Exploring the Political and Economic Dynamics of Health Policy

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Abstract: This paper extends recent systems approaches to US health reform to the international sphere and explicitly represents the political and economic dimensions of health policy. It overlays the worldviews of health care as an industry with user as consumer, a profession with user as patient, and a societal right with user as citizen. Within this framework it discusses the extent and interaction of hierarchical, market and network control mechanisms on key system performance goals. A method for comparing these interactions among health institutions and control mechanisms is proposed. This work can inform simulating international comparisons of health systems evolution and explicitly representing their 'strife' of less tangible political and vested interests, in order to understand, plan and test the acceptability of proposed health reforms in various countries and regions.
KEYWORDS: Health Policy, Health System Dynamics, Health Politics, Health Economics.

"Politics - A strife of interests masquerading as a contest of principles. The conduct of public affairs for private advantage." –Ambrose Bierce, the Devil's Dictionary.

Introduction

In a recent paper (Hirsch et al 2005), system dynamics was applied to the problem of system-wide US Health Reform, using causal loop diagrams to illustrate its dynamic complexity. This represented the interactions among system components, including stocks and flows of people with a chronic disease progression chain in the demand sector, population ageing/expectations, high technology and specialised interventions vs. primary and preventive interventions, and maldistribution of resources with linkages to cost, quality and access performance measures. The broader social context was also included together with the longer-term impacts of addressing adverse living conditions with upstream promotion and prevention interventions to manage demand. To further develop this US work, the political and economic dimensions of international health systems policy are explored in this paper.

Mueller explains," Political science has studied man's behaviour in the public arena; economics has studied man in the marketplace. Political science has often assumed that political man pursues the public interest. Economics has assumed that all men pursue their private interests…Could both Aristotle and Smith have been right? Could political man and economic man be one and the same?" These political and economic views of power and money seem intimately entwined and therefore are combined in this discussion. Indeed health policy has

been described as a strife of interests of vested benefit groups, with the key aspects of debate concerned with who pays for what, who receives what and who benefits (Evans 2005).

Three competing "world-views" of health care are well described by Schlesinger, 2002:

- health care as a marketable commodity in a high demand industry sector, in which the user is a **consumer**, and both government and business foster consumption to increase prosperity
- health care as professional advice and intervention based on meeting the health needs of the **patient**, and
- health care as societal right of being a community member and **citizen** in a fair and civilised society, in which the state ensures access to health care for the disadvantaged in order to maintain social cohesion and community wellbeing.

The aim of this paper is to summarise the dynamic complexity of each of these views of healthcare and begin to explore the way these views interfere with each other to produce undesirable and unintended effects that impede significant progress in health reform.

Health Reform as Shifting the Balance

In a recent paper on public health, Sterman (2006) explains the sources of policy resistance. "We seek to bring the state of the system in line with our goals. Our actions alter the environment but policy resistance arises when we fail to account for the so-called 'side effects' of our actions, the responses of other agents in the system (who may have conflicting goals) and the unanticipated consequences of these responses, the ways in which experience shapes our goals, and the time delays often present in these feedbacks."

In health reform, policy resistance is often referred to as difficulty in "shifting the balance". Policy changes can be in response to shifts in real or perceived threats to a system which is considered unresponsive or built for past challenges. Several significant long-term transitions have been described, including the *epidemiological* transition from acute epidemics to chronic disease and the *demographic transition* from younger to older patients based on dramatic improvements in life expectancy and subsequent reduction in fertility rate in developed countries. Another key shift has been in the perceived role of government shifting from maintaining the welfare state to incenting individuals to solve their own societal problems, the dominance of democratic capitalism around the world. Some of the stated intended shifts in health reform are listed in the following table.

Shifting the Balance	From	To
Disease	Acute	Chronic
Demographic	Younger	Older
Political	Welfare state	Democratic capitalism
Costs	Public sector	Private
Choice	Profession	User
Services	Hospital	Community
Location	Remote	Local
Intervention	Treatment	Prevention
End of Life Care	Cure	Palliation
Technology	Old	New
Care	Fragmented	Holistic
Blame	Central	Local
Accountability	Focussed	Diffuse
Appropriateness	Single culture	Diverse cultures
Information	Profession	User
Power	Stakeholders	Stakechallengers
Health Funding	Mutual	Individual
Health Responsibility	Society	Individual
Risk	Collective	Individual

In this paper we explore the questions:

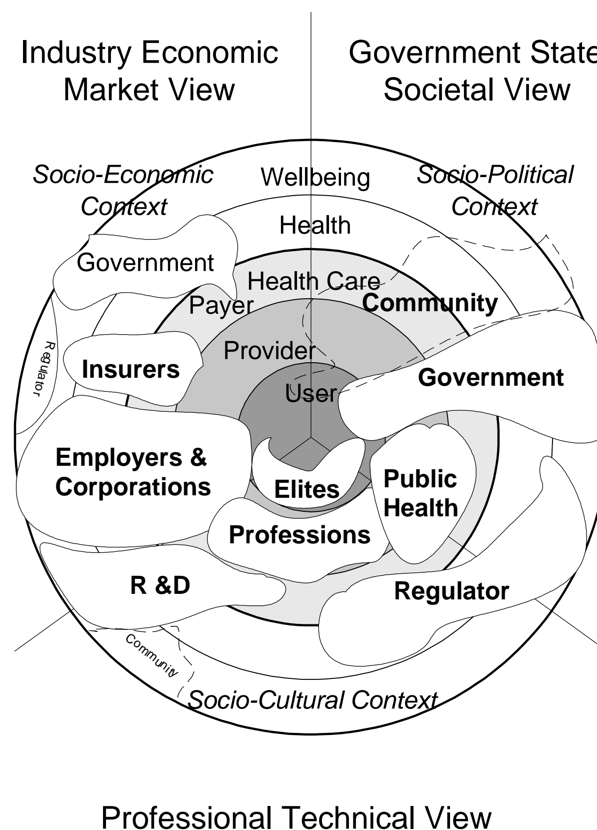
- "Why does the current system tend to favour the current goal and what combination of forces need to be reduced or increased to accelerate the shift to the intended goal?"
- "Is there enough agreement among the agents with vested interests in the system to shift the goal in the intended direction?" and
- "How do these shifts in goals and policy reforms actually happen?"

The Context, Institutions and World views of Health Policy

Healthcare operates within a broader social context of political, economic and cultural dimensions (Navarro). A popular representation of this wider socio-economic context is the Dahlgren and Whitehead (1991) sunrise diagram. There are also significant institutions that have evolved with health policy initiatives over the decades, involving payers, providers and users of healthcare, and their governance. An integrated view of the context and institutions of health policy is depicted below, based mainly on the Jan Feb 2005 special issue of the

Journal of Health Policy, Politics and Law that used historical institutionalism and agency theory analytical frameworks (JHPPL). Each one of these institutions, as well as more informal political groups in the health and social arena has a capacity for collective action, referred to in two recent books by the historical dynamicist Peter Turchin as *asabiya*. These political stakeholders interact with new political stakechallengers and coalesce or fragment (centralise or decentralise) under the influence of political "frontiers" that describe the ebb and flow of empires of power over time.

In the following diagram we overlay these contexts and institutions to the different worldview descriptions of healthcare (with the user as consumer, patient and citizen).



Expansion of the Professional Technical View of the Health System

The professional technical dimension is the most commonly described world-view of health systems. It consists of people with diseases and clinical and public health interventions, with services delivered by various sectors (hospitals, long term care, primary care, medicines) using a range of skilled workforce and technologies and paid for by various direct and indirect payment systems. Most frameworks (WHO, Duckett) use an input-process-output representation, depicting linear cause-effects without circular causation. There have been

several system dynamics contributions to include relevant feedback interactions for specific problems (e.g. uptake of medical technologies) and overall health program or disease management performance (Homer and Hirsch). These usually extend the system boundary to include the population of patients and their carers within the system and some of the relevant interactions with the wider social and economic context. WHO Health system performance measures aggregate the level and distributional effects of key outcomes of interest, with focus on indicators of cost, quality, access to services and the health status and health outcomes of populations and targeted programs. These indicators are grouped under the Economic dimensions of Efficiency, Effectiveness and Equity. There has been additional work to further add a dynamic aspect to health system performance, with survey instruments to measure system responsiveness and political and social acceptability of health policy changes (WHO).

Control Mechanisms within Healthcare

The key political and economic control mechanisms that operate in health care are (Tuohy, White, Rice, JHPPL):

- **Hierarchical** (regulatory, legal, bureaucratic) mechanisms, in which goals are set and rewards and sanctions are invoked to ensure these targets are pursued when deviations occur.
- **Market** (pricing and purchasing) mechanisms, where supply and demand are matched through market pricing, and
- **Network** mechanisms (mostly among collegiate elites and some user support groups) where social network effects enable collective action by cohesive groups.

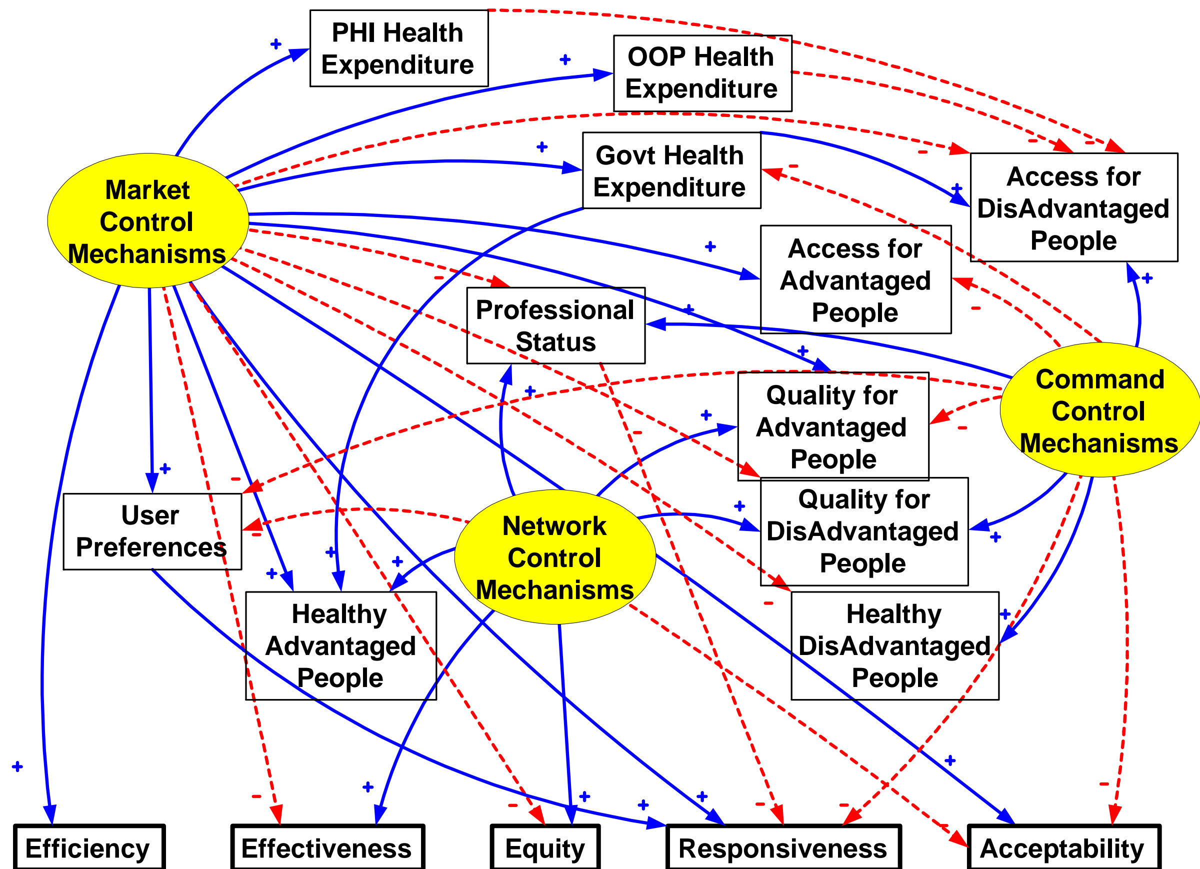
In system dynamics terms, control mechanisms are seen as the structure, policies and information flows which connect the various key decision points that determine overall system behaviours, producing a pattern of decisions and subsequent actions and their consequences and feedback responses.

Macro Effects of control mechanisms

There is a large body of health policy literature mostly pointing to the virtues and vices of the effects of these individual control mechanisms in health care. In truth, no pure mechanism operates independently, nor is there any agreed clear widespread advantage beyond ideological preferences.

In practice, health policy decisions have been described as a difficult choice between market failure and government failure, with hierarchical controls more effective for cost containment and equity, but market mechanisms producing more responsiveness.

A summary schematic of the overall influences of the three control mechanisms on key indicators of health system performance and some intermediary effects follows:



Micro effects of control mechanisms

In this section the different world-views of the effects on health care interactions between users and professional providers are explored and an attempt is made to integrate these mechanisms to produce a composite view of the real world of health policy. Here the focus is on the dynamics of provider-user interaction and how it is shaped by system constraints.

The Health Care World view of User as Patient

This professional technical world-view focuses on doctors and health professions as the central players with the doctor-patient relationship the transaction of interest. This is seen as consisting of professional decision-making and exchanging professional advice and treatment. This aspect is often studied by medical sociologists and emphasises cultural aspects associated with professional norms and values (Starr). In a culture of humane care, there are shared

goals, and patients trust that the doctor will use professional judgement and act in patient's best interests. While there are increasing attempts to share decisions, asymmetries of information and power (especially as a sick dependent patient) result in the choice of interventions reflecting doctor preferences more than patient preferences. Arrow also pointed out the uncertainty about the level of impact of the intervention in a particular patient's case. Benefits of the professional consultation transaction accrue to both the patient and the doctor as well as the costs (time discomfort money, etc). Over time, the costs and benefits of the doctor-patient interaction have increasingly accrued to third parties who have a vested interest in influencing decisions, especially those decisions about resource allocation which result in third parties (especially government and payers) incurring costs.

Medical professions see the government's role as sorting out access to necessary care, increasing scientific knowledge and medical training of enough but not too many colleagues. Their moral and technical appeal has risen in line with advances in medical science and technology, associated with long periods of education and training. Shared prolonged training experiences breed group loyalty and strong referral networks. In some countries doctors have been given the right to self-regulation, clinical autonomy and high social status in return for enforcing the social contract and grudgingly containing government costs (Tuohy). However, medical knowledge specialisation (described as an 'organ' rather than 'person' focus) and the growth of additional professions associated with medical progress have resulted in fragmentation of professional interests and less stable and trusting care relationships, aptly referred to as "strangers by the bedside". The profession-centric view results in: rapid responses to technical change and innovation attractive to professionals, but a paternalistic lack of response to changing patient preferences, values and cultures.

Over the past 30 years, pressures for cost control have increased corporate and bureaucratic managerial power at the expense of medical power. Payment incentives for professionals and patients may try to force decisions that are not aligned with the wellbeing of either party that may erode professionalism and valued social status, trust and the ethical basis of care. These may threaten the professions' capacity for collective action and increase the exit of professionals motivated by non-commercial interests. Spontaneous collegiate and professional networks are based on guilds, common socialisation and referral contacts, and characterised by collaboration and collusion, exclusion of non-compliers and legal and regulatory sanctions. These professional power bases are sustained by money and power, and result in reduced responsibility and visibility, and distributed controls, which can be good for interlinking services and co-ordinating complex care.

The Health Care User as Consumer

"That any sane nation, having observed that you could provide for the supply of bread by giving bakers a pecuniary interest in baking for you, should go on to give a surgeon a pecuniary interest in cutting off your leg, is enough to make one despair of political humanity."
–George Bernard Shaw, The Doctor's Dilemma 1911

This vantage point views health care as a commercial transaction, the province of economics, and is now the dominant approach in the US and part of the global rise of democratic capitalism. Its growth can be traced to the corporatisation of medicine since the 1950s, with contributions by private insurers, commercial owners of capital, private finance, pharmaceutical and other suppliers, for-profit providers and a host of small and medium enterprises. The growth of this "medical-industrial complex" was noted in the 1970s (Inglehart), about the same time that doubts about conflicts between professional and patient interests began to re-surface. Does Doctor really know best? (Illich)

The arguments used in this world-view are framed by the discourse of economics, with the focus on cost and efficiency rather than equity and access. It is also the language of management consultancy and the World Bank and illustrates the persuasive power of simple economic answers to complex policy problems. It resonates with those who search for both cost controls and more responsiveness through market choice and competition. There tends to be a vagueness in the language and arguments used, with competition pursued as an end in itself and the use of "Market competition speak" (Ranade).

Proponents of this view espouse the market as the best mechanism for health care cost control and this view has gained momentum since the oil crisis of 1973 at the expense of the welfare state. In earlier times, competition among governments to provide public goods in good times and the global civil society after bad times had resulted in the growth of this welfare state. The economic pressures associated with globalisation have been associated with the undermining of solidarity and confidence in the efficacy of the state to meet social need. Indeed, contraction of government means private markets develop by attrition and default.
Some have also seen the market as a means to increase responsiveness to patient needs and preferences, thereby empowering patients against medical paternalism. However this is more favoured by "rich" citizens who want consumer choices rather than equity, and improvements in the quality, responsiveness, innovation, alternative and complementary medicines and self-help services they receive for themselves. In predominantly public systems, the argument for privatization and user pays has been described by opponents as the old "zombies" of lowering the financial burden on the public, discouraging frivolous care and promoting efficiency through competition. Opponents also point out that user pays improves access for the

privileged, even though it is introduced to tackle moral hazard associated with third party payment. Also private health insurance in practice is neither equitable nor efficient (Ranade).

The perceived performance of public health systems can be easily distorted by vested interest groups. Enoch Powell wrote of his experience as a UK health minister in the 1960s: "One of the most striking features of the NHS is the continual deafening chorus of complaint which rises day and night from every part of it... The universal Exchequer financing of the service endows everyone providing as well as using it with a vested interest in denigrating it, so that it presents what must be a unique spectacle of an undertaking that is run down by everyone engaged in it."

The imperfections of market mechanisms have been well described (Ranade, Rice, White), including the problems with delays in supply, the public good externalities and the inequities in health access and outcomes associated with market mechanisms that usually force governments to intervene. The market system has been described as the "inverse care law" where "those that need health care the most, get the least." However support for the market is an increasingly popular simplification which can be used to maintain or enhance privileged positions (Schlesinger 2002). Some cynics have commented that this is based on the lie that we can all be members of the privileged minority.

The Health Care User as Community Member and Citizen

The State and its institutions usually intervene in regulating professionals and insurers, improving access by subsidising services and payments and subsidising health as an industry, particularly profitable new technology research and development. In addition to these governance functions, in many countries the state directly pays for and provides healthcare.
From a doctor's point of view the Government's role is to sort out access to necessary care, and to increase scientific knowledge through funding of R&D and professional quality regulation and training, while maintaining professional independence and autonomy in clinical decisions. States with strong government capacity use universal public financing for collective payment and risk pooling: containing public costs, regulating coverage items and controlling the growth in prices and volumes of subsidised services. They also set up financial incentives for prudent purchasing of care and influence insurance health costs and coverage conditions.
Global aggregate budgets set by government are recognised as the most effective cost containment response (Ranade p17), but mechanisms of explicit rationing for individuals are considered politically unacceptable in most countries.
The key reason for significant state invention is to improve equity and to ensure that unprofitable cost effective necessary population health services are delivered to all citizens to improve the nation's health and wealth. However, state service provision is often seen as

unresponsive and micro-inefficient. Success of government in healthcare depends on its administrative capacity and regulatory capacity, and consists of hierarchical command and control mechanisms with explicit goals and powerful enforcement and sanction mechanisms for compliance with targets.

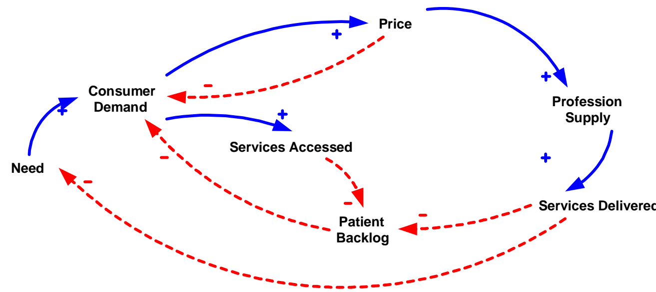
Peterson (2005) describes the different norms of fairness among societies that influence the acceptance of government intervention in health and social care. This is often linked with concepts of the role of the state in individual choice, public protection, the protection of the poor and the ill, deservedness, equality of opportunity, equality of access and equality of outcomes, and the right to receive needs-based care.

In health financing, the state is usually efficient in direct payment collection and risk pooling. It also indirectly regulates sickness funds and insurers, through regulation of the coverage of persons and items. It can also develop other significant distortions to markets through government subsidies to private insurers and employers. Advocates of societal justice see this subsidy of private insurers as a deal among elites, and question the role of government intervention. They ask whether the government is there to do things for the powerful or for the disadvantaged. Some of these short-term elite subsidy deals may unravel over time, when the longer-term implications play out. In particular, US employers may be reneging on tax-subsidised plans now costs are rapidly rising with post WWII baby boomers retiring.

Micro level integration of these world-views

In this section we explore integrating some of the basic control mechanism concepts introduced in the above three world-views. This begins with some of the basic SD representation of economic concepts in MIT D-Memos (Forrester, Low), introduces some service industry supply chain concepts (Anderson et al 2005), adds some additional health economics concepts (Arrow 1963) and some of the relevant context of technical, political and health economics concepts.

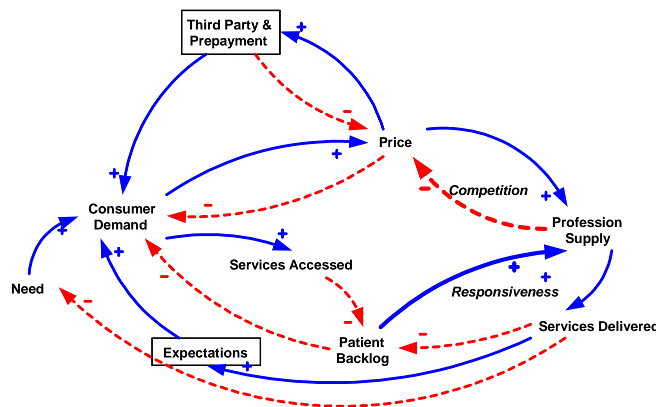
In this figure we represent the basic interaction between demand and supply through the price mechanism. In this simple representation, prices for services in demand stimulate the supply of professionals (albeit with a very long delivery delay for education and training) who deliver services that reduce patient backlog (manifested by access delays and waiting lists) and therefore both consumer demand and need for healthcare.



Because of uncertainties in risk and information asymmetry between the supplier physician and the consumer patient, especially about the impact of interventions, these key supply demand concepts are distorted in health economics (Arrow, Rice, Evans, Light). Third party payment in health care further weakens the price signal and introduces additional complexities of adverse selection and moral hazard or overuse. This can further lead to cost inflation since consumer is relatively price insensitive and un-informed. Some health services are sensitive to supply (e.g. back surgery) and profitable discretionary services can expand at the expense of necessary unprofitable or unwanted interventions. There are also market manipulations of expectations and creation of demand without need, particularly for newer mood drugs. Arrow saw the use of agency or the professional as honest broker, to avoid the moral hazard of third party payment. This professional trust may be weakening and additional regulations to reduce excessive incomes and prevent anti-trust violations provide addition market and price distortions

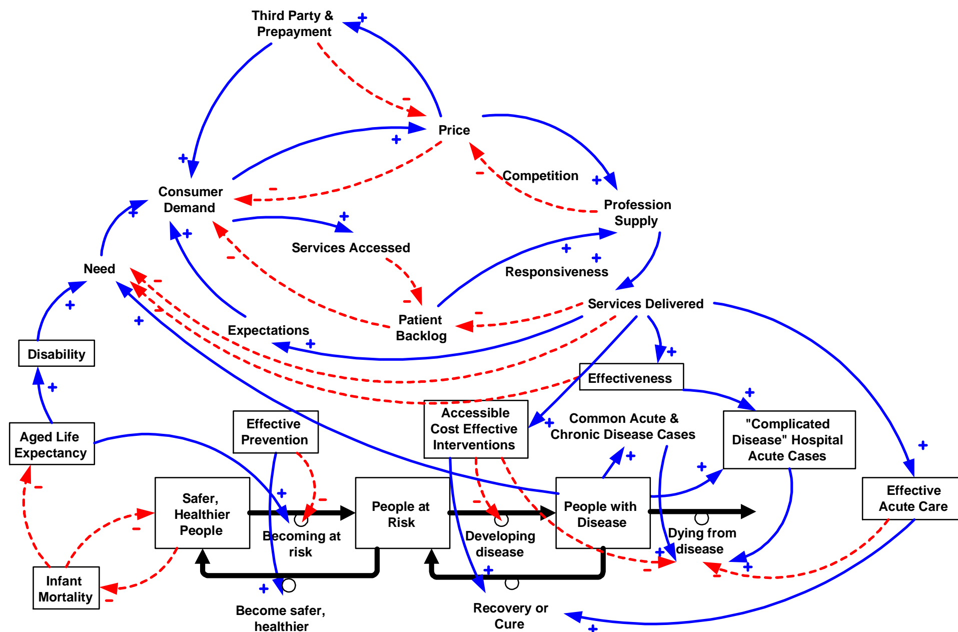
This is further complicated by byzantine payment arrangements unrelated to perceived prices and complex systems for financing access to necessary care for the disadvantaged.

Some of these influences are added below.

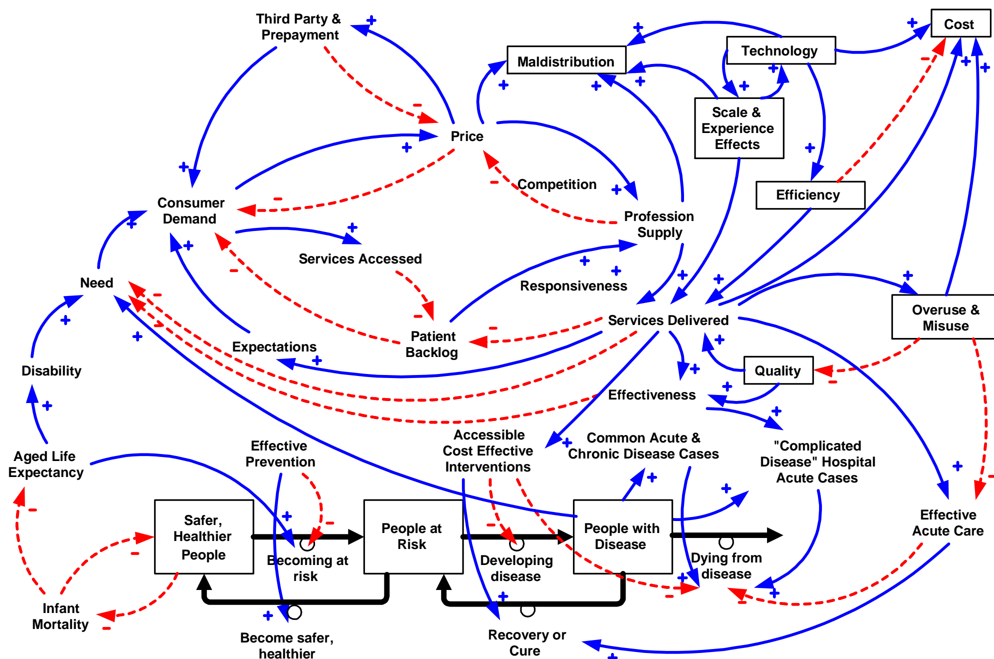


In the next diagram we explicitly expand the need concept to include the disease progression chain (Hirsch et al 2005) and upstream and downstream interventions and the impacts of effectiveness on disease on the basic supply demand interactions. In addition we explicitly link

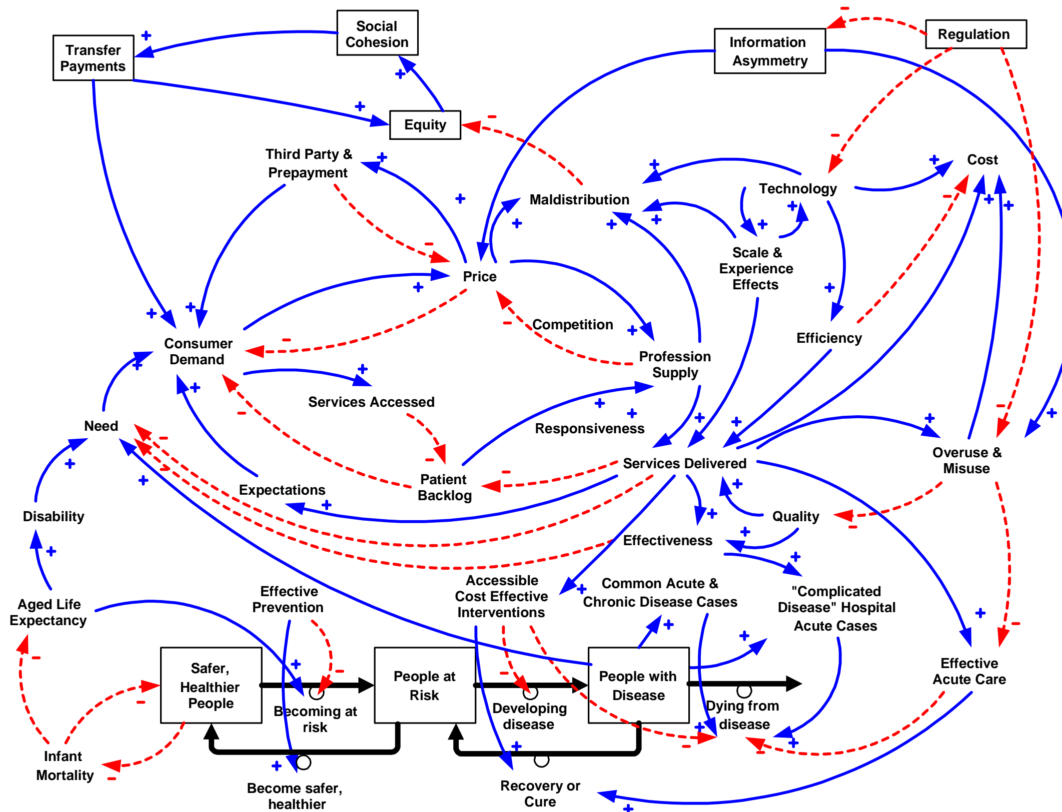
infant mortality and aged life expectancy to generating more people at risk and also, through disability, generating more of the personal care need of healthcare.



Additional impacts of technological change and the influences through maldistribution, costs and quality are reflected in the following additions.



Finally some of the mechanisms and effects of information asymmetry and regulation and government interventions to reduce inequities are added below



Conflicts amongst world views

Given the obvious difficulty of understanding the complex interrelationships among the components and institutions of healthcare, it is little wonder that there is policy resistance and gridlock. There are fundamental conflicting goals, for example, with expenditure. As an industry and profession, more demand and more expenditure should translate into more profit and salaries. As a government public good more expenditure and demand implies more government liabilities and taxation subsidies. Therefore, for prosperity, the government subsidises healthcare as an industry, then tries to find ways not to pay for it as a public good for its own citizens. Also for general wellbeing, rather than prosperity, the state needs to intervene to maintain social cohesion and reduce inequity. Here are three conflicting goals within the one institution. Cost shifting and blame shifting workarounds consume more effort than attempts to fundamentally change structures and policies at the systems level. It should also be apparent that due to its size and complexity, there is a fundamental loss of strategic control of the health system, and there is no single locus or control mechanism in operation; indeed there are several conflicting and inconsistent control mechanisms that constantly interfere with each other, operating at different levels of aggregation, from the overall system level to individual health behaviours.

Policy and Health Reform Implications

Health policy reform is dominated by the scope of its political acceptability and fashioning a single-issue constituency with the capacity for collective action. There are a plethora of quick fix “fad” changes, which are usually couched in vague and ambiguous language, often to hide the actual details of who receives, who pays for what and who decides. Many solutions are simplistic and wrong, with excessive distortion and manipulation to maintain and protect vested interest groups. One commentator described the escalating conflict between regulation and commercial incentives and practices “dissolving like acid the cultural values of public service and social solidarity.”

Further Work

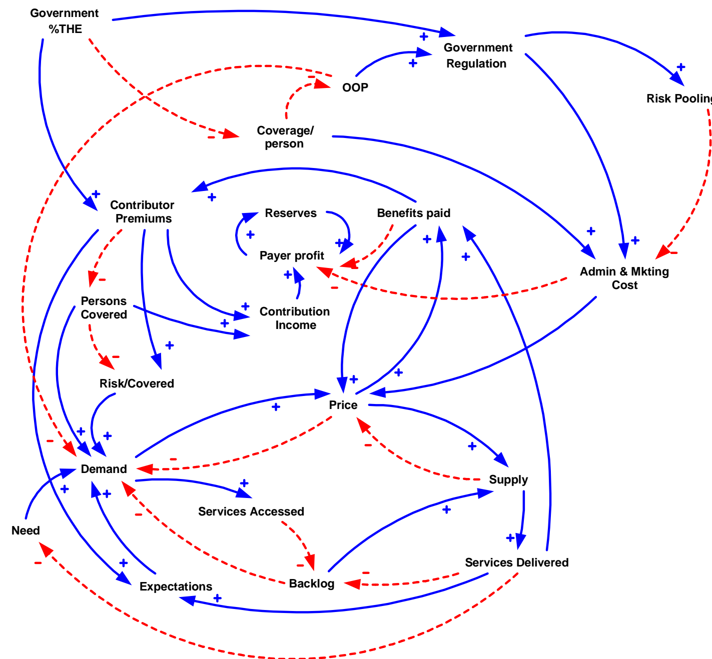
This exploration may have the potential to develop generic problem and solution policy resistance archetypes, and country specific examples. The context and institutional map may be a useful tool to map the relative strengths of world-views and institutions and institutional alliances for comparing countries and regions. For instance, in international terms, the US Health System is considered an unusual outlier, with its very high health expenditure per capita, its predominant industry worldview of patient as consumer, with weaker state and governmental interventions to provide access to those who cannot afford necessary care (Evans, Tuohy).

Of particular interest in health care is building on the issues around organisational and institutional boundaries, recently emphasised by Eric Wolstenholme (2004).

Another fruitful area is in strengthening health systems in developing countries by explicitly linking them to the relevant political and economic context, and transferring some of the sustainability concepts in environmental sciences to health, economic and social systems sustainability (Meadows, Saeed, Sachs).

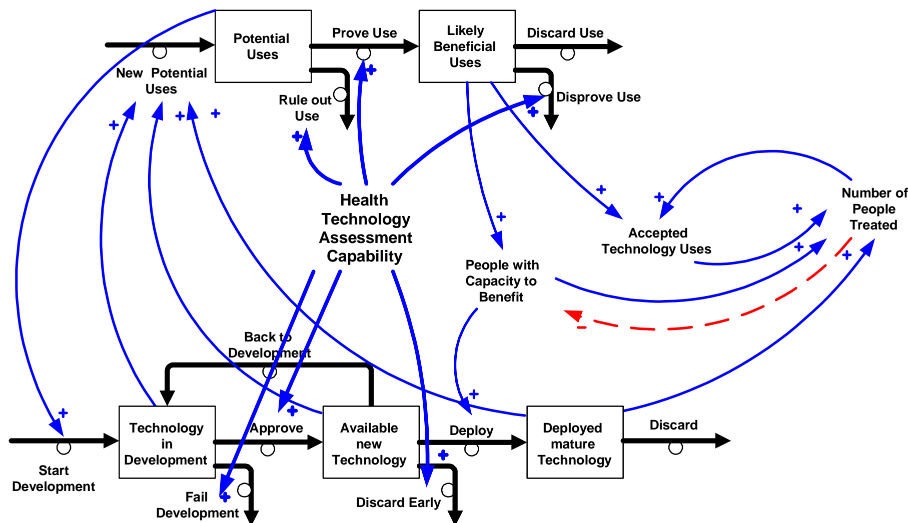
Another fruitful activity would be to build and share reusable systems components for key building blocks common to the dynamics of health systems. For example some details of the interaction between government and private insurance financing of health care are mapped out below.

Payer Detail



Also the constant uptake deployment and replacement of new medical technologies maintains the high uncertainty associated with the impact of health care interventions and makes traditional general equilibrium economic methods difficult to apply. This area has been studied using system dynamics (Homer), but awareness of these dynamics is still not high. Another example to raise awareness of this important health system component work is show below.

Technology Detail



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