THE POST-SARS REPORTS AND NETWORK GOVERNANCE: TWO FACES OF
COLLABORATION IN PUBLIC HEALTH

CLAUDE ROCAN, Ph.D.
GRADUATE SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS
UNIVERSITY OF OTTAWA

THE POST-SARS REPORTS AND NETWORK GOVERNANCE: TWO FACES OF
COLLABORATION IN PUBLIC HEALTH

Claude Rocan, Ph.D.
Graduate School of Public and International Affairs
University of Ottawa

I - INTRODUCTION

Few policy sectors have the breadth of public health. In the U.S., the Institute of
Medicine Committee on the Future of Public Health sees public health as: "fulfilling
society's interest in assuring conditions in which people can be healthy."[1]
Similarly, J.M. Last defines public health as: "It is the set of efforts organized by society
to protect, promote and restore people's health through collective or social action."[2]
Defined in this way, public health touches just about everything. It thus follows that the
organization of all the forces necessary for the public health "enterprise," as some have
called it,[3] is a major subject of study.   Unfortunately, this has not been the case in
Canada. Indeed, the literature on the governance aspect of public health in Canada has
been surprisingly sparse.

Tragic as SARS was for a number of individuals in Canada, the crisis and the problematic
response to it in Canada, mostly Ontario, served to draw attention to the governance
issue. Three major government reviews were produced, one (Naylor) at the national
level and two (Campbell and Walker) at the Ontario level, and one parliamentary
committee report (Kirby) was tabled. In addition, papers were written by non-
governmental organizations, such as, the Canadian Medical Association, the Canadian
Public Health Association, and various academics. Although these writings were
focussed on the SARS events in particular, they also took into consideration the broader
context of public health. In this way it may be said that the material produced to examine
the SARS crisis represents probably the best examination of public health governance
issues in Canada that has been witnessed in many years.

What emerges from the literature following SARS is a rather dichotomized notion of
governance in public health. On the one hand, governance in non-emergency contexts,
more typical of health promotion and the prevention of chronic diseases, but also
characterizing more "normal" times, is depicted as de-centralized, horizontal and
partnership-based. On the other hand, governance in the context of emergency situations,
such as outbreaks of infectious diseases, is characterized as hierarchical, vertically
integrated, and command and control.   The problem is that such a dichotomized
approach to public health governance limits the capacity of the public health community
to deal with the challenges of the future. This paper will argue that a network governance
approach to public health, adapted to the particularities of emergency and non-emergency
contexts, provides a useful framework within which to understand and act on public
health issues in the future.

The paper is divided as follows. The next section (Section II) will provide a very brief overview of the SARS events of 2003. Section III will show that the material surrounding the SARS issue, particularly as reflected in the treatment of intergovernmental and intragovernmental issues, juxtaposes two apparently distinct and seemingly incompatible models of governance for public health. Section IV will provide a brief discussion of what is meant by network governance. Section V will discuss applying the network governance model to public health, and in so doing will attempt to "un-dichotomize" public health governance. The final section will provide some concluding observations.

II- BACKGROUND ON SARS

The Severe Acute Respiratory Syndrome (SARS) is a respiratory illness caused by a corona virus. The first cases were reported from Asia in February, 2003. Over the next several months, the virus spread to several countries in North and South America, Europe and Asia. In Canada, the virus occurred primarily in hospital settings in Toronto. By the time it was contained in the fall of 2003, it had caused the deaths of 774 people world-wide,[4] of which 44 were located in Canada, all but one in Ontario. While the number of SARS-related deaths was relatively low, the incident highlighted the weak state of Canada's public health infrastructure and led to a broad debate about how the public health in Canada should be strengthened.

III- GOVERNANCE IN POST-SARS LITERATURE

A. SARS and intergovernmental roles and responsibilities: The national perspective

The question of intergovernmental roles and responsibilities has clearly been a major preoccupation of those writing about public health governance in Canada. Looking at the issue from a national perspective, the Kirby and Naylor reports naturally focus on the federal-provincial-territorial (FPT) aspects of the governance issue. In the case of the Campbell and Walker reports, reviewing the SARS events from the vantage point of a province, in this case, Ontario, the concern is primarily with relationships between the provincial level and the local/regional level, although Ontario-federal government relations are also briefly mentioned. Each of these perspectives will be examined in turn.

From an intergovernmental perspective, there is a broad consensus in the literature that the problem with the response to SARS was essentially one of fragmentation and lack of coordination, resulting from a lack of clarity during the crisis about roles and responsibilities, which led to confusion, inefficiencies, turf warfare, duplication in some areas, and neglect in others.[5] Similarly, there is broad agreement over what should characterize public health governance in cases of infectious disease outbreaks. Although the language used might vary, the writers reflect the need for a response system which is seamless, in which roles and responsibilities are known in advance and exercised in a coordinated manner.

It is in this context that the intergovernmental relations aspect must be understood. From the national perspective, it is fair to say that Canada's federal system of government is seen, if not as a "problem," at least as a major challenge to overcome. The Naylor report points out: "Our first theme is that the single largest impediment to dealing successfully with future public health crises is the lack of a collaborative framework and ethos among different levels of government." [6]

A great deal of attention in the writings, then, is focussed on how to overcome the impediments brought by the federal system to deal effectively with public health emergencies. Complicating the picture is the recognition that while the federal government has a role in public health, from its jurisdiction over national emergencies, as well as its spending power and the responsibility for assuring "peace, order, and good government," the actual workings of public health take place largely at the local and provincial level.[7]

The starting point for the Naylor Report, echoed by the Kirby report, is the importance of building collaboration between FPT governments as it relates to public health. In fact, it can be said that the major thrust of the Naylor Report is about finding ways to improve FPT collaboration in the future. The report contains numerous recommendations to establish new ways for FPT governments to collaborate in all facets of public health, including surveillance, research, chronic disease prevention, and several other areas. In the end, the Naylor Report acknowledges that "attempts at unilateral centralization of authority in a fragile federation with a complex division of powers and responsibilities are generally a prescription for conflict, not progress."[8]

Both Naylor and Kirby reports propose using incentives, financial and non-financial, to shape the activities at the local and provincial levels and to strengthen existing FPT mechanisms to achieve a seamless public health system. In his report, Naylor recommends the use of "program funding" to provinces and territories "in agreed areas" to strengthen their public health capacity.[9] Similarly, both Naylor and Kirby recommend the use of Memoranda of Understanding, tied to funding, to achieve collaboration within the norms of established FPT mechanisms. [10]

Despite this emphasis on collaboration, the Naylor and Kirby reports present a quite a different governance model for situations of emergency and disaster response. Their argument is that while collaboration is the goal, it can not be assumed in emergency situations and that in these cases, a governance model that is reflective of a hierarchical, command and control style regime may well be necessary. In order to deal with such circumstances, the two reports recommend the passage of "default legislation" which, in the event of an emergency, would give the federal government the power to override provincial governments and would impose obligations on provincial/territorial governments as well as municipal governments. While expressing a preference for collaboration and consensus-building, the Naylor Report points out that these often fail, and that federal health emergency legislation is **"a necessary last resort if collaboration and consensus-building mechanisms fail."[11]**

   The Naylor Report acknowledges existing federal legislation, in the form of the *Emergencies Act,* but states that legislation to deal specifically with public health emergencies would be preferable.[12]   This legislation would go so far as to allow the federal government to commandeer provincial and territorial as well as local public health officials "for matters such as disease surveillance", although these powers would be used only when necessary and on a temporary basis.[13]

A similar dichotomized approach can be seen in the writings of others in the public health community. Kumanan Wilson and Harvey Lazar, for example, recognize that local public health officials constitute the "backbone" of public health, and acknowledge that it is therefore important in developing public health strategies, to avoid alienating provincial and local public health officials.[14]   However, the authors also argue that the federal government cannot rely on the collaborative approach with provinces and territories, and advocate "a re-definition of federal capacity to respond to public health emergencies."[15] Among other powers, the authors argue that the federal government "needs the ability to acquire complete knowledge of an outbreak," on the grounds that an infectious disease can not be managed without a comprehensive surveillance data, and that it should therefore have the authority to by-pass provincial governments and deal directly with local governments.[16] Similar to the Naylor Report, this capacity would include the power to override provincial governments and potentially commandeer provincial and local staff. [17]   At the very least, the authors see the existence of heavy weaponry in the federal arsenal as having the effect of inciting PT governments to act collaboratively, which could be seen as an attempt to bridge the two models of governance.[18]

Similarly, the Canadian Medical Association's brief to the Naylor Committee states clearly that the CMA "is calling for the enhancement of the federal government's 'command and control' powers in times of national health emergencies."[19] In this context, it proposed a Canadian Emergency Health Measures Act, which would contain a 5-level alert system and give the federal government an escalating set of powers to use in coordinating response efforts, depending on the gravity of the situation.[20]

One of the frequently cited rationales for a centralized approach in Canada derives from the public health in a global context. As Wilson and Lazar put it: "Canada's roles and responsibilities as part of the larger international community provide compelling reasons for a re-evaluation of the current federal approach to public health emergencies."[21] As the national government, Canada would be expected to report to the WHO the information needed for the global management of an infectious disease outbreak. This would require that Canada provide all the relevant knowledge of an emergency and to demonstrate that all appropriate measures are being taken to control a disease outbreak. Failure to do so could lead to such measures as a WHO imposition of a travel advisory, with the negative consequences this can have on the local economy, as seen in the SARS, particularly for Toronto, and more recently with the H1N1 outbreak in Mexico.   David Fidler has rightly observed that "global germ governance has been transformed from a horizontal governance regime to one that is more characterized by vertical governance."[22]

The literature looking at the SARS crisis from a national perspective, therefore, reveals two governance models. In non-emergency situations, a consensual, collaborative style of governance is seen as the desirable objective. Emergencies, on the other hand, are seen as requiring much more centralized role by the federal government in which it assumes a command and control role vis-à-vis provinces and territories and municipal governments. The literature does not seem to question how two such different models can co-exist in the same organization, nor how the second could potentially undermine the objectives of the first. We will return to this point later in the paper.

B. SARS and intergovernmental roles and responsibilities: The Ontario perspective

A similar dichotomous pattern can be seen in the material dealing with SARS from an Ontario perspective. Although the Campbell and Walker reports do not focus significantly on the federal government dimension, their perception of public health governance seems consistent with those articulated in the Naylor and Kirby reports. As with the national reports, the two Ontario reports point to fragmentation and a lack of clear definition of respective roles and responsibilities as the key weaknesses to emerge out of the SARS crisis. The proposed response to this fragmentation, particularly in the Campbell Report, is similar to that discussed above, and is even more emphatic about the need for hierarchical, command and control governance in emergency situations than the material on the national perspective. Indeed, both Campbell and Walker reports comment favourably on the consistency of the vision in all four reports major reports on SARS (Naylor, Kirby, Campbell, and Walker).[23]

The more de-centralized, partnership-based approach is not elaborated to any great extent in the SARS related literature. This is to be expected, since the catalyst for this literature relates to a particular context, an outbreak of a frightening new infectious disease. Campbell makes it clear that the mandate of his commission is to focus on SARS and "on infectious diseases as opposed to other public health concerns such as childhood obesity, heart disease, and other aspects of health promotion."[24]   Nonetheless, this model of governance is reflected in the Campbell Report, particularly in the context of health promotion and chronic disease prevention. A good part of the discussion around governance in that report centres around the question of whether the responsibility, and the funding, for public health should continue to be split between the Ontario government and the municipal governments, or whether it be preferable to upload most or all of the responsibilities to the provincial government. In this context, Campbell writes:

> Those medical officers of health who oppose provincial uploading position their argument for local stewardship largely in the nature of health promotion work, which depends on local community partnerships with non-governmental organizations, school boards and other local institutions. The argument is that local stewardship strengthens these partnerships, which would be lost or diminished if the province took over public health.[25]

Campbell goes on to cite a public health official who indicated when he/she was interviewed:

> I think public health …is extremely broad and …what makes sense perhaps for something like communicable disease control and health protection may have a different balancing in terms of local versus provincial input that is required if you are looking at things that are more community based health promotion.[26]

In the end, Campbell recommends in favour of the uploading option, but makes it very clear that in doing so, he is not dismissing the importance of partnerships at the community level, or a partnership approach. As Campbell points out: "Full tax uploading and full provincial control is perfectly consistent with the continuation of such partnerships."[27] Instead, in making this recommendation, Campbell is seeking to free public health from the control of municipal councillors, who, in Campbell's view, were more interested in "raiding" the budgets of public health than in protecting the health of Ontarians.[28]

The Walker Report is more explicit in articulating the importance of a horizontal, partnership-based model of governance:

> The Panel is acutely aware that an effective agency and a strengthened system can only be achieved through partnerships and collaboration. This collaboration will entail partnerships within the health system and across sectors, as well as among government departments within the province, with other provinces and, critically, with the efforts of the federal government.[29]

On the one hand, therefore, what is found in the Ontario literature is a notion of collaborative governance which is commonly found in the literature on modern governance in the past two decades or so. Mark T. Imperial, for example, suggests that: "Governance refers to the means of achieving direction, control, and coordination of individuals and organizations with varying degrees of autonomy to advance joint objectives."[30] This is model relies on persuasion and negotiation, rather than control, and emphasizes inclusion of a broad range of participants.   On the other hand, there is also a very strong notion in this literature that what is needed in emergency situations is very clearly a vertically integrated command and control model. Justice Campbell made the case very clearly in writing: "SARS showed us … that it is essential that one person be in overall charge of our public health defence against infectious outbreaks. While cooperation and teamwork are required in any large endeavour, an effective defence requires that all public health aspects be under the leadership of one person."[31]

In a similar way to the national reports, which saw the necessity for the federal government to take a strong leadership position with the provinces and territories in emergency periods, the Ontario studies stress the importance of the province affirming its leadership position with the municipalities and the regional boards of health. Campbell points out that while in "ordinary times" it was acceptable for local Medical Officers of

Health could have authority concurrent with the Chief Medical Officer of Health (CMOH) at the provincial level, in health emergencies one person needs to be clearly in charge.[32] Making the argument that an infectious disease outbreak is no time for turf wars or jurisdictional disputes, Campbell makes a strong case for institutional clarity and simplification, to give the CMOH "the authority to direct and ensure an appropriate level of institutional protection against infectious disease."[33]

A similar perspective is reflected in the Walker Report, which states that: "Ontario needs a single authority on all infection control and communicable disease issues in order to ensure cohesion and continuity throughout the province."[34] The authors writing at the provincial level advocate in favour of stronger legislation to clarify and strengthen the role of the province vis-à-vis regional/local bodies, and making Medical Officers of Health at the local/regional level report directly to the provincial level CMOH. [35]

As with the case of the literature giving the national perspective, what emerges from the Ontario reports is a double-sided view of public health governance. A horizontal, de-centralized model is seen as appropriate in "ordinary circumstances", whereas a vertically integrated model is seen as necessary in emergency circumstances.

C. SARS and the intragovernmental dimension

The existence of two models of governance can also be seen in the positioning of public health within the machinery of the government and in the definition of the role of the Chief Public Health Officer (CPHO), federally, or the CMOH, at the provincial level. There is a very strong and consistent view in the literature of the importance of providing a certain level of autonomy to the CPHO/CMOH and to the agencies or branches of government that support them. In the same sense, there is a strong sense that public health should be at some distance from the regular operations of government. [36] The rationale for this is given primarily in terms of the management of emergency situations. It follows three lines of reasoning, which can be described broadly as relating to political, bureaucratic, and scientific considerations. From a political perspective, there is a strong and recurring view of the importance of the CPHO/CMOH being able to operate free of political interference, and indeed, free of the perception of political interference. The concern here is that political leaders may have interests which are at variance from public health, which could the public at risk in an emergency. As Justice Cambell put it: "Any perception that decisions are made for political or economic reasons will sap public confidence and diminish public cooperation. That is why it is so important to have the Chief Medical Officer of Health …actively and visibly in charge of any public health emergency."[37] There is particularly a concern about the area of communications, and the importance for public health leaders to be able to communicate freely with the public in an emergency. [38]

Second, there is a view in the literature that regular government bureaucracies are process-oriented and therefore too slow and cumbersome to respond effectively in emergency situations. Beyond this, there is also a perceived risk that regular government bureaucracies are more likely to be influenced by political considerations. [39]

Finally, the argument is made in the literature that having the public health agency or branch working at some distance from the regular governmental bureaucracy would be helpful in ensuring that decisions within the agency in question are made on the basis of science, and not for reasons unrelated to public health.[40] Since public health professionals speak a common language, they would be able to avoid the murkier world of policy and politics and arrive at scientifically-based agreements more quickly and more easily. This applies equally in the area of F/P/T relations where there is a danger that the health of Canadians could be "held hostage in a jurisdictional disagreement among levels of government." [41] Perhaps most succinct was the CMA submission, which stated bluntly: "Science and health protection must trump politics."[42]

The literature examining public health from a national perspective is not completely unanimous on the means to attain the objective of greater autonomy for the public health function, with Naylor and Kirby recommending a separate federal department led by a chief public health officer and the CMA opting for a federal arm's length agency. [43]   At the provincial level, Walker put forward options which balanced the autonomy of the CMOH with the level of autonomy of the public health agency, so that if the CMOH had formal legal authority to speak on urgent public health matters, then the need for autonomy of the public health branch from the ministry was diminished. [44]

Combining the rationales from political, bureaucratic, and scientific considerations, what emerges is a view that public health, to perform its functions in emergency situations effectively, requires a level of autonomy from the regular structures and operations of government. This model is quite consistent with vertically integrated model of governance in that it is designed for ensuring speed in decision-making by one, or at least a very small number of actors, and quick response times in the event of an emergency.

At the same time, there is a concern that public health structures avoid becoming isolated within government. More specifically, several of the reports following SARS point to the need for inter-sectoral relationships within government to arrive at public policies which are conducive to public health, but may not be specifically in the health sector. Speaking of the role of the CMOH, Justice Campbell said that he/she should be at the table within government, not "a watchdog off in a corner."[45] Kirby makes a similar point in saying "…it is clear that the health of Canadians cannot be protected by the health system working in isolation. The action or inaction of many other sectors greatly influences our health."[46]   Naylor also talks about "the need to ensure integration of public health activity with a wide variety of departments, not least, Health Canada itself." [47]

Although the authors do not explore the issue beyond recognizing the importance of maintaining the horizontal capacity, the skills and the organizational design related to this activity are quite different from those consistent with a more vertical organization. Horizontal management requires building relationships with other governmental entities, rather than constructing a semi-autonomous edifice. Far from wanting to remove public health from the regular workings of government, the objective here is to make public health more of a player in government decision-making.[48] Furthermore, rather than

concentrating on the relationships between health professionals, horizontal management requires building linkages with other policy sectors, which have interests and objectives of their own, but which can be allied to health policy objectives.

IV- WHAT IS NETWORK GOVERNANCE?

As we have seen, the literature on public health in Canada relating to the SARS crisis and afterwards suggests two quite different visions of governance and two different notions of collaboration, one for "normal" periods and one for emergency events.

This raises some interesting questions about the governance of public health in Canada. Are we to conclude that these two visions must find a way to co-exist, Janus-headed, within the same institutional structures? Are they indeed compatible? If so, what type of organizational culture would be needed to support two very different management philosophies and what would this imply for the organizational design of public health agencies?

There may, however, be a way of casting the issue in a different light which would lead to the reconciliation of the two models. A good deal of literature in the policy and management sciences surrounds the existence of "wicked problems," so called because they implicate a diverse array of actors with a wide variety of interests, thus leading to a high level of complexity in attempting to address a policy issue. [49] The fragmentation that the authors of the reports on SARS identified is not unique to public health. Rather, it is a characteristic of modern society that is reflected in a great number of "wicked" public policy issues. The challenge is to find ways to overcome the barriers that fragmentation can present and to work towards decisions that have the broadest possible level of support.

There is already an impressive body of scholarly literature which argues that top-down, centralized processes are often inadequate to address complex problems, as "actors seldom have the knowledge and resources to resolve problems on their own."[50] "Go it alone" strategies tend to lead to sub-optimal results, as uninvolved but interested parties put up resistance, which can lead to widening, rather than overcoming, divisions within society.[51]

As an alternative, the attempts to address "wicked problems" have led to the development of new strategies, processes and structures that are more inclusive, horizontal, and dynamic, essentially establishing the basis for what has come to be called "modern governance." [52] Increasingly complex problems are resolved "in a setting of mutual dependencies." [53]

The role of networks is central to these new forms of governance as they provide a mechanism to involve a number of actors in a process in the resolution of a policy issue or the implementation of a program. In the most general sense, networks can be defined as "structures of interdependence involving multiple organizations or parts thereof, where

one unit is not merely the formal subordinate of the others in some larger hierarchical arrangement."[54]

Networks are meant to overcome the shortcomings of the traditional "vertical/bureaucratic" approach to management, in particular, lack of innovation; inflexibility; inability to integrate effectively various elements of the same issue; and inability to harness and manage the resources that others can lend to resolving an issue. [55] At the same time, networks, and more specifically, the management of such, can raise their own set of problems. Network governance or management (the terms are often used inter-changeably) refers to managing "the efforts of parties in a way that confronts wicked problems and achieves cooperation in a network-type setting." [56] This is obviously easier said than done. There is a good amount of theoretical and empirical literature discussing potential pitfalls in network governance and possible strategies and good practices to help avoid them. [57] There is also a broad acknowledgement that there is no one "formula" that will guarantee a successful outcome. Quite the contrary, the risks in network governance are many, from "negotiated nonsense" to a form of process paralysis sometimes called "collaborative inertia" [58] and many points in between.

Without minimizing the risks, there are major potential advantages of network governance, including:

- o Increased opportunities to harness resources (financial and non-financial) of other actors;
- o Increased opportunities for players in a broad community to learn from each other and overall to increase knowledge on a certain issue
- o Increased opportunities for innovation;
- o Trust-building, thereby increasing willingness of actors to co-operate with the development and implementation of a common strategy and enhancing social cohesion;
- o Facilitated exchange of information by encouraging the development of a common frame of reference;
- o Maintenance of public confidence by facilitating consistent messaging to the broader public.

At any rate, given the complexity of many modern-day problems, and the involvement of a diverse range of interested parties, network-based strategies are often inescapable.

This is not to say, however, that such strategies need to be unstructured. Contrary to the depiction of networks at times as being "pluralism on steroids,"[59] networks do not preclude either leadership or structure, or for that matter, bureaucracy. For example, referring to the area of environmental restoration, Paul Posner observes that "networks do not eclipse government, but rather become a valued and essential adjunct and tool of governance." In this particular case, "collaboration was institutionalized, but in the shadow of hierarchy." [60] The governance of networks involves "coordinating strategies of actors with different goals and preferences with regard to a certain problem or policy measure within an existing network of inter-organizational relations."[61] Network

governance is in fact a blend of the vertical and the horizontal management models. As Lawrence O'Toole points out, "formal models of networked action must combine both the vertical elements of hierarchy and the horizontal components of functionally induced interdependence." [62] The challenge is to find the blend that is most appropriate for the circumstances in question.

The design of the network governance regime, then, must be in concert with the nature and objectives of the network in question and the unique circumstances of the policy community involved. [63] The literature on networks reveals a number of attempts to categorize the various types of networks. Agranoff, for example, suggests four categories of networks:

> **Informational** – partners exchange information on policies and programs and potential solutions;
> **Developmental** – partners exchange information leading to capacity-building and policy development, with implementation taking place within member organizations on a strictly voluntary basis;
> **Outreach** – partners exchange information and technologies with a view to finding opportunities for new programming avenues, with implementation taking place within an array of organizations;
> **Action** - partners formally adopt collaborative courses of action, possibly including service delivery. [64]
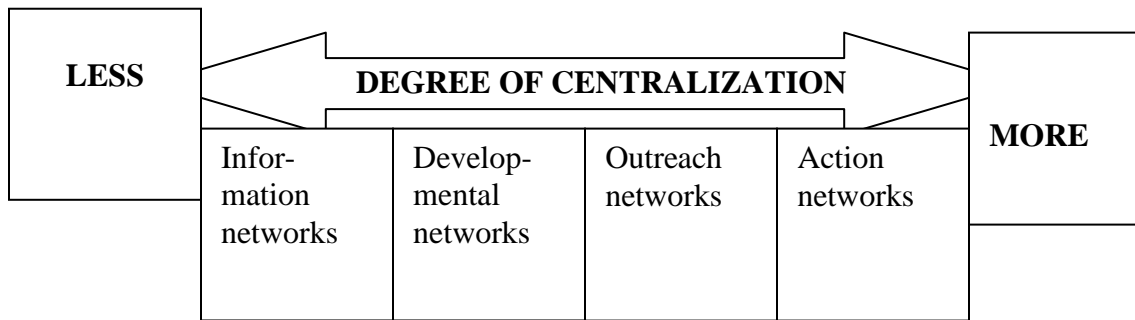
This is quite similar to the "collaboration continuum" presented by Phillips and Graham in relation to the voluntary sector, in which "insular" (very limited) collaborations and complete mergers are placed at the extreme opposite ends of the continuum, and "collabitation" (limited, temporary collaborations) and partnerships are placed as points in between.[65]

To illustrate using Agranoff's categorization, an "informational" network will require a more de-centralized structure. An "action" network established to deliver a program, on the other hand, will require a significantly stronger level of co-ordination.[66] The two other categories of networks, the "developmental" and the "outreach" networks, will find themselves somewhere between the two.

The role of the governmental party also requires clarification. The network model does not necessarily imply, as is sometimes assumed, that the government participant becomes simply one of the partners, with no special status or role. This may be the case in very de-centralized networks, such as informational or developmental types of networks. In the public health realm, the Chronic Disease Prevention Alliance of Canada may be an example of this arrangement, with governmental agencies taking their place as members alongside NGOs and private sector organizations. In other cases, however, such as "action networks," where a particular program or measure is to be taken, the governmental participant's unique public mandate and base of authority will establish a stronger role for it than that of the other participants. Agranoff and McGuire rightly point out: "Governments are still the most influential institutions in collaborative structures

because of the legal authority it [sic] possesses, but in many contexts it must act as the facilitator of operations rather than the system steerer or controller."[67]

A useful way to conceive the range of possibilities for network design is in the form of a continuum, with networks requiring a high level of centralization, usually by the governmental party, at one end, and those requiring minimal centralization at the other, with various points in between. Using Agranoff and McGuire's categories, this is represented as Fig. 1 below.

LESS	DEGREE OF CENTRALIZATION				MORE
	Infor-mation networks	Develop-mental networks	Outreach networks	Action networks	

Figure 1. Adapted from Goldsmith and Eggers, 2004, G*overning by Network,* p. 71.

The network governance model can also be applied to emergency or crisis situations.[68] Whereas the traditional approach to crises has been to resort to a top down, command and control mode, there is an increasing body of scholarship that demonstrates, based on case studies, that this model proves in the end to be ineffective and counter-productive. Similar to many other policy areas, crisis-response depends on the involvement of multiple actors from several different networks. Boin and Hart point out that crisis operations "are multiorganizational, transjurisdictional, polycentric response networks" which "demand lateral coordination, not top-down command and control." [69] Drabek and McEntire, in their literature review on disaster response, observe that the command and control model is based on faulty assumptions, and that "response operations should be de-centralized, flexible, and based on cooperation." [70] They conclude that emergency managers should not try to impose a command and control model because "disasters, by their very nature, lead to emergence and require participation of multiple actors whose legitimacy is derived from alternative authority sources." [71] Similarly, Waugh and Streib argue that although disasters and fear of disasters typically generate a strong desire for hierarchy, "such thinking is inconsistent with the tenets of the field and displays blindness to what collaborative action has accomplished."[72]

This is not to argue that there is no place for vertical authority structures in a crisis. Coordination doesn't just happen; there will of course be the need for some "steering." On the continuum reflected in Figure 1, crisis response would be on more on the side of greater centralization in the structures used, possibly though not necessarily through government involvement. But there are distinctions to be made here as well. Crisis management is often divided into four elements: response, recovery, preparedness, and mitigation. [73] Preparedness and mitigation (efforts aimed at preventing a disaster or reducing the risk it will occur, and reducing its effects if it does occur [74]), or what some have called "pre-crisis activities," would be more suited to a de-centralized approach, whereas activities related to response, and to some extent recovery, would include a combination of network and hierarchical characteristics.[75] Even the response element is less hierarchical than is often portrayed. Donald Moynihan points out that although the perception of the Incident Command System (ICS) is of a command and control style of management, the ICS "is better understood as a highly centralized mode of network governance, designated to coordinate independent responders under urgent conditions." [76] Where such a mechanism is necessary, Moynihan argues that it must perceive and use its authority in a network context. "Even powerful network members cannot simply assert their authority, but must to some extent negotiate its terms, and establish why their role is legitimate." [77] Waugh and Streib make a similar point: "What we now call the *new governance process* forms the core of our national emergency response. Consensual processes are the rule." [78] In the end, therefore, although emergency management must to some extent be differentiated from other governance situations, in the final analysis it is constituted by a number of interdependent organizations working together to achieve a common goal [79] – in other words, a network.

V – CAN NETWORK GOVERNANCE BE APPLIED TO PUBLIC HEALTH?

The question to be asked at this stage is whether the network governance approach can be applied to public health, and, if so, what are the implications of this. As was previously demonstrated, there is in the literature an acknowledgement that some areas of public health, such as health promotion and chronic disease prevention, are receptive to de-centralized and horizontal approaches. One can also see this reflected in seminal international documents such as *The Ottawa Charter for Health Promotion* of 1986, and *The Bangkok Charter for Health Promotion in a Globalized World* of 2005. *The Ottawa Charter* states that: "…It is coordinated action that leads to health, income and social policies that foster greater equity. Joint action contributes to ensuring safer and healthier goods and services, healthier public services, and cleaner, more enjoyable environments."[80] Consistent with this, *The Bangkok Charter* states that: "Partnerships, alliances, networks and collaborations provide exciting and rewarding ways of bringing people and organizations together around common goals and joint actions to improve the health of populations." [81]

The network approach, however, should not be confined only to the non-emergency aspects of public health. The prevention of infectious disease, and the response to public health emergencies, can also be understood as exercises in network governance, although

possibly at different points in the continuum represented in Figure 1. The SARS events provide an interesting illustration of the challenges of co-ordinating a significant number of actors, many of whom, derived their legitimacy from "alternative authority sources." However, since SARS principally affected the hospital setting, and did not penetrate significantly into the community, it provides only a partial illustration.

The more recent events surrounding the H1N1 pandemic provide an even better example. There we saw the involvement of various levels of governments, federal, provincial, municipal, and First Nations, as well as hospitals, researchers, physicians in private practice and other health professionals, media organizations, and non-governmental organizations, all of which all had a part in stopping the spread of the virus. Whether or not they were fully conscious of it, these members were part of a collaboration, a set of mutually dependent actors, each striving towards the achievement of a common goal. The co-ordination challenge presented by these events was quite apparent. Public messaging was not always consistent. Provincial and territorial jurisdictions took different positions on which should be the priority groups to receive the first wave of vaccines. Local jurisdictions took different approaches on how to manage the queues for the vaccine. There were some discordant voices about the severity (though not about the spread) of the disease. Retrospective analyses may reveal different views about the effectiveness of the practices and the tools that were used to respond to the H1N1 outbreak. What is clear, however, is that the involvement of a range of players, each with a specific role, underlined both the necessity and the challenges of a network approach.

What does this mean in practice? The implications of seeing public health from a network governance perspective are at least three-fold. In the first instance, this perspective is important in underlining a critical aspect of public health. In other words, it is a defining characteristic of the "public health enterprise." As the Chief Public Health Officer observed in his Report 2008, "it takes the combined effort of networks both within and outside the public health system to address population-wide health challenges."[82] This suggests the importance for public health organizations to have the capacity to excel in the world of networking. Negotiating, facilitating, mediating, and communicating need to be treated as core competencies of those organizations. Goldsmith and Eggers are quite right in suggesting that in the world of networks, what is needed are symphony conductors, not drill sergeants. [83] These are skills that can not simply be assumed, but rather require cultivation and development on a continuing basis.

Second, and closely related to the point above, public health organizations, as well as others, need to be rigorous in their awareness and application of "good practices" of network governance. As R.A.W. Rhodes pointed out, too often organizations create "self-steering networks by accident" and do not learn the lessons of how best to steer these networks. [84] This applies from the level of broad elements of network design to the more prosaic issues, such as the optimal number of participants to involve, meeting skills, and so on. Admittedly, hard and fast rules in this area are elusive, and a great deal remains to be learned about what works best in which circumstances. Yet the past twenty to thirty years has seen the emergence of an impressive body of literature which examines

both the theoretical and practical aspects of network governance, and which can certainly be drawn from and adapted as required.

In this regard, public health may indeed be more advanced than many other policy sectors. The creation of the Public Health Network following the SARS crisis, with its governing Council, and including the Co-ordinating Committee of Medical Officers of Health, six "Expert Groups," and numerous "Issue Groups," "liaison committees," and "task groups" gives evidence to the recognition that networks are necessary to the achievement of public health objectives. [85] What is needed now is an assessment of whether this impressive infrastructure has led to "collaborative advantage" or "collaborative inertia." For example, how useful, or not, was this infrastructure in dealing with the H1N1 pandemic? An important step to prepare for the next crisis, might be to engage in some network mapping to learn more about who were (and are) the major players, how they intersected, which players may have felt they were "out of the loop, " what were the leadership functions and how were they performed, and a number of other related questions.

Finally, and particularly relevant to some of the recommendations in the post-SARS reports, and to some of the public discussion surrounding H1N1, it will be important to take a strong critical look at proposals to centralize authority in one person or office. Referring to the preparations for the H1N1 virus, for example, Paul Hébert, editor of the Canadian Medical Association Journal (CMAJ), indicated that the Public Health Agency of Canada, as presently constituted, and the position of the Chief Public Health Officer, are insufficient, and that what is needed is a public health "czar," who would have the authority to "compel provinces to follow orders" in the event of a pandemic.[86] This is consistent with a CMAJ editorial calling for a "national action plan" led by a health care czar with power and legal authority to address national emergencies and act at all levels of government..." [87] In a similar vein, Professor Peter McKenna recently argued that: "It goes without saying that there should not be different inoculation programs right across the country. This is one of those rare occasions in a federation where the central government needs to step to the front of the line and override provincial autonomy." [88]

Looking at these proposals from a network management perspective, a number of questions arise. In the first instance, what would be the practicalities of implementing a public health command and control operation in Canada? The public health community in Canada is a very diverse community composed of governments at various levels, health professionals, such as physicians, nurses, researchers, non-governmental and voluntary sector organizations, hospitals, clinics, laboratories and several other stake-holders "whose legitimacy is derived from alternative authority sources" as Drabek and McEntire have put it. One could ask how realistic it is to attempt to impose a rigid command and control structure over this community over a sustained period. How would the directives of such a structure be enforced and what sanctions or penalties could be imposed on those who refuse to "fall in line"? Finally, one could ask how realistic it is that the federal government would be able to commandeer provincial staff, as Wilson and Lazar proposed. [89] How would one ensure compliance from provincial/territorial staff? Would the federal government even have the capacity to manage such an enterprise?

An objection might be raised that the extra-ordinary powers would not have to be exercised, and that the very existence of such would provide the incentive for provinces and territories to collaborate, as Wilson and Lazar have suggested. This is highly questionable, however, in that the very existence of the instrument could be counter-productive to the trust-building which is so essential to successful collaborations.

One could also question the notion that one central actor would have all the knowledge required to impose a course of action appropriate to all regions of Canada. Indeed, one of the central premises of the network approach is that knowledge is dispersed and that progress is made toward addressing a common problem when players learn from one another. [90] Contrary to McKenna's view, given the differences in culture, in composition, and in geography between regions in Canada, having different priority groups for vaccines may make perfect sense. On the other hand, centralizing authority might well have the effect of introducing rigidity, at a time when what is really needed is flexibility. Koppenjan and Klijn point out that attempts at "institutional simplification" often mean adding another layer of institutional arrangements to what is already there, "thus enhancing complexity and uncertainty instead of decreasing it."[91] While superficially attractive, institutional simplification in practice tends counter-productive.

Lastly, one would need to take into account the "collateral damage" that such draconian steps would have on federal-provincial-territorial relations in general. Since health is primarily within provincial jurisdiction, most federal activities in this area require some level of federal-provincial-territorial collaboration. On a broader canvas, public health is only one of a number of important public policy issues to be carried out in the federal-provincial-territorial arena. Overriding provincial jurisdiction in one area is bound to have repercussions in other parts of the health agenda, and perhaps in non-health policy areas that also rely on federal-provincial-territorial cooperation. This would clearly be inconsistent, and potentially damaging, to what some scholars have called "collaborative federalism" in Canada.[92] The use of hard-edged tactics would likely disrupt existing networks, damage relationships, and breed a new level of distrust. As Koppenjan and Klyjn have observed succinctly: "The bill for strategic misbehaviour in one game will become due in another." [93]

The questions raised at the federal level could also be asked in relation to proposals at the provincial level to apply a command and control model on public health incidents. Although the notion of having a "czar" or commander-in-chief may seem seductive at first blush, a closer analysis suggests this might, at a minimum, be a distraction from the bridging, network-building efforts that need to take place, and could indeed suggest an unfortunate step backwards in the collective efforts to protect the health of Canadians.

This is not to suggest that there is an easy prescription or formula available for applying network governance successfully in times of crisis. As noted earlier, the literature on the subject advises that network governance contains its risks and uncertainties. Applied poorly, it can lead to confusion and paralysis and what one might call governance failure. One can also imagine circumstances in which this model will be very unlikely to succeed,

for example where there is a high level of pre-existing distrust or animosity among the players. Even in more favourable circumstances, it will require a particular skill-set from the players, as noted above.

At the same time, the model can not be dismissed as a utopian fabrication. There is a growing body of case studies from Europe and North America that document applications of the model in specific circumstances.[94] The number of such studies looking at emergency situations is smaller, perhaps reflecting a smaller number of "natural experiments" to draw on, but still important. Donald P. Moynihan's review of case studies where network governance was used in emergency situations is highly instructive in this regard. [95]

The literature looking empirically at the application of network governance in a public health emergency, such as an infectious disease outbreak, is still quite small. Moynihan's study of the response to the Exotic Newcastle Disease outbreak in California in 2002 is, to our knowledge, one of the few such studies.[96] Yet given what we know about network governance in a number of circumstances, both emergency and non-emergency, it is more than plausible that this is model is applicable to the various dimensions of public health. We will explore this subject further in a subsequent work.

VI - CONCLUSION

The literature around the SARS crisis suggests the existence of two distinct, perhaps incompatible, models of governance, but a closer analysis, using a network perspective, leads to quite a different conclusion. Instead, what appear to be two models more usefully can be represented as different points on a governance continuum. In both cases, they are functioning networks composed of interdependent actors committed to common objectives. The challenge is to find the best and most effective ways to manage these networks in the various domains and circumstances of public health. This is not easy work, since there are no pre-established templates, clear-cut procedures, or simple answers on which to base future activities. Nor is it particular to public health. As R.A.W. Rhodes said, "governance is about managing networks."[97]

Some scholars have warned that the resource-consuming nature of governance by network is such that it should only be attempted "when the stakes are really worth pursuing."[98] Yet the diversity of the public health community, Canada's multi-level system of governance, and the complexity of the issues involved suggest that a network governance approach is inescapable. The challenge is to become more adept at using the tools and the opportunities that network governance offers, while finding ways to reduce the costs and the risks attached. Next steps for public health organizations could include: developing an inventory of the networks in which they currently participate, identifying the key players in each, and classifying the "type" of network involved; defining the skill-sets needed to be an effective participant in, or leader of, networks; and developing the tools to evaluate the effectiveness of networks; capturing and disseminating the learnings derived from experience working in networks so that they become integrated into culture of public health organizations.

It may be that public health organizations have an advantage over many others because of the experience most have had in working in networks and building a network infrastructure to address many of their challenges. Yet there is so much more to do. Public health organizations may well find that learning and applying the norms of network governance, using the same rigour as they do in other areas, would prove a valuable investment in advancing the public health agenda.

[1] Cited in Breslow, Lester. 1990. "The Future of Public Health: Prospect in the United States for the 1960s." *Annual Review of Public Health* 11(1), p. 3.

[2] Last, J.M. 1998. *Health and Human Ecology (2nd Ed.).* New York : McGraw-Hill Medical Publishing, p. 6.

[3] Tilson, Hugh, and Bobbie Berkowitz. 2006. "The Public Health Enterprise: Examining our Twenty-First Century Policy Challenges." *Health Affairs* 25 (4).

[4] Centres for Disease Control and Prevention. January 14, 2004. *Fact Sheet: Basic Information about SARS.*

[5] Standing Senate Committee on Social Affairs, Sciences and Technology (Kirby Report). 2003. *Reforming Health Protection and Promotion in Canada: Time to Act,* p.12.

[6] National Advisory Committee on SARS and Public Health. 2003. *Learning from SARS* (Naylor Report*).* Ottawa: Health Canada, p. 212.

[7] Braën, André. 2002. "Health and the Distribution of Powers in Canada." Commission on the Future of Health Care in Canada. Discussion Paper no. 2.

[8] *Naylor Report*, p. 79.

[9] *Ibid.,* p. 215.

[10] *Ibid*., p. 164; Kirby Report, p. 45.

[11] Ibid., p. 165.

[12] *Naylor Report,* p. 177.

[13] *Ibid.,* p. 177.

[14] Wilson, Kumanan and Harvey Lazar. 2005. "Planning for the Next Pandemic Threat: Defining the Federal Role in Public Health Emergencies." *IRPP Policy Matters* 6 (5), p. 17.

[15] *Ibid.,* p. 6.

[16] *Ibid.,* p. 14.

[17] *Ibid.,* p. 19.

[18] *Ibid.,* p. 21.

[19] Canadian Medical Association. 2003. *Answering the Call: Submission to the National Advisory Committee on SARS*, p. 6.

[20] *Ibid.*

[21] *Ibid.,* p. 13.

[22] Cited in *Ibid.,* p. 13.

[23] *Ibid.,* p. 162; *Expert Panel on SARS and Infectious Disease Control (Walker Report)*. Final Report, p. 69.

[24] *Campbell Report.* 2nd Interim Report, p. 82.

[25] *Ibid.,* p. 88.

[26] *Ibid.,* p. 89.

[27] *Ibid.,* p. 94.

[28] *Ibid*., p. 93.

[29] *Walker Report.* Final report, p. 66.

[30] Imperial, Mark T. "Using Collaboration as a Governance Strategy: Lessons from Six Watershed Management Programs." *Administration and Society* 37 (3), p. 382.

[31] *Campbell Report,* 2nd Interim Report, p. 37.

[32] *Ibid.,* p. 58.

[33] *Ibid*., p. 183.

[34] *Walker Report.* Final Report, p.149.

[35] *Campbell Report.* 2nd Interim Report, p. 18.

[36] *Kirby Report*, p. 24; *Naylor Report*, p. 73; *Walker Report,* p. 157; *Campbell Report,* 2nd Interim Report, p. 17; CIHR, p. 35;

[37] *Campbell Report*. 2nd Interim Report, p.252.

[38] *Naylor Report*, p.76-7 *; Campbell Report, 2nd* Interim Report, p. 339 .

[39] *Naylor Report,* p.72*; Walker Report,* p. 78.

[40] *Ibid.,* pp. 99-100.

[41] *Naylor Report,* p.73.

[42] CMA, 2003. *CMA Submission on Infrastructure and Governance of the Public Health System in Canada.*

[43] *Kirby Report,* p. 32-3.

[44] *Walker Report, p. 91.*

[45] *Campbell Report*. 2nd Interim Report, p. 20.

[46] *Kirby Report*, p. 32.

[47] *Naylor Report*, p. 74.

[48] *Campbell Report.* 2nd Interim Report, p. 344.

[49] Rittel, Horst W.J. and Melvin Webber. 1973. "Dilemmas in a General Theory of Planning." *Policy Sciences* 4 (June): 155-69.

[50] Koppenjan, Joop and Erik-Hans Klijn. 2004. *Managing Uncertainties in Networks.* London and New York: Routledge, p. 8.

[51] *Ibid.,*p. 9.

[52] Agranoff, Robert. 2007. *Managing Within Networks.* Washington, D.C.: Georgetown University Press, p. 5.

[53] Koppenjan and Klijn, 2004, p. 5.

[54] O'Toole, Lawrence Jr. 1997. "Treating Networks Seriously: Practical and Research-Based Agendas in Public Administration." *Public Administration Review* 57 (1), p. 45.

[55] Moore, Mark. H. 2009. "Networked Government: Survey of Rationales, Forms, and Techniques." In *Unlocking the Power of Networks: Keys to High-Performance Government,* eds. Stephen Goldsmith and Donald F. Kettl. Washington, D.C.: Brookings University Press, p. 201.

[56] Koppenjan and Klijn, 2004, p. 90.

[57] See for example: Agranoff, 2007; Koppenjan and Klijn, 2004; Goldsmith, Stephen, and William D. Eggers. 2004. *Governing by Network*, Washington, D.C.: Brookings Institution Press; Huxham, Chris and Siv Vangen. 2005. *Managing to Collaborate:The Theory and Practice of Collaborative Advantage.* London and New York: Routledge; Kickert, Walter J.M., Erik-Hans Klijn, and Joop F.M. Koppenjan, eds. 1997. *Managing Complex Networks: Strategies for the Public Sector.* London: Sage Publications.

[58] Huxham and Vangen, 2004, *Managing to Collaborate,* p. 7.

[59] Kettl, Donald F. 2009 "The Key to Networked Government." In *Unlocking the Power of Networks*, eds. Goldsmith and Kettl, p. 11.

[60] Posner, Paul. 2009. "Networks in the Shadow of Government: The Chesapeake Bay Program." In *Unlocking the Power of Networks,* eds. Goldsmith and Kettl, p. 89.

[61] Kickert, W.J.M., E-H. Klijn, and J.F.M. Koppenjan, eds. 1997. *Managing Complex Networks: Strategies for the Public Sector.* London: Sage Publications, p. 10.

[62] O'Toole, 1997, p. 49.

[63] See for example: "Provan, Keith G. and Patrick Kenis. 2007. "Modes of Network Governance: Structure, Management, and Effectiveness." *Journal of Public Administration Research and Theory* 18: 229-52.

[64] Agranoff, 2007, p. 10.

[65] Phillips, Susan D. and Graham, Katherine A. 2000. "Hand-in-hand: When Accountability Meets Collaboration in the Voluntary Sector." In *The Nonprofit Sector in Canada: Roles and Relationships*, eds. Keith G. Banting. McGill-Queen's University Press, p. 157.

[66] Agranoff, Robert. 2004. Chapter 3. In *Collaboration: Using Networks and Partnerships, eds*. John M. Kamensky and Thomas J. Burlin. Lanham: Rowman and Littlefield Publishers, p. 83.

[67] Agranoff, Robert and Michael McGuire. 2003. "Inside the matrix: Integrating the Paradigms of Intergovernmental and Network Management." *International Journal of Public Administration.* 26 (12), p. 1415.

[68] I am indebted to Dr. Ronald St. John and Mr. Claude Giroux, both formerly with the Centre of Emergency Preparedness and Response of the Public Health Agency of Canada, and to Mr. Daniel Lavoie, Emergency Management and National Security Branch, Public Safety Canada, for their perspectives on this issue.

[69] Boin, Arje, and Paul 't Hart. 2003. "Public Leadership in Times of Crisis: Mission Impossible?" *Public Administration Review* 63 (5), p. 547.

[70] Drabek, Thomas E. and David A. McEntire. 2003. "Emergent Phenomena and the Sociology of Disaster: Lessons, Trends and Opportunities from the Research Literature." *Disaster Prevention and Management* 12 (2), p. 107.

[71] *Ibid*., p. 108.

[72] Waugh, William L. Jr. and Gregory Streib. 2006. "Collaboration and Leadership for Effective Emergency Management" *Public Administration Review.* Dec.– Special Issue, p. 138.

[73] Drabek and McEntire, 2003, p. 98.

[74] Waugh, William L. Jr. 2004. "Leveraging Networks to Meet National Goals." In *Collaboration: Using Networks and Partnerships,* eds*.* John M. Kamensky and Thomas J. Burkin, Lanham: Rowman and Lttlefield Publishers, p. 283.

[75] Moynihan, Donald P. 2009. "The Network Governance of Crisis Response: Case Studies of Incident Command Systems" *Journal of Public Administration Research and Theory, p. 16.*

[76] *Ibid.,* p.2.

[77] *Ibid*., p. 12.

[78] Waugh and Streib, 2006, p. 133.

[79] Moynihan, 2009, p. 2.

[80] *Ottawa Charter for Health Promotion*. 1986. World Health Organization.1986.

[81] *Bangkok Charter for Health Promotion in a Globalized World.* 2005. World Health Organization.

[82] Chief Public Health Officer. 2008. *Report on the State of Public Health in Canada.* Ottawa; Public Health Agency of Canada, p. 8.

[83] Goldsmith and Eggers, 2004, p. 160.

[84] Rhodes, R.A.W. 1997. *Understanding Governance: Policy Networks Reflexivity and Accountability.* Buckingham: Open University Press*,* p. 110.

[85] *Partners in Public Health.* 2005. Final Report of the Federal/Provincial/Territorial Special Task Force on Public Health.

[86] *The Globe and Mail*, August 18, 2009, p. A4.

[87] *Canadian Medical Association Journal.* Editorial. August 17, 2009.

[88] McKenna, Peter. "The Flu Fight Should Be Federal Territory." *Ottawa Citizen* November 18, 2009.

[89] Wilson and Lazar, 2005, p. 19.

[90] Koppenjan and Klijn, 2004, p. 10.

[91] *Ibid.,* p. 9.

[92] Cameron, David and Richard Simeon. 2002. "Intergovernmental Relations in Canada: The Emergence of Collaborative Federalism." *Publius: The Journal of Federalism.* 32(2).

[93] *Ibid*., p. 57.

[94] See, for example, Kamensky, John M. and Thomas J. Burlin, eds. 2004. *Collaboration: Using Networks and Partnerships.* Lanham*:* Rowman and Littlefield Publishers. Also, Hajer, M.A. and H. Wagenaar, eds. 2003. *Deliberative Policy Analysis: Understanding Governance in the Network Society.* Cambridge: Cambridge University Press.

[95] Moynihan, 2009.

[96] Moynihan, Donald P. 2005. "Leveraging Collaborative Networks in Infrequent Emergency Situations." Collaboration Series. IBM Center for the Business of Government.

[97] Rhodes, R.A.W. 1997. *Understanding Governance: Policy Networks Reflexivity and Accountability.* Buckingham:Open University Press, p.52.

[98] Huxham and Vangen, 2005, p. 13.