

Public Health Law and Ethics: Lessons from SARS and Quarantine

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The 2003 global outbreak of severe acute respiratory syndrome (SARS) was an abrupt reminder that infectious diseases pose a continuing threat to human health. In 1967, U.S. Surgeon General W.H. Stewart had optimistically declared “it was time to close the book on infectious diseases.”¹ SARS proved that wrong. Outside Asia, Canada was the country hardest hit by SARS. The outbreak took 44 lives in our country, threatened many others and created numerous challenges for public health officials and the acute health care system.² In particular, SARS highlighted serious deficiencies in public health infrastructure and preparedness. As in other countries, officials in Canada were required to weigh the legalities and ethics of various interventions to control the spread of the disease, including quarantine.

Quarantine during SARS

At the height of the SARS outbreak, tens of thousands of people in Ontario were quarantined.³ Anyone who had visited certain hospitals during specific time periods was asked to observe quarantine. 1,700 high school students were quarantined after one student at the school became ill. Many health care workers had to abide by “work quarantine,” which required them to travel directly from home to work without using public transit and without stopping at any other destination. At home, health care workers had to separate themselves from family members, wear masks when in contact with others in their household, and not have visitors.⁴ More than half of Toronto’s 850 paramedics ended up under 10-day home quarantine during the outbreak.⁵

As SARS spread, the Ontario government amended its public health statute to empower officials to order individuals suspected of being exposed to the disease into quarantine.⁶ Similarly, the federal government amended the *Quarantine Act* regulations so quarantine officers stationed at airports and other entry points to Canada could screen travelers and, if necessary, detain them for suspected SARS infection.⁷ For the most part, Canadian authorities did not have to resort to coercive legal measures to control the outbreak. Ontarians generally complied voluntarily with quarantine and public health officials sought legally enforceable quarantine orders in only a small number of cases.⁸

Outside Canada, countries such as China, Hong Kong and Singapore also used quarantine in an effort to stem the spread of SARS. However, while Canadian public health officials relied primarily on voluntary compliance with quarantine requests, measures elsewhere were not so benign. In Hong Kong, officials used barricades and tape in an attempt to confine residents in a large housing complex where over 300 people were known to be infected with SARS.⁹ Authorities in Singapore enforced quarantine with surveillance cameras and electronic monitoring devices.¹⁰ Chinese citizens faced penalties as harsh as imprisonment and execution for breaching quarantine orders.¹¹

The Ethics of Quarantine

Quarantine represents the archetypal conflict that confronts public health: the tension between society’s dual interests in safeguarding individual liberty while protecting and promoting the health of its citizens. Lawrence Gostin, a leading



public health law expert, counsels that “in a democratic society, ... coercive [public health] powers should be carefully justified. We have to balance the public health interests of society against the freedom of the individual.”¹² While public health laws throughout Canada empower officials to quarantine individuals suspected of being exposed to certain communicable diseases, the exercise of that power must be guided by appropriate ethical principles.

Nancy Kass, a bioethicist at Johns Hopkins School of Public Health, suggests a six-step framework to guide public health officials in choosing an ethically sound course of action by evaluating the various options available to them.¹³ She argues first that the goals of a public health intervention must be identified. In the context of quarantine, the clear purpose is to limit the spread of an infectious disease by segregating those who may carry the disease from uninfected individuals. Next, officials ought to evaluate the effectiveness of an intervention in achieving its goals. Quarantine clearly will not be effective in reducing spread of a disease that is not transmissible by ordinary community contact. For example, Cuba’s practice of mandatory quarantine for HIV-positive citizens, which took place between 1986 and 1994, would be unlikely to pass the litmus test of an effective public health intervention.¹⁴

Next, public health officials must weigh the burdens or harms the intervention may place on individuals. Quarantine restricts individual liberty by limiting freedom of movement and imposes various psychosocial burdens. Recent studies have assessed the impact of quarantine on health care workers and others during the SARS outbreak.¹⁵ The unsurprising conclusion of such research is that quarantine seriously disrupts lives, isolates individuals from the outside world, and jeopardizes workers’ livelihood unless appropriate compensation is available. In an effort to mitigate such hardships, the Ontario government enacted a new law, the *SARS Assistance and Recovery Act*, to give job protection to employees who were observing quarantine or had to stay home from work to care for another individual, such as child, who was quarantined.¹⁶ A SARS Assistance Program was also established to offer some financial compensation to people who lost income during periods of quarantine.¹⁷

As the fourth step in the analysis, it is important to consider whether the burdens of an intervention can be minimized while retaining its efficacy. As well as being more ethically defensible, a less restrictive public health intervention is also more likely to withstand legal challenge. For example, a person who is ordered into quarantine may challenge that order as a violation of liberty rights protected under the *Canadian Charter of Rights and Freedoms*.¹⁸ A court adjudicating the case would be more likely to uphold the quarantine order if public health officials demonstrate that segregating the individual is necessary to control spread of an infectious disease and the harms of a temporary restriction on that person’s liberty are outweighed by the broader benefit of protecting others in the community.

An Ontario court applied this logic in *Toronto v. Deakin*, a 2002 *Charter* challenge by a tuberculosis patient who was under detention for treatment.¹⁹

The patient, who had consented to a four-month detention and treatment order by the medical officer of health, challenged a four-month extension to the order that health professionals believed was necessary to control his tuberculosis. The patient, who had been physically restrained during several violent outbursts, and was routinely restrained during “smoke breaks” to prevent escape (which he had done once to buy beer), argued the restraints and continued detention violated his constitutional liberty rights. In a brief judgement, the Court accepted his *Charter* rights were violated, but concluded the infringement was justified to protect public health and prevent spread of TB.

The next step in Kass’ framework requires assessing how to implement an intervention in a fair manner that does not discriminate against specific groups without justification. Throughout history, quarantine has been imposed unfairly for inexcusable reasons motivated by fear and prejudice. For example, in 1900, after the body of a bubonic plague victim was discovered in San Francisco’s Chinatown, the U.S. President ordered quarantine of all Chinese and Japanese residents of the city based, in part, on the misguided view that Asians were more likely to contract plague because rice was a dietary staple.²⁰ Public opinion surveys conducted in the mid-1980s revealed that a startling number of Ameri-

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cans polled (around 30-50%) favoured quarantining people with AIDS.²¹ Although there is no evidence quarantine was applied in a discriminatory manner in Canada during the 2003 SARS outbreak,²² the lessons of history remain instructive to ensure that past prejudices are not repeated.

As a final step in the ethical analysis, public health officials must assess whether the benefits of an intervention outweigh the burdens. During the SARS outbreak in Ontario, some argued quarantine was used excessively and without due consideration of whether the intervention was likely to help reduce spread of the disease. For example, Beijing and Toronto both quarantined around 30,000 people, but Beijing had 10 times as many SARS cases as Toronto: 2,500 compared to Toronto's 250.²³ The U.S. Centers for Disease Control estimate that only one-third of the people quarantined in Beijing had a serious risk of contracting the disease through close contact with an ill person.²⁴ So if Beijing used quarantine too often, then Toronto's even greater use is perhaps subject to even more criticism.

A Balancing Act

Yet, these criticisms can only be made in hindsight. In the midst of an outbreak of unknown origin and virulence, public health officials must have some latitude to make decisions about what tools available to them under the law ought to be imposed to control spread of disease. However, decision-making during a time of uncertainty can be improved by reference to an ethical framework that requires officials to identify their goals and assess what public health interventions are most likely to meet their needs while minimally intruding on individual rights and freedoms.

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1. Laurie Garrett, *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* (New York: Farrar, Strauss and Giroux, 1994) citing W.H. Stewart, "A Mandate for State Action," presented at the Association of State and Territorial Health Officers, Washington, D.C., December 4, 1967.
2. For comprehensive analysis of the outbreak and recommendations for reform, see: Canada, National Advisory Committee on SARS and Public Health, *Learning from SARS: Renewal of Public Health in*

Canada (Ottawa: Health Canada, 2003) online: Health Canada <<http://www.hc-sc.gc.ca/english/protection/warnings/sars/learning.html>> [National Advisory Committee]; Ontario, Commission to Investigate the Introduction and Spread of SARS in Ontario, *Interim Report on SARS and Public Health in Ontario* (Ontario: Ministry of Health and Long-Term Care, 2004) (Commissioner: The Honourable Mr. Justice Archie Campbell) online: Ontario Ministry of Health and Long-Term Care

<http://www.health.gov.on.ca/english/public/pub/ministry_reports/campbell04/campbell04.pdf>; and Ontario, Expert Panel on SARS and Infectious Disease Control, "For the Public's Health, A Plan of Action: Final Report of the Ontario Expert Panel on SARS and Public Health" (Ontario: Ministry of Health and Long-Term Care, 2004) online: Ontario Ministry of Health and Long-Term Care <http://www.health.gov.on.ca/english/public/pub/ministry_reports/walker04/walker04_mn.html>.

3. *Ibid.* See also T. Svoboda *et al.*, "Public Health Measures to Control the Spread of the Severe Acute Respiratory Syndrome during the Outbreak in Toronto" (2004) 350 *New England Journal of Medicine* 2352.
4. For an example of work quarantine protocol, see City of Toronto, Department of Public Health, "SARS Fact Sheet: Work Quarantine" online: <http://www.city.toronto.on.ca/health/sars/sars_workers.htm>.
5. Alexis Silverman, Andrew Simor & Mona R. Loufty, Letter to the Editor, "Toronto Emergency Medical Services and SARS" (2004) 10 *Emerging Infectious Diseases* 1688.
6. Ontario's *Health Protection and Promotion Act*, R.S.O. 1990, c. E.9 gives broad authority to medical health officers to order a person who is or may be infected with a communicable disease to: "isolate himself or herself and remain in isolation from other persons"; otherwise "conduct himself or herself in such a manner as not to expose another person to infection"; undergo a medical examination; and submit to necessary treatment. See s. 22(4). The medical health officer may issue such an order if she or he has reasonable and probable grounds to believe three conditions exist: (1) "a communicable disease exists or may exist or that there is an immediate risk of an outbreak of a communicable disease"; (2) "the communicable disease presents a risk to the health of persons"; and (3) "the requirements specified in the order are necessary in order to decrease or eliminate the risk to health presented by the communicable disease." See s.



- 22(2). The Specification of Communicable Diseases Regulation, O. Reg. 558/91, was amended in March 2003 to add SARS: see O. Reg. 97/03.
7. *Quarantine Act*, R.S.C. 1985, c. Q-1 and Quarantine Regulations, C.R.C., c. 1368. The Quarantine Regulations were amended to include SARS on June 12, 2003; see S.O.R./2003-227, s.1
 8. Svoboda *et al.*, *supra* note 3, state that over 13,000 Torontonians complied with voluntary quarantine and compulsory orders were issued in only 27 cases, accounting for a mere 0.1% of individuals. These numbers do not include individuals outside the area served by the Toronto Department of Public Health.
 9. Apoorva Mandavalli, "SARS epidemic unmasks age-old quarantine conundrum" (2003) 9 *Nature Medicine* 487.
 10. *Ibid.*
 11. Mike Mitka, "SARS Thrusts Quarantine Into the Limelight" (2003) 290 *Journal of the American Medical Association* 1696.
 12. Lawrence O. Gostin, ed. *Public Health Law and Ethics: A Reader* (Berkeley, Calif.: University of California Press, 2002) at 415.
 13. Nancy E. Kass, "An Ethics Framework for Public Health" (2001) 91:11 *American Journal of Public Health* 1776.
 14. For discussion of Cuba's policy, see e.g. Helena Hansen and Nora Groce, "Human Immunodeficiency Virus and Quarantine in Cuba" (2003) 290 *Journal of the American Medical Association* 2875.
 15. *Supra* note 4. See also Laura Hawryluck *et al.*, "SARS Control and Psychological Effects of Quarantine, Toronto, Canada" (2004) 10 *Emerging Infectious Diseases* 1206.
 16. SARS Assistance and Recovery Act 2003, S.O. 2003, c.1.
 17. For additional information regarding this assistance plan, see: Ontario, Ministry of Municipal Affairs and Housing <http://www.mah.gov.on.ca/userfiles/HTML/nts_1_12485_1.html>.
 18. *Canadian Charter of Rights and Freedoms*, Part I of the *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (U.K.), 1982, c. 11.
 19. *Toronto (City, Medical Officer of Health) v. Deakin*, [2002] O.J. No. 2777 (Ct. Just.) (QL).
 20. Paul J. Edelson, "Quarantine and Social Inequity" (2003) 290 *Journal of the American Medical Association* 2874.
 21. L. Gostin and A. Zeigler, "A Review of AIDS-Related Legislative and Regulatory Policy in the United States" (1987) 15 *Law, Medicine and Health Care* 5.
 22. Hawryluck *et al.*, *supra* note 15, surveyed over a hundred Torontonians who observed quarantine during the SARS outbreak and found that 72% had a college education or higher and 48% had an annual household income of more than C\$75,000. I am unaware of any reports suggesting that quarantine in Ontario was imposed disproportionately against individuals disadvantaged by poverty, race or other similar grounds.
 23. National Advisory Committee, *supra* note 2 at 35.
 24. Bruce Diamond, "SARS spreads new outlook on quarantine models" (2003) 9 *Nature Medicine* 1441. See also Centers for Disease Control and Prevention, "Efficiency of Quarantine During an Epidemic of Severe Acute Respiratory Syndrome — Beijing, China, 2003" (2003) 52 *Morbidity and Mortality Weekly Report* 1037 and Wannian Liang *et al.*, "Severe Acute Respiratory Syndrome, Beijing, 2003" (2004) 10 *Emerging Infectious Diseases* 25.

