

# Chapter 1

## Information as Change Agent or Barrier in Health Care Reform?

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### ABSTRACT

*Health care systems across the world are in a state of flux. If the experience of the early 1990s can be used as a model, the recent global economic downturn will lead to very significant pressures to reduce spending and achieve better value. Systems have provided a range of approaches to modeling and evaluating these more complex organizations, from simple process models to complex adaptive systems. This paper considers the pros and cons of such approaches and proposes a new modeling approach that combines the best elements of other techniques. This paper also describes a case study, where the approach has been deployed by the authors. The case study comes from health care services in Ontario, Canada, who are shifting from the traditionally hospital-based system to one that recognizes a greater role for community and primary care services.*

### DRIVERS OF INNOVATION IN THE HEALTH CARE SECTOR

In 2008 and 2009, the national economy of many countries has shrunk. The last time the world economy experienced a recession, in the early nineties, it led to a major panic about the cost of public services, and in particular health care, where a sharp rise in the perceived cost of health

care services led to many explanations such as increasingly elderly populations, increased cost of drugs and medical technology. These explanations have not been wholly supported by more reflective analyses, as described in Gillies (2003).

Drug Costs are offset by reduced hospital admissions, where new treatments allow treatment in the community, and keep patients out of hospital e.g. increased use of sophisticated and more expensive asthma treatments is offset by reduced numbers of emergency admissions, and in non-financial terms by prevention of distress-

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*Table 1. Health care costs in the 1990s*

	Health Care Cost as %GDP					Health Care Cost Per Head US \$				
	Canada	France	Germany	United Kingdom	United States	Canada	France	Germany	United Kingdom	United States
1990	8.9	8.4	8.3	5.9	12.2	1738	1449	1768	963	2810
1991	9.6	8.6	..	6.3	12.9	1876	1552	..	1051	3035
1992	9.8	8.9	9.6	6.8	13.3	1969	1649	1976	1155	3251
1993	9.7	9.3	9.6	6.8	13.6	2015	1751	1992	1209	3447
1994	9.4	9.3	9.8	6.9	13.5	2055	1812	2128	1298	3589
1995	9	10.4	10.1	6.8	13.6	2057	2101	2274	1349	3748
1996	8.8	10.4	10.4	6.8	13.5	2058	2162	2399	1436	3900
1997	8.8	10.2	10.2	6.6	13.4	2152	2226	2413	1488	4055
1998	9	10.1	10.2	6.7	13.4	2310	2309	2483	1558	4236
1999	8.9	10.1	10.3	6.9	13.5	2416	2396	2592	1678	4450
2000	8.8	10.1	10.3	7	13.6	2516	2542	2671	1833	4704

ing patient episodes. Although a more elderly population does require more care, the largest medical costs remain the months prior to death, irrespective of age.

A key concern for many governments is the cost of health care. Indicators published by OECD (2009) measure the affordability of health care, so measure costs relative to GDP, rather than absolute costs. Affordability reduces in a recession, leading to a higher figure (Table 1).

In the early years of the decade, the measure of affordability rises steeply leading to a range of reforms all designed to bring it under control. As the world emerges from recession, this affordability figure stabilizes. In reality, absolute costs continue to rise in spite of the changes, but the affordability measure is kept respectable by an expanding economy. In the most extreme case of Canada, absolute expenditure is stagnant, and affordability increases as the total GDP figure rises leading to the percentage spent on health care reducing from 9.8% in 1992 to 8.8% through most of the second half of the decade.

This may be attributed to a reluctance to reform a system based on hospitals providing care for sick people, compared with the UK which from

1990 to the present day has gradually placed more emphasis upon primary care services designed to prevent illness in the first place

Thus, it is affordability rather than cost which leads to public sector reform and drives innovation. Affordability will be severely challenged in the immediate future due to both reduced GDP in countries that have been through recession, and pressure caused on public expenditure by repayments on national debts incurred by fiscal stimuli and financing for global banks. This creates an environment where innovation is required to make “efficiency savings” to absorb cuts in expenditure. Top of the list of agents to drive this change is Information Technology, which has been implemented on the basis of influential national reports in the early years of the 21<sup>st</sup> century such as Wanless (2002) in the UK and Romanov (2002) in Canada.

The common feature of many public service innovations is a move to a multiagency approach, increasingly involving a wide range of organizations deemed to be closer to the community. In seeking to model these new working environments we shall consider a range of approaches from systems thinking and related approaches

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