
A Legal and Epidemiological Justification for Federal Authority in Public Health Emergencies

Amir Attaran & Kumanan Wilson*

Federal Canada's authority to control epidemic disease under existing laws is seriously limited—a reality that was demonstrated in unflattering health and economic terms by the SARS epidemic. Yet even Canadians who work in public health or medicine and who lament the federal government's lack of statutory authority are often resigned to it because of an ingrained belief that the *Constitution Act, 1867* assigns responsibility over health to the provinces and ties Parliament's hands such that it cannot pass laws for epidemic preparedness and response.

We show in this paper that this belief is legally wrong and medically undesirable. Not only does Parliament have the constitutional jurisdiction, mainly under the criminal law and quarantine powers, to pass federal laws for epidemic preparedness and response, but current Supreme Court jurisprudence confirms that federal jurisdiction may be extraordinarily flexible and even take precedence over provincial law. Using Parliament's latent jurisdiction is necessary if Canada is to fulfil its international obligations under the World Health Organization's *International Health Regulations*. Further, without meaningful federal laws for epidemic preparedness and control, future epidemics are likely to have unnecessary and extremely injurious or fatal outcomes, which are predicted by current epidemiological models of how epidemic diseases such as avian influenza spread in a population.

We conclude that there is no constitutional reason why Parliament cannot legislate for epidemic preparedness and response, and there are profound medical and diplomatic reasons why it must do so.

Les lois fédérales canadiennes relatives au contrôle des maladies épidémiques sont faibles—ce que l'épidémie du SRAS a démontré tant bien sur le plan de la santé que sur le plan économique. Pourtant, même les canadiens qui œuvrent dans le domaine de la santé publique ou en médecine et qui lamentent l'impuissance du gouvernement fédéral s'y résignent souvent. Cela s'explique par la croyance inébranlable que la *Loi constitutionnelle de 1867* cède la compétence exclusive en matière de santé aux provinces, et restreint de surcroît la capacité du Parlement canadien de mener à bien l'adoption de lois fédérales en matière de préparation et de réponse aux épidémies.

Dans cet article, nous démontrons que cette croyance est à la fois erronée sur le plan juridique et indésirable d'un point de vue médical. Le Parlement a compétence constitutionnelle en matière de préparation et de réponse aux épidémies. De plus, la jurisprudence récente de la Cour suprême indique que la détermination de la compétence fédérale doit jouir d'une approche particulièrement souple, et peut même avoir préséance sur le droit provincial. Le recours à la compétence latente du Parlement est nécessaire afin de permettre au Canada de respecter ses obligations en vertu du *Règlement sanitaire international* de l'Organisation mondiale de la Santé. Aussi, en l'absence de lois fédérales convenables pour la préparation et la lutte contre les épidémies, il est probable que les épidémies futures soient plus aptes à entraîner des conséquences graves, voire mortelles, tel que le prédisent les modèles épidémiologiques actuels de la propagation de la grippe aviaire.

En conclusion, nous suggérons qu'il n'existe aucun motif constitutionnel qui empêche au Parlement de légiférer en matière de préparation et de réponse aux épidémies, et que d'importantes raisons médicales et diplomatiques rendent une telle intervention nécessaire.

* Amir Attaran, Canada Research Chair in Law, Population Health, and Global Development Policy. DPhil, Zoology, Oxford; LL.B., UBC. Kumanan Wilson, MD, MSc, FRCPC. Associate Professor, Department of Medicine, University of Toronto. Research Associate, Institute of Intergovernmental Relations, Queen's University. Dr. Wilson gratefully acknowledges the Canadian Institutes of Health Research for their support of this study.

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Introduction

Since 2003, officials around the world have had nightmares of a global disease outbreak, whether past ones such as occurred with Severe Acute Respiratory Syndrome (“SARS”), or future ones such as the inevitable reappearance of pandemic influenza. Managing these sorts of crises requires both meticulous preparedness, for example having access to timely epidemiological information, and a firm response, in order to effectuate the clinical and public health interventions that could keep an epidemic in check.

Uncontroversial as this idea seems, in Canada almost none of the necessary measures are effectively implemented. Federal, provincial, and territorial schisms complicate efforts to assign clear responsibilities for the particular tasks of preparation and response. It is telling that even after years of preparation and refinement, Canada’s national plan for an influenza outbreak is still replete with dozens of references to “F/P/T”—the usual shorthand for the federal, provincial, and territorial levels of government.¹

But while the F/P/T lingo sounds harmonious and inclusive, it is actually a deceptive balm that covers up a dangerous failure to demarcate *specific* responsibilities and to assign them to *individual* levels of government. For example, the national influenza plan states confidently that “[t]he F/P/T governments will control the allocation and distribution of influenza vaccine during a pandemic ... ”² That sounds fine in theory, but try and make it work when, as the national pandemic plan correctly notes, the supply of life-saving vaccine “may not be sufficient to immunize the whole population ... ”³ Rationing is inevitable. Is it credible that in a serious pandemic, when Canadians are dying by the thousands and citizens are clamouring for vaccine to save the lives of their families, each government in the F/P/T triad will cast aside its self-interest and co-operate to ration the vaccine supply, without rivalry or competition? Someone has to be the referee. Someone has to be in charge.

This paper’s thesis is that, in many of the murkiest areas of public health policy, the federal government is the appropriate level of government to exert leadership. Specifically, our belief is that Canada has not done enough to federalize the preparation and response functions that are necessary to contain a “hot” epidemic. We believe that federal primacy is legally tenable as a matter of Canada’s constitution, is scientifically imperative given current medical realities, is politically appropriate given Canada’s diplomatic obligations to other countries, and, most importantly, is

¹ Public Health Agency of Canada, *The Canadian Pandemic Influenza Plan for the Health Sector* (2006), online: Public Health Agency of Canada <<http://www.phac-aspc.gc.ca/cpip-pclepi>>. See especially s. 4.0 of the Introduction, which details the F/P/T responsibilities and includes such harmonious-sounding but ultimately meaningless guidance as “Development of cost estimates and options for decision makers will ... be a joint F/P/T responsibility” (*ibid.*).

² *Ibid.* at III.2.2.2.

³ *Ibid.*

the only practicable alternative to the dysfunctional and unacceptable federal-provincial bickering displayed during Canada's 2003 SARS epidemic. Our thesis is built on all these arguments.

Succinctly put, viruses and bacteria behave independently of political considerations. Therefore, to impose a federalist or provincialist view of the world on their reality is awfully mistaken, maybe even suicidally so. We present our thesis in the following parts. Part I is an exposition of Canada's existing legislation regarding global disease and a brief history of events during Toronto's SARS epidemic. Part II is an explanation of Canada's new international obligations in respect of global epidemics. Part III is a scientific primer on the epidemiology of disease spread and control, using human-transmitted avian influenza as a didactic example. Part IV is a study of three federal powers under the constitution—the quarantine; criminal law; and peace, order, and good government (“POGG”) powers—each of which relates to the actions that would be necessary to prepare for and respond to an epidemic. Part V is our conclusion.

I. The Unsatisfactory Existing Legislative Framework

Currently, the federal role in public health emergencies is governed primarily by the *Emergencies Act*,⁴ which despite a change of name cannot escape the legacy of its predecessor, the *War Measures Act*,⁵ forever identified with the October Crisis. Like the *War Measures Act*, the *Emergencies Act* is intended as a last resort: a legal precondition of using it is that the situation “cannot be effectively dealt with under any other law of Canada.”⁶ Using the act therefore amounts to an admission of failure, that more appropriate legislation was not anticipated and put in place.

Under section 5 of the act, infectious outbreaks fall under the category of public welfare emergencies. As such:

“public welfare emergency” means an emergency that is caused by a real or imminent ...

(b) disease in human beings, animals or plants ...

and that results or may result in a danger to life or property, social disruption or a breakdown in the flow of essential goods, services or resources, so serious as to be a national emergency.⁷

⁴ R.S.C. 1985 (4th Supp.), c. 22. Describing the October Crisis is beyond the scope of this paper, but in short, it saw Quebec request the deployment of Canadian military force and suspend *habeas corpus* in answer to civil protest, kidnappings, and later executions of hostages by the Front de libération du Québec. Prime Minister Pierre Trudeau invoked the *War Measures Act*, *infra* note 5 on the morning of 16 October 1970, the closest that Canada has ever come to outright insurrection.

⁵ R.S.C. 1970, c. W-2, as rep. by *Emergencies Act*, *ibid.*, s. 80 [*War Measures Act*].

⁶ *Supra* note 4, s. 3.

⁷ *Ibid.*

Note the caveat in the last clause: the act is limited to cases of a *national* emergency. Elsewhere, the act stipulates that the federal government must not declare a public welfare emergency “where the direct effects of the emergency are confined to, or occur principally in, one province,” unless the province itself asks that a public welfare emergency be declared because it cannot manage alone.⁸ That is, only when the emergency crosses into a second (or third, or fourth, etc.) province does the act give the federal government authority to act, subject to consultation with the provinces.

The act’s logic is easy to understand but hard to appreciate. It restrains, even denies, federal statutory authority to tackle a disease outbreak while it remains small, manageable, and confined to one province. Rather, federal authority begins only once the outbreak has spread, reaching the out-of-control quality of an epidemic. In health terms, this is rather similar to a surgeon declining to operate on a patient’s cancer when it is small and confined to a single diseased organ, preferring to wait until tumours have grown and the cancer has metastasized throughout the body. A surgeon applying that logic would be considered unethical, if not medically negligent, and so similar logic cannot ethically be accepted in a law for public health emergencies.

However, if the *Emergencies Act* were invoked, it would provide a large scope for federal intervention. A declaration of a public welfare emergency entitles the federal government to “make such orders or regulations ... as the Governor in Council believes, on reasonable grounds, are necessary for dealing with the emergency ... ”⁹ Such orders or regulations may include “the regulation or prohibition of ... travel to, from or within any specified area,” “the regulation or prohibition of ... the use of specified property,” the “assumption of the control, and the restoration and maintenance of [most] public utilities and services,” and even the “direction to any person ... to render essential services of a type that that person ... is competent to provide ... ”¹⁰ Persons who violate the applicable terms can be penalized criminally, whether by fine, imprisonment, or both.¹¹

Succinctly put, the federal powers in an emergency may include the powers to halt movement, to assume control of public utilities and services, and even to force labour—all of which are draconian measures, though in fairness, they are not untrammelled. For example, the federal government cannot assume control of a public service where it would “unduly impair the ability of any province to take measures [of its own],”¹² and it can never command a provincial or municipal police force.¹³

⁸ *Ibid.*, s. 14(2).

⁹ *Ibid.*, s. 19(1).

¹⁰ *Ibid.*

¹¹ *Ibid.*, s. 19(1)(e).

¹² *Ibid.*, s. 19(3)(a).

¹³ *Ibid.*, s. 20(1).

Still, the act has three strikes against it, which probably means that it will not be used except in the most severe of circumstances: (i) it carries the stigma of the October Crisis; (ii) it cannot be triggered until the danger has already spiraled beyond the control of a single province; and (iii) its measures are so heavy-handed that any resort to the act will inevitably be feared. Any federal government that risks using the act to avoid a prospective disaster can expect that, once the disaster has passed, its reputation will be determined by that decision. The measures provided for by the act are so drastic as to raise the stakes dramatically. It could be said that girding for an epidemic with the *Emergencies Act* is about as clever as marching to the front lines of a war equipped with no small arms but only an atom bomb.¹⁴

Canada's response to the 2003 SARS epidemic demonstrated some of the limitations of federal and provincial law.¹⁵ After the disease made landfall in Toronto, having been brought by an infected traveler from Hong Kong, it acted as many infectious diseases are expected to do, spreading from person to person within hospitals. How much of this nosocomial, or hospital-based, transmission occurred and how many visitors to the hospital had contact with other uninfected persons in Toronto, necessitating an effort to trace and monitor them for signs of illness, were obviously of extreme interest to public health experts around the world. And yet, the collection and the transfer of this epidemiological information from the provincial to the federal level, and onward to the international level, were not just slow or difficult, but totally dysfunctional.

In the wake of the epidemic, Ontario's Commission to Investigate the Introduction and Spread of Severe Acute Respiratory Syndrome ("SARS Commission"), led by Justice Archie Campbell, made shocking findings about how the different levels of government could not co-operate to share epidemiological information.¹⁶ Citing patient confidentiality, the City of Toronto, in the heat of the epidemic, hesitated to share information with Ontario, and Ontario hesitated to share information with Health Canada. Mistrust abounded. Justice Campbell found that communication deteriorated so severely that Health Canada gained its information, in the words of one unnamed federal official, "often as a result of the press conferences that Ontario had," and not through official briefings, which the Province refused to give.¹⁷ Meanwhile, Ontario's health minister accused Health Canada of "not telling

¹⁴ The only other somewhat relevant piece of federal legislation is the *Emergency Preparedness Act*, R.S.C. 1985 (4th Supp.), c. 6, which authorizes federal-provincial plans for civil emergencies to be passed by regulation. As of July 2007, this act is two decades old, and there has never been a single regulation passed under it. It is a dead letter.

¹⁵ For a detailed discussion of intergovernmental options for managing public health crises, see Kumanan Wilson & Harvey Lazar, "Planning for the Next Pandemic Threat: Defining the Federal Role in Public Health Emergencies" (2005) 6:5 IRPP Policy Matters 1.

¹⁶ *The SARS Commission Interim Report: SARS and Public Health in Ontario* (15 April 2004) (Commissioner: The Honourable Justice Archie Campbell) at 66, online: The SARS Commission <http://www.sarscommission.ca/report/Interim_Report.pdf> [*SARS Commission Interim Report*].

¹⁷ Quoted in *ibid.*

[Ontario] exactly what the information was needed for and how it should have been presented ... ”¹⁸ Justice Campbell found that both levels of government behaved poorly, but Ontario especially so. He wrote of the situation:

Apart from any underlying problems of attitude, there was an obvious breakdown in communication, which is hardly surprising given the inherent difficulties of federal-provincial cooperation and the complete lack of any preparedness or any existing system to ensure an effective flow of information in a time of crisis.

... There was a damaging combination of problems: lack of information systems, lack of preparedness, lack of any federal-provincial machinery of agreements and protocols to ensure cooperation, all possibly overlaid by a lack of cooperative, collaborative spirit in some aspects of the Ontario response.¹⁹

Notwithstanding Ontario’s laws for sharing public health information, the federal government failed to get access to reliable epidemiological information about Ontario’s SARS epidemic.²⁰ It sent a team of epidemiologists to assist Toronto Public Health with outbreak investigations. The federal epidemiologists did good work, but, as Justice Campbell found, their presence soon caused “turf resentments” to erupt between the City and the Province, and they could not work to their potential when they were “being pulled in two directions by two different groups.”²¹ Bowing to defeat, the federal government finally pulled back its epidemiologists from the epidemic’s coal face.²²

While the SARS emergency required a co-operative attitude toward sharing epidemiological information to protect the commonweal, Ontario refused to share information and, worse, sabotaged the federal employees who were sent to help Toronto Public Health collect epidemiological information. The federal government could do nothing to force Ontario’s hand as it possessed no legislation that required a province to divulge epidemiological information. On the contrary, the federal *Statistics Act* makes it clear that any information request must be “on a voluntary basis” only.²³ Even the *Emergencies Act*, had the federal government wanted to use it,

¹⁸ Tony Clement, quoted in *ibid.* at 67.

¹⁹ *Ibid.* at 67-68.

²⁰ The applicable provincial laws on sharing public health information are outside the scope of this paper, but are reviewed in Elaine Gibson, “Public Health Information Privacy and Confidentiality” in Tracey M. Bailey, Timothy Caulfield & Nola M. Ries, eds., *Public Health Law and Policy in Canada* (Markham, Ont.: Lexis Nexis Butterworths, 2005) 89.

²¹ *SARS Commission Interim Report*, *supra* note 16 at 153-55.

²² See *ibid.* at 155.

²³ The federal government has a wide-ranging power to request epidemiological information under s. 8 of the *Statistics Act*, R.S.C. 1985, c. S-19, but the nature of that request can only be voluntary, and never mandatory. As that section reads in part, “The Minister may, by order, authorize the obtaining, for a particular purpose, of information, other than information for a census of population or agriculture, on a voluntary basis ...” (*ibid.*).

would have been of no assistance since the SARS emergency was confined to Ontario.²⁴

The dysfunctional communication between Ontario and federal officials had a dire outcome: when global health officials and scientists from the WHO asked questions about Toronto's epidemic, Canada's diplomats had no information to assuage their concerns. Health Canada blamed Ontario. Ontario blamed Health Canada.²⁵ Being a United Nations agency, the WHO took the reasonable view that the national government was the one responsible to communicate with it. When Health Canada could not do so satisfactorily, the WHO drew a reasonable inference and placed Toronto under a travel advisory.²⁶ That decision was justified by the discovery that a SARS-infected Canadian had travelled to the Philippines, potentially spreading the disease internationally. The fact that a rich, developed country like Canada endangered a poor, developing country with a fatal disease, largely because it could not end its internal jurisdictional squabbling in time to stop this from occurring was, no doubt, galling to the WHO.

But here is a terrific irony: the WHO's travel advisory came when Toronto's epidemic was nearly extinguished, indeed, two days *after* Toronto's last case of SARS was thought to have occurred.²⁷ Had provincial and federal officials shared epidemiological information more expeditiously, they could have satisfied the WHO that the worst of SARS had already passed and, importantly, that there had been no transmission in the community. The travel advisory never would have happened.

The findings of Justice Campbell on the SARS epidemic support the conclusion that exclusive reliance on "co-operative federalism" is unworkable and therefore unsafe for matters such as epidemic disease. As he wrote:

One of the biggest problems during the Ontario SARS crisis was the inability of the federal and provincial governments to get their acts together. A few people of exceptional talent from both levels of government did their best to bridge the gap and make things work. Unfortunately they were unsupported

²⁴ Recall that the emergency must involve two or more provinces for the federal government to have authority to act without provincial permission. While cases of SARS were identified in British Columbia, the outbreak was contained in that province, which would have precluded its classification as an emergency.

²⁵ As Ontario Health Minister Tony Clement told the SARS Commission, "[W]e were unaware of exactly how [information] was being transmitted to the WHO, or the requirements of the WHO for the type of information required, so that the breakdown in communication was in fact Health Canada not telling us exactly what the information was needed for and how it should have been presented" (*SARS Commission Interim Report*, *supra* note 16 at 67).

²⁶ See World Health Organization, Media Release, "WHO extends its SARS-related travel advice to Beijing and Shanxi province in China, and to Toronto, Canada" (23 April 2003), online: World Health Organization <<http://www.who.int/mediacentre/news/notes/2003/np7/en/>>.

²⁷ See U.S., Centers for Disease Control and Prevention, "Update: Severe Acute Respiratory Syndrome—Toronto, Canada, 2003" (2003) 52 *Morbidity and Mortality Weekly Report* 547.

by any machinery of cooperation or any tradition of working together to solve problems.

... [T]he evidence from SARS makes one thing crystal clear: the greatest benefit from new public health arrangements can be a new federal presence in support of provincial delivery of public health. ...

... If a greater spirit of federal-provincial cooperation is not forthcoming in respect of public health protection, Ontario and the rest of Canada will be at greater risk from infectious disease and will look like fools in the international community.²⁸

The moral imperative that emerges from this episode could not be clearer: co-operation between jurisdictions, which should be the operational norm, *must* be backed by mandatory federal laws in case a province fails to co-operate, putting Canada in breach of its international obligations and endangering the commonweal.

In the end, without any such mandatory federal laws, co-operative federalism failed so badly that Canada became one of only two countries to be slapped with a WHO travel advisory. The other country to be so dishonoured, China, is hardly known for its transparent and democratic government. Other countries, such as Singapore, had epidemics at least as bad as Canada's, but avoided a WHO travel advisory because of superior coordination and communication.²⁹ It is a stunning fact that, in the face of a life-threatening emergency, Canada's bureaucrats and their version of co-operative federalism performed no better than the apparatchiks of communist China. There can be no excuse for that. The WHO travel advisory lasted only eight days and affected only one Canadian city, but it cast a pall on tourism and trade. Ontario Premier Dalton McGuinty estimated that SARS cost Ontario \$720 million.³⁰ Canada as a whole lost \$1.5 billion.³¹

By mishandling the SARS emergency, Canada wasted \$1.5 billion in one year with no social benefit to show for it. To put this figure in perspective, for about the same money, for one year Canada could meet its direct costs to cut greenhouse gas emissions and meet the Kyoto Protocol (cost: \$1.1 billion),³² put one thousand new RCMP officers and federal prosecutors on the job (cost: \$161 million), and create another twenty-five thousand child care places (cost: \$250 million).³³ That is just one

²⁸ *SARS Commission Interim Report*, *supra* note 16 at 163.

²⁹ See Jody Lanard & Peter M. Sandman, "Canadian response to SARS scorned as whiny" *The Toronto Star* (9 May 2003) F4.

³⁰ "Address" (Remarks to the Economic Club of Toronto, 30 October 2003), online: Government of Ontario <<http://www.premier.gov.on.ca/news/Product.asp?ProductID=8>>.

³¹ See Paul Darby, "The Economic Impact of SARS" (Special Briefing May 2003) (Ottawa: The Conference Board of Canada, 2003) at 1, online: The Conference Board of Canada <www.conferenceboard.ca>.

³² See Environment Canada, "Costs of Kyoto—What We Know" (4 March 2002), online: Environment Canada <http://www.ec.gc.ca/media_archive/minister/speeches/2002/020318_t_e.htm>.

³³ See Finance Canada, *The Budget Plan 2006: Focusing on Priorities* (Ottawa: Finance Canada, 2006) at 126, 96, online: Finance Canada <<http://www.fin.gc.ca/budget06/pdf/bp2006e.pdf>>.

possible configuration of social benefits that Canadians might have had, if proper attention had been given beforehand to the necessary federal powers in respect of epidemic emergencies.

And nobody can know how many of the 44 people who died and 375 people who fell ill in Toronto might have been spared if only the federal government had received the epidemiological information it needed. Justice Campbell is correct: if greater cooperation is not achieved, Canada will look foolish in the eyes of the international community, if it does not already.

II. Canada's International Obligations

In the wake of the SARS epidemic, which battered Canada more severely than any other country outside the epidemic's point of origin in Asia,³⁴ the WHO in 2005 succeeded in its decade-long goal to win approval from its member nations for revisions to the *International Health Regulations* ("IHR").³⁵ The revised IHR caused high excitement in the public health field, leading one commentator to characterize them as "the coming-of-age of a governance strategy for infectious diseases more radical than any previous governance innovation in the area of international relations."³⁶ Hyperbole surely, but even so, the revised IHR do concern Canada in important ways.

The revised IHR have a handful of new, core ideas. The first is that countries have a duty to conduct epidemiological "[s]urveillance", which means basically "the capacity to detect, assess, notify and report events"³⁷ constituting a possible "public health emergency of international concern within its territory."³⁸ If a country's surveillance detects such an event, its officials must resort to a "Decision Instrument" (basically, a flow chart) in the IHR to decide if the event is serious enough to *notify* the WHO.³⁹ Any event that crosses the threshold established by the Decision Instrument must be brought to the notice of the WHO "by way of the National IHR Focal Point, and within 24 hours of assessment ..."⁴⁰ With the warning sounded, the

³⁴ See World Health Organization, *Summary Table of SARS Cases by Country, 1 November 2002 – 7 August 2003*, online: World Health Organization <http://www.who.int/csr/sars/country/country2003_08_15.pdf>.

³⁵ UN WHA, *Revision of the International Health Regulations*, Res. WHA58.3, 58th Sess., WHO Doc. WHA58/2005/REC/1 (2005) [*Revised IHR*].

³⁶ David P. Fidler, *SARS, Governance and the Globalization of Disease* (London: Palgrave Macmillan, 2004) at 131.

³⁷ *Revised IHR*, *supra* note 35, art. 5(1).

³⁸ *Ibid.*, art. 6(1).

³⁹ *Ibid.*, Annex 2 ("Decision Instrument for the Assessment and Notification of Events that May Constitute a Public Health Emergency of International Concern") [*Decision Instrument*]. Note the criteria that determine whether a public health emergency is of international concern.

⁴⁰ *Ibid.*, art. 6(1).

country must then stay in touch with the WHO. The IHR are exacting about what information must be shared:

[The country] shall continue to communicate to WHO timely, accurate and sufficiently detailed public health information available to it on the notified event, where possible including case definitions, laboratory results, source and type of the risk, number of cases and deaths, conditions affecting the spread of the disease and the health measures employed; and report, when necessary, the difficulties faced and support needed in responding to the potential public health emergency of international concern.⁴¹

If a country fails to deliver the required epidemiological information in a timely and honest fashion, the WHO is entitled to seek out whatever alternative sources of information exist, such as may be available from other governments or non-governmental organizations. When this happens, the IHR state that the “WHO should communicate information to other States Parties that might help them in preventing the occurrence of similar incidents.”⁴² Thus, in a situation like the SARS epidemic, it is anticipated that the WHO may become something of a tattletale—a fact that is likely to prove hugely embarrassing for national governments that either by refusal (e.g., China) or by clumsiness (e.g., Canada) fail to deliver the required information on time.

Where a public health emergency of international concern is determined to exist, the WHO may advise various measures to solve the crisis, including quarantine, travel advisories, vaccination, tracing of infected persons and their contacts, and border entry or exit restrictions for people or cargo.⁴³ The IHR mandate that states parties must have the capacity to implement these sorts of responses by 2012.⁴⁴

Canada is not well-prepared to meet its obligations under the IHR. The trouble is fundamental, starting with the IHR’s requirement that each country “shall designate or establish a *National* IHR Focal Point” responsible for all of that country’s dealings with the WHO.⁴⁵ There is no allowance in the IHR for a provincial or territorial focal point; it must be national.⁴⁶ If the federal government sought to devolve its IHR obligations onto the provinces and territories, that in itself might breach the IHR. Furthermore, since there is currently no federal law that compels provinces to act in accordance with the IHR on even such basic requirements as furnishing epidemiological information, it stands to reason that Canada will be unable to assure the WHO and the world at large of its ability to meet its IHR obligations.

⁴¹ *Ibid.*, art. 6(2).

⁴² *Ibid.*, art. 11(1).

⁴³ *Ibid.*, art. 18.

⁴⁴ The revised IHR were adopted on 23 May 2005 and all WHO member states, unless they rejected it before 15 December 2006, became states parties when it entered into force on 15 June 2007 (*Revised IHR*, *supra* note 35, art. 59). From this point, they have five years to “develop, strengthen and maintain ... the capacity to respond ...” (*ibid.*, art. 13(1)).

⁴⁵ *Ibid.*, art. 4(1) [emphasis added].

⁴⁶ See Kumanan Wilson, Christopher McDougall & Ross Upshur, “The New International Health Regulations and the Federalism Dilemma” (2006) 3 *Public Library of Science Medicine* 30 at 31.

Come another epidemic crisis, the federal government will surely ask the provinces to meet Canada's IHR obligations, but, as a matter of law, it cannot guarantee that they will. The result could be a disappointment redolent of SARS in Ontario, except this time our international partners would be slower to reopen borders or resume trade. In diplomacy, nobody is keen to do favours for countries that fail to take their commitments seriously, and there is an understandable belief that after the SARS epidemic, Canada has had fair warning.

III. Epidemiology of Epidemics

It is frequently said that diseases do not have borders. This is not strictly correct. While it is true that diseases do not observe geopolitical borders, nature has them observe biological borders according to the fundamental properties of the infectious agent. These properties determine the extent to which diseases may spread. And, importantly, these biological borders can be influenced by the actions of public health officials. Sensible legislation should therefore be designed around the idea of "shrinking the borders", biologically speaking, of pathogens.

Infections are caused by organisms called pathogens, which are most often a virus or a bacterium. A person who is exposed to a pathogen may be susceptible to it and develop illness, or may be immune to it and not develop illness. However, for many infectious diseases, even sensitive persons who are not yet showing signs of illness or immune persons can carry a pathogen, potentially spreading it to others with whom they have contact. Stemming an outbreak therefore requires more than just treating the sick persons: it requires breaking the chain of transmission in the community.

This points to an important corollary: the difference between curing the infection in a person and breaking the chain of transmission of infection in a community is exactly the difference between the practice of medicine and the practice of public health. Accordingly, the best medical system in the world may not be enough to contain an epidemic within its biological borders—an important fact to remember when it comes to making law.

Most infections consist of an initial event when a person's infection is acquired, followed by a period of latency, followed by a period during which the infection can be passed to others. Illness can come early, late, or not at all in this process; there is no hard and fast rule. For example, a person infected with smallpox will typically appear well for twelve to fourteen days and will only become infective to others when clinical illness sets in. Very differently, a person infected with HIV will typically be ill with flu-like symptoms in the first few weeks after infection, then may appear perfectly healthy for years, and then may be ill with full-blown AIDS in the last year of life, but will be infective to others throughout.⁴⁷

⁴⁷ See generally R.M. Anderson & R.M. Roy, *Infectious Disease of Humans: Dynamics and Control* (Oxford: Oxford University Press, 1991).

In all three examples, the best medical care in the world for an individual patient's illness will not be enough to contain the epidemic within its biological borders.

So what determines whether an outbreak of any given pathogen takes hold and grows into a worrying epidemic or, alternatively, declines and fizzles out? The key variable is the *basic reproduction number* of the disease, which is denoted by the shorthand R_0 . R_0 is defined as the *mean number of people one infected person will subsequently infect*. For example, when R_0 is equal to 2, a typical infected person will go on to infect two other uninfected persons. Therefore, when $R_0 > 1$, the epidemic is growing, and when $R_0 < 1$, the epidemic is shrinking.⁴⁸

This is an all-important concept, for it is R_0 that represents the true biological borders of the disease. Faced with an epidemic that has burst its borders, the *only* way to make it shrink back is to manoeuvre R_0 down below 1. This is true for *all* infectious outbreaks, whether they start off as highly infectious like measles (initial R_0 = about 8) or as only moderately infectious like SARS (initial R_0 = about 1.5).⁴⁹

It stands to reason that, no matter what the infectious disease, the faster and further R_0 can be brought below 1, the sooner the epidemic will cease and the less harm it will do.⁵⁰

There are basically three ways that public health officials can act to reduce R_0 below 1.⁵¹ Briefly, these are:

1. “*Social distancing*” (a polite term for quarantine)—As practiced, persons who are actually infected or are believed to be potentially infected with the pathogen are traced and then voluntarily or (if uncooperative) involuntarily isolated in quarantine. Isolation serves to break contact and therefore the chain of the pathogen's transmission to uninfected, disease-susceptible persons. Isolation may be targeted at individual persons or, in the case of a cordon sanitaire, it may be targeted at whole cities or countries through travel and trade restrictions.

⁴⁸ See Neil M. Ferguson *et al.*, “Strategies for Containing an Emerging Influenza Pandemic in Southeast Asia” (2005) 437 *Nature* 209.

⁴⁹ See J. Mossong & C.P. Muller, “Estimation of the Basic Reproduction Number of Measles During an Outbreak in a Partially Vaccinated Population” (2000) 124 *Epidemiology and Infection* 273. See also Eduardo Massad *et al.*, “Forecasting Versus Projection Models in Epidemiology: The Case of the SARS Epidemics” (2005) 65 *Medical Hypotheses* 17.

⁵⁰ This statement is true only when speaking of a given pathogen. It need not be true when comparing two totally different pathogens, because inherent differences in the speed of the pathogen's life cycle must then be considered.

⁵¹ See Ira M. Longini, Jr. *et al.*, “Containing Pandemic Influenza at the Source” (2005) 309 *Science* 1083; Timothy C. Germann *et al.*, “Mitigation Strategies for Pandemic Influenza in the United States” (2006) 103 *Proceedings of the National Academy of Sciences of the United States of America* 5935.

2. *Immunization* (colloquially called vaccination)—As practiced, persons who have never been infected with, and who therefore have no immunity to, the pathogen are given a vaccine. The vaccine primes the cells of the person's immune system so that the person is no longer disease-susceptible. So long as that immunization remains effective, supplemented with booster vaccines if need be, the person will be protected from infection and disease even if exposed to the pathogen, breaking the chain of transmission.⁵²
3. *Pharmaceutical prophylaxis*—As practiced, persons who have uncertain or no immunity to the pathogen, and who therefore could be disease-susceptible, are given a course of medicines. The medicines are designed to inhibit the molecular mechanisms the pathogen requires to carry out its disease-causing life cycle. Thus, though the infection may gain a toehold if the person is exposed to the pathogen, generally the person's disease and subsequent infectiousness to others will be less severe and possibly even avoided. As a result, the chain of the transmission is attenuated or even broken.

Each of these three basic measures may be used on its own, but frequently they are used in combination. This is because, leaving aside the obvious differences in technology, all three measures strive to break the chain of transmission. For example, with quarantine, isolation keeps the infected person and the uninfected person's body physically apart, which breaks the chain of transmission. Much the same, with immunization, a vaccine keeps the infected person and the uninfected person's immune system functionally apart, which also breaks the chain of transmission.

This scientific point is worth pondering because, as we explain later, it has an important legal implication: although there is a choice of *means* of infection control, biologically speaking, they all have the same *end* of reducing R_0 below 1. What the technology of quarantine achieves at the whole-body level, the technology of immunization achieves at the cellular level of the immune system, and the technology of pharmaceutical prophylaxis achieves at the molecular level of the pathogen. It is like viewing one great sculpture from three different angles.

Considered in the light of this biological relationship, the carving up of responsibility for these three technologies among decision makers occupying different levels of Canada's government should raise serious doubts, for it puts at risk the synergism between them.

The pathogen's properties of time and place also matter. The faster a pathogen transmits from person to person, the harder it is to intervene and reduce R_0 once the epidemic is underway (though vaccinating people before the epidemic starts is a good

⁵² Note that this is a simplification. The most extraordinary vaccines, such as the vaccine for smallpox, are so effective that they can achieve the feat of immunizing a person *after* he or she has been infected, provided that the vaccine is administered in the infection's earliest stages and before the disease presents itself.

way to reduce the proportion of susceptible persons and, correspondingly the initial R_0). Likewise, pathogens with a long asymptomatic period, during which infected persons appear totally healthy and move about freely while infecting others, are insidiously difficult to trace and stop. And obviously, the movement of pathogens transmitted through breath or insect bites is less predictable than that of pathogens transmitted through food, water, or bodily fluids.

One can look to the properties of time and place to make educated guesses about whether an epidemic is likely to be of local, national, or international concern. For example, a life-endangering pathogen that signals its arrival by causing serious illness well before its carrier becomes infectious to others is quite easy to spot and contain before it spreads beyond a single province. But an equally life-endangering pathogen that produces no visible signs of illness, even while its carrier is highly infectious to others, is nightmarishly hard to spot and sure to grow into a mighty pandemic that is impossible to contain within one province. That is all the more true if the pathogen is rapidly transmitted and has an R_0 well above 1.

Consider another scientific point with a legal consequence: whichever level of government is in charge, an epidemic must never be judged on the geographic indications of where the infections are today but, rather, on the biological indications (having regard to the pathogen's properties of time and place) of where the infections will be tomorrow. Even the gravest international disease emergency will, at its inception, have been geographically confined to one place—but that does not mean it was “just a local problem.” To illustrate, North America's first known AIDS patient was a young, French-Canadian man from Montreal, who spread the disease far and wide while employed as an Air Canada steward in the early 1980s.⁵³ As history shows, it would have been ridiculous to conclude from those facts that AIDS was “just Quebec's problem.” It is *always* the biological borders of a disease—the pathogen's R_0 , its properties of time and place, as modified by the control measures applied to fight back—that are the correct focus of analysis, and never the geographic borders. This is a scientific reality that the law must be sensitive to if it is to be effective.

For familiar pathogens, such as influenza, scientists have much knowledge and precedent available to help predict how the pathogen will behave and how it can be controlled. But for other pathogens, such as SARS, which did not exist before 2002, scientists may have only their educated guesses to avert disaster. In such cases, it seems wise that the law afford them all the flexibility possible.

A. Outbreak Simulations

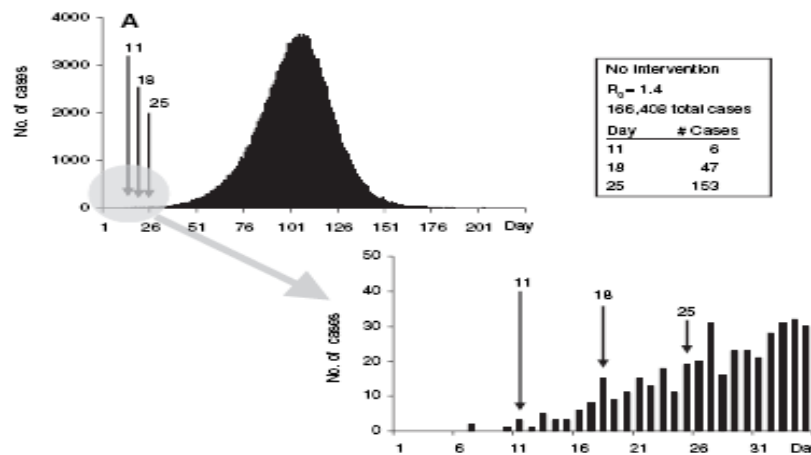
Just as military planners use war games to school themselves in responding to human belligerence, public health scientists use simulations of outbreaks to anticipate

⁵³ See Randy Shilts, *And the Band Played On: Politics, People, and the AIDS Epidemic* (New York: St. Martin's Press, 1987).

how to fight epidemics. The lessons from these simulations matter also to law and policy.

Two simulations of an avian flu outbreak in Southeast Asia have recently been published in the journals *Science* and *Nature*.⁵⁴ Each modelled the likely success of public health interventions in controlling the outbreak at its source and in preventing the development of a larger epidemic. The scenario is of a future where, as is feared, the avian influenza virus acquires the ability to transmit itself efficiently from human to human (it currently can only efficiently transmit from birds to humans).

The *Science* simulation modelled the likelihood of success of these interventions in controlling an outbreak at source in rural Southeast Asia based on varying the R_0 of the virus. It is beyond the scope of this paper to discuss how this modelling was done, but below is one calculated epidemic curve, taken from the *Science* simulation, showing the number of influenza cases expected to develop in a population when the initial $R_0 = 1.4$.⁵⁵



Following the initial infection with the new virus on day 1, the dark bell-like curve shows the number of new influenza cases predicted to arise daily. At first, the epidemic grows slowly, building in size until it crescendoes after approximately day 100. As infected people die, or recover and become immune, R_0 drops, and the epidemic dies out. At the peak, about four thousand new persons are acquiring influenza *each day*—a staggering number that no medical system could possibly care for.

Note the early part of the epidemic, circled in grey. After the initial infection, it is on average four days before the first symptomatic case develops. By day 18, forty-

⁵⁴ Longini *et al.*, *supra* note 51; Ferguson *et al.*, *supra* note 48.

⁵⁵ Longini *et al.*, *ibid.* at 1085 (Figure 2A). Reprinted with permission from AAAS.

seven cases have appeared. If public health officials can identify the outbreak by this stage (i.e., fourteen days after the first symptomatic case appears, or eighteen days after the initial infection) and, optimistically, can distribute antiretroviral prophylaxis to ninety per cent of the population within the immediate geographical region, then the spread could be limited and the outbreak could be controlled at its source.

The *Science* simulation has important lessons for policy design. The first is that it pays to have supremely efficient epidemiological surveillance systems, capable of detecting outbreaks quickly. The second is that, once detected, the response must be immediate. If either the surveillance or the response lags, time is lost, and the epidemic will grow exponentially, reaching potentially unmerciful proportions in only a few weeks. For influenza, a fast (fourteen days) and aggressive (ninety per cent antiretroviral delivery) response may nip the epidemic in the bud—but only barely. Recall that the scenario we present here is the most conservative one. If R_0 were greater, as it probably would be, then the odds of controlling the epidemic would be that much lower.

There is no room in this timeline—literally, not even a day—for jurisdictional wrangling. Let's say, optimistically, that an outbreak is identified by day 14. Based on the epidemic curve above, if it were then to take another two weeks to establish an effective working relationship between the orders of government, the country would face a rapid rise in the number of cases and an outbreak that it is no longer possible to control at its source. Canada's current legislative framework does not provide the federal government recourse to take action if time-wasting disputes arise. Yet, time, or the lack of it, is the difference between success and failure.

If such an avian influenza outbreak were to occur in a densely populated region of Canada—which is the likeliest location given that the virus would probably first appear in a city with a major international airport—Canada almost certainly could not react in time. The main reason is that epidemiological surveillance is coordinated locally and not nationally. The quality of epidemiological surveillance varies across provinces, as do attitudes on how bad news should be handled. During the SARS epidemic, Ontario avoided sharing news, whether good or bad, with Ottawa, which, as we have already discussed, gave rise to the very damaging WHO travel advisory.

However, even assuming that a province had good epidemiological surveillance and acted with candour toward Ottawa, it is not entirely clear that Ottawa could do all that is necessary to help. In particular, the federal government lacks a standing cadre of public health officers to investigate and plan interventions against epidemics at the local level. In comparison, the United States and the European Union regularly train these important workers.⁵⁶ Thus, there are both provincial and federal weaknesses that could lead to a breakdown in the response and a consequent inability to control an epidemic at its Canadian source.

⁵⁶ Canada's omission is noticeable compared to the training offered by the Public Health Service in the United States, or the EU's European Programme for Intervention Epidemiology Training.

There is no published simulation of what an influenza pandemic in Canada would look like. However, a simulation for the United States has been done based on the spread of the disease via air travel.⁵⁷ In the most conservative case ($R_0 = 1.6$), by day 14, about one thousand persons would be infected. By day 70, the one-millionth person would become ill, and the number of new cases per day would still be on the rise. At the peak of the epidemic, a staggering 2.3 million cases would develop daily. Assuming a 0.1% mortality rate, which is a conservative assumption, 2,300 of those individuals would eventually die—and that is the figure for just one day. Canada, of course, has a smaller population, but, proportionately, there is no reason to think that our country would fare better.

IV. The Federal Government's Constitutional Powers

The foregoing section explained that epidemic diseases such as influenza and SARS are biologically multiplying problems, which can be difficult or impossible to contain within a single territorial jurisdiction. Successfully containing an outbreak requires sufficient planning ahead of the initial infection and a timely response after the initial infection, including isolation, treatment, contact tracing, and active case detection. In other words, preparation is a routine activity *ex ante*, and response is an emergency activity *ex post*. Both have an impact on R_0 during the epidemic, and therefore both are essential.

Although, in theory, measures for epidemic preparedness could be legislated federally, and measures for epidemic response could be legislated provincially—a neat division of responsibilities, with no overlap—we think it prudent to reject that approach. It was just that kind of jurisdictional schism that proved dysfunctional during the SARS epidemic and that caused Toronto to be placed under the WHO travel advisory. If the law had obliged the Ontario and Toronto governments to share their information about the epidemic with the federal government, very probably the travel advisory would have been avoided because Health Canada would have had the right information to satisfy the WHO that the epidemic was under control. With Health Canada deprived of that information, the consequences hurt not just Toronto but Canada as a whole.

But Canada got off comparatively easy because SARS is not a very aggressive epidemic. With influenza in a bad year, or a bioterrorist attack of smallpox, a jurisdictional schism of the same kind could delay or thwart emergency-response decisions. In such a case, the dead might number in the tens or hundreds of thousands.

Seen in this way, it is not just desirable, but necessary, that federal law overlap with areas that the provinces traditionally regard as their own, such as health. The provinces will continue to legislate, as is correct, because there will always be

⁵⁷ Germann *et al.*, *supra* note 51.

epidemics that are purely local in nature (most waterborne diseases, for example). But provincial law alone will *never* do the optimum job when it comes to the worst of the “hot” epidemics.

Thus, how federal jurisdiction might overlap with provincial jurisdiction becomes a meaningful question. The federal government can only legislate where there is a constitutional basis for the exercise of federal jurisdiction, as found in the heads of power in section 91 of the *Constitution Act, 1867*.⁵⁸ Accordingly, in the following sections, we analyse some of the federal heads of jurisdiction that are potentially germane to epidemic preparedness and response.

A. The Quarantine Power

Subsection 91(11) of the *Constitution Act, 1867* accords the federal government jurisdiction over “Quarantine and the Establishment and Maintenance of Marine Hospitals.”⁵⁹ The power is an obscure one: it has never been judicially considered by the Supreme Court of Canada, and contemporary texts on health law and constitutional law contain no mention of its having been considered by lower courts.

Nevertheless, it is possible to venture some informed guesses on the importance of this power. Subsection 91(11) is undoubtedly the source of jurisdiction for the federal *Quarantine Act*.⁶⁰ The thrust of the act is to set out processes for quarantine in situations involving international travel or transport by a “conveyance”—defined in the act as “a watercraft, aircraft, train, motor vehicle, trailer or other means of transportation, including a cargo container, that arrives in Canada or is in the process of departing from Canada”⁶¹—which implies that subsection 91(11) may be limited to situations of movement. The notion that movement is an essential feature of subsection 91(11) jurisdiction appears to be supported by the fact that, in 1867, the architects of Confederation grouped “Marine Hospitals”—that is, hospitals for people on the move—together with quarantine in that section.

But while the *Quarantine Act* invokes subsection 91(11) only in situations of transport or at ports of entry, there is no justification for such a narrow interpretation of subsection 91(11). Ottawa could rely on the quarantine power to justify measures—including measures beyond quarantine *sensu stricto*—that are necessary to comply with international treaties for health protection, such as the revised IHR.

There is a sound historical basis for this interpretation. In the fourteenth century, the practice was established of detaining ships entering the Adriatic port of Dubrovnik and holding them at bay (literally) or in remote terrestrial locations away from the local population, which had learned the importance of such cautionary

⁵⁸ (U.K.), 30 & 31 Vict., c. 3, reprinted in R.S.C. 1985, App. II, No. 5.

⁵⁹ *Ibid.*

⁶⁰ S.C. 2005, c. 20, repealing *Quarantine Act*, R.S.C. 1985, c. Q-1.

⁶¹ *Ibid.*, s. 2.

measures from its experience with the Black Death.⁶² Soon Genoa, Venice, Marseille, and other busy ports followed suit. Detained ships that remained free of the plague were deemed to pose no danger of infection after forty days—*une quarantaine de jours*—from which comes the word “quarantine”.

Quarantine was thus a shipping custom adopted by states, which effectively made it customary international law. By the early nineteenth century the fear of cholera had prompted quarantine laws across continental Europe and Britain.⁶³ It was a natural extension that, starting in 1851, quarantine came under a regime of international regulation, with the states of Europe and the Orient meeting at the International Sanitary Conferences of 1851, 1859, and 1866. Those conferences and later ones produced treaties on the norms for quarantine, which a number of countries went on to ratify.⁶⁴

By the time of Canadian Confederation in 1867, quarantine was firmly part of the law of nations. It is very likely that quarantine was made a federal power in Canada’s constitution to give effect to that international law.

But what do we do about the reality that, since 1867, neither the science of infectious disease nor the international law of epidemic control has stood still? Louis Pasteur’s experiments with rabies vaccination did not take place until 1885. Robert Koch’s proof of the bacterial nature of human epidemic disease (specifically, tuberculosis) did not take place until 1882. The pace of scientific discovery is reflected in later International Sanitary Conferences and the treaties that grew out of them.⁶⁵

Given this historical evolution, we believe it would be wrongheaded if subsection 91(11) were read as conferring federal jurisdiction only in respect of quarantine *sensu stricto* and not in respect of the other technologies of epidemic prevention and control. A better reading of subsection 91(11) is that, circa 1867, the only technology available to stem epidemics of great concern was quarantine *sensu stricto*, and so by that accident of history, the word “quarantine” received privileged mention in the

⁶² See Paula Frati, “Quarantine, Trade and Health Policies in Ragusa-Dubrovnik until the Age of George Armenius-Baglivi” (2000) 12 *Medicina nei secoli, arte e scienza* 103 at 118.

⁶³ See Charles Maclean, “Remarks on the British Quarantine Laws and the So-Called Sanitary Laws of the Continental Nations of Europe, Especially of Spain” (1823) 21 *The Pamphleteer* 415.

⁶⁴ See Valeska Huber, “The Unification of the Globe by Disease? The International Sanitary Conferences on Cholera, 1851–1894” (2006) 49 *The Historical Journal* 453.

⁶⁵ See Peter Baldwin, *Contagion and the State in Europe, 1830–1930* (Cambridge: Cambridge University Press, 1999). The argument in this paragraph is not to suggest that public health as a science was unknown before 1867. Writing of the great plague that struck Athens in 430 B.C., Thucydides observed that the ill who survived became immune (Thuc. 2.51 in David Greene, ed., *The Peloponnesian War*, trans. by Thomas Hobbes (Ann Arbor, Mich.: University of Michigan Press, 1959) vol. 1 at 118). In the eighteenth century, Europeans adopted from the Near East and Africa a crude, often fatal predecessor to vaccination called variolation. But it was not until the nineteenth century that scholars such as John Snow, Louis Pasteur, and Robert Koch established the precepts of epidemiology, vaccinology, and germ theory—and that is where the scientific understanding begins.

constitution. Since then, the range of available technologies has grown, and, as was explained in Part III, in a biological sense, there is no meaningful difference between the technologies of quarantine, immunization, and pharmaceutical prophylaxis, which in an epidemic all serve to drive the pathogen's R_0 below 1. Society receives the greatest benefit by employing all three technologies in combination, with each of them working at a different level (whole-body, cellular, or molecular) to isolate the pathogen from the uninfected person. It is this scientific reality that has caused Canada's obligations in international law to evolve and that makes the revised IHR the intellectual descendant of the International Sanitary Conferences of the nineteenth century.

For these reasons, we believe there could be no clearer case in which to apply the famous doctrine in *Edwards v. Canada (A.G.)* that “[t]he British North America Act planted in Canada a living tree capable of growth and expansion within its natural limits.”⁶⁶ The word “quarantine” in subsection 91(11) of the *Constitution Act, 1867* cannot be interpreted as quarantine *sensu stricto* but must be allowed to expand within its intended limits, the prevention and control of epidemics. This treatment of the quarantine power would be in line with the treatment given to various post-1867 technologies, such as aviation and nuclear power, which required some restructuring of the Confederation-era division of powers.⁶⁷

Thus, we argue that the subsection 91(11) quarantine power confers on the federal government the jurisdiction to legislate in respect of all necessary measures of epidemic preparedness and response, irrespective of the technology employed. So long as a measure is in pith and substance aimed at this end, it should be intra vires subsection 91(11). Whether this is accomplished using the technology of quarantine as in fourteenth-century Dubrovnik or accomplished using a modern technology such as vaccination or pharmaceutical prophylaxis should be irrelevant to the constitutional analysis. Any other conclusion risks a suboptimal separation of responsibility for the three available technologies among decision makers at different levels of Canada's government, which Canada could ill afford in a “hot” epidemic.

We note that a valid exercise of subsection 91(11) may well have a territorial impact on a province. An example of this would be the establishment of terrestrial isolation sites, such as those used in fourteenth-century Dubrovnik. A more modern example would be the deployment of federal epidemiological surveillance teams to trace, isolate, vaccinate, or prophylax the uninfected contacts of infected persons within a city, as Health Canada sought to do in Toronto during SARS.

To summarize, the subsection 91(11) power is correctly interpreted as a broad source of jurisdiction for federal legislation necessary to give effect to Canada's

⁶⁶ [1930] A.C. 124 (P.C.) at 136, [1930] 1 D.L.R. 98, Lord Sankey L.C.

⁶⁷ See e.g. *Johannesson v. West St. Paul (Rural Municipality of)*, [1952] 1 S.C.R. 292, [1951] 4 D.L.R. 609; *Ontario Hydro v. Ontario (Labour Relations Board)*, [1993] 3 S.C.R. 327, 107 D.L.R. (4th) 457.

obligations at international law to prepare for and respond to epidemics. The revised IHR give excellent guidance in answering which epidemics trigger those obligations.⁶⁸ Federal legislation in this domain should be intra vires subsection 91(11) if its pith and substance aims at epidemic control—and this is true notwithstanding that the legislation may impact provincial territory and jurisdiction, as would be expected. We recognize that subsection 91(11) has never been considered by the Supreme Court of Canada, and we concede that our opinion lacks the weight of jurisprudence. But that is no reason to reject the obvious reality that epidemic control technologies have changed since 1867, as has the body of international law to which historically subsection 91(11) gave effect.

B. The Criminal Law Power

One of the more recent and striking evolutions to occur in Canadian federalism is the reaffirmation by the Supreme Court of Canada of the extensive criminal law power in subsection 91(27) of the *Constitution Act, 1867*. Under this power, the federal government has jurisdiction over “[t]he Criminal Law, except the Constitution of Courts of Criminal Jurisdiction, but including the Procedure in Criminal Matters.”⁶⁹ At first blush, it may seem odd to rely on the criminal law power in the public health context. Indeed, a widely held attitude among public health practitioners is that criminalizing health problems tends to be counterproductive. While that is arguably true of some public health actions (e.g., criminalizing heroin use can make it harder to woo addicts into treatment), where public health regulations are concerned, the criminal law power is extremely useful. The prohibitions against selling tainted food, advertising tobacco to minors, and making false therapeutic claims for medicines are all regulations of great public health importance that derive from the federal criminal law power.⁷⁰

It is important to appreciate that the phrase “criminal law” in subsection 91(27) is not to be understood in its cops-and-robbers sense. The Supreme Court recently took up the definition of criminal law in the *Reference Re Firearms Act*. It wrote: “As a general rule, legislation may be classified as criminal law if it possesses three prerequisites: a valid criminal law purpose backed by a prohibition and a penalty ...”⁷¹

Thus defined, legislation must satisfy three requirements to qualify as criminal law. There must be (i) a prohibition and (ii) a penalty for violating the prohibition. Since, with enough creativity, almost any rule can be worded in terms of a prohibition and a penalty, neither requirement places an actual limit on the substance of criminal

⁶⁸ See especially Decision Instrument, *supra* note 39.

⁶⁹ *Supra* note 58.

⁷⁰ See *RJR-MacDonald v. Canada (A.G.)*, [1995] 3 S.C.R. 199, 127 D.L.R. (4th) 1; *R. v. Wetmore*, [1983] 2 S.C.R. 284, 2 D.L.R. (4th) 577 [cited to S.C.R.].

⁷¹ 2000 SCC 31, [2000] 1 S.C.R. 783 at para. 27, 185 D.L.R. (4th) 577.

law, and both are at most constraints on a law's written form. Instead, the only substantive limit is found in the requirement that there be (iii) a valid criminal law purpose.

But here is something striking: all sorts of things count as a valid criminal law purpose. The Supreme Court's classic list of those purposes reads: "Public peace, order, security, health, morality: these are the ordinary though not exclusive ends served by [the criminal] law ..."⁷² No doubt public peace, order, and health are all ends served by preparing for and responding to epidemics. The criminal law power is therefore very appropriate as a source of jurisdiction for federal legislation on epidemic control.

Even so, there is a tendency among some jurists to believe that subsection 91(27) is limited to true crimes only and does not apply to regulation, which remains in the provincial domain.⁷³ This view, however, is contradicted by recent Supreme Court jurisprudence. *R. v. Hydro-Québec*, for example, upheld the constitutionality of the *Canadian Environmental Protection Act*⁷⁴ under the criminal law power;⁷⁵ this legislation is certainly not criminal law in the cops-and-robbers sense. As a unanimous Supreme Court wrote in the *Reference Re Firearms Act*:

Criminal law, as this Court has stated in numerous cases, constitutes a broad area of federal jurisdiction ... Although it often overlaps with provincial jurisdiction over property and civil rights, it is not "carved out" from provincial jurisdiction ...

... [I]t also finds its expression in a broad range of legislation. The Criminal Code is the quintessential federal enactment under its criminal jurisdiction, but it is not the only one. The *Food and Drugs Act*, the *Hazardous Products Act*, the *Lord's Day Act*, and the *Tobacco Products Control Act* have all been held to be valid exercises of the criminal law power ...⁷⁶

This characteristic of the federal criminal law power cannot be emphasized enough: unlike most federal constitutional powers, which are limited to a particular subject matter—the quarantine power, for instance—the criminal law power is malleable and possesses no inherent subject matter. The Supreme Court has expressly discarded the "notion that there is a 'domain' of criminal law," and has freed that power to cut across domains, *including* those domains that the constitution otherwise assigns to the provinces.⁷⁷ So long as a federal law possesses (i) a prohibition, (ii) a penalty, and (iii) a valid criminal law purpose at its heart (the so-called pith and

⁷² *Reference Re Validity of Section 5(a) of the Dairy Industry Act*, [1949] S.C.R. 1 at 50, [1949] 1 D.L.R. 433. Note that the list of valid criminal law purposes is not exhaustive, and later cases can always add to it. For example in *R. v. Hydro-Québec*, [1997] 3 S.C.R. 213, 151 D.L.R. (4th) 32 [cited to S.C.R.], protection of the environment was recognized as a valid criminal law purpose.

⁷³ See *R. v. Hydro-Québec*, *ibid.*, Lamer C.J.C. and Iacobucci J., dissenting.

⁷⁴ R.S.C. 1985 (4th Supp.), c. 16.

⁷⁵ *R. v. Hydro-Québec*, *supra* note 72.

⁷⁶ *Supra* note 71 at paras. 28-29.

⁷⁷ *R. v. Hydro-Québec*, *supra* note 72 at para. 122.

substance of the law), it will be constitutional even if it considerably overlaps a provincial domain.⁷⁸

Since there is considerable latitude for a law to meet those criteria, subsection 91(27) is arguably the most flexible, potent, and far-reaching constitutional power in the federal catalogue. The precedents for using it in health protection are excellent, and, as the Supreme Court notes in the *Reference Re Firearms Act* passage quoted above, the *Food and Drugs Act*,⁷⁹ the *Hazardous Products Act*,⁸⁰ and the *Tobacco Products Control Act*⁸¹ have all been held to be valid exercises of the criminal law power.⁸²

We believe that the criminal law power is underutilized in the field of epidemic preparedness and response. Specifically, the new *Quarantine Act* of 2005 is inexcusably unambitious as an example of federal legislation since the criminal law power could have sustained a much more thoroughgoing act than the one actually passed.⁸³

To illustrate: The new *Quarantine Act* provides that screening officers may take measures to halt “travellers” or “conveyances” spreading infections in Canada. Anyone obstructing an officer in this work can be criminally prosecuted and either fined or imprisoned.⁸⁴ This is a perfectly sensible measure: since most human diseases move with persons or with machines that move persons, an effective screening law is needed. However, the *Quarantine Act* accomplishes this objective incompletely, for the only travellers and conveyances that federal law allows to be screened are those that “[arrive] in Canada or [are] in the process of departing from Canada.”⁸⁵

⁷⁸ The only limitations are that the law cannot violate the *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, and cannot have a colourable (i.e., ulterior) purpose. See *R. v. Hyrdo-Québec*, *ibid.* at para. 121.

⁷⁹ R.S.C. 1970, c. F-27.

⁸⁰ R.S.C. 1985, c. H-3.

⁸¹ S.C. 1988, c. 20.

⁸² See *supra* note 76 and accompanying text. There is one possible exception to note: in *Labatt Breweries of Canada Ltd. v. Canada (A.G.)*, [1980] 1 S.C.R. 914, 110 D.L.R. (3d) 594 [*Labatt Breweries* cited to S.C.R.], the Court ruled that certain parts of the *Food and Drugs Act*, *supra* note 79 (ss. 6, 25(1)(c)) and the *Food and Drugs Regulations*, C.R.C., c. 870 (ss. B.02.130-B.02.135) were ultra vires the criminal law power. In light of the *Reference Re Firearms Act*, *supra* note 71, *Labatt Breweries* is almost certainly no longer good law; even if it were, it would not affect the analysis we present in this paper.

⁸³ To be clear, the *Quarantine Act*, *supra* note 60 is an exercise of the s. 91(11) quarantine power, and that power is sufficient to sustain the whole act’s constitutional validity. The discussion that follows here is limited to an examination of the *Quarantine Act*’s criminal prohibitions.

⁸⁴ *Ibid.*, ss. 66, 72. The crime is punishable on conviction on indictment by “a fine of not more than \$500,000 or to imprisonment for a term of not more than three years, or to both ...” (*ibid.*, s. 72).

⁸⁵ *Ibid.*, s. 2. Note the wording for travellers and conveyances is slightly different but functionally identical; the wording for conveyances is quoted here.

International movement, into or out of Canada, is key to triggering the *Quarantine Act*.

If this does not sound problematic, consider this implication: under the new (i.e., post-SARS) *Quarantine Act*, the federal government possesses the authority to interdict a *possibly* infected traveller journeying from (say) Toronto to Tokyo, but lacks the authority to interdict a *definitely* infected traveller journeying from Toronto to Vancouver. As a matter of constitutional law, both situations easily fall within the scope of the criminal law power, because they share the valid purpose of protecting public health. How ironic that the federal government's new *Quarantine Act* protects Japanese citizens better than Canadian citizens from acquiring a Canadian epidemic!

One could argue that this is not a problem because there are provincial quarantine laws. We disagree. In the example above, leaving the matter up to the provinces would be an undemocratic solution, as it would put Vancouverites' health in the hands of a government for which they never voted. If the politicians of Queen's Park were too slow or unwilling to implement their own quarantine laws in time to prevent an epidemic spread out of Toronto, that would be just too bad for the poor Vancouverites. They would have no democratic recourse against such inaction, even if it could kill them.

Some skeptics may question whether our analysis is legally accurate and whether the federal government could truly exercise quarantine powers throughout Canada. An example of where the federal government already does so is the *Health of Animals Act*,⁸⁶ which provides authority to screen and quarantine infected animals and conveyances, *even if there is no international movement*. Section 25 of the act provides that, subject to certain regulations or a licence, "no person shall ... remove from or take into an infected place any animal or thing"⁸⁷—an act that is criminalized elsewhere in the law.⁸⁸ Not only is it a crime to breach quarantine, regardless of where it is applied in Canada, but section 27 of the act also provides for these sweeping federal areas of authority:

(1) Where the Minister [of Agriculture and Agri-Food] believes that a disease or toxic substance exists in an area, the Minister may declare the area to be a control area, describe the area and identify the disease or toxic substance that is believed to exist there.

(2) The Minister may take all reasonable measures consistent with public safety to remedy any dangerous condition or mitigate any danger to life, health,

⁸⁶ S.C. 1990, c. 21. Unlike laws for human quarantine, whose constitutional validity can rest entirely on s. 91(11) of the *Constitution Act, 1867*, *supra* note 58, laws for animal quarantine can rest entirely on the agriculture power in s. 95 of the constitution. That difference does not make any difference to the argument here, which concerns only the criminal prohibitions in those laws.

⁸⁷ *Health of Animals Act, ibid.*, s. 25.

⁸⁸ *Ibid.*, s. 65(1).

property or the environment that results, or may reasonably be expected to result, from the existence of a disease or toxic substance in a control area.⁸⁹

The fact that the federal government possesses such vast powers in the *Health of Animals Act*, but as recently as 2005 declined to adopt similar powers to protect humans in the *Quarantine Act*, has absolutely nothing to do with a deficiency of constitutional power to legislate. It has everything to do with a political failure of will to legislate. If an epidemic of bird flu hit Canada tomorrow, the federal government's laws would be better poised to protect Canadian poultry than to protect Canadian people. That is an extremely shameful fact, and the federal government's underutilization of its constitutional powers, in particular its very strong subsection 91(27) criminal law power, is to blame.

Another useful application of subsection 91(27) would be in the area of epidemiological surveillance and information. In homage to the criminal law form, one could easily define an offence and prescribe a penalty for withholding vital information during an epidemic. Such a law could be worded roughly like this:

Every one in Canada who, during an epidemic emergency and with intent

(a) withholds clinical or epidemiological information, or

(b) counsels to withhold clinical or epidemiological information

when that information is requested by the Minister of Health for reasons of responding to the emergency is guilty of an indictable offence and liable to imprisonment for a term not exceeding ___ years, a fine of \$___, or both.

A federal law modelled on this one probably would have been adequate to compel Ontario to deliver timely information about the SARS epidemic to the federal government and the WHO. And as already set out, if the WHO had received timely information, Toronto very likely would not have experienced a travel ban costing hundreds of millions of dollars.

The criminal law power could be used in other ways to enhance preparation. For example, the different epidemiological surveillance systems that exist at the provincial level are not standardized. This is troubling because without a uniform standard for epidemiological data, it could be time-consuming or even impossible to pull together and analyze a large amount of important data from different locales in different provinces. In some cases, the data is even sent by old-fashioned mail, a procedure not at all conducive to the rapid response necessary to stem a "hot" epidemic in its first, crucial days.

The problem would be solved if the different health services at all levels of government made use of standardized electronic-data-reporting protocols, which would lend themselves to a unified data repository. This is the solution recently adopted by the federal government of the United States, which until recently had

⁸⁹ *Ibid.*

exactly the same data standardization problem as Canada.⁹⁰ Canada has made no appreciable progress on data standardization, even though the problem has been recognized and pilot projects were called for close to a decade ago.⁹¹

It would be both wise and straightforward to author a federal law requiring, on pain of criminal penalty, a uniform presentation for certain key epidemiological data. Such a law would be conceptually similar to the federal *Food and Drugs Act*, the *Consumer Packaging and Labelling Act*, and their associated regulations, which together prescribe a standard, uniform presentation for nutritional data for packaged food in Canada.⁹² Since the federal government has clearly exercised constitutional jurisdiction over nutritional data using the criminal law power, it would most likely also have constitutional jurisdiction over epidemiological data. Both clearly implicate health, a valid purpose of the criminal law.

To conclude, currently the subsection 91(27) criminal law power is the broadest of federal powers in the *Constitution Act, 1967*,⁹³ and has arguably more utility than any other federal power when the protection of health is concerned. So long as a law were held to have epidemic prevention or response as its pith and substance, and were written in terms of a prohibition and a penalty, it would very likely be upheld as a valid exercise of federal power, even if it entered into matters otherwise provincial in nature. There are already many precedents of federal health protection laws that have been successfully enacted under the criminal law power, including the *Food and Drugs Act*, the *Hazardous Products Act*, and the *Tobacco Products Control Act*, to name a few.⁹⁴ In our opinion there could be no more constitutionally sound way to enact federal legislation for controlling epidemics on a national scale.

⁹⁰ The U.S. Centers for Disease Control and Prevention write that

CDC and state and local health departments had recognized the importance of such systems and of uniform standards to improve the usefulness of public health surveillance and the timeliness of response to outbreaks of disease. Previously, state health departments received most case-report forms by mail and then entered the data into computer systems, sometimes weeks after the cases of notifiable disease had occurred, including cases that warranted immediate public health investigation or intervention. In addition, depending on the disease, only 10%–85% of cases were reported, and more than 100 different systems were used to transmit these reports from the states to CDC (“Progress in Improving State and Local Disease Surveillance—United States, 2000–2005” (2005) 54 *Morbidity and Mortality Weekly Reports* 822).

⁹¹ See Kumanan Wilson, “The Role of Federalism in Health Surveillance: A Case Study of the National Health Surveillance ‘Infostructure’” in Duane Adams, ed., *Federalism, Democracy and Health Policy in Canada* (Montreal: McGill-Queen’s University Press, 2001) 207 at 211.

⁹² *Food and Drugs Act*, *supra* note 79; *Food and Drugs Regulations*, *supra* note 82; *Consumer Packaging and Labelling Act*, R.S.C. 1985, c. C-38; *Consumer Packaging and Labelling Regulations*, C.R.C., c. 417.

⁹³ *Supra* note 58.

⁹⁴ See notes 76-81 and accompanying text.

C. Peace, Order, and Good Government

The chapeau of section 91 of the *Constitution Act, 1867* allows the federal government “to make Laws for the Peace, Order, and good Government of Canada, in relation to all Matters not coming within the Classes of Subjects by this Act assigned exclusively to the Legislature of the Provinces.”⁹⁵

The peace, order, and good government power is often viewed as a catch-all source of jurisdiction when no other federal power will do. Accordingly, POGG has been argued less often before the courts than has the criminal law power. Indeed, the only high-level judicial consideration of POGG as it concerns epidemic disease occurred in *obiter dictum*, in the 1946 decision of the Law Lords in the *Canada Temperance* case:

In their Lordships’ opinion, the true test [of whether POGG applies to a given case] must be found in the real subject matter of the legislation: if it is such that it goes beyond local or provincial concern or interests and must from its inherent nature be the concern of the Dominion as a whole ... then it will fall within the competence of the Dominion Parliament as a matter affecting the peace, order and good government of Canada ... War and pestilence, no doubt, are instances ...⁹⁶

The Law Lords’ dictum that POGG applies to cases of “pestilence” (i.e., epidemic disease) continues to be cited with approval, at the Supreme Court level most recently in *R. v. Crown Zellerbach Canada Ltd.*⁹⁷ But this power has never been put to the actual test, so one does not actually *know* if the courts would uphold federal legislation on epidemic disease preparation or response under POGG.

Accordingly, we would recommend that the federal government ground any such legislation firmly in the criminal law power. We would not recommend relying solely on POGG, which is definitely the lesser and murkier of the two powers.

Even so, we think POGG correctly applies to legislation on epidemic preparation and response. The reasons for this are implied in jurisprudence about other subject matters, where it is clearly established that POGG may apply in either situations of “emergency” or situations of “national concern.” We discuss these two branches in turn.

It is uncontroversial that during times of temporary national crisis, such as actual or apprehended war, the federal government may apply extreme measures outside of its ordinary constitutional scope. Both the world wars and the October Crisis are examples of temporary crises in which the *War Measures Act* or its predecessor, the

⁹⁵ *Supra* note 58.

⁹⁶ *Ontario (A.G.) v. Canada Temperance Federation*, [1946] A.C. 193 at 205, [1946] 2 D.L.R. 1 (P.C.), Viscount Simon L.J. [*Canada Temperance*].

⁹⁷ [1988] 1 S.C.R. 401, 49 D.L.R. (4th) 161 [cited to S.C.R.].

War Measures Act, 1914, was invoked.⁹⁸ When challenged before the courts, the *War Measures Act, 1914* or the specific measures that were prescribed under it were upheld under POGG. The subject matter of these legal challenges was wide-ranging, including economic regulations such as price or lease controls and the deportation of ethnic Japanese.⁹⁹

Two facts about these cases under the emergency branch of POGG are noteworthy. The first fact is that the legislation in the above examples was the *War Measures Act* (or its predecessor, the *War Measures Act, 1914*), which as noted earlier has been replaced by the *Emergencies Act*.¹⁰⁰ At this writing, aside from the limited powers in the *Quarantine Act*,¹⁰¹ the *Emergencies Act* is still the only federal law authorizing intervention during an epidemic. Given that the draconian *Emergencies Act* would likely be upheld as a valid exercise of POGG following the *War Measures Act* jurisprudence, there would seem to be no barrier to Parliament enacting a more modest, prudent piece of federal legislation narrowly focused on temporary epidemic emergencies. That too would surely be valid under POGG.

The second fact is that all the measures that have been justified under the emergency branch of POGG were invariably of a *temporary* nature.¹⁰² This characteristic fits with many of the most serious epidemics, such as influenza, SARS, or smallpox, which tend to sweep through the population in weeks or months. But other epidemics, such as AIDS or “mad cow” disease (variant Creutzfeldt-Jakob disease), take years or decades to propagate in a population and to present as illness in a patient. On that timeline, it is doubtful if a court would view such epidemics as emergencies worthy of POGG, even though the death they cause and their fundamental epidemiological parameters ($R_0 > 1$, in a growing epidemic) are just as alarming. The same temporal problem arises with the long-term preparatory actions for an epidemic, such as the conducting of permanent epidemiological surveillance over years or decades. Even though the purpose of surveillance is to have instant warning when a temporary epidemic begins, the surveillance itself is permanent. Therefore, one would be taking a risk by enacting epidemic-preparedness legislation under the emergency branch of POGG.

⁹⁸ During the October crisis, Pierre Trudeau invoked the *War Measures Act*, *supra* note 5. During the world wars, the relevant legislation was the *War Measures Act*, R.S.C. 1927, c. 206 [*War Measures Act, 1914*].

⁹⁹ See e.g. *Fort Frances Pulp and Paper, Ltd. v. Manitoba Free Press, Ltd.*, [1923] A.C. 695, [1923] 3 D.L.R. 629 (P.C.); *Reference Re Validity of Orders in Council of the 15th Day of December, 1945 (P.C. 7355, 7356 and 7357), in Relation to Persons of the Japanese Race*, [1946] S.C.R. 248, [1946] 3 D.L.R. 321; *Co-operative Committee on Japanese Canadians v. Canada (A.G.)*, [1947] A.C. 87, [1947] 1 D.L.R. 577 (P.C.); *Reference Re Validity of the Wartime Leasehold Regulations*, [1950] S.C.R. 124, [1950] 2 D.L.R. 1.

¹⁰⁰ *Supra* note 4.

¹⁰¹ *Supra* note 60.

¹⁰² See Peter Hogg, *Constitutional Law of Canada*, student ed. (Toronto: Carswell, 2005) (“No permanent measure has ever been upheld under the emergency power” at 468).

This is where the “national concern” branch of POGG comes in handy. Unlike the emergency branch, which has clear temporal limitations, the national concern branch is highly flexible. That said, it suffers from murkier limitations. It is one of the hardest constitutional powers to explain and to understand.

The most recent Supreme Court case to be decided under the national concern branch, *R. v. Crown Zellerbach Canada Ltd.*, occurred in 1988. In it, Justice Le Dain provides an accurate four-point synthesis of the national concern jurisprudence, the final two points of which read:

3. For a matter to qualify as a matter of national concern ... it must have a singleness, distinctiveness and indivisibility that clearly distinguishes it from matters of provincial concern and a scale of impact on provincial jurisdiction that is reconcilable with the fundamental distribution of legislative power under the Constitution;

4. In determining whether a matter has attained the required degree of singleness, distinctiveness and indivisibility that clearly distinguishes it from matters of provincial concern it is relevant to consider what would be the effect on extra-provincial interests of a provincial failure to deal effectively with the control or regulation of the intra-provincial aspects of the matter.¹⁰³

There are two important requirements here. The first requirement has been called the “provincial inability test”; briefly, it posits that to qualify a matter as being of national concern, a matter should have inherently extraprovincial qualities such that, practically speaking, no one province can manage the matter entirely successfully. The second requirement has been called the “federal principle”, and it posits that to defend a matter as a national concern, there should be a limited, and never fundamental, diminution of provincial power.¹⁰⁴

The unhelpful paradox of the reasoning is obvious: a matter *can* be declared of national concern if a province lacks sufficient power to succeed at managing it on its own, but *cannot* be declared of national concern if a province would lose too much power from the federal government managing it instead. It is a tightrope the Supreme Court has avoided by not deciding a case under the national concern branch in nearly two decades.¹⁰⁵

¹⁰³ *Supra* note 97 at 432.

¹⁰⁴ Credit is due to Peter Hogg and Dale Gibson for popularizing the “provincial inability test” (Dale Gibson, “Measuring National Dimensions” (1976) 7 Man. L.J. 15; Hogg, *supra* note 101 at 453) and to Elizabeth R. Edinger for popularizing the “federal principle” (“The Constitutional Validity of Provincial Mutual Assistance Legislation: *Global Securities v. British Columbia (Securities Commission)*”, Case Comment, (1999-2000) U.B.C. L. Rev. 169 at 178). We adopt their useful shorthand.

¹⁰⁵ In oral pleadings before the Supreme Court in *R. v. Hydro-Québec*, *supra* note 72 (which one of the authors of this article personally observed), most of the lawyers’ arguments were based on the national concern branch of POGG. Only a minority of the arguments were based on the criminal law power. Yet, the majority dismissed the POGG arguments, relying exclusively on the criminal law power (*ibid.* at para. 117). The take-home lesson is that judges may avoid applying POGG unless they

Even so, the national concern branch of POGG could potentially support some federal legislation for epidemic preparedness and response. Much depends on whether the epidemic is spatially dispersed and therefore likely to satisfy the provincial inability test. For example, when they occur, SARS and influenza are global epidemics that no province can possibly interdict alone; these clearly pass the provincial inability test. But the same argument does not hold for epidemics of *E. coli* O157:H7, such as the one that killed seven people in Walkerton, Ontario, or of Legionnaires' disease, such as the one that killed twenty-three people in a Toronto nursing home.¹⁰⁶ The *E. coli* O157:H7 and *Legionella pneumophila* pathogens typically originate locally, for example in waterworks or ventilation systems, and so the necessary surveillance and control measures will often be entirely local.

These spatial considerations should not be overlooked. If, say, Parliament relied on the national concern branch of POGG to pass a one-size-fits-all law for general epidemic preparedness and response, and someday the authorities invoked the law to quell an *E. coli* or a *Legionella* epidemic, there would be a high risk that the law could at that moment be challenged and found unconstitutional. Thus, federal reliance on the national concern branch and its provincial inability test would pose an unnecessary risk to the sustainability of epidemic preparedness and control legislation—a risk that does not arise when using the quarantine or criminal law powers.

A similar risk arises because of the federal principle within the national concern doctrine. Here the limit of constitutional validity is clearly not spatially determined but is somewhat fuzzier. It depends on the scale of impact that an action has on provincial jurisdiction.

Consider these hypotheticals. First, imagine a federal law that obliged the provinces to communicate epidemiological information using a federally prescribed standard-reporting protocol. Such a law would barely infringe upon provincial jurisdiction, since all it would require is that someone cut and paste provincial data into a federal form. Next, imagine a federal law that obliged the provinces to create, staff, and finance a new epidemiological surveillance system. That law would tread

have to; it may therefore be unwise to draft legislation with the intention or expectation that it will be viewed as an exercise of POGG. For a discussion of *R. v. Hydro-Québec* by the author who attended the pleadings, see Amir Attaran, "Hazardous Waste? The Criminal Law Power, Federal Environmental Jurisdiction, and Ottawa's Policy Since *R. v. Hydro-Québec*", Case Comment, (2000) 49 U.N.B.L.J. 97.

¹⁰⁶ See *Part One: A Summary: Report of the Walkerton Inquiry: The Events of May 2000 and Related Issues* by The Honourable Dennis R. O'Connor (Toronto: Ontario Ministry of the Attorney General, 2002) at 2, online: Ontario Ministry of the Attorney General <http://www.attorneygeneral.jus.gov.on.ca/english/about/pubs/walkerton/part1/WI_Summary.pdf>; *Report Card: Progress in Protecting the Public's Health: Report of the Expert Panel on the Legionnaires' Disease Outbreak in the City of Toronto – September/October 2005* by Dr. Bonnie Henry, Dr. James G. Young & Dr. David M.C. Walker (December 2005) at 8, online: Ontario Ministry of Health and Long-Term Care <http://www.health.gov.on.ca/english/public/pub/ministry_reports/walker_legion/rep_final_120505.pdf>.

on provincial jurisdiction to a greater extent, because it would demand a new organization. Last, imagine a federal law that obliged the provinces to vaccinate all of their citizens during an epidemic emergency. This law would greatly impact provincial jurisdiction, because it would require most if not all of a province's health care workers to be dedicated to the task.

Would all of these hypothetical laws be permitted under the national concern doctrine? It is impossible to say, but the federal principle means that the more a law intrudes on provincial jurisdiction, the more likely it will be struck down as unconstitutional, even if it is brilliantly effective at combatting epidemics.¹⁰⁷ Thus, the federal principle severely constrains the national concern branch of POGG; and to reiterate, neither the quarantine nor the criminal law power is likewise constrained.

To conclude, though on its face POGG appears useful in the context of epidemic preparedness and response, both its emergency and national concern branches are doctrinally limited. Worse, the limits are fuzzy and therefore somewhat risky. One has to suppose that there is a reason why the Supreme Court has let POGG slide into disuse and has not ruled decisively upon it in nearly two decades. We therefore conclude that while POGG could be invoked for epidemic preparedness and response legislation, it is the worst of the options, and it would be unwise for the federal government to base its legislation on POGG alone. A better approach would be to base such legislation primarily on the criminal law and quarantine powers and only secondarily on POGG. Indeed, it may not be necessary to use POGG at all, and probably anything that one would care to legislate concerning epidemics can be accomplished with those other two powers alone.

Conclusion

There is a frequently quoted (and misquoted) phrase from American constitutional law: "The constitution is not a suicide pact."¹⁰⁸ This is undeniable. But in the context of epidemic disease, Canada's co-operative federalism has become just that.

The SARS epidemic revealed the failure of Canada's co-operative federalism. It cost lives and millions of dollars, and ended in a travel advisory that embarrassed Canada worldwide. Yet three years later, though there has been some new legislation

¹⁰⁷ For an example of this, see *Labatt Breweries*, *supra* note 82 at 945. In that case, a majority of the Court used the national concern branch's federal principle to strike down as unconstitutional a federal law that stipulated the ingredients allowed in light beer. While it left open the possibility that a federal law could require the labelling or disclosure of the ingredients in light beer, it ruled that to prescribe the ingredients was to intrude one step too far on a matter ordinarily regulated by the provinces.

¹⁰⁸ The actual quote is from the free speech case *Terminiello v. Chicago (City of)*, where in dissent Justice Jackson of the U.S. Supreme Court wrote: "There is danger that, if the Court does not temper its doctrinaire logic with a little practical wisdom, it will convert the constitutional Bill of Rights into a suicide pact" (337 U.S. 1 at 37 (1949)).

and a new agency (the Public Health Agency of Canada), nowhere has there been an actual increase in federal authority to intervene during an epidemic. If SARS reappeared tomorrow and Ontario again refused to co-operate and share epidemiological information, the federal government still would not have the legislative authority, short of the *Emergencies Act*, to force Ontario's hand. And if the direct effects of the epidemic were confined to Ontario, the federal government could not even use its *Emergencies Act* powers without Ontario's permission.¹⁰⁹

This is not good enough. SARS was a tiny epidemic. In a bigger and more deadly epidemic, the time wasted bickering over jurisdiction would translate into a terrible number of lost lives. Recall the last truly global influenza epidemic, the 1918–1919 scourge of the “Spanish flu”. According to the WHO, that single virus killed “an estimated 40–50 million people worldwide.”¹¹⁰ Hardly any country was spared. About 30,000 to 50,000 Canadians died.¹¹¹ Today, with a larger population and the ease of civil aviation, it is worrying to think how much more swiftly such a virus would spread globally. The scale of death could be equal or greater.

Improbable? Definitely not. The general consensus of influenza virologists is that a future epidemic is inevitable; only its timing (random) and its severity (unknown) defy estimation. A profound cause for worry is the discovery in late 2005, by scientists who “resurrected” the Spanish flu in the laboratory, that certain of the Spanish flu's key genes are closely related to the contemporary bird flu.¹¹² We now know that the influenza virus has not far to travel, evolutionarily speaking, to mutate from a virus predominantly of birds to one predominantly of humans.¹¹³ While that is very bad news, it also has a good side, in that scientists know which dangerous mutations to watch for in epidemiological surveillance of the influenza virus. One could say that scientists have been lucky to discover that the wick to the influenza bomb; but unfortunately, they also discovered the wick is burning.

So how is Canada responding to this threat? Quite superbly—if you are a goose. As this paper was being written in June 2006, Canada had a bird flu scare. Thanks to

¹⁰⁹ *Supra* note 4, s. 14(2). See also text accompanying note 8.

¹¹⁰ World Health Organization, “Ten Things You Need to Know About Pandemic Influenza (Update of 14 October 2005)” (2005) 80 *Weekly Epidemiological Record* 428 at 429.

¹¹¹ See Public Health Agency of Canada, *supra* note 1 at II.1.0.

¹¹² Until 2005, nobody knew the identity of the virus that caused the massive 1918–1919 pandemic. But in a feat worthy of *Jurassic Park* (1993, DVD (Universal City, Cal.: Universal Pictures, 2000)), a team of American virologists pieced together the virus from snippets of genetic material found in hospital tissue samples and an Inuit cadaver that had been buried in permafrost. Their discovery that a cluster of viral genes, known as the heterotrimeric polymerase complex, which largely control the spectrum of animals that the virus can infect and the virulence of disease, are closely related to the Spanish flu and the contemporary bird flu is arguably the grimmest news in virology since the discovery of HIV/AIDS. See Jeffrey K. Taubenberger *et al.*, “Characterization of the 1918 Influenza Virus Polymerase Genes” (2005) 437 *Nature* 889.

¹¹³ See Robert B. Belshe, “The Origins of Pandemic Influenza—Lessons from the 1918 Virus” (2005) 353 *New England Journal of Medicine* 2209.

a farmer's vigilance, an infected goose flock was noticed on a Prince Edward Island farm. Tests conducted locally found the telltale immunological signs of the avian influenza virus. At the behest of the Canadian Food Inspection Agency, two farms were swiftly quarantined, and samples were sent to the National Centre for Foreign Animal Diseases in Winnipeg for further analysis.¹¹⁴ Fortunately, the analysis showed the virus was not of a dangerous sort.¹¹⁵

The response to the Prince Edward Island bird flu scare shows how a province and the federal government can co-operate in times of mutual concern. There are two differences with the Ontario situation during SARS. The first difference is that PEI, unlike Ontario, never suffered from the illusion that it could manage without the federal government. The second difference is that the Canadian Food Inspection Agency had mandatory powers in the *Health of Animals Act*¹¹⁶ to quarantine possibly ill geese on farms in PEI—and it used those powers immediately, without quarrel from PEI.

By comparison, during the SARS epidemic, Health Canada never had mandatory powers in the *Quarantine Act* to quarantine people in hospitals. Even after the 2005 amendments to the act, it still does not have those powers.

Thus, it is literally true that with respect to epidemic preparedness and response, Canada's government has exercised more jurisdiction to protect Canadian geese than it has to protect Canadian people. This likely stems from a desire to avoid confrontation with powerful provinces such as Ontario; in an epidemic, no federal government wants to weigh in heavily and provoke the public health equivalent of the October Crisis. But to not weigh in heavily, and to indulge those who invoke the bromide of "co-operative federalism", is to also accept the status quo, where Canada's laws protect an infected goose better than an infected person.

There is no word in the English language to capture the intolerable abdication of constitutional power that this represents. "Suicide" comes close. If Canada wishes to be regarded as a functional and responsible country, this must be corrected. There is no time for the federal government to waste.

¹¹⁴ See Helen Branswell, "Avian flu virus found in dead PEI domestic goose" *Vancouver Sun* (17 June 2006) A5; Helen Branswell, "Second PEI farm ordered quarantined" *The Globe and Mail*, national ed. (19 June 2006) A8 (Factiva).

¹¹⁵ See Canadian Food Inspection Agency, News Release/Information Bulletin, "No Additional Evidence of Avian Influenza Found in P.E.I. Backyard Flock" (20 June 2006), online: Canadian Food Inspection Agency <<http://www.inspection.gc.ca/english/corpaffr/newcom/2006/20060620e.shtml>>.

¹¹⁶ *Supra* note 86.