Towards a New Perspective on Health Policy

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Foreword

"Public health threatened the Englishman's right to be dirty."
19th century Member of the British Parliament[1]

Debates about health policy today are just as fraught with ideology as they were in the 19th century, although the field of battle is somewhat different. Today, we think clean water is a right. Then, this MP thought it was an invasion of individual rights. 'Twas ever thus. Today, we are caught in a logjam about the roles and responsibilities of the many actors with a role in health policy – federal and provincial governments, health professionals and managers, academics, and interested citizens. Canada spends $75 billion on health services, but Canadians are in a high state of alarm about whether care will be available when they and their families need it.

If health policy has been such a struggle over all these years, then maybe we can learn from the history of those right-left debates, and also from a better understanding about how our concept of health has changed over the centuries. This report summarizes what CPRN has learned in three years of sifting through the evidence.

What is unusual about the report is that it is not filled with data about hospital beds and the incidence of different illnesses. It is a report about ideas, and how they evolve over time. It is a report about the complex interactions within the health system and about how health care, as we know it, interacts with other big systems of the social and economic environments. It is a report designed to help us think more clearly in the debate that continues to rage in health policy. We hope it will contribute to a bridging of the unnecessary division between population and public health, for example.

The report was prepared by Sholom Glouberman, Director of the Health Network from July, 1997, to December, 2000. A philosopher, Sholom is well suited to the task of clarifying and distilling ideas through a constant state of interaction with the actors in the health system. He and his team have dug through the archives and the literature, ranging over many disciplines. And what they present is food for thought, which now must be tested and re-tested by the actors in the system, as they face their daily challenges. Sholom will continue to collaborate with leaders in the health sector in Canada, the United States, and the United Kingdom to work through implementation issues in the next few years.

I want to thank Sholom for the leadership and hard work he gave to this project, as well as the research team, the foundations and government agencies that provided the funding, and the Advisory Committee who reviewed many documents, and challenged our thinking throughout the project.

History makes it very clear that health systems are always in tension. We hope that this document will help us find ways to handle that tension more effectively.

Judith Maxwell
April 2001

1 Quoted in George Pickett and John J. Hanlon (1990). *Public Health Administration and Practice*. Ninth Edition, p. 9. Times Mirror/Mosby College Publishing. Toronto.

Executive Summary

"Towards a New Perspective on Health Policy" provides a rare comprehensive overview of health and health policy. It is a response to a logjam in Canadian health policy, manifested by government inability to allay public concerns about the health care system, recurring crises in public health, uncertainty about the future of health promotion and little progress on implementing the consequences of recent findings about health inequalities. Fifteen separate short historical and conceptual studies and discussion papers were commissioned to flesh out the context of current health policy. Ideas and an intellectual framework were developed in an iterative way by presenting intermediate results to more than 3,500 people at over 90 different events. This final report is addressed to everyone involved in the health field, including government officials, health professionals, researchers and citizens with an interest in health and health policy.

The report takes a variety of approaches to the issues. It begins by examining the writing and publication of the Lalonde Report in 1974, perhaps the most prominent health policy document in recent Canadian history. It explores developments both prior to and following that Report, locating the current situation in a broad intellectual context. Historical and conceptual analyses find fresh perspectives on health policy, and lead to a number of ideas designed to unblock the current logjam and indicate possible directions for Canadian health policy in the 21st century.

The Lalonde Report introduced an important new idea about going beyond medical care to improve the health of Canadians. It led to the development and evolution of health promotion, at first encouraging people to take more responsibility for their own health, and later recognizing the contribution of healthy communities and environments to health. The policies advocated by the Lalonde Report seem to have had mixed outcomes. For example the Report's nutritional and exercise recommendations have largely been adopted, but there remains widespread disagreement about its overall impact on the health of Canadians. These debates suggested the need for a fuller exploration of other major stages of health policy.

A historical account of government health policy describes the beginnings of the public health movement, which gave us pure water, improved sewage and public sanitation. It moves on to the events leading to the establishment of universal health care in Canada, and the growth of health promotion after the Lalonde Report. It

emerges that none of these major advances follow a neat and logical course. They all take a long time and progress towards eventual implementation occurs in fits and starts in a non-linear way. Unforeseen obstacles like wars and depressions slow things down. Ideological differences make continuous development difficult. Once adopted, there is dispute about their outcomes, so that the debate about whether it is health-related initiatives or general prosperity that is responsible for the increased longevity of Canadians is far from being resolved.

A subsequent stage of health policy seems to be emerging from research into inequalities in health which answers the question "Why are some Canadians healthy and others not?" This research has so far explained quite a lot about the nature and source of these inequalities, but it has not yet defined policy consequences of the research. There are strong ideological disagreements about what to do about inequalities in health and about the place of social determinants of health like social class and income. The report recognizes that debates of this kind have occurred at every stage of the development of health policy, going back to public health in the 19th century.

Aristotle's *Ethics* and *Politics* locate the concept of health in the broader field of living well, both morally and socially, and help us to understand some of the results of the research into inequalities in health. Aristotle's ideas explore the notion that the hierarchical nature of a society is reflected not only in gradients of social status but also in differences in levels of well-being and health. He identifies three kinds of resources for well-being: goods of the body, goods of the soul and external goods. This distinction recognizes the interactivity between the various goods and, later, the resources that are necessary for health and well-being.

An analysis of the literature on concepts of health shows that they can be categorized into three clusters: those that focus on the body as an organism, those that stress the environment, and finally those concepts that recognize the importance of the interaction between the two. This insight leads to the conclusion that *the quality of the interaction between an individual and his or her social context is a major contributor to health*. This provides a more dynamic picture of health and recognizes that positive interactions, such as those in good parenting, improve health, and negative ones, such as those in poor work environments, harm it. It becomes possible to conclude that health is a function of the dynamic interaction of many forces and has many characteristics of complex adaptive systems.

The report then traces theories of policy development from the hierarchical bureaucratic model, through a stage of policy planning, to more current views about policy development in complex systems. Frameworks for understanding policy development do not merely describe the process. They invariably indicate what a "well-functioning" process is like. And so they place a value on certain structures and behaviour. As our theories change, so do our views of what is good – the "appropriately-developed" policy of 1935 would be seen as dysfunctional today. The chapter concludes that policy development must today be seen as a non-linear process with many competing interactive complex forces. It therefore makes a distinction between three metaphors for policy: *levers,* appropriate to a mechanical view of policy; *investments,* which suggest a financial perspective; and *planting seeds,* which suggests a more biological or evolutionary approach.

The report concludes with an application of what it has learned to four case studies in public health, health services, health promotion, and inequalities in health. The public health case study looks at the contamination of the Walkerton water supply, which lends itself to accounts of how complex systems destabilize and adapt to unexpected changes. The next case study reviews the evolution of health organizations into complex networks of care and cure. It also enriches our understanding of the role of health care in the context of a broader health system, as part of the containing and redistributive function of social policy. The third case study examines the successes and failures of health promotion, and explains that these can be well understood in terms of the interaction between individuals and their social context. The last study of inequalities of health concludes that measures of health status are excellent indicators of the state of the social environment.

These case studies reinforce the conclusion that there are powerful interactions between the health and social well-being of individuals, between the different stages of health policy and between health and social policy. Some main recommendations follow from this:

- The first is to warn against the search for easy solutions based on static pictures of the health field, or on excessive simplifications of policy problems.

- The second urges that the most important role for health ministries is to ensure that the health edifice is in good repair, that is, that public health, the health care system and health promotion are functioning well. A strong and viable health policy structure is a significant contributor to well-being and is largely redistributive.

- The third is that measures of the health status of a population are good indicators of its socioeconomic well-being, and, hence, are tied to the effectiveness of broad social policy.

- Finally, as we continue to improve our understanding of human development, we must increasingly pay attention to the interaction between an individual and his or her social context as a major contributor to health. Positive interactions improve health; negative interactions make people sick.

Bearing these in mind could provide new insights for all who share in the health enterprise – patient, surgeon, nurse, deputy minister, counsellor, hospital manager, citizen and taxpayer.

The next stage of our efforts is in the advance planning stage. One conclusion of the work is that these new ideas can only be applied in collaboration with policy-makers and others who have a detailed understanding of particular local circumstances. We propose to work on such particular policy issues in three countries: Canada, the United States and the United Kingdom. There has been considerable interest among government officials, policy advisors, and researchers in the three countries to join us in this effort. We expect that the result will include some new kinds of policy solutions, which we hope will also allow us to develop very much more elaborate and detailed case studies that will be helpful in the three countries.

Acknowledgments

This project involved a very large number of people and organizations. Various drafts of the final report and the contributing documents were distributed widely for comment and peer review. Presentations were made to more than 3,500 people. Participants at over 90 conferences, roundtables, symposia and small group discussions contributed to the final product. We must acknowledge the usefulness of their wide-ranging efforts.

Our first thanks must go to the Lalonde Report. Its publication marked a turning point in Canadian health policy, and the report was the jumping off point for our project. The intellectual underpinnings of that report, how it was written and the efforts of those who worked on it should not be forgotten. In an important sense we hope that our project stands on the shoulders of the Lalonde Report and launches from it the next new perspective on health and health policy. We attempted to meet with those who worked on it and succeeded in interviewing many of them and holding a small symposium on our new ideas with them. Thanks to Jean Marie Romeder, Jo Hauser, and Rachel Paradis – all of whom worked closely with Hubert Laframboise.

The next thanks must go to our financial contributors. The funders for the project include: the Canadian International Development Agency, The Change Foundation, Health Canada, Health and Community Services, Government of New Brunswick, the International Development Research Centre, the Max Bell Foundation, the Ministry of Health, Government of Ontario, and The Richard Ivey Foundation.

Those who did the hard work of digging through archives, summarizing documents, and preparing the historical and analytic reports that made the evolution of ideas possible include the team of Canadian Policy Research Networks researchers, support staff and students, comprising Terry Albert, Soni Dasmahopatra, Susan Goldberg, Phil Groff, Sari Kisilevsky, Gisèle Lacelle, Susan Locket, Jacob Schiff, Louise Séguin-Guénette, Lindsay McKay and Catherine Nicholson. They slogged through multiple versions of documents, the anxieties and worries of the project director and the difficulties and non-linearity of much of the work. They were aided by a number of contract researchers. Those who made a big difference to the overall effort were: Caryl Arundel, Trevor Hancock, Michael Hayes, Odette Laplante, Barbara Legowski, Keith Oatley, Edie Raff and Reg Warren.

We presented our findings as we went along to many groups and individuals, many of whom made critical contributions either to what we were saying or to how we were saying it. Because the project was iterative our many tries at presenting the ideas helped us to correct and clarify our work. We changed course more than once, often finding it necessary to qualify and state what we wanted to say in a different way because of these meetings. We tried very hard to keep track of who we worked with in these many sessions, and a rather long list emerged. We are grateful to all of them for their willingness to participate in these discussions and especially for their patience with our sometimes clumsy versions of the work. There are more than one hundred people we wish to thank individually who participated in discussions, challenged our findings and brought fresh perspectives to the work. They came from different countries, different disciplines and different fields of endeavour. Here is a list of most of them: Sheila Adam, Owen Adams, Gifford Batstone, Yves Bergevin, Tariq Bhatti, Harry Burns, Margaret Catley-Carlson, Gerry Cohen, Phyllis Colvin, Robert Conn , Doris Cook, Joe Cook, Daniel Costello, Sheila Damon, Mark Davies, Raisa Deber, David Dodge , Alan Engelstad, John Evans, Tim Evans, Marie Fortier, Jill Frank, Diane Fulford, Denis Gauthier, Paul Genest, Michael Gordon, Cliff Halliwell, Terry Hanafin, Steve Herbert, Clyde Herzman , Richard Higgins, David Hunter, Glen Irwin, Richard James, Jenny Jenkins, Jane Jensen, Sheila Ryan Johansson, Chris Jones, André Juneau, Terry Kaufman, Joel Kettner, Ilona Kickbush, Huguette Labelle, Paul Lamarche, Ron Labonté, John Lavis, Phil Lee, David Levine, Margaret Macadam, Richard Massé, John McClenahan, Joe McDonald, Bob McMurtry, John Millar, John Mitchell, Kate Money, David Mowat, Gale Murray, Karel Musch, Cam Mustard, Fraser Mustard, Marvyn Novick, Alan Nymark, Annabel Obholzer, Kieke Okma, Jordan Peterson, Norman Park, Angela Pinder, Lavada Pinder, Jodey Porter, Gerry and Ruth Portner, Ian Potter, Marvi Ricker, Norman Rinfret, Paula Rochon, Nora Loo Roos, Irv Rootman, Don Schurman, Judy Segal, Craig Shields, Ian Shugart, Chris Smart, Kevin Smith, Barbara Starfield, Kathy Stewart, David Streiner, Deborah Stone, Terry Sullivan, Chaim Tannenbaum, Wendy Watson-Wright, Judith Wright, John Wynn Owen, Michael Yeo, Brenda Zimmerman and Lorne Zon. Despite our best efforts at record-keeping, we must apologize to those whose names were inadvertently omitted.

Finally there are some personal thanks. The late Suzanne Peters, a good friend, led me into this work and helped me enormously even during her last illness. My wife, Susan Glouberman, suffered with me through my greatest disappointments and unhappiness when things were not going well, read drafts into the night on many occasions and heard half-baked versions of later discarded nonsense. Mostly, she never flagged in her conviction that what we were doing was worthwhile. Hershey Frank was my first teacher about health and health care, and remains a valued friend. Roy Muir, Bernie Schiff and Peter Moss helped my through some of the more difficult work relationships. Jo Boufford and Michael Decter have become good friends who provided considerable intellectual and emotional support.

Towards a New Perspective on Health Policy

Introduction

It has long been known that the health field is complex, that every effort has been made to simplify our understanding of it, of the systems it contains, and of the policy process associated with it. It was believed that unless the health field and other like areas could be reduced to more simple explanations it would be impossible to successfully change and improve them. In this report we argue that these attempts at simplification have largely failed and have resulted in a logjam in the health field. The simplifications have not provided a workable understanding of the field and have had very mixed success in policy development. The response to these failures has been to seek newer and better simplifications. We argue that these attempts are largely misguided and their proliferation contributes to the logjam of competing policy directions.

In trying to find a new perspective on health and health policy we have found a growing literature that seeks to understand the nature of complex systems and struggles to find ways to intervene in them without the need for reductive explanations. We have attempted to apply this new approach to the health field.

Similarly, since the 1970s, few philosophers or health care thinkers dared to examine the concept of health because the terrain was too difficult, the risk of conflict too high, and the chance of failure too great. We have tried to draw a fresh picture of this concept in the complex context of policymaking. As a result, we have developed a series of hypotheses that we believe will enrich the health policymaking process and perhaps release it from its present logjam.

There was good reason in 1997 to consider that there was a logjam in Canadian health policy. Canadians were no longer as smug about the state of their health care system as they had been for many years.[1] The recession of the early nineties had accelerated the reduction of funding by the federal government. There was massive restructuring of every provincial system. Provincial health budgets were slashed and money was taken out of hospitals. In almost all provinces, hospitals and other health facilities and services gave up their individual governance to become parts of regions. The general public was beginning to suffer from the malaise about medicare that has turned the logjam about health policy into the number one political issue in the year 2000.

At the same time as the health care system was undergoing massive change accompanied by growing public disenchantment, new ideas about health were emerging. Canadian researchers led by the Canadian Institute for Advanced Research (CIAR) correlated inequalities in health with various socioeconomic measures such as income and level of education. They labeled their research program "Population Health" and argued that government should develop appropriate policy responses to these inequalities in population health. Similar research efforts in the United Kingdom had resulted in demands for "tackling inequalities in health."[2]

Although there was no strong policy response, Health Canada adopted the idea of population health and a Federal Provincial Territorial Advisory Committee on Population Health was created. CIAR and others expanded their research efforts. There was a clear disparity between the strong conclusions of the research and the weakness of their application to policy.

Financial pressures on governments and health ministries forced reductions of funding on health systems. Less federal money fuelled the growing disagreement between federal and provincial governments about who was responsible for the rising public anxiety about health care. The federal government blamed the provinces for not maintaining proper fiscal control over their health care systems. The provinces blamed the federal government for withholding too much money from transfer payments. Both blamed the press for exaggerating the problems and fanning the flames of public discontent. Meanwhile, health providers created further insecurity in order to lobby for more funding for their service area. Other factors that made the situation even more complex and difficult are partially listed here, in no particular order:

- Inflationary pressures from new health and information technologies increased the costs of delivering health services.

- An aging population increased the dependency of older people on familial and public support and help.

- Worldwide ideological arguments about the welfare state led to a reduction of services in some provinces, and less money led to fewer services in others.

- The reduction of social expenditure and inadequate access to primary care increased pressure on emergency rooms.

- A changing consumer profile fed by Internet access increased patient awareness of the latest advances in diagnostic and therapeutic procedures. There were other examples of the changing relationship between patients and professionals. A more consumerist generation of baby boomers made greater demands on professional practitioners.

- Professionals themselves were increasingly unclear about the nature of their special knowledge and authority, the distinctions between their areas of expertise and their very future as professionals.

- Consumers turned to alternative health services without good information on their effectiveness.

Many of these issues remain of concern today, and will occupy policymakers for the foreseeable future.

By the mid-nineties it was becoming clear that older rational policy planning techniques did not seem to be working. The pressures on the health care system resulted in restructuring, using expert advice and management techniques. It was expected that these changes would not only make health care systems sustainable, but would also render them more responsive, effective and efficient by increasing throughput and improving outcomes. In contrast to these expectations, restructuring – which was felt across the country and, beyond it, in the United States and Europe – raised public anxiety to a new pitch. Scientific planning mechanisms and the explanations that issued from them did not satisfy the press and public. Efficient management of health care resources from the providers' point of view was often felt as a withdrawal of service by patients. Shorter hospital stays, for example, which increased cost saving and throughput of hospitals, were felt as cost-shifting by individuals and families who had to assume the care of sick relatives released from hospital after very short stays. In Canada, drug costs were often passed from the hospital to individuals. This resulted in higher insurance costs for those with coverage, but created an increased burden for those without, usually the people who could least afford it.

It was in this context of confusion and acrimony that we began to think about the future of Canadian health policy. Our point of entry was to look back to earlier cases where fresh policy perspectives were introduced. The 1974 Lalonde Report, *A New Perspective on the Health of Canadians*, was a widely circulated and well-received policy document that

seemed to have changed the direction of Canadian heath policy. 1999 was to be its 25th anniversary, and it might very well be an appropriate time to celebrate it, learn from its development and implementation, and even gain some insights into a trajectory for future policy.

The project was thus conceived. We took some of these ideas and during several meetings were given a great deal of useful advice that led us to plan a project.[3] The title of the Lalonde Report was *A New Perspective on the Health of Canadians*. Our project was entitled *Towards a New Perspective on Health Policy*. At its inception it contained the following blocks of research:

1. A brief overview on how the health of Canadians had changed since the publication of the Lalonde Report. It was suggested that we project this into the future as well, and take a 25-year prospective view, as the Lalonde Report did.

2. A history of how the report was written and how it was implemented federally and provincially, tied to a careful analysis of historical and recent ideas about the nature of health and health policy.

3. A recognition of the international context of the Lalonde Report and the influence of Canadian health policy on other countries.

4. A synthesis of our findings and an attempt to forge a new perspective on the future of Canadian health policy.

Our hope was that locating Canadian health policy in a historical and conceptual context would help clear the air, find fresh insights and perhaps even identify some promising ways to begin to clear the current logjam. This document describes our intellectual journey, tells about what we found, and suggests some of the ways forward. Because there have been many participants in our travels, we have had to find a language that is less than usually formal although most of the background work is founded on peer-reviewed critical analysis and rigorous data. The result of the iterative process has been that the table of contents of our final report varies considerably from our initial plans.

We found that Canada has changed in many ways since the publication of the Lalonde Report in 1974, but that there is no clear agreement about what these changes mean and certainly not about what the future will bring. If anything, there is greater uncertainty about our knowledge of the past and the future than before. We uncovered fresh ways of considering the stages of health policy and their connection to each other and to the future. Although we found little agreement about the concept of health, a rich array of views emerged and helped us to consider new ways of thinking about government's role with respect to the health of Canadians. Our progress was not linear, we used many iterations to develop, articulate and test hypotheses about the connections between concepts of health and health policy. We presented the various versions to over 1200 people in many venues. We held a symposium on Aristotle, a one day meeting on the future of information technology, a conference on international health issues, and a workshop on genetic testing. We learned more from each discussion, presentation and piece of research and revised our results accordingly. It is clear that our perspective on Canadian health policy is not a shining new one, but it may provide a sidelong-glance, perhaps a momentary glimpse of what might lie ahead.

In Chapter 1 we take the Lalonde Report as a case study in health policy development. We discuss where that report came from, and what impact it may or may not have had. We consider its strengths and weaknesses in the hope of gaining insight into the way health policy frameworks operate.

In Chapter 2 we trace the development of three historical stages of government investment in the health of Canadians: public health, medicare and health promotion. Each investment seeks to address a different big question about health, and uses different sorts of interventions to achieve its goals. Finally the emerging fourth big question about health, "Why are some people healthy and others not?" is examined in the light of the successes of the three previous stages of investment, and an attempt is made to illuminate the emerging next stage of policy. This work leads to an examination of both the changing concepts of health that have accompanied and informed these investments, and to discuss the changing concept of the policy process in general.

These themes are taken up in Chapters 3 and 4, respectively.

Chapter 3 traces the concept of health from Ancient times to the present, focusing on theories that have emphasized the individual organism, those that emphasize the role of the environment, both physical and social, and emerging theories that focus on the complex interactions between them. The discussion turns to changes in thinking about the physical world and human nature that will need to inform any future attempt to frame health policy. Finally, we trace the evolution of our hypotheses about the concept of health over the life of this project, through numerous interactions with researchers, policymakers and stakeholders.

Chapter 4 examines theories of the policy process, from those based on the assumption of rational stages to the growing assumption that policies are made in the context of complex interacting systems.

Chapter 5 takes the ideas that have emerged, reviews the stages, and applies them to a number of retrospective case studies, to illustrate some new ways of thinking about health policy. Some conclusions are then presented in the context of these new perspectives.

1

The Lalonde Report as a Case Study

The Lalonde Report introduced an idea that came from the work of Thomas McKeown, a Scottish doctor and epidemiologist. He argued that there were major contributors to health that went beyond health care and traditional public health. He believed that healthy behaviour and the social and physical environment had more influence on health than biological status, or medical care.

> ... in order of importance the major contributions to improvement in health in England and Wales were from limitations of family size (a behavioural change), increase in food supplies and a healthier physical environment (environmental influences), and specific preventive and therapeutic measures.[4]

His insights must be seen in their proper historical context. McKeown was writing after the National Health Service (NHS) had been in existence for more than fifteen years. When the NHS was created in 1948, it was expected that universal health care coverage would cure those who were ill and provide the United Kingdom with a healthier population and decreasing needs for health care. This did not come to pass. Instead demands on the NHS kept on growing and, as in other countries, costs rose slightly faster than inflation. McKeown's insight was that public health and health care were not the most important contributors to health; thus it was not surprising they were not sufficient conditions for creating a healthier society. He began by speaking of various "influences" on health, and by the end of his career he was speaking about "determinants."

The Lalonde Report identifies four major determinants of health and speaks of them as constituting the "Health Field". Table 1-1 describes the four quadrants of the health field.

McKeown believed that of these four major influences on health, lifestyle was most important, followed by environment, human biology and health care organization. The Lalonde Report makes policy recommendations that follow this pattern. Much of the discussion in it focuses on lifestyle: people could assume more responsibility for their own health than in the past.

What was the influence of the Lalonde Report, and what can we learn from its recommendations? Our initial idea was to consider the impact of the Lalonde Report on the health of Canadians. How has their health changed since the publication of the Lalonde Report? How much of this change was due to policies that flowed from it? Our initial glance at the data suggested that there were some considerable changes in lifestyle. Table 1-2 was presented to several groups to illustrate the differences between Canada at the time of the Lalonde Report and in the late nineties.

There were very different responses from different groups who saw it. A Health Canada official warned me not to use the term "lifestyle" when we presented this material to people in health promotion. He suggested that they were more concerned with the social environment as a whole than the lifestyles of individuals. Moreover, to emphasize

Table 1-1

The Health Field Concept

Environment All matters related to health external to the human body and over which the individual has little or no control. Includes the physical and social environment.	**Lifestyle** The aggregation of personal decisions, over which the individual has control. Self-imposed risks created by unhealthy lifestyle choices can be said to contribute to, or cause, illness or death.
Human biology All aspects of health, physical and mental, developed within the human body as a result of organic make-up.	**Health care organization** The quantity, quality, arrangement, nature and relationships of people and resources in the provision of health care.

Source: Lalonde (1974). *A New Perspective on the Health of Canadians: A Working Document*. Ottawa: Minister of Supply and Services Canada.

Table 1-2

Early Results: Changes in Lifestyle

1970s	1990s
46.5 percent smoked	27.4 percent smoke
357 drink-related car deaths in Ontario	200 drink-related car deaths in Ontario
Food intake Mostly red meat Full fat milk Lots of eggs Few fruits and vegetables	Food intake More white meat 1 percent milk Few eggs More fruits and vegetables
Exercise measured monthly	Exercise now measured weekly

lifestyle was to blame people for their ill health rather than help them to improve it.

The health promotion researchers suggested that we should look at the entire health field concept and not use only the example of lifestyle. They did not much like the limited data we presented, and suggested that the changes in Canadians' health status were connected to many determinants, and that it was misleading to present the data as we did. They seemed to feel that the Lalonde Report was not nearly as important to health promotion as later developments in the field such as the Epp Report, or the Ottawa Charter.

We presented the material to a group of senior government officials and influential academics, who liked the idea of a kind of report card for the Lalonde Report. They felt that we should do "then and now" comparisons of all four quadrants of the health field concept. Indeed, given our growing recognition of the importance of the social environment as a determinant of health, they suggested we consider splitting our four determinants into five, differentiating between the physical and social environments.

This last view became the basis of a long piece of work to get something of an overview of the

changes in Canadian health related indicators in the seventies and nineties. It was often difficult to get comparative data because many of the current measures were not available 25 years before. A good example is that measures of physical activity in the 70s were made on a monthly rather than a weekly basis. Three exercise periods a month were considered to constitute a moderate level. The data became more differentiated as time passed and more data emerged about a growing number of variables.

In the end, we collected a fair sized cross section of information about all five quadrants (sic) of the Health Field Concept. We did not want to place very strong interpretations on the data, but rather to put it forward to spur discussion about the comparison between measures taken 25 years ago and current ones. Our outside reader and statistical advisors were impressed with our ingenuity in finding comparisons when there were so little data about some areas collected in the 1970s.

The modest complaints of the health promotion researchers were as nothing compared to the vociferous and vitriolic responses by government officials who felt that our data was not well-balanced. The evidence for our conclusions was not complete. We had ignored major areas of progress, for example, in environmental health. Population epidemiologists argued that we had not looked at the data in a detailed enough way, so that we had ignored current major problems in Canadians' health behaviour. Instead of starting a discussion about the effectiveness of the Lalonde Report, we had unleashed the forces of various expert groups who had a variety of more skilled and focused ways of reading and interpreting the data. Many of our tentative and untutored interpretations unwittingly took sides in unresolved debates, or used data that were disparaged by one group of professionals or another. Although we made no pretence of being experts in any field except gathering statistical data, we had obviously unwittingly stepped onto dangerous ground.

One good example of this is the degree to which physical inactivity has become a health issue. The Lalonde Report made a cluster of 12 specific recommendations about physical activity (see Table 1-3). Virtually all the recommendations are for increased exercise and sports facilities and programs, most of which have been adopted. The data indisputably show that more Canadians exercise more at more places and for longer times than they did 25 years ago. In fact, fitness training has become a substantial industry. If we were to measure the results of the specific recommendations, then the Lalonde recommendations were remarkably successful. That is, Canadian attitudes to fitness have changed. People are much more knowledgeable about the benefits of exercise than they were 25 years ago. There are more sports and fitness facilities. There are more hiking, fitness and ski trails and so on. On these measures the Lalonde Report was remarkably prescient.

During this period, the level of inactivity in Canada has also gone up. More people drive to the store to buy milk, people spend more time at sedentary activities like Internet browsing and TV watching. The Lalonde Report did not foresee that more exercise might be more than outweighed by greater car use and increasing sedentary habits. And so, although its specific recommendations were met, a new problem of inactivity has arisen. A parallel issue also arises about nutrition: the Lalonde Report urged better foods for Canadians: more low-fat meats, more fruits and vegetables, and so forth. We eat these now; but we also eat more, and are fatter than 25 years ago.

We learned several important lessons about these and other issues from the Snapshots project, which was undertaken to gain an overview of changes in Canadian health-related indicators from the seventies to the nineties. This painstaking subproject helped us to glean comparative data that would otherwise be unavailable, since many current measures were not in use 25 years ago.

The Data Are Much Richer Now

Perhaps the most significant lesson learned from the Snapshots effort was that more data are now available in much greater detail, and with more differentiation, than there was 25 years ago. In fact, there have been explosions in the data sources, in the techniques of data analysis, and in the range of

Table 1-3

Twelve Recommendations on Physical Activity from the Lalonde Report

12. Continued and expanded marketing programs for promoting increased physical activity by Canadians.
13. Enlistment of the support of the educational system in increasing opportunities for mass physical recreation in primary and secondary schools, in community colleges and in universities.
14. Promotion of the development of simple intensive-use facilities for more physical recreation including fitness trails, nature trails, ski trails, facilities for court games, playing fields, bicycle paths and skating rinks.
15. Continued pressing for full community use of present outdoor and indoor recreation facilities, including gymnasiums, pools, playing fields and arenas.
16. Continued and reinforced support for sports programs involving large numbers of Canadians.
17. Encouragement of private sports clubs to accept more social responsibility for extending the use of their facilities to less-privileged segments of the Canadian population.
18. Extension of present support for special programs of physical activity for native peoples, the handicapped, the aged and the economically deprived.
19. Enlistment of the support of women's movements in getting more mass physical recreation programs for females, including school children, young adults, housewives and employees.
20. Enlistment of the support of employers of sedentary workers in the establishment of employee exercise programs.
21. Enlistment of the support of trade unions representing sedentary workers in obtaining employee exercise programs.
22. Increase in the awareness of health professionals of factors affecting physical fitness.
23. Completion of the development of a home fitness test to enable Canadians to evaluate their fitness level.

data interpretation. There are more longitudinal databases that provide very detailed information about factors that influence health. Computers have become more powerful and far more accessible to most researchers. Statistical techniques have also become far more sophisticated. These three factors result in much more intricate analysis, and far more differentiated results. In the 1970s there were data collected about lifestyle issues but they were not linked to other factors. There were few longitudinal databases that considered the circumstances and health habits of populations over periods of years. Developing the mortality tables in the Lalonde Report and, even more important, the charts on causes of death, was a great effort and a considerable accomplishment. The same types of graphical analyses are commonplace today, and readily accomplished by even amateurs with pre-packaged software on desktop computers. A consequence of all this is that many different researchers with different areas of interest can delve into the data to discover more and more about the nature of the population, its circumstances, and practices and consider a wider range of variables in their thinking. The data can be analyzed using far more powerful computers than were dreamed of 25 years ago, enabling the large-scale use of sophisticated modeling and statistical techniques. The information is far more detailed and extensive, more discriminating, and more capable of leading to rich and definitive pictures of identifiable subsets of the population. The data allow for a far more complex picture of the state of Canadians' health than we had 25 years ago.

No Clear Causal Link from Lalonde Recommendations to Eventual Outcomes

Naively, one might think that a before-and-after view of Canada would be a good indication of the

effectiveness of the Lalonde Report. If we look at Table 1-2, it is apparent that at least some of the things that the Lalonde Report talks about have changed. We eat more nutritious foods, smoke less, wear seatbelts, and so on. There is even some indication that the attitudes behind our behaviour have changed. We are no longer tolerant of smoking in others; we think of a much higher frequency of exercise as normal. But we did understand that these changes were not by themselves proof of the impact of the report. It might be that the Lalonde Report merely emerged at the same time that the changes would have happened. Was it literally co-incidental or at least merely indicative and not causal? What would one have to do to show causality? In any event even if the Lalonde Report was not a causal factor in these changes, it declared their relevance and preceded their occurrence. And so at least we could say that the Lalonde Report marked the beginning of this transition period. Was this good enough for our purposes?

Policies Do Not Occur in Closed Controlled Systems

The clear goal of the recommendations about exercise (and nutrition) was a leaner, fitter population. The goal has not been achieved, even though the recommendations have been largely adopted. If people had maintained their existing levels of physical activity (and food intake) the increase in exercise fitness and better nutritional balance might have achieved the desired result. But other things changed. People began to use cars more and walk less. Sedentary leisure activities increased. Although people ate healthier food, they ate more food altogether and became fatter. And, of course, a large segment of the population simply aged. *If outside factors change, how do we measure policy success?*

The Data You Start with May Not Be Appropriate in the End

It is difficult to evaluate the policy recommendations of the Lalonde Report. If their effectiveness were measured by reviewing the level of exercise, then they would appear to be very successful. If, however, they are measured in terms of the overall level of activity of the population then they were not particularly successful. But how can we measure overall level of activity? Which data are relevant to this? Formal measures of physical exercise are easier to measure than overall levels of activity. Is the population overweight due to more inactivity? To overeating? To aging? There are some measures that are relevant to the current issues about inactivity that were impossible to find 25 years ago, such as the number of privately owned fitness clubs, or the size of the exercise machine industry or the amount of time spent in front of computer screens. Can we choose the right data?

Some of the issues raised today were not even being considered 25 years ago. For example, inequalities in health are now being used to object to some Lalonde Report recommendations. Some argue that disadvantaged people with more limited control over their lives have a lesser capacity to engage in healthy behaviour than the better off. Health education, then, has a disproportionate benefit for the well off, and may in fact increase inequalities in health.

Whether the Lalonde Report was an important agent for change or merely a harbinger of change that was already afoot, it is nonetheless widely seen as a key health policy document, both in Canada and the rest of the world. We hoped that understanding the process by which this remarkable document came about would help with contemporary policymakers' efforts to produce the next health policy framework.

How Was the Lalonde Report Written?

We read many published accounts about the Lalonde Report's preparation, and obtained government archives of its earlier versions as well as unpublished papers that supported its findings. Lindsey McKay's study of its writing gave us a better understanding of the progression of its ideas, and of their transformation into policy.[5]

The circumstances in which the Lalonde Report was written differed somewhat from those before us now. Medicare had so far been a great success:

with few exceptions, Canadians were very pleased with the new system. It was becoming a key element in Canadian public policy: an institution that was a major source of Canadians' pride about their country. However, by the early 70s issues about value for money were already surfacing: "In spite of the large infusion of funds into the health care delivery system, the overall health status of Canadians did not appear to have significantly improved."[6] The longevity of Canadians was increasing, but mortality rates indicated that many still were dying before their time while the demands on the health care system were increasing. The rapid inflation of the 1970s was having a greater impact on health care than on the general economy. While the federal government had led the struggle to create medicare, health was constitutionally a provincial matter, so it only had a small role in managing the provincial systems. While it was committed to funding 50 percent of actual provincial expenditure on medicare, it also had little control over its rapidly growing costs. At the same time, provincial governments found it difficult to contain costs in a system that they felt forced into by a federal initiative. The result was to exacerbate worries that have continued ever since about the sustainability of the health care system and about the roles of federal and provincial governments with respect to health.[7]

Hubert (Bert) Laframboise led an effort within the federal Department of National Health and Welfare to generate some fresh ideas. With the support of the then Deputy Minister, he became the Director General of the Long-Range Health Planning Branch, assembling a team of policy planning consultants "to identify and assess major issues and trends in the health field, which had not yet clearly emerged."[8] Laframboise gave them the mandate to think about the future of health over the next 25 years. He released them from day-to-day concerns of the ministry while he assumed the rank of Assistant Deputy Minister to keep in touch with senior ministry officials. In effect he created a "free-wheeling think tank"[9] with which to inform government policy discussions. He wanted it to find new ways to analyze the current situation and new tools to respond to it.

As noted previously, the ideas of Thomas McKeown about health and health policy formed the core of this new approach. In the United Kingdom, the NHS had been created with the belief that a universally funded health care system would improve the health of the population and eventually reduce the demand for health care. This hope was never realized, and perhaps it never could have met that goal. In this context, McKeown's central idea was that one had to go beyond standard medical services to improve the health of the population. Indeed McKeown's arguments were a polemic against the view that medical care was a major contributor to improving the health of a population. He argued that the medicine of the day had mistakenly reduced the concept of health to a mechanistic explanation of the state of the human organism.

> The approach to biology and medicine established during the seventeenth century was an engineering one based on a physical model. Nature was conceived in mechanistic terms, which led in biology to the idea that a living organism could be regarded as a machine which might be taken apart and reassembled if its structure and function were fully understood. In medicine the same concept led further to the belief that an understanding of disease processes and of the body's response to them would make it possible to intervene therapeutically, mainly by physical (surgical), chemical, or electrical methods.[10]

He used epidemiological data to propose more powerful influences on health than specific preventative or therapeutic interventions. It followed that because medical services were not the most significant factors in improving health, it was not surprising that the introduction of universal health care coverage did not, as many hoped, make people so much healthier that they would eventually require less health care.

The staff of the Long-Range Health Planning Branch embraced McKeown's ideas because they helped explain the current situation, opened the door to a broader vision for the future, and presented fresh policy options for improving the health of Canadians. McKeown's ideas became the basis for developing the health field concept, which would simplify the complex concept of health. If they could reduce the significant underlying causes of ill health to a manageable number of mutually exclusive and jointly exhaustive factors, then they

would have a framework with which to assess the current state of health of the population and evaluate the effectiveness of current systems, institutions and policies. This would allow them, in the end, to devise fresh policies to overcome current inadequacies. The promise of finding new ways out of the current difficulties seemed to lie within these solutions.

The health field concept evolved in an iterative way. It was not easy to decide which factors belonged to each of the four quadrants of the health field, nor how to describe them. The four quadrants entitled "lifestyle," "environment," "human biology" and "health care organization" emerged after some effort. Versions of the concept were tried out in various venues by means of written papers and presentations. With each iteration, fresh contributions clarified the concept or added features to it. Members of the team contributed in different ways. Jean-Marie Romeder and Jerry Hill of Statistics Canada developed the statistical technique of Potential Years of Life Lost (PYLL). This "formula produced a new ranking of causes of mortality that exposed the importance of self-inflicted hazards, i.e., lifestyle behaviour."[11] People were dying because of suicide, coronary artery disease and accidents, which had more to do with personal risks[12] than with access to medical care. The final version of the health field concept would allow for categorization of the various influences on health. It would enable the assimilation of large amounts of information about each quadrant and become the powerful framework that could be applied to the analysis and evaluation of the state of health in Canada.

The health field concept was presented as an analytical tool. As such, it would identify where change should happen. But in some versions of the concept it was also tied to "tools for change" in each of the quadrants that would give some account of how to implement the change. The tool to improve the environment was "legislation"; lifestyle could be changed by "persuasion"; "research" was to be used to increase our understanding of human biology and "reorganization" was the tool to improve health care organization. Although these tools are not explicitly mentioned in the final report, they help to clarify the nature of the recommendations made in it. They complete the picture of the project as an attempt to go from ideas to policy implications.

The Report received very mixed reactions in Parliament. Some Opposition members argued that the stress on lifestyle was primarily a way for the government to reduce funding for medicare by blaming the victims of disease. But the document was applauded by many, and taken up as a breakthrough in thinking about health policy in many countries. It is one of the few green papers that remained in print for a long time, and which has been taught in university courses as a cornerstone document of modern public health. Over 400,000 copies were printed and, in 1999, a 25th Anniversary edition was published.

Three Critical Achievements of the Lalonde Report

1. It Recognized that Health Was a Complex Concept that Went Beyond Medical Care

At least part of McKeown's position was that health was a more complex concept that could not be reduced to a description of the state of the human organism. The staff of the Long Range Health Planning Branch accepted that conventional models of health (including those of medicine and public health) were deficient because, in them:

> … health problems were (a) difficult to identify (b) difficult to evaluate and (c) difficult to measure program impact upon their solution, because of the size, scope and complexity of the health field.[13]

These difficulties made it necessary to create an expanded model which could account for some of this complexity. The health field concept identifies four major influences on health, and, since then, the "influences" have grown both in number and in conception to become "determinants of health." A 1996 Health Canada document identifies 12 determinants,[14] and a survey of the literature at about that time listed and categorized 28 different determinants of health (see Table 1-4).[15]

Table 1-4

Twenty-eight Possible Factors Linking SES and Health

Physiological	Psychological and behavioural	Sociodemographic	Socioeconomic status	Social environmental medical
Cardiovascular	Psychological distress	Age	Education	Residential characteristics
Immune	Personality factors	Ethnicity	Income	Occupational environment
Muscular	Health promoting behaviours	Gender	Occupation	Social support
Endocrine	Health damaging behaviours	Location	Family wealth	Social-professional hierarchy
			Perceived SES	
Height			Economic mobility	Access to health care
Weight			Childhood SES	
			Material possessions	
			National income distribution	

Source: Norman B. Anderson and Cheryl A. Armstead (1995). "Toward Understanding the Association of Socioeconomic Status and Health: A New Challenge for the Biopsychosocial Approach." *Psychosomatic Medicine.* 57. 213-25.

2. It Launched Health Promotion and Prophesied a Change in Attitudes to Health

The expanded notion of health, with an increased number of determinants, resulted in the emergence of health promotion as an instrument of government policy in Canada and elsewhere. Early versions of health promotion concentrated on reducing "individually self-imposed hazards" and improving "healthy behaviour" through health education. But a deepening understanding of the influences on health quickly led proponents of health promotion beyond lifestyle to the relative importance of socioeconomic factors. And so health promotion activities began to include community organization and advocacy for social and economic measures.

When we produced our Snapshots of Canada we learned that there is not much agreement about the impact of the Lalonde Report on the health of Canadians. There is no question, however, that it expanded how we think about health. It successfully foresaw a general change in public attitudes about health. Few of us even recall the then widely-held view that doctors and medical science would by themselves make us healthier. We now commonly accept the core idea of McKeown, and of the Lalonde Report, that there is more to health than medical care. More specifically, as a society we have assumed greater responsibility for our own health. We smoke less, exercise more, and eat healthier foods. Even when we do not adopt healthier lifestyles, we acknowledge the impact of not doing so on our health.

3. Ideas were Linked through a Framework to Policy Recommendations

The ideas of McKeown led to the health field concept, which provided a capacity to analyze the health of Canadians. The health field concept was in turn closely linked to tools for change in each of its four quadrants. The Lalonde Report thus connected innovative ideas about health to a new platform for analysis and evaluation and finally to

policy recommendations using those tools. A great deal of health policy over the next 25 years could be described in terms of those tools. The use of persuasion to affect lifestyle through techniques of social marketing was a major component of health promotion campaigns, such as Participaction and many anti-smoking efforts. Legislation has been a critical factor in attempts to create a healthier physical environment. The expansion of medical research and the inclusion of non-medical health research in Canada have contributed to changing our understanding of human biology. Most prophetically, perhaps, the tool of reorganization has been applied to every system of health care organization in Canada.

Even more striking are those occasions when tools envisioned for one area made significant inroads in another. For example, in 1971 very few people wore seat belts. Since that time, every province has legislated their use; there is a striking compliance rate of over 95 percent with these laws. Traffic fatalities associated with lack of seatbelts have declined dramatically although legislation implemented this lifestyle change, and not the anticipated tool of social marketing.

Two Shortcomings of the Lalonde Report

Over-emphasis on Lifestyle Missed the Importance of the Social Environment

The Lalonde Report is notable for the little mention given to the social and economic environments as contributors to health. To some extent it assumes that citizens are rational actors in control of their lifestyles and capable of assuming far greater responsibility for their health-related behaviour. The pressure of social and economic forces such as culture and poverty on lifestyle are largely ignored. Thus, while broadening the perspective on health and health policy to go beyond medical care, it remained too intensely focused on the individual and on individual responsibility for health.

This over-emphasis on lifestyle lent itself to a "blame the victim" response to illness and spurred the evolution of health promotion from health education to community development. Many health promotion advocates still display a certain defensiveness when the term "lifestyle" is used.

A second shortcoming of the Lalonde Report results from the nature of McKeown's insight, which fails to grasp the strong interactions among the four quadrants. It is not as if lifestyle changes are entirely independent of human biology or environment. This is hinted at by the difficulty the writers of the report had when they tried to find a place for research about lifestyle in their framework.

The Lesson for Us

Twenty-five Years Later, We Must Take Another Big Step

The Lalonde Report marked a large change in government health policy. Studying its development led us to look further back at other major stages of government involvement in health, such as the introduction of public health measures and the introduction of medicare. Each of these historical stages was accompanied by changes in thinking about health and different perspectives on health policy.

The staff of the Long-Range Planning Branch saw that if the government's objective was improving the health of the population, it must expand the scope of health policy beyond traditional public health measures and medical services. As far as we could see, this was the major achievement of the Lalonde Report. It resulted in opening up thinking about government's role in health and led to fresh areas about research and policy. And these, in turn, led to an expansion of the health field concept into more current views and a growing number of determinants of health. Over the last 25 years, health promotion, which can trace its modern origins to the Lalonde Report, has gone beyond the boundaries of the health field concept. Research into inequalities in health in the United Kingdom and Canada uses the measure of potential years of life lost as a way of demonstrating inequality, and

concludes that fresh policy approaches are necessary. The tools for change that were connected to the health field concept are no longer adequate to respond to the current situation.

At the time of the Lalonde Report, the sense was that health was a complex concept that could not be reduced to an organic state. The health field concept was an attempt to capture that greater complexity in an expanded but still reductive model with more variables. Today, the recognition that health is a complex concept has new meaning. As we have begun to delve into the nature of complexity, we recognize that complex concepts are not reducible to their component characteristics, but often display emergent qualities unforeseen by analysis. We began to think more carefully about what such a model of health might be.

2

Four Stages of Health Policy

Introduction

As our research team studied the history of the Lalonde Report we began to see that a somewhat fuller picture of the development of health policy might enrich our understanding of the current situation. In clarifying ideas surrounding population health we had distinguished between the roles of public health, of health care services, of health promotion, and of inequalities in health research in the policy milieu.[16] Each of these areas had different policy origins and played a role in changing government involvement in health. We might rephrase questions about the direction of policy by asking *"What should government's involvement in the health of Canadians be in the future?"* In this chapter we try to find some answers to this question by looking at the past.

The Stages of Government Involvement in the Health of Canadians

There have been three major stages of government involvement in health. These are: first, the early implementation of public health measures, such as sanitation, inspection, and public health nursing: second, the enactment of universal health care coverage; and third, the introduction of government-sponsored health promotion programs. These changes occurred, with notable variations, in about the same order in Canada and the United Kingdom. More recently, research into inequalities in health in both countries suggests that a fourth stage is emerging.

Stage 1: Public Health Measures – How Do We Stop Epidemics and Keep People Healthy?

The history of public health in Canada is strongly influenced by what happened in the United Kingdom. It is well known that, in the early 19th century, reformers like Edwin Chadwick gathered statistics to measure and analyze the health of populations. A central question of the time was how to deal with recurrent epidemics of diseases such as cholera, a killer of large numbers of people. For many years, public health advocates claimed that the clean water policies of the 19th century did more to improve health status than did medical discoveries of the 20th century, such as penicillin and other antibiotics.[17] The institution of these public health measures is often presented as a victory for the efforts of Edwin Chadwick and of evidence-based policy development culminating in John Simon's advocacy of the Public Health Act of 1875. The enactment of this law…

> … was due especially to the perspicacity, the administrative drive, and the meticulous collection of evidence on the part of a great civil servant, Sir Edwin Chadwick (1800-1890).[18]

A closer look suggests a much richer picture. Far from following a linear process, the course of

Table 2-1

Some Important Dates in the History of Public Health in Canada

1882	Ontario Public Health Act, modeled on English Public Health Act of 1875, establishes the Ontario Board of Health and the first modern public health structure in Canada.
1885	Ontario has the first public health infrastructure in Canada, with 563 local health boards in 600 municipalities, 283 medical officers, 160 sanitary inspectors and many vaccination officers.
1884-85	Smallpox outbreak tests Ontario system. 18 deaths in Ontario and 7,000 in Quebec, where there is resistance and distrust of the public health movement.
1886	Quebec sets up the Conseil de Santé, modeled on the Ontario Act.
1891	Manitoba and British Columbia follow suit.
1910	Most provinces have permanent boards of health with the power to force municipalities to establish local health boards and hire Medical Officers of Health (MOH).
1910-29	Charles Hastings becomes Toronto's MOH. Purifies the water supply and establishes an internationally-recognized public health nursing system, including health education programs, school medical and dental inspection, and baby clinics.
1910-25	The death rate from communicable diseases in Toronto drops from 15.3 per 1,000 to 10.3 per 1,000.

the development of government expenditure on public health was sporadic, full of starts and stops, fraught with opposition, and full of unexpected events and unforeseen consequences. It also included struggles between different perspectives on the nature of health and disease. In short, it was a rather typical policy effort.

Chadwick was a proponent of the miasma theory of the spread of disease. The core of this view is that a filthy environment is the source of disease. It follows that cleaning up the environment will solve the problem, for according to this theory a contained pile of manure is as dangerous as a cesspool that contaminates a well. Chadwick and his colleagues, the Sanitarians, thus argued that "if refuse was removed, cesspools drained, and houses properly ventilated, epidemic disease would no longer trouble the population."[19] He began this work in the 1830s, and in 1848, after much debate, the first Public Health Act was enacted. It was "too permissive a piece of legislation owing to the opposition of the vested interests who owned the water and sewage companies."[20] Moreover, it did not apply to London, where the problems were particularly great. The passage of the Act was followed by further dissension, and in the end Chadwick was forced to retire from the civil service in 1854, at the age of 54. The Act was not renewed, and it took until 1875 and the efforts of John Simon before a more effective Public Health Act was passed.

In 1848, just as the first Public Health Act became law, there was a cholera epidemic, and, given the miasma theory…

> … many practitioners did not even consider that it was communicable from one person to another. At the close of the 1848-9 epidemic John Snow suggested in a short essay, that material from excreta of cholera patients was spread by the accidental emptying of sewers bearing infected excreta, into the drinking water of the community.[21]

This was a step in the direction of a bacteriological account of the spread of cholera, and what came to be known as germ theory. But Snow's

work had little influence, while the miasma theory held sway. Thus what we would now consider to be the best evidence was not taken into account in the enactment of the first, and had little influence on the enactment of the second, British Public Health Act.

More recently, new approaches to population epidemiology have suggested that there may be an unexplainable multitude of influences on disease patterns. The epidemiological analysis of such chronic conditions as heart disease and mental illness has influenced growing debates about the relative impact of 19th century Sanitarian public health measures. Some population epidemiologists argued that improved health owed less to public health measures than to a general increase in prosperity, which afforded better nutrition and housing.[22] The struggle between the epidemiological approaches associated with the miasma theory, the germ theory, and this more recent view, is summarized in Table 2-2. Despite the disagreement about the impact of early public health measures, it is indisputable that public health initiatives did contribute considerably to general health improvement and continue to address the question: *"How do we keep people healthy?"*

Stage 2: Universal Health Care Coverage – How do we Diagnose and Treat People with Ill Health?

A second major involvement by Canadian and British governments in health was the introduction of universal coverage for health services.

> Great progress resulted from [public health] measures in the last ten or twenty years of the century; nevertheless it was becoming clear that in England of that time sanitation was not enough. The infant mortality… rate was as high in 1900, at 151 per 1,000 live births, as it had been in 1850.… Dr. G.C.M. McGonigle… put it thus: "We used to think that the millennium in public health would come about by perfect control of hygiene alone… But in recent years the personal side of public health has come back to occupy the minds of sanitarians."[24]

Recruitment of soldiers from the Boer War onwards was accompanied by medical examinations that exposed a great deal of medically-treatable ill health. By the time of World War II, the Medical Recruitment Boards "… laid bare such a mass of preventable disability, of under-nourishment and poor development, that we are ashamed. There is

Table 2-2

Three Eras in the Evolution of Modern Epidemiology[23]

Era	Paradigm	Analytic approach	Preventive approach
Sanitary Statistics (first half of 19th century)	Miasma: poisoning by foul emanations from soil, air and water (Sanitarian movement)	Demonstrate clustering of morbidity and mortality	Drainage, sewage Sanitation
Infectious Disease Epidemiology (late 19th century through first half of 20th century	Germ Theory: single agents relate one-to-one to specific diseases	Laboratory isolation and culture from disease sites, experimental transmission, and reproduction of lesions	Interrupt transmission (vaccines, quarantine and ultimately antibiotics and anti-virals)
Chronic Disease Epidemiology (latter half of 20th century)	Black Box: exposure related to outcome without necessity for intervening factors or pathogenesis	Risk ratio of exposure to outcome at individual level in populations	Control risk factors by modifying lifestyle (diet, exercise, etc.) or agent (guns, food, etc.) or environment (pollution, passive smoking, etc.)

much to be done; we know it should be done, and it is within our capacity if we have the will to do it."[25] Economic arguments were made for a National Health Service. "[T]he progress of medicine must continue to extend the working age of people to keep pace with the aging of the population."[26] It was expected that increased expenditure on medical care would reduce the cost of benefits to the ill and disabled. Finally, it was recognized that "because of the advance of science the cost of illness was beyond the purse of the average person."[27] Universal health care coverage was the just solution. Implicit in these arguments was a renewed belief in a kind of health millennium: universal medical coverage would result in a healthier population, so that, in time, there would be a reduction in the need for it.

In Canada, widespread ill health in the Great Depression and at the outset of World War II was a major contributor to the enactment of medicare in 1968. The road was long and bumpy. And, just as in the case of public health, the path was in many ways similar to the one in the United Kingdom. The health status of Canadians was poor: "… many of our people are going without adequate medical care, some are overwhelmed with the cost and losses due to illness; preventable diseases and postponable deaths are still common."[28]

The argument for universal coverage seemed to take the following form: Despite public health measures and a cleaner environment, the population continues to be relatively unhealthy; for example, Canada ranks poorly in infant mortality rates. Much of the remaining ill health of the population can be successfully treated by medical care. So universal health care coverage is the next major government initiative in health, which will yield a healthier population. Some, as in the United Kingdom before them, also expect that this will ultimately reduce the cost of health care.

This second stage of health policy has a long and circuitous history (see Table 2-3). There are many stops and start, delays, and unforeseen complexities.

> It would be comforting to believe that the governmental process follows … [a] neat and logical course, but, obviously, it does not. Unforeseen obstacles appear, unpredictable events (such as an election defeat) occur, and feedback from the environment warns of the need for changes in policy or strategy. With each of these decisions taking from two to six years to bring to conclusion, new inputs appear at different times, and in some of the cases, therefore, several stages in the strategy of implementation can be discerned before the objective is reached... The more one examines the roles of interest groups and national and provincial political parties in the formulation of policies, and the increasing interdependence of the federal and provincial governments, the less the two-tier federal system resembles the traditional "layer-cake" concept and the more it exhibits the idiosyncratic confusion of a marble cake.[29]

Finally, just as in the case of public health, the hoped-for dividend from medicare does not emerge. Demand for health services does not decline and costs increase; new illnesses emerge; and new treatments are very expensive. The dispute about the contribution of universal health care coverage to the health of the population grows. Additionally, there has been much argument about the relative role of medical care as a contribution to the overall health status of a population. There is renewed debate about McKeown's ideas and later many others argue that improvements in health status after the initiation of universal health care coverage are less a result of these government policies than of an increase in prosperity and other socioeconomic improvements. Despite these debates, there is no disagreement with the view that universal medical coverage has contributed to the treatment of ill health and *answers* the question *"How do we diagnose and treat people?"*

Stage 3: Health Promotion – How Do We Improve People's Health?

The Lalonde Report, having taken its lead from McKeown's ideas, was itself a major influence on the growth and development of health promotion in Canada and elsewhere. We have described in some detail how it was written and published and some of the controversy surrounding it. The Lalonde Report recommended that government policy be extended beyond medical care to encourage people to assume

Table 2-3

Some Important Dates on the Road to Medicare in Canada

1919	The first federal Department of Health is created by an act of parliament.
1928	Health insurance is first discussed in the House of Commons.
1935	The Mackenzie King government passes the Employment and Social Assistance Act, which contains elements of health insurance. It is rejected by the Judicial Committee of the Privy Council Office, which deemed that it violates the division of powers outlined in the British North America Act, which functioned as a kind of Canadian constitution.
1941	The Minister of Pensions and National Health convenes a meeting of the Dominion Council of Health and other interested agencies to discuss health insurance.
1942	Government appoints an Advisory Committee on Health Insurance.
1943	Advisory Committee on Health Insurance tables a report which leads to a federal-provincial conference to discuss a draft federal health insurance bill. The provinces conclude that any insurance scheme should be implemented in slow stages and be built onto various existing services. They are opposed to being committed to a plan on a fixed time basis.
1948	Federal government tables a health-grants proposal in 1948, responding to provincial concerns. It has fewer conditions attached.
1955	Five provinces have universal hospital insurance.
1959	Federal government passes the Hospital Insurance and Diagnostic Services Act.
1961	All provinces have hospital insurance.
1964	Hall Commission recommends the inclusion of medical insurance in the national scheme.
1968	Federal government enacts the Medical Care Act, involving 50 percent Federal/Provincial cost-sharing.
1972	All provinces have medicare.
1984	The Canada Health Act affirms the five principles of comprehensiveness, universality, portability, accessibility and public administration.

more responsibility for their own health. The report marked a transition in government policy and the ideas in it were later expanded in the Epp Report: *Achieving Health for All: A Framework for Health Promotion*[30] and in the *Ottawa Charter*.[31] These later reports changed emphasis from individual lifestyle to the role of the social environment, power and control, coping skills, social justice, housing, education, and civil society in promoting health. They also specified actions: the need for health workers to advocate and act to improve health. Health Canada was reorganized, and many provinces also adjusted institutional structures to facilitate health promotion.

A main strand of health promotion followed McKeown's insistence that medical care is not a major factor in improving the health of the population.

The title of the 1984 conference, "Beyond Health Care," is a good example of this view. A growing Health Promotion literature recognized an increasing number of influences on health which were said to interact in complex ways. As noted earlier, a recent document from the Conceptual Framework Sub-group of the Working Group on Population Health Strategy considered that there are at least 12 critical determinants of health. These are income and social status, social support networks, education, employment and working conditions, socioeconomic environments, physical environments, personal health practices, healthy child development, biology and genetic endowment, health service, gender and culture.[32] The conclusion of that document was that if government policy has health improvement as its goal it must balance its expenditures on medical care with ones on health promotion.

This third stage of health policy, like the first two, took some time to evolve and implement (Table 2-4). Some health promotion advocates argue that it has not been fully implemented yet. And, just as there are debates about the effect of traditional public health and universal health insurance, there are disagreements about the efficacy of health promotion. Price Waterhouse made a rather negative evaluation of the federal health promotion program in 1989. It concluded that "the paradigm which envisages health as the product of 'anything and everything' does not readily lend itself to being actioned..."[33] Nonetheless, *"How do we improve people's health?"* remains a policy question facing ministries of health.

Some Lessons from the Three Stages

These three stages of heath policy are different in many ways. They all are precipitated from different ideas about the nature of health and the causes of illness: they respond to different questions. The particular policies that emerge respond to different local circumstances. The focus shifts from collective health problems to individual ones and back again. Still, there are lessons to be learned from the similarities between these differing health policy initiatives and the interactions between them.

Each stage responds to a major current issue, and involves a "big idea" in response to it. In all cases, the evidence for accepting the ideas remains incomplete as the policy stages are adopted. Their adoption appears to occur when a constellation of local conditions eliminates all remaining obstacles. Although each of the policy stages emerges when it becomes clear that previous efforts have not been completely effective, it is not clear that the stages are entirely distinct, and the interaction between them does not appear to be linear. The causal efficacy of each stage of policies in improving the health of the population is in some scholarly dispute, but the longevity of the populations affected has increased as each policy stage is implemented. Table 2-5 sums up some of these results.

At the moment, each of these stages of health policy is in difficulty. It is widely agreed that health is a major political issue in most western countries. The public health functions of assuring clean air and water, and assuring the safety of the blood supply, have been affected by crises; a case study will be provided in Chapter 5. There is a crisis of confidence in the health care system among citizens and providers of health care; a point to which we shall again return in Chapter 5. Despite some success, health promotion advocates consider their efforts to be under attack. At the same time, fresh research has raised another "big idea."

The Emerging Stage 4: Inequalities in Health – Why Are Some People Healthy and Others Not?

It has been known for a very long time that the level of health of a population is closely associated with a number of non-health factors. Edwin Chadwick's mortality tables of 1842 indicate that the level of child mortality can be correlated with the level of their father's occupation.[34] The smooth, gradual linear increases in health outcome when plotted against socioeconomic determinants are now often referred to as gradients of health. Gradients of a wide variety of health indicators along social class lines have been an ongoing feature of epidemiological studies. They become even more apparent

Table 2-4

Some Important Dates in the Development of Health Promotion in Canada

1971	The Long-Range Planning Branch is established.
1974	A *New Perspective on the Health of Canadians* (The Lalonde Report) is published.
1978	The Health Promotion Directorate is formed within Health Canada.
1982	Cabinet approves a permanent health promotion policy and program. This results in specific initiatives dealing with, for example, tobacco, alcohol, drugs and nutrition and developmental work in core programs including school and workplace health, heart health, child health, as well as a national health promotion survey.
1984	Canada Health Act passed.
1984	"*Beyond Health Care*" conference is sponsored jointly by the Toronto Board of Health, the Canadian Public Health Association and National Health and Welfare. Two key ideas of health promotion were born: healthy public policy and the healthy city.
1986	*Achieving Health for All: A Framework for the Health of Canadians* is published.
1986	The First International Conference on Health Promotion is held in Ottawa in collaboration with the WHO, and the Canadian Public Health Association's *Ottawa Charter for Health Promotion* is issued.

Table 2-5

Summaries of Characteristics of the Policy Stages

Policy stage	Major issue	"Big idea"	Nature of evidence	Approximate time lag
Public health	Epidemics	Clean air and water	Mortality statistics	45 years
Universal coverage	General poor health	Medical care and cure	Health status reports plus previous inadequacies	30-40 years
Health promotion	Increasing demand on health care systems	Healthy lifestyles, healthy communities	Potential years of life lost	15 years

when statistical data begin to be gathered using formal class definitions in Britain early in this century. A 1957 Epidemiology text is a good example: "Cancer of the stomach, myocardial degeneration, pneumonia and ulcer of the stomach have a definite rising gradient from Social Class I to V." Infant mortality followed the gradients in 1932, and continues to follow them in 1950.[35]

The Black Report of 1980 was a landmark study of health inequalities in the United Kingdom. It provided clear and more complete evidence that gradients of socioeconomic status correlated with differences in health.[36] Richard Wilkinson's *Unhealthy Societies* continues in this tradition by using gradients to present the socioeconomic correlations with health disparities. His sources are epidemiological

studies in the United Kingdom and other developed countries.[37] Similar studies in Canada and the United States have shown that mortality, various kinds of morbidity, self-reporting of health, and other similar health measures seem to follow gradients of education, social status, income and other socioeconomic circumstances.

"*Why Are Some People Healthy and Others Not?*" This question is the title of a prominent publication by Canadian researchers on inequalities in health. They have amassed population-based evidence in a systematic and integrated way in an attempt to understand *how* different factors influence health.[38] The result has been to demonstrate that social environments have a far stronger impact on health than individual behaviour. Trying to understand these social-structural dimensions has become a central focus of their research. Health promotion researchers had recognized these impacts, but did not engage in the detailed empirical research needed to identify the correlation between social gradients and health status, nor to explain their interaction.

Canadian and other researchers on inequalities in health have attempted to integrate evidence of what is known about identifiable factors that influence health over the life course from large-scale population health studies. Along the way, evidence regarding the relative contribution of health care, the physical environment and genetics has been assessed, and the conclusion has been that these factors are far less critical than the social environment over the course of people's lifetime.[39]

Researchers in inequalities in health have "drilled down" into various social determinants and assessed the significance of more particular factors. After showing that the rank of government employees was a good indicator of morbidity and mortality, British researchers began to look more carefully at the nature of their work and how it is done. Some of these studies indicate that lack of control over work contributes significantly to ill health. In fact, after correcting for smoking, alcohol consumption and nutrition, it is the most significant contributor to heart disease in the population studied.[40]

Other studies look more carefully at particular components of people's lives. Correcting for other differences such as smoking, nutrition and other health-related behaviour, studies have shown that hopelessness is closely tied to cardiac disease. A study of 2,500 Finnish males used measurements of the blood flow in their carotid arteries to show that hopelessness is closely correlated with the onset of atherosclerosis.[41]

Policy Implications Are Unclear

Despite the clear conclusions of this and similar work in Canada and abroad, and these rather spectacular findings, some difficulty has come with framing and adopting the policy consequences of this work: "Today the question is not whether these facts are valid but who cares and what can be done about them."[42] Similar complaints have been heard in Canada from researchers in health inequalities.

After the publication of the Black Report there was a left-right political division on interpreting its results. "The House of Commons debate of 6 December 1982, ... developed on strict party lines and reached its forgone conclusion by 10 p.m."[43] This division of perspectives on the results of research remains. Sir Donald Acheson concludes: "In the circumstances it is particularly unfortunate that the issue has become a party political football."[44]

The argument of the right focuses on individuals. Everyone must have the relatively untrammeled freedom to accumulate wealth. This will result in the greatest increase in the wealth of the population as a whole and will also improve the wealth of the most socioeconomically deprived. There is an explicit recognition that health and well-being follow wealth. Improvements in wealth will increase the health of the whole population – the least well off as well as everyone else. Although inequalities may persist, general improvements will affect everyone. At the same time, it may be necessary to provide a safety net for the worst off. In support of this, there are those who argue that improvement in health in industrialized countries over the last 150 years is mainly due to an increase in general prosperity. Over that period of time, there has also been a narrowing of longevity differences so that everyone lives longer and the gradients of disparity along class lines are shallower. As mentioned earlier,

higher incomes, improved diet, housing and working conditions are more significant factors than either sanitation or medical advances. An example of this kind of change is in the reduction of infant mortality, which has benefitted all classes. Even though inequalities remain, there is evidence that in the long term, except for occasional blips, the differences between the best and worst off have been reduced.

The political left argues that reducing inequalities not only improves the health of the least favoured but results in an improvement of health of the whole population. Wilkinson is a good example of someone who holds this view. Using examples which compare the United Kingdom with Sweden, Wilkinson argues that in countries like Sweden, where there is less disparity between classes, not only is the health of the least well off better, but so is the health of the best off.[45] Sir Douglas Black concludes, "a radical cure demands nothing less than a renewed dedication to the welfare state."[46]

The epidemiological studies do not provide direct causal accounts of illness; instead, they indicate risk factors. A significant risk of a condition does not constitute a causal explanation. The gradients of health indicate varying degrees of risk of illness at different socioeconomic levels of the population. It remains true that at each level some people are sick and others are healthy. The presence of proven risk factors cannot predict individual outcomes of disease. There is still no way to ascertain whether a particular person will get lung cancer or not. Jill, who is poor and smokes like a chimney, remains healthy and lives a long life, while Jack, who is a rich, non-smoking, vegetarian jogger, may die early on of lung cancer.

We cannot, nor should we, identify socioeconomic risk factors with direct causes. It remains true that even though some one may be at higher risk because of her social and economic situation, the luck of the draw remains of prime importance in the risk of most illnesses. This is reflected in population-based data, which indicate that of the known factors that affect heart disease in certain populations, the most significant known ones may be social status, or control over work, but even larger components of risk remain unknown.

Even if it were accepted that reducing inequalities would improve the health of the population, there is widespread disagreement among egalitarians about what should be equalized in order to improve general well-being and, by implication, the health of the population. This is true on a number of fronts including health, education, welfare, etc.[47]

Tackling Inequalities in Health suggests four levels of policy initiative to this end:

- Strengthening individuals
- Strengthening communities
- Improving access to essential facilities and services
- Encouraging macroeconomic and cultural change

This study points out that:

> Despite some successes, efforts to strengthen individuals and communities have had a minimal impact on reducing inequalities in health…. some of the greatest gains in health in the past have resulted from improvements in living and working conditions…[48]

It concludes that:

> A worthwhile agenda for tackling inequalities in health must therefore include a strong focus on reducing poverty and a commitment to the careful monitoring of the impact of major public policies on health, particularly among the most vulnerable groups.[49]

This kind of conclusion leaves government departments of health with a particular difficulty: If their mission is to improve the health of the population, or even if they adopt the objective of reducing inequalities in health, the policy tools available to them are limited. They cannot themselves develop policies for "macroeconomic or cultural change," nor can they develop policies that will increase access to essential facilities outside the health portfolio, such as housing, or circumstances, such as control over work.

This frustration of purpose is apparent in many departments of health. Government officials in health recognize their inability to develop policies that will change socioeconomic circumstances. When

the Ministry of Health declares a desire to develop such policies, officials in other government departments often consider these efforts to stem from a kind of health imperialism. Must health be the focus of all government policy? *What is the relationship between the health of the population and other government objectives?*

Conclusion

If the stages of health policy form a kind of structure of government health-related programs, then it appears that this structure is rickety. Earlier stages than the present one have been fraught with crises, and the responses to inequalities in health research will clearly not repair this flawed structure. Nor is it clear that a more solid structure is possible or even desirable.

Two directions for further study emerged from our examination of the stages of policy investment in Canada's health. The three movements discussed at the start of this chapter were each designed to respond to different questions about health. It seemed clear that different concepts of health could and do yield different policy directions. Second, when considering the time frames of policy response to conceptual change, the larger issue of the nature of policy initiatives was raised at each historical stage. The emerging movement to reduce inequalities in health has recently gone beyond the questioning stage.

Accordingly, this led us to an analysis of the history of the concept of health, and of the history of thinking about policy formation. These two threads will form the cloth of Chapters 3 and 4, respectively.

3

A Survey of the Concepts of Health and Illness

Aristotle and Health

We turned to Aristotle because in the *Nicomachean Ethics* and the *Politics* he considers many issues relevant to our inquiries about inequalities in health status, even though he does not discuss health directly. Like us, he lived in a society with clear social gradients, and he considers the connection between these gradients and different levels of well-being. His discussion of "goods" sheds light on our understanding of determinants, and his thoughts about misfortune helps us to think about the nature of risks and their links to determinants. Finally, his consideration of the place of individuals and their relation to others and to their social environment can help us to frame some hypotheses that might help with our current dilemmas about health and the direction of health policy.

Aristotle on the Good Man

For Aristotle, *the good person lives well*. Importantly, this notion of goodness is not limited to Judeo-Christian notions of morality. Different people have different capacities for goodness. In the *Politics* and *Ethics*, Aristotle writes that one's relation to one's society or state provides a level of social and civil status. One's status is used to mark different capacities for living well. Aristotle describes a range of civil status, which descends from the level of full citizen (always male) to artisan, political slave, woman and natural slave. This range is related to a person's capacity to lead a good life – to live well.

Living well requires *goods* that provide the means to live well. There are three types of goods: goods of the body, goods of the soul, and external goods.[50] Goods of the body include such things as health, fitness, strength, and suppleness. Examples of goods of the soul include virtues, intelligence and wit. External goods could include wealth, property, civil status, training and so on. A person's capacities are dependent on their external goods as well as their internal ones.

The distribution of these goods follows the levels of civil status and, consequently, the capacity to live well. An individual is an element of the state.[51] The nature of the state and the individual's place in it determine much about the goods at his or her disposal. Thus a full citizen has the means to live well. He has training in the science of politics, which is tied to the right to participate in government and the capacity to make decisions with consequences to the well-being of the state. An artisan has training only in his trade, less right to govern, and hence a more limited capacity for the good life than a full citizen. Though he may be well educated, a political slave has no civil status. This limits his capacity to live well. In Aristotle's day, women were given almost no education and had no rights to property or capacity to govern. In his patriarchal society, their range of moral action was severely limited. Finally, for Aristotle a natural slave has limited intellectual capacity, no training and functions only in response to his master's orders; hence the natural slave has the most limited capacity for goodness.[52]

Just as there is a hierarchy of goodness among people, there is also a hierarchy of goods and purposes, and a relation between particular goods and further ends or virtues.[53] According to Aristotle, the virtues are modes of choice, ways of bringing ends into action. They are dispositions of the individual, and require the various goods as part of their capacity. Fitness and strength, for example, are goods of the body for the virtue of courage. A weak or unhealthy person will have less capacity to act courageously. Similarly, intelligence is a means for the end of a virtue such as courage, and education in the science of politics is an external good to the end of engagement in government. These virtues themselves stand in relation to the ultimate end of *eudaimonia*. This term has been variously translated as well-being, living a good life, being a virtuous person, excellence, or happiness.

When we apply this picture to a particular virtue such as courage, the goods associated with it might be presented as follows:

Table 3-1

Goods Associated with the Virtue of Courage

Goods of the body	Goods of the soul	External goods
Health	Capacity to assess risk	Training
Strength	Intelligence	Social position
Agility	Rationality	Right to bear arms
Endurance	Inclination to act	Possession of arms

Aristotle recognizes that people at all social levels can be courageous or cowardly. Further, possession of goods of the body does not guarantee that someone will be courageous. Thus a full citizen can be cowardly despite his goods. Similarly, having fewer goods does not bar someone lower on the social scale from courage. A woman can be courageous despite her lack of strength, for example. But the courage of a woman involves different actions from that of a man: because of differences in strength, a rather cowardly but strong man is able to perform actions that would require great courage for a (weak) woman.[54] Courage involves different actions for different individuals, because it depends on the physical, mental and external resources one brings to an action. This example does not show that courage is a relative concept. Instead, it suggests that we understand the concept in the context to which it is applied.

For Aristotle the goods of the body, the goods of the soul, and external goods are not independent of each other. External goods are necessary if one is to be able to acquire certain virtues as goods of the mind. The external goods of training and education can lead to the goods of the mind that enable one to govern well and virtuously. And this, in turn, can result in a prosperous state with more external goods. These goods obviously interact with each other to amplify or dampen their impacts.

The possession of goods should not be confused with the good life. The good lyre player, notes Aristotle, uses a good lyre to play well. However, "[t]his makes men fancy that external goods are the cause of happiness, yet we might as well say that a brilliant performance on the lyre was to be attributed to the instrument and not the skill of the performer."[55] The quality of the lyre is no guarantee of good playing. Similarly, being a full citizen with all the external goods provides no guarantee of the good life.

The ways in which someone uses the goods at his or her disposal is particularly important for Aristotle. Well-being for him is not a state, but an activity.[56] He believes that the good life involves action and engagement with one's society. Thus one measure of the difference between different levels of people is how they act in relation to their social context. At every level one's actions have consequence, but those of a full citizen are the most directly consequential while those of the natural slave are the most instrumental and circumscribed. Yet at every level one can act well or badly. It seems as if the arena of living well is the interaction between the individual and her social context.

Close relationships, contemplation (or understanding), and fortune all play critical parts in Aristotle's views on the active good life, or *eudaimonia*. He argues, for example, that friendship contributes to resiliency in times of misfortune.[57] He also suggests

that understanding is a mode for achieving *eudaimonia*. There is a fundamental human inclination to try to understand the nature of the world. Once again, the goods required for this sort of contemplative life are distributed by level of civil status: the role of the intelligent and insightful observer requires many resources, and is thus reserved for those who have had sufficient life experience, the appropriate resources of body and mind, and whose level in society provides them with the necessary external goods.[58]

Finally, fortune also plays a part in contributing to the good life. Good luck, for Aristotle, is not a sufficient condition for the good life, as the good life must be one of active engagement. Instead he argues that the absence of bad luck is a necessary condition for living well.[59] It is nonsense to think that someone who suffers from great misfortune can still lead the good life. Misfortune is thus an aspect of the happy life that is beyond our control. The fine man on the rack does not live well.[60]

How Aristotle's Ideas Can Help Us Understand More about Health

Aristotle recognizes that possession of goods is not the cause of living well, in the same way as "determinants of health" such as are education, employment, and personal health practices are not direct causes of health or sickness. At each social level, Aristotle says, available goods provide a basis for some measure of well-being. Similarly, health-related determinants are not sufficient to ensure good health. Both goods and determinants seem to function as resources with different degrees of necessity. In both cases, the ways in which a person relates to the resources or goods available to her become critical factors in her health.

For Aristotle, the nature of this interaction is not constant across the life span. Children, who are learning how to become good citizens, are most amenable to education by habit formation. Adults, who are presumably serving as citizens, are living what he calls the political life. At this stage, what is paramount is their active engagement both in their local group of intimates, and in the larger society as a whole. Finally, in later life, people may enter a state of more solitary contemplation, which for Aristotle is the highest good, but importantly not to be practiced by all, and especially not by any who lack a firm grounding in the earlier stages.

Thus there is an appropriate level of engagement with one's social environment at each stage of life, and each stage has the former as prerequisite. Without adequate habituation and education in youth, one cannot properly engage with one's society during one's prime; and without adequate engagement during the adult, political years, there can be no hope for happiness later in life. Thus, if human well-being is the goal of society, attention must be paid at each stage, not only to the individuals and their social contexts, but to the nature of their interaction with them.

Importantly, in all this, Aristotle is not a health imperialist. In fact, he hardly discusses the notion of health directly. Rather, he sees it as one more good for the end of well-being, or *eudaimonia*. Similarly, at least some current discussions on health see health as a means to the end of living well overall. Both views suggest that while health is certainly a necessary condition for well-being, it is not an end in itself. *Thus Aristotle may help us to understand the place of health policy in terms of a larger scope of policies aimed at well-being.*

Aristotle's notion of the good life identifies three main elements: the individual, who has certain goods of the body and the soul; the social context, which provides external resources; and the mode of interaction between them. From his discussion on the good life, we were able to arrive at a series of hypotheses. As will be seen shortly, the hypothesis is now that *a significant contributor to health is the quality of the relationship between an individual and his or her social context.* We can explore, and test, this idea by applying it to various health-related situations. In so doing, we may indicate preliminary directions for policy.

Changing Views

Modern views about health are changing. We reviewed three main ideas that are aspects of this

change and seem to follow a cyclical pattern. The first is our idea about the nature of the physical world which flows from uncertain knowledge of a non-deterministic universe to certain knowledge of a mechanistic world and back again. The second is our notion of how humans relate to the physical environment, which cycles between a reverence for nature and the belief that we can control it through science. The third is our understanding of human identity, which goes full circle from social context to a strong emphasis on individual nature and back again.

The New Physics

For some ancient Greek philosophers like Heraclitus and Plato, the physical world is the world of becoming. According to them, we cannot have knowledge of the physical world but only opinion and uncertainty because it is constantly changing.[61] For many mediaeval philosophers, man's uncertainty about the physical world is set against divine knowledge: only God can understand the physical world; it remains mysterious to humans. It is with the rise of modern science that the belief grows that humans can gain a powerful understanding of the physical world. Francis Bacon's *Novum Organon* is a good example of this change in attitude. He argues that humans can unlock the secrets of nature and reap its treasures by ridding themselves of false preconceptions and engaging in the new scientific enterprise. The success of Newtonian physics and science in general resulted in a strongly mechanistic and deterministic picture of the physical universe.

Modern medicine grew out of the successes that derive from the rise of modern science beginning in the 17th century. It was at that time that scientists began to see the world as a physical mechanism whose secrets could be discovered and give us power over nature. Humans as part of that world began to be seen in a similar way. In Descartes's Sixth Meditation he compares human beings to mechanical entities like clocks:

> … so also the human body may be considered as a machine so built and composed of bones, nerves, muscles, veins, blood and skin that even if there were no mind in it, it would not cease to move in all the ways it does at present when it is not moved under the direction of the will.[62]

This Cartesian picture of a mechanistic and deterministic physical world has been a major influence on medical science for a very long time. Some would argue that it remains the strongest basis for current medical research. The high point of its influence on physics, however, was in the early 19th century. Pierre Simon Laplace, for example, envisages a being, often referred to as "Laplace's Demon," who is capable of complete knowledge of the deterministic universe.

> We may regard the present state of the universe as the effect of its past and the cause of its future. An intellect which at any given moment knew all of the forces that animate nature and the mutual positions of the beings that compose it, if this intellect were vast enough to submit the data to analysis, could condense into a single formula the movement of the greatest bodies of the universe and that of the lightest atom; for such an intellect nothing could be uncertain and the future just like the past would be present before its eyes.[63]

Explanation in Laplace's universe requires causal links and accurate predictions. There is no room for choice, or chance or uncertainty.

There are many phenomena that are best-described in (Newtonian) linear causal terms. How they work can be predicted and controlled with a very high degree of certainty. The functioning of a gasoline engine, the engineering of a bridge, or the operation of a space satellite are well described in these terms. But there are many other phenomena that do not lend themselves to such explanations, including such obvious examples as the stock market, the next drip of the faucet, and the weather. The picture presented by Laplace is then contradicted by the occurrence of a large number of non-predictable phenomena that occur throughout nature at every level, from the sub-atomic to the cosmic. In Laplace this non-predictability was due to a lack of complete knowledge on our part. We now know that this is not the case. We have come to accept that a large measure of uncertainty is characteristic of the physical world. Advances in mathematics and physics such as Poincaré's work on the three body

problem, Lorenz's analysis of the weather, and the work of others, have led us to deny the possibility of the certainty of Laplace's Demon.

In contrast to the Newtonian picture of the world, modern physical theory speaks of a world in which *there is always some uncertainty in measurement*. This makes it *impossible to specify initial conditions to infinite accuracy*. Extreme sensitivity to initial conditions (the butterfly effect) then makes it *impossible to accurately predict* these phenomena over long periods of time.

Some, such as Ilya Prigogine, argue that this uncertainty and the lack of constant stability are important considerations in helping us to understand the nature of development and stability in the physical world. Explanation is no longer in terms of prediction and control. *Complexity* is not merely an impediment to our eventual understanding of the nature of the universe; *it is the nature of the universe*.

There are some critical differences between Newtonian and non-Newtonian systems. This document is not an appropriate review of all these differences. A selection of contrasts taken from the growing literature on complexity is provided in Table 3-2.

Humans and the Natural Environment

A second big shift in ideas that affects our understanding of health is about the relationship between humans and the natural environment. In early animistic cultures people see themselves as an element of nature: everything is ensouled. This close connection to the rest of nature forces a constant focus on the interaction between human affairs and the natural world. In Mediaeval society, although humans are special, the natural world is also a divine creation that demands consideration and respect. The land needs to rest, as does man; animals are literally *creatures* of God. The Newtonian and especially Cartesian pictures of a mechanical universe increase the distance between humans and the natural world. Bacon's ideas about "taming" nature for our own ends suggest the possibility of control over nature through discovering its secrets. Scientific advance begins to be seen as a solution

Table 3-2

Newtonian and Complex Systems

Newtonian systems	Complex adaptive systems
Linearity	Non-linearity
Simple causality	Mutual causality
Equilibrium	Non-equilibrium
Reversibility in time	Irreversibility (time's arrow)
Determinism	Probabilism
Optimization	Satisfaction
Certainty	Uncertainty
Closed systems	Interactive systems
Noise and fluctuations suppressed	Opportunity seen in noise and fluctuations
Averages always dominate	Exceptions dominate near critical thresholds
Asymptotic stability	Structural stability at the edge of chaos
Structural constancy	Evolution/structural change
Analysis/reductionism	Holism/synthesis
Reductive characteristics	Emergent characteristics
Convergent thinking	Divergent thinking
Assumed predictability	Predictability severely limited by instability, structural change, and chaos

to problems that occur in nature. This approach grows and reaches its peak in the early parts of the 20th century when major engineering and design projects were launched with the view that scientific expertise would always be able to solve any problems that might arise.

Rachel Carson's *Silent Spring (1962)* marked a renewed realization that humans are part of nature and must learn to respect it, rather than attempt to control all aspects of it. This changing understanding of the connection between humans and nature is mirrored by changes in our concepts of health. A good example of this change occurs in the area of nutrition. It was not so long ago that the scientific vision of the future included healthy food in the form of pills. The growth of the organic, natural food industry and a growing concern about the possible side effects of genetically engineered produce emerge from a recognition that humans are inseparable from a complex and delicately balanced natural environment. We have two different pictures of what we should ingest. The first is a belief in the magic bullet drug that will deliver health and youth, and the second is the expectation that a more natural organic way of life will maintain our health.

Human Identity and Individualism

The third "big idea" that has resulted in changing notions of health has to do with human identity. In primitive societies, individuals identify themselves by means of their relationships with others. Her network of relationships determines who someone is: daughter of A, sister of B and cousin of C. The notion of separate personal identity without this kind of reference arises gradually in Medieval society as individuals become responsible for their individual souls. Increasingly, the individual soul becomes more private and internal.[64] For Descartes it becomes a problem for the deeply individual soul to prove the existence of an external world.[65]

This Cartesian view of personal identity has been gradually eroding even within the scientific tradition that helped give rise to it. As early as the 19th century, the conflict between the instrumental and the broader conception of health and illness was emerging. Edwin Chadwick and others "applied statistics to population health and uncovered powerful correlations between poverty, class and disease."[66] René-Théophile-Hyacinthe Laennec, the inventor of the stethoscope, warned his colleagues about relying too heavily on organic explanations. Theories of human development from Freud onward continue to recognize the importance of the individual, but accept the increasing evidence of the strong impact on identity of the interaction between individuals and their social environment.

Impact of Changing Views

The consequence of all these somewhat cyclical changes is that our changing understanding of health is affecting the entire health field. Much of medical science is struggling to transform itself from the deterministic, mechanistic, purely organic focus on the state of the individual body to a more interactive, less deterministic practice which recognizes the importance of a broader range of influences on health. Hospitals and other health care organizations are increasingly moving to recognize their role beyond repairing the organism. There is no question that this struggle is a difficult one. A recent Canadian history of medicine by Jacalyn Duffin is an excellent indication of some of the difficulties associated with it. Her book chronicles uncertainty about the extension of medical understanding beyond the body. It points out the difficulties associated with criteria of evidence that assume a deterministic and mechanistic account of human beings. It struggles to recognize the importance of population-based research alongside organic studies. It argues that medical schools must adopt a broader account of human health, but worries about how we will ever get there.[67] *All of these uncertainties are the ones we face today.*

Three Ways of Thinking about Health

There appear to be three main elements in concepts of health: the individual, the social context, and the modes of interaction between them. If we begin to apply these ideas to our understanding of health, we can identify three traditions for thinking about health, each of which stresses one of the three

elements. In another paper we traced the traditions behind these three approaches.[68]

The medical tradition has for a long time focused on the individual organism. Major advances in medical knowledge have resulted from an ever-deepening understanding of the physiology and psychology of the individual person. Interventions on the individual body seek primarily to maintain health and prevent or cure illness.

Thomas McKeown's ideas are a good example of a second tradition, which looks beyond the body. He argues that medical intervention is a lesser contributor to the health of an individual than the environment. This emphasis on environmental factors is a strong part of the public health tradition, which begins with the Sanitarian movements and can be traced through ideas of health promotion and current work on the inequalities in health. Increasingly, this tradition emphasizes the social and economic environment as having the greatest influence on health.

A third view of health, which focuses on interactions between individuals and their environment, has begun to be articulated in the last century. Talcott Parsons' work, in a sociological tradition beginning with Durkheim on the boundary between health and illness, relates the influence on people's health status of their capacity to engage in their social and work environments.[69] His ideas help us to understand health in terms of the interplay between an individual and his or her social context. Antonovsky's discussion of the nature of the resiliency of Holocaust survivors identifies the capacity to use the resources one has to respond to misfortune.[70] This echoes Aristotle's description of the fine man as one who can cope with misfortune.[71]

We began to see that we could use some of the ideas of *complex systems* to enrich our understanding of concepts of health, and processes of policy development. The shift from the old to the new physics has had profound implications on our understanding of our selves, the universe and our place in it. This change in the physical sciences has understandably had a profound impact on the way we view health and the nature and the role of health care. Where once it might have been imagined that perfect health was as attainable as some state of efficient equilibrium in a clockwork mechanism, we now realize that health is complex, shaped by numerous, perhaps countless, forces from many different spheres of influence ranging from the molecular to the socioeconomic. Attempts to consider the human body as the single site for the study of health are insufficient. The genome project is often (and mistakenly) presented as a complete explanation of human biology on the Newtonian model. There is no doubt that it will have enormous consequences to our capacity to understand and control many types of disease. But, given that genes set out only some of the initial conditions for health, there will still be a great deal of variation of outcome. Most experts accept an epigenetic perspective on health, i.e., that many non-genetic factors will contribute to initial conditions and, hence, have strong influences on lifelong health. If we apply our understanding of physics to this issue, then we must conclude that it is not possible to provide a complete (causal) account of health (or illness) that considers the body in isolation.

Our Hypothesis – An Evolutionary Tale

As we developed our ideas we presented them to audiences involved in policy research, analysis and implementation. We tried to present the ideas as widely as possible to individuals and groups with an interest in health. The iterative development of our ideas is well illustrated by the changes in our hypothesis over the three years of the project. A complete list of presentations is available, but it is worth highlighting some of them to indicate the scope and range of the presentations. We met with public health officials in Quebec, health promotion researchers from across Canada, health policy researchers in national and international conferences, government officials at federal, provincial and municipal levels, small groups of philosophers, many different groups of health care practitioners including doctors, nurses, allied health workers and administrators. We made our presentations across Canada and in the United Kingdom, the United States and the Netherlands. In most of them there were useful suggestions and additions to the ideas we had. The fiercest criticism often helped us see

new directions. Our ideas about health policy evolved in this context of constant comment and elaboration.

At the same time as the hypotheses were evolving through presentations, we were running a series of workshops in which we were attempting to elicit policy ideas from our hypotheses. Three were held. The first, on the future of health and information technology, was in November of 1999; the second, on international issues in health, in May 2000; and the third, on policies, related to genetic testing, in mid-June 2000. We learned a great deal from each of the workshops, and our methods for eliciting responses and what we hoped to learn evolved as they proceeded. In this section we present a brief summary of several versions of our hypothesis, and then describe some of what we learned from each of the three workshops. We hope that this will give a sense of how the ideas developed.

Hypothesis Version 1: The Most Significant Contributor to Health Is a Robust Relationship between an Individual and His or Her Social Context

As the project began, we looked for new directions in thinking about health, and found much to think about in the literature emerging from research into inequalities in health, the genome project, and the concerns expressed about the health care system. We began by trying to understand more about the nature of inequalities in health and found that much of that work had been based on *correlations* between various states of individuals or between those states and external conditions. In the Whitehall Studies, for example, the place of government employees in the bureaucratic hierarchy is correlated with their state of health.[72] In other studies like it, there are correlations of social status and levels of education with measures of health. Since much of this research is based on the analysis of databases, it is difficult to consider the dynamic interaction among these states. All of these sophisticated analyses have been made possible through increased availability of cheap, powerful computing facilities and, thus, can be seen as just another impact of Information Technology (IT) upon the health field.

We decided that a look at the future of the health field through the lens of IT futures would yield fresh insights. With Trevor Hancock and Phil Groff we built scenarios to consider a series of alternate futures, scanned the futures literature, and consulted with current users of IT in the health field. In November of 1999, we held a conference attended by health and IT experts from the public and private sectors to test our hypothesis and hear from them.[73] We found that, while we tried to use our first hypothesis to direct the discussion, most participants acknowledged its value but did not use it in their thinking. We were led to revise the hypothesis in response to comments from many audiences. This workshop suggested that it was important for us to develop fresh ways to help others apply the hypothesis to particular policy problems. Each advance in the history of information – the evolution of language; the development of writing systems; and the eventual replacement of scriptoria with printing presses – has resulted in an explosion of available knowledge in human society. This increased ease in the production and transmission of information resulted in the emergence of large national governments with bureaucracies spanning whole continents, as well as vast libraries of medical and other scientific lore. The development of the microcomputer chip and the proliferation of telecommunications networks have brought about a similar profound change. Never before in human history has there been such ability to generate, store, transmit, process and analyze information. The technologies that make up what is known as Information Technology, and the people who use them, are the fastest-growing sector of the world's economy. The instruments of this technological revolution are themselves increasingly powerful, affordable, and accessible. The future of health and health care has already been greatly affected by this explosion of IT. Major advances in diagnostic testing, epidemiological analysis, and the human genome project, are all good examples of the impact of IT.

The traditional view of the dawn of the information age, like the traditional view of the physical sciences, is that more information and greater access to information will automatically result in increased precision of prediction and facility for control. However, when thinking about the future of health, the

transition to the new information age raises the spectre of some *antinomies*, or apparent contradictions. There are apparent contradictions in the maintenance of public sector involvement in health care and increased private sector involvement. There is the tension between individual privacy and confidentiality of information, and the public need to know, through access to aggregate data. There is the tension between the old primacy of location and geographical determinism, on the one hand, and the fact that cyberspace is not geographically located or clearly demarcated with borders. There is the thrust of the information explosion toward increased democratization and empowerment, paired with the threat that greater informational access may lead to greater potential for social control, either by government, big business or both. Finally, there is simply the tension between the old view of information as the opposite to uncertainty, opposed to our growing understanding that increased information, while leading to greater depth of understanding, does not necessarily lead to precision or certainty. All of these antinomies are visible both within the area of health care, and also in the general context of health and social well-being. Further, many issues raised and ideas explored both during the workshop and subsequently seem to involve several of these antinomies simultaneously.

We concluded that information technology will create new perspectives on many of these antinomies: some will disappear, others will become more acute as both horns of their dilemmas grow sharper, and, in some cases, new apparent contradictions seem to be emerging even now. Some examples of these antinomies are worth exploring because they provide good lessons for the future of health policy (see Table 3-3).

In fully contained deterministic systems, the increase in available measurable information about the elements of the system provides an ever-increasing

Table 3-3

An Example of the Antinomies, the Electronic Medical Record

At the time of our conference there were two models of electronic patient records that were thought to be most likely competitors, though each carried with it some worries. The first was the use of networks to develop large centralized databases, perhaps even national registries of permanent health records. The second was the proliferation of small, cheap, yet powerful information storage media, such as smart cards to promote local, perhaps even personal, storage of records. A third possibility was that private services would create comprehensive online databases of medical records – allowing their customers world-wide password-secure access to those records when they travel. At the time of our conference this was thought to be the least likely of the three.

Large publicly-owned databases raised issues about government use of the data, issues about privacy and confidentiality, and questions about the practicalities of access and usefulness of such records by individual health practitioners. Smart Cards and other individual storage devices were said to have limited data entry, access problems by incompatible systems, and function in ways that make it hard to aggregate data. The third option raised problems about commercialization of health information and attendant possibilities of abuse of information by private interests.

This issue involves the tension between public and private sector involvement, between geography and cyberspace, and, perhaps most obviously, between democratization and centralized control. A centralized system would allow for continual examination of aggregate data on resource utilization and population health status, thus fostering more evidence-based budgeting and health promotion. Personal storage of records would allow for increased personal autonomy and empowerment of patient/consumers, and allow for immediate, reliable access to a patient's entire history in an emergency.

After a short space of nine months the situation has changed. What was thought to be the least likely option has grown most quickly. There are more than twenty companies that offer to hold peoples' medical records on the Internet. If they continue to snowball it will make it increasingly difficult (and perhaps unnecessary) to create large government-sponsored aggregated databases, and the issue of individually-held computer cards or disks becomes the least likely option. This rapid shift was quite unexpected by our knowledgeable group of experts. The first company to reach market dominance in this field will in all probability become the model, if not the outright partner, in any attempt by the public sector to offer such a service. These kinds of spurts of activity, external to the formal planning system that destabilize it, are typical of complex systems. By the time government-sponsored initiatives come on-line there will be a large number of databases holding electronic medical records with incompatible standards, partial information; this will create fresh difficulties for public planning and academic research.

ability to predict and control the system. *In complex adaptive systems there are limits to the uses of such information. It becomes just as important to understand non-measurable aspects of the system, and to have a sense of relevant externalities about which there cannot be complete information. At the same time, there is a premium on the importance of communication to facilitate adaptability and mutual adjustment as the system changes.* The understanding of these two views of systems allowed us to separate two sets of views about the future of information technology and health. On the one hand is a series of views that considers health systems to be closed and linear. On the other, there is a view of health systems which sees them as largely subject to outside influence and non-linear.

The expansion of both not-for-profit and profit-based activity in IT surrounding the health field is nowhere as apparent as in the proliferation of Internet sites on health issues. Recent surveys have shown that these sites are the fastest-growing and most sought-after sector of information on the World Wide Web. Such availability of information, and the resultant empowerment of individual patients and consumers, is part of the democratization of knowledge that has historically accompanied each advance in the history of information, from language through writing and printing, to the current electronic revolution. *While this increased availability of information can be liberating, it can also be destructive; the erosion of professional boundaries and barriers to expertise can also foster the erosion of confidence in medical science and health care. It can also be exploitative, as reliable health information increasingly becomes a commodity to be traded online, rather than advice dispensed by a professional. There is also the issue of accountability and quality control.*

The tension between the old and new views of information has surfaced in the realm of health research. The ability to process more data, on more variables, and to analyze them with greater precision, yields new insights into the multifaceted causes of health and disease. The ready availability of desktop computers capable of creating and testing the most sophisticated regression models has helped to fuel the current interest in epidemiology, while sophisticated meta-analytic techniques and the databases they utilize has made such innovations in evidence-based medicine as the Cochrane Collaboration possible. However, the results of multivariate analyses of risk factors have increasingly served to highlight the complexity of the web of health determinants. The new statistical techniques made possible by the growth of IT have increased and enriched our knowledge of these issues, but they have also helped us to recognize the limits of this knowledge and increased our uncertainty. *At least part of the impasse in health policy is due to these subtle and profound connections between the power and limitations of information technology.*

Hypothesis Version 2: A Perspective Worth Pursuing Is that a Major Contributor to Health Is a Robust Interaction between an Individual and His or Her Social Context

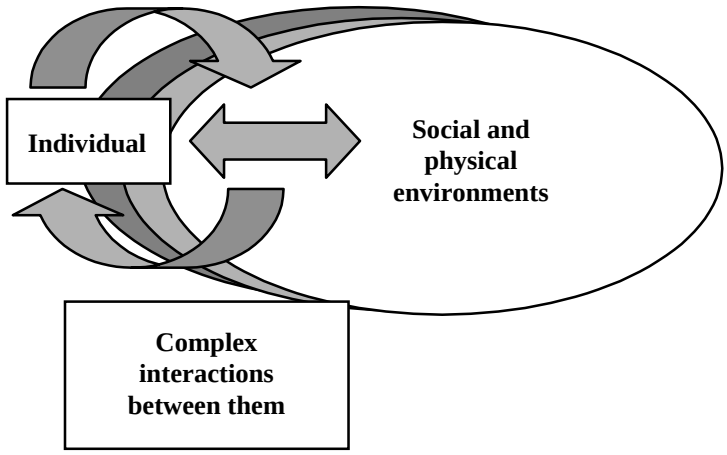
As we presented the first version of our hypothesis to groups, most people agreed that it would add to our understanding to consider the arrows as well as the boxes. We tried to understand more about the dynamics between people (the arrows) as well as the correlation of their states (described in the boxes in most diagrams) (see Figure 3-1).

It was pointed out that our hypotheses would be strengthened if we recognized that although this dynamic had been somewhat neglected, it was not the only contributor to health. Moreover, relationships with others are only part of people's interaction with the social environment. They also interact with the work place, and with other social and political institutions: and such interactions, it was argued, also have a considerable impact on health status.

In May of 2000, we held a workshop led by a group of experts in international health issues. We presented our then current hypothesis and used the workshop to try to develop policy responses to questions on issues related to what we had begun to think of as the four stages of Canadian health policy: public health, the health care system, health promotion and inequalities in health. We asked the participants to think about policy consequences of

Figure 3-1

Diagram of Hypothesis



these issues using our hypothesis, requesting that they identify policy consequences that impacted on three areas:

Individuals	The social environment	Interactions between individuals and the social environment

Using this approach, participants began to develop policy alternatives that resulted from the hypothesis. Although the hypothesis seemed at first easy to understand, everyone had some difficulty in applying it to the cases at hand. It seemed to us that the presentation of the material that led us to our hypothesis was a catalyst for opening up the discussion, but it did not provide a way of filling in the boxes. It was pointed out that we were attempting to approach the issues in a rather static and linear manner. Some of the comments made on the subject at the seminar review include:

- "Putting the dynamic aspect into a box is a mistake."
- "Is interaction buried in the first two boxes?"
- "What does interaction really mean?"
- "What is the set of criteria for identifying each of the boxes?"
- "There are people who would question whether interaction is relevant at all."
- "Is interaction an outcome or an input?"

Despite these difficulties, the discussion was very lively and participants engaged in the issues over the two days (see Table 3-4). We decided that a workshop design framing the hypothesis and identifying appropriate outcomes for discussion was what had to happen next. It was also becoming clearer that contributing to a richer debate was not necessarily finding a recipe for policy development. If our hypothesis improved the quality of policy discussion this would be a step in relieving the policy logjam.

Hypothesis Version 3: The Quality of the Interaction between an Individual and His or Her Social Context Is a Major Contributor to Health

The third version of the hypothesis came very quickly after the second one. It was pointed out that both positive and negative interactions had health consequences. Just as "robust" interactions might contribute to good health, so were there negative interactions that might contribute to ill health. It was important that our hypothesis should try to explain how some interactions might lead to better

Table 3-4

The Workshop on Four Major International Health Issues

The workshop was chaired by Margaret Catley-Carlson, a former deputy minister of health in Canada, and recently appointed head of the Population Council.

Ilona Kickbusch, Professor and Head, Division of International Health, Department of Epidemiology and Health, Yale University, led the session on international public health. She made it clear that health conditions in any one country can affect citizens of other countries. In the past, international epidemics were the result of a relatively small number of travelers and sailors. Today, the increase in human mobility allows for rapid spread of disease and infection. New and more resistant strains of older diseases such as tuberculosis, relatively new conditions such as HIV, environmental issues such as air and water pollution, and new, unforeseen sources of illness such as mad cow disease, all have international repercussions. She argued for the need for international as well as national health policy to take into account these global aspects of health and illness. She felt that our hypothesis was very helpful in thinking through these issues and developing appropriate policies for the future of international public health.

Dr. Kieke Okma, Senior Policy Advisor to the Dutch Minister of Health, Welfare and Sports, and Associate Professor, School of Public Policy Studies, Queen's University, led the discussion on sustainable health care systems. She used international comparisons to argue that there were few grounds for thinking that the Canadian health care system was not sustainable. She felt that it was important to allow for appropriate discussion of the different ways forward for Canadian health policy in ways that would respond to how policy is actually made. A great need exists for healthier and richer debates on health policy topics, she maintained, arguing that Canadians were far too polite, so people with conflicting views failed to engage in working through issues; hence, policy alternatives were not being properly explored. In particular, she argued that our hypothesis was unhelpful to these debates as it did not engage policymakers in the kind of discussion that might lead to practical policy alternatives.

Professor Irv Rootman, Director of the Centre for Health Promotion at the University of Toronto, presented several case studies to learn more about health promotion from developing countries. Some of the more successful strategies for improving the health of a population occur in the developing world, where fewer resources mean that ingenious methods must be devised for public health interventions. As public funds for health become scarcer in the developed world, it is worthwhile to investigate these strategies as viable alternatives. Identifying such ideas and techniques, and adapting them to this context, requires special insight and skill.

Harry Burns, Medical Director of Public Health, Greater Glasgow Health Board, United Kingdom, presented a case study in which he applied some of the ideas in our hypotheses to attempts to reduce inequalities in health in Glasgow. Dr. Burns opened his introduction to the topic of inequalities in health by showing that a 10-year gap in life expectancy exists between affluent and deprived citizens of the city of Glasgow. The powerful disparity across the city has historical roots in the nineteenth century. John Strang, the Director of Finance for the city of Glasgow, raised the issue of the health of the deprived in 1861. Turning to current problems, Burns pointed to evidence that it took 110 years before infant mortality among the deprived fell to the same level of the affluent. This is a reminder that health improvements are unlikely to happen quickly. Glasgow's strategy is to use the concept of the life course to target interventions at key points in the lives of young people. The intention is to strengthen their ability to make sense of the world and take control of their lives. To accomplish this, the mechanism chosen is intensive home visiting targeted at deprived areas.

health, and how others might, in fact, lead to illness. Because the notion of "robustness" was not well understood, it could be argued that, depending on how it was defined, it could become a truism rather than a verifiable hypothesis.

At the same time, we were beginning to find a growing amount of literature that testified to the importance of interaction among people and between people and their various environments as critical to human development. We found that the number of variables had increased to include such developmental factors as emotions, nutrition, recreation, development of habits, etc.[74] Some researchers argued, for example, that one could best understand human emotions as an interaction between the individual and the environment.[75] There is a dynamic interplay between individual and environment comprising factors such as emotional development, social resources and particular events in one's history.[76]

Because much of this research was in specialized fields there were strands of it in many different webs of information. Often, each strand was an

attempt to simplify what was acknowledged to be a complex situation, and some aspect of the interaction had to be ignored. As a result, some of the apparently conflicting accounts had been simplified in different ways. The apparent conflicts were due to the fact that researchers were looking at and measuring different aspects of a similar issue. One literature or domain of research would frequently ignore another literature dealing with the same issue from a different perspective, as though the outside source had little to contribute to the puzzle *as framed in its particular discipline.* This is not a surprising result. Notoriously, there are large bodies of knowledge about pharmacological interventions that ignore social circumstances, and similar large bodies of literature about social treatment ignore pharmacology, for example.

We invited participation by representatives of the various expert groups involved in developing early policy directions about genetic testing for late onset diseases. We also asked some people who had been to the previous workshop on international health to join us. The workshop used the hypothesis and our ideas about health and health policy as a tool to launch the discussion. The participants were divided into four groups which discussed the policy consequences of genetic testing for late onset diseases on legal, social/ethical, health care and market-related areas. They were asked to fill out forms that considered the three aspects of our hypothesis.

This time the discussions were even more open. People moved out of some of their set positions and found that there were some useable results. Still, this way of looking at policy by considering the interaction between individuals and their social environment was not easy. Those who had not been to the previous workshop found the process interesting but difficult. Some of the following comments, taken from their submissions, indicate this:

> We started looking at the questions we were given, but quickly reverted to looking at the issues. Although the introduction raised our awareness of interaction it did not help us fill out the forms. It may be that we should not have had the forms. It was especially hard to discuss very dynamic interactions using boxes. Perhaps what the day demonstrated was how difficult it is to do this. At the end, we tried to package the results of our discussion according to instruction. Even this proved to be more difficult than we had thought. But it may be that the distinction itself is somewhat dependent on context. For adults, the environment is the outside context both physical and social, but for a microbe the environment is a human body; for a fetus the environment is the womb.

Those who had been to the international health workshop found the process easier and more useful:

> As someone who understands the hypothesis reasonably well, I wanted to see how it could be applied to genetic testing. As we went through our discussion it became clear that older frameworks are being outpaced by therapeutic introductions of new technology. This new framework is less linear and, hence, provides the possibility of richer discussion, which we have indeed had today.

We began to become convinced that not only was it true that the concept of health is complex, but that it would be useful to try to understand it *qua* complex concept, rather than try to simplify it. Contributors to health include mechanisms, probabilistic effects, as well as factors that stress interactions between individuals and the environment. Because these do not have clear boundaries and may interact in a variety of ways, it is not possible to provide a complete linear account of their interactions and, hence, of the concept. Although we had begun to identify and elaborate some of the characteristics of complex systems, at that point we began to look at the concept of health in this vein. The last stage of our analysis of this concept then fell into place. We understood that we should look at the concept of health and the policy environment as complex systems.

The process by which we developed our views and how the discussions occurred did not follow our original plans. At the various iterations of our presentations it became clear that the process of exploration was even more critical than the elaboration of a somewhat simplified hypothesis.

4

How Policy Is Made

Just as our analysis of the stages of government expenditures on health led us to an overview of the changing concepts of health, so, too, it led us to an examination of the nature of the policy process. Frameworks for understanding policy formation and decision-making in organizations are not merely descriptive. They invariably indicate how policy is made in a "well-functioning" organization, and how decisions *ought* to be taken. And so they place a strong value on certain structures, processes and behaviour. As our theories change, so do our views of what is good. The "well-functioning," very hierarchical processes of 60 years ago would, without doubt, be seen as dysfunctional today. And, as the frameworks are applied, many of the processes that indicate characteristics of complex systems will be seen as irrelevant or as blips in the otherwise suitable application of frameworks.

Complexity affects not only how policy is formed prospectively, but also how it is viewed historically. Many histories of medicine and public health, for example, consider Snow's discovery of the water-borne nature of cholera to mark a stage in the development of sanitation policies, when it was, in fact, at first ignored, and later rejected for a long time by such heroes of public health as Chadwick and Simon.

Our studies of the development of the Lalonde Report and of the stages of health policy suggested that the traditional views of policy formation did not take adequate account of the non-linear and complex process of policy development. There is little doubt that the many factors that are relevant to health and the interaction between many areas of specialization lead inexorably to the conclusion that the health field constitutes a complex environment. Over the last several decades, this has changed our understanding of what health policy is and how it is made. Most significantly, there are very few government officials or policy researchers or analysts who any longer believe in the idea that policy formation follows a traditional, linear, rational policy-planning framework. But the move to newer explanatory frameworks which take into account the characteristics of complex systems is still in progress, and the bridge to the future remains fragile. Virtually all descriptions of the policy process have recognized its complex nature for a long time, but still feel compelled to reduce this complexity to a simpler framework, if only for heuristic reasons. It is useful to explore where we are in this transition, consider some views about how policy is developed today, and use this to provide fresh insights into where this might lead us in the future.

Most frameworks for thinking about policy development have followed two not entirely distinct patterns. The first stresses the *hierarchical structure of bureaucracies and the top down nature of power and public policy decision-making*. These frameworks from Weber to Taylor held sway until World War II. After World War II, *staged rational-planning frameworks using expert stakeholders* become dominant. According to them, decisions about public policy are a function of evidence and interests. There is now a growing literature that has

begun to describe how policy is developed in a non-linear way, and the complex interaction between these various approaches.

In this chapter we will not attempt a comprehensive account of changes in theories of policy development. We have clustered our description of these frameworks into three groups: bureaucratic hierarchical policy, staged policy processes, and policy development in complex systems.

Policy in Hierarchical Bureaucracies (Pre World War II)

Traditional bureaucratic hierarchies concentrated power and policy decision-making at the top. Weber's account of the "rational bureaucracy" was the basis for positive accounts of bureaucratic frameworks for policymaking which held sway until World War II. According to this framework, the many contributions to the policy process are fed "up the ladder" from a variety of sources to one final decision-maker, who puts it all together and decides what to do. The top of the hierarchy is considered to have the most perspicacious view and the capacity to incorporate all submitted views in the final decision. After Weber, there was a widely-held view that organizations must be hierarchical if they are to function at all:

> [Just as the] … supreme coordinating authority must rest somewhere and in some form in every organization… it is equally essential to the very idea and concept of organization that there must be a process, formal in character, through which this coordinating authority operates from the top through the entire structure of the organized body.[77]

And again:

> In the organization of the graded school, there are the principal, the assistants, and the pupils. Each is necessary to make the school, but in the functioning of the school the principal is more important than the assistants, and the assistants than the pupils. The members of the system vary in importance.[78]

Frederick Taylor argued for a science of management, and what he considered to be a scientific account of the organization of work. He described the process of production by dividing work into atomic tasks, which are best supervised in a hierarchical structure to assure the smooth running of the machine-like organization. In such environments, the development of policy occurs in the context of a stable bureaucratic mechanism. Civil servants are just that. Their role is to prepare their part of the brief and feed it up the supervised hierarchy. They are valued for their loyalty and devotion to service. The minister decides on the basis of his estimation of the overall situation or he may ignore the brief entirely and "just do it."

Such bureaucratic processes are no longer thought to be appropriate. But this hardly means that government bureaucracies do not function hierarchically. As we were developing the ideas about policy development in hierarchical organizations, we presented them to some senior bureaucrats in health ministries. In one of them, the response to our account was immediate and passionate:

> Yes! We have very little real exchange of ideas when we present our recommendations to the Minister. We have taken to calling him "Igor." As far as we can tell, his decisions depend on his feeling at the moment and have little to do with analysis. There is certainly no discussion: he is very quick to tell us if he likes or dislikes our proposals. We do leave the meeting with a clear understanding of the situation: "Igor like!' means "Go," "Igor no like!" means "Stop." In our ministry all power and decision-making authority resides at the top.

The Staged Rational Policy Planning Process

The post-war "science of policy development" occurred as the need for rapid change seemed to become more urgent. Arguments against the pre-war "rational bureaucracy" complained about the confusion between idealized accounts of "rational bureaucracy," and the realities of policy development in this new environment. Harold Lasswell adapted the classic rational planning cycle of POSDCRB

Table 4-1

Evolving Staged Models of the Policy/Decision Process

Luther Gulick (1937)[79]	Harold Lasswell (1956)[80]	Brian Hogwood and Lewis Gunn (1984)[81]	Jonathan Lomas (1997)[82]
Planning	Intelligence	Deciding to decide	Environment scanning
Organizing	Recommendation	Deciding how to decide	Agenda-setting and priorities
Staffing	Prescription	Issue definition	Problem identification
Directing	Invocation	Forecasting	Causal model evaluation
Coordinating	Application	Objective/priority setting	Assemble feasible options
Reporting	Appraisal	Options analysis	Develop consultation methods
Budgeting	Termination	Policy implementation	Assess public/stakeholder reaction
		Monitoring and control	Choose and apply decision
		Evaluation and review	Justify decision
		Policy maintenance, succession, or termination	Evaluate impact of decision

Source: Gulick and Urwick (1937). *Papers on the Science of Administration.* New York: Institute of Public Administration; Lasswell (1956). *The Decision Process: Seven Categories of Functional Analysis*. College Park: University of Maryland; Hogwood and Gunn (1984). "Policy analysis for the real world." Oxford: Oxford University Press in Walt (1994). *Health Policy: An Introduction to Process and Power*. London: Zed Books; Lomas (1997). *Improving Research Dissemination and Uptake in the Health Sector: Beyond the Sound of One Hand Clapping.* Hamilton: Centre for Health Economics and Policy Analysis.

(see Luther Gulick's seven stages of the policy process in Table 4-1). This and other frameworks of this type have been used to train students and to guide practitioners in policy development for many years.

As expert groups became more specialized, external researchers contributed their results to more specialized civil servants and formed chimneys with their own ways of approaching issues, their own criteria of evidence, and their own bodies of knowledge. The creation of multiple chimneys forced ministers to share power with specialist advisors. A senior health official pointed out that it takes about 18 months for a Minister of Health to begin to understand the portfolio and this, it emerged, was the average length of time that a minister holds office. This often means that the specialist advisors who brief him have a great influence on setting the agenda and interpreting research results.

New frameworks evolved which took into account the need to include more "stakeholders" in the process. Policy outcomes began to be seen as the result of the confluence of these multiple forces. Obstacles to policy were similarly viewed as the difficulties associated with the differing and conflicting demands of different players. If one could organize the process to meet the needs of all the players and improve communication between the chimneys, it would yield better results. Jonathan Lomas, for example, argues that researchers must recognize the differing needs of their various audiences and present their results to them in their preferred formats (Table 4-2).

The complexity of the policy environment in general and the health field in particular has been long recognized.[83] The argument for simplifying frameworks was that, without them, policy planning would be impossible: "Given the staggering complexity of the policy process, the analyst *must* find some way of simplifying the situation in order to have any chance of understanding it. One simply cannot look for, and see, everything."[84]

There is no doubt that such frameworks are useful. They can help organize some of the evidence; they can provide a checklist of useful actions; and

Table 4-2

Integration of Research into Policy (from Lomas)

Audience	Type of decision-maker	Research needs	Preferred formats
Legislative	politician bureaucrat interest group	problem definition affirmation of assumed causes policy "ideas" (health policy analysis)	person-to-person overview in brief memo media
Administrative	program manager regional administrator hospital executive	program evaluation practice variation cost-effectiveness (health service research)	"special" contacts summary report seminar
Clinical	practitioner professional society expert panel member	effectiveness ethics patient preference (clinical research)	colleagues action-oriented synthesis
Industrial	company scientist corporate executive venture capitalist	marketable product (biomedical, information technology research)	depends on scientist versus non-scientist

Source: Based on Lomas (1997). *Improving Research Dissemination and Uptake in the Health Sector: Beyond the Sound of One Hand Clapping.* Hamilton: Centre for Health Economics and Policy Analysis. Table 4.

they can act as a common ground for multiple participants in the policy process. At the same time, they have important limitations. They can often ignore large areas of the problem because they are not susceptible to the kind of analysis they do, or because the consequences are outside their frame of reference, or they are too long-term. Often, the order of the processes is reversed. For example, much to the dismay of researchers, their work is often used to justify decisions after they are made rather than as part of a deliberative process.

Although some researchers declare that this is not a serious problem with the staged process, it is, in fact, disastrous. If the stages do not follow each other, then this violates what is meant to be a logical order. If one does not, for example identify objectives until after they are achieved, then it is hard to understand what part they play in a staged process. It is hardly a useful account of a staged process to require objectives as a necessary condition for achieving them if whatever is achieved becomes the objective.

International externalities, like the emergence of an oil cartel, can affect economic circumstances inside a country and interrupt the policy process or change its implementation. Policy efforts can have untoward consequences, despite the rational processes used to develop them. At their worst, they can force a particular construction on evidence and data that misdirects the policy process. We will provide an example of this in discussing the provincial policy of privatizing water testing in Ontario, in the next chapter.

Current Policy Frameworks

It may help to preface our discussion of policy-making in complex environments with an account, from a recent book, of the current policy scene's main characteristics (see Table 4-3).

A growing understanding of complex adaptive systems has led some thinkers to exhort a fresh approach to policy development. What seems to be

Table 4-3

Some Characteristics of Policymakers and Policy Situations

The very object of policymaking may be diffuse, obscure, and hard to define.
Policymaking is strongly adversarial and generative of conflict.
The many levels of policymaking and the many vested interests and pressure groups render making integrated or unified policy most difficult.
Policymakers have traditionally had difficulty communicating with experts, whose expertise may be narrow, specialized, and highly disciplinary.
Policymakers usually have backgrounds in areas that seek confirmation in rules and procedures rather than seeking novelty and innovation.
Policymakers tend to seek economic and technological solutions to societal and environmental problems.
Policymakers tend to discount, placing much lower values on things that are distant in time and space.
Policymakers usually oversimplify greatly and emphasize the short term, with attendant searches for quick fixes.
Policymakers do not usually consider the side effects or externalities of their efforts.

Source: Kenyon B. De Greene, ed. (1993). *A Systems-Based Approach to Policymaking*. Boston: Dordrecht, London: Kluwer Academic Publishers, 1993. 9.

emerging is a body of knowledge that considers how policy is developed in complex environments. A brief account of some of these characteristics of complex adaptive systems can explain some of the limitations of linear reductive models, and indicate some new directions for policy development.

Elements in complex adaptive systems interact richly and nonlinearly, so that small causes can have huge effects. The system as a whole changes and adapts, and order spontaneously emerges: it is in many ways self-organizing. The state of flux and constant evolution to new kinds of organization poses a challenge to most "clean" and orderly conceptualizations of the policy process. A better understanding of complex adaptive systems can allow us to tolerate the apparent underlying "mess" and accept the order that emerges from it.

Such systems are always at risk of destabilizing due to unanticipated events or unconsidered externalities. Policy shifts can be driven by sudden changes in parts of the system or the outside world. This means that maintaining a broad understanding of the particular policy problem and constant monitoring of the policy environment can help. Recognition of potential risks across normal boundaries, mutual adjustment and tolerance for conflict and multiple approaches, and allowing order to emerge from those apparent messes are relevant to this approach. The characteristics of these various eras of policy developed are summarized in Table 4-4.

If one considers policymaking in a realistic way, the complexity of the policy process has been accepted for a very long time. People have long recognized the difference between what they considered the "pure" policy development process and the messy one that they encountered on a day-to-day basis. What we can now see as the normal characteristics of any complex process were for a long time thought to be "static" in the system, or "friction" that distorted the pure process. The table above characterizes where emphasis is placed in a "well-functioning" policy situation at various times. But one can recognize that while the third set of characteristics has always been operative it has only begun to be articulated recently.

Table 4-4

The Eras of Policy Thinking

	Before World War II	After World War II	In progress
	Rational bureaucracy	Staged policy development	Complex adaptive systems
Structure	Command and control	Functional chimneys	Self-organizing
Location of power	Minister	Executive board	Cross sectional
Basis for action	Decision at the top	Standards and benchmarks	Customization to particular case
Work type	Supervised division of labour	Independent expertise	Mutual adjustment
Lead participants	Devoted civil servant	Skilled specialist	Adaptable professional
Values	Loyalty	Exact knowledge	Broad understanding
Ideal state	Stability	Efficiency	Adaptability
Policy environment	Field of authority	Identified areas	Externalities
Motif	Tradition	Change	Order from messes
Planning style	Just do it	Staged planning	Working through conflict

Changing Metaphors for Policy Interventions

Policymakers often describe policy interventions as "levers." At one time this metaphor suggested that policymakers were operating in deterministic mechanical systems which could be moved in a desired direction by pressing on an appropriate lever. In such systems, there is the presumption of a clear understanding between the action of the lever and its effects. More recently, the metaphor of the lever seems to express a hope that the policy effort will have a mechanical advantage: that a small input will result in a large effect. There is less clarity about the mechanical connections, and the effects of the intervention are less clearly measurable. Our view of policy interventions thus appears to be *changing towards a less deterministic model*.

This shift becomes more evident when we notice that a second metaphor for policy has emerged. Policies and programs have become "investments," and are evaluated on the basis of their (measurable) "returns." This non-mechanical metaphor also implicitly accepts that the world is significantly more probabilistic than a Newtonian machine. It may even be on the way to recognizing *that whenever there is an investment, there is a risk of loss as well as gain. But most important for our purposes is the recognition that there are limits to the certainty of outcome*.

A new metaphor appears to be emerging for policy interventions that may indeed be a bit more realistic. *Policy interventions can be like sowing seeds*. This more biological metaphor carries much more uncertainty and unpredictability of outcome. Although for the most part we know that planting a seed of a particular plant will yield that plant, there are many possible outcomes and a multitude of paths they can take. The ground in which the seeds are planted must be prepared and fertilized. Many seeds will not germinate at all; some will rot; others may not be fertile. But that is no reason for not planting. Those that do germinate will need nurturing in order to come to fruition. The garden must be weeded. Depending on when and how the crop is harvested or whether it is allowed to grow to seed, the outcomes can be measured in many different ways. Untoward events can occur in sowing seeds: some seeds may be blown in the wind to other fertile areas, and others might include mutant strains that improve or worsen the strain.

5

Application to Some Examples

Summary of Findings

Our journey so far has taken us around the track several times. It may be a good idea to review some of our major findings. In this chapter we will apply them to several current policy issues and consider how they change our perspective.

In Chapter 1 we discovered that the explosion of data since the Lalonde Report was published *has not increased our certainty* about what we can measure, and indeed has created nuances in data interpretation that make us recognize that some uncertainty is part of the complex reality of evidence. On the positive side, it introduced an important new idea about going beyond the mechanistic picture of the human body to a more environmental account of the health field. We can take more responsibility for our health. At the same time, it presented a somewhat static picture which did not give adequate importance to the interaction between individuals and their social environment. Finally, there were many unexpected consequences to the Lalonde Report's interventions. For example, we eat better food, but because we eat more of it we have become more obese as a nation.

In reviewing how the Lalonde Report was written, we discovered the importance of *distancing a group of thinkers from the day-to-day pressures of the policy world*. We recognized that going at the problems again and again could lead to fresh insights and develop the new ideas necessary to find fresh perspectives. The great success of the Lalonde Report came from clarifying and expressing this new idea in ways that were widely accessible and closely linked to public policy. This document is the first step toward the same goal, one generation later.

In Chapter 2 we developed a three-staged historical clarification of government health policy in Canada. Each of the stages corresponds to a major current issue and involves a "big idea" in response to it. In all cases, the evidence remains incomplete as policies are adopted. Their adoption takes a long time and appears to occur when a constellation of local conditions eliminates all remaining obstacles. Although each of the policy stages emerges when it becomes clear that previous efforts have not been completely effective in improving health, it is not clear that the stages are entirely distinct, and the interaction between them does not appear to be linear. The causal efficacy of each stage of policies in improving the health of the population is in some scholarly dispute, but the longevity of the populations affected has increased as each policy stage is implemented, though perhaps not *because* they were implemented.

It seems that a fourth stage of health policy is beginning to emerge from research into inequalities in health. We found that this research begins to explain the nature and source of the inequalities, although a current logjam about its policy consequences is mired in a left-right debate and in issues about the social determinants of health. The left-right debate has existed at every stage of the development

of health policy, going back to public health in the 19th century. Our notion of individual rights has shifted over time. We now think that individuals have a right to clean water and clean air, to a job, etc., but the question of the appropriate boundary between individual and collective responsibility continues to evolve.

In Chapter 3 we surveyed some ideas on the concept of health. Our look at Aristotle's Ethics and Politics helped us to locate the concept in the broader field of living well, both morally and socially. Aristotle helped us to explore the notion that the hierarchical nature of a society is reflected not only in gradients of social status but also in levels of well-being and health. Aristotle identified three kinds of resources for well-being: goods of the body, goods of the soul and external goods. This led us to see the interactive bi-directional causal connection between the various goods and later, the resources that are necessary for health and well-being. A literature survey on concepts of health found that we could categorize them into three clusters, those that focused on the body as an organism, those that stressed the environment, and, finally, those concepts that recognized the importance of the interaction between the two. After many versions we emerged with a policy-oriented hypothesis that posited that the quality of the interaction between an individual and his or her social context is a major contributor to health. We came to realize that health was a function of the dynamic non-linear interaction of many forces, and has many characteristics of complex adaptive systems.

Chapter 4 traced the history of theories of policy development from the hierarchical bureaucratic model through stage policy planning to more current views about policy development in complex systems. Frameworks for understanding policy development do not merely describe the process. They invariably indicate what a "well-functioning" process is like. And so they place a value on certain structures and behaviour. As our theories change, so do our views of what is good. The "appropriately-developed" policy of 1935 would be seen as dysfunctional today. We concluded this chapter by recognizing how policy development is a non-linear process with many competing, interactive, complex forces. We observed that an appropriate metaphor for policy interventions is planting and nurturing a seed.

We will now use some of the ideas about complex adaptive systems that we have been developing in previous chapters as the basis for a retrospective review of some well-known cases, and draw some lessons for policymakers. We will make a case for each of the four stages of government policy efforts in the health field outlined in Chapter 2.

Example 1 – Public Health, the Walkerton Case Study

Recently there was a major crisis about the water supply in Walkerton, a small Ontario town in a farming area near Georgian Bay. In May 2000, there was a sudden outbreak of bloody diarrhea that affected up to half the town population of 5,000, sent almost 900 people to get medical attention, hospitalized almost 100 of them and killed at least 7 people. It was shown that *Escherichia coli 0157: H7* (E.coli) contaminated the water supply and that a directive to boil water was sent to the town's population only after people had become ill. There was a public outcry and a series of government responses, including a public inquiry into the circumstances surrounding these events.

Many features of this case can be characterized in terms of complex adaptive systems. For example, such systems are composed of a number of relevant "subsystems." In this case, the people of the town of Walkerton, the water supply, the healthcare system, the animal husbandry in the surrounding area, the provincial regulatory mechanisms, and so on, can be seen as subsystems that interacted with each other before, during and after the crisis.[85] What was known about the situation, who knew it, and when it was known, varied in each of these subsystems, and can help us to understand more about the crisis. Finally, we can consider the decisions that were taken in some of these subsystems at various stages of the crisis. Table 5-1 contains a chronology and much of the background information.

Regulation of public health, especially water and food quality, is historically a government responsibility in Canada. It has become one of the

Table 5-1

Walkerton Timeline (as Reported in the Press)

1995 – Government privatizes all four publicly-run water-testing labs in province.[86]

1997 – Walkerton has always been responsible for its own water, but has no set methods for certifying labs, or legal requirement to test water or report results.[87]

June 18, 1998 – Walkerton town council addresses letter to Premier Harris outlining concerns over cutbacks and closing of labs. Urges that the "… Government of Ontario maintain the Ministry of Energy and the Environment as the guardian of water quality, ensuring basic, healthy water standards for all Ontarians."[88]

1999 – Walkerton and two other local municipalities are amalgamated into Brockton.[89]

Monday, May 15, 2000 – Sample of water sent to private lab for testing.[90]

Thursday, May 18, 2000 – Lab sends report of lethal contamination to Walkerton Public Utilities Commission (PUC), read by Mr. Koebel, manager.[91]

Friday, May 19, 2000 – Cases of bloody diarrhea reported to Medical Officer of Health, Dr. McQuigge, by Owen Sound area hospitals.[92]

Sunday, May 21, 2000 – After seeking a food based vector for the bacteria: Escherichia coli O157:H7, McQuigge announces a boil water order.[93]

Tuesday, May 23, 2000 – Announcement made by PUC about contamination, confirming report of the 18th. Koebel had been doing "own testing."[94]

May 31, 2000 – Former Mayor of Walkerton, James Bolden visits local hospital with symptoms. He reports that, while crowded, everything is running efficiently, including flights to London Health Sciences Centre, which now holds 11 patients (10 of them children).[95]

By June 1, 2000 – Death toll of 11 (7 confirmed – later 9), 784 received treatment for symptoms, 90 were hospitalized.[96]

June 1, 2000 – 10 million litres of bottled water are stored in the town arena, some donated by an Australian company. In legislature, the Opposition parties demand the government make financial aid available to Walkerton and information about environmental protection to everyone. Durham, another county, shows some coliform contamination.[97]

June 1, 2000 – Premier Harris announces a public inquiry into the affair, not the proposed legislative inquiry, and a police investigation. "I am a politician, and since I am ultimately responsible and accountable, it's hard to take it out of my hands," Premier Mike Harris.[98]

June 6, 2000 – Mr. Bruce Davidson sets up a coalition of Walkerton residents to ensure that their concerns are addressed by the public inquiry. They have independent counsel, and invite Howard Hampton, leader of the NDP, to the town. General feelings of distrust of all levels of government, in wake of daily revelations of who knew what and when.[99]

June 12, 2000 – Community of Walkerton rallies and many volunteers work to distribute donated supplies of diapers, water, bleach and juice at the community centre.[100]

June 13, 2000 – A new plan for increased privatization of public services is announced. Municipalities are told that, unless they can demonstrate that the advantages of providing a given service publicly (Direct Services) "clearly outweigh" those of providing it privately (Alternative Service Delivery), they may not provide it.[101]

June 15, 2000 – Potential death toll upgraded to 14 as 7 more cases go under coroner's investigation Claims are made that as many as half the population got sick.[102]

June 16, 2000 – Government reorganizes the ministry of the environment. Minister Dan Newman keeps job but deputy Stien Lal is threatened with a move, and other senior officials are moved.[103]

infrastructural subsystems of the country – a prerequisite for its normal operation. It is therefore also linked to other aspects of the infrastructure, such as communication and transportation systems, and the various social services systems, such as unemployment insurance and welfare benefits.

These are some questions that were raised about the Walkerton case:

Why was the water supply not safe?

Why were people not warned when it was unsafe?

What were some reactions to the crisis?

What are relevant lessons for the future?

Why Was the Water Supply Not Safe?

This is a good example of the kind of question that lends itself to a multiplicity of causal responses. It is clear that E.coli had contaminated one or more of the town wells. The measures used to chlorinate the water did not eliminate the E.coli. There was seepage of animal waste into the groundwater. There was a period of heavy rainfall in May that allowed contaminated rainwater to enter the wells. These answers are each correct and partial. One can, if one likes, add to them by describing particular techniques of animal waste management that resulted in the contamination, or the particular density of animal population, or the particular characteristics of soil composition, global warming, and so on. In complex systems, the dynamic interaction between different subsystems can allow many small events in some subsystems to result in major events in others. There is not one linear chain of causes like a number of billiard balls hitting each other in sequence. Instead, a multiplicity of events occurs at roughly the same time in different places, and together yield the result. In this case, the coincidence of a series of small events – such as those described above about the weather, the farms surrounding the town, the chlorination system, and the warning system – had the result of tipping the health of half Walkerton's population from relatively healthy to ill. Many of these events are independent of each other, unlike a linear causal chain, where A causes B, B causes C, and so on. If it had not rained so heavily in May, there would still have been as much animal waste, and the chlorination system would have operated in the same way. Yet, had it not rained, it is most likely that the crisis would not have occurred.

It is useful to distinguish between two sets of reactions to a crisis of this sort. On one account, if there were one clear cause of the crisis, then it would be possible and indeed critical to find the culprit and lay blame. At one time, we would have responded to the Walkerton events by hunting down and punishing someone in this way. On the other account, however, we recognize the multiple factors involved in maintaining the purity of the water. This leads us to speak not of an individual who is the cause, but of a *system* that is not functioning properly. We seek to find the flaws in the system and repair them.

Attempts to simplify complex systems, like the supply of safe water, can increase the risk of disasters, because the simplification process often ignores events that might stabilize or destabilize the system. In Walkerton, the provincial efforts to create a more streamlined system in some ways contributed to the increased risks in this way. The simplified reporting mechanism from the laboratory to the PUC without the requirement to report adverse test results elsewhere was a clear example of such an effect, the loss of a key check point or stabilizing agent. This case, then, is an interesting example of a situation where the loss of a key checkpoint or stabilizing agent in a system may not become evident until several apparently unrelated events have occurred.

Why Were the People of Walkerton Not Warned about the Unsafe Water?

The laboratory that tested the water in Walkerton sent its test results to the Public Utilities Commission (PUC) of Walkerton. Its policy was that the test results were the property of its client, the PUC. Therefore, it had no procedure for giving out the information to anyone else.

The commissioner received the results, which declared that E.coli contaminated the water, but he was not convinced of the danger and so requested a retest. He wanted to wait for the new test results

before declaring a public danger. In his position, it was difficult to say that the water was unsafe unless he had strong confirming evidence. In the meantime, he did not communicate the test results to the public or to other groups. To some extent, the commissioner was operating as if he were in a system with a simple causal structure. He believed that he should not act without being certain that the water was indeed contaminated. A new chlorination system had been installed. A new testing laboratory had been hired. He was not yet convinced of these results. Had he recognized some of the relationships to other subsystems he might not have been so dependent on only the results from one set of measures, and he might have conferred with others during the re-testing. After the second test, he In fact, retreated to his home and was described as "a broken man" when he emerged five days later.

The Medical Officer of Health for the area was informed of some cases of bleeding diarrhea at the hospital in nearby Owen Sound and sought the cause in some type of E.coli contamination. He spent several days looking for the source in food and then, failing to find one, without having access to any test results about water quality, issued a "boil water" order for Walkerton. His somewhat risky decision had a level of uncertainty. He was, in fact, threatened, and came to need security protection. His decision is more typical of ones that must be made in the context of complex systems.

How much evidence is needed for action in complex systems? In different "subsystems" there may be differing criteria of evidence and differing thresholds for decision-making and action. The relative independence of some of the subsystems, and the lack of a clear causal chain for prediction and control, makes it necessary to make decisions on the best available evidence, often with some degree of uncertainty. Reducing the uncertainty as much as possible is, of course, very important: but eliminating it completely is not possible.

What Were Some of the Reactions to the Crisis in Walkerton?

Complex adaptive systems are, indeed, *adaptive.* One of the side-effects of complexity and the risk of destabilization – the occurrence of "messes" – is that such systems will self-organize to evolve and regain stability. In Walkerton, the community organized itself in response to the crisis. Over 10,000,000 litres of clean water were brought in from as far away as Australia. The community effort has been a major factor in recovering from the disaster, supporting those affected by it, and it will remain a major factor in repairing and monitoring the water supply. This result in Walkerton mirrors the phenomenon of complex systems, in which chaotic, unstable states are transitional between states of stability. The tendency to come to a stable state – to create order out of messes – is seen as a necessary by-product of such systems. Ilya Prigogine provides detailed accounts of this phenomenon in chemistry.[104]

Other subsystems worked well in conjunction with each other. Support for ill people was readily available. The hospital in Owen Sound dealt with the influx of ill patients, and those it could not handle were quickly transported to the Health Science Centre in London, Ontario. The two-way interaction between public health issues like clean water and the health care system became more apparent. The Medical Officer of Health received reports from the hospital. Patients were tested for the dangerous E.coli. Advice was given and updated regularly about treatment for those affected.

A Question that Remains to Be Answered

Bob McMurtry, acting ADM at Health Canada asked: "*Why did at least half the population of Walkerton not become ill as a result of contaminated water? Why did only 900 people seek medical care? Why were fewer than 100 people hospitalized? And why was the death rate as low as 7?*"

These questions can also serve to point out some of the characteristics of these events that illustrate the nature of the system. Illness as a result of exposure to E.coli is also a result of many particular conditions, including such factors as genetic susceptibility, general health status, age, social status, body weight, the amount of water consumed and so on. Such factors are not mutually exclusive, nor are they jointly exhaustive. The socioeconomic factors overlap with lifestyle ones. Genetic factors overlap

with health status. The non-linear interactions among the factors render even this matter complex. That is not to say that we cannot go a long way to addressing it, by clarifying the boundaries as much as possible and recognizing the features of the system that impose limits to what can be learned.

Some Lessons from Walkerton

1. Self-organization arises from messes. It is a "free" by-product of complex adaptive systems.

2. We must learn to make decisions under conditions of uncertainty. There are limits to the amount of certainty that is possible in most subsystems. Recognizing that decisions must be made with the best available data is sometimes difficult but necessary.

3. Reverting to rational planning often leads to decisions to streamline systems. But when systems are complex streamlining will often increase risk.

Example 2 – The Health Care System: How individuals Relate to It

How Health Care Organizations and Systems Have Been Changing

How health care organizations and systems are managed and even thought about has changed in ways that parallel the changes in how we think about policy development. It is worth looking at how health-care evolved over the last hundred years.

In about 1900, the hospital was very much like other institutions of the day: extremely hierarchical and ruled by one person with a very wide range of authority. Just as the senior bureaucrat made policy decisions on his own, the medical superintendent of the hospital had absolute authority over every aspect of the operations. The Matron was his helpmate, and the administrator, if there was one, worked as his aide. There were no strong internal boundaries between the various staff members. The main border was to the outside, at the hospital entrance. Upon entering the hospital, every patient and staff member came under the authority of the medical superintendent.

The values of the organization were clear to everyone and were not questioned – they derived from this central overarching authority of the medical superintendent, which derived from his extensive knowledge and presumed wisdom. This knowledge was based on extended and intelligent clinical experience and a lengthy apprenticeship. The medical superintendent was required to be the embodiment of knowledge-through-experience (Table 5-2). He was not merely the final arbiter of decisions: he made them all. There was no long-term planning, nor any need for it: he just did what was necessary. If there *were* any plans they were in his head. His role was compared to the role of a manager of other businesses of the day:

> How long would the business manager of a mercantile corporation be permitted to occupy his position who did not know how the details of the business were performed, who was not fully conversant with the processes of manufacture of the article in which his corporation dealt, who did not know the intricacies of the business from both its buying and selling side? In these business corporations the proprietors or owners or officers give personal attention to the business, and are generally active in the direction of their affairs; how much more important is it, therefore, that the superintendent of the hospital, who must be the highest active officer, should be the one who knows every detail of the institution's activities?[105]

Beyond the individual institution, the health care system was largely informal. The general hospital was often built and funded by the citizens of a particular community without any need to consult government agencies. The hospital was a major social institution and defined the character and status of the community it served. Its independence from external authority, and its special place in the community allowed it to remain relatively stable for a long time. This also gave the medical superintendent status and prominence in the community that enlarged his authority even more. The health care system could work pretty much as the hospital did, on a command-and-control, hierarchical model. It was largely a local system that included the doctors

Table 5-2

What the Hospital Superintendent Must Know

He must keep abreast of medical and surgical progress.
He must know what new apparatus of a medical or surgical progress should be bought and used.
He must know the laws of asepsis.
He must know enough about the character of the communicable diseases to guard not only against their appearance in the institution, but to prevent their spread, by proper isolation and disinfection.
He must know enough about the laws of hydrotherapy and the various forms of physical therapy to select competent workers in those departments and to judge of their qualifications.
Though not a trained dietitian, he must at least be sufficiently well informed on the physiology of digestion, the chemical constituents of food, and the functions of the digestive organs of the body to direct a proper dietary, not only in the main kitchen, but in the special diet department.
If not an expert in the purchase, testing, analysis, and formulations of infant foods in the milk laboratory, he must at least be sufficiently well informed to see that this work is done properly and under scientific conditions and to appreciate its value.
If the modern superintendent is not a surgeon or internist, or pediatrician or gynecologist or obstetrician, he must at least be sufficiently well informed on all of these subjects to engage in intelligent conference with the members of his medical staff, to help them create rules for the operation of their departments, to equip them with proper apparatus for their work, and to intelligently purchase for them proper current supplies.

Source: John A. Hornsby and Richard E. Schmidt, *The Modern Hospital* (Philadelphia: W. B. Saunders Company, 1913).

and nurses of the hospital and the surrounding community. The system would expand as new practitioners came to the community and new institutions were built. Funding was local and came from fees for the well-off and charitable contributions for the poor.

> At the present time… there are enough charitably disposed people in nearly every community to provide for the needs of that community. It is only essential to inspire confidence in the earnestness and intensity of effort in the conduct of the institutions to secure adequate support for whatever institutions are required.[106]

After the Second World War, there was a burst of new effort in health care. For many reasons, including the condition of recruits during the war and of returning veterans after it, there was a strong concern about the health status of the population. In most countries, the war showed that we could acquire useful knowledge more quickly by a division of intellectual labour. An investment in scientific research would bear the fruit of better health care results. There was a significant increase in funding for medical education and research. More public money for hospitals and universities began to flow. Many new doctors were trained. If they were family doctors, they found that there was more to know, and more could be done.

The hospital organization had also begun to change. The division of labour in the acquisition of knowledge meant that there were more independent holders of knowledge than in the past. Knowledge came from research results as well as direct experience. There was much more research activity by physician researchers with growing knowledge about particular areas. The medical superintendent stopped being the source of all knowledge, and there was growing differentiation of functions. This made it possible (and perhaps necessary) to delegate more authority to specific services.

It was at this time that one could begin to see the creation of internal boundaries between different

departments, disciplines, and services. There was only a minimum of rivalry between these departments and services, because the world was expanding. More money was being added to the pot all the time. It was a time of growth, expansion and differentiation.

More formal health care systems emerged at the same time as it became necessary to allocate public funding to hospitals. The continuing costs of hospital care could no longer be provided through the goodwill of the community. Government had to begin to support these operating costs. With this support came the application of government regulations and policies to the emerging systems, especially to hospitals. Initially, hospital funding was based, in most cases, on existing funding, and tended to be negotiated on a case-by-case basis with government representatives.

Investments in all areas of health care knowledge led to increasing specialization in medicine and the creation of a vast array of differentiated professionals in clinical and non-clinical areas of health care. New fields of health care came into existence, each with its own body of knowledge, its own credentials, its own values and perspectives on health care and health care-related issues.

Table 5-3 provides a brief and incomplete overview of recent holders of health care knowledge, and gives us a small sense of the diversity and depth of the knowledge that was accumulated. The investments in research and education paid off in vast amounts of ever more highly differentiated knowledge that grew at an accelerating pace. Most of these investments were very effective, highly productive of new knowledge, and of health care interventions that worked.

In most countries, the rate of inflation in health care was higher than general inflation. Health care did not seem to behave according to classical micro-economics. It was at this time that it began to be clear to economists that health care was supply-driven: that is, that the more health care services that are provided, the more they will be used. Every new health care service, supply or technology, was not accompanied by a reduction of others: most were additive. As each field prospered it provided more and more useful knowledge. And because each area was so productive, it demanded continuing and even increasing amounts of funding. The old idea that investment in health care research would ultimately reduce health care costs was recognized as a myth – and economists began to fear that expenditures on health care could go out of control.

The oil crisis in the 1970s, with its accompanying hyper-inflation, issued an early warning of funding constraints, and cost-control measures were strengthened in most countries. Even where they were not, there was a growing awareness that something must be done to limit the costs of health care. One of the consequences of the restriction of money to health care was that the different specialized activities – which until then were located in non-competing niche areas and given their share of an

Table 5-3

Differentiation in Health Care Systems, 1996

35 non-medical specialties at Baycrest Centre for Geriatric Care
70 Union Presidents at the McGill University Hospitals
75 Nursing Subgroups at the Royal College of Nursing
99 Specialty Clinics at the Toronto Hospital
420 Job Titles at Sunnybrook/Women's Health Science Centre
3000 Stakeholder Organizations in South East London

ever-expanding pie – now began to compete for a more limited piece of it.

During the 1980s, this competition intensified: divisions that had already begun in the highly differentiated world of health care now became epidemic. Each holder of highly specialized knowledge knew the utter importance of that knowledge. If they were clinicians, they knew exactly who could be cured by it, who was at risk or if their knowledge was not being put to good clinical use. When the money was not forthcoming, they were prepared to fight for their domain. Competition and rivalry between institutions, specialties and professions became endemic. The differentiation which had added to the overall knowledge, increased, and knowledge domains became dangerously fragmented. It became more difficult to co-ordinate care, and at times this resulted in notorious cases like that of Carl Lewis, the Boston Celtics basketball player who died of cardiac failure after doctors had failed to come to any agreement about his condition. According to the *International Herald Tribune*:

> The abrupt switch of hospitals went against normal medical practice, but took place because of the lucrative nature of the cardiology field, the attention on Lewis' case and the politics within Boston hospitals. "Boston is the most political medical place in the country," a cardiologist said. "There's so many hospitals and so many competitive situations and so much in the way of ego. It had a major influence on this situation."[107]

This intense rivalry was just one factor among many in driving up system costs and increasing public anxiety about health care. Many countries began an intense period of restructuring their health care systems. These efforts appear to have had very mixed results. For the most part, public anxiety about health care remains high, and the logjam in health policy and especially about health care systems continues to dominate political agendas.

During this period of intense restructuring, new pictures of health care organizations and systems began to emerge, which in many ways mirrored changing views about policy development and the concept of health. The urge to create single monolithic *integrated health care organizations* has been largely given up, and experts have begun to stress the need for improving relationships and patient co-ordination across the boundaries of multiple organizations in networks.

The division of labour increased the capacity for the acquisition of specialized knowledge. One might characterize this as *vertical knowledge*: it "drills down" into an issue or a particular area of expertise. This highly differentiated knowledge has increased the requirement for knowing how to co-ordinate work across the boundaries between specialized areas, a kind of *horizontal knowledge*. The dramatic advances in information technology have made it possible to use the powerful search engines of the Internet to gain access to even the most recondite vertical knowledge. They have also increased the horizontal capacity for communication across traditional boundaries between different professionals and also between professionals and patients. Better collaboration between these groups to some extent issues from patient demands for real-life outcomes, ones that improve their quality of life. *It is less and less possible to count as a success a clear diagnosis or a purely medical outcome, without consequence to quality of life*.

We have discussed the processes of management in this kind of environment in other papers.[108] Table 5-4 summarizes some main differences between these three stages of health care organizations and systems.

As our understanding of health care organizations and systems changes, our mode of policy interventions within them are likely to require some adjustments. This leads to some of the following recommendations:

1. Policies must provide resources to engage people to think through and resolve issues of co-ordination across the necessary boundaries that occur in a networked system.

2. Most people who work in health care want to make things better. Policymakers must expect many parallel efforts of innovation and improvement, and support these efforts.

3. Policymakers must support partnerships between the various players. They must recognize that

Table 5-4

Three Stages of Health Care Organizations and Systems

	1900	1980	Emerging
Hospital type	General	Specialty	Networked
Who knows	Doctors	Specialists	Collaborative groups
What they know	General knowledge	Niche knowledge	Vertical and horizontal
Knowledge distribution	Clinical experience and apprenticeship	Scientific journals	Electronic networks
Success factors	Access and authority	Diagnosis and clinical outcome	Quality of life outcomes
Management	Administrator as aide	Special functions	Decentralized with local knowledge
Authority	Medical director	Your own silo	Support for and from others
Boundaries	High outside none inside	High in and out	Good cross-boundary management

healthcare systems cannot be managed by one individual or group alone.

The Place of Health Care Systems

At meetings with American policymakers, a recurrent theme has been the dramatic difference between Canadian and American health policy debates. The major public health issue in the United States is "coverage." There are over 44 million people in the United States with no health care coverage and, according to some experts, another 20 million are underinsured. In the United States, issues about health promotion and inequalities in health are submerged under the more obvious and painful consequences of inequalities in health care.

This allows us to raise a peculiar role of health care coverage in thinking about health. Far from being measured in terms of its productivity, or the outcome of health care interventions, the role of a publicly-funded, universally-accessible health care system is to provide security that people will be cared for should they become ill. Current public concern in Canada may well be connected to the fear that such care will not be forthcoming, given the current state of the health care system. It is in this sense that it forms a subsystem in the much broader infrastructure of the country.

Metaphors are ways to bring together a large array of characteristics. Sometimes these have been called mental maps, or mindsets, that allow us to draw information from a seemingly bewildering array of facts. There are different metaphors for health care in Canada, the United States, and Britain. In Canada, health care is seen as part of the infrastructure of the country, in the United States it is seen as a commodity that can be bought and sold, and in the United Kingdom it is a government service. These different perspectives allow us to distinguish the role of universally-funded health care in the three countries and to understand some of the differences in how citizens of each country interact with the systems. If health care is a commodity that can be bought and sold, there is little reason to pay for someone else's health care, except in cases of charity. If it is seen as a government service, then it will have little impact on it if a part of the population choose to get their health care from non-government sources. The queue for government services may very well be longer than the other queue, but that is an acceptable price to pay for getting service from the government. If health care is infrastructural, then access to it should be the same for all. Non-government alternatives are less likely. The interaction between health care and other subsystems will vary with how it is seen. Government interventions in the health care system will also be different.

A universal health care system which provides such security fosters a stronger relationship between individual citizens and the state. This will, if the hypothesis is correct, improve population

health status. It would provide one explanation for the differences in health status between those countries with and without universal health care coverage, and would identify an important preventive aspect of universal coverage. In identifying contributors to the health status of the population, only direct medical interventions are considered. As a result, this role of universal health care coverage is typically ignored. McKeown, for example, fails to consider it as an influence on health, as do most researchers in this area.

The various contributors to health are interactive and have a non-linear relation to health outcomes. They are not mutually exclusive and jointly exhaustive. If one simplifies them, it is possible to minimize their impact by limiting their scope. When this simplification occurs and there is a conjoint attempt to streamline the process of intervention, the risks of breakdown increase.

Dr P. Barrett, the incoming President of the Canadian Medical Association, in his inaugural address pointed to an interesting enigma: *"Canadians have told us that the health care system is in trouble, but those who have actually received care are satisfied with it."*[109]

This suggests that this crisis of confidence in the health care system must be distinguished from at least some of its actual performance. The points of view of different groups exposed to it must be similarly distinguished from each other. This can help us to understand some policy interventions that might be needed to restore public confidence in the system. These would necessarily involve finding a variety of ways to enable people to regain the assurance that *the system will be there should they need it*. Such measures can have a broad range. At one extreme, it includes asking those responsible for the systems to declare their responsibility for its proper functioning. At another, it might include improving information about access points.

Example 3 – Health Promotion and Social Marketing

Health promotion seeks to answer the question, "*What must we do to improve the health of the population?"* As such, it takes a different policy direction than the two earlier investments, being primarily proactive, with improved health as the goal, rather than reactive, with reduced illness as the goal. While there have always been recommendations to improve health, at least since the time of Hippocrates, health promotion gained real prominence with the publication of the Lalonde Report, with all its recommendations to encourage change in unhealthy lifestyle behaviour through social marketing and public education.

In such lifestyle areas as smoking, physical activity and driving there have been significant improvements since the 1970s, and this is often taken to be evidence of the success of these social marketing strategies. However, it is important to note that progress was not uniform for all Canadians: in nearly all areas of lifestyle behaviour, Canadians with more education and higher incomes showed the most improvement. And, in some areas, Canadians seemed to have reached what could be termed a "point of diminishing returns": positive changes in some lifestyle behaviour seem to have leveled off. We will take the areas of smoking and physical activity as test cases to see whether a richer understanding can be gained in light of complex systems.

Smoking: From Lifestyle Behaviour to Complex Systems

Smoking remains one of the most important preventable causes of illness and death in Canada and other industrialized countries; it is also one area in which Canadians have made great improvements in the past 25 years. In 1970, 46.5 percent of Canadians (55 percent for men and 38 percent for women) smoked cigarettes.[110] By 1996, that number had dropped by over a third, to 26.9 percent (28.7 for men, 24.5 for women).[111]

However, between 1977 and 1994, smoking rates declined by only 19 percent for Canadians with an elementary education or less, compared to a decline of nearly 69 percent for those with university degrees.[112] In 1996, 62 percent of Canada's First Nations population smoked – a rate more than double that of non-Aboriginal populations.[113] As well, the rate of improvement is slowing, and, in some cases, reversing: in 1990, the prevalence of

smoking among 15- to 19-year olds was 21 percent – the lowest since 1966. But, by 1994-95, this trend had clearly reversed: 28 percent of teenagers in this age group smoked, and the trend was most evident in teenage girls.[114]

Healthy Eating and Activity

"Sedentary living" has been replaced by "active living" for many Canadians. Over the past quarter-century, our physical activity levels have changed, as has our understanding about levels of exercise necessary to benefit health. For example, the 1976 Survey of Physical Recreation and Sport counted as active those who had exercised in the past *month*. Today, physical activity is measured in daily and weekly bursts of intensity. The Canadian Fitness and Lifestyle Research Institute (CFLRI) reports that the percentage of active Canadians has increased by about 1 per cent each year since 1981, from 21 percent to 37 percent in 1995.[115] Another 28 percent were "moderately active" in 1995, compared to 17 percent in 1981.[116] In both the seventies and the nineties, however, Canadians with more education were more likely to be active: in 1995, 45 percent of degree-holders exercised regularly, versus 29 percent of those with less than a secondary education.[117]

Related to exercise are both nutrition and healthy body weight. Here, change and improvements over time are less marked. Canadians eat more fruit and vegetables than they did in the 1970s, eat less red meat and more poultry, and have made the switch from full-fat to skim and low-fat milk.[118] Overall consumption of oils and fats, however, has risen slightly, as has consumption of calories and protein.[119]

Although we exercise more, the CFLRI reports that Canadians overall have become fatter: the proportion of adult Canadians who are definitely overweight[120] has increased steadily since 1985.[121] The increase is most apparent in men: there are more overweight men than there are women, and the percentage of men at a healthy weight is decreasing at a faster rate than it is for women. In 1996, 44 percent of Canadians were at an acceptable weight for their height; close to one fifth of Canadians had some excess weight to the point of a *possible* health risk, and 29 percent to the point of a *probable* health risk. Another 8 percent were underweight: one positive trend is a decrease in underweight women from 1985 to the present. Again, the likelihood of being definitely overweight decreases with each successive level of education.[122]

Why Education Has Not Worked Universally

Social marketing has had very mixed responses in different sectors of the population. Attempts to urge people to stop smoking have worked well in middle class communities but have been less successful for poor people. AIDS/HIV campaigns have had similarly varied results. Campaigns to increase the use of condoms had a strong impact on the organized gay community several years ago. But recent attempts to influence intravenous drug users not to reuse needles and to encourage safe sex by a younger and poorer cohort of gay men have not been very successful, as is evidenced by a new wave of HIV infection in Canada.[123]

One way to understand both the successes and failures of these campaigns is to think about their effect on the community within which individuals are at risk. In middle class communities it has become increasingly difficult to maintain both a smoking habit and good relations with others. There is increasing community pressure on its members to stop smoking. Stopping smoking is often an easier course of action than relieving the strain on relationships that it causes. Such "communities of non-smokers" have essentially self-organized within larger social contexts. On the other hand, in some poor communities smoking is a form of cheap entertainment that is encouraged by all, and there is considerable community pressure to take it up. Maintaining good relations with others in these communities requires, at least, tolerance for smoking, and abstention requires a special effort.

A similar case can be made about the varying success of efforts to increase physical activity. As noted above, in Chapter 2, the many recommendations of the Lalonde Report to increase access to recreational facilities and promote an active lifestyle have been adopted. Simultaneously, however, our cities have grown by suburban sprawl, necessitating an ever-growing commuter car culture, and

our jobs have shifted from the industrial and agricultural sectors to the office and service industry. We spend more time sitting in front of computers, and driving to our destinations, at precisely the same time as gym memberships and athletic apparel sales are at an all time high. Our population has also simply grown older, with the typical North American decrease in activity and increase in waist size.

Both these cases suggest the special importance of interactions between individuals and their social context. When these are health-inducing, social marketing works: when they are not, lack of compliance with health-inducing practices seems to stem less from ignorance than from the nature of one's relationship to a social context. Although much of the focus of social marketing has been on the individual, it turns out to be most effective if it has an impact on the community to which the individual wants to belong.

In other words, there is the growing realization that both of these "lifestyle behaviours" are actually situated in complex systems of biology, peer groups, educational attainment, nature of employment, urban sprawl, car-culture, and a great many more factors. Simply educating people about the potential costs of a given lifestyle or the benefits of some lifestyle change may not work, because in the end these choices are nested within all of the above, and even more, circumstances.

Lessons from Health Promotion

Promotion of health cannot proceed by education alone, at least for everyone, without attention to community building and strengthening. This is a lesson that health promotion researchers and policy workers have been learning over the past decades. Accordingly, the increased emphasis on community action in health promotion must be continued. Equally important is the realization that yet again, policies to promote health must be situated within the larger context of policies to foster the well-being of the population.

Behavioural changes have been largely brought about by interactions with a changing social context. Where groups had adequate resources and freedom to self-organize, members gave up smoking, or began engaging in communal physical activity.

Complex physical systems, once depleted of freedom for variation, tend to descend to stable patterns which, whether desirable or not, are much less likely to change. So, too, an impoverished social context or isolation from a social environment leads to a state of equilibrium from which it is hard to change behavioural patterns. Policies to improve the health of the population, then, must take as one starting point the promotion of sufficiently dynamic social supports to allow for change.

Interventions in complex environments must be multiple, targeting different potential routes to change in order to promote shifts to desired states. Health promotion must rely, as it has, on a large number of strategies and instruments. The reliance on simple solutions is unlikely to bring about change in the desired direction.

Sowing seeds in health promotion policy is well exemplified by the previous United States Presidential office's encouragement of suits against tobacco companies. This resulted in a fair amount of litigation which made the tobacco companies pay for the consequences of addiction to smoking, raised the profile of the issue to the general public, and forced the tobacco companies to stop practices which encouraged smoking. A more recent fallout from these efforts was the introduction of an anti-smoking campaign aimed at teenagers that used video clips of the testimony of tobacco company executives, and which asked teenagers if they were prepared to believe them and to take up smoking at their behest.

Finally, one must accept that, due to the complexity of the systems and subsystems and the interactions involved, any action may ultimately fail. As in the case of public health, above, to wait for certainty in the outcomes of one's actions is to wait forever.

Example 4 – Health Inequalities

We have described the stages of Canadian government involvement in the health of the population.

The sum of this involvement is reflected in the structure of government policy. Its foundation was built in the early period of public health, and included measures to reduce the spread of epidemics through inoculation and to assure an environment that would keep people from becoming ill. Its main structure has been universally funded health services which, for the most part, diagnose and treat illness. Health promotion, the next stage, seeks ways to improve the health of the population "beyond health care." "Inequalities in health" research seems to build upon this structure to address the continuing problem of inequalities in health.

Each stage in the development of health policy has increased the scope of government involvement in health. The first stage protected people from diseases that were largely beyond individual control. Supplying pure water to a large population means that wells must be kept free of contaminants, and involves the construction of self-flushing sewage systems that do not contaminate the water supply. But at that stage the payment for medical and hospitals services was largely an individual responsibility, or, for those individuals who needed extra help, it was a matter of charity. The growing cost of hospital care was a factor in increasing the scope of government coverage to include these services. In fact, even in the United States' largely private health care system, there has been incremental growth in publicly-funded health care by means of Medicaid and Medicare. Some of the arguments for health promotion were that government had a role in educating the public about health, improving behaviour and enabling them to gain more control over their health through individual and community development. This broadened the scope of government involvement once more.

At each stage of development, the implementation of health policy distributed resources to the population. It flattened the slope of the gradients of resources available to the population. Universal provision of clean water and proper sewage is a clear example of this kind of redistribution. Universally-funded health insurance also distributes health care across all levels of the population. The educational function of health promotion provides the entire population with knowledge about good health practices. Each of these distributive measures is accompanied by improvements in overall health status of the population, but none of them eliminate inequalities in health.

The slope of inequality in resource distribution is flattened in these cases, but the *capacity to use* the resources of clean water continues to follow socioeconomic status. There is a literature which suggests that, although clean water and safe sewage are widely available, they are seldom accessible to all people with poor housing, or with inadequate connections to water and sewage systems. It is also well known that even taking up free vaccination against disease follows socioeconomic gradients. Similarly, it is frequently pointed out that the middle class has easier access to a universally funded health care system. Finally there have been arguments holding that lifestyle education has a disproportionate benefit for people higher up the socioeconomic scale – because of their better education, for example. Some have even argued that such efforts increase the differences between the top and bottom of society.[124]

All this serves to emphasize Aristotle's distinction between allocating resources and the capacity to use them. Providing resources at each stage of policy development can be distinguished from enhancing the ability to make use of them. Amartya Sen[125] and other thinkers about social and economic policy develop this distinction further. Our hypothesis suggests that a more dynamic consideration of the quality of the interaction between the users and the resources provided would contribute to understanding this distinction better. It might also contribute to overcoming some of the perverse consequences of universal programs that increase the slope of the gradients. We can first provide some examples at the micro level and then consider some more macro issues.

When Marmot's results in the Whitehall Study declare that control over work is the most critical factor correlated with heart disease, the implication is that control over work is a characteristic of the workplace. Control over work is not merely an environmental characteristic of the workplace.[126] Some workers feel they have little control over their work in circumstances where others feel they have a great deal of control. This variance occurs

over a broad range of work, from policy development to the automobile assembly line. It would seem on the face of it worthwhile to consider that workers' sense of control over work is a function of the nature of the work environment, and also of how the worker interacts with it.

Much of the preventive efforts in the workplace have to do with occupational health and safety issues. A lesson from the Whitehall studies is that there are more opportunities for preventive policies and programs that might be considered. Health-related policies and programs can be categorized into three groups: ones that target the individual, ones that target the work environment, and ones that consider the complex interactions among them. Our hypothesis would then suggest that it is not worthwhile to look only at the structure and organization of the workplace, or only at the resources that workers can bring to the workplace. We must also consider how policy efforts might improve the quality of the interaction between the two.

Research efforts are continually discovering finer socioeconomic correlates with health. Everson's study is a good example; it connects self-assessed measures of hopelessness with the onset of atherosclerosis. She defines hopelessness as "negative expectancies about oneself and the future."[127] The two items on the questionnaire were, "*I feel that it is impossible to reach the goals I would like to strive for*;" and "*The future seems to me to be hopeless. And I can't believe that things are changing for the better*." Responses were on a five-point scale from "absolutely agree" to "absolutely disagree." These statements appear to be less about psychological states of individuals or about the nature of the environment than about the relationship between the individual and the environment. In fact, Everson speaks of this in her study. These notions suggest that individuals in interaction with their environment develop a set of behavioural, social, psychological and physiological adaptations or adjustments that have a cumulative, generic effect on health.[128] Hopelessness, thus, is understood to be a result of a deteriorating relationship with one's social context. It is not an emotional state, but rather a belief about external possibilities, and is highly interactive.

Here one can consider the three sets of policies quite easily. Everson herself successfully experiments with administering medication to those who are at risk of atherosclerosis based on their score on the hopelessness test. So one can develop successful policies that focus on the individual. One can also introduce measures to change the environment, such as job-creation programs. In many of these cases, reducing the obstacles to self-organization by means of such supports as community development, counseling, training and skill development, are good examples of interactive programs that may help people to make use of opportunities.

Aristotle provides ideas for differentiating among policies addressed through the life course. His notion that developing good habits in children is an important contributor to later capacities is mirrored in recent studies that indicate the importance of early childhood (and even *in utero*) events for development. Current studies indicate that early childhood interactions are critical for everything from brain development to lifelong health.[129] A particularly good example of the interactive nature of these requirements is described in a study that finds that the risk of behavioural problems in school is significantly reduced for children who have one or more strong relationships with others.[130]

If we apply our new perspective to possible programs, it would follow that it is important:

- to establish many of them;
- to recognize the importance of local conditions when they are implemented;
- to make use of local voluntary efforts;
- to accept that some of them will fail; and
- to learn from the failures.

At a macro level, the arguments about inequalities in health conclude not merely that gradients of health status correlate with socioeconomic status, but that socioeconomic factors are the major determinants of health. It follows from this that interventions in the health field will have less impact on health than interventions to change people's socioeconomic circumstances. What follows from this is that all the data we have gathered about health status might finally be of some use. There is an old joke about the drunk who is stumbling around near

a lamppost. When asked what he is doing, he says he is looking for his car keys.

"Oh, where do you think you lost them?"

"Down the block near my car," he says.

"So why are you looking for them here?"

"Because the light is better."

A great deal of effort is spent considering how to repair inequalities in health by looking at health issues, creating health targets, measuring health outcomes, and changing health-related interventions. But the scope of the health field is such, and much of the research indicates that measures of health status are more likely an indication of social conditions than of anything to do with health. As for interventions, Edwin Chadwick probably had it right when he said that if you want to reduce drunkenness, provide better quality housing. It would be worthwhile to use the massive amount of detailed health data as indicators of general socioeconomic conditions, and more specifically of the success of social policies of a country. These data could be used to identify locations or groups in need, and to provide guidance as to whether interventions need to focus on individuals, the environment, or the interaction between them. Trying to improve health status by means of health-related measures alone is like looking for keys under the lamppost when they were lost down the street.

It has been argued then that the reason to improve social conditions is to improve the health of the population. But this once more seems to get things backwards. Health is a contributor to the much broader area of social well-being: it is just as true to say that good health is a determinant of any one of the measures of social well-being as it is to claim that they are determinants of health. Here thinkers as old as Aristotle have understood that the resources of the good life interact with each other and are not entirely independent. Education is a resource that increases the possibility of achieving wisdom. Wisdom increases the capacity to absorb education. In the same way, catastrophic illness can erase hard-won happiness, and great happiness, it seems, can sometimes avert the worst consequences of illness. This suggests that what are called determinants are bi-directional: there is a kind of feedback loop that can amplify or dampen their impact. They are not unidirectional linear causes of health or illness.

What does all this mean to policy? It means that the objective of improving the health of a society and of flattening the gradients of health is not independent from developing social policies to improve the general well-being of society and flattening the social gradients. We can debate the place of policy in doing this much more directly by generalizing the debate and not having it only under the lamppost.

A good example can be found in mortality and longevity, the most reliable health data we have. The longitudinal data show that longevity in Canada is improving overall, but that the disparity between Aboriginal Canadians and others has widened. The reduction in deaths from some conditions, such as heart and circulatory problems, is significantly lesser in the Aboriginal population than in other Canadians.[131]

There are of course, many other health status indicators that show similar disparities in health status. Inequalities in health research leads us to conclude that reducing these disparities is not a function of our health policy edifice but must include and, indeed, concentrate on improvements to the general social circumstance of native people compared to the rest of Canadians. We would add that policies to improve the quality of the interaction between individuals and their social context are critical to these efforts. So far, policies have been relatively unsuccessful as levers of change in these communities. Perhaps our next investment should be in seeds.

Lessons from the Case Studies

There are several important lessons to be learned from these case studies:

The Stages of Health Policy Interact

We have increasingly come to recognize the interaction between the various stages of government policy about health. The Walkerton Case provides a

clear example of the interaction between public health measures and policies about health care services. When the public health system falters, the health care system must compensate. Similar interactions are described in the health promotion case between efforts to reduce smoking and the other areas of health policy. Over time, a reduction in smoking should reduce the incidence of lung cancer.

Health and Social Policies Also Interact

But interactions are not limited to health-related areas. We accept that effective health policies support the general well-being of the population; and we have also come to accept that policies in other areas contribute to the health of the population.

For example, the reduction in tuberculosis is closely related to improved housing; employment conditions have an impact on mental health; and education policies have an effect on health-related behaviour, such as breast-feeding. At the same time, health promotion policies to reduce smoking are not effective among populations experiencing socioeconomic disadvantage. But, as much as all these sets of non-health policies are part of the larger complex system that interacts with health policy, it remains important to understand how they differ from health policy.

Policies about public health, health care services, and health promotion can be described as having a direct impact on health. Our account of the three stages of health policy described in some detail the scope of health-related government expenditures. Research into health inequalities increasingly indicates that a much broader range of government policies contributes to health, and this identifies them as the "social determinants of health." The policy areas that have an impact on health included everything from housing policy, to educational direction, to employment conditions.

These policy areas are not within the mandate of the Ministry of Health, nor are policies issued in these areas health policies proper. They are policies about housing, education and employment conditions. Their particular objectives are to respond to issues in those areas, and if they have a shared objective it is to improve the general social circumstances of citizens.

Health and Social Well-being Interact

The paradoxical finding of research into inequalities in health is that direct government expenditure on health is not the main contributor to the health status of the population; the greater contribution to health comes from social well-being. To the extent that government wishes to reduce inequalities in socio-economic circumstance, its success will be reflected in reduced differences in health status. If Aristotle is correct, health gradients are to some extent part of the definition of social gradients. It is clear that reducing social gradients will then reduce health gradients. But it is somewhat perverse to argue for a reduction of social gradients for reasons of health. Such a reduction must be an objective on its own merit. This objective depends upon the direction of social policy, which should be distinguished from health policy.

Health Status Can Be a Marker for the Success of Social Policies

Effective economic and social policies will have a major impact on the health status of the population. Social policies that attempt to reduce socioeconomic gradients will, if they succeed, also reduce inequalities in health. Socioeconomic policies, which seek to create greater overall wealth throughout society, will, if successful, also improve overall health. Much political debate is spent on which of these sets of policies is more effective. But the debate is not about their health outcomes, but about their consequence to general social well-being.

Rather than ask health ministries to reduce inequalities in health, we have argued that health status measures are an excellent indicator of the effectiveness of socioeconomic policies, even in medium-term frames. This project did not set out to make recommendations about what such policies should be. But we do think that their success should be measured in terms of their health outcomes. A society with a high degree of well-being will be a measurably healthier society. A society with fewer

inequalities in wealth will have a measurable reduction in inequalities in health.

Health Ministries Are Responsible for the Health Edifice

The most important role for health ministries is to ensure that health systems – i.e., public health, health care, and health promotion – are functioning well. Our studies and a vast literature on health research suggest that the "edifice" of government activities focused on health is, in fact, a significant contributor to social well-being. It follows from this that if the edifice is in poor repair, government must play a significant role in repairing it. This seems to be the case independently of the public or private nature of the health care system.

Health systems have a direct impact on the health of the population through a combination of protection from health risks, promotion of healthy lifestyles and communities, and medical care to treat those who are ill. These systems also have an indirect impact on health, if the population regards the public health system as secure and accessible, i.e., as ready and able to serve their needs. Health systems as diverse as those in Canada, the United States, and the United Kingdom are under stress from rising costs and rapid changes in technology, but they also face diminished public confidence.

The lack of sharp boundaries between different contributors to health does not mean that there is no limit to the scope of health policy. A key step forward in breaking the logjam in health policy will be to recognize that the first obligation of health ministries is to maintain and improve the health "edifice" in order to assure the security of public health and contribute to the well-being of citizens.

Health Systems Are Complex, and There Are No Easy Solutions

Our work also highlights that the health edifice is a complex system. Its component elements interact in ways that mean that small causes can have huge effects. It is in a constant state of evolution, adapting to changing circumstances. It is in many ways self-organizing. This means that there will always be some degree of uncertainty about the outcome of policy interventions. No decision-maker is in a position to anticipate how the system as a whole will react to a new intervention. Thus the most effective policy decisions will have to rely on a combination of the best available medical evidence along with evidence based on experience and anecdotes. It also means that attempts to streamline systems for greater efficiency may remove important checks and balances that are essential to prevent serious breakdowns in times of stress.

When policymakers wish to make a change in policy, they should rely upon a mixture of three policy types. Some policies function as levers; for example, billing systems or regulations governing medical practice, or air and water quality. Others serve as investments – such as purchases of new equipment, training programs for professionals, and major building programs. Still others function as seeds, which encourage innovation and foster self-organized activities. Seeds include funding for community-based programs, testing a new approach to social housing, or a shift in incentives for health professionals. It is a good idea to distinguish between these policy approaches, and to sow new seeds designed to take advantage of the adaptive capacity of any complex system.

Finally, policymakers should avoid making abrupt dramatic changes to a health system because these shocks can lead to quite unpredictable and destructive responses. The sudden withdrawal of funding in the mid-1990s intensified the rivalries among professional groups, among the stages of health policy, and between health and social policy budgets. This competition actually drove costs higher and increased public anxiety about health care. While significant new funding has flowed into the system over the past three years, and considerably more was promised in September 2000, public anxiety about health care remains high, and the logjam in health policy continues to dominate public agendas.

Conclusion

This research program has generated a new and unifying way of thinking about our constant

struggle to improve health. Some parts of the system – especially medical care – focus on the individual or the organism. Other parts – especially health promotion and inequalities in health – focus on the environments in which individuals live and work. Both are important components of health. What will require more attention in the future, as we continue the voyage of human development, is the idea that the interaction between an individual and his or her social context is a major contributor to health. Positive interactions improve health; negative interactions make people sick. Bearing this in mind could provide new insights for all who share in the health enterprise – patient, surgeon, nurse, deputy minister, counselor, hospital manager, citizen and taxpayer.

As one commentator has suggested, this phase of this work generates an appetite for addressing policy questions with a fresh perception of the policy process. But no one has so far had much practice in the explicit application of these ideas to live policy issues. The new ideas have been described and arguments have been made for them. One conclusion of the work is that they can only be applied in collaboration with policymakers and others who have a detailed understanding of particular local circumstances. We have proposed that the next stage of this effort is to work on such particular policy issues in three countries: Canada, the United States and the United Kingdom. There has been considerable interest among government officials, policy advisors, and researchers in the three countries to join us in this effort. We expect that the result will include some new kinds of policy solutions, which we hope will also allow us to develop very much more elaborate and detailed case studies that will be helpful in the three countries.

Notes

1 Sholom Glouberman, ed., *Beyond Restructuring*, London: King's Fund, 1996, p. 117.

2 Sir Donald Acheson, *Tackling Inequalities in Health*, London: The King's Fund, 1995.

3 Two brain-storming meetings were held with interested parties, such as representatives of Health Canada and IRDC, including: Alan Nymark, the then Associate Deputy Minister of Health and other ministry officials; David Mowet, the then Medical Officer of Health for Ontario; John Evans, the Chairman of the Board of Torstar and former dean of McMaster University's Medical School; and Kevin Smith, executive vice president, medical, academic and community services of Saint Joseph's Hospital. Gradually, iteratively, the final form of the project evolved.

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6 PAC, Department of National Health and Welfare, RG29, vol. 1557, file 1008-5-1, pt. 5 "Evolution of the Working Document 'A New Perspective on the Health of Canadians'" Interview with Jo Hauser affirmed that this realization was a surprise.

7 See, for example, the report submitted to the House of Commons Standing Committee on Finance, as part of the 2000 pre-Budget consultation process by the Canadian Medical Association. Canadian Medical Association, "*Towards a Sustainable Health Care System in the New Millenium,*" Ottawa: Canadian Medical Association, 1999.

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9 Hubert Laframboise, 1990, *op.cit.* p. 319. Due to the success of *A New Perspective on the Health of Canadians*, three documents exist describing the process by which it was written. Laframboise wrote a paper in 1978 called "*Still Riding the Crest of a Wave: An Appraisal of 'A New Perspective',*" which remains unpublished. In 1990, a different version of the story was published (above). Prior to this, in 1975, the LRHPB wrote an internal document entitled, "*The Evolution of the Working Document 'A New Perspective on the Health of Canadians.'*"

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24 James Ross, *The National Health Services in Great Britain*, London: Oxford University Press, 1952.

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26 *Idem.*

27 *Idem.*

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57 See *Ethics*, viii and ix.

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