitely let my discontent be known and often it was like, okay, noted, shut up and move on but at least I think people were generally willing to hear what everyone had to say, generally, I mean I guess in situations there just wasn’t time to deal with things appropriately and I’m sure people got their feet stepped on and feelings hurt; but such is the nature I guess.”

One respondent who participated in the decision making table whose dissent was not taken into consideration expressed how difficult it was for that same individual to relay the decision back to their local frontline responders.

“People had to go back and sell the decision to the frontline people … if they didn’t believe in the decision they weren’t very good necessarily in transmitting why that decision was made to the frontline people. So in some instances there was a lot of grumbling about that and I think it has to do with understanding ahead of time that when situations change you need to change your methods of doing things and that as a senior manager particularly your job is to support the decisions. You may disagree with it but once it’s made you need to support it.”

However, it is important to note due to the disconnect between frontline responders and upper management, there were many instances where arbitrary decisions were made according to the health and public health expertise of the individual. Shortfalls regarding inclusivity at the decision making tables and during subsequent revisions led to an increase in arbitrary decisions in field responses. This disconnect in communications, decisions and action only fragmented the system of coherent responses and instigated a pattern of perceived noncompliance.

“People were still scared because the unknown kept changing again. And so every time there was a protocol change, or something that was significant… You gotta remember in healthcare people want to know “Why” because they’re all… they want scientific proof. And they didn’t have that, right. They said, we think this is best. So this protocol’s for in the hospital department, for instance. Anybody that got intubated, was huge. They called a Code, right. Only certain people did it. And then there was only certain kind of circumstances, so unless it was an emergency. You gotta remember that, right. That changed the whole thing. So, we do things differently in the field because we don’t have that kind of resource.”

One respondent at a municipal level highlighted the perceived mis-fit between local and federal responses and thus their ability to revise top-down and bottom-top strategies.
“Obviously there were disagreements, well-documented disagreements … well that were differences of perspective – there weren’t massive disagreements between the way Health Units function. Some were issued orders, much more frequently … Compliance Orders were issued much more frequently in some health units than they were in others, but there were 2 different philosophies, there were a couple of different philosophies at work, it didn’t erupt in information disagreements but it was visible in the terms of a different management staff, … North York had to use orders more. There were real disagreements between some of the … facilities over the non-admission of patients that were being discharged from there, so there were real issues there.

On the decision-making team less… I don’t recall pronounced disagreements…to some extent over… it’s frustration, there was incredible frustration about the adequacy of the data, around the ability to organize deployment more quickly, around the absence of IT supports like incredible frustration but once you kinda crossed the threshold that said: this is how we’re going to impose quarantine. This is how we’re going to police it. This is how we’re going to track and report – even if it’s inadequate. Once those parameters – the rest was variations on how you utilized those parameters – well you’ve got the parameters, it’s now deployment and there was some disagreement about whether or not X hospital could handle it, whether or not why health unit needed to be basically buttressed immensely, not necessary in Toronto, one of the smaller ones and whether we have to actually send in a team to work alongside the Health Unit.

Those were tactile disagreements – tension, I think tension back and forth with the Federal Government primarily a lack of ….I think it started out on a poor footing, a lack of clarity, I think lack of direct involvement at the decision making table early on.”
4.1.4 Condition #4: Enforcement

The enforcement condition attempts to provide for either a “voluntary or public regulation mechanism” to ensure that the first 3 conditions are met.240 According to the data, there was no public regulation in place nor was there a formal process to ensure that the decision making processes were ethical. In exploring the condition against the data, there was a strong relationship between leadership and laws.

One respondent confronted the issue of unclear legislation across jurisdictions, contributing to uncertainty in leadership.

“Yes, that’s the way, they need to be very clear who’s the boss; … one of the problems is that the local legislation which has now becoming more clear …and the Chief Medical Officer of Health (CMOH) will be more responsible in a crisis of provincial proportions … before it was under the local medical offices so, people were working in different legal environments for cost purposes and were not trusting each other in any way... Like Justice Campbell was just commented on the legislative changes and there’s still more that they need to do, they’ve done some so I hope it will be better next time.”

This is further emphasized by another respondent from a local jurisdiction.

“We need clear legislation, clear responsibilities. We do need clear organizational relationships – where people need to know what their role is and they’re trained in it and who they report to and what they provide.”

The respondent below describes the lack of a clear single leader coordinating the response and cites one of the Campbell report’s findings on leadership. This quote supports using laws to clearly appoint a single leader during such events:

“I think that the exigencies of having to make decisions quickly to respond to an emergency override considerations of consensus. One of the chief things that’s emerged following SARS in all of the reconsideration of it is, the question of who, who gets to decide, who’s in charge. There were real issues of, of lack of clarity around who was in charge of the public sector response to SARS, was it the Chief MOH, was it the Minister of Health, was it the Premiere, and was it the Commissioner of Public Security? There was a lack of clarity and many of the reviews of the SARS experience have urged that there be more clarity, Justice Campbell’s Second Interim Report for example, recommends changes to legislation that would clarify the responsibility in the case of an emergency.”

In keeping with the continued dissatisfaction of leadership during the response, the respondent below describes current legal reforms that will strengthen the role of the Chief Medical Officer of Health (CMOH) in Ontario, thus enabling greater powers to act independently.
“I should note that the CMOH role is written into the Health Protection and Promotion Act … The role of the Chief MOH was recently strengthened through an amendment to our Act which requires that the position be more independent of government than it has previously … The CMOH has the discretion to inform the public on health issues, as and when they arise through any manner or means deemed appropriate and the CMOH now has direct authority to take action dealing with any health risk that exists in Ontario, independent of the need for prior government approval.”

Many public health officials, healthcare workers (physicians, nurses), paramedics, hospital administrators took ownership and exhibited leadership in the response to fill the void of provincial leadership. Their examples of leadership in the decision making processes helped to ensure that both decisions and the processes in reviewing them were accessible; the rationales of priority setting were grounded in reasonable principles, reasons and evidence; that individuals had the opportunity to dissent and processes were iterative as new information evolved. While the data illustrates some examples of leadership, it also stressed the frustration of the lack or quality of leadership from the province.

The passage below illustrates a local perspective and satisfaction of the delegation of authority and support from their respective Director whom they perceived as a strong leader.

“We had a very organized approach, we had a command structure in place, we had a decision-making process in place, we had the resourcing, we had the financial backing, we had senior management and council’s blessing, so we were really in a good position to effect change and to lend that assistance. So I think they were… that was important for us … Because in any emergency you got to have a leader.”

One respondent describes the importance of strong communication skills, trust and the quality of the relationships developed. They continue to purport leadership as earned rather than inherited by position.

“If you have good relationships and if you have good communication and I think both are intertwined you can achieve anything. And relationships start back with leadership. Leadership has very much to do with how you treat people, how you communicate, how you value people, whether or not you respect them and whether or not you can build trust because trust is something that’s earned and leadership has a lot to do with trust and it is something that is conferred, not something that you automatically gain as a result of your position.”

While many are quick to criticize many of the leaders of the response, there were some who were sympathetic to the conditions they endured professionally and personally.

“I think one of the things that was key too was showing strong leadership, because so many people were very concerned and we were all working
like crazy hours. Pagers going off all the time, had a huge impact on families and the families of those people that were leaders.”

One respondent compared the provincial leadership between British Columbia and Ontario. Through they expressed satisfaction with their respective provincial leadership, they described concern for the perceived lack of leadership in Ontario.

“In other words, he understands both the science of public health and he understands how people work and so he’s much admired for those qualities. So it wasn’t tough falling in line with somebody like [him]. That leadership doesn’t exist everywhere and without naming names I certainly know that was an issue in Ontario at times that some people didn’t feel the same confidence in leadership that we might have had in [him].

This sentiment was also expressed by a respondent in Ontario.

“But the province’s role was to show leadership and produce guidelines and induce connectiveness and consistency between jurisdictions and it tried but failed.”

One respondent described frustration over the lack of adequate provincial guidance and identified the problem with inadequate staffing. The respondent continues by describing that there was interest in providing additional assistance, but it was the lack of provincial leadership in coordinating uptake that proved to be the limiting factor.

“The truth was that the Public Health branch … didn’t have adequate personnel in the first place, for it to do their daily business, let alone, be able to have a look here at the luxury of reassigning their staff to different duties, so it’s the Public Health Branch that didn’t have anybody in from the first place and that was a well known fact, so they had to bring in people, and people were willing to come and help, it’s just that there was no leadership.”

The data provides some evidence of the informal efforts to revisit priorities, particularly upon receiving new information. This was done largely in the multitude of teleconferences. Leaders designated the times and frequencies of the meetings to deliberate with other stakeholders on their progress and to review their efforts in light of new information.

“There was a lot of time spent in exchanging information, there were two or three teleconferences, each day with officials at the local and provincial level – Public Health Officials and with representatives of the local healthcare facilities – so we had a daily teleconference with representatives from local hospitals and a daily teleconference with the Ministry of Health, as well as at one point a third set of regular daily teleconferences with other neighboring health units. In between times I was attending regular meetings of the Municipal Emergency Management...
Committee – in Ontario there’s a municipally based Emergency Management System governed by Provincial legislation and the Province of Ontario declared a Provincial emergency at the time of SARS which meant that a number of decision making structures were put in place at the Provincial level and they required that local emergency management committees in each municipality be convened as well at the same time.”

Contrary to the previous description, the frequency of meetings overwhelmed many and only contributed to the confusion and stress as described below by several respondents at the local level.

“If I did five teleconferences a day, all of my colleagues did ten. Like everyone was being pulled constantly in a million different directions … I was fortunate enough to be able to be at the decision-making table.”

“You can spend 7 in the morning till 8 at night in teleconferences…it’s an impossible challenge.”

“I guess SARS had been going on probably for about 2 weeks or so by the time I was called in to it. And by then there was a ‘system in place’ although it was chaotic, and it consisted of teleconference and in-person meeting after teleconference, all day long.”

As the outbreak progressed, the composition of decision making tables and teleconferences responded to concerns of inclusivity. Receptive leadership adopted the concerns for future meetings as illustrated below:

“We did add people as time went on, as people felt that they should be included, for example, [a stakeholder] ended up coming to that table because they thought they should be able to express their concerns and hear how we were arriving at our recommendations. Yes, so they did change over time. They got larger, more inclusive of groups that played a part.”

The respondent below describes how critical it was to have a system in place with a leader overseeing the process. Otherwise, information would go unnoticed and would not be delivered to the appropriate individual to ensure directives and decisions continue to reflect new incoming information.

“The biggest challenge would be … communication. Because really, what you’re establishing is a conduit for communication. So you’re putting in lines and faxes and you are running logbooks for information that comes in and it’s… I can still recall certain things where information had… I’d come in and we’d have the logbook up on the screen and I’d read stuff and go, ‘Wow. Who was notified when that happened?’ … because it was going on so long, that sometimes being able to recognize what was significant and what wasn’t is a skill set. … It’s kind of predicting or being able to foresee what that event would mean in triggering other events. So, it’s having some foresight … And there’s no doubt that
probably one of the most difficult thing in there was managing the resource in getting the communication, and drawing out the important communication, and ensuring that when something happened the information needed to go.”
4.1.5 Condition #5: Empowerment

An exploration of the empowerment condition is fundamental to an emergent event. The data has produced reflective perspectives both reinforcing and contradicting the empowerment condition. There were several respondents who reinforced the empowerment condition to “minimize power differences in the decision making context” by creating a decision making context with the explicit expectation that all are equal. It was almost as if the severity of the circumstance pressured individuals to place things into perspective and realize the gravity of the circumstance.

“We always worked those out … I would have to say there was nothing fundamental that was done that I disagreed with because, first of all I’m ultimately accountable … and secondly it was all very collaborative and we kind of checked all the egos at the door – we knew we were in a make or break situation in terms of public health and the health with the whole continent really because we had to deal with CDC all the time and WHO and … I would have to say there is nothing that I fundamentally disagreed with.”

Another respondent mirrored this by highlighting that power differentials were greater in non-emergent decision making contexts. When asked about power differences s/he responded,

“Not hugely so, not really. I see more of that in non-crisis time than I see during crisis times … I think it levels the playing field a little bit more, or it did, or appeared to, let me put it that way.”

On the other hand, other perspectives on power from the data indicated the contrary with several respondents illustrating a tone of frustration. When asked about the degree of consideration of their dissent in the decision making group, the participant underscored how the group reacted to it according to the perceived authority they had. It ranged from being ignored to revising the decision based on additional feedback.

“A lot of it boils down to real power”

One described how power was employed to leverage brokering power during decision making circles. The example below revealed the tension that emerged from early inclusion of a union in decision making tables. When asked if the power differential impacted decision making regarding the occupational hazards SARS presented, the official replied:

“I guess it all depends on what type of relationship you have with your local union Chairperson or President. However, again, I’m not quite sure that that’s the time for that conversation to take place and in that environment. I believe that the communication should take place, but not there. An Emergency Operation Centre should remain as such. As the clearinghouse for communication, the warehousing of information, the focal point for everybody to get and send out information. It shouldn’t be a place where you’re going to try and mitigate labour issues or decisions and how they impact staff. That is not the environment for that to happen.
That’s why I don’t believe this should happen. But, I still don’t see anything wrong with having them as part of the stakeholder group.”

4.1.5.1 Legal

Several respondents, particularly in British Columbia, highlighted how their provincial laws empowered them to understand all options available for enacting a response and to match it to the level of threat SARS presented to their geographic region. This contributed to delineating the authority afforded to certain officials and options even when faced with challenges.

“Well I should just mention too you talked about the authority of the Chief Medical Health Officer and the resources part of under the legislation we have in BC we have pretty broad powers if they’re not challenged under the Health Act. Based on the Health Act we can basically order anything to be done.”

Interestingly, this introduced the concept of legal power through the courts and that the uncertainty of the threat of SARS would work to the benefit of the authority. This was exhibited in the confidence that a court would side with her/his decision.

“Yeah, it’s pretty general, we can order anything. I can order all the helicopters in the province be directed to here until somebody goes, wait a minute, we’re not gonna do that and then I have to go get a court injunction and say this is required, this is why, here’s my authority, this needs to be done. And then the court will decide whether I’m overstepping the authority or not so we order lots of things and usually people do it because it makes sense but every once in a while we get recalcitrant municipalities or recalcitrant people and then we have to go to court and get injunctions and things like that and court orders to get things done. And if they fail to carry it through then the court can order them in contempt and imprison them and fine them and all these kinds of things.”

Interestingly, one respondent described receiving greater authority by the government to enable direct communication to the public at-large without requesting prior government approval.

“Priorities, again, are going to reflect a balance between legislative requirements and non-legislative initiatives. I should note that the CMOH role is written into the Health Protection Promotion Act and so [in my role], I exercise the responsibilities of the Chief MOH. The role of the Chief MOH was recently strengthened through an amendment to our Act which requires that the position be more independent of government than it has previously and by that means the CMOH is obliged to make an annual report every year … to table that report in the Legislature itself, as compared with just a report to the Minister. The CMOH says the discretion to inform the public on health issues, as and when they arise through any manner or means deemed appropriate and thirdly, the CMOH now has direct authority to take action dealing with any health risk that exists in Ontario, independent of the need for prior government approval.”
Another respondent was clear on the authority s/he had as a result of the laws in their respective region and highlighted the networks of relationships developed in case of escalation.

“The Medical Officer of Health has a lot of authority in this province. They sometimes I think even have more authority than a police officer and they can make people do things without their own consent so if they need to get something done … I mean the Medical Officer of Health has the ability shut down a hospital without the consent of the Board, without the consent of the CEO, he can get things done very quickly. So I found that there were very few impediments and we never really had to resort to last, we never usually had to resort to these types of measures, only in exceptional circumstances. And we built networks as we grew along so once it affected schools we got a network going from there and physicians were affected, they were upset, they were complaining, so we set up a physician hot line. So we got all these systems going, it just took a little bit of time.”

A contrary perspective emerged from a different governance level identifying that though they recognize the authority and power at one level of government, they too recognized their authority and power to contrast it if required. The ability to disagree behind the veil of authority is power.

“Well, I think we had to have our own internal discussions about that. I really looked to … our Chief Medical Officer to support us if we’re gonna do something that might be different than what the province might telling us to do. But within BC control … communicable disease control really is under the authority of the Medical Health Officer so we have a fair bit of power. If the Provincial Health Officer tells us to do something and that was the issue that was arising here, then we really do need to do that because we’re under the direction of the Provincial Health Officer as well. But I think by and large we do have the authority to make some of our own decisions and interpretations of guidelines so we carry on but there are conflicts that arise.”

4.1.5.2 Power Sharing

One respondent also highlighted decentralizing power and empowering others to make decisions. Specifically they spoke to enabling other levels of governance structures to make decisions during the response, rather than inhibiting them by enforcing a rigid command and control approach.

“So the idea really is, make decisions. You’ve got to empower people and you have to let them make decisions at a local level with controls. The right things start to influence other people and other things have to flow up, but you’ve got to be prepared to all the way through, let people manage and let them do their job. Give them a job to do, let them do it and you cannot micromanage and you can’t try to know everything about what’s happening. You have enough issues of what people actually come
to you with, so I would be aware of that stuff. Then we, then you have to manage up and you have to manage up to the political masters, you have to manage the public and you have to manage the other levels of government above, so you’ve got to manage and, and in my case I was the province. I’ve got to work with Federal Government we got to work with International Governments. We all have a different role to play and in some ways they overlap and in some ways are different. We all do, have different powers, different responsibilities, different resources. It’s all got to match and it’s got to be relatively seamless. So, you have to pay attention to all of those, those levels.”

“It was a really good group of people that I was working with so they made decisions that they may not have necessarily been prepared to make but they just made them. There’s a whole lot … I mean normally decisions that would require the stamp of three managers and the director’s nod were just made by the public health nurse on the phone at the time because it was 3:00 a.m. and there was no one to call. So in that sense it was really empowering for a lot of the people because we did things that we had never done before.”

Contrary to the previous comment, there were several respondents that expressed discomfort with their power recognizing that it also entailed accountability. The degree of uncertainty in the circumstance only exacerbated this sentiment and reluctance to be heavily involved in decision making and coordinating efforts.

“I think it depended on the magnitude of the decision. It also depended on how comfortable the person on the phone was with their authority. I mean nurses are really good at knowing … from my experience nurses I’ve worked with are quite good at, okay, here’s what I have the authority to do, here’s what I don’t have the authority to do, and my college designation’s on the line if I mess up. So they made a lot of decisions, I mean especially with the after-hours on call nurses they did make a lot of decisions that they normally would wake the managers up for but you didn’t wake [them] up because [they] only got three hours of sleep, you didn’t wake her up unless you really needed to. But nothing was ever formalized and there was no … I mean certainly no one was closing a hospital by themselves, people were closing fire halls by themselves and reopening, I mean I reopened a police station, there’s no way … I normally do not have the authority to do that but at the time it was clear that the risk was not there so open up the police station. But again there was no … so kind of looking back I never felt concerned like wow I don’t necessarily have the authority to make this decision but the decision needs to be made so I’m gonna make it and I never really had a fear of the consequences but maybe I should have. That was a bit naïve of me. And there really was no … like I don’t think it ever came down to, wow, you made this decision and it was wrong. I think that, I mean at least the
people I reported to were very understanding of the limits we were under and the stresses we were under and they were very supportive.”

4.1.5.3 Financial

In addition to laws, money was another empowering theme. It was the law that enabled for this to occur through emergency management laws, particularly the declaration of emergency. The respondents below described the critical message provided by the Premier in providing nearly a “blank check” in terms of financial resources. This not only illustrated the seriousness of the matter but empowered localities and responders with the resources, authority and attitude to combat the outbreak.

“And when it bumped up to the provincial level which we were very happy about in the City of Toronto, we really wanted the province to declare an emergency because that meant resources were more available, both from within the province but also money resources as well. Yeah, it was … it was not … it was never an issue. I think the Premier of the province, the head of the province, said to us, do what you need to do stop this … end of sentence. There was never any restrictions on it for costs.”

“So I think there was a little bit of a revolt there and people got annoyed but generally I’d say financially it was worry about the costs later which I think was … unique, I mean it was very unique in healthcare, we’re used to being told, no, there’s no money for healthcare but in that situation it was just whatever it costs get it done and whatever it costs get your mask suppliers, whatever it cost”

This sentiment changed when asked about financial issues near the end of the outbreak.

“The Region committed … to supporting this whole thing. So, for me, it was … what do you need and what are your needs. It just became later on in terms of different regions and different organizations do different things, so everybody compares themselves to different organizations. So it became a bit of an issue when others heard that other organizations were being reimbursed for their overtime. But the Region … committed to looking into it. And then the government stepped up to the plate and said they would reimburse a hundred per cent of the cost to the Region … it was months later, the reconciliation for that was way down the line.”

4.1.5.4 Knowledge & Information

Perhaps the most interesting power theme was that information and knowledge was the real driver for power during SARS. Power can also take the form through knowledge and information. The insidious nature of the threat, the lack of evidence-based guidelines and a fragmented network of response, only contributed in disrupting the availability of accurate of information and the sharing and distribution mechanisms. Information was a valuable commodity. As a result, knowledge and information became powerful forces in redefining authority independent of political positions previous to SARS.
“I don’t think that your weight was strictly by your position. I think it in part was what you had offered to the discussion and what knowledge base you came from. So in a situation like this, even though I was technically a Manager, and only known as acting director by the grace of whatever, I had more knowledge in the area where some of the decisions were being made so to some extent there would be more deference to me because of the knowledge base, not always … I mean there were directors there that never said anything throughout SARS and didn’t really want to be there. So, but technically they had a higher position of power by virtue of their position than I would have had. So, and a lot of it, because we were grappling with the unknown, I think if we put forth a wise and thought out opinion, people would listen because we didn’t have the answers. So if it was well thought out, if it took into account elements that made sense, then you were more inclined to listen.”

There were numerous contentious issues with the collection, organizing and sharing of accurate real-time information. Simply, real-time information was crippled. This was most evident in amassing epidemiological statistics such as the number of individuals under each case definition and in quarantine to identify patterns that may guide decisions real-time.

“I mean information was power for some people and I think that interfered a lot in how we [coordinated] … in trying to manage things efficiently. We spent a lot of time and energy in trying to manage information which took away from our ability to actually deal with the situation.”

One respondent highlighted the importance of receiving training prior to the emergency event and how this empowered those individuals at the expense of others. One of the greatest challenges in SARS was in responding to the epidemic of uncertainty and confusion. Any previous training provided individuals an understanding of the roles and objectives of mechanisms, such as the Incident Management System, thus affording them greater confidence in aligning with responses.

“I think people understanding what the role is key and this Incident Management System that we had been working under not everybody understood that system even though all of the managers in Toronto Public Health had had training sessions on it actually implementing it and understanding what their role was … it hadn’t been used that way so people weren’t clear on that. And frontline staff didn’t understand that model, they’d never had any training on it, we hadn’t gotten to that point yet. So frontline staff … Public Health is a very sort of flat organization, we’re very egalitarian. It’s not I’m the boss and you do what you’re told, it’s much more how do we get this program to work and let’s work on … let’s do it together. So people felt that they should be at the table when maybe they didn’t need to be and there was some … people were unclear what their role was, they maybe didn’t understand that their role was to pass information on in a certain way or to bring certain information. So it took a while to get that sorted out and it more or less did I think by the
end. We were much more efficient at the end. But I think that led to a lot of anguish too.”
4.2 Collateral Damage

The “ethical and psychologic issues – the ‘collateral damage’ of the outbreak – cannot be ignored because they challenge some deeply held convictions and ethical conceptions in ways they have never been [previously] questioned.”241 In this section, I will outline the data illustrating the harm, stress and damage – essentially collateral damage -- resulting from the decisions made during the SARS response. Though the intentions were unintended, the data reveals the magnitude of harm during the response and recovery phases.

The data on collateral damage is categorized into 6 main parts:

1) Economic impact;
2) Psychosocial burdens;
3) Damaged trust;
4) Stigma;
5) Resentment; and
6) Disruption to critical health infrastructure.

Before exploring the data on collateral damage, there were 2 quotes that stood out; each represented the provincial and local perspective of what was to come.

The description below outlines the balance between under reaction and over-reaction to the SARS threat in the face of uncertainty from a provincial perspective. The decision indicates a deliberate decision to over-react early on considering the nature of the threat and an awareness of peoples’ general reaction to such circumstances.

“So the resources that are available are essentially anybody and anything in the province that needs to be brought in order to fix it and if you start from that point of view, you obviously have to recognize that the economy’s got to move along, other things are going to happen, you can get second emergencies, at the same time you have a first emergency but you’re in a situation where surge capacity is going to be absolutely threatened and it was threatened by us closing the hospitals ... if you’re going to manage it in a way that you over-manage at the beginning and you manage aggressively, you’re going to really put a push on the surge capacity but if you do it successfully, the push will be for a shorter period of time and in the end less painful and less deaths and less infection. So at the beginning people are forgiving and not as forgiving after, so you have to count on their goodwill at the beginning to over-utilize them, so you can ease off later when they’re getting fatigued, so that’s the approach that I take in these things is that I use whatever I have to use as much as I have to and I mobilize it at once.”

Another respondent describes how they were forewarned about the burnout and human-side of fatigue based on their previous experience with E. coli contamination of drinking water in 2000.
“I’m not sure how fully, people even to this day, appreciate the impact it’s had. I don’t think during it really was realized to any great degree except by an Assistant Medical Officer of Health [AMOH] Walkerton, they came down for a few days … and had gone through Walkerton and knew how the staff at that health unit had reacted to that experience, and he was telling us that we had to take care of each other because we wouldn’t even appreciate the impact it was having on us. Like, we would at one level but not at the other level and at that that other level was one that would have far reaching impacts, and so the wisdom of [their] experience was one of the first things that we became aware of the impact it was having on us personally, as well as personally and professionally. So his insights were, sort of like a breath of fresh air, but it was almost like a ‘buyer beware’ almost at the same time.”

4.2.1 Economic Impact

Early on in the outbreak, the bleak realization of the inadequacy of the public health system came to the fore. Previous decades of downsizing public health in resources, funding and staffing only seriously disadvantaged the professionals desperately needed to respond to an infectious disease outbreak. Furthermore, it seriously undermined the public health system. The flood gates of financial resources certainly helped in the response; however, as the outbreak progressed, there was a different sentiment expressed in the latter part of SARS I and into SARS II.

4.2.1.1 Response Phase: Early SARS I

Though previous to the outbreak, it was difficult for public health to receive additional funding. Cost was not an issue when faced with an uncertain, novel viral outbreak. It was almost as if the heightened degree of fear legitimized controlling the threat at any cost. Other respondents continued to describe the availability of financial resources which came with only one condition at the time: control the outbreak. Several respondents provide an illustration of this below:

“Money was never an issue. It was always do what you have to do and we’ll work it out later. But it became an issue later for a variety of reasons. I think it was recognized fairly quickly in the City of Toronto that this was a major crisis that we needed to do something … do everything we possibly could to stop it as soon as possible.”

“Certainly money didn’t seem to be an object because I do recall talking to [the Director] about this, and I said, ‘I have no idea of what this is costing!’ [S/He] replied: ‘It doesn’t matter … just make it happen. It doesn’t matter what it costs. Someone will pay!’”

“We just spent like ‘drunken sailors’!”

“I mean you don’t want to over play that card but SARS was clearly a case where nobody was gonna be on your case for spending.”
“No, I don’t think money was an issue because I think people could see what the economic impact of it was and so again I think people quickly realized either you pay now or you’re gonna pay big time.”

“No, absolutely, so like during SARS, I need an extra $250 Million to help the hospitals deal with the Infection Control costs, it was the quickest $250 Million I had ever received.”

“It proves that a system can move quickly, but typically that process would take 2-3 months – but it was quick and …so, 3, 4 days and $720 M dollars, even in Canadian dollars is not any insignificant amount – which came from the Province of Ontario.”

“It’s not officially a priority program but I can tell you that we shoveled buckets full of money for infection control as soon as we understood one of the weaknesses of the system was infection control.”

The urgency to contain SARS and the realization of resource constraints before the outbreak, essentially inverted the process of financial compensation for services which became ‘spend first, ask later’. This was encouraged and reinforced by leadership to get the message throughout all levels and jurisdictions.

“We didn’t wait for the request to get approved, we made resource allocation decisions based on what I felt as the Senior Medical Official for the health of the city based on my opinion and I knew that the resources would either follow or there would be a long discussion afterwards about who would pay, and how it would be cost-shared, but that was for a future time, that was not to determine whether or not to get staff up the hotline till midnight or whether we’d have to cut it off at 8:00 pm because we couldn’t afford the overtime – that was just not even in the cards.”

4.2.1.2 Response Phase: Late SARS I

As the outbreak continued and the situation gradually improved, there was a marked difference in attitude over the financial resources. Several respondents at the local level describe the transition below:

“So money wasn’t really an issue until later on. Then all of a sudden they’ve got to clamp down. OK, you’ve got to be a little bit more cost-effective. But at the start, … it doesn’t matter how much it costs, just get it here and get it working.”

“Money was not an issue in terms of either trying to obtain additional staffing resources and getting those resources or things, it was sort of: ‘Ok, let’s do it and we’ll settle up the score and accounts later’. It was a very painful process after the fact because our financial folk spent the next year trying to sort out and there was reconciliation with the Province
because the Province was saying: Whatever you need, get it and they’ll pay for you.”

Two respondents described the concern with overtime costs and once the process of calculating costs caught up with the rate of spending, there was an immediate pull-back of spending which trickled down to putting pressure on responders to limit their hours.

“Money we never even thought about … for instance, we were sending out … masks were $5 a piece, we were sending out hundreds of thousands of masks. We never once questioned is this gonna cost our healthcare system too much? The answer was just they’ll find the money, do it. So from that point I really think the decision makers really did support us. And I think about halfway through the outbreak they kind of went, okay, we’re not paying any more overtime because someone went, oh my gosh, do you realize what we’re paying in overtime costs? Okay, that’s it, no one’s working any more overtime. Well that just wasn’t feasible because we had to work overtime.”

The second respondent below explains the anger at how this was implemented. Gradually this only exacerbated the gap between front-line responders and decision makers and fueled resentment.

“I would say the very upper management was putting pressure on the Health Department, started curbing costs. The other thing about the money too was overtime. That was another thing, especially when it came back and… there was definitely a point when the managers were saying to the staff, ‘No more overtime unless you absolutely have to make sure it’s pre-approved.’ Before it was like just OK, if you had to do it and then you’d come back and you’d claim it. But at some point I think York Region put pressure on Health Services ‘OK, let’s start reining in the overtime. Let’s start pulling back to their regular positions’ and things like that a new technique…and it made some people angry. Like I said, it wasn’t affecting me as much because I was kind of doing a unique job so I needed the overtime I was kind of given a loose rein … I mean we were having coffee or something with them I was definitely getting the feel that they were feeling unappreciated … they’re like, ‘Well, here we are. We’re out in the community. We’re putting ourselves in danger. We’ve done this from the start and now their griping about a few extra dollars.'”

4.2.1.3 Response Phase: SARS II

One respondent highlighted the concern over the availability of financial resources during SARS II. Interestingly, the province had ended the declaration of emergency as SARS I was contained. During the second wave of SARS, the declaration was never made, thus affecting the availability of resources.
“So, when SARS II came, we knew all the players, we knew all the rules. But the emergency wasn’t declared during SARS II, which created quite a bit of difficulty … it didn’t have the same level of response, cause we weren’t in emergency, the province didn’t want to declare, which meant that there were financial implications, because if they declare an emergency, they support it financially and we were looking at overtime issues and stuff like that… They had declared the emergency over and then SARS II came.”

4.2.1.4 Recovery Phase

As SARS was finally contained by mid-summer, there were efforts for the province to receive funding from the federal government. One respondent discussed the frustration at receiving federal compensation and compared it to other provincial emergencies which resulted in damaging trust, relationships and political in-fighting.

“We asked the federal government to pay their share and we set all the costs associated with SARS, all was a billion dollars and they offered something like $200 million, and so we had a big nasty public fight over the fact that they were short changing the province in the midst of a catastrophe when there is a forest fire in BC, BC gets the money. When there is a flood in Quebec, Quebec gets money, when Ontario had SARS they were giving us 20 cents on every dollar that we needed, so this because a big bru ha ha … the federal liberals, and the provincial liberals are fighting over money, when at the time when we were fighting with the federal liberals, the provincial liberals were saying, oh …stop criticizing the federal government – you’re not acting like good Canadians, but anyway this is the nature of government. As soon as you get into government you need the money, you look at Ottawa and see a big fat cash cow and say, and we need the money for Ontario, but in the mean time because we didn’t have the money from the federal government, it had come from Provincial coffers and so, basically once SARS hit, anything that [we] asked for in terms extra resources [we] got.”

Lost revenue to the province of Ontario and City of Toronto also occurred, particularly as a result of the travel advisory issued by WHO. Tourism and businesses were impacted as many were discouraged from traveling to Toronto, thus canceling scheduled events and conferences as one respondent explains below:

“The broader implications needed attention and they needed someone to attend to the risk communication side of things, so there was a lot of work with travel, tour operators, film and TV producers who were thinking of switching their shoots from Toronto to anywhere else but, conference organizers, that sort of thing.”
4.2.1.5 Unfair Compensation

Financial compensation at the micro level emerged as a contentious issue highlighting issues of fairness and equity. One hospital’s attempt to reward their healthcare workers with opting to work in SARS wards only raised concerns of similar expectations in other hospitals.

“There was an aspect of the double-pay, triple-pay... it became an issue during SARS and one of the hospitals initiated a push to pay double or triple pay ... to all their nursing staff as basically a support recognition of the risk factor that they were facing. And that ricocheted once word was out, even though it wasn’t agreed to ... it ricocheted to a number of other hospitals who were now facing demands to double, triple pay... danger money...essentially danger money.... And, that was an issue, that was basically...it wasn’t so much juggling resources as to if there’s an agreement, from this hospital to triple pay, then we’ll go do across the board ...well we’ll go to every affected SARS hospital. And that would be immense, that the cost would have been immense ... on the expert panel there were some very sharp opinions around this ... but a very clear position on this – your job is to go and care.”

Another respondent described anger and frustration at the unequal pay for the same work.

“Interestingly, ... they didn’t pay me as well as the people in Toronto were being paid and the Province, when I was there, the people who sat on OSSAC were making almost twice as much money as I was and it was a bit of a...just a bit of a piss off to realize that you would be doing the same work as someone else but they would be getting paid twice as much.”

This concern was also expressed by another respondent between current employees and new hires.

“It’s not equitable. So there were a couple of instances of that because there was no overall process place. Little processes cropped up ... the ones that crept up in the city of Toronto for instance ... there was a period of time – they had to call me and the extra people and they used a medical recruiting agency who I believe was going to pay ...it was decided that they would pay the people they were recruiting in to help out, I think like $100/hr or something but physicians and the regular physician staff at Toronto Public Health ... were only earning about $65/hr so like the staff....like long term staff were getting paid quite a less than the new people that they brought in and they were working their asses off right? And had been for months, and so that was definitely contentious, they were very enraged about it.”
4.2.2 Psychosocial Consequences/Burdens

Psychosocial consequences of the outbreak also emerged from the data. Below, the respondents’ descriptions are divided according to either the response phase (SARS I, SARS II) or the recovery phase.

4.2.2.1 Response Phase: SARS I

The set of descriptions below illustrates the degree of stress, frustration, anger, bitterness and psychological burdens endured by many. It was consistently expressed throughout respondent interviews but particularly more at local jurisdictions.

“Raw emotions were coming out. As things went along we were hearing that people were at their wits’ end … but in some of those areas they didn’t have the resource. And they were fried. They were stressed out.”

“It’s an enormous responsibility when you’ve never done anything like this before. You don’t want to fail … Tempers were raw; friends that I’d have before didn’t want to talk to me because I would be calling them about 7 o’clock in the morning because I need new information … it’s just – nobody could cope. And I think that’s the other thing …we had people working so hard and so long, and this is happening at all levels and just burning out.”

“So yes there was a lot of tension, a lot of stress … And people realized how stressed everybody else was.”

Below, a respondent from a local public health unit describes the invasiveness of the emergency in their personal lives. Yet, it also illustrates the heroic dedication despite the personal impact. The respondent ends mentioning that even several years after the outbreak event, there continue to be a lasting effect.

“I moved into a local hotel because it was just too distracting to drive home. Home for me is 45 minutes from here but it wasn’t the drive but going home at midnight to turn around and come back for six o’clock in the morning didn’t make a lot of sense but it was too hard for me to go home cause I hadn’t seen my kids and I couldn’t spend any time with them and I wasn’t seeing them anyways, so it was better not to be there. So I missed hockey finals, I missed birthdays, I missed Easter, which is a big deal for me. But what we were doing by this point we would working till about 11 o’ clock at night because from a communications perspective, there was no more work to be done at that time, we were not issuing releases at midnight … but by the time seven o’clock came we were rolling for whatever morning news there was or whatever stuff needed to get out so the days became incredibly long. So, we had worked about three weeks straight and we were exhausted … then we start to divide up who would have the day off here and there but directing this meant that we could never really have a day off. I was never far from my cell phone,
which rang constantly. I can still hear it if I close my eyes and I didn’t sleep for weeks.”

Need to institutionalize a formal adequate mechanism to help in dealing with the psychological burdens and post-traumatic stress.

“I don’t want to go through that again. Seriously I, I really don’t and, and I guess the other thing is having something available to the people throughout and after, both dealing with the emotional, psychological impact of, whatever that crisis brings, whether it’s for yourself for your community or for your family.”

The description below illustrates that while tempers were short, relationships may have been damaged. The respondent touches on the importance of civility.

“There was a lot of bruised feelings but when you’re working like that… when you’re working that intensely and that long and you were so tired, I mean…everybody had meltdowns, and you hid it, … and I’ m not making this as an excuse, and people should always try to be civil and all those sorts of things but you could see that sometimes the stress was just getting to people.”

The account below depicts the paramedic perspective from a local jurisdiction. When asked if the organization is prepared for a subsequent outbreak, the respondent described the organization as a whole as prepared but the concern with peoples’ commitments. The respondent describes their personal response as well as their experience with others.

“I do. I think the corporation is prepared. I think where we’re going to struggle is the people … the struggle will be getting the people to give what they gave last time. That will be a struggle. People really gave. A lot of people still have some bitterness. And I don’t know that it’s really the corporation or whether it was just… personally for me, I have nothing but as much as that was a provincial disaster, it was nothing but good things came out of it for me. I was able to survive … there’s no doubt when you go through something like that it is so personal it can affect you… it does affect your personal life, it affects your professional life, it affects everything. And I really felt that I was able to not only really contribute, and contribute in a significant way, but I was able to come out of it stronger than I’ve ever been. So, to be able to do that, my mind is just… I still can’t figure out how that happened. But it was like from the day it happened, it just… the ball just rolled and then just went … I don’t know whether … you get to be an adrenaline junkie or what it is, but it’s one of those things. And maybe it’s because of my business that I’m in. That’s what I live on. I love the adrenaline. I love dealing with hot stuff and like let’s get moving, but then that’s me. So, to ask me if the corporation… I think the corporation has the structure and has the resources, we have a lot of lessons learned. I just hope that the people could… could come together
and do it all again. Because, I don’t know if it’d be. And I bet if you ask
the same question in Toronto and others, it would be the same thing.
Because there is a lot of people that are carrying scars from that
experience … like that really hit home for them.”

When a respondent in British Columbia was asked about instances of SARS stress and burnout,
they expressed a more manageable circumstance where resource demands did not exceed surge
capacity; thus individuals did not experience the same degree of exhaustion and stress as in
Ontario. But then again, British Columbia ultimately only had 4 SARS cases.

“It was experienced but not to the point where people were breaking
down. I mean I remember after the first week of this or so [we] had been
doing a lot of the work and [someone] said, ‘It could get to the point pretty
soon where this isn’t sustainable.’ So we sat down with a group and I
remember we had everybody in the conference room and we put down all
the different functions … we were lucky in that we have a team that’s
fairly sizable … the team was robust enough to divide them up to deal
with all that stuff and I thought, gee, this is what it’s like to fight a multi-
front war.”

The respondents below describe the real impact on frontline workers … seeing people actually
succumbing to SARS. The emotional toll on those caring for SARS patients under such
conditions of stress, uncertainty and fear tested their emotional resiliency as healthcare
professionals.

“Then there are those who were involved in the either frontline care or
involved in the management of who actually see the impact its having on
people’s lives … The impact in terms of the overall death toll.”

“I don’t think anybody really has dealt with the death and dying part of it
and the lasting impact of that; and the fears of people taking things home
to their families, like that whole piece I just don’t that’s been adequately
addressed in any way, shape or form and it will be the same with the
pandemic.”

“You have to also bring in the play of the emotion that was happening.
Because, I mean, people were dying from this and you could see the stress
on people working at our level. Especially from the perspective of getting
into several weeks of working excessive hours and saying when is this
thing going to end. And we don’t see any end in sight and it was pretty
stressful.”

4.2.2.2 Response Phase: SARS II

The set of descriptions below describes the degree of fatigue and psychosocial stresses
from a re-emergence of SARS cases. Declaring the outbreak over provided an
overwhelming relief. However, that proved to be short-lived.
“And then it came back and it was just awful, emotionally just … people’s families wanted them to quit, ‘You can’t do this again.’ It was really demoralizing.”

The respondent below describes the level of difficulty to respond to SARS the first time around. However, the recurrence only tested peoples’ patience and tolerance, particularly during contact tracing where the persistent problem of duplicated efforts continued.

“A lot of the problems were the same but the capacity to deal with them was not there anymore. I think a lot of people were very annoyed and just, didn’t have as much patience for the same mistakes being made in the second wave … and mistakes being things like not being able to deal with the fact that people were getting called five times a day because we didn’t yet have a good database, we were still that far behind in our data entry and the database. And the database had 10 data entry people on it at a time and it crashed three times a day and it was just a nightmare … so the nurses got really annoyed at us because why are we calling these people five times.”

From the point of view of public health nurses, they describe the unsustainable pace of case management and tracking of potential SARS cases which only contributed to the burnout.

“So that meant we were chasing our tails like crazy … we expended a whole lot … of energy when let’s say someone who was in Ontario then traveled to New York State and then came down with a fever and a cough, right? I mean holy cow… all hell broke loose and we’d have to trace every single person that that person had contact with assuming that that person had SARS and then it would come out…oh no, sorry it’s just a cold or it’s just an pneumonia or something, never mind; and then we’d be chasing the next one…never mind, and then we’d be chasing the next one, right… It just became a nightmare to track all these people.”

The respondent below describes the fatigue factor that was rampant throughout the affected regions. The recurrence only introduced questions of endurance and stamina and if SARS would continue to haunt communities for many more months to come in multiple waves.

“We were getting really tired, our reserves were gone, I mean everyone was sick and exhausted. You can only keep that pace up for a certain amount of time but we really started to doubt … like we didn’t know how long this was gonna go on, is this gonna be an ongoing thing? Are we gonna have wave three? What is gonna happen with this? It was not as optimistic as the first wave, there were a lot of grumpy people around. But, yeah, I think in terms of people resources we had more, we had our systems more ironed out at that point so we could deal with it in that term.”
Below, the description provides an account of the degree of demoralization following the province declaring the outbreak over and the successful attempt at reversing the WHO travel advisory.

“Literally the POC had closed, the Operations Centre was in the middle of closing and moving back to its usual home and right in the middle of that, so in the middle of the exhaustion that comes after that wave and emotional exhaustion because it was more than just the physical, it was very much … what peoples’ families had gone through, what peoples’ neighbors had gone through, what the whole city had gone through. And then to be back on…and this was after the triumph for March on Geneva!”

This passage not only continues to depict the fatigue and near disbelief at the recurrence, but more importantly, it introduces the concept of blame.

“Well, people, the second time were just exhausted, tired, they were ‘just oh come on.’ … that whole second … the exposures could have been found, they could’ve been preventable. So people were from the emotional side, from the people side, people were tired of it. Just hoping the thing’s going to go away … But if it continued, the long-term effects … we couldn’t… it wasn’t sustainable long-term.”

When it came to the second wave, systems were in place. Routines were established but they lacked the energy or willingness to effectively contribute as in the previous wave.

“My recollection is that it was definitely harder to find staff to volunteer for shifts in the second phase. In part, the novelty had worn off, the sense of all being in it together was starting to wear a bit thin, I mean you still were but that was then, this is now. People were tired, they had set aside their family lives, their personal lives, their personal health in many cases, either mentally or physically and they were burned out and had enough and there weren’t enough fresh troops to replace everyone.”

Several respondents reiterated the concept of the loss of novelty come the second wave. The sense of co-morbidity fell to the wayside and a raw human emotion erupted.

“It was also becoming nicer weather – it’s easier to volunteer on a grey day than a beautiful day, and the mood in Phase 2 was very different than Phase 1 – Phase 1 was an unforeseen attack of enormous proportions – everyone thought it was over when Phase 1 was declared over –and to have Phase 2 happen generated a tremendous amount of anger amongst the public, dismay amongst the responders and a much less congenial atmosphere as a result.”

4.2.2.3 Other: Failed Attempts

This description illustrates the unsuccessful attempts at providing psychosocial support during the response. The failure to provide such services only proved to prolong the enduring pain and
stresses well beyond the outbreak. This depiction highlights the extreme lack of surge capacity, where resources were so limited that adequate efforts at providing support mid-crisis were simply not available.

“We were good at identifying the need for psychosocial support. We were not good at providing it. We were good at identifying the need for communication, we were not good at providing it. Somehow in the whole scheme of things they slid down in terms of hierarchy of need. If you were trying to deal with a pragmatic in-your-face issue that influenced a lot of people you deferred to that. So, initially it was that part that consumed me.”

“No. There really wasn’t. I think it was from within, I don’t think we took the time to even recognize the impact it was having because we had too many things to do and we had too few people to do with. As I say, the only recognition, probably, was making rooms at the hotel available for those who felt that they couldn’t go home. So that was, that was an important thing but beyond that there was no help or acknowledgement from human resources and the EAP program or anything like that. Even after SARS, it was a pretty paltry attempt to address peoples’ issues from SARS.”

“Another manager and I went to the debrief, and we actually completely flabbergasted watching public health cry and scream and carry-on. And we were just like, did we just have the same experience? … We had no idea of why they were so upset, and why they couldn’t just let it go, and… the majority of public health is nurses and they were out in the field and exposed directly.”

The quote below offers a contrast to offering support to frontline workers. As the respondent noted, some hospitals went above and beyond the call of duty in supporting their staff. For a professional employer to extend complimentary services into the employees’ personal lives to lessen burdens, no matter how trivial, provided a sense of support to the frontline workers. Small tokens went a long way as illustrated by several respondents. However, the respondent below makes no mention of the hospitals’ efforts at provided emotional and psychological support.

“No hospitals went over …above and beyond providing support to their staff – they were absolutely were stunningly good, to the extent they… if you were in quarantine and they arranged for somebody to go do your laundry, pick up your food for you, and ensure that you had access to all the information you needed and …Sunnybrook established what was called a concierge service for those nurses working in trauma, burn, ER, that were working 12 hr, 14 hr shifts with SARS patients, or working on the SARS Unit – they had basically access to a service where somebody would go and do their shopping, do their laundry…that sort of thing was impressive, it was based on over and above what a lot of hospitals had done to provide support to their nurses in really practical ways.”
4.2.2.4 Other: Undue Burden on Front-Line Responders

The urgent need to activate response systems to respond to and contain SARS within a chronically under funded system, only placed the burden of response on the shoulders of public health practitioners and healthcare workers: an undue burden.

“Certainly in terms of nursing we knew the burnout issues that people were facing, we didn’t necessarily know to the extent that subsequently came. We knew that there were emotional psychological … huge emotional psychological impacts and there were attempts midway through SARS … there were more psychological supports for in place and expanded EAP in place for nurses and that was partly done by the Ministry partly done by hospitals themselves.”

The presentation of the second wave of SARS raised fears that many healthcare workers would simply walk out. Breaking points were exceeded while commitments remained.

“The psychology of the crisis is not…like the norm does not apply – people don’t have the time to step back and reflect, in fact you went through a clear anger period, post SARS, but very clear anger period and resent took a fall of lawsuits, it took a fall of hostility and a period where people were really trying to adjust to post-SARS, I think there was real post traumatic stress period for a lot of frontline providers. I know there was a fear at the time that we were going to use a lot of nurses, they were just going to quit and that was very much a fear during SARS II that people would walk.”

Memories continue to haunt many healthcare workers and frontline responders as the respondent highlighted below. The fact that they continue to experience emotional breakdowns several years after the outbreak is a testament to the failed attempts for society and their employers to care for them as they have cared for others.

“I clearly know that people have memories and I don’t know if you can get rid of the memories … and I don’t know how you exactly get perspective on them, but a lot of people have memories of what they experienced during SARS and it was a very personal sort of memory of what they experienced. Like I know nurses, that if you trigger them, they will come down in tears today, about what they experienced during SARS. Either by being touched by a family who lost a loved one or talking to people only to have them die … and there were a core group of nursing staff who’re more heavily involved in that than others and they were tangibly touched and I don’t think anybody really helped them with that.”

4.2.2.5 Declining Performance

The respondents below illustrate the declining performance in decision making due to the fatigue. Tempers became raw and the quality of how decisions were made and communicated only continued to decline with time and stress.
“It affected decisions … I don’t think it ever meant that the wrong decision was made. I think because the fatigue hit when we had already been doing this for two months, we’d been in the situation before so we knew what to do … or it was more clear what we should do [for example] we’ve never had to close a school before, what do we do? … Now we knew how to do that. But fatigue did affect decisions in terms of not necessarily the outcome of the decision but just how it was made. We may have just stomped our feet and got it done as opposed to trying to be more political, first wave, second wave, just shut up and do it. We weren’t as nice about it the second time and you do what you have to do.”

“We also need leadership as well … when we’re all putting in here like 18 hour days, after a month, I’m not sure that best decisions are made at that point, so you need to make sure that the backups and surge capacity is there so that the individuals that are key decision makers have that time to make those key decisions, so that’s really really really important that we do that, so I would say … if we do that we’re better off.”

Fatigue affected peoples’ abilities to effectively communicate in decision making circles. One respondent below describes the impact of high stress and lack of sleep on their communication styles.

“Oh, yes. We were all very free with our opinions. We were getting four hours sleep a night. We were in a high stress environment, and it was a lot of pressure put on us and it was a bitching session almost.”

Below illustrates the consequence in fatigued decision making and communication; thus resulting in exerting additional resources to retract the news story and rebuild trust.

“Yeah, I am sure you’ve heard that from lots of other people. So … when you’re working 20-hour days, how productive were we? I can’t imagine we were that productive. The Province made a significant error when they took out a full-page newspaper ad that had wrong information in it, that they discovered the next morning. I’m sure that was purely as the result of fatigue.”

4.2.2.6 Response Phase: Pain Continues to Linger

Several respondents describe the lasting impression of the response as so great that it drove many to reconsider their profession in search for other vocations to avoid a repeat in the event of a human influenza pandemic.

“I think they are more prepared than they were and I think they are probably fairly prepared, you may notice that I transitioned, right out of Infectious Disease stuff after this, so I’m not doing this anymore … it’s different, but I don’t want to work in that field anymore because I don’t want to deal with Avian influenza when it comes, it was a bad… I’m sure you saw and heard about post-traumatic stress disorder … I would have
felt, as did many of my colleagues, and who just don’t really want to work in that field anymore.”

“I think people are still … they don’t want to go through something like that again and they’re questioning what their role was and they’re questioning whether they should be there at all and a number of people have retired and left, gone to other organizations. We have fewer physicians at the City of Toronto now. I’m not sure that we’re farther ahead.”

When asked about preparedness for a human influenza pandemic, one respondent replied:

“You think we’re going to be prepared to go into a pandemic with peoples’ experiences of SARS still very fresh in their mind? No, would be my guess.”

The respondents below describe the enduring pain at local jurisdictions.

“It was an incredibly difficult experience to go through and I think many people still haven’t recovered from that, and then I don’t think that’s well recognized … I think the effect on people to work that hard on … such stressful circumstances, it’s like post-traumatic stress, and I don’t think that was well got over at many levels.”

“I think the demands in Toronto were much larger. They were enormous and the organization responded as best it could but it was a very difficult time for everybody concerned. Even now, two years later, I think if you talk to some people about SARS, it brings back very difficult memories of an extremely difficult time.”

The psychosocial consequences continue as a result of the degree of stress and the lack of appropriate psychological intervention.

“I think that wasn’t there and because there wasn’t sufficient debriefing after SARS, people are still carrying the burden of SARS to a lesser or a greater degree, depending on the individual but I think it’s definitely there.”

4.2.3 Trust

The respondents below describe a recurring example of distrust during the response. The instance involved provincial leadership attempting to coordinate epidemiological information and data across the affected local jurisdictions. The objective was for the province to be capable of accurately reporting epidemiological statistics to federal authorities, who in turn provided updates to WHO. However, the concern was that due to the lack of an effective electronic information system, and the reliance of paper records. The receipt of varied reports of quarantined individuals and probable and suspect cases contributed to the perception of inadequacies and prohibited proper risk assessment efforts. As a result, the provincial authority...
did not wait to receive the statistics according to reporting mechanisms; rather a team was
developed to call each affected locality and hospital to aggregate their own numbers. Individuals
in local health units were called multiple times for the same information to ensure consistently
and the most current information. However, this only contributed to alienating relationships,
duplicating efforts during a time where resources were severely limited and patience very low.

“The Ministry set up a kind of a rapid response unit and surveillance unit. They hired a whole bunch of new physicians and contractors … they hired a lot of people to do case management cause … some people felt that they weren’t getting the case management but they needed the information at the local level so there were lots of trust issues – big problems, personal health issues … So information wasn’t flowing, people started dictating work, the biggest problem we had was my boss … would want a piece of information, [and] asked me to get it … and … I’d be chasing information, trying to erect this project …. and [they] also had asked 5 other people to get him [the information], so somebody at the other end is getting called, 5, 6, 7 times and they think we’re nuts, and everybody’s busy and stressed out – so there was no firm clear reporting relationships and everybody was acting desperately on everything and lots of mistrust between [management] and [their] colleagues.”

“I had eventually a limited function which was trying to make sense out of the information we’re getting and Toronto had an obligation to send me sensible information and they didn’t all the time … [and the provincial leadership] got so frustrated with that [they] set up [their] own case management group to check everything out. [They] double-checked everything on them… that made even more resources … were there enough resources? No there weren’t, not in SARS I or II, what we had was it used effectively? I don’t think so. We could have been more effective if we’d been more organized; we spent a lot of time tripping over each other that’s for sure.”

The respondent below emphasizes the importance of trusting others in their capacities to
respond, particularly in trusting leaders to lead. Though the respondent continues to emphasize
previous descriptions of the participatory nature of public health, they also highlight the
contrasting circumstances in an emergency. In a way, the respondent seems to agree to
relinquish the expectations of standard decision making habits to trusted leaders during
emergency events.

“Well I think in the crisis it is very different than your day-to-day stuff where you can discuss it all and argue it up and down. In a crisis someone has to be in charge and somebody has to make decisions and then in the great scheme of things I think you sort of do what you’re told, because you’re part of it and … you may not see the picture … you have to have good planning ahead of time and you have to trust what people know what they’re doing because there’s no time for debate in these kinds of things so you have to have a plan that everybody has bought in to, … you have to trust the people who are making those decisions … I’m not going to worry
about what’s going on over there because I’ve got too much to do here … I think that was difficult here because we are a rather participatory organization and especially between staff and managers and directors there’s quite a lot of dialogue and discussion and disagreement and all those sort of things … but I think when you have an emergency it’s sort of ok, how high? Because there is no time for that kind of debate.”

4.2.4 Stigma

Unfortunately, stigma emerged as an indelible issue that only worsened and complicated the recovery from SARS. Unfortunately, when there is panic, fear and uncertainty over a threat that kills unknowingly innocent individuals, the need to find a scapegoat may result in unfounded, generalized and discriminatory attitudes towards specific groups. In some cases, the media only exacerbated this stigma leaving communities divided and fearful. One respondent even described the information disseminated in U.S. media about the outbreak in Toronto below:

“The misinformation particularly in the United States about what was happening in Toronto was appalling.”

Stigma emerged from the data and revealed that there were 2 main groups: those of Asian descent and healthcare workers.

4.2.4.1 Asian Descent

The origination of SARS from China and the fact that the index cases in Ontario and British Columbia were of Asian, particularly Chinese, descent fueled a stigma against Asian communities throughout Canada.

The respondent below describes the quarantine of a large religious community where members were predominately of Asian descent, and continues to describe the experience at ordering Chinese food.

“Ensuring consistency between ourselves, relieving the panic in the community and that was huge … around … discrimination against church groups; remember you had an entire church group that was quarantined. You, on one of my days off, I went to the mall … but I went to the food courts, I went to a Chinese food place and I don’t know what time it was, ten after one and the woman said to me,’ you’re the first person to buy lunch from me today.’ It’s like: What!? The part of the region I live in is very Asian and we eat Chinese food all the time and she said: ‘No one will buy lunch from me.’ It was fascinating so, so there were some huge issues for us to try to deal with regionally, politically, socially. So that was, that was another part of our challenge.”

During the recovery phase, one describes the appeal for support by targeted Asian communities.

“In more of the recovery phase we had a large amount of stakeholder groups looking for support from the Chinese community, from some of our ethnic communities that were targeted during the emergency.”
4.2.4.2 Healthcare Workers (HCWs) & Public Health Practitioners

A stigma against healthcare workers also proved problematic. One respondent below describes how a nurse had difficulty with a daycare.

“We had one interesting, many interesting dilemmas but one was, we had local daycares refusing to take children of hospital workers because daycares were concerned that if, I was a nurse and I brought my son or daughter to this facility that if I had SARS, they had SARS and they would infect the daycare. So I mean we, with the assistance of our public health inspectors who inspect those facilities, drafted the correspondence to all the daycares, asking them, please, please not to deny the child of a healthcare worker access to your daycare. These people need to do their job.”

The respondent below illustrates how the stigma even affected the children of nurses.

“There is immense emotional impact on …individuals, nurses whose kids get back from school, people who cross over and won’t talk to them.”

The respondent below, a public health practitioner, describes the anxiety of anyone in the public, particularly at a hotel, was aware that s/he was working on the SARS response since s/he had a scar from wearing an N-95 respirator.

“But I was worried…like I was worried that someone would say, ‘What’s that mark on your nose?’ And people in the hotel said they had heard that it had been spread from a hotel, people were worried on the elevator and things and every little cough you had, you were paranoid or you were self-conscious about. It was stressing, that’s for sure.”

4.2.4.3 Asian HCWs

Perhaps the most troubling instances of stigma were those who were of Asian descent or Chinese-speakers and healthcare workers. Enduring discriminatory attitudes, they were an integral part of the front-line to protect and care for patients.

One respondent highlighted this concern by describing how even Chinese speaking nurses received blame.

“We had a couple of Chinese speaking nurses at Health Connections which is important if you’ve got a high Chinese speaking population, but they got a lot of abuse from the public, non-Chinese public because they were being blamed for…or they felt they were being blamed for, so for a couple of people in Health Connection and not just the Chinese language, that wasn’t the only factor, there were some people who could not cope in that environment, and so, some of them we took out because they just…it wasn’t working.”
Another account further reinforced the concern and the challenge in dealing with issues of stigma mid- and post-response.

“One of the nurses was an Asian nurse and she said the reactions when people came in to her were very racist – and it was a whole concern in Ontario about Chinese people and they carried disease and all that sort of thing and so she found a lot of difficulty around that as well, as did the nurses, the, the Chinese nurses who worked down in our Health Connection line, for the public phoning in, they had the same issue there: ‘You people are responsible for this’… those kind; people get frightened and they say all these things.”

4.2.4.4 Other Examples
Interestingly, one respondent described how the SARS stigma even affected the private sector and manufactured products from Ontario.

“We had countries refusing goods from Ontario because it might have the SARS virus on it and they could be manufactured a thousand miles from here, you could, you could have something manufactured in Dryden, Ontario which is at the Winnipeg border and if it had the word Ontario on it and it must mean that it had SARS and of course the SARS was really isolated within a small area of Scarborough.”

Hospitals also had to deal with the stigma of SARS. As the outbreak continued, the effects of SARS as a nosocomial infection threatened many hospitals requiring several to be closed. In an effort to consolidate the threat, several hospitals were identified to serve as SARS hospitals.

“That’s a problem and that meant that those who were carrying the heavy SARS case loads were grappling with the problem at other hospitals accepting their staff, the problem of patient discharge because there was a stigma aspect, and there was basically having to negotiate through certain other facilities that would not accept discharges from some of the SARS hospitals, so… and that had a knock on effect, not just on SARS patients.”

There were issues with receiving basic repairs, maintenance work and services in SARS clinics. Several descriptions illustrate this frustration.

“Or you’d say, ‘Well, the phone’s not working. I'll call Bell and they’ll come and fix it.’ There was no way Bell was coming in to the clinic. None of the technicians wanted to come in. If they wanted any more computers, to bring more computers in, well, none of the [technical] staff was going to come in to the SARS clinic. The stigma that was attached to the clinic instantly made it impossible to get any kind of resources and I’m sure that’s probably true of almost any emergency but because it was my first real experience in that kind of emergency it was surprising to me. So I mean all these little trivial things became mountains to overcome.”
“I mean… and even when we got catered, the guy would leave it at the back door, the staff entrance, and we’d have to go out and get it, … no one from the community was coming inside that clinic unless they thought they had SARS.”

“Even the police officers out front, there was no way he was stepping in … no way would he come in the clinic.”

“We had mercury thermometers that broke and then when it broke, we had to call the HazMat team in and the firefighters didn’t want to come in … we didn’t have in-house phones because no one would come in and install them and I had this little window to look out into the waiting room and that was all the communication I had with the outside world unless anyone came in to deliver a chart.”

The City of Toronto as a whole also experienced stigma on a larger scale, particularly following the travel advisory issued by WHO. As a result, the stigma on the city not only damaged international perspectives of the City’s health infrastructure and ability to manage the outbreak, but particularly in tourism. In fact, it had taken the province of Ontario at least three years post-SARS to recovery to the same level of tourist activity and economic recovery. The perspective below is from British Columbia and their perspective of the impact it had on their fellow affected province.

“Certainly watching Toronto that was the biggest incentive, you just knew you didn’t want to be there so there was a lot of incentive to make sure that didn’t happen. People were willing to put in the extra time because they knew they were pay now or pay later.”

4.2.5 Resentment

Resentment also emerged from the data. Divided into descriptions of each phase of the SARS outbreak, illustrates the range of consequences perpetuated by resentment.

4.2.5.1 Response Phase: SARS I

The description below presents the EMS perspective at a local public health unit during the first phase of SARS:

“I don’t know if you’ve talked to anyone in public health, but they did not seem to cope well at all. I mean, there was a lot of resentment, bitterness, like just plain upsetness, like the whole nine yards.”

The respondent below describes the process of shifting their employees within the local unit to be involved in the response. Individuals became resentful for 2 main reasons: for not being asked to help in the response and feeling overlooked; and, if asked to respond, they were disappointed in the task provided to them for what they perceived as menial.
“But we didn’t have a systematic way of saying … we called people up in an ad hoc way, oh this person was really good last time we had a crisis we’ve got to get her to help us out, or him or whatever. And I think people resented that. They said, how come they called her and they didn’t call me … Afterwards I heard a lot about, there was no systematic way of saying who was going to be involved with SARS and who wasn’t and some people were upset about being involved and some people were upset about not being involved. And we were not very good at making people understand the value of the work that they were doing outside of SARS. There were some people, particularly senior managers, who don’t deal well in crises and we weren’t able to say, okay, we need you to go and look after this … because the rest of us are gonna do this and make them feel valued to do that. I think that’s something that we as an organization learned, that we have to have a systematic way of getting people involved in the crisis as it gets bigger so that people … people know ahead of time they’re the person who’s gonna be involved or one of the people who’s gonna be involved, that they have a chance to say I want to be involved in crises or, I know I do better when I’m one of the people helping do something else. We weren’t very good at managing sort of the level of people’s expertise with what was needed. Some people were … the senior managers were resentful that they were asked to develop a filing system but I don’t think they realized how critical, absolutely critical, that filing system was because when we started going to a paper based system files were getting lost. So that filing system was absolutely critical but that person felt that they were being demeaned by my asking them to develop a filing system. So we weren’t … all of us were not very good at sort of expressing the needs and the importance of things that had to be done. So I think we learned a lot about that.”

Another respondent below describes the frustration and disappointment in being overlooked and their deep desire to contribute in a meaningful way.

“The worst parts of it was just feeling like I was being ineffectual despite really working and having good intentions and lots of energy to devote to the problem then feel like I was really overlooked, I don’t know how to get around that.”

When asked about resource sharing or competition between the City of Toronto and York Region, the two hardest hit areas in Ontario, a respondent at a local unit expressed frustration that they were somehow overlooked.

“Oh, there was no competition, they [Toronto] got them. We got what was left over. Clearly the majority of the additional resources went to Toronto, both from the federal and provincial perspective.”

“What we did was we tried to ask our neighbours and then we asked the province to look into that and the federal government, to ask the federal
government, and we unfortunately didn’t come up with very much. Toronto received a lot of resources.”

“We didn’t get much help from any place. No. Toronto had tons of, tons of people brought in to help them, they had hundreds of people; we set up our own database … I thought we felt pretty good that I believed, our staff did too … we managed.”

“One really big issue was getting help with … from other health units. The outbreak was seen as the Toronto outbreak but communicable diseases just don’t respect geographic borders. And we’re very close to Toronto, we’re directly north of them and we share a lot of the same population in terms of people live here, work there and vice versa and there’s a lot of carry over. We had the actual highest rates of SARS in North America given our population. We had 88 cases and our population’s about 800,000 so our rate was actually much higher than Toronto’s rate because they have a bigger population … they had more cases but we had the second highest number of cases. So because it was seen as a Toronto outbreak and that’s how it was being reported we couldn’t get help and it was a big problem. Everyone was sending in help but they were sending it to Toronto and it became very difficult to recruit people up here.”

Another description further elaborated on the inequity in re-allocating resources to areas hard hit by SARS. Resentment at not receiving or even being considered for receiving, aid continued to be described below.

“I know they [Toronto] received additional epi[demiological] support on a full-time basis. We were begging, borrowing and stealing people like just even to come in on a weekend or to come in and do a couple of few days with us, just that so we would be able to give our permanent staff some time off and still being able to provide the continuity, that’s probably one of the biggest and then they had thousand’s of staff, like quite a number of staff to do all the contact follow-up while we don’t have that many people in our Health Services. So by far we had fewer resources and I know they; I think they also got people from the Rapid Response Team as well that the Ministry had come up with and we got the odd person. Again it was, we got sort of, a small percentage of what went to Toronto and when you actually look at the rates of SARS as opposed to the numbers of SARS cases, we had a higher rate with ten point something versus eight point something in Toronto. So we in actual fact, if you look at it on a population base, we actually had a higher rate per 100,000.”

The working relationship between the City of Toronto and York Region, as described from a respondent from York Region, expressed frustration when asked to describe the nature of the competition for resources.
“No, I wouldn’t say it was competition. It was frustration. But I don’t think at any point we were saying...we were trying to say, ‘Well, we were trying to provide better care than Toronto’ or anything like that. It was just we needed information and Toronto wasn’t giving it to us or the opposite. Toronto was inundating us with information we couldn’t handle, repeat information.”

“The other problem was that because we are sort of living in the shadow of Toronto, Toronto is saying we need all these specialists and of course people would go there, they had an ability to influence that was greater than ours. So, did we have sufficient staff? No.”

There too was a competition for human resources, particularly epidemiologists that fueled resentment between the City of Toronto and the province.

“So that was a very frustrating and difficult system. So we didn’t get a lot of support from the province. We did get some Field Epi from the federal level early on because I begged and they worked with us at the City of Toronto. There was initially two people and then I believe four or five at one point and then the province decided that they were so short that they should all work in the province so they took them away from Toronto Public Health physically and made them work in another building for the province and I think that was a real disaster. It was a huge disaster at our end because all of our epidemiologic support was suddenly taken to the provincial level where they desperately needed epidemiologic support but most of the action was at our level and if we could get things sorted out at our level they could get the information they needed more efficiently. And they ended up essentially developing a duplicate system at the provincial level and duplicating much of what we did at the local level which was extremely frustrating. So that was a very bad thing. And the federal … the people who are in charge of the Field Epi Program realized that this was not a very good thing and very shortly thereafter pulled the Field Epis out all together which was a very bad thing for the province. So it was extremely frustrating.”

One manager from a local jurisdiction describes the lingering frustration and the struggle to deal with the anger from healthcare staff. Healthcare staff perceived the decision making processes regarding their occupational safety in the SARS wards and SARS clinics as premature and only fueled blame, considering that many of the health care workers were becoming SARS patients.

“Oh my gosh I’m not better! It was very defeating and it was hard to get people to want to work. Plus there was a lot of anger from the healthcare staff that they had been placed at risk, prematurely… like with premature decision making, I think there was also a feeling now; it wasn’t a York Region feeling but feeling in a community that there was a lot of pressure from an economic perspective and some intuitive perspective to rush this through and the 2nd wave of SARS just reminded us that this is a health emergency and that it needs to be treated as such and respected in that way.
because health doesn’t give two hoots about the tourist season or the economy, and this was the power of this virus, right?”

4.2.5.2 Response Phase: SARS II

The respondent below describes the anger for the recurrence of SARS (aka, SARS II). Some of the reactions to the episode of the second wave suggested that someone was at fault; resulting in legal recourse. The respondent describes describing the unpredictable nature of emergencies.

“Everything is in place. Guidelines are written, people are educated, people know that, about training … we’ve got by now lots of N95 masks [that] we’ve distributed. Doctors offices have them, public knows to wash their hands, but you got an enormous amount of skepticism, there’s an enormous amount of fatigue, people are mad, all the lawsuits start. I don’t think we’d have had any lawsuits if we just had SARS I, but SARS II sort of - people then started saying, well somebody must be to blame. Well, you know what? In illnesses, illness is illness, and bugs are bugs, and they don’t go to court, just because SARS comes back, it doesn’t mean somebody did something wrong anymore than somebody dying in a hospital necessarily means there is malpractice. Will everything be perfect in the management of every patient in the hospital? Never. It’s far too complex a series of interactions … you lie in a hospital bed for a day and there’s probably a 1000 interactions that take place with you and medical staff and nursing staff and cleaning staff and kitchen and will the wrong meds get sent or the wrong diet or the, or the wrong cleaning agent or the wrong time or will you sit in the hall for too long waiting for an X-ray or you get the wrong blood … all these things are going to happen. A patient will get the wrong operation. But, will your outcome, even if everything goes relatively right, will your outcome necessarily be the outcome you want? Of course not, sometimes it will, sometimes it won’t. Consider things called complications. Some of them are, are manmade, many of them are not and managing an emergency, there’s no rules and everything’s chaotic and will it go smoothly or will it go perfectly? Of course not, but it doesn’t mean that anybody did anything wrong.”

4.2.5.3 Recovery Phase: Post-SARS

The recovery phase of SARS presented additional instances of resentment resulting from unfair treatment of rewarding responders and unsuccessful attempts at ameliorating psychological consequences through debriefings.

The respondents below describe the resentment among nurses. In this instance, healthcare nurses received spa packages to thank them for their efforts during the response, while public health nurses received a t-shirt.

“So I think the media definitely portrayed the heroic nurse with full PPE caring for the SARS patient and that really was a very valiant role but we also had the public health nurse working 16 hours on the phone trying to
figure out … they were really forgotten … or not forgotten, people didn’t really have a clear idea of what was happening, the media didn’t have a clear idea and so … I think the nurses all got from Markham-Stouffville Hospital all got a spa day, they were all given a day at the spa as their thank you post SARS and we got a t-shirt … at the party where they just patted themselves on the back. So I think there was resentment.”

Resentment occurred as some individuals were overlooked in their efforts and contribution to the response. Unlike frontline responders, there were many who diligently worked in the background to ensure that adequate materials were received, paychecks were issued and logistical issues were not overlooked.

“There was a lot of things happening outside of my purview so for example the …. one of the individuals that’s on our planning group is the Director of Supplies and Services and he had a negative experience with SARS and he wasn’t even thanked for it, because Health Services wasn’t a focus of ‘the thank you, you’ve done a great job’, but he had a huge impact because he was the one who was negotiating contracts and making sure that the supplies were made available and he was searching out things all over the place – worked incredibly long hours but because he was outside of the regular scope, and I didn’t even know this until we got to meet this past fall … he resented the fact that he was not thanked.”

The respondent below described how a simple acknowledgement of their sacrifices would go a long way.

“We need our egos patted or a pat on the back or something … during it like those mornings that I’m waking up at six o’clock and thinking I’ve got to drive for an hour and a half and I’m going to be in this small room with no water and that…like what’s to stop me from calling in sick today? … while you know deep down that what you’re doing is important and there really isn’t anyone else to do it and as compared to 9/11 when you felt completely helpless and the only thing really you could do was give blood. At least with this one I could do something. I still think that there is a point when upper management need to say, ‘You’re doing a great job under extreme circumstances. Can you keep it going? Can we keep it going? Can I ask more of you?’ Because when I was watching the six o’clock news, I was watching [the Director] explaining the cases to the community and this and that and he was never once saying, ‘But my staff have this under control’ or ‘my staff are here. My staff are doing a great job here.’ He did come down to the clinic, to his credit, about fourteen, fifteen days after it had been open and come around and shake people’s hands. Give him a hug and praise for that but I still think that approval…I can’t think of the right word … a pat on the back from him is always a good thing. But during an emergency when you’re sacrificing your social life, your health, your, you know … a pat on the back is worth even more.”
Communicating mixed messages from leadership after the outbreak led many to feel that they trivialized the experience.

“The corporation said, congratulations, you guys have done a great job and you need time to sort of go: whoooo. And you have the time to talk about your experience – that was on the one hand. And on the other hand, budgets are due by next week – please get all your details in. So there was a double message … A source of resentment.”

Resentment during the recovery period resulted from inadequate attempts to ameliorate psychosocial affects of frontline workers during the emergency response.

“But debriefing didn’t happen. It was handled inappropriately, it didn’t happen until far after the outbreak and there was a lot of resentment to how that was handled. They had a big SARS celebration party that coincided with the actual onset of the first case of the second wave. We didn’t know about that yet till after, oh SARS is over, we had our party, we’re done … I forget where I was at but I couldn’t make it to the party and there were a lot of people that really thought it was condescending, it was a party of ‘pat you on the head, here’s your SARS star t-shirt and we don’t want to talk about it anymore’ … I think people were not happy with the party. I didn’t go to the party but it was a lot of sort of the higher-ups patting themselves on the back while the nurses who had done a lot of the work didn’t get the recognition they deserved I think, nurses and inspectors. So and then there was a debriefing process that happened with each of the teams. I missed my team’s debriefing process but I did go to the epi debriefing one which was okay I guess but it was far too late, it should have happened months before it did and I think at that point it was just sore to bring up stuff that we’d rather forget, we’d kind of dealt with it in our little way and didn’t want to drudge it up again but we did. And then I think part of the problem was that what happened … nothing really happened with what came out of the debriefing, like I think a lot of issues were raised out of the debriefing process and they were never dealt with properly or appropriately or thoroughly, effectively and that caused a lot of resentment for people but … the debriefing was an issue.”

The local perspective below illustrates the unsuccessful attempt to provide debriefing. In fact, as the description below indicates, the informal debriefing emulated more of a bake sale/celebration. The respondents below describe the events from different perspectives. The trigger point occurred as a leader from the Council made the misguided statement that they understood, only exacerbating the disconnect with his/her unit.

“The corporation decided they would have a bake sale…or…. An event of celebration for everybody who was involved in SARS and it was on Thursday, so we all go down to this place and it was in a sort of a warehouse type space, it was big and empty, high ceilings, cold place. Right? It was not a warm nurturing place, but there was food and there was music and then the Council was to come down and say words of
thanks, okay? They were late because they got caught up in a Council meeting. By the time they got up there much of the staff had already left because they...like, why are we hanging around, we’ve been here…it’s not longer celebratory. And one of the speakers, I’m trying to recall what he had said, but it angered a lot of the staff when they were there because the comment almost trivialized what the experience of the staff had been. He said something like: ‘He understood’ … which you never do… ‘he understood what everybody had gone through because he had to stay late at his office’ like...something that just didn’t acknowledge the stress.”

“I think the whole debriefing was just … we didn’t get done properly Ok… in the end it created staff difficulties … for sure.”

“And after the debrief – the only reason that my colleague and I went to the debrief because we thought it would give us the opportunity to make statements like that. To say ‘Next time something like that happens, could you please include us when you’re creating the form when you’re thinking about long-term care and whatnot.’ And it turned out to be just a big like emotional cry-fest really, so we weren’t really interested in being there for that. Like we thought it was going to be this practical, hands-on ... to get some stuff solved ... and it wasn’t, it was just this big like cry-fest. And it was unfortunate because they didn’t ever follow-up with the people ... who would have been able to give them very concrete stuff to follow-up on. And while people’s feelings are important, at the end of the day we’re paid to do this job, we’re paid to be able to function in a certain type of environment under certain pressures.”

The informal attempts seemed to only worsen the experiences for some resulting in some individuals attempting to convince managers to invest in formal psychosocial interventions.

“I mean there was some debriefings that were done at our own persistence from within and … there was a core group that really recognized the importance of debriefing and really push for it and certainly some of it was done, but it really wasn’t done in sort of a profession … I don’t want to say professional cause that’s not what I mean, in a comprehensive way ... maybe what I mean; and certainly the management group didn’t have the greatest opportunity to debrief either. I think somehow they felt that they could just get on with it after the fact.”

Attempts at organizing a formal debriefing did not occur until the autumn as illustrated below.

“We’ve got to do something, and it was kind of late by the time we actually got around to it. It was in the Fall when finally ...a company was hired to actually come in and conduct formal debriefing. And so there were 8, 9 different debriefing sessions ... people had the opportunity to work together, to meet together and debrief. People who were at the clinic could debrief... so, people were given choices to where they wanted to
attend … It was structured, I think they were well done, cause for the most part it took us another step but the intervening time had been too long and there was a lot of resentment. And you now have resentment built up on top of the lived experience of what it was … it was also an opportunity for people to talk about what it meant to them to have been in that environment; but it still festered, there were… they were definitely some individuals who have… who had a life changing experience, their reaction and why this handful of individuals …why it was such a traumatic thing for them – I don’t know. Was it a collection of previously lived experiences that came together and they were revisiting it in this environment, or it challenged them in a way that they were ill prepared for, and we couldn’t even have imagined…I really don’t know, but there were a handful of folk and they kept popping up and they were also being very negative in their own work space, and so there was… some of them, we have an EAP Program and so some of these individuals were in fact referred to go to EAP.”

4.2.5.4 Other: Unions

Negotiating with unions mid-crisis proved to be costly and damaged relationships. The following quotes illustrate the complexities in union negotiating. There was a push and pull between the municipal government and the union to negotiate the terms for their union nurses. Unfortunately, they learned the difficult yet valuable lesson of pre-negotiation and advance preparedness.

“But those things are important and I think the lesson learned from that is we need to have the protocol ahead of time with the union approval saying, if we have a crisis these are the people we’re gonna bring in here, here’s the hours they’re gonna work, here’s the time off they’re gonna get, here’s the compensation they’re gonna get, here’s … the union, in the middle of the crisis said, no, we’re not working overtime anymore unless you start giving us double time overtime instead of time and a half. And the city went, yeah, yeah, whatever, but we need to have this worked out ahead of time, what compensation are people gonna get, when are they gonna get it, what hours are they gonna work, so that they understand if I’m called in to work on this crisis I know what to expect and I think we needed to learn that lesson unfortunately. Management, we didn’t get any overtime, we didn’t get any compensation for the hours that we worked. We thought we would. The province said that they would pay that but … it was voted it down but we did manage to get some compensation but very limited. But it was very frustrating.”

Not everyone had the information to understand the real issues behind the perceptions; and perceptions ran wild. If rationale were made available at the perceived notion of unfair treatment, these issues may have been quickly resolved.

“No seriously I think a lot of us were very affected by … our inability to save people. You really want to help the best you can. And the fact that we
didn’t have an IT system in place … the little things that put roadblocks in your way became big issues. I mean one of the big things was food and early on the physicians, most of us who were there 24 hours a day, we ended up … one of the logistics people went out and bought food for us. We would pay for it but that was seen as how come the physicians are getting fed and we’re not? And the unions said, no, you’re not to bring in food for the staff, they must have time off … the union’s protocol says they must have time off to have a meal during their shift and they must have breaks. So there was this real … it was very difficult and people perceived that managers were getting fed and they weren’t and … some of the people got really into this metaphor for caring, you don’t care about us. You don’t realize that, one, I’m paying for my food and two, your union won’t let you do this. But for me it was very practical but for some people that was really, really difficult and I felt really badly about that at the end, when people were telling me that afterwards. But they didn’t know the story and they weren’t told the whole picture and when you don’t know the whole picture people were upset about that. And it just was one little thing when you’re stretched to your emotional capacity anyway something like that can tip you off the edge, who got parking. And some people came from other … we’ve got 32 offices in Toronto for public health and nurses who came from other offices got parking but I didn’t and how come they got this mileage and I got that mileage. And it was those things that were enough to kill you.”

The respondent below illustrates a non-union responder who reflected on the challenges of working with unions. The respondent seemed perplexed and questioned the union members’ commitment to their duties; while also respecting the union’s legitimacy to negotiate those terms.

“I mean that definitely did wane but I think people were very upset, nerves were a lot … people were afraid, tempers were shorter but I mean I tried not to take it personally if anyone screamed at me because I knew it wasn’t, I tried not to scream at anyone, I did a lot of deleting email but … I think the union thing really popped up more in wave two with, with no, we’re not working overtime. And that was a big pushback, refusing to work overtime, refusing to work shifts that were scheduled on weekends, that was … it annoyed people, when … it’s really tough when you’re putting in a really long day and you’re working really hard to hear someone say I’ve been here for my seven hours, I’m taking my two breaks and I’m leaving now, but they do have the union right to do, it’s just, during the response some people weren’t feeling as supported as they could have I guess.”
4.2.6 Disruption to Critical Health Infrastructure

Disruption to the health care infrastructure in Ontario emerged from the data in 3 health areas: hospital system, public health services and paramedic services.

4.2.6.1 Hospital System

The description below illustrates the challenges experienced during SARS. Not only did SARS impact the movement of patients, resources and information through the system, more importantly it had infected many healthcare workers:

“People are tired and hospitals are already overcrowded and then we’re starting to close hospitals, but that’s the risk. If we didn’t … close the hospital system while we put the safeguards in place, the problem would grow bigger and we would end up with more deaths, longer to manage it and more medical staff and personnel that died from it as well … but … if one looks in the broader view, the other thing that would happen is you would end up with hospital after hospital eventually being closed and so you’re dying the death of a thousand cuts because if you got roughly 250 hospitals in the province, if you’re closing three or four or five a day because it’s popping up all over the place and you know that it takes you about two months to get it back open each time, you’re going to run out of hospitals and so the question or the issue in your mind has to be: do I cancel some elective surgery for a week or two but save the system and keep the liability in it and not lose too many hospitals or do I risk losing hospital after hospital after hospital. The net effect is that you’re going to … close it down for a longer period of time and more dramatically over the long haul, so, my logic was you take the punishment at the beginning but it’s a smaller pill to swallow and it’s a very bold move, I mean after we did it, the Minister of Health said I didn’t know you were going to close the system down and I said no, if I told you, you would not have wanted to think about it … every hour we think about it is an hour more that the problem's bigger.”

The hospital system crippled as many of its staff fell ill to SARS:

“So, the closure of that hospital had a significant impact. And you have to take into consideration what was happened at the other two hospitals to truly get the flavour that it wasn’t just, ‘Oh well, York Central’s closed and the other two are fine.’ Believe me, Markham-Stouffville was really, really struggling. They had many staff that got sick. And it certainly put a lot of strain on the people and on the system. And it was not a good situation. So that was very difficult from a hospital perspective.”

“People were getting… healthcare workers were getting sick, right. And they were getting sick from exposure at hospitals. So, you had a real change in the psyche of the frontline healthcare worker. We were… they were no longer in control.”
“We had hospital workers getting sick. They’re looking after their own all of a sudden, it wasn’t out in the community. So, you know … that’s why they started shutting down facilities. And no place… they were worried about every place. I remember hearing the conversation about, well do we need a dirty facility. So, there’s a lot of, you know, a lot of anxiety there. Teleconferences were brutal.”

The concept of declaring SARS hospitals took effect more so during SARS II. This consolidated the risk of SARS to a few hospitals where extra resources and support were concentrated.

“The attempt to set their designated hospitals, even though there were patients who were in other hospitals theoretically it provided a signal to the system that there is a plan, that were not just gonna accept that people may show up anywhere, that there is going to be a degree of coordination and we’re going to have to cohort patients…we’re going to have to bite the bullet and cohort and say: You’re at hospital…so that aspect was good. For 2 or 3 of the hospitals they were really SARS Hospitals. For a couple of them, partly because of the role they designated themselves as being members of the SARS Alliance – as it was called.”

4.2.6.2 Public Health Services

The disruption to public health services required many programs to cease during SARS while few programs continued business near usual. The respondent below describes disruption to case management of other infectious diseases such as AIDS and Hepatitis and how the catch up from the SARS experience continued 2-3 years after the outbreak.

“I mean, there was a feeling or there was sort of a ‘message’ that came from higher up that: ‘Ok, it’s finished, business as usual’ and most of the people that had worked in SARS were traumatized, they were exhausted, they were emotional, all those things related to working in such an intense wave for so long that business as usual was really hard to get back to. There was a lot of debriefing talking, ok, and then looking at the mass amount of work that was left, for instance, like I was responsible for Hepatitis …I forgot to mention Hepatitis as well. Hepatitis, STDs and AIDS case management, now these are the disease cases that are reported to the health department, we are supposed to follow them up, make sure they have been treated, make sure their contacts are followed – oh that kind of a thing, but most of that didn’t get done for months so then we came back to a stack of stuff like this and how well we… so there was a lot of that, like Ok..so look at this mess we’ve got here now, ok, so how are we going to prioritize … we’ll look at pregnant woman, acute cases and HIV … anyway, we did this priority business because you just had to in order to get to the bottom of it. I don’t think we’re caught up yet in some of those programs. I really don’t.”
The description below continues to describe the disruption to public health services from a local perspective:

“There’s other things in Public Health that still have to go on, so particularly the communicable disease area, there are still cases that have to be followed, still things to be done and so, those people couldn’t be taken off this, there were programs that were abandoned, and suspended. We suspended all our clinic work in York Region for sexual health clinics, we opened other clinics but people still had to follow up TB cases and HIV and hepatitis and … so you had to be careful where you can pick and choose. On the other hand, there were hundreds of nurses that are responsible for healthy babies, which is required work.”

Early in the response, surge capacity was simply not available. And for many public health practitioners, waiting to act until additional resources were available was not a practical option. As a result, many health units shifted resources within their respective organizations to cut back or completely terminate certain programs and redirect those resources toward the response effort.

“It was impractical to acquire new resources on short notice because the timelines were so short we needed to respond to SARS within days to weeks and we did so by reallocating resources from other programs by spending monies which would have been spent in other programs by reassigning staff from other programs and services into SARS related work, which I think is the primary way of ramping up a response to an emergency.”

4.2.6.3 EMS: Paramedic Services

The emergency medical services (EMS) system was also severely impacted by SARS. A respondent describes the challenges in transferring patients between hospitals:

“I think 45 per cent of our patients were taken to hospitals outside the York Region. So from a resource capability perspective to respond to the other types [of emergencies] – you remember it wasn’t all SARS-related. That was really tough for us, because now you’re sending the resources out of the Region to other hospitals and you’ve got calls to do in York Region with less resource because you’re sending that resource out. So, the average time to do a call was extended because you were traveling further and traveling to other hospitals … But that probably was our biggest impact, along with obviously the quarantine of the staff, and … from a deployment perspective, and resource capability perspective, it was tough. Response times obviously went up, so it affected our performance that way. But, all-in-all, I think we had a very successful time in the sense that we weren’t really aware that anybody had an adverse or any type of bad experience because of it.”

The EMS system made clear that the priority was to provide protection for all their paramedic responders.
“We have a lot to learn from some of the things that we’ve done, that I think truly became effective. And I’m not sure, or heard of, anybody who died because there wasn’t a fire pump or a paramedic and a police officer sent to every call. Like, I mean, we’ve really got to get a little smarter with that. But, I won’t go down that road. But that was a good thing that we actually saw that does it make sense that we expose this many responders. Now that things have relaxed, we’re right back where we were. And, what is of great concern, what is the infection control practice for these other first responders. That’s a huge concern from our perspective. Is that if you’re going to be part of the system, then you better protect your staff and they better be aware of infection control practice because you’re exposing not only yourselves but members of your family and the patient to potential infection. So that’s a key piece, it is. And I see that that’s sort of been left out.”

However, EMS struggled early on with the stipulations to quarantine individuals potentially exposed to SARS. Managers quickly realized that most of their paramedics would be quarantined; which would quickly deplete their greatest resource — paramedics. To combat this, they introduced the concept of work quarantine into their business operations to ensure continuity of operations while working around resource constraints with quarantine. This concept was applied within hospitals as well though there continue to be ethical concerns requiring further exploration.

“All of a sudden we had a situation at York Central … York Central was being closed. And when we got word of that, they then came to us and said you need to know every paramedic that’s been through that facility between these dates. And if they’ve been through that hospital, they need to be on quarantine. So, we did that. And we found out that over 50 percent of our staff had been through that hospital. So I was posed with a challenge that 50 percent of my staff were going to be sent home on quarantine. So, I recall sitting in on a conference call with the province and [the Director], and I was made aware that in York Central there was a decision to make what they called a ‘work quarantine’, and that would go to those critical positions like physicians and nurses that had to be there. And I remember turning to [the Director] after listening to this and I said, you know, you’re on a conference call and you’re with all these physicians and … I was not quite sure if this would work but what we do know is that Toronto has had a significant amount of their paramedics affected and we don’t know… it could be another hospital tomorrow, another hospital the next day… it’s affected us greatly and I’m down 50 percent on my staff. Why can we not apply the same principle of a working quarantine for paramedics as they are for physicians and nurses? … And they in fact said that sounds interesting, maybe we should be considering that. So, they didn’t see that it would not work. And, from our perspective, that’s when the work and the resource issue really hit work. We realized that at any given moment our workforce could be wiped out. So we had to look at different ways of continuing to provide the service and still protect our
staff and protect our patients and protect the families of our staff. So, we introduced work quarantine.”
Chapter 5
Discussion

5 Discussion

The discussion will examine the data through the lens of A4R+Power. The data indicates the priority setting framework A4R+Power did not and will not adequately fulfill the values of fair and legitimate decision making processes of emergency response. Though there is evidence that there were attempts to fulfill the values enshrined in the conditions, the data illustrates a greater need for making such conditions more explicit in future planning and response activities. As a result, I will arrive at 2 main conclusions suggesting a more intentioned application of A4R+Power focusing on the other three phases of the emergency management cycle (recovery, mitigation and preparedness) as well as highlighting the importance of advance planning for emergency events.

5.1 A4R+Power Conditions

5.1.1 Condition #1: Publicity

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Though there was evidence, according to the data, that the publicity condition was addressed in both making rationale to decisions available and also making the decision making processes accessible to impacted stakeholders, it was not adequately addressed. In fact, much of the data exhibits numerous challenges and critiques in the failure of achieving this condition.

Two clear perspectives surfaced from the local perspective for the publicity condition.

1) The lack of a local “voice” in the provincial and federal EOCs; and
2) The absence of provincial and federal officials in participating in local EOCs.

This condition highlights the importance in communication in an emergency. There is no doubt that “[e]mergencies are typically difficult times to effectively communicate to a frightened public; however, it is during such events that communication is the most critical.”242 These two concerns exhibited perceptions that ultimately affected actions during the response. Consequently, a sense of confusion, disconnect and uncertainty were exacerbated by the perceived exclusion. Many respondents were concerned for the perceived exclusion and whether it was intended or unintended. Nonetheless, the lack of communicating in a clear and timely manner ultimately resulted in political consequences.

This perceived and actual disconnect is a concern considering the importance of locality in any emergency. Like politics, emergencies, crises and disasters are local. This reinforces the importance of situational awareness and how local authorities and stakeholders are naturally best positioned to make better decisions for field responses. However, the local, provincial and
federal jurisdictions all are interdependent to ensure an effective response and coordination: the local had access to the knowledge of the efficiency, deficiency and effectiveness of applying directives provided by provincial authority as well as actual ground conditions (i.e., situational awareness). Yet, more proximal to the emergency event, the more likely surge needs will rapidly develop. Surge capacity is the “ability to obtain additional resources when needed during an emergency.” As a result, the higher authorities or governance structures have the ability to rapidly mobilize and re-allocate resources from other jurisdictions toward the affected locality. The balance of these dynamics, accurate situational awareness from the local jurisdiction with the resource strengths of upper-tier governance structures, together will provide for more informed decision making and effective responses.

Contrary to this, the outbreak initially exhibited a heavy top-down approach to decision making, thus excluding affected local jurisdictions. The SARS study presents a uniquely distinct event where guidance was simply not available due to the level of uncertainty. Moreover, the investment in social capital (i.e., relationship building) prior to SARS was not at the level to enhance multi-jurisdictional responses. As a result, the recurring theme of silos emerged from the data. Respondents described a hurried approach to real-time relationship building during the high-stress urgent event. This investment in developing relations will only be as good as the time allocated to such activities. A hurried approach where previous interactions were largely absent will only fuel a clash in perspectives, expectations and interests during an emergency response.

Another emerging theme from the data pertinent to the publicity condition of A4R is the challenge in information sharing. Information was a valuable commodity during SARS; particularly accurate, evidence-based and consistent information. There were serious deficiencies in the networks of information sharing and exchange. There were three categories of information most desired in addition to an understanding of this newly emerging human virus:

1) Accurate epidemiological numbers of confirmed and suspect SARS cases (according to agreed-upon case definitions);
2) Accurate numbers of those in voluntary quarantine (and those in work quarantine); and
3) Feedback from field responders on the applicability of previous decisions and directives.

Many times, due to stress triggered dynamics and individual personalities, information sharing transformed into information competition. This only heightened existing stresses and further complicated matters for decision makers who were positioned to gather evidence-based information and knowledge real-time. In order to do this, provincial authorities tackled this on several simultaneous fronts and developed the following ad hoc groups:

1) The Epidemiology Unit; and
2) The Science Advisory Committee.

However, as stated in the Campbell Commission, there was an additional complication to the sharing of information. The Commission goes on to describe that “[u]ntil the Epi Unit was up and running, there was no way to coordinate the work of local public health units into a common reporting structure. This delay turned out to be a critical problem. By the time the Epi Unit was established, individual health units were married to their own individual methods of collecting and reporting data. As a result, they were unable and disinclined to change their systems mid-
stream, despite problems created by the diverse manner in which the data was being collected and reported. This decentralized system inhibited the process of revising decisions and directives real-time. This will be further addressed in the discussion of the revision condition.

The data consistently revealed deficiencies in receiving feedback from field responders as well as frustration from first responders at receiving displaced directives. However, receiving information from responders required concerted effort and time. This was complicated by the urgency to act and coordinate, thus leaving little time for a meaningful exchange. In some instances, attempts to retrieve information were done in a rash manner which only added to the resentment resulting from such a hurried approach. Though the intent was not to damage relationships, it only resulted in opposing the good intent to gather and retrieve information to inform critical decisions or contradict flawed directives.

Also, a new battle materialized resulting from the convergence of these dynamics. The battle of combating, minimizing and eliminating misinformation sapped what little resources and energies remained during the response. It contributed to fueling SARS fatigue and psychosocial affects of the response, which will be examined later in this analysis.

The lack of accessibility to decision making processes was described most by respondents who participated in EOCs. Though there were other decision making spaces and opportunities, this was the focus for this analysis. This will be revisited in discussing how the data speaks to the relevance condition.

There were multiple EOCs that developed during the SARS response. They can be categorized into jurisdictional, professional and organizational. The focus of this analysis on jurisdictional EOCs. The focus is determined by the emerging themes from the data.

The jurisdictional EOCs consisted of local/municipal, provincial, federal and international. The sheer number of EOCs exploded as a result of the degree of uncertainty and following the provincial emergency declaration. However, the large number created an additional layer of chaos within the communications dimension of the response making coordination unwieldy, particularly in the absence of a single leader or unified commander under a unified command approach. Concurrent operating EOCs all with unclear operational mandates where the majority of participants were unsure of their obligations through voluntary participation or official appointment only contributed towards the sense of confusion and chaos, fueling a sense of powerlessness and control. For many participants, they had no prior training, understanding or experience in an EOC.

According to the data, some EOCs were highly unorganized, though their dynamic improved as the response progressed, particularly in SARS II. But a key issue for many of the respondents, particularly if they were part of a profession who served in the trenches, was the lack of rationale for the decisions made. In many cases, the field responders had a greater understanding of what methods would work and not work. And considering that their voices were not directly involved in the decision making processes, directives were often time flawed. Being flawed due to the uncertainty of the threat is one thing; but flawed directives resulting in exclusive dynamics in decision making processes is in many cases difficult to defend. Respondents consistently expressed a need to understand the why behind the what. The accessibility to this reasoning was
largely absent and only contributed to misperceptions, resentment, distrust and the black box phenomenon.

The black box phenomenon was also expressed by provincial and federal authorities when the World Health Organization issued a travel advisory on Toronto. Authorities felt that the decision of WHO was flawed. WHO lacked the situational awareness to make an informed decision about the status of the outbreak in Canada. They sided with precaution. There continues to be disagreement at the intent for the decision, and issued the advisory, which resulted in an unprecedented degree of financial collateral damage. Canadian authorities quickly contested and immediately arranged to fly to Geneva to provide all the most accurate up-to-date epidemiological statistics to share the true level of risk. As a result, WHO lifted the travel advisory a week later, otherwise it would have remained for a period of three months. In retrospect, authorities identified that the travel advisory was issued at the lowest peak in the epidemiological curve. Much to their dismay, Canadian officials were in line for a second outbreak … one that they did not see coming. This is particularly important to highlight the degree of frustration of not having rationale provided for decisions that others may deem as flawed. The officials nearest the emergency event have the situational awareness to assess the degree of fitness of the decisions made from authorities that are many times far-removed from the event. Unlike the experience with WHO, many local authorities did not have the capability to meet in-person, and had to settle with teleconferences, to convince decision makers. While A4R opens the black box to ensure a degree of transparency, how its application in an emergency event warrants additional investigation beyond this analysis.

Through respondent interviews, participants highlighted the degree of information sharing and decision making that took place. However, interviewees also repeatedly touched on how in the midst of the urgency to respond the two processes competed against each other. This also reflected instances of considering hospital closures where hospital CEOs were not included and the inadequate inclusion of public safety professionals, particularly paramedics, in decision making.

### 5.1.2 Condition #2: Relevance

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<td>Did the response exhibit evidence of this condition?</td>
<td>Partly</td>
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<td>Did the response exhibit evidence of the need of this condition?</td>
<td>Yes</td>
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<td>Ought this condition be considered for future emergency efforts?</td>
<td>Yes</td>
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The relevance condition emphasizes the reasonableness in decision making rationale and stresses the importance in decision making based on principles and evidence that stakeholders would find reasonable. However, this process is highly subjective and context specific considering variable perspectives and circumstances. Expertise and knowledge play a central role in determining relevance of information to guide decisions. As a result, “[e]very effort must be made to avoid hearsay, over-reacting and making decisions apparently motivated by simply being seen to be exercising due diligence.” Two central examples from the data emerged: the decision to institute a national travel advisory within Canada and the institution of the international WHO travel advisory.
With regards to the national travel advisory, British Columbia explored the possible application in case the outbreak in Ontario worsened. At the time, receiving inconsistent fragmented information only contributed to the fog of confusion leaving British Columbia in the dark with regard to the direction they should take to protect the health interests of their respective population. Though British Columbia had a small outbreak, it was brought under control rather quickly. In the mean time, all eyes were on Ontario. However, the lack of accurate information prevented them from making informed decisions; thus resulting in provincial authorities siding on the side of caution in preparing for the worst-case scenario. The data revealed some instances where principles had to be used in place of evidence to guide decision making. The urgency of the emergency presented a conflicting dyad of either taking the time to develop well-thought out decisions based on accurate information, versus the urgency of making deliberate decisions to guide field responses. Decision makers found themselves unable to make reasonable decisions based on accurate evidence. Thus, they reverted to principles. It was unclear whether Ontario at the time was aware of the consideration by BC and other provinces and how it would react at the institution of such an unprecedented policy. Certainly, it would only add to their stigma and illicit resentment. To combat this, requires sharing explicit intent. However, “[s]haring explicit intent efficiently requires that at least three conditions are met: (a) a common language must exist; (b) the parties who are attempting to communicate must have a baseline level of literacy in that language; and (c) a communication medium must be available. Deficiencies in one or more of these conditions will hamper the sharing of explicit intent.”246 Fortunately, the national travel advisory did not need to be instituted. Subsequent discussions have brought together provinces to explore and develop a formal mechanism in the event of future consideration and implementation.

Language evolved as a critical theme under this condition according to the data. Resulting from this would be competing forces of enabling efficient communications while minimizing miscommunications. These misunderstandings evolve because “[c]onflicting objectives and goals … in turn lead to misunderstandings and hamper[ing] performance.”247 Attempting to resolve these issues mid-crisis was too great, considering that ”a large number of humans emerge as an effect of a constantly ongoing process in which participants engage in an active effort to understand each others’ backgrounds, beliefs and motives in order to adapt to each other and the current situation with a minimum of friction.”248 Communications within organizations and jurisdictions; and between organizations and jurisdictions transpired from the data.

Public health is a broad profession. It “relies on the definition by exclusion of that which is not public health – personalized health … the notion of ‘non-personalized’ relies on a distinction between domains.”249 This expansive composition yields different ideas internally of how best to respond, particularly in a public health emergency. Compound this with interaction with an army of external stakeholders of varied professions across private and public sectors, and one has a recipe for treacherous communication cycles.

The second example illustrated the consequences of the WHO travel advisory and the process of revoking the declaration. The fact that it was declared and revoked so quickly is an illustration that: 1) the decision was based on faulty evidence; and 2) stresses the importance of communications between jurisdictions. Certainly, there were barriers that prevented fluid communications. Barriers usually surfaced between the interfaces of the social, organizational and technical aspects. “If [these] three systems do not ‘overlap’ each other, the capacity of the [overall response will] be hampered. The human ability to adapt to situations, and to each other,
is large, but if there are organizational and technical boundaries between the participants in an activity, the establishment of relations will become difficult … [and] constrain the exchange of information between different parts of a system.”\textsuperscript{250} This was quickly identified during the initial phase of the response particularly between the City of Toronto, York Region, the province of Ontario and Health Canada. However, expecting to resolve these issues real-time was not feasible. Attempting to address these flaws mid-crisis would only be self-defeating since it would take away and compete for resources in a highly constricted environment. However, it had to take a situation such as the WHO travel advisory to bring these stakeholders together to coordinate information sharing. The data was overwhelming, particularly in the absence of a standardized, efficient, effective, electronic database system. Nonetheless, the fact that WHO agreed to receive accurate epidemiological data and to be open to revising their decision illustrates the concern to ensure reasonable decisions as long as nations are willing to put forth the effort to share accurate and timely epidemiological information across jurisdictions so that WHO may fulfill its obligations to the international community. This was also highlighted in the Campbell Commission as it identified “[p]roblems with the collection, analysis and sharing of data beset the effort to combat SARS. While many factors contributed to this, strained relations between the three levels of government did not help matters.”\textsuperscript{251}

If decision makers were not adaptive to identifying a process that fuses the “principles, reasons and evidence that managers, doctors, patients and the public can agree are relevant”, then meeting this condition for A4R will be inadequate, thus compromising communications. Respondents consistently reflected frustrations in the manner that decisions, directives, updates, revised decisions and feedback were provided.

5.1.3 Condition #3: Revision/Appeals

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\textit{Did the response exhibit evidence of this condition?} & Partly \\
\textit{Did the response exhibit evidence of the need of this condition?} & Yes \\
\textit{Ought this condition be considered for future emergency efforts?} & Yes \\
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\end{tabular}

The revision/appeals condition advocates for the availability of mechanisms to challenge decisions and to aid in dispute resolution. There is no doubt that there were disagreements during SARS. Though there were opportunities made available to respondents participating in decision making to dissent, disagree or challenge decisions. However, according to the data there was no sufficient evidence that this was adequately addressed nor was there a formal mechanism to address escalating issues. There is a need for this condition to ensure fair procedural decision making during non-disaster events. The need may be more critical during an emergency as a result of the degree of potential harms in an unpredictable, urgent context.

However, when time is limited, it is difficult to ensure such a condition, particularly when there is a lack of accurate information, an influx of misinformation or broken communication channels prevent critical information from reaching critical stakeholders in a timely manner to engage in meaningful exchange and decision making. In some cases, the high level of uncertainty prevented some from disagreeing, fearing the consequences of erroneous contributions and being accountable after the outbreak.
The flow of information early on was minimal. As the outbreak continued, response efforts developed. As a result, there were times that information flows were more like a super highway than a trickling stream. This can be good if three conditions were met:

1) A well-constructed, highly organized incident command system with fluid communications systems (internal and external), managed by an emergency commander (preferably with adept IQ and EQ skills) and coordinated by a team of experienced managers and personnel to assist with interacting with an experienced network of field responders;
2) The information provided was entirely accurate and meaningful; and
3) There is a standardized network of proven effective information technology systems enabling user-friendly efficient data input, analysis, report production and ease of electronically secure data-sharing across jurisdictions.

However, this was not the case. Much of the information was imprecise, inaccurate, repetitive, incomplete, uninformed and uncertain. A veteran emergency manager would struggle in making decisions with such information. Fortunately, a large team of highly dedicated, heroic and near selfless individuals committed to this effort did the best they could with what they had. Moreover, “information flowed asymmetrically throughout the room [EOC], resulting in fragmented situation awareness. Some participants were overloaded, while others were underutilized.”252 In the end, SARS was managed, contained and eliminated. But the process was not easy. And with such flawed information, different individuals from different professional perspectives had varied ways of interpreting risk on a daily and sometime hourly basis during the response. There was much disagreement.

Information from the field was necessary to guide in developing real-time sound decisions but this was complicated by a persistent disconnect. As a result, decision makers “became more removed from the situation as they did not have access to the frequent updates from first responders. [At the same time] those outside of the core group had a difficult time maintaining enough awareness of the situation to identify leverage points and offer help.”253

With regard to challenges, respondents described varied accounts. Many who participated at decision making tables described that there were opportunities to disagree. One respondent poignantly underscored this by distinguishing between the opportunity to disagree with being listened to.

Individuals behave differently under stress. Some sharpen their abilities while others quickly experience fatigue and confusion. Some may maintain a rational approach while others become irrational. Several respondents described how some rose to the occasion to become new leaders; many of whom were not in positions of leadership prior to SARS. However, when a circumstance calls for group think, group actions and group deliberations, you inherently concentrate differences into a small high stress work space/environment (e.g., EOC). This will guarantee tensions, personality conflicts and strain relationships; all of which will impact the decision making process. Some will be patient and deliberate in hearing disagreements while others will not.

Growing distrust fueled perceptions of promoting alternate agendas. Personalities played either destructive or constructive roles as several respondents described. At times, the chaos of the
outbreak was mirrored in the chaos at decision making tables. This may be inevitable. However, strong leadership assuaged some of the conflicting dynamics. And like anything else in the outbreak, there were good and not-so-good leaders. Either way, adept individuals at the helm of the decision making tables across all jurisdictions were faced with challenges of balancing needs with provisions. Leaders had to be deliberative and deliberate in facilitating the complexities of emergency and group decision making. Respondents described instances where leaders were successful and unsuccessful.

The data also revealed some respondents who felt uncomfortable to disagree with decisions, though the opportunity to disagree was made explicit. They ranged from concerns that disagreeing would be career limiting, trigger fallout and that it would not be seriously considered due to the person’s status. This will be discussed further in the empowerment condition. There was repeated concern that the process seemed too political. The Campbell Commission also highlighted a similar finding in that there was “a perception among many who worked in the crisis that politics were at work in some of the public health decisions.” The Commission stressed the importance that a “public health system must ensure public confidence that public health decisions during an outbreak are free from political motivation. The public [including responders] must be assured that if there is a public health hazard the Chief Medical Officer of Health will be able to tell the public [and inform responders of updates] about it without going through a political filter.” This contributed to the sentiment that political decisions resulted in operational consequences. Some respondents described how relationships prior to SARS facilitated their ability to participate, engage and disagree. Others expressed the lack of a previous relationship limited their ability to contribute toward decision making or being heard.

### 5.1.4 Condition #4: Enforcement

| Did the response exhibit evidence of this condition? | Partly |
| Did the response exhibit evidence of the need of this condition? | Yes |
| Ought this condition be considered for future emergency efforts? | Yes |

The empowerment condition ensures the first 3 conditions are met, thus providing an iterative process to A4R. According to the data, there was no formal procedure in place for such an activity despite routine meetings that took place. Though there were informal attempts, it does not adequately fulfill this condition.

There was no explicit enforcement mechanism described in the data. However, informal attempts were identified primarily through the theme of leadership. Though the data indicated sources of leadership, it also reflected frustrations with the lack of leadership. The Campbell Commission Report also highlighted this issue indicating that “[m]any local Medical Officers of Health felt abandoned during SARS, devoid of support and guidance. The Branch’s failure to co-ordinate and guide the local health units was already a big problem before SARS. It turned out to be a harbinger of the problems that arose during SARS.” As a result, the data and Commission findings indicated that the “outbreak was managed, out of necessity, around the Public Health Branch of the Ministry of Health and Long-Term Care rather than through it. The critical mass of professional expertise one would expect in a crucial branch of government in a province the size of Ontario simply did not exist, either in the number of experts or their depth of experience.”
The data provided examples from meetings of the EOCs and on teleconferences. Despite this, the sheer number of teleconferences and the amount of information (sometimes inaccurate) shared during these meetings inhibited efforts to adequately revisit the principles enshrined in the previous three conditions. Many respondents expressed being overwhelmed in keeping up with the meetings. The Campbell Commission also reported that “information systems and support structures were simply not in place. In the absence of this necessary machinery, not even the hardest work and greatest expertise of those who came forward to staff the Epi Unit and the Science Committee could overcome the obstacles.”

Many times, participation in the meetings was more for information sharing rather than decision making. As a result, individuals participated as observers and not active participants who had influence over future meetings, thus ensuring an iterative fair process in revising the issues.

While many of the EOCs or teleconferences evolved throughout the emergency to be more inclusive; it is unclear why this was the case. If it changed in an attempt to implicitly enhance the values of the conditions of publicity, relevance and revision/appeals, then this would support the enforcement condition. However, it may have occurred for other reasons. One possible explanation may result from a greater control over the outbreak as time, knowledge and awareness of the issues progressed. This may contribute to a more relaxed sense of participation, essentially eroding the power of exclusive participation. Or it may have occurred in response to challenges in addressing the needs of field responders, particularly occupational risks, resulting in including union representation in subsequent decision making.

Respondents expressed frustration at the lack of transparency in the EOCs and expressed a greater need for a formal process in place to ensure issues are adequately revisited with the appropriate stakeholders participating.

5.1.5 Condition #5: Empowerment

| Did the response exhibit evidence of this condition? | Partly |
| Did the response exhibit evidence of the need of this condition? | Yes |
| Ought this condition be considered for future emergency efforts? | Yes |

Power emerged as a prominent theme in the data. The empowerment condition was introduced by a study examining power in institutional priority setting. More specifically, advocating to minimize power differences during decision making processes. Though there is some evidence from the data indicating attempts to minimize power differences, many respondents exhibited contradictory experiences.

The proposal of power as a fifth condition evolved from the Gibson, Martin and Singer study involving hospitals during non-emergent circumstances and identified the importance to “minimize power differences in the decision making context [as a means to] optimize effective opportunities for participation.” The authors cite that,
“While developing fair deliberative processes is an essential piece of securing socially acceptable priority setting decisions, [the healthcare and public health system] is characterized by significant differences in capacity for effective participation in the processes that shape these priorities. Power differences exist when some individuals and groups are better positioned than others to influence priority setting outcomes.”

As a result, a proposal to include empowerment as a condition has been suggested as an addition to the 4 conditions of A4R resulting in an A4R+power framework. However, A4R+power does not speak to how to handle power during a public health emergency nor was it intended to. The revised framework suggests that power differences may “undermin[e] the overall legitimacy and fairness” of the decision making process. On the other hand, several respondents in this study described power as an enabling factor in the SARS response.

The data does indicate instances where “minimizing power differences” may be warranted. However, the power theme emerged from the data in several forms. As a result, the empowerment condition from the data reveals four sub themes:

1) Legal;
2) Power Sharing;
3) Financial; and
4) Knowledge/Information.

While some “[d]ecisions are made largely on the basis of competition, bargaining and influence rather than comprehensive analysis,” some would argue that fear trumps competition. However, according to the data, there is evidence exhibiting both cases.

Some respondents perceived decision making as dominated by politics more than anything else. They described a “culture of management that rationalized risks weighed against political and economic consequences.” One respondent described public health as “egalitarian” reinforcing the concern that “[p]ublic health has had great difficulty accommodating itself to … political dynamics.”

“There are many types of power differences operative within health [and public health] institutions (e.g. professional status, gender, ethnicity, etc.) which can affect how effectively an individual or group can participate in priority setting [decisions].” Overarching power themes emerging from the data include legal, power sharing, financial and knowledge.

5.1.5.1 Legal

Many of the laws were inadequate during SARS. So much of the data illustrated this theme within descriptions of the provincial declaration of emergency, authority and accountability. The legal power sub-theme illustrated how existing emergency laws empowered decision makers and responders with a particular emphasis on the emergency declaration (aka, code orange).

Respondents described the ease of concern over financial matters as per the emergency response. Numerous respondents described the surprise to “do whatever it takes” without allowing cost to be a limiting factor in the response. This will be further addressed in the financial sub theme.
Laws underscore the importance of authority. Accountable stakeholders are those who have the obligation and authority to act. One source defines decision makers as “persons who have the ability, resources and authority to make decisions or judgments and to act on them.” While laws help to inform the direction (where) and responder (who) to act, it does not provide the roadmap for operationalizing a response. Providing the authority and power to act, current emergency management laws lack in metrics to help guide decision makers to ensure proportional responses threats. To my knowledge, emergency management laws do not speak to any issues relating to collateral damage beyond liability protections from lawsuits.

An awareness of jurisdictional emergency laws may initially guide responders and decision makers to act; that is if they have been revised and are current. This raises concerns of unrevised archaic laws in many areas. Though there have been concerted efforts to evaluate and improve upon them, there continue to be areas where coordination between the laws across jurisdictions continue to be warranted. This provides confidence in a time of uncertainty and ensures that the legal system as an aid and not an impediment. The laws also will contribute to minimizing confusion on accountability, responsibility and roles, though that is only the case if the laws have been appropriately tended to prior to the emergency event. For instance, respondents described the availability of the courts in issuing quarantine orders for warranted cases.

Legal power also provided the means for those harmed to either challenge or seek restitution following the outbreak. In cases, this may also contribute to the fallout. There were few court cases for SARS. With greater power and authority, particularly when afforded by laws, it also conveys a greater accountability.

5.1.5.2 Power Sharing

Though there were many noticeable disagreements and power struggles during the SARS response, there were also many stories of the sharing of resources, objectives and of power.

This also highlights the ease and comfort some exhibited with power. It can be employed constructively and destructively. However, several respondents expressed this at the receiving and giving end of the process. At the giving end, some respondents revealed an understanding of the relationship between power and trust. As a result, respondents were comfortable in its distributive strengths to those who afforded it rather than consolidating power towards divisive intent. There were accounts of individuals who divided others to consolidate their power, though this was rare.

From the receiving end, there were several accounts who appreciated the power which nurtured trust, rewarded their commitment and sacrifices and affected attitudes, responses and sentiments during and after the outbreak.

However, not all respondents were comfortable with power. Several respondents expressed discomfort with “being held accountable for decisions for which they … lacked sufficient information.” As a result, they continued to describe a distrust of decentralizing power as a means of decentralizing or deferring accountability on others.
5.1.5.3 Financial

All respondents were unanimous that the greatest resource availability and least complaint were financial matters due to the declaration of emergency. The DOE fast-tracked the release of a wealth of finances for the response. It was such a contrast from normal day-to-day strong fiscal constraints within the health system in Canada that several respondents expressed a wonderment why such a release was not made available for other chronic but not emergent health needs.

Power through money also facilitated authorities in areas where laws were inadequate. For instance, provincial law did not clearly elucidate “whether the province actually had the legal authority to issue mandates to the hospitals.” Hospitals were not owned by the municipalities and are not private entities, rather are “stand alone nonprofits.” This only left uncertain provincial ability to issue standardized mandatory and not advisory hospital directives. As a result, authorities utilized the power of the purse to coerce rather command since hospital funding comes entirely from the province.

Financial compensation for nurses also became a tense issue. The intent was for hospitals to compensate nurses who agreed to carry out their “duty to care” by caring for patients in SARS wards. In exchange, one hospital offered to compensate them for the increased risk. There were several concerns with this: a) is financial reward justified to coerce and/or compensate nurses to volunteer in SARS wards; b) are nurses who make decisions to volunteer provided full information of the risks to ensure informed decisions rather appearing to exploit individuals; c) should nurses have this option or is the “duty to care” obligate them to carry out their obligations in high-risk events, provided that they receive a reasonable amount of protection; d) is it fair for a segment of union members to be offered greater pay than their counterparts, even if the risks are greater; e) is it fair for one hospital to provide greater incentives and compensation compared to other hospitals. Though the intention of the hospital seems to be positive, it may have added to resentment, a sense of unfairness and distrust during the recovery phase.

Another issue emerged when respondents were asked about financial matters near the end of the outbreak. The sentiment and tone changed considerably. Assessing costs real-time was nearly impossible early in the outbreak, but when financial accounting caught up with the rate of spending, there was an immediate effort to pull back and exercise fiscal constraint. As a result, this sent a contradictory message to responders. And in some cases, adding to the confusion, fallout and resentment over meeting response expenses as the outbreak was coming to a close. The fallout resulted in a “partisan federal versus provincial (and Liberal versus Tory, respectively) tussle over who was going to foot the bill for the SARS emergency response and how much of the economic loss suffered by individual citizens, businesses and hospitals in the GTA would be offset by government spending in some form or other.”

5.1.5.4 Knowledge & Information

Respondent accounts equally describe similar frustrations in the war against SARS as much as a war of information during the outbreak. Many times, information was a commodity as previously discussed. It is important to note that the decision makers during SARS did not make faulty decisions. They were pressured to make critical decisions with faulty incomplete information - information that was imprecise due to the nature of the emergency. However, professional expertise also defined power. For instance, while physicians were in short supply,
public health physicians were gravely needed. The same applied to nurses and epidemiologists. While there were numerous descriptions of resource constraints, the need for real-time information was nearly as important as professionals with specific skill sets.

In fact, there were conflicting accounts describing the competition of resources across jurisdictions. There also was some resentment that many volunteers preferred to assist in Toronto as opposed to York Region. When asked if assistance was offered or shared, each jurisdiction provided a conflicting account illustrating rival perceptions. A similar sentiment was expressed between provinces.

The most contentious issues included certain officials’ mismanagement in gathering epidemiological statistics and the competition of how certain professions would respond. The first instance provides a well-documented concern over the management style of certain official/s in amassing data on individuals within each case definition category and in quarantine. As a result, “[c]ivility was reportedly a casualty of [the] dogged fight for data.”272 The Campbell Commission also highlighted this concern instigating that the “lack of a single, effective, accessible information system, combined with the constant, intense demand for information from a number of different people and groups, resulted in chaos.”273 Though intentions were not maligned, the questionable tactics employed to retrieve information only mismanaged people, resources and systems in a way that further stressed responses and systems. This resulted in contributing to distrust, resentment and ultimately collateral damage as previously discussed.

Another instance provided an account that had been described by several respondents with regard to interacting with unions. This was particularly evident with nursing unions where labor disagreements were debated mid-crisis as a result of their exclusion from decision making tables, perhaps unintentional, early in the response. Most concerning was how the unions had the threatening power to prohibit employment without evidence-base ensuring occupational safety. An alerting point is that power differentials were used as a result of the desperate need for frontline responders. Yet, their objective was to ensure the collective safety of their members. The obligations clashed and resentments continue to persist. This reinforces the importance in developing social capital and building relationships well-in advance of emergency events.

Lastly, there was some conflict between jurisdictions in sharing epidemiologists. The data highlighted the desperate need for epidemiologists which were provided by the federal government through Health Canada. However, themes of competition emerged between some local jurisdictions and provincial levels in utilizing the much-needed epidemiologists. Resentment ensued. As a result there is a need to delineate clear resource sharing commitments to avoid these contentious issues mid-crisis.

The data highlights that there may be “legitimate uses of institutional power differences;” and this may facilitate efforts during a public health emergency.274 That data illustrates that both were exhibited in the response. Maximizing fairness in procedural decision making early on would minimize the instances of negative power, thus resentment and defiance mid-crisis. While “[d]ifferent strategies may be necessary … to address the … power differences … to ensure fairness … [not] all power differences must be eliminated in order for priority setting processes to be fair. Fairness is best understood, not as an either-or-phenomenon, but instead as a matter of degree.”275
5.2 Collateral Damage

Though SARS was in the end controlled and managed within 6 months, the success did not come easily. There is no doubt, the “lack of a plan, combined with prolonged neglect of public health and infection control programmes and a decentralized health care system meant that extraordinary measures had to be applied to control the outbreak.”

There is no denial early on regarding the potential risk SARS posed. This is evident through the data of the intentional decision to apply more draconian measures and react immediately without wasting any additional time. To many officials, time essentially meant the potential to lose innocent lives. There seems to be a deliberate, strategic intention to overreact. “Whereas, as a whole, these emergency decisions were successful in controlling the outbreak, they also created repercussions that may not have been apparent or considered when these outbreak-focused policies were initially developed.”

Furthermore, it was evident according to the data, “individual interests … yield[ed] to collective needs.”

With all this, there is no indication that a less aggressive approach may have prolonged the outbreak into subsequent waves. All that is clear is that SARS in Canada concluded at the 2nd wave in nearly the same time that it took other affected countries to also bring SARS under control. The greater question remains: Is it justified to trigger a response to an unknown threat with such deliberate hastiness knowing that the collateral consequences are sure to trigger various degrees of economic damage, psychosocial burden, damaged trust, stigma, resentment and disruption to critical health infrastructure in exchange to potentially save lives?

5.2.1 Economic Impact

Certainly, “[t]he human and economic consequences of the SARS outbreak in Toronto have been far-reaching.” The April 23rd WHO travel “advisory against travel to Toronto,” greatly impacted the “tourism industry [which] lost $260 million (Canadian), and 11 percent of businesses related to tourism reported layoffs.” Moreover, the estimated “government costs of coping with SARS … [is] at $1.13 billion (Canadian).” Despite these economic totals, nothing could conceptualize the loss of 44 lives and the lasting negative impact on thousands more.

The data illustrated several types of economic impacts which varied according to the time in the outbreak. The discussion is divided into early response phase: SARS I, later response phase: SARS II and the recovery phase.

Early in SARS I, it seemed like the availability of money was never an issue. Money was essentially thrown at the outbreak. Fortunately for many of the affected local areas, the province declared an emergency, thus fast-tracking the ability to justify unprecedented financial reallocation toward the response effort. Local authorities were instructed to spend whatever they needed, but to act quickly to attempt to control the outbreak. The financial request process was essentially inverted: spend now, ask later; essentially running up an outbreak bill. Several respondents expressed amazement at the availability of funding, thus empowering them.

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a (not used in the negative connotation, rather indicating the degree to set the response)
However, this sentiment began to change later into the response of SARS I. Respondents described an entirely different attitude once officials caught up to calculating the cost of their earlier efforts. The perception of complete support shifted abruptly. Individuals were instructed to cut back overtime, to limit spending and to reinstate fiscal constraints. Some frontline responders expressed concern at the cut-back, thus highlighting the perceived disconnect with decision makers. While the request to control costs may have been justified and appropriate, it was the manner it was communicated that may have been concerning. The lack of tactfulness and respect may have exacerbated resentments and damaged relationships. Moreover, the abrupt pull back disrupted the response momentum.

There were also contentious issues surrounding compensation during the response. Some responders were issued overtime and some were not. Some even received double and triple pay during the overtime. While others expressed anger at unequal pay for the same position or function in different jurisdictions. In addition, there were unequal compensation concerns between existing employees and new hires; particularly for similar positions. This also raised the general moral consideration of distributive justice and fairness where some health workers were offered greater pay to serve in SARS wards with heightened risk to themselves. This introduced concerns with the “duty to care” and if there are limits to the obligation.

By the time the second wave of SARS arrived, many had thought the outbreak was over and the declaration of emergency was retracted. However, it was never reinstated for SARS II. The data suggested that the availability of resources was not the same, despite an improved familiarity of the rules and players.

After the outbreak, during the recovery phase, there were compensation concerns between the province and the federal government. One respondent touched on the in-fighting to receive federal assistance with the costs of the emergency. It was also in the recovery phase that the City of Toronto realized the degree of economic loss incurred from the travel advisory. The cancellations of conferences, the slow-down of tourism and the loss of revenues from movie production and filming together proved to be detrimental. In fact, it was nearly 3 years later that the city reached the economic productivity pre-SARS and post-9/11.

5.2.2 Psychosocial Burdens

The data suggested that the first wave brought out the best of people where the second wave brought out the worst in people. Burnout was common and emotions were repressed. The importance of civility was apparent not only during the response, but especially after the outbreak during the recovery phase. The combination of high degrees of risk, uncertainty, rampant misperceptions, limited transparency, confusion and conflicting interests all within a condensed time frame tested peoples’ patience. Moreover, the lack of any advance preparation for such an event may have contributed to “personal variables that contributed to adverse outcomes were maladaptive coping through avoidance, hostile confrontation and self-blame, and in the instance of general psychological distress.” In many cases this only alienated work relationships resulting in lasting effects well beyond the end of the outbreak.

The data clearly indicates the degree of psychosocial burdens and post-traumatic stress among many of the responders. More importantly, it is clear that even 2-3 years subsequent to the outbreak, the affects linger. Many respondents touch on the lack of addressing the psychosocial
burdens without further propagating stigma for those who seek such services. Simply put, people continue to look for an opportunity to partake in a safe environment to talk and share their experiences without fear of it affecting their reputations, perceptions, professional positions and families. The level of distress was so great, that the burden extended well beyond professional contexts and into personal lives. Families were clearly impacted. Assistance was difficult to come by for individual responders, let alone the families of responders, survivors and lost ones alike. Some of the most poignant descriptions from respondents regarding the psychosocial issues that remain include descriptions of HCWs who were caring for their own and in some instances lost colleagues in the process.

The burdens of SARS seemed to stem more from the epidemic of fear and uncertainty than an epidemic of a viral infection. There is no doubt, “[p]atients, doctors and nurses in hospital intensive care units (ICUs) arguably bore the brunt of the SARS epidemic more acutely and painfully than most other groups, especially in geographic hospital ‘hotspots’ such as Toronto.” As a result, the concept of SARS fatigue recurred through respondent interviews describing HCWs, public health practitioners and paramedic units. This is particularly concerning since “burnout has been identified as one of the most substantial health-related problems facing nurses” and other health related professionals. In fact, a study examined “high levels of burnout, psychological distress and posttraumatic stress” resulting from the SARS response and confirming the findings from respondent interviews. Furthermore, the study suggests that “[s]ignificant emotional distress was present in 18-57% of HCWs and was associated with quarantine, fear of contagion, concern for family, job stress, interpersonal isolation, perceived stigma, conscription of non-specialists into infectious disease work, and attachment insecurity.” This is also highlighted in the data. Several respondents described changing professions and no longer wish to be involved in infectious disease, particularly as a human influenza pandemic looms on the horizon.

Yet, some of the measures to alleviate the psychosocial burdens were informal and not adequately addressed. It is unclear why there seemed to be few attempts at “understanding the enduring occupational and psychological effects of working during the SARS outbreak.” In fact, these unsuccessful attempts only exacerbated the pain for many and unleashed secondary-like affects alienating relationships and perceptions well-beyond the outbreak. The data suggested the most successful attempts to dealing with the psychosocial burdens were provided by some hospitals to their healthcare workers. It has been suggested, that HCWs who “perceived adequacy of training, moral support and protection were associated with better outcome.” While some respondents mentioned post-traumatic stress disorder (PTSD), I am reluctant to verify such diagnoses and will leave that to professionals to make this determination. There is clearly evidence of post-traumatic stress among many that continues today.

The time between SARS I and SARS II only provided an intermission of what was to come. The descriptions of the recurrence clearly highlighted the emotional turmoil and disbelief many experienced. The recurrence reminded many that they remain vulnerable and largely demoralized. Respondents describe the second wave of SARS as losing its novelty and leaving individuals bitter. While many focused on exterminating the threat in SARS I, they later sought blame for the recurrence in SARS II. This altered the dynamic of the response, thus affecting performance. The environment was not as congenial as SARS I.
Infection control in a society that is highly permeable to the ebb and flow of people between different societal niches further complicated efforts to conduct contact tracing, anticipate infectious disease patterns, and coordinate with officials overseeing other jurisdictions to ensure parallel efforts (synergies) at containment. Despite this realization, the difficulty to work across jurisdictions only added to the stresses and frustrations, particularly within contact tracing and case management. A sense of abandonment seemed to permeate among the frontline responders. Though there was a concern by many officials that nurses and healthcare workers would abandon them during SARS II; it ended up being the other way around. Their psychological needs were unmet and seemed to be largely ignored.

Although “SARS … was acutely stressful, the longer term impact of SARS on HCWs is unknown.”\(^{289}\) The data suggests that “[a]nger and blame directed toward others (hostile confrontation) or oneself (self-blame) … [may] be reduced in a working environment that fosters positive working relationships through effective leadership”; thus, highlighting the importance of clear leadership.\(^{290}\)

### 5.2.3 Damaged Trust

Damaged trust resulted throughout and beyond the outbreak response into the recovery phase. There were several key examples of behavior that instilled distrust, only damaging perceptions, performance and camaraderie.

One instance is illustrated in provincial attempts to gather epidemiological data. There was widespread concern over the duplication of efforts at the provincial level to collect data from health units and hospitals. Early on, this contributed to the confusion of individuals and responders. However, when many began to realize the tactics being employed, it only added to resentment and distrust. The Campbell Commission also highlighted this finding. The Commission described the “[c]onfusion, duplication, and apparent competition prevailed in the work of those in the central apparatus who sought information from local public health units and hospitals. These unfocused demands consumed valuable time of public health and hospital staff, distracted them from urgent tasks at hand, and impaired their ability to get on with the work of fighting the disease.”\(^{291}\) The Commission continued to describe similar findings from the data indicating that there “was no order or logic in the frenzied, disorganized, overlapping, repetitious and multiple demands for information from hospitals and local public health units. Requests would go out simultaneously to many people for the same set of information. The work of frontline responders in hospitals and health units was seriously impaired by this constant and unnecessary harassment.”\(^{292}\) In addition, the large quantity of information available that required organization combined with the “failure to prioritize public health emergency preparedness [particularly the need] to devise one central system for the collection and sharing of infectious disease data was a major problem during SARS … [and only contributed to the] proliferation of data systems, and the confusion and burdens it created, was an inevitable consequence of Ontario’s lack of preparedness for a major outbreak of infectious diseases.”\(^{293}\)

The second instance depicted the widespread concern at receiving reasons for the decisions or directives for implementation. Local responders reflected dismay at provincial directives. They recognized significant operational gaps. Gaps that did not provide them (paramedics, epidemiologists, nurses, physicians) with guidelines for their field operations during SARS leaving them bereft of essential directives for their businesses while minimizing their exposure to
occupational hazards compounded existing stresses. It resulted in uncertainty between the obligation to the community to respond to in-coming medical emergency calls (SARS and non-SARS) and the obligation for first responders to have safe working conditions. “Public accountability … imposes an obligation on decision makers to provide honest information and justifications for their decisions.” However, this was not always the case during SARS. As field responders received new directives, they immediately recognized discrepancies. Early on when they attempted to communicate their concerns or receive rationale for the decisions, they were not always well received.

One study highlighted that while “measures to increase personal safety were welcomed … the reassurances that did not always match infection control directives raised concerns about whose information, among infection control and public health colleagues, was most reliable. Healthcare workers suffered from lack of accurate information because the nuances of this strange new epidemic were not fully understood. Media reports further contributed to confusion and the lack of trust by sensationalizing world events, with daily headlines reporting the number of suspected and probable cases, the number of dead and the number of health care providers succumbing to the illness.”

Another instance of damaged trust may have occurred as provincial authorities flew to WHO headquarters to provide evidence that the outbreak was controlled. While this resulted in revoking the travel advisory, the occurrence of the second wave shortly thereafter may have damaged Toronto’s credibility.

Several respondents discussed how some political leaders recognized their own expertise limitations in managing the response. Therefore they were receptive to providing resource needs (i.e., emergency declaration enabled this) while deferring responsibility of management to public health and medical experts. This instilled a trust that was critical to the response. For some, this trust was trickled down to how they interacted with other decision makers and local jurisdictions. For others, this was not the case. As a result, trust was severed and ultimately resentment began to take its toll. This insidious cycle between distrust and resentment was not confined to certain individuals or groups. It permeated throughout groups as resources were constrained, stresses continued to rise and attitudes shifted. Consequently, responses were affected.

5.2.4 Stigma

“Both the fear of people who are different and the fear of disease can lead to social stigmatization. Occasionally these fears co-occur, resulting in severe stigmatization of strangers with diseases. Such stigmatization can increase the adverse consequences of a disease in multiple ways.” These concerns became a reality during SARS. According to the data, stigma emerged from several categories: individuals, institutions and geographical locations.

SARS stigmatized two primary groups, those of Asian descent and healthcare workers. Considering the awareness of SARS erupting out of China, several respondents described the impact upon Asian communities and individuals throughout the GTA. The panic, fear and uncertainty over a threat that was killing innocent individuals, instigated many to identify a scapegoat, which became the Asian community. This resulted in unfounded, generalized and discriminatory attitudes toward these individuals as illustrated by the data. Though SARS was predominantly nosocomial, the few instances of a community outbreak involved a large religious
community comprised of mostly Asian descent. The combined realization that the nosocomial and community outbreaks were triggered by those of Asian descent, combined with how the media presented this further, perpetuated the stigma. This stigma also economically impacted Asian business owners (e.g., restaurants, stores), leaving them rarely visited and severely impacted. During the response, there were even some concerns with the “[n]egative public reactions, such as stigmatizing persons at risk for the disease, may greatly hamper prevention and treatment efforts … [where] persons with or at risk for the disease may avoid seeking health care, making it much harder for public health authorities to control the disease.”

In addition, healthcare workers and public health practitioners were also negatively impacted and stigmatized. The data illustrates, for example, the difficulty for nurses to receive daycare for their children so that they may continue to provide services and care during and well-after the response. There were other instances the children of nurses and physicians experienced stigmatization in schools. The fact that “professionals and volunteers working in the field [were] becom[ing] stigmatized, [led] to higher rates of burnout,” thus only contributing to fatigue and psychosocial consequences. One respondent even described anxiety that the public would identify them as a SARS responder due to the bruise on their nose from long continual usage of an N-95 respirator.

But the most troubling instances of stigma emerged from the data where those individuals who were both healthcare workers of Asian descent. The combination of the two placed an undue burden upon them forcing many to be on the receiving end of discriminatory attitudes and blame, despite their committed efforts during the response and even after the response phase.

Interestingly, institutions were also stigmatized. The data highlights this through the designation of SARS hospitals and hospital closures. During the first phase, SARS hospitals were identified as those who experienced cluster cases. However, during the second phase, there was a move to deliberately identify several hospitals as SARS hospitals. This was an attempt to contain and consolidate the risk to a few hospitals rather than run the risk of perpetuating infections throughout most of the hospitals in the province. This further facilitated efforts to target resources to a few hospitals than system-wide. However, many hospital CEOs were not included in the decision making tables in discussing the possibility of receiving the SARS designation or were closed due to cases; though several were included. All CEOs were opposed to the idea, predominantly for fear of being stigmatized by the community well after the outbreak.

Other institutions affected included manufacturing companies in the private sector. One respondent described how the stigma of SARS impacted trade. Companies were fearful that receiving manufactured products from Ontario would introduce SARS to the recipient a thousand miles away, thus negatively impacting business. In addition, there were instances of private companies refusing to offer services (e.g., phone repairs, catering food), despite assurances to exposure to clean areas in a SARS clinic in a local jurisdiction due to the fear and stigma of SARS. One instance even described the difficulty in receiving a hazmat team due to the breaking of mercury thermometers in a SARS clinic.

The final category of stigma is geographic location. This resulted primarily from the WHO travel advisory on the City of Toronto, which essentially sent messages worldwide to not travel to Toronto. This “stigmatization … generate[d] considerable economic losses [and instructed others to] avoid groups or geographic areas associated with the disease.”
5.2.5 Resentment

The emergency context seemed to take individuals to the extremes of interpersonal relationships, professionally and personally. Perception became more dominant and magnified as the rush and change in attitudes began to take a toll on responders; more importantly, misperceptions proved to be the culprit in alienating and straining relationships and intentions and contributed to a parallel emotional, physical and mental burnout.

During the response, the perceived notion of unfair redistribution of additional resources, particularly volunteers of public health professionals (public health physicians, nurses, epidemiologists) between the affected neighboring jurisdictions in Ontario only further nurtured a deep resentment; particularly when considering that they were similar to the number of SARS cases with a greater relative proportion affected by the smaller jurisdiction though the risk for continued spread was increased in the more heavily population area. This only resulted in continuing with the burden of the SARS response on fewer shoulders only contributing to the burnout, fatigue and resentment.

Perhaps if relationships were better developed between the two affected local jurisdictions pre-SARS, communications, perceptions and work fluidity may have been enhanced rather than inhibited. In the context of neighboring jurisdictions working in silos pre-SARS and introduce a high-risk emergency with an unprecedented degree of uncertainty, confusion and vulnerability, will result in a chaotic event where competition rather than cooperation takes precedent. However, when the larger jurisdiction was asked about sharing desperately needed resources with the smaller jurisdiction, there was no indication of deliberate intentions. The data indicates that since they were not asked directly, they presumed there was sufficient assistance, and they were so heavily involved in their own response and did not realize the developing perception from the other affected area. A similar sentiment was expressed by British Columbia about sending additional resources to Ontario … they indicated that they too were dealing with their outbreak but there were some individuals who were sent. The question raised concerns with credentialing individuals, particularly with professional licenses, across provinces. Interestingly, this was also expressed between local and provincial jurisdictions. The data indicates competition for much-needed resources between the two also strained relationships and further instigated resentment.

During the response phase, the sense of resentment also emerged from two categories of respondents post-SARS. One respondent expressed feeling unappreciated during and after the response effort. The sense of being overlooked in receiving just a simple acknowledgement provoked perceived notions of unfair treatment, only fueling resentment post-SARS. The second category of respondents expressed frustration at the gifts received. Malcontent was evident during the ‘gift-giving’ period. The unfair distribution of gifts, for example those who receive spa package as opposed to simply a t-shirt, also experienced resentment toward their superiors, employers and even other responders. This suggests that the outbreak was contained by the collective efforts including the unsung heroes who sacrificed much without proper recognition.

Resentment continued to emerge during the recovery phase where efforts at debriefing were unsuccessful. This only fueled perceptions of unappreciation. Several respondents described an informal attempt to de brief, though it resulted into more of a bake sale, and how the communication of the leadership from the organization only worsened sentiments post-SARS.
Comments of the leadership expressed that they understood the hardship that their employees endured. Though unintentional, this only trivialized the sacrifices and efforts of frontline public health practitioners, whom reacted adversely to the comments. This was particularly disturbing considering that many public health practitioners remained committed on their obligations despite extreme levels of distress, vulnerability and chaos. Analogous to military brass communicating with soldiers who have been through the heat of battle ‘we understand what you’ve been through’ only trivializes their experiences. Each situation is different and the experiences of the brass in decision making do not compare to the experiences of soldiers in the battlefield enduring the risk and inevitability of death. Enduring intense hardship and empathizing with soldiers when you are located in a distant office making decisions, only discredits them in the eyes of their soldiers. There is a greater deference to the officers that accompanied them in the battlefield.

The absence of formal professional attempts to adequately respond to the psychosocial burdens only allowed resentment to continue to fester for years after the outbreak. This illustrates how these perceptions damaged performance: during and after the response. Front-line responders would be more effective if general moral considerations such as justice, fairness/equity and transparency were properly applied during the response.

Understanding the logic behind the reason for many of the decisions was missing. Many respondents resorted to demanding that decisions and directives from the province be implemented; rather than taking the time to explain why the decisions are such. “Public accountability … ensures that … trade-offs will be made openly, with an explicit acknowledgement that individuals’ fundamental well-being and values are at stake and that reasons, grounded in ethics, will be provided to those affected by decisions … [i]t provides a basis for public trust, even when policies infringe or appear to infringe some general moral considerations.” Despite this, reason-giving was compromised due to the unprecedented nature of the outbreak and the chaos that ensued, though this does not justify the lack of providing rationale. This contributed to resentment and alienation, which only damaged the “metaphor of care”.

This may further the rift between the workforce during the SARS response and even after the outbreak. The burden of sacrifice seemed to be unfairly distributed among health workers and the negotiating parties, thus potentially compromising commitments for future responses. This was also further reinforced by the findings in the Campbell Commission describing that “[m]any of those who came forward to work at the provincial level during SARS were disheartened by the problems they saw and few expressed doubts whether they would be willing to come forward again, particularly if the problems are not addressed.”

5.2.6 Disruption to Critical Health Infrastructure

The data indicates a wide array of system disruption throughout the healthcare system in Ontario. Respondents consistently highlighted altered business models and disrupted services in an effort to shift resources toward the SARS outbreak response. According to the data, disruptions occurred within hospitals and long-term care facilities, public health units and throughout the EMS system and paramedic services. The interdependent nature between medical care, public health and EMS meant that a disruption in one triggered disruptions in all. Yet, as the data
illustrated, silos existed between organizations, jurisdictions and professionals; thus limiting their ability to establish a rapid multi-front strategy against the outbreak threat.

The occurrence of nosocomial patterns resulted in limiting access to the healthcare system for non-SARS related cases in the GTA. “Obviously, the most serious implication of the limited-entry strategy was to deny or delay patient access to medical care for several months. The disruption in the continuity of medical services within the health system and particularly hospitals “resulted in delays in treatments for cancer and surgeries”302 Furthermore, “[c]ancer treatments were deferred and elective surgeries, clinic visits and diagnostic tests were postponed.”303 This unprecedented disruption also resulted “in the virtual closure of many large tertiary-care hospitals, the foregoing of services to non-SARS patients, the implementation of stringent infection control measures within hospitals, and the marked alteration of the usual practice and operation of health care facilities.”304 The data indicated that the decision to close hospitals and to identify certain hospitals as SARS hospitals was not easy. However, it was essential since the consequences of not doing so would have proven to be worse. Although the long-term impact of this decision is still underdetermined, it is conceivable that this delay could have had a large impact on individual outcomes. For example, in the [GTA] for the month of April 2003, the mean number of patients awaiting cardiac surgery increased 15%, the number of cases completed decreased 40%, and cancelled cases increased 254%.”305

In addition, hospitals became crippled due to several staffing habits as a result of a culmination of distresses and vulnerability issues. First, hospitals were staffed at capacity; however, many of the nurses, for instance, worked at multiple facilities. Previously, this did not seem problematic. As hospitals identified SARS clusters, they prevented staff from further propagating the spread. Healthcare workers were strictly prohibited from working in multiple facilities – which left many hospitals understaffed. Furthermore, many healthcare workers became patients in the facilities they served, which again severely cut staffing needs. Finally, if healthcare workers were potentially exposed, they were required to be quarantined. To make matters worse, many healthcare workers were not working under the impression of occupational safety; rather the psyche of working under occupational hazard despite the provision of PPE. To respond to the extreme staffing shortages and the heightened staffing need, many institutions instituted a controversial decision to introduce ‘work quarantine’. This provided a means of staffing and institutions grouped quarantined employees collectively to serve on SARS wards. This only instigated some to challenge their duty to care as healthcare workers in exchange for personal safety. The combination of all these forces only intensified the burden on the remaining healthcare workers who were subjected to grueling work conditions, many times caring for their own and at times losing colleagues.

There is no doubt that this experience has illustrated that “attention must be paid to the needs of non-infected patients requiring urgent medical care; that is, the need for delivery of cancer services, cardiovascular services, and general primary care should be provided or there should be means of providing such care. Health planning and actually the design of institutions may need to reflect this.”306

Public health services were severely disrupted as well. This was primarily due to the need to shift finite resources away from other essential programs toward the response effort. The data illustrates the extent of suspending many programs, including case management of other diseases such as hepatitis and how many programs did not fully recover even after 2-3 years after SARS.
The respondent described the challenge in identifying pre-set priority programs to determine which programs to cut. Many times, those mandated by laws identified the priority programs such as the healthy babies program which continued through the outbreak. This also resulted in reallocating staff of cut programs to contribute to the SARS effort. Many times, this was not voluntary and many did not respond well to this, while others rose to the challenge. Like medical care, extreme staffing shortages stifled public health capabilities to keep up with the threat. The greatest need was in seeking epidemiologists, public health nurses and public health physicians. Understaffing concerns were raised multiple times previous to SARS as described earlier, however, public health continued to meet its obligations under funded and understaffed. Add SARS, and this illustrates the eagerness of the provincial government to provide exorbitant funding to bolster response efforts.

The EMS system too was impacted. Serving as gateways to hospitals, their business operations needed to be resilient as hospitals shut down. Considering their importance in transporting patients throughout the health system and community, hospital closures resulted in longer patient transport times to seek unaffected hospitals. However, hospital closures within medical care prompted staffing shortages within paramedic units. Subsequent to a hospital shutting down due to a confirmation of SARS clusters, this required paramedic units to identify any paramedic who entered the hospital within a certain time period and to quarantine them. The data illustrates that nearly half of the paramedics would be required to undergo quarantine as a result of one hospital closure. Like medical care, paramedic networks implemented ‘work quarantine’ and required all employees to be supplied with PPEs. ‘Work quarantine’ provided the means to continue services. They paired quarantined paramedics together to respond to SARS calls, while ‘clean’ paramedics continued to respond to non-SARS emergency calls. As the data indicates, EMS managers made clear that one of the critical priorities was to ensure the safety of their paramedics in the field and provided a ready stream of daily communications and PPEs.

There is no doubt that “SARS brought one of the finest publicly-funded health systems in the world to its knees in a matter of weeks.” The degree of impact of SARS on public health services has yet to be determined.
5.3 Recommendations

According to the data, it is evident that there was little time in the response to coordinate efficiently, let alone ensuring the facets of ‘accountability for reasonableness’ and empowerment. Though there was some evidence of some attempt to address the values of the conditions, the data resonates with a message of widespread insufficiencies. In addition, interdependence between the conditions seemed to be evident. Some conditions were stronger than others, indicated that they may be differentially weighted. But breaking up the conditions enshrined in the framework to fit in the decision making process of an emergency response would only undermine the true value of the framework and its iterative nature.

Ultimately, A4R is not and would not be properly applied mid crisis, particularly for responding to a public health emergency. The data indicates the formal application of the conditions of A4R+Power was not practically applied during the SARS response, nor would I suggest it to be without proper advance planning, understanding and familiarity. While it may be argued that the unfamiliarity of the framework in advance of SARS may be reason for the lack of formal application, it would be difficult to conclude that the framework would be best applied within an emergency context. The framework’s espousal of democratic values within decision making requires barriers to be minimized so as to provide opportunity of all affected stakeholders to engage in iterative deliberations of identifying common priorities while overcoming conflicting interests requires a luxury that emergencies do not provide: time. However, the data provides clear evidence of the need for the principles enshrined in the conditions.

An emergency event does not compliment the framework due to the heightened sense of risk and stresses. The conditions of the SARS emergency proved to be prohibitive for the application of A4R and A4R would likely prove to be prohibitive in enabling quick decisive action without advanced preparedness. An emergency requires deliberate action more so than deliberative processes. This does not exclude the consideration from A4R all together for emergency events. Rather, the data indicates the need for such values during such an event as previously highlighted. Ethical values are needed, perhaps more so for emergency events, suggesting a more practical application of the conditions. As a result, I arrive at several constructive conclusions:

1) That A4R+Power be implemented in the preparedness, mitigation and recovery phases of an emergency event and not the response phase; thus
2) Stress the importance of advance planning for emergency events in an effort to minimize collateral damage and bolster collaborative and participatory preparedness, mitigation and recovery.

The confluences of uncertainty, stress and urgency only exacerbat e the complexities of decision making, particularly group decision making, and often time contributing to collateral damage. As one report highlighted the “SARS outbreak was moderate in size, in part because effective actions were taken to contain its spread and also because the causative agent was less contagious than previously presumed and compared to other respiratory and enteric viruses. Its social and economic impact, however, were enormous, and its collateral clinical consequences [continue to be] measured [even well after the outbreak].”308 The SARS outbreak immediately triggered a domino effect, disrupting the normal functioning of systems including healthcare, public health,
EMS as well as other non-health related fields. Collateral disruptions rippled through school systems, faith-based services, airline travel, tourism and even banking systems.

Some would argue that emergent circumstances should not be weighed down with considerations ensuring ethical conduct and processes; however, when the potential for harm is high, there is a greater justification for ensuring ethical conduct. Ignoring ethical assurances during an emergency scenario would not be in the interests of the public, especially decision makers. From recent experiences, accountability issues resulting in response failures take place in the so-called *fallout*. In the absence of an ethical framework, decision makers will find it nearly impossible to justify their good intentions when the media portrays them otherwise. However, having a sound ethical framework that is closely adhered to during the response would assure the public; those within the organization and the media that all efforts were made to protect and bring order to chaos. The extent that an ethical framework could help guide and protect decision makers should not be the only reason for its implementation. However, use of such a framework should maintain a core focus on minimizing harms and protecting public welfare. Reaching beyond these principles quickly risks unintended contradiction in decisions and actions.

### 5.3.1 A4R+Power: Find Best-Fit

Questions remain as to how best minimize fragmented responses. A reexamination of the emergency management cycle identifies that there are opportunities where A4R+Power would fit, particularly in the non-emergent phases.

The phases of the emergency management cycle reveal two defining dynamics: civilian and militaristic. The militaristic characteristic is evident in the response phase where command and control systems centralize authority to facilitate the coordination of efforts, exhibiting a strong top-down approach. Contrary to this, the preparedness, mitigation and recovery phases represent non-urgent contexts dominated by civilian and democratic bottom-top dynamic. With this, A4R+power is best applied within these civilian contexts.

Deliberative discussions over substantive issues through a procedurally fair process will facilitate efforts to vet lessons, concerns and perspectives in preparing for the next emergency. Fragmented preparedness efforts will lend toward fragmented responses. Fragmented responses will contribute to collateral damage.

It is understood that when “federal, [provincial]/state and local governments’ approaches to emergency management diverge, the overall emergency management effort is subject to vertical strains. And when separate entities view emergency management from their own frames of reference – leading to conflicts across departments and between neighboring jurisdictions, for example – the result is horizontal fractures in the overall emergency management effort.”

In order to minimize this dynamic, a common intent needs to be
established “to achieve co-ordinated action.”310

The complexity of an emergency is dynamic, requiring a high degree of organized participation, mutual understanding and an investment in social capital (relationship building). “Coordination is often characterized by multiple stakeholders who need to work together but also have some competing interests. Competing interests – motives, perspectives … – in organizations are perhaps more common than not.”311 “Conflict arises from resource limitations, high-stakes consequences, uncertainty, goal conflict among stakeholders and hierarchical organizational structures.”312

It is in the best interests of all parties to invest in “coordinating [these competing and mutual] interdependencies”313 in a space that affords the luxury of time – during the mitigation, preparedness and recovery phases of the emergency management cycle.

5.3.2 Proposal for a New Priority Setting Paradigm

Many said never again following the fallout of SARS; never again to allow such an event to catch them off-guard and ill-prepared, never again to allow fragmented efforts to limit response efficiencies and contribute to an unnecessary high degree of collateral damage. As a result, coordinated efforts have come together to take advantage of planning ahead of time for future threats. Lessons continue to be examined as reforms are implemented. As such, preparedness and mitigation do not have finite limitations and should, in theory, be constant until an emergency event triggers a response. However, as time continues to pass over 5 years later, complacency begins to take its toll despite continued post-traumatic stresses among many responders. The Campbell Commission warned “[i]t would be very easy, now that SARS is over for the time being, to put public health reform on the back burner. It is a general habit of governments to respond to a crisis by making a few improvements without fixing the underlying problems responsible for the crisis. It would be a tragedy if that turned to be the case with SARS.”314 These “underlying problems will only be solved by a reversal of the neglect that has prevailed for so many years throughout the regime of so many different governments headed by all three political parties.”315 At the same time, it is critical to recognize that there are “[m]any diseases [which] produce more sickness and mortality than SARS, and the task of plugging the holes demonstrated by SARS cannot be permitted to distract public health from the task of preventing those afflictions that comprise a higher burden of disease than SARS and other infectious diseases.”316

Failure to meet the conditions of A4R+ Power, let alone the underlying values of fairness and legitimacy, illustrates the need for advance planning. Though it is important to note that the “downstream effects that occurred [during SARS] occurred as a result of substantial deficiencies in the [public health and] health care systems could not have been averted by planning alone.”317 However, advance preparations for natural or manmade emergencies may reduce the degree of collateral damage and afford time to deliberate with various stakeholders on common moral principles that may guide their future decisions supporting response efforts. For example, “effective moral or psychological support typically occurs in the context of trusted professional and institutional relationships, which should ideally be established before the outbreak situation.”318 It also allows exploration into how decisions will and should be made in future emergencies, thus minimizing collateral damage. Any advance planning is better than none.
The Campbell Commission Report, among one of its findings, stressed the importance of advance planning. The Commission highlighted that “[h]ad a pandemic flu plan been in place before SARS, Ontario would have been much better prepared to deal with the outbreak. The failure to heed warnings about the need for a provincial pandemic flu plan, and the failure to put such a plan in place before SARS, reflects a lack of provincial public health leadership and preparedness.” The Commission continues to support advance planning in various aspects of the response including but not limited to communications, coordination, information flows and surge capacity. With regard to communications, the Commission advocated that “[w]hat is needed is a pre-planned public health communications strategy that avoids either of these extremes … On the one hand, if there are too many uncoordinated official spokespeople the public ends up with a series of confusing mixed messages. On the other hand … any attempt to manage the news by stifling important sources of information will not only fail but will also lead to a loss of public confidence and a feeling among the public that they are not getting the straight goods or the whole story.” The findings continued to highlight that “[w]hen SARS hit Ontario, the Ministry of Health’s Public Health Branch was totally unprepared to deal with an outbreak of this nature. To start with, it had no functioning epidemiological unit (Epi Unit) … Although an Epi Unit was cobbled together as the outbreak unfolded, its work was hampered by the lack of planning and support systems … and the lack of planning meant that the core expert groups had to be thrown together in haste without adequate planning or organization.” And with regard to surge capacity, the Commission highlighted that “SARS demonstrated the need to create surge capacity by planning in advance so that every available worker can be redeployed where necessary.”

Without advance planning, decision making groups during a disaster will quickly find themselves barraged with almost insurmountable pressure, expectations, conflicting interests and stress. Some of those issues could have been addressed prior to the crisis, thus enabling decision making efforts to focus on unanticipated challenges. Considering that the “outbreak management protocols were developed in ‘real time’ … [t]his meant the protocols could not be widely disseminated for discussion before release, and potential problems were often not detected until attempts were made by facilities [and front-line workers] to put them into practice.” This is more warranted in emergent events and “take this into account in tasks where the available time is limited since the establishment of constructs/common ground demands time as well as resources. In organizations that have time to prepare themselves for a situation, this is often done through training and other forms of interaction, giving a basis of understanding that allows the participants in the activity to focus more on handling the current situation.” However, a society that has previously experienced a disaster event and makes every effort to incorporate lessons learned will be better prepared than one attempting to plan based on information and guidelines uninformed by historical experience. “Since typically in-the-moment collaboration involves discussion, misunderstanding and miscommunication can spark conflict. People are likely to be biased in their own interest, and their limited resources, different perspectives, ‘turf’ and control, prestige, and incompatible personalities can exacerbate conflict.”

As simple as it may be, advance planning is critical to ensuring that priorities will be in place and systems are ready for the next event. This will warrant a sustained investment of time, efforts and resources. Perhaps the best place to begin following identifying lessons is to set priorities and to better understand this process to enhance application regardless of the emergency phase.
In other words, to identify priority setting as a priority. How to best operationalize will require a re-examination of priority setting of “not only the mechanical articulation of activities and efficient prioritization of resources, but also their companion social processes.”

Perhaps the first step in enhancing priority setting efforts is to dissect out its basic processes: decision making and resource allocation. This deconstruction will facilitate examining and evaluating the appropriateness, necessity and function of each process to guide action (aka, the allocation of resources to support decisions). Deconstructing priority setting will contribute to a better understanding of the interdependencies between decision making and resource allocation. It is the interface between these two mutually inclusive processes that may reveal vulnerabilities that warrant greater attention.

The inherent barrier may be that “people don’t typically make the distinction between deciding and acting, because what you do and the decision on what to do are wrapped in the same mental package.” This is further complicated when “there are multiple stakeholder and decision-making groups … the decision [ought to be] very distinct from action.” This analysis recognizes the prominent roles of decision making and resource allocation within priority setting. Adopting this understanding of priority setting explicates the interdependency of these processes, resulting in an enhanced understanding of their interplay. “Ironically, while multiple participants make the job of getting things done easier, it is actually more challenging [in the] decision [of] what to do.”

While much of the literature refers to priority setting as who will receive access to particular resources (i.e., antivirals, vaccine, etc.), also referred to as rationing, it fails to recognize the full scope of priority setting. This myopic perspective of priority setting may limit its fundamental understanding and a true evaluation of its application and performance. While the concept of rationing is part of the priority setting it does not define priority setting.

While this analysis advocates for a paradigm shift in priority setting towards a model distinguishing between the deciding and acting processes. A shared mindset towards problem solving is important for decision makers. The intent should be to establish a shared baseline at the outset of deliberations. This is particularly critical at “times of high surge and exhausted surge capacity, [where] clinicians and administrators have the least possible time available to gather information from a multitude of disparate sources to support their resource management decision making needs. For this reason, it is critically important to have a shared organized view and a single point of access to all of these aggregated data … Being able to search, filter, analyze, project and forecast based on current and prior data provides the decision making support that clinicians and administrators need to effectively manage both daily and disaster surge.”

The deliberation process provides a space for stakeholders to come together and engage in participatory decision making by identifying “areas of agreement and disagreement” under urgent time limits. If the deliberative process is not participatory and inclusive of all critical stakeholders, then the actions will be fragmented. Decisions made in a vacuum will result in uncoordinated actions. Fragmented decision making will result in fragmented actions. The action component is associated in allocating resources based by the decisions on agreed-upon priorities. Resource allocation provides the means to meeting the agreed-upon priorities. As
priorities shift there is a “need for iterative review of decisions to respond to changes as new information emerges.”

Examine the decision making context before an emergency (preparedness phase and day-to-day normal operations), during (response phase) and after (recovery phase and transition into rebalance towards non-emergent operations). It is important to understand the barriers or the “limited degrees of freedom [decision makers have to] set priorities” before, during and after an event. This understanding may help inform communications during a disaster on the new decision making context; thus transitioning into a new normal while maintaining trust from society and the public. While “[g]ood decision making in a crisis is always difficult … [it is critical to learn] from experience and [adjust the] response to fit the circumstances. Public health officials must show leadership in restoring calm and balance to the battle against [threats such as SARS]. Regaining public confidence is [and continues to be] a priority.”

It is important to highlight that priority setting is not exclusively a top-down activity conducted at the highest level of an organization. First, efficient and sound priority setting is top-down and bottom-up. Second, though the highest level of the organization is expected to set clear priorities, this serves as a “priority umbrella” guiding the multitude of priorities administered through the operational areas of the organization. In a ways, the strategic priorities set by the leadership of the organization cascades through the operational chain to develop a clear path toward action.

One barrier is referred to as the silo effect is not specific to any one organization. Additionally, the inner workings of institutions and organizations have departments that rarely communicate with each other. Additional understanding of organizational behavior may contribute toward identifying how best to minimize its affects on priority setting. What is certain, as exhibited from the data, is the preexisting silos within and between organizations, professions, public and private sectors and geographic areas have interrupted coordination, communication and priority setting during the SARS outbreak; thus intensifying collateral damage.

Priority setting is analogous to three interlocking gears. In effect, priority setting will only be as good as the decisions made on how well resources are allocated. By ensuring that decision making provides “realistic goals” and “sustainable [and proportional] interventions” will be supported by allocating resources, priorities will be synchronized and sensible. Within the process, resource allocation will only be as good as priority setting and decision making. Decision making will only be as good as resource allocation and priority setting. As a result, all three interdependent gears function smoothly through iterative cycles. This analysis has
focused predominately on the decision making process of priority setting. While further investigation into resource allocation would address perhaps the most pressing challenge in emergency response: surge capacity. However, a failure to synthesize these priority setting concepts into a fluid process would only be counterproductive. Efforts to enhance priority setting functionality and coordination would be worth the expense of advance planning.

Further research is warranted for the resource allocation aspect of priority setting which may include ethical values of justice (judicially distributing harm and benefits), fairness, proportionality and transparency. Moreover, the debate on resource allocation within priority setting may also warrant further exploration into the concepts of triage, models of resource distribution and re-distribution, supply-chain management principles as well as sharing versus competing trends; all of which are beyond the scope of the current analysis.

Priority Setting

Priority setting is not a linear process. In fact, the process requires a feedback loop to constantly reflect back upon other processes to ensure a best fit. Depending on the degree of stress and when faced with the immediacy of life and death, individuals may be pushed from rational participatory decision making into an emotionally concerned state, thus affecting the quality of collaborative decision making.

There are similar aspects between an emergent and non-emergent event: conflicting interests, fragmented resource allocation systems, divergent expectations, power struggles and competing objectives. There are two primary conditions that determine the level of risk and define an emergency event: lack of time and degree of uncertainty. The severity of an emergency is directly proportional to the degree of uncertainty and inversely related to time. Time is the least available resource during a crisis event. This strictly limits the ability for individuals to deliberate on the issues. Attempts to deliberate mid-crisis where the stakes, pressures, stresses, expectations are extraordinarily high is a recipe for concentric disasters; resentment, trauma, and a collapse of communications and relationships. This leads to an examination of the degree of collateral damage.

Revisiting the reaction options of responders (no reaction, under-reaction, balanced and proportional reaction and over-reaction), one asks which category would the SARS response fall under. In hindsight, SARS was “only ‘moderately’ contagious compared to other communicable
diseases … and it was mostly droplet-spread by people in hospitals … [with] little community spread.”

Not to minimize the severity of an unknown public health threat introduced into the largest city in Canada, these lessons will undoubtedly highlight systemic problems within the public health infrastructure and guide preparedness efforts for future threats.

With all this in consideration and previous statistics of the number of cases and deaths, the response to SARS appears to characterize aspects placing it in the category of over-reaction. In fact, during the response, there were several individuals who cautioned of this warning that “the response should not be worse than the disease.”

They further stressed the importance of a balanced response, reinforcing earlier finding that “[w]e should not … base current planning on either … extreme-case scenarios.”

Our planning for SARS should be based on an in-between scenario.” The attempts at damage control (e.g., cost-control during the response, informal attempts at psychosocial interventions, formal psychosocial interventions months after the outbreak) seemed to be all too little too late. Great harms from the SARS-CoV are evident in the arguably over-reaction of an ill-prepared and under-resourced health system. The combination of a high degree of uncertainty, the lack of evidence-based medicine and fragmented communications pushed systems into overload in the responses in an attempt to compensate for existing systemic weaknesses. Certainly, “[p]oor communication, excessive precautions and failure to meet unrealistic goals ha[d and will continue to] fuel public fears.”

The lack of a mechanism to allow public health stakeholders to come together and deliberate over priorities and actions mid-crisis proved to exacerbate the unintended harms and burdens or collateral damage. The ad hoc response without any previous active planning is not in the best interests of the community. Rather, “[c]ollective forethought and a broad consensus would go far in helping to tackle the unique moral and ethical dilemmas that arise when a catastrophic event occurs.”

As one paper described, “[i]f we learned anything from the 2003 SARS outbreak, it should be that lack of preparation anywhere can lead to profound harms everywhere.”

Had there been a system in place that was familiar with responders across the health system to ensure balanced assessments, fair deliberations, precise identification of priorities, judicial allocation of resources and a proportional action plan to the threat, collateral damage would be minimized. Accurately identifying priorities, deciding (decision making) and acting (resource allocation) upon them require triangulating between the three concepts; where repeated preparedness exercises and activities would enable precise priority setting targets to minimize collateral damage. Undoubtedly, next time there “will be no tolerance for repeating the same mistakes.”

5.4 Limitations of the Study

There were several limitations in this study. First, considering that there is limited empirical evidence for the application of these concepts within emergency events since studies on disaster/emergency management is limited due to ethical considerations of participants in such studies. As a result, many of the studies are retrospective examinations of past events rather than ongoing.
Secondly, the findings in this study may not be generalizable to other types of emergencies or other political contexts. As a result, this study is parametric in that the generalizability of this study to other hazards and other contexts may be limited.

Thirdly, recall bias may have also limited the quality of data provided considering that the collection of data was conducted during 2004-2005, 2-3 years after the SARS outbreak. Moreover, there was a disruption in my research due to a family medical emergency. As a result, formal intensive analysis was delayed and not revisited until 2007-2008.

The proportion of data collected from various regions, jurisdictions and organizations would have perhaps provided for a more balanced set of data and perspectives.

My background being non-Canadian and unfamiliar with some of the political and economic intricacies of the public health and healthcare system may have also provided limitations.

And finally, transcripts were not redistributed to the respondents for verification. Interaction with respondents was through a singular meeting and communication with respondents did not take place beyond the interview.

5.5 Future Research

This study illuminates areas for further exploration. These may include but are not limited to:

- While this study focused upon ensuring fair and legitimate decision making processes within priority setting, additional studies may need to focus upon the resource allocation side of priority setting, particularly supply-chain management, within a similar emergency context;
- Additional research into how laws (existing and new) may or may not contribute to priority setting issues (particularly decision making processes and the allocation or re-allocation of essential resources) during public health emergency events and in different political contexts (i.e., legal triage);
- Compare and contrast other decision making models as well as management models (ICS/UF, program management) to combine values, methods and principles with the values inherent in A4R+Power and ensure fairness and legitimacy.
Chapter 6
Conclusion

6 Conclusion

6.1 Conclusion

“A focus on population-based health requires a population-based analysis and a willingness to recognize that the ethics of collective health” will reshape alliances, perspectives and response strategies.343 Through the lens of A4R+Power, this analysis has examined the risks associated if ethical considerations are not procedurally and ethically considered; particularly fairness and legitimacy. In a way, public health has been diagnosed with a series of ailments that will become chronic unless it agrees to become more resilient and apply the lessons of SARS.

I conclude that the conditions of the A4R+Power to the 2003 SARS study were not adequately addressed during the response phase of an emergency. This is not to say that the values and principles of ‘accountability for reasonableness’+ empowerment do not apply during a response. In fact, in circumstances “where guidance is incomplete, consequences uncertain and information constantly changing, where hour-by-hour decisions involve life and death, fairness is more important than less”344 A previous study examining the lessons of SARS indicates that the use of “ethical frameworks to guide decision making may help to reduce collateral damage and increase trust and solidarity within and between health care [and public health] organizations.”345 Reinforcing that political decisions result in operational consequences and operational problems have political consequences.

So what should be applied during the response phase? Like public health, I argue that there should be a preventive approach to emergency management. Perhaps a fusion would be helpful. Considering a public health emergency is a marriage between the concepts of public health and emergency management, why not conceptualize their strengths into a constructive framework reinforcing the other and to fuse the two so there would be a preventive approach to emergency management and a progressive public health (on alert). The principles at the heart of A4R+power should be integrated into a new ICS. An ICS system with a greater focus on ethical principles would be ideal, practical and necessary. The proposal is neither an instant nor complete solution but worth consideration.

As for infectious diseases, “their control is not merely a problem for individual nations but rather one for the whole world. Infections have no respect for geographical boundaries, particularly in an era of extensive and rapid transportation allowing easy transmission of infectious agents.”346 “[A]t the core of public health practice is the charge to protect the common good, to intervene for such ends even in the face of uncertainty … [which may justify] necessitating limits on the choices of individuals on grounds of communal protection against both biohazard and paternalism … [and focusing on] social justice for public health.”347 The “challenge of achieving improved health for a greater proportion of the world’s population is one of the most pressing problems of our time and is starkly illustrated by the threat of infectious diseases.”348 The mere presence of these diseases will continue to undermine global security, indiscriminately threatening all nations and striking at a moment’s notice. As a result, countless lives will be lost.
and vast suffering will continue to cripple the human condition. The threat is not limited to public health alone. It is therefore “the collective hazard that provides the warrant for [collective] intervention … [and the] formulation of the ways in which small benefits to individuals from public health interventions may produce quite significant collective good.”

Measures must be instituted to ensure “the benefits and burdens of public health action be fairly distributed,” and emphasizing “public health authorities … adopt measures … that require the least invasive intervention that will [best] achieve the objective.” This will be better achieved by adopting an ethical framework ensuring the values of fairness and legitimacy in the decision processes in identifying priorities are upheld. Undoubtedly, this will prove to be a worthy endeavor.

“Planning for the next pandemic include[ing] not simply influenza but other novel infections, both naturally occurring and intentionally created,” is a grand feat that requires the concerted efforts of its stakeholders. Indeed, the “focus on shared values is the cornerstone for dialogue and for success.” As a result, working within a system of public health that is cognizant of its own strengths and weaknesses and is responsive to the dynamics existent as a result of an ever-changing emergency/crisis environment will drive the development of a “systemic thinking about [public health and emergency management], [therefore making] an outstanding contribution to introducing constructive changes in the morals we call our healthcare [and public health] systems.”

Whether adopting the suggested framework proves to be effective in medicating and conciliating the joint coordinated efforts between multiple stakeholders is difficult to accurately assess. However, learning from past lessons cannot deny or ignore the need to renew public health in light of imminent threats to enhance efforts, trust and preparedness.

Public health has indeed been battling with the pandemic of challenges. This has been and is a condition that has severely limited itself from maximizing its potential in protecting the public’s health, both in emergent and non-emergent circumstances. The prognosis for public health appears promising if it swallows the pill of reform and to be proactive in applying the valuable lessons of the SARS outbreak. As the world becomes increasingly integrated in all aspects of human interaction, reflexive fixations on isolations by silos, geography, profession and governmental jurisdictions are no longer viable options for preparing our societies for future threats.

In the final analysis, SARS was a success; yet, one cannot deny the system failures. As the Campbell Commission report poignantly highlighted, “[w]hat went right, in a system where so much went wrong, is … dedication.” Certainly, “[t]he problems of SARS were systemic problems, not people problems. Despite the deep flaws in the system, it was supported by people of extraordinary commitment.” However, hidden gaps throughout the system continue to exist within organizations, systems and countries. Unfortunately, it often takes a crisis such as SARS to reveal them. “SARS showed Ontario’s central public health system to be unprepared, fragmented, poorly led, uncoordinated, inadequately resourced, professionally impoverished, and generally incapable of discharging its mandate.” For the United States, disasters such as 9/11 and Hurricane Katrina revealed those weaknesses, ultimately resulting in widespread system failures. However, how lessons learned are implemented to bridge these gaps is an entirely different story.
The story of SARS is simply the first of what may be for the 21\textsuperscript{st} century. The nature of the risk was an unknown viral agent with no associated evidence-based knowledge regarding its effect on the human population. This triggered an epidemic of fear; one that pushed social systems into overdrive due to the hidden vulnerabilities accompanied by SARS. Certainly, one of the limiting factors in the response was a lack of resiliency, both system-wide and institutionally. This was not just a concern during SARS; it was highlighted by SARS and it continues to lurk within systems not only in Canada but across the world.
Bibliography


“Stakeholder Theory for Healthcare Organizations – Two Years Later: Organization Ethics, Systems Ethics and Health Care Alliances,” presented by Patricia H. Werhane at the Loyola University Chicago Workshop on Organization Ethics in Health Care, June 13, 2002; Chicago. (author cites Laszlo & Krippner, 1991, 51; Pisek, 2000.)


Doug Martin course notes.


Infrastructure Risk. Strategic Research Funded by NSERC. University of British Columbia, Canada. Found online at: http://www.inrisk.ubc.ca/background.htm#5


Kennedy School of Government Case Program. Emergency Response System Under Duress: the Public Health Fight to Contain SARS in Toronto (B). C16-05-1793.0


Knowledge @ W.P. Carey. Who’s on First? Decision-Making in the Midst of Disaster. September 28, 2005 in Knowledge@W.P. Carey.


Lawrence O. Gostin, Ethical and Legal Challenges Posed by Severe Acute Respiratory Syndrome Implications for the Control of Severe Infectious Disease Threats. JAMA, December 24/31, 2003; 290: 5.


Public Health Agency of Canada. Website.


The Disaster Management Cycle. Found online at http://www.gdrc.org/uem/disasters/1-dm_cycle.html


Wikipedia.


Appendices
Appendix 1
Priority Setting Questionnaire
Version 3

1. Can you please begin by describing your position during the SARS outbreak in 2003?
   a. What were your priorities?
   b. Can you please describe where your resources and funding came from?

2. Can you please describe what your current position is?

3. Can you please take me back to March 2003 and describe your day-to-day activities as SARS unfolded? (What was a typical day like?)

4. Were you well-resourced?
   a. Can you please compare your availability of resources at the initial, midterm, and final stages of SARS and during the first and second waves?
   b. If you needed additional resources, what did you have to do?
   c. How much of your operations were shifted towards SARS?
   d. How would you improve upon this?
   e. How did priorities change? Short term vs. long term priorities?
   f. Any instances of resource sharing? Competition?

5. In terms of the decision-making process, who would you communicate from and to?
   a. Did you feel restricted or better-aided in making decisions with other decision-makers involved?
   b. Considering the urgency of the situation, is it reasonable to include more people in the decision-making process?
      i. If so, how do you envision balancing the need to make quick decisions while being inclusive?
      ii. Was there anyone missing from the decision-making process?
   c. If you felt that the process was not going well or did not agree to a decision, did you feel comfortable differing?
   d. If not, did you have someone that you could communicate your concerns to?

6. If SARS hit Canada again, particularly in Toronto, do you think we are well-prepared?

7. What is your vision of an effective rapid response to a PH threat?
Appendix 2
Priority Setting Questionnaire
Version 2

1. Can you please begin by describing your position during the SARS outbreak in 2003?
   a. What were your priorities?

2. Can you please describe what your current position is?

3. Can you please take me back to March 2003 and describe your day-to-day activities as SARS unfolded? (What was a typical day like?)

4. Were you well-resourced?
   a. If you needed additional resources, what did you have to do?
   b. How much of your operations were shifted towards SARS?
   c. How did priorities change? Short term vs. long term priorities?
   d. Any instances of resource sharing? Competition?

5. In terms of the decision-making process, who would you communicate from and to?
   a. Did you feel restricted or better-aided in making decisions with other decision-makers involved?
   b. Considering the urgency of the situation, is it reasonable to include more people in the decision-making process?
      i. If so, how do you envision balancing the need to make quick decisions while being inclusive?
      ii. Was there anyone missing from the decision-making process?
   c. If you felt that the process was not going well or did not agree to a decision, did you feel comfortable differing or did you have someone that you could communicate your concerns to?

6. If SARS hit Canada again, particularly in Toronto, do you think we are well-prepared?

7. What is your vision of an effective rapid response to a PH threat?
Appendix 3
Priority Setting Questionnaire
Version 1

1. Can you please begin by describing your position during the SARS outbreak in 2003?

2. Can you please describe what your current position is?

3. Can you please take me back to March 2003 and describe your day-to-day activities as SARS unfolded? (What was a typical day like?)

4. Were you well-resourced?
   a. If you needed additional resources, what did you have to do?
   b. How much of your operations were shifted towards SARS?

5. In terms of the decision-making process, who would you communicate from and to?
   a. Did you feel restricted or better-aided in making decisions with other decision-makers involved?
   b. Considering the urgency of the situation, is it reasonable to include more people in the decision-making process?
   c. If you felt that the process was not going well or did not agree to a decision, did you feel comfortable differing or did you have someone that you could communicate your concerns to?

6. If SARS hit Canada again, particularly in Toronto, do you think we are well-prepared?
Appendix 4

CONSENT FORM

Theme B: -- Priority Setting Consent Form for Individual Interviews

Sunnybrook and Women’s College Health Sciences Centre
University of Toronto Joint Centre for Bioethics

Research Project Title: Ethical Challenges in the Preparedness and Response for SARS: An Interdisciplinary Research Study

Principal Investigator: Dr. Ross Upshur, Director, Primary Care Research Unit, Sunnybrook and Women’s College Health Sciences Centre

Funding Agency: Canadian Institutes of Health Research (CIHR)

Study Objectives: This study seeks to determine how the implications of collateral damage and its effect upon non-SARS infected patients are understood by different stakeholders and to generate insight into how collateral damage has impacted the lives of patients and health care providers. This study is carried out under the auspices of the University of Toronto Joint Centre for Bioethics.

Should you choose to participate, you will interviewed by a professional researcher either at the Joint Centre for Bioethics or at another location of your choosing. The questions and discussions will be about your thoughts on ‘collateral damage.’ There are no right or wrong answers.

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

I, _______________________________, understand that the Primary Care Research Unit at Sunnybrook and Women’s College Health Sciences Centre and the Joint Centre for Bioethics at the University of Toronto are conducting a study of the ethical aspects of infectious diseases.

I understand that I will participate in an interview that will last around 60-90 minutes. I understand that with my permission the interview will be audio-recorded and later transcribed. I do not have to answer any questions I don’t want to, and at any time I may stop the interview and speak off the record and still be able to continue with the interview if I want to. I am aware that the audio-tapes and transcripts will only be used by the research team. No other person will have
access to them. The audio-tapes and transcripts will not have my name or any other identifying information on them. A research code number will be used instead. All data will be kept on a secure computer which will be password protected. Access to the computer will be secured by use of specific passwords known only to the research team. The completed interview schedules, transcriptions, audiotapes and other research data will be stored in a secure, locked cabinet. No information will be released or printed that would disclose any personal identity and all such research data will be destroyed after five years. I am aware that I will not receive any compensation for my participation. Travel expenses can be reimbursed.

Any questions I have asked about the study have been answered to my satisfaction. I have been assured that no information will be released or printed that would disclose my personal identity and that my responses will be completely confidential. Any risks or benefits that might arise out of my participation have also been explained to my satisfaction.

I understand that my participation is completely voluntary and that my decision either to participate or not to participate will be kept completely confidential. I understand that confidentiality can only be guaranteed to the extent permitted by law. I understand that I waive no legal rights by participating in this study. I further understand that I can withdraw from the study at any time without explanation and without negative consequences. I am aware that I may request a copy of the final report. I understand that the final report may be published in scholarly journals and other media sources, or be used in presentations by the researchers. I am aware that regardless of publications, my identity will remain strictly confidential.

At the end of the interview, if there are questions or issues that require discussion, a follow up counseling session will be arranged.

I hereby consent to participate in this study.

Name of Participant: ___________________________________________

Signature of Participant: ________________________________________

Date: _______________________________________________________

---------------------------------------------------------------------------------------------------------------------

Name of Investigator: __________________________________________

Signature of Investigator: _______________________________________

Date: _______________________________________________________

For further information about this study, please contact Dr. Ross Upshur (Principal Investigator) at 416-480-6100 ext. 1691 or Shawn Tracy (Research Associate) at 416-480-5048.
Copyright Acknowledgements (if any)


3 Ibid.

4 Ibid.


6 Ibid.


8 Ibid.

9 Ibid.

10 Ibid.


12 Ibid.

13 Ibid.

14 Ibid.

15 Kennedy School of Government Case Program. Emergency Response System Under Duress: the Public Health Fight to Contain SARS in Toronto (B). C16-05-1793.0

16 Ibid.


18 Ibid.

19 Ibid.

20 Ibid.

21 Ibid.

22 Ibid.

23 Ibid.

24 Ibid.

25 Ibid.

26 Ibid.

27 Ibid.

28 Ibid.

29 Ibid.


31 Kennedy School of Government Case Program. Emergency Response System Under Duress: the Public Health Fight to Contain SARS in Toronto (B). C16-05-1793.0
32 Ibid.
33 Ibid.
35 Ibid.
36 Ibid.
37 Ibid.
38 Ibid.
42 Ibid.
43 Ibid.
44 Lawrence O. Gostin, Ethical and Legal Challenges Posed by Severe Acute Respiratory Syndrome Implications for the Control of Severe Infectious Disease Threats. *JAMA*, December 24/31, 2003; 290: 5.
46 Ibid.
48 Ibid.
49 Ibid.
50 Ibid.
51 Ibid.
53 Ibid.
54 Ibid.
55 Ibid.
56 Ibid.
57 Ibid.
61 Ibid.
62 Ibid.

69 Public Health Agency of Canada. Website.


73 Ibid.


75 Ibid.

76 Ibid.

77 Ibid.


80 Ibid. [author quotes Wolf, 1999].


88 Ibid., 6.

89 Ibid.


93 Ibid.

94 Bayer, et. al., 490.


96 Ibid., 9.

97 The Disaster Management Cycle. Found online at http://www.gdrc.org/uem/disasters/1-dm_cycle.html

98 Ibid.

99 Ibid.

100 Ibid.
101 Ibid.
102 Ibid.
103 Ibid.
104 Ibid.
105 Ibid.
106 Ibid.
107 Ibid.
108 Bayer, et. al., 489.
110 Kennedy School of Government Case Program. Emergency Response System Under Duress: the Public Health Fight to Contain SARS in Toronto (B). C16-05-1793.0
111 Ibid.
113 Ibid.
115 Ibid.
116 Ibid.
121 Ibid.
122 Ibid.
123 Ibid.
124 Ibid.
125 Ibid.
127 Ibid.
130 Ibid.
131 Ibid.
132 Ibid.
134 Ibid.
136 Ibid.
142 Ibid.
143 Ibid.
144 Ibid.
145 Ibid.
147 Ibid.
148 Ibid.
149 Ibid.
150 Ibid.
153 Ibid.
154 Ibid.
155 Ibid.
160 Ibid.
161 Ibid.
163 Ibid.
165 Ibid.
166 Ibid.
169 Ibid.
170 Ibid.
172 Ibid.
173 Ibid.
174 Ibid.
175 Ibid.


Ibid.

Ibid.

Ibid.

Ibid.


Ibid.

Ibid.


Wikipedia


Ibid.


Ibid.

Ibid.

Ibid.  
151  
209 Ibid.  
211 Ibid.  
212 Ibid.  
213 Ibid.  
217 Ibid.  
218 Ibid.  
219 Ibid.  
220 Ibid.  
224 Ibid.  
Online at [Wikipedia]  
228 Wikipedia.  
230 Infrastructure Risk.  Strategic Research Funded by NSERC.  University of British Columbia, Canada.  Found online at:  http://www.inrisk.ubc.ca/background.htm#5  
234 Doug Martin course notes.  


Ibid.

Ibid.

Ibid.

Ibid.


Ibid.


Ibid.

Ibid.

Ibid.

Ibid.

Ibid.


Ibid.

Ibid.

Ibid.

Ibid.


Kennedy School of Government Case Program. Emergency Response System Under Duress: the Public Health Fight to Contain SARS in Toronto (B). C16-05-1793.0

Ibid.

Ibid.

Ibid.
Ibid.


Ibid.

Ibid.

Ibid.

Ibid.

Ibid.

Ibid.

Ibid.

Ibid.

Ibid.

Ibid.

Ibid.

Ibid.


Ibid.
154

293 Ibid.
312 Ibid.
313 Ibid.
315 Ibid.
316 Ibid.


320 Ibid.

321 Ibid.

322 Ibid.


326 Ibid.

327 Knowledge @ W.P. Carey. Who’s on First? Decision-Making in the Midst of Disaster. September 28, 2005 in Knowledge@W.P. Carey.

328 Ibid.

329 Ibid.


331 Knowledge @ W.P. Carey. Who’s on First? Decision-Making in the Midst of Disaster. September 28, 2005 in Knowledge@W.P. Carey.


333 Ibid.


335 Ibid.


338 Ibid.

339 Ibid.


343 Bayer, et. al., 490.


346 Benatar, et. al., 111.
Bayer, et. al., 488.
Benatar, et. al, 111.
Bayer, et. al., 489-490. [quoted Geoffrey Rose]
Lawrence O. Gostin, “Ethical and Legal Challenges Posed by Severe Acute Respiratory Syndrome. p. 4.
Cited in, “Stakeholder Theory for Healthcare Organizations – Two Years Later: Organization Ethics, Systems Ethics and Health Care Alliances,” presented by Patricia H. Werhane at the Loyola University Chicago Workshop on Organization Ethics in Health Care, June 13, 2002; Chicago.
Ibid.
Ibid.