

Hong Kong's Health System

Reflections, Perspectives and Visions

Edited by

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and

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Part I
Commentary

History, Ethics and Forces of Change

John Bacon-Shone and Gabriel M. Leung

Whenever the Hong Kong public is asked what the most important public policy area is, the economy is usually the first priority and health care traditionally appears a long way down the list, although it did appear in fourth position after unemployment, governance and air pollution in the April 2005 survey that the Chief Executive Donald Tsang quoted to illustrate that constitutional development was not a priority (although governance clearly was!). Of course, health care incorporates some very different elements, and it is true that immediately after SARS hit Hong Kong with such a force, public health and hygiene has become a much higher priority, at least for a while. In the surveys done for the Privacy Commissioner's Office in 2001 and 2004, health services and food hygiene jumped in policy importance ratings from 7.2 to 8.0 and 7.2 to 8.3 respectively on a scale of 0 to 10, which made them comparable in importance to unemployment, in turn rated at 8.3 in 2004. However, public memory of problems is often short-lived, so that, for example, only about half of households still claimed to clean their homes with 1:99 bleach solutions at least once a week in 2005. In this context, it is easy to be cynical and conclude that unless bird flu or another infectious disease hits Hong Kong with a vengeance, or the Hospital Authority debt reaches the next crisis point or faces bankruptcy, health care is not an issue for the general public. Hong Kong has some of the best health statistics in the world but the public pay less for health care than almost any other developed society, at least relative to GDP. It is therefore very hard to make a case for significant change, particularly when the previous Secretary of Health, Welfare and Food had repeatedly claimed that the funding issues were marginal. Of course, a policy analyst should point out that when the public is asked which public policies most need to change, the answers can be very different, and air pollution policy, for example, which has profound public health implications, has been widely seen as in need of urgent change by the community and rated as the third most important policy area, just above health care, in the survey quoted above.

Unfortunately, even on this basis, health care has not risen to the top of public concerns. Pollution as a public concern seems to be mainly related to vehicles and visibility, and health care remains largely a personal concern for those unfortunate individuals who face a long wait for medical treatment.

Although Hong Kong collectively has a very short memory, a historical perspective often provides essential clues about the core of public policy problems. In Chapter 1, Derek Gould revisits the history of health policy in Hong Kong and persuasively makes the case that Hong Kong has never really had a public health strategy, just a series of reluctant minor knee-jerk changes in response to repeated major crises. It is fascinating to see how it seems to take bubonic plague, SARS or camp beds in all the hospital wards before there is any structural change, with a strong preference for tinkering, such as raising hospital fees from less than a quarter to less than one third of median daily household income, regardless of how high a patient's income or assets are.

Arguably, when dealing with a policy that has such profound implications for us all from the cradle to the grave, we need to start from first principles. Soon after taking office, the Director-General of the World Health Organisation, Lee Jong-wook, wrote that "both technical excellence and political commitment have no value ... unless they have an ethically sound purpose." (Lee, 2003) We strongly endorse this call to action in articulating a coherent moral vision for health policy formulation. Marc Roberts' and Julia Tao's echo for clarity in the moral basis for health system reform (Chapters 2 and 3) should be treated seriously as Hong Kong steps forward, once again, in 2006 to tackle the difficult task of improving its health system after decades of inertia and political inaction. Current debates about reform options are often confused and misguided, both intentionally for political gain by vested interests and naïvely as policy makers and legislators have yet to learn a common language of health economics and policy. There is much rhetoric about rights, entitlement or self-responsibility, but little evidence of understanding of the need to consider the consequences of action (or inaction) and little effort to tease out the implications of preferring one approach to another. For instance, is it more socially acceptable to Hong Kong residents if the Hospital Authority charges thousands of dollars for lifesaving (or at least life-prolonging) cancer treatment (such as Glivec for leukaemia) up to a limit of 40% of the net assets of a patient's household before the government-controlled Samaritan Fund picks up the tab, but a general out-patient consultation for a common cold is 70% subsidised, with an out-of-pocket outlay of only \$40? We argue that such myopic and reactive (to budgetary woes) policies are misguided at best and wrongly discriminate against the sick. How does such a policy measure up to the government's often touted liberal manifesto that "no one shall be denied adequate medical care due to a lack of means"? Thus, moral clarity of purpose through the systematic study of different ethical schools is of primary importance to all who wish to engage usefully in the debate. A lead editorial in the *Lancet* (2004) recently argued that:

Modern public health is sadly bereft of such tough critical thinking. It is so mired in the bureaucracy of health-service planning, so consumed by fuelling often third-rate epidemiological research, that its true revolutionary calling — to improve the health of societies — has been all but abandoned. Today's public health community is more self-serving than socially advancing.

Such hard-hitting criticism finds resonance in Chapter 7, in which Anthony Hedley berates a sluggish public health bureaucracy that has changed little substantively since the colonial days. He challenges all practitioners to renew and reinvigorate their professional discipline as a collective whole. He points out that vested and commercial interests have been allowed to override community benefit and this can only change with collective action. One only needs to turn to the current legislative debate over the banning of smoking in all public places for an example. The government has once again yielded to the catering and entertainment lobbies by considering exemptions to saunas, bars, mahjong parlours and nightclubs, thereby creating an unequal competitive field for industry operators and opening a floodgate down the slippery slope of further exemptions and other loopholes. This Faustian bargain for apparent political expediency has *de facto* traded off the health of catering and other workers as well as the attendant economic and social costs, despite consistent overwhelming public support for a complete ban and in contravention to the spirit of the international Framework Convention on Tobacco Control ratified by China. However, it is hard to escape the conclusion that only another public health catastrophe will lead to some of the changes that he appeals for.

Contributors to this book hold different value systems and ethical perspectives, which are apparent in their arguments and add much to the value of this book in providing a well rounded picture. While we, as editors, do not subscribe in a wholesale fashion to any one particular school of thought, we believe that health has special moral importance because of its significant, although limited, impact on opportunity (Rawls, 1972; Daniels, 1985) or a person's set of capabilities (Sen, 2002). Hong Kong has always claimed to be a free market economy (most famously publicised by Milton Friedman's television series). However, that has always been balanced by very equitable education, housing and health systems that allow significant social mobility, which enabled Hong Kong to remain stable throughout the colonial and post handover years as well as through economic downturns, despite the arguments about the pace of democratic reform. In Hong Kong's low tax regime, this requires setting limits on health spending given the important opportunity-promoting dimensions such as education, and essential poverty protections such as social welfare and housing that compete for limited resources (see Figure 11 in the Part IV commentary). In other words, there are opportunity costs to investment in health and health care that must be traded against other equally important aspects of opportunity

maximisation strategies more generally. Opponents of the scarcity or limit setting argument often cite inefficient arrangement and claim that there is still “fat” to be trimmed from the service delivery chain, which Yeoh Eng-kiong had been noted for doing during his stewardship of the Hospital Authority and subsequently the health policy bureau.

We highlight two theses about why some inefficiency may be unavoidable. On the theoretical level, Nobel Laureate Kenneth J. Arrow (1963) has traced many forms of inefficiency and market aberration to the presence of high levels of uncertainty. This is perhaps most obvious in the health care setting where the process of diagnosis, treatment and outcome is fraught with uncertainty and randomness, not because of a deficiency in skill on the part of providers but due to the inherent nature of health, illness and disease and the attendant choices that patients and doctors make. For example, the attributable fractions of common risk factors for major diseases are often less than 20% even though the relative risk ratios may be quite large (say > 2), which means that the absolute explanatory or predictive power of various risks is not strong and a substantial proportion of observed disease remains to be explained after accounting for known risks. In terms of treatment, the number of patients who would need to be given a particular treatment for one adverse outcome to be avoided, or the number needed to treat or NNT (mathematically equivalent to the reciprocal of the absolute risk reduction), is often very large. Typically, a treatment that is considered efficacious has an NNT of 20 to 100 and can be as high as several hundred. Hence, usually only 1% to 5% of patients who are treated are expected to benefit. This is because the absolute incidence of disease or “bad” outcome that a treatment is supposed to prevent is generally very small: that is, most patients, even if left untreated, will not develop the adverse effect. Until the science of translational pharmacogenomics is perfected, and even then, it will be impossible to predict who will or will not benefit from treatment. From an empirical perspective, the main cost driver over time is the advance of medical technology. Managed care in the United States has shown that although supply and demand side strategies can temporarily ameliorate cost increases, the long-run positive rate of change has proved resilient to virtually all policy interventions. Thus, we cannot avoid an open and frank discussion of how to set limits fairly in any health system reform exercise.

Because the general principles of justice cannot resolve many moral controversies regarding limit-setting decisions, Daniels and Sabin (1997) propose that they should be supplemented with a fair process for making decisions subject to four conditions defining accountability for reasonableness — publicity, relevance, revision and appeals, and regulative conditions. This ethical framework has been operationalised as the benchmarks of fairness (Daniels et al., 1996) that integrate ethical theory with the health system goals of equity, accountability and efficiency. Marc Roberts gives his take on these and related issues in Chapter 2 from a general macro perspective, while in the following chapter, Julia Tao focuses

on the policy implications for health system reform when operating in a Confucian society such as in Hong Kong. Often it is the assumptions that are taken for granted — highly Westernised Chinese family values — which least seem to be in need of any formal referencing that turn out to be not quite true on closer examination and bear perhaps surprising corollaries. Coming from a Confucian *Ren* perspective and buttressed by empirical survey data gathered over the recent five years, Tao convincingly argues that health care should be seen as a positive virtue that promotes connectedness and mutual responsibility, in contrast to the negative Rawlsian virtue of “justice as fairness” that emphasises and protects separateness between individuals according to Western traditions. While these moral and ethical justifications may differ in their origins, their conclusions are remarkably similar at the level of policy guidance and implementation.

Like every developed society around the world, Hong Kong is reaping the benefits of improved public health through a continually increasing life expectancy, which has the side effect of increasing the proportion of the elderly, who as retirees no longer pay taxes and also require financial support and health care. Also like most developed economies except the United States, fertility has dropped far below replacement levels, leading the government to question where our future labour force will come from. In Chapter 4, Paul Yip and his colleagues explain the special twist of Hong Kong’s situation, where most of the population growth in recent years has not come from births, as Hong Kong women increasingly marry later and only have one or two children if at all, but from family reunions with mainland wives and children through the One Way Permit (OWP) system. However, as shown in Figure 1, the profile of OWP holders has started to change as the backlog of children aged under 15 has been nearly cleared up and the yearly input of these children has dropped from a peak of 30,000 down to 10,000 in 2004. Together, these changes mean that the population growth rate has dropped from over 3% per year, to well under 1% per year. Population size is no longer the concern, and the focus is now on quality and age profiles. A different perspective on Hong Kong people remaining unmarried throughout life is shown in Figure 2, which illustrates clearly why Hong Kong men in the 1980s needed to seek wives from the mainland as there was a large surplus of single males who had come to Hong Kong under the touch-base policy of the 1970s, and that the size of the pool of unmarried men and women of an age where women are fertile seems to be finally stabilising and equalising.

The rapid integration of Hong Kong into the Pearl River Delta continues, with the yearly number of trips across the border with the mainland exceeding 135 million for 2004, and with a mobile population of over 200,000. One major unanswered question is how to handle medical and other public benefits for Hong Kong permanent residents who live temporarily or permanently on the mainland. Currently, only elderly welfare benefits are portable to the mainland, and then only for those retiring to Guangdong, although legislators have called for an extension to Fujian. An earlier evaluation of this scheme showed that many elderly

citizens declined this option because of their concerns about access to health care on the mainland. Concern about elderly dependency is, of course, not unique to Hong Kong, and the United States has introduced a gradual shift of retirement age of one month per year, allowing people to plan for a later retirement, while in the United Kingdom, a recent report by the Pensions Commission concludes that increasing retirement age is an essential, but not sufficient, element of pensions reform. Figure 3 shows what would be the effect of changing retirement age in Hong Kong by one or two months per year on the elderly dependency ratio. However, the public debate that is needed for such a change has not yet taken place in Hong Kong. Although the Elderly Commission is now promoting active ageing, much of the discussion about ageing and health care in Hong Kong still assumes that health costs will rise dramatically as the proportion of those aged 65 and above increases. However, research elsewhere shows that this may need some adjustment. A United States National Institutes of Health funded study on the prevalence of severe dementia from 1982 to 1999 showed that prevalence in 1999 was only half of what was expected, given the 1982 rates and 1999 age profiles (Corder and Manton (2001)). Conversely, as the number of wealthy elderly citizens increases, we should expect drug companies and private health care

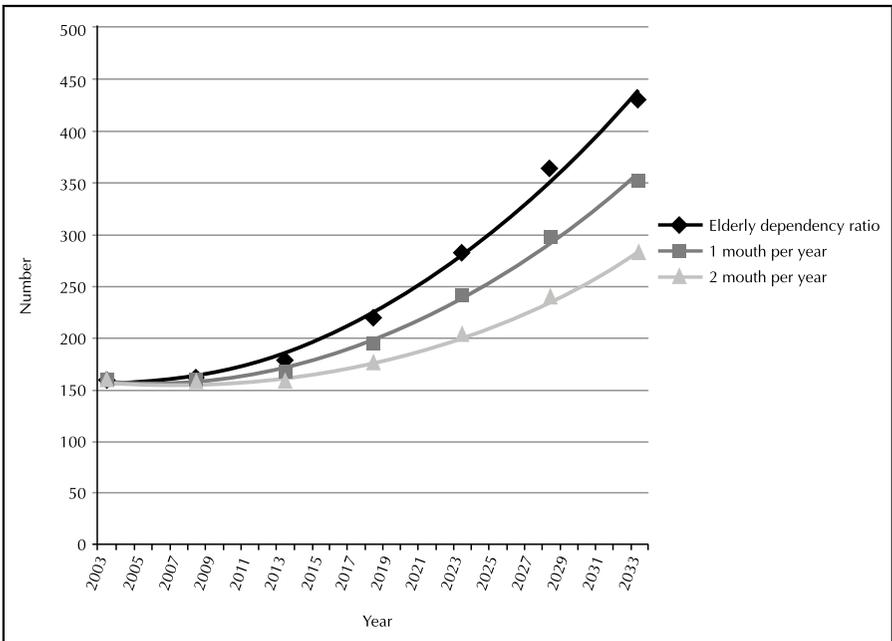


Figure 3 Elderly dependency ratios* under different retirement scenarios

* Defined as the number of persons aged 65 and over per 1,000 persons aged 15–64.

providers to change focus to their needs. If drug companies are allowed to market directly to consumers to the extent that it happens in, say, the United States, the upward pressure on health expenditure will increase rapidly.

Concomitant with the demographic transition, there has been an epidemiological shift away from acute diseases to more chronic health problems in the last few decades. Hong Kong now also needs to deal with the emergence and re-emergence of infectious diseases old and new, after decades of benign neglect in the form of under-investment in the necessary public health infrastructure. Human H5N1 influenza in 1997 and SARS in 2003 were loud wake-up calls to the potential human, health and economic burdens that communicable conditions can impose on the local population. This double epidemiological burden will stretch the capacity of the health system to its limits. The technological and economic transitions will interact synergistically with these demographic and epidemiological changes to compound the already heavy economic toll of meeting the needs of the sick. In particular, the diffusion of new technology and pharmaceuticals typically adds 1% to 2% annually to the health care budget, although against a background of a diminishing marginal rate of return in terms of health gains. Demand side measures that are imposed by the Hospital Authority can only moderate this upward cost spiral to a certain extent until popular, and perhaps ethical, concerns outweigh the negative financial consequences of technology adoption. In parallel, as Hong Kong society becomes more economically advanced, savvy consumers will increasingly demand more health care and have higher expectations from the health system.

Under pressure from an increasingly vocal public buttressed by a swelling patient rights movement (see Chapter 5 by Iris Chan and Mary Ann Benitez), in particular since the 2003 SARS epidemic, health care processes must be seriously rethought and reorientated to be able to climb higher along the quality gradient, especially on the patient satisfaction scale. Two prerequisites as recommended by the US Institute of Medicine's 2001 report on quality are relevant here. First, while health systems are designed to serve common interests that are applicable to most patients, there must be enough flexibility to allow for individual needs and preferences. Second, patients should have unfettered access to and control over their own health records and relevant clinical knowledge. Care providers should communicate effectively and share information. Fulfilling these two conditions then places patients at the locus of control. They should be empowered to make choices about health care decisions that affect them and share in the decision-making process with providers. When the Personal Data Protection Ordinance was first introduced in Hong Kong in the 1990s, there was considerable initial resistance from health care providers to the concept that personal data (such as health records) belonged to the patient, which has been largely overcome, but recent complaints against private doctors make it clear that some doctors still consider informed discussion with patients a nuisance, rather than a means to reach negotiated decisions.

Patient-centred care is not a new concept, and has been a strategic priority of the Hospital Authority almost since its establishment, at least on paper. It initially arose out of the seminal work of Balint and colleagues (1970), who contrasted it with “illness-centred medicine”. After that, this clinical concept underwent numerous epistemological and philosophical transformations that were eventually consolidated into a six-component set of clinical methods by Stewart and colleagues (1995). This method stresses the importance of “finding common ground” between the patient and provider, “enhancing the patient-doctor relationship” while “being realistic” with time, resources and team building in delivering care (Stewart et al., 1995). A comparison of this approach with the Hospital Authority’s Patients’ Charter immediately points to deficiencies in the latter. The Patients’ Charter outlines a series of rights and responsibilities of individuals who attend the Hospital Authority for care. These clauses are more reminiscent of bureaucratic legal documents than a sincere pledge to “work as partners in a positive and open relationship with a view to enhancing the effectiveness of the health care process” (Hospital Authority, 1999). Adopting a patient-centred approach cannot be accomplished through rhetoric or public relations alone; all care processes need to be designed from the perspective of the consumer of health care rather than for administrative convenience and convention. While some progress can be made in this direction with relatively little new injection of resources, it is difficult to imagine how this can be comprehensively realised with the financial constraints that the Hospital Authority is currently facing and it will be likely to continue to be challenged for resources unless radical changes in health care financing are introduced (see Part IV).

These quadruple forces for change — demographic, epidemiological, technological and economic — spell out clearly that the impetus for reform is overwhelming and unequivocal. However, before we perform major surgery on the health system, we should take heed from the opening salvo of the Hippocratic Oath: *primum non nocere* (first, do no harm). Efforts to reform health systems are essentially large-scale social experiments that *will* affect millions of people. Their impact will be more far-reaching and extend to every resident, compared to fairly restricted disease-specific strata for the introduction of new treatment modalities or drugs in the clinical setting. Thus, health system changes should be subjected to the same or more rigorous standards of pre-implementation evaluation and post-implementation monitoring. However, social experiments without systematic review are the rule rather than the exception. Norman Daniels, a noted philosopher and public health ethicist, contends that social experiments such as health care reforms must require ethical and scientific review. Such a review should include assessment of the goals and expected outcomes of reform, the appropriateness of its design given the stated objectives and its governance (Daniels, 2005). Furthermore an independent third-party should be accountable for undertaking such reviews, as Anthony Hedley confirms in Chapter 7. Some have objected to the analogy between clinical experiments and social or health

reforms. They claim that policy makers are already accountable through the political process of democratic elections, via the justice system of tort law, or even through negative market effects if private sector reforms prove harmful (Daniels, 2005). They fail to note that all of these consequences can only be realised in retrospect when considerable harm may have already been inflicted. To make this argument is tantamount to claiming that we can dispense with clinical trials before drug approval and instead rely on post-marketing surveillance and the market signals on Wall Street alone. Moreover, Hong Kong does not have fully democratic elections via universal suffrage. Only half the seats in the Legislative Council are returned by a “one-person one-vote” system and the Chief Executive is selected by 800 representatives of vested interest groups. Bureau secretaries who are unelected and hold major responsibility for formulating policy, are only responsible to the Chief Executive, not directly accountable to the public.

Taking this analogy of social experiments with clinical trials further, each set of health reforms can be thought of as an “n-of-1” trial on a particular population. In the clinical context, it is obvious that a trial with a single subject can hardly be deemed conclusive or even credible in most cases. Usually, thousands of patients are involved in the development and testing process of a new drug over many years to satisfy vetting authorities of its safety and efficacy before a licence is issued. We argue that the same line of reasoning should be extended to the evaluation of important policy interventions. One way forward is to leverage the experience gleaned from other health systems and to take stock of lessons learned from their policy successes and failures to inform legislators about reform options. Studying the health systems of other countries, or in Hong Kong’s case those within China in different settings (urban versus rural, special economic zones versus mid-size cities and east/coastal versus west/inland), can provide other perspectives to understand the local situation. Even if the solutions are not immediately transferable, the commonality of experience can be highly instructive. For instance, comparative study of health systems can scientifically generalise strategies for achieving the end goals of equity and efficiency. The Equity in Asia-Pacific Health Systems (EQUITAP) project that is examining equity in financing across the Asia Pacific region is a prime example (www.equitap.org). It is a collaborative effort of more than 15 research teams. The work involves both the development of methodological tools and the actual assessment of the performance of health systems in Bangladesh, China, Hong Kong, India, Indonesia, Japan, Korea, Kyrgyzstan, Malaysia, Mongolia, Nepal, Sri Lanka, Taiwan, Thailand and Vietnam. As Milton Roemer (1991) put it:

Thus health systems may be regarded as an array of experiments in a global laboratory. Numerous different arrangements of resources, activities, and interactions are being tested, and the results can be compared. With careful control of the many variables, judgements can be made on how well one or another system achieves equity or efficiency or improved health status in the population.

Hong Kong has health financing characteristics that are similar to those of other Asian tax-funded systems such as Bangladesh, Kyrgyzstan, India, Indonesia, Nepal, the Philippines, Sri Lanka and Thailand, but it is the only high-income territory in the region that relies predominantly on government general revenue for health finance. The other major mode of financing regionally is social insurance, which is popular with the other neighbouring high-income economies including Japan, South Korea, Taiwan and in certain parts of mainland China. Singapore is unique in that it collects all health finances through a major savings vehicle called MediSave and then re-routes the money to financing instruments that include compulsory social insurance (MediShield) and private insurance schemes. Figure 4 summarises the financing modes and development indicators of the EQUITAP territories. Although there are only a few major modes for funding health care (with different consequences for any particular type depending on other system characteristics), the service delivery systems in Asia have a great deal more variety and consist of many permutations both within and between countries. One prevailing feature, however, is the lack of a good primary care-led system, in contrast to the more socialistic health systems in Europe (such as in the UK) and Canada. The delineation of different levels of care is rather haphazard and often reflects perverse economic incentives rather than being based on best clinical arrangements. For instance, privately run in-patient facilities with fewer than 10 beds are extremely common in Taiwan and Japan but are completely absent in Hong Kong. Fan and Holliday provide an overview of comparative health systems in China and Southeast Asia in Chapter 6, while Paul Gross delves deeper into the particulars of health financing systems within the Greater China region (mainland China, Hong Kong and Taiwan) in Chapter 17.

Fan and Holliday provide useful comparisons of the health systems in these other societies that have some key values in common but have chosen radically different solutions to the health financing problem. Japan, South Korea and Taiwan have all chosen the social insurance route, reflecting the Japanese influence over all three societies. Taiwan provides a particularly interesting comparison given the involvement of William Hsiao (a contributor to Chapter 20) in recent developments in Taiwan and also in the Harvard Report in Hong Kong. However, the experience of Japan with the impact of ageing on social insurance suggests the need for caution, although Hong Kong has fortunately never had the restrictions on immigration which make the Japanese ageing problem so acute now, but the decreasing inflow of OWP holders mentioned earlier suggests the need for Hong Kong to find new immigration strategies. Singapore is often compared with Hong Kong as another small city-state that is largely Chinese and indeed policy innovations are often shared with Hong Kong in both directions. However, Fan and Holliday point out that despite Singapore's unarguably excellent performance in health care, whether measured by quality or financial metrics, the major political differences suggest that their financing model is not applicable in Hong Kong. While Hong Kong does now have a

provident fund in place, it has a short history compared to Singapore's system of nearly 50 years. It is also hard to imagine Hong Kong approving of an increased level of contributions to the Singaporean level of nearly 40%! While China's model of combining social insurance and provident funds may seem attractive, many Hong Kong people have direct experience of how inequitable the Chinese system is in practice, and as noted earlier, it is precisely their experience of mainland health care that makes most of Hong Kong's elderly people very reluctant to consider retiring to the mainland, despite receiving the same welfare payments as when they stay in Hong Kong. One last interesting point made by Fan and Holliday regards the role of traditional medicine. They point out that it plays a stronger role in South Korea and Taiwan as it is covered by social insurance.

A characteristic that underpins the present collection of chapters is the multiplicity of perspectives and interdisciplinary input from different professions within health care and beyond. We note that the health system of Hong Kong is still very much driven and controlled by the medical profession, in particular graduates of the University of Hong Kong, given its long history and monopolistic production of doctors until 1986, when the first batch of students graduated from the Chinese University of Hong Kong medical school. This pattern is at odds with current trends in virtually all major advanced economies where public administration experts and economists direct most policy and executive branches of government, professional managers and business analysts run health care organisations, and on the clinical patient-provider interface, there is much more shared care between nurse consultants, rehabilitation specialists, other allied health professionals and doctors. The recent appointment of Shane Solomon, a non-local and non-medic, as Chief Executive of the Hospital Authority is a refreshing and welcome change. We do not dispute that medics who are cross-trained in the various traditionally non-medical disciplines are probably the best combination (Leung, 1998), given that they can straddle both worlds and feel equally comfortable at the bedside and in the boardroom, but these individuals comprise only a very small proportion of the required pool of workers. Indeed there is a recognised sub-speciality of administrative medicine under the Hong Kong College of Community Medicine and the Specialist Register of the Hong Kong Medical Council. However, there are currently only 62 such fellows, only five of whom had registered administrative medicine as their primary field with the Medical Council by August 2006, serving Hong Kong's population of nearly 7 million. This anachronistic phenomenon harks back to the 1960s and 1970s in the UK when Ivan Illich (1975), an Austrian-born former priest turned sociologist, described the "social, cultural and structural iatrogenesis" of the modern medical establishment. Illich followed up his sweeping, and perhaps excessively harsh, condemnation of the increasing "medicalisation" of everyday life "to infinite minutiae" with an insightful and impassioned review of how some professions — medicine, law and other "helping" disciplines — have incapacitated the people and issues that they set out to help in the first place, often through oligopolitical

behaviour that has led some to associate these observations with the Organisation of the Petroleum Exporting Countries (OPEC) or Enron of today (Illich, 1977). While not disciples of the Illich doctrine, we believe Hong Kong would be served well if all those concerned reflect on these stinging and uncomfortable criticisms because there is definitely room to be more inclusive in health policy formulation and deliberation. In Chapter 14, Sophia Chan, David Thompson and Thomas Wong, who head the nursing programmes at the three universities in Hong Kong that offer training at the baccalaureate level and above, outline their vision of what the evolving role of nurses may be and how nursing education and practice could and should be a major defining force in the health system. However, doctors have continued to attack the idea of a graduate nursing profession through letters in the English media, so the battle is certainly not over.

We hope that the following chapters and commentaries will unsettle readers, stimulate their creative thinking, make them question orthodoxies and inculcate a new environment of social experimentation that is tightly sandwiched by independent, comprehensive peer review and evaluation before and after reform within an open and inclusive environment.

**Parts II & III
Commentary**

Organisational, Management and Quality of Care Issues

Gabriel M. Leung and John Bacon-Shone

Introduction

We begin the middle sections (Parts II and III) of the book by considering whether and why a public health system approach is important to achieving the best health outcomes for whole populations, echoing many of the arguments advanced in Chapter 7 by Anthony Hedley. Next, we introduce the macro-organisation of Hong Kong's health system, and end by focusing on several key management and organisational issues at the meso- and micro-levels.

Why do health systems matter? Since the late 1970s and early 1980s there has been accumulating evidence that the financing, organisation and delivery of care and services have a substantial impact on health outcomes (Morris, 1980). *World Health Report 2000* notes that "even without progress in fundamental science, changes in the way currently available interventions are organised and delivered can reverse the spread of an epidemic and dramatically reduce the cost of saving a life" (WHO, 2000). The Evidence and Information in Policy team at the WHO calculated that between 1960 and 1990, almost 50% of the reduction in mortality in 115 low- to middle-income countries could be attributed to the generation and utilisation of knowledge as developed and applied by the health system (WHO, 2000). Nevertheless, health systems worldwide can and should accomplish much more with the available scientific understanding of how to improve and promote health. The failings that limit greater health improvements stem from the misapplication of best current clinical evidence rather than a lack of understanding about appropriate interventions: that is, from systemic rather than technical or scientific failures.

However, there are still major barriers to effectively using system levers to achieve positive health improvements. Many health problems can and should be approached from a system level but are not due to a lack of good evidence

demonstrating effectiveness. Part of the problem lies in the lack of scientific expertise in health system research. This is a field frequently seen as “fluffy, pedestrian, and applied” as opposed to the perceived rigour that is often associated with basic or clinical science enquiries (Travis et al., 2004). In addition, methodological difficulties such as the definition of relevant and measurable outcomes, the myriad interactive issues that can and do influence system performance, are common barriers. The WHO has convened an international task force to identify health system research priorities (Taskforce on Health System Research Priorities, 2004), propose strategies to raise financial support to address these priorities and generate consensus about how to move forward.

From a quality of care perspective, James Reason (2000) advocated the system approach to averting medical errors. He pointed out that the person or *ad hominem* approach focuses on the errors of individuals, blaming them for forgetfulness, inattention or moral weakness, whereas the system approach concentrates on the conditions under which individuals work, and tries to build defences to avoid errors or mitigate their effects. Highly reliable and successful organisations, such as the military, airlines and nuclear power plants, which have less than their fair share of accidents, recognise that human variability is a root cause of errors and work hard to reduce that variability (Kohn et al., 1999). Shewhart (1931) and Deming (1990), the fathers of quality control, devised early methods to quantify variability in manufacturing processes, which directly led to unprecedented post-war productivity gains in Japan, then in North America and Europe. More recently, Mohammed and colleagues (2001) demonstrated, using six case studies including the Bristol paediatric cardiac surgery debacle and the Harold Shipman murders, a central role for Shewhart’s “control charts” in operationalising clinical governance using a system approach to protecting and improving health.

As Derek Gould notes in Chapter 1, Hong Kong is a relative latecomer (if it has arrived yet!) in the deliberate formulation, development, implementation and evaluation of health care interventions and programmes from a system perspective. Such an approach would require policymakers to take into account the potential impact of a policy on different components of the system and aim at maximising health gain while minimising adverse consequences and costs to the system overall. Indeed the health portfolio was only elevated to the level of a fully fledged policy bureau in the government secretariat as late as 1983, although it is arguable whether this really accomplished much in coordinating the different aspects of health and health care policy across all relevant sectors in Hong Kong until very recently. For the next 15 years or so up to the commissioning of the Harvard Report in 1997, the “system” suffered from “benign neglect”, and mostly operated in a reactive mode (Hsiao and Yip, 1999 and see Chapter 20 by the same authors). In other words, not much had been done in terms of long-term, sustainable strategic thinking using a system approach.

Overview of Hong Kong's Health System

Figure 1 gives an overview of Hong Kong's health system. Hong Kong has a mixed medical economy. Its annual total expenditure on health and health care was 5.5% of gross domestic product in 2001/02 based on the latest set of Domestic Health Accounts available, where public sources of funding accounted for about 56% of total spending, and private sources accounted for about 44%. The majority (about 95%) of public sector funding is derived from government general tax revenue, with the rest recovered from fees and charges at the point of care. Currently (after the upward revision of fees in 2003 following a consultancy by Hu Teh-Wei of the University of California at Berkeley), the public fee structure remains heavily subsidised, whereby the all-inclusive *per diem* charge at a public hospital is HK\$100 and out-patient consultation fees are HK\$60 for specialist appointments and \$45 for generalist appointments, with a \$10 per item drug charge (US\$1 = HK\$7.8 pegged exchange rate). Hong Kong has a very narrow tax base in which only 37% of the population pay any income tax, and 7% contribute at the top marginal rate of 16%. The expenditure of the Department of Health for 2003/04 was HK\$3,038 million (9.3%), while the remaining HK\$29,539 million (90.7%) from the public purse was allocated to the Hospital Authority. The major source of private health financing is through out-of-pocket household expenditure, with private insurance schemes and employer-provided medical benefits accounting for the remainder. The predominant form of private insurance is indemnity policies (mostly as "riders" on life insurance policies), which pay providers on a fee-for-service basis with caps on the maximum reimbursement amount. Managed care, in the various forms of contract medicine, prepaid plans and preferred provider networks, has grown considerably in the last decade, although its penetration is still limited in scope (mostly in the out-patient sector) and size (see Chapter 10 by Nelson Wong). About 30% of the population have private insurance or benefit scheme coverage, mostly through employment-based programmes. The majority of such coverage comes in the form of riders to other types of insurance schemes, most commonly life policies.

In terms of the macro-organisation of care, the Health, Welfare and Food Bureau of the Government Secretariat oversees the entire health system. The Bureau is headed by a political appointee, one of 11 "ministers" selected by the government's Chief Executive. Public health and health protection functions, and some limited forms of direct service delivery (mostly preventive in nature), fall under the purview of the Department of Health, which reports directly to the Bureau. The Department has recently been reorganised so that all of the disease surveillance and prevention functions, along with nosocomial infection control components of the Hospital Authority, are now under the newly established Centre for Health Protection. The Centre was inaugurated in 2004 as a direct result of the government's SARS Expert Committee Report (2003), which

recommended the consolidation and centralisation of such activities. The Centre has five operational branches: surveillance and epidemiology (communicable and non-communicable diseases); programme management and professional development; public health (clinical) services (consisting of HIV/AIDS, tuberculosis, and venereal disease services); public health laboratory services; and emergency response and information. The remaining functional units of the Department of Health include port health, radiation health, regulatory functions for pharmaceuticals, all health professionals and private (i.e. non-Hospital Authority) facilities and institutions, special public health areas of local importance including the development of Chinese medicine and tobacco control, and direct service provision in the form of 47 maternal and child health centres, three women's health centres, 18 elderly health centres, 12 student health centres in addition to the child assessment service and genetic counselling clinics. These service clinics have also been increasingly used for the dual purpose of forming a population-based sentinel disease (mostly non-communicable) and risk factor surveillance network to monitor and evaluate public health programme effectiveness. Other public health functions such as food safety and inspection as well as environmental hygiene have been under the purview of the Food and Environmental Hygiene Department, which took over many of the environmental hygiene functions of the now defunct Urban and Regional Councils and where some of its food-related functions have most recently been transferred to the newly established Centre for Food Safety in 2006, all of which are also under the Health Welfare and Food Bureau. Public health professional civil servants are shared and regularly transferred between all these organisations.

To further enhance the effectiveness and efficiency of carrying out public health functions in the immediate future, and to streamline the operation of the Health, Welfare and Food Bureau and its constituent executive departments in the longer term, concrete proposals in the advanced stages of planning were being finalised to merge the Department of Health into the Bureau at the end of the Yeoh Eng-Kiong administration. If implemented, a new Chief Medical Officer post reporting directly to the Bureau Secretary will be created to advise on public health policy formulation and oversee the relevant regulatory functions that are currently carried out by the Department of Health. Further options such as merging the food regulatory and safety standard functions of the Food and Environmental Hygiene Department and the Agriculture, Fisheries and Conservation Department to form a seamless "farm to fork" regulatory and control system were also being actively considered at the time, which on account of numerous food scares such as malachite green in fish and *Streptococcus suis* in pork in 2005 led Chief Executive Donald Tsang to finally announce the formation of the new Centre for Food Safety to consolidate such functions in his maiden Policy Address in the same year. However, it appears that the first set of plans regarding Department-Bureau merger has now been shelved under York Chow, who took over from Yeoh in 2004 after he finally resigned over the fallout from SARS. This

is regrettable because vested interest, in terms of control and dominance by the “elite” administrative service, seems to have over-riden professional and public health imperatives. It remains to be seen whether other sensible organisational re-engineering such as setting up a dedicated drug, pharmaceutical and medical interventions oversight agency (to replace its current rather ineffective counterpart in the Department of Health) to regulate western allopathic and traditional Chinese therapies as well as the ever growing list of over-the-counter “nutri-ceuticals” and new medical devices will be implemented. In recent years, drug supplements have been regularly tested and faulted by the Consumer Council as being overly toxic or potentially hazardous to health, followed by reactive withdrawal of the product by the government. Another area of concern is the aggressive, unqualified promotion of medical devices and technologies to the population, especially those segments which are less questioning such as the elderly, with a vacuous implied promise of benefit but are likely accompanied by substantial iatrogenic harm. It is unacceptable to relegate such an important public health function to a general consumer protection concern.

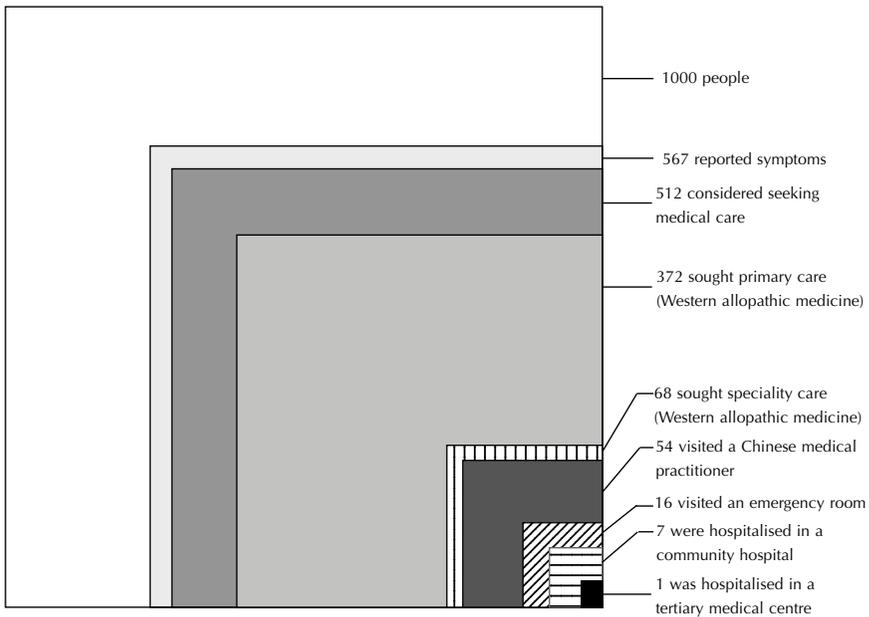
All 44 publicly funded hospitals are managed by the Hospital Authority via seven geographic clusters. The Hospital Authority is a public statutory body established outside of the civil service but directly accountable to the government through the Health, Welfare and Food Bureau. The provision of out-patient services is shared by the private and public sectors in a ratio of 80 to 20. On average, each Hong Kong resident consumes about 8 to 12 ambulatory visits every year. The Hospital Authority is responsible for all public specialist out-patient clinics at its 44 hospitals and 64 general out-patient clinics, with an annual throughput of about 11 million (8,461,500 out-patient clinic and 2,594,700 accident and emergency) attendances.

Hong Kong has no primary care network to speak of (and hence the lack of gatekeeping and proliferation of doctor-shopping behaviour — see Chapter 8 by Janice Johnston), and the specialty of family medicine or general practice is underdeveloped and chronically under valued and funded. About half of all specialists work in the private setting, and most combine specialty care with general practice services. Private doctors can and do dispense drugs and a single fee is charged for both consultation and medication, with the latter category accounting for a significant portion of the income.

The Hospital Authority provides 95% of total bed-days in 29,022 beds (or 4.2 beds per 1,000 population). The 12 private hospitals account for the remaining market share. Private hospital occupancy rates have shrunk substantially in recent years with improved service quality at the Hospital Authority through most of the 1990s and the economic downturn since 1997. However, since the 2003 SARS epidemic, probably as a result of the subsequent economic recovery and perhaps coupled with the general public’s wariness of using public hospitals (given the large superspreading event at the Prince of Wales Hospital and the overwhelmed surge capacity of the Princess Margaret, Alice Ho

Miu Ling Nethersole and Tai Po Hospitals during the outbreak), anecdotal reports since 2004 indicated a strong rebound in private hospital attendance figures.

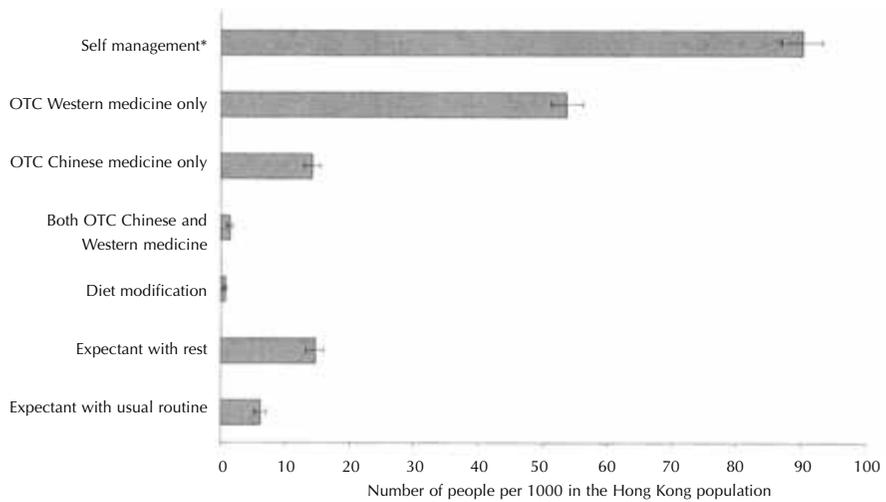
Chinese medicine and other complementary care, although popular with the local community, occupy a relatively minor niche role in the system. Figure 2 shows that only 54 per 1,000 Hong Kong residents visited a Chinese medicine practitioner over a one-month period in 2002, compared with 440 per 1,000 who sought Western allopathic care as out-patients (Leung et al., 2005). This proportion is even slightly less than the 65 per 1,000 Americans who typically seek alternative or complementary therapy in a one-month period (Green et al., 2001). Although the majority of ethnic Hong Kong Chinese still explain and understand their illness by way of their ethno-specific traditional medical concepts rather than Western medical principles (Lam, 2001), these findings indicate that the local community's care-seeking orientation, at least for acute conditions, still very much favours Western allopathic medicine. This also holds true for self-management, in which 54 of the 567 individuals with symptoms recalled using over the counter Western medications, in contrast to 14 individuals who reported taking over the counter traditional Chinese remedies (Figure 3; Leung et al., 2005).



Source: Thematic Household Survey, 2002 (Leung et al., 2005)

Note: Data are for the Hong Kong general population in 2002. Each box represents a subgroup of the two largest boxes, which comprise 1000 people from the general population and 567 who reported symptoms, respectively. The final estimate is the number of people per 1000 in the Hong Kong population who experience each type of event.

Figure 2 Monthly prevalence estimates of illness in the community and the roles of various sources of health care



Source: Thematic Household Survey, 2002 (Leung et al., 2005)

Note: OTC = over the counter

* Includes all categories: (1) OTC Western medicine, (2) OTC Chinese medicine, (3) diet modification, (4) expectant with rest, and (5) expectant with usual routine

Figure 3 Monthly prevalence estimates of different self-management modalities for those who report symptoms (567 per 1000 population)

Towards a Primary Care-led Health System

There has been an accelerating epidemiologic shift away from acute diseases to more chronic health problems in the last few decades in the developed world including Hong Kong, and this trend is expected to continue at an even more rapid pace over the next 20 years. By 2020, the rank order of major disease burdens is projected to be dominated by ischaemic heart disease, unipolar major depression, cerebrovascular disease and chronic obstructive pulmonary disease (Murray and Lopez, 1996). Table 1 compares the top five leading causes of death in Hong Kong between 1947 and 2004, and lists the same for the world between 1990 and projections for 2020. Locally, four out of the top five killers were infectious in origin at the end of the Second World War as opposed to 80% non-infectious, chronic conditions in 2004 (Leung, 2002). Acute diseases that mainly affect children in developing countries — lower respiratory tract infections, diarrhoeal diseases, conditions arising during the perinatal period and childhood vaccine-preventable diseases — are expected to decline significantly as global immunisation reaches all countries in the next two decades (Murray and Lopez, 1996). Therefore, chronic conditions have and are expected to become the main cause of morbidity and mortality locally now and globally by 2020, contributing two-thirds of the burden of illness, which will have enormous implications for health care resource allocation (Michaud et al., 2001). The demographic

Table 1
Epidemiologic transition

<i>Five leading causes of death in Hong Kong</i>		<i>Five leading causes of disability – adjusted life-years (mortality) in the world</i>	
<i>1947</i>	<i>2004</i>	<i>1990</i>	<i>2020</i>
1. Pneumonia	Malignant neoplasms	Lower respiratory tract infections	Ischaemic heart disease
2. Tuberculosis	Heart diseases	Diarrhoeal diseases	Unipolar major depression
3. Perinatal/neonatal conditions	Cerebrovascular disease	Perinatal condition	Road traffic collisions
4. Enteritis and diarrhoea	Pneumonia	Unipolar major depression	Cerebrovascular disease
5. Violence	Chronic lower respiratory diseases	Ischaemic heart disease	Chronic obstructive pulmonary disease

Sources: Department of Health, Hong Kong; Murray and Lopez. *The global burden of disease*, 1996.

transition to an ageing society (see Chapter 4 by Paul Yip and colleagues), the rapid implementation of advanced technologies and the ever upward cost spiral of financing a comprehensive health system (see Part IV) will no doubt compound the already heavy economic toll of meeting the needs of the chronically ill.

It is precisely because of the epidemiologic, sociodemographic, technological and economic transitions that an urgent rethink is needed in how Hong Kong organises its health system. In particular, the concept of a primary care-led system deserves much closer scrutiny and quick implementation. As Gould points out in Chapter 1, this idea of a comprehensive primary care service delivery framework was considered at length and painstakingly during the latter part of the 1980s, culminating in the 1989 Primary Health Care Working Party Report (by a panel chaired by Rosie Young, former Dean of the University of Hong Kong medical school). Indeed the Report concurred with the Alma Ata declaration of the WHO, which was promulgated in 1978 and recognised the central importance of an intact and functional primary care network of general practitioners in any health system. However, the disappointing, empty-handed and totally inconsequential outcomes of that exercise were not lost on keen local students of health policy. This lack of progress was further accentuated a year later by the failure of the hospital-focused Scott Report that laid the groundwork for the establishment of the Hospital Authority. Perhaps the narrow focus, almost to the point of tunnel vision, of W.D. Scott and Company was understandable given its primary remit of revamping the fragmented in-patient care non-system composed of 38 disparate government and subvented hospitals with little direction, management or oversight. Nevertheless, it was surprising that neither the consultants nor those

in the government who commissioned the work realised that any macro-organisational change, let alone a complete overhaul of in-patient and specialty services as this turned out to be, cannot be divorced from a thorough consideration of the basic layer of first-contact care whence the patients originate. This Achilles heel of the otherwise appropriate recommendations from the Scott consultancy, having been buffered by a buoyant economy and seemingly endless expansion of the Hospital Authority budget until 1997 (total public expenditure on health tripled, in constant dollar terms, between 1989/90 and 2001/02), finally caught up with a system that is bursting at the seams with a close to half-billion dollar budget deficit in the 2004/05 fiscal year.

The same blinkered perspective, however, cannot be said of the Harvard Report led by William Hsiao and Winnie Yip (see Chapter 20 by the same authors). They were initially asked to look into the financial sustainability of the public system but eventually delivered a system-wide diagnosis and recommended as many organisational changes as financing reform proposals. They criticised Hong Kong's health care system as being "highly fragmented", whereby little communication exists between the different levels of care, public versus private sectors, and types of services (e.g. Western allopathic and Chinese medicine). In response, the government issued a consultation document in 2001 (Health and Welfare Bureau, 2001) that promised to break down the walls between different components of the system. For instance, it mapped out the merger of the Department of Health's general out-patient clinics with the Hospital Authority's integrated clinics. While this makes good clinical and management sense, it has contributed little to redressing the fragmented and variable quality of primary care in the private system that has at least an 80% market share of all ambulatory services. The Integrated Clinics of the Hospital Authority were originally set up in response to the increasing pressures of the other specialist out-patient clinics. Their function has been to deliver stepped-down care for patients with the eventual objective of transferring them back to the general out-patient clinics or private practitioners. This, however, conflicts with their new dual role as a training ground for family medicine specialists, and the Hospital Authority annually takes in more than 100 such trainees. The most basic tenet of family medicine dictates the longitudinal follow-up of a defined patient population and their families. The Hospital Authority, with the Health, Welfare and Food Bureau, will need to decide whether these clinics are to continue as temporary stepped-down facilities with high patient turnover or whether they should function as bona fide family medicine-led primary care clinics and act as the centre of development for the specialty.

Due to the Hospital Authority's recent budget deficits, many family medicine trainees have not had their contracts renewed at the end of their basic traineeship (i.e. three years post-registration), thereby making it difficult, if not impossible, for them to complete the minimum six-year supervised training necessary to become an accredited specialist in family medicine. This is not only a waste of

resources but also an abdication of responsibility in the development of the specialty. Compare this to the situations in the UK, Canada and most Scandinavian countries with well-functioning primary care systems in which close to half of all postgraduate medical training posts are reserved for family medicine, and general practitioners are pillars of the entire health care system (e.g. primary care trusts in the UK's National Health Service). A large part of the Hospital Authority's difficulties in this regard stems from the financial constraints under which it operates. Without planning or forethought, it has largely inherited this extra burden of providing postgraduate medical training by default because it is the largest and predominant provider of specialty and in-patient care. Hence, a potential solution may be to separate its service role from postgraduate training activities. There should be explicit recognition of and accounting for the resources that are required to fulfil training objectives, and these should be borne by both the health and education (via the University Grants Committee) portfolios, instead of relying solely on money allocated for the delivery of direct clinical service. This extra money should follow the trainee and accredited training units, whether in the public or private sectors, and opened for bidding by the Hong Kong Academy of Medicine and its constituent colleges, which can act as the coordinator for all training programmes. While the establishment of the Academy has pushed the local system of specialist training into line with the norms of comparable health systems of developed economies in Europe and America, the reform exercise since the early 1990s has not been completely satisfactory due to the lack of accompanying resources to effect much needed changes. For instance, the new arrangements have placed more emphasis on structured teaching and supervised learning and less on experiential apprenticeship, but the reality on the frontline makes this ideal difficult to realise. Restrictions on the working hours of trainees, protected time off for academic work, educational objective setting, training agreements, induction at the start of each placement, rotational placements designed to offer specified experience, and regular feedback on progress from the supervising consultant are rarely all or even mostly fulfilled (Calman, 1993). It is high time that Hong Kong rethinks the way that it delivers postgraduate medical training and devotes new resources to ensure its success. In particular, we should take an evidence-based approach to manpower planning in terms of the relative proportion of training posts in different specialties according to changing population needs, with a heavy emphasis on family medicine and general practice, cost-effective cross-substitution between specialists, generalists and non-medical health care professionals, and ultimately move towards better quality training for learners and care for patients (see the following section on quality of care).

For all the rhetoric and advocacy in support of a primary care-led system, where is the evidence to show that primary care is an important, if not the most important, component in a health system? First and foremost, primary care matters because it has been consistently shown to be positively and strongly related

to the health of populations, although definitive causal inference cannot be claimed, as is almost always the case in health policy research unlike hypotheses in laboratory or clinical science, which can be tested under much more controlled conditions. Barbara Starfield's landmark ecological study, in which she found that those OECD countries with weak primary care infrastructures (as measured by a composite score based on five health system characteristics and six characteristics of practice that reflect strong primary care) had higher costs and poorer health outcomes, provided the first evidence that an intact primary care network should underpin all health systems (Starfield, 1994). Within-country studies demonstrating an inverse gradient between primary care physicians to population ratios and mortality (Farmer et al., 1991) and a similar relationship between primary versus specialty care providers per population and "life chances" (a composite indicator representing total and cause-specific mortality, life expectancy and low birth weight) (Shi, 1992 and 1994) in addition to numerous other individual-level research reports (Starfield, 1985; Shea et al., 1992; Franks and Fiscella, 1998) have confirmed these correlational findings. The *World Health Report 2003* reaffirms that "real progress in health depends vitally on stronger health systems based on primary health care" (WHO, 2003). There is no comparable evidence outside of Western Europe and North America, in part because the concept of primary care is still immature in other regions of the world. In Hong Kong, we do not yet have a functional primary care network, and most of ambulatory practice is still based on the solo practitioner model. The first cohort of trained family physicians is only beginning to graduate from residency programmes, let alone realising a multidisciplinary primary care team of nurse practitioners, physician assistants and social workers. The lack of such a core infrastructure hampers the delivery of health education, counselling and primary and secondary screening interventions, and perhaps accounts for part of why Hong Kong does not participate in the full range of health promotional activities, especially outside of the government sector (Figure 1).

What exactly is primary care? It was defined and adopted by the World Health Assembly in 1979, following the Alma Ata consensus meeting the previous year, as:

Essential health care based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community by means acceptable to them and at a cost that the community and the country can afford to maintain at every stage of their development in a spirit of self-reliance and self-determination. It forms an integral part of both the country's health system of which it is the central function and the main focus of the overall social and economic development of the community. It is the first level of contact of individuals, the family and the community with the national health system, bringing health care as close as possible to where people live and work and constitutes the first element of a continuing health care process.

WHO (1978)

Since this declaration, primary care has been universally recognised, although not always implemented, as an “integral” part of any health system and not as an “add-on” (Basch, 1990). Nonetheless, this conceptualisation of primary care appears to be at odds with health systems based on the indiscriminate adoption of new technology, specialisation and subspecialisation, the primacy of hospitals in service delivery, medical and nursing education, and public health policy formulation — features that are characteristic of Hong Kong’s macro-organisation. For instance, the Hospital Authority consumes 90% of total public health expenditure, but up to 2004 had only two consultant posts in family medicine among a total consultant headcount of over 500 distributed over the medical and surgical specialties and subspecialties. There is only one other family medicine consultant in the Department of Health, bringing the total to three. Academic family medicine units at the two medical schools are each staffed by only three faculty members (out of a total of about 200 in each medical school), and are subsumed within the specialty departments of internal medicine and community medicine (public health medicine) respectively. In addition, both schools have recently lost chair professors in family medicine. In contrast, half of all active practising doctors carry out primary care functions in one way or another in the private sector, without the necessary infrastructure that should accompany the practice of first-contact medicine. The Hong Kong College of Family Physicians should shoulder some responsibility for the current circumstances of its discipline. As of 2004, the College had certified only 149 fellows (qualified specialists), slightly more than only three other specialties of the constituent colleges of the Hong Kong Academy of Medicine (refer to Table 2). The inflexible and often exclusive attitude held by many senior practitioners in the profession pervades College policy, resulting in a lack of opportunity for those who wish to become fully recognised members of the discipline. Over time it has become clear to practising general practitioners (non-specialist family doctors) that recognition as a “fellow” does not necessarily bring extra incentives in terms of patient volume and preference. Moreover, the training period of six years for family doctors as prescribed by the College and required by Hong Kong Academy of Medicine is probably one of the longest in the world. In Canada, the UK and US, the duration ranges from two to four years, with optional special interest post-certification fellowship opportunities in related areas such as low-risk obstetrics, elderly care and family therapy thereafter. Instead of front-loading all training requirements during residency, these countries recognise that the practice of family medicine is inherently longitudinal, and its unique skill set cannot be acquired within a few short years (as opposed to the much more procedure-based technical disciplines such as surgery, and increasingly the medical subspecialties that perform a lot more interventional procedures), but should be accumulated over the span of one’s career through active participation in continuous professional development. The idea that all clinical specialties should require the same length of residency training, while politically convenient, borders on the absurd. Instead,

Table 2
Health manpower statistics

Professional group/Specialty	No.	No. per 100,000 population
Anaesthesiology	260	3.8
Community medicine	71	1.0
Emergency medicine	124	1.8
Family medicine	149	2.2
Internal medicine	944	13.9
Obstetrics and gynaecology	357	5.3
Ophthalmology	161	2.4
Orthopaedics	256	3.8
Otorhinolaryngology	107	1.6
Paediatrics	452	6.6
Pathology	188	2.8
Psychiatry	158	2.3
Radiology	308	4.5
Surgery	565	8.3
<i>Total number of specialists</i>	<i>4,100</i>	<i>60.3</i>
Total number of doctors*	9,842	144.7
Total number of dentists**	1,719	25.3
Registered nurses (general)	23,068	339.2
Registered nurses (psychiatric)	1,707	25.1
Registered nurses (mental subnormal)	11	0.2
Registered nurses (sick children)	5	0.1
Enrolled nurses (general)	8,229	121.0
Enrolled nurses (psychiatric)	894	13.1
Total number of nurses***	33,914	498.7
Registered Chinese medicine practitioners	4,875	71.7
Listed Chinese medicine practitioners	3,131	46.0
Total number of Chinese medicine practitioners****	8,016	117.9

* Includes those on the local full registration and limited registration lists as at 31 December 2002

** Includes all registered local dentists as at 31 December 2002

*** Includes those with practising certificates (i.e. in active practice) as at 3 May 2004

**** Includes both full and limited registration lists as at 31 July 2004

Sources: Hong Kong Academy of Medicine (www.hkam.org.hk/academy_colleges_fs.html – site accessed on 31 July 2004); Hong Kong Medical Council 2002 Annual Report; Hong Kong Dental Council 2002 Annual Report; Hong Kong Nursing Council (www.nchk.org.hk/ – site accessed on 31 July 2004); Chinese Medical Council of Hong Kong (www.cmchk.org.hk/ – site accessed on 31 July 2004).

careful assessment should be made of the specific needs and competencies that are required of a practitioner for each discipline, and a tailored training schedule designed accordingly. This should be dealt with as a matter of urgency by both the College and ultimately the Hong Kong Academy of Medicine and the relevant legislative bodies. Coupled with the haphazard policy of the Hospital Authority family medicine recruitment and retention programme, the ideal of moving ahead in putting primary care, led by family doctors, at the centre of Hong Kong's health system does not appear ready for quick progress.

In contrast, countries with a strong tradition in primary care like Canada have witnessed family doctors taking up three of the latest deanship appointments at the 13 medical schools in the country, thus being in a direct position to influence medical curricula that are often under the control of hospital-based specialists. On the other side of the Atlantic, since the general practitioner fund holding experiments of the early 1990s that were introduced by the Conservative government in the UK and later replaced with primary care groups and subsequently trusts by New Labour, the basic tenet that money should follow the patient (i.e. population-based financing) and that family doctors are best placed to buy care for their patients from competing specialists and hospitals (i.e. the National Health Service internal market) has been firmly established. From the limited evaluations to date, the advantages of this new system appear to outweigh its risks (Wilkin et al., 2001; Gillam et al., 2001; Watt, 2001).

We have been using the terms "primary care" and "family medicine" almost interchangeably thus far. Our vision is that family medicine serves as the core of the new primary care-led health system infrastructure, recognising the predominantly physician-driven system in Hong Kong where literally *all* current leaders in the health system are medics (except for the recent appointment of an Australian expatriate who is not medically trained to head the Hospital Authority in 2006). In fact, three out of the eleven policy secretaries (or ministers) in government are also doctors! Pragmatism aside, it is common practice elsewhere for physicians to coordinate the multidisciplinary primary care team, consisting of nurse practitioners, social workers, psychologists, pharmacists and other allied health professionals. The new family doctor, however, must be different from the old general practitioner. Instead of the undifferentiated role occupied by non-specialist medical practitioners (popularly known as general practitioners), defined chiefly by a lack of special training and qualifications, there now is a clearly specified role and a defined set of skills for family physicians (McWhinney, 1989; Olesen et al., 2000). On a broader level, primary care should become the approach that forms the basis for and determines the work of the other components in the system (Figure 4). It "integrates care when there is more than one health problem and deals with the context in which illness exists and influences the responses of people to their health problems ...it is care that organises and rationalises the deployment of all resources, basic as well as specialised, directed at promoting, maintaining, and improving health" (Starfield,

1998). Lastly, whether family medicine is really different from primary care internal medicine or paediatrics, as some have asked, is likely to be resolved on epistemological grounds alone. If an internist or paediatrician provides longitudinal, comprehensive, primary care to families, with the same philosophical and scientific bases as a family doctor (McWhinney, 1989), then they are, for all intents and purposes, practising family medicine or primary care. As the philosopher of science and medicine Karl Popper (1972) observed:

Disciplines are distinguished partly for historical reasons and reasons of administrative convenience...and partly because the theories we construct to solve our problems have a tendency to grow into unified systems. But all this classification and distinction is a comparatively superficial affair. We are not students of some subject matter but students of problems. And problems may cut right across the borders of any subject matter or discipline.

From a system perspective, what are the pertinent functions of a primary care infrastructure, and how might they improve Hong Kong's system? Gatekeeping that prevents the unnecessary escalation of care, which leads to a mismatch between real need and use of scarce resources, can be accomplished via one of two mechanisms: a strong network of primary care providers or administrative arrangements such as those associated with American-style managed care. The government failed to unequivocally specify which system Hong Kong would adopt

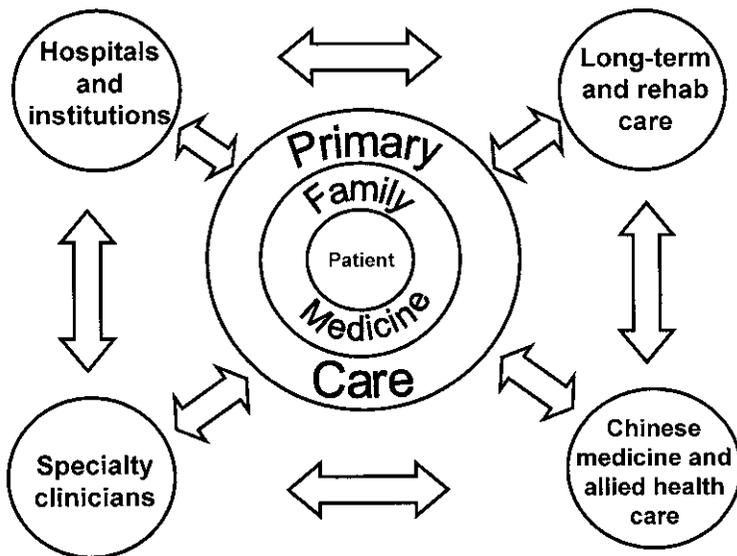


Figure 4 A primary care-led health system with family medicine at the core

in its consultation document issued in 2001 in response to the Harvard Report. As previously illustrated, international experience shows us that a solid primary care network is both more clinically efficacious and cost effective than managed care. Hong Kong's median number of out-patient visits average eight per person each year (Tsui et al., 2005), which is almost twice that of comparable statistics of Western countries, and 440 out of 1,000 seek Western allopathic out-patient care within a one-month period versus only 238 in the US (Leung et al., 2005). A high-income, mixed medical economy such as Hong Kong's, where the private sector consists almost exclusively of solo practitioners, provides 80% of all out-patient services and has a predominantly fee-for-service remuneration pattern, has the potential to encourage substantial supplier-induced demand. This is accentuated by a high target income for physicians in Hong Kong, who are among the best paid in the world. In addition, the widespread belief that there is a cure (to be prescribed by the doctor) for every ill characterises Hong Kong residents' attitudes towards health and health care (Lam, 2003). The paternalistic view that "doctors know best" is still pervasive in Hong Kong. Our previous findings show that very few people who experience symptoms opt for self-management (90/567 = 15.9% in Figure 3), and even fewer avoid over the counter medications, preferring to rely on lifestyle changes only. Doctor shopping, or the changing of doctors without professional referral in a single illness episode, is very common with an estimated prevalence of nearly 40% (Leung et al., 2003a; Lo et al., 1994). This could again lead to the "over-consumption" of health care. Over time, the whole society has been conditioned by such practices that encourage care-seeking from multiple providers for even the slightest of physical complaints. While it is difficult to distinguish between whether health care providers or individuals are more responsible for the excessively high use of ambulatory care, we propose that these observations are a manifestation of this complex phenomenon. Given the large chasm between inappropriately excessive demand and objective medical need, the potential impact of gatekeeping through primary care-led reform is enormous. Not only would it bring costs under better control, it would also reduce unnecessary iatrogenic (i.e. resulting from clinical activity) disbenefits and even harm.

In addition, primary care can deliver continuity or "longitudinality" (Alpert and Charney, 1974; Starfield, 1998). This means that family doctors deal with the growth and change of individuals and their families over time. The US Institute of Medicine recognises the value of this "sustained partnership" between patient and doctor in its 1997 report on primary care in America. The patient is treated "as a whole person whose values and preferences are taken into account" (Institute of Medicine, 1997) by the doctor in a personal continuous relationship, regardless of the type of health problems or even the presence of a health problem. Lambrew and colleagues (1996) found that having a regular source of care reduced unnecessary hospital admissions and improved preventive service coverage. Furthermore, longitudinality can increase patient satisfaction (Wasson et al.,

1984), reduce inappropriate prescribing by physicians (Hjortdahl and Borchgrevink, 1991) and lead to better diagnostic accuracy and recognition of psychosocial problems (Kelleher et al., 1997; Gulbrandsen, 1997). On the management level, this translates into defined patient lists, most commonly via capitation, which is a form of pre-payment financing that remunerates providers based on the number of enrollees in their practice regardless of actual utilisation. In Ontario, Canada, experiments with such lists are ongoing and penalise providers every time a patient on their list seeks care outside of the practice with which they have registered by deducting a fixed amount from the provider's capitated payment. It is important to clarify that having a regular source of primary care is not inherently in conflict with free choice, an attribute that many in Hong Kong's capitalistic, laissez-faire economy hold dear. Places that have implemented similar capitated systems usually allow for annual or even six-monthly transfers between primary care practices, and the common concern of a lack of choice due to geographic distance is not an issue in our densely populated city with an excellent transport network. Compared to a managed care setup in which preferred provider panels often restrict the choice of specialty referrals (see Chapter 10 by Nelson Wong), a shared care arrangement between primary and secondary care can maximise the choice of secondary and tertiary care providers (McGhee et al., 2001), given the right accompanying financial incentives (see Part IV for a full discussion of the potential impact of different financing strategies).

The comprehensiveness and coordination of care are two other distinctive contributions of a primary care approach to health system planning. The combined benefits of comprehensiveness and one-stop care management could be particularly therapeutic for Hong Kong's "highly compartmentalised" and non-sustainable system (Hsiao and Yip, 1999). Patients find it difficult to navigate through different types of care and move easily between the public and private sectors to access the care that best serves their needs. The role of primary care is to directly provide all services for common needs and act as an agent for coordinating the provision of services for other more specialised needs. This can address the "agency" problem due to the information differential between patient and doctor and the attendant potential for supplier-induced demand. In the UK, general practitioners form primary care trusts that commission secondary and tertiary care services from competing providers in the National Health Service internal market, as first envisioned and recommended in the early 1990s by Alain Enthoven (Enthoven, 2000), the progenitor of managed competition (i.e. the theoretical basis of managed care) in the US (Enthoven, 1993). Primary care providers are best placed to act as agents for individuals on their "lists", thus overcoming the abnormal economics posed by the asymmetry of information and medical uncertainty. Of course, such an organisational change must be accompanied by concomitant financial and other incentives to primary care doctors, such as basing a flexible portion of remuneration on their care population's utilisation indices (e.g. readmission rate, referral rate), uptake of

preventive services (e.g. pap smear screening, immunisation), and health status statistics (e.g. proportion of hypertensives and diabetics on treatment). Patient satisfaction can be indirectly gauged from the number of enrollees and patterns of change between years, especially as there is little geographical impediment in Hong Kong to switching between different providers. An added benefit of this arrangement is that doctor shopping, which has been a substantial but largely unrecognised or at least acknowledged problem in Hong Kong (Leung et al., 2003a; see Chapter 8 by Janice Johnston), can be virtually eliminated by the single-point of entry into the health care system. Indeed, this is similar to “option E” proposed by the Harvard consultants, which recommended decentralising vertically integrated care to district or regional level “health integrated systems”, in the same manner as primary care trusts in the UK or a brick-and-mortar type health maintenance organisation like Kaiser Permanente in California (Feachem et al., 2004). The 2005 *Building a healthy tomorrow* consultation document by the revamped Health and Medical Development Advisory Committee (HMDAC) unfortunately appeared to have lost sight of the importance of vertical integration by discussing each level of service delivery almost in isolation without regard for the continuum of care. In fact, each level of care was discussed in a separate subcommittee with few overlapping members between them. This infrastructure almost guarantees a disconnection between primary, secondary and tertiary services and the phenomenon of “pigeon-holing” health care conditions which are actually continuous. Most importantly, the government seems to have pre-assigned primary care to the private sector while promising to maintain a substantial public sector input for secondary and tertiary services. This is almost a back-to-the-future scenario where the overriding objective appeared to have been shifting the market share to the pre-HA era, thereby serving the dual purposes of public budget containment and political gains with private provider vested interests, but little else in terms of macro-organisation efficiency and clinical optimality. The latter objective was patently clear where the report proclaimed that the “private sector should be one that attracts young members of the health care professions” (HMDAC, 2005). It is difficult to think of another more powerful form of attraction for *homo economicus* in the job market, whether in the health care industry or otherwise. In sum, the new proposals seem to be directly at odds with the “seamless continuum of care” model as championed by officialdom during the Yeoh era. Where Yeoh et al faltered was the single-minded focus on public sector integration, leading to (perhaps unfair) charges of “empire-building” which was in fact necessary to achieve seamless care as far as the public sector per se is concerned, but a complete neglect of the private sector which after all provides 80% of all ambulatory episodes. In contrast, the repositioning of public versus private delivery stratified by service level espoused in the 2005 consultation paper may be politically or even popularly expedient but falls short of the ultimate goal of an integrated patient experience and may risk regressing to a more compartmentalised system as previously.

The fallout from the medication error incident in 2005 involving a mistake by a solo general practitioner in which a diabetes drug (diamicron) was wrongly dispensed to 152 patients (four of whom died as a result) instead of an antacid (simethicone) has resonated through the highest corridors of medical and political power as well as the rest of the community. Of course, such an event rarely occurs in isolation but most probably represents the tip of an iceberg of iatrogenic harm resulting from medication errors that happen even in the best facilities with a full team of professional pharmacists on an infrequent but regular basis, let alone in the local setting where unqualified “nurses” (i.e. mostly high school graduates with little advanced training in the health care sciences) or assistants tend to be the ones filling prescriptions in private doctors’ offices. This sentinel event prompted many in the community to call for the separation of the anachronistic dual roles of prescribing and dispensing although leaders of private doctor groups have largely resisted the pressure to change in an effort to preserve the financial advantages of dispensing drugs under the guise of professional autonomy. Over prescription in the form of the total number of medications a patient receives is a well recognised feature of the local health care delivery system. This incident is a typical and expected consequence of excessive power of a vested interest, reminiscent of the pervasive influence the Japanese Medical Association had wielded until very recently (Ikegami and Campbell, 2004). It is also the direct result of years of benign neglect with respect to maintaining a contemporary health care macro-organisation that is fit for its purpose. So long as ambulatory care remains largely an entrepreneurial activity of solo individual doctors, the limited scale and scope of such practice, combined with the inherent perverse financial incentives, will preclude the adoption of current world standards regarding dispensing through professional pharmacists or, by extension, comprehensive primary care delivered by a multidisciplinary team of registered nurses and social workers. It is true, as opponents of this inevitable evolution claim, that these reforms will lead to higher costs of care. However, one must not allow self-serving biases to obfuscate quality care through error minimisation with disingenuous cost arguments. Society must be given the opportunity to be fully informed and to debate quality and cost trade-offs. We believe our proposal for a team approach to restructuring private out-patient care (Figure 4) is a feasible, ethical and ultimately the most cost-effective direction for reform. From a historical perspective, modern day Hong Kong is remarkably similar to nineteenth-century England or rural India in the 1980s in terms of doctors dispensing medications (Kapil, 1988). This vestige of our colonial legacy remains 50 years after the pharmaceutical therapeutics revolution has taken place. In the present era of multidisciplinary care, especially coupled with heavy “doctor-shopping” behaviour in Hong Kong (Lo et al, 1994; Leung et al, 2003a), a pharmacist can facilitate the coordination of care and look for possible drug overlap or adverse interactions. There is necessary support infrastructure that must be put in place to enable the new system however. First, community pharmacies must be better

regulated and achieve adequate capacity to cope with the potential volume of throughput. Currently, it is not uncommon to observe informal self-prescribing by patients through pharmacies leading to inappropriate and excessive use of medications, especially antibiotics. Thus Hong Kong currently remains at the same stage of pharmacy development as Bangladesh, Sri Lanka and Yemen in the 1980s (Tomson and Sterky, 1986). Second, we should design strategies to guard against patients not filling prescriptions due to financial or other reasons, as has been observed in health systems which have adopted the proposed changes (Dixon et al, 1994). Third, the system should ideally be underpinned by a Hong Kong-wide informatics network that can link both public and private providers for individual patients so that a current record can be easily accessed by the pharmacist for drug alerts and to detect duplicate prescriptions or dispensing (in the case of abuse). Lastly, while we encourage the professional separation of roles between doctors and pharmacists, patients should be afforded a seamless continuum of service and Hong Kong must avoid the pitfall of offering medical care independently from pharmacies, especially in relation to financing. The separation of prescribing from dispensing is clearly achievable and has recently been accomplished in South Korea as of 1 July 2000, albeit sweetened eventually by increasing reimbursement rates through the social insurance fee schedule, but despite several paralysing strikes by doctors and ultimately higher costs due to unintended consequences as a result of the ensuing political process that spun out of control (Kim et al, 2004). Hong Kong should learn from this experience where we should anticipate a certain degree of popular resistance initially due to perceived inconvenience of having to fill prescriptions outside of the consultation episode, and perhaps increased out-of-pocket costs as a result of pharmacists' fees although it remains unclear whether this would be higher or lower than the doctors' mark-up currently (Kang et al, 2002). Finally, we must avoid the South Korean trap of eluding cost containment, in fact effecting higher overall spending, as a direct result of this policy change (Jeong, 2005).

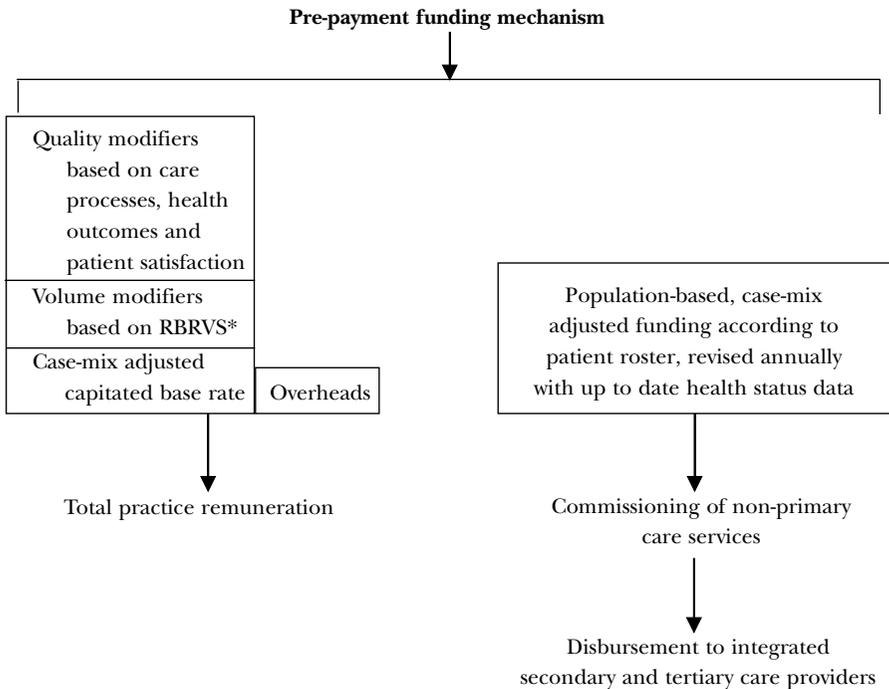
Indeed, the HMDAC (2005) proposed adopting the family medicine concept as the unifying platform on which to build a reformed health system. Of course we endorse this in principle although it is difficult to fathom how the recommendation could be implemented in the private sector, which provides the majority of these services at the moment, with little more than rhetorical government encouragement for solo practitioners to form group practices. There has been some tangential mention of the Hospital Authority commissioning primary care services from private providers, which would naturally favour larger groups, in fact corporate health maintenance organisations in bidding for such contracts. A potential pitfall concerns the current lack of a robust, transparent and fair regulatory framework to govern the clinical and economic environment under which this outsourcing process would function. This can be overcome, but not without very careful forethought, pilot testing and post hoc evaluation by independent teams of experts. Singapore and Switzerland have successfully

brought about similar changes to the private delivery market but a commonality they share is a series of government rules and guidelines balancing the incentive of private profits with the public good of patient interests and population health.

On the other hand, past experience shows us that an overly centralised approach is unlikely to succeed in optimising health care and outcomes (Enthoven, 2000). Such an approach implicitly assumes that the centre (i.e. the government) knows best. Some have cited the many abnormal economic features of health care, such as moral hazard, adverse selection, supplier-induced demand, asymmetry of information and professional oligopoly (Hsiao, 1995), that inhibit Adam Smith's invisible hand as argument in support of a command health care economy. This school of thought claims that health care is too important to be left to market forces. We believe that health care is indeed too important not to harness the market to draw on innovation and creativity throughout the system and empower frontline professionals. From political empires (e.g. the former Soviet bloc) to listed corporations on Wall Street, the benefits of decentralising to smaller operational units have been shown in many different geo-politico-economic settings. We further offer a note of caution in organising and regulating the market. While it is intuitively sensible and politically correct to install a whole series of fail-safe monitoring mechanisms to guide, assess and evaluate clinical practice and standards, one must be very careful not to put in place so many hurdles that they may stifle the very innovation that decentralisation is supposed to create. Policymakers who need convincing only need to look at the chaos and contradictions that the new oversight agencies (of which there are five) created by the Labour government in the UK have wreaked upon primary care and hospital trusts (Horton, 2004; Dewar and Finlayson, 2002; Walshe, 2003). Excessive and unnecessary regulatory powers can and will negate the potential advantages of decentralisation. The task, of course, is to determine the optimal balance between allowing market forces to work or a *laissez-faire* approach (which Hong Kong's system has experienced in the form of "benign neglect" for decades) and appropriate governance and oversight to mitigate against the unique set of abnormal economics distorting the market.

In sum, we propose that a primary care-led system consisting of multidisciplinary, group practices of family doctors, advanced practice nurses, clinical psychologists, physiotherapists and medical social workers should serve as the hub of the new health system (Figure 4). These group practices would undertake total, whole-person, first-contact care (including being on call 24 hours for triage and management to reduce inappropriate accident and emergency attendances (Leung et al., 2001a)) for all enrollees on their patient roster. The roster should be renewed annually during a one-month period of completely open registration to all comers across Hong Kong, thus minimising adverse and risk selection by patients and providers respectively. Secondary and tertiary care will be commissioned by larger purchasing blocs, composed of different group practices on a regional basis, that assess and buy such services from vertically

integrated specialty and in-patient care organisations. To promote both demand-side and supply-side management to contain health care costs (McGhee et al., 2001), funding for these family practices can be based on two main components in a hybrid funding formula, i.e. for the direct remuneration of the family practices and the commissioning of specialty, in-patient and rehabilitation care (Figure 5). The former category would include a base rate (taking into account the case-mix adjusted capitated patient list and including payment for holidays, continuous medical education/professional development, pension contributions and mandatory provident fund contributions, and life, disability and medical/dental insurance); rent, equipment, legal, auditing and staffing overhead costs; volume modifiers that place a numerical value on individual work units, which could be equivalent to resource-based relative value system (RBRVS) fee units (Hsiao et al., 1992a and 1992b); and quality modifiers which reward practices that achieve certain predefined health care process and outcome thresholds. The amount allocated for the commissioning of non-primary care services could be modelled on the current population-based funding formula adopted by the Hospital Authority and further disaggregated down to the district level allowing for more refined case-mix adjustment, based on data from the Department of



*RBRVS = resource-based relative value system

Figure 5 Hybrid funding formula for primary care practices

Health's Population Health Information System. In theory at least, the plan is a comprehensive proposal that allows for flexibility and pluralism, harnessing Hong Kong's past success with a relatively laissez-faire medical care market, while moving away from a fee for service point of care payment system to a pre-payment system that enhances both equity and efficiency (see section IV for more details), although its effectiveness in actual practice is still to be evaluated.

Redressing the Public-Private Sector Imbalance

While our vision for a new primary care-led system would essentially level the competitive field between public and private providers in the secondary and tertiary care markets, it is probably a long way off given the pace of past progress in health reform (see Chapter 1 by Derek Gould). Therefore, short- and intermediate-term measures are equally important to redress the public-private sector imbalance that has seen the private in-patient market share reduced by one-half to two-thirds from the late 1980s to the present, and the out-patient market shrink from 85% in 1997 (Hsiao and Yip, 1999) to 71% (Wong et al., 2005) by 2002 (although it has regained volume since the economic recovery from 2003 onwards).

Since the hard-hitting criticisms of the Harvard consultancy, another example of change by the government is the much-touted public-private interface initiative (see Chapter 9 by David Fang) that aims to accomplish mostly a political goal of placating private providers who have publicly called for a return to the 15% in-patient and specialty care market share (as opposed to the 5% since the late 1990s) by whatever means, as most recently echoed by leaders of the Hong Kong Medical Association. Little real progress has been achieved mostly due to inertia on the part of the Hospital Authority, whereby the "sharing of guidelines, publications and related materials" (e.g. discharge summaries) and referral for highly income-elastic radiological (e.g. CT, MRI or PET scans) or obstetric services have been the most notable forms of exchange. We will, however, likely see more rapid progress from 2006 onwards due to the ballooning deficit of the Hospital Authority and the stepping down of Yeoh Eng-Kiong as the minister responsible for the health portfolio. Yeoh was previously founding Chief Executive of the Hospital Authority and widely known to distrust the private sector generally, and resisted any move that might undermine the interests of the Authority, in particular a diminution of its service delivery role. We hasten to add that Yeoh's belief that the public sector is best placed to provide most of the care in the community has generally been considered as sincere and honest, however unidimensional and suboptimal its ramifications. Of course, any reorganisation of service delivery without financing reforms in tandem is doomed to abject failure. In Hong Kong, the negligible fees and charges at the point of care, as illustrated in Table 3, have been ineffective in controlling excessive demand due

to moral hazard let alone encourage patients to seek care in the private sector, the fees of which are orders of magnitude higher than those charged by the public sector and mirror those for non-eligible persons (Table 3). Adam Smith's invisible hand is heavily tilted towards the public sector in this unequal market of health care services. However, trying to persuade the tax-paying middle class that government subsidies should be "targeted" at the medically and socially indigent and gradually withdrawn from the better off as the government's budget deficit turns into a structural problem is a challenge that a non-democratically elected government is unlikely to be able to address in the foreseeable future.

In a recent study, Yeung and colleagues (2006) demonstrated the substantial patient disutility or time costs associated with waiting for a specialist consultation in the public sector (i.e. Hospital Authority clinics) as revealed through contingent valuation using willingness to pay methodologies. The majority of respondents were willing to pay to reduce their time in the queue; in fact, their hypothetical willingness to pay finds real-life expression as doctor shopping, i.e. mostly seeking care in the private sector, in effect, to reduce waiting time to see a specialist. In turn, we know that doctor shopping is the single most important reason for patient default in Hong Kong's public health care system (Leung et al., 2003a). Patient non-attendance for scheduled appointments creates operational inefficiencies and is a major management issue that carries with it enormous economic costs. Data from the UK indicate that the cost per lost appointment was £65 (US\$103) in 1997 and the National Health Service bears an estimated £300 million (US\$477 million) cost annually as a result of this problem (Hamilton et al., 1999). However, many private clinics are idle due to the large price differential (and the lack of a quality of care gradient between the private and public sectors) and a depressed economy since the 1997 financial crisis. Many private physicians are calling for an urgent redress of this unsustainable situation, claiming that they are being "starved of their bread and butter" (Hong Kong Medical Association, 2002).

Based on these observations, we (Leung et al., 2006) proposed the examination of a new policy whereby patients and the private and public care delivery sectors can all benefit. Private practitioners with excess capacity could be contracted by their public counterparts to provide specialist consultation services. This outsourcing policy would have the potential to shorten waiting time and reduce disutility for patients in the public sector queues, minimise patient default and associated inefficiencies due to excessive waiting and doctor-shopping for public care providers, and increase private sector utilisation. There are two corollary benefits to this scheme if the findings translate well in practice. First, there is probably the usual efficiency gain from shifting to the private sector, where the operational cost is lower (an average public sector gazetted charge (at the cost of production) of HK\$661 per visit versus a \$500 median private fee). Second, it is possible to ask patients initially on public waiting lists for a co-payment equal to the median willingness to pay value of HK\$100 (in addition to the usual public sector fee of HK\$60), thereby further reducing the per episode contract amount

by some 20%. We caution that these recommendations are preliminary and should be considered in the light of how patients react to them and make choices. For instance, a potential “crowd-out” effect may result if a substantial number of patients who currently choose the private sector switch to public clinics knowing that they would be likely to be offered a private appointment, albeit with a co-payment. Potential counterstrategies to prevent this abuse of the system could include a minimum waiting time on the public sector list before offering transfers to private facilities, discouraging patients who have previously opted for transfers to the private system from returning to the public sector through incentives or regulations, giving preference to patients who have not requested transfer before, and so on. Ideally, all potential strategies should be pilot tested for feasibility, acceptability and effectiveness at selected sites using a randomised-controlled design before full implementation.

Hong Kong needs more of these evidence-based, out of the box ideas to redress the imbalance between public and private provider markets. In addition, we should extend our vision beyond a zero-sum tug of war between the two sectors. For example, Hong Kong’s private health providers must overcome their present marketing myopia of concentrating on a shrinking local market and set their sights on the burgeoning middle-class niche market of mainland China. Geo-ethnic affinity, the Closer Economic Partnership Agreement (CEPA), sheer market size, the availability of two-week individual visitor visas to Hong Kong for most mid-sized and large mainland cities and impending loosening of restrictive conditions governing joint ventures by the Ministry of Health make exporting medical and health care services an increasingly attractive and realistic option for the private sector. There are two potential strategies in exporting Hong Kong’s health care services. The first is to import patients from the mainland (facilitated by the central government’s relaxation of individual visit permits) and the second is that Hong Kong practitioners deliver services on location north of the border. To date, with few exceptions, there has been little export activity either way.

Yeung and Leung (2002) did a study for the Hong Kong Trade Development Council (TDC) in which they argued that the setting up of joint venture health care facilities in China is a distinct business opportunity. Since 2000, the Chinese Ministry of Health and the Ministry of Foreign Trade and Economic Cooperation have implemented detailed guidelines for the establishment of joint venture medical institutions. Foreign parties can hold equity stakes of up to 70%. Over 200 such facilities in Beijing, Shanghai, Fujian and Guangdong provide Western-style medical services. Many of them were set up during the past decade by foreign investors from the US, Japan and Canada. Apart from the traditional expatriate market, the growing segment of high-income earners in China’s coastal cities has created a whole new niche market for high-quality Western allopathic services. However, the key to success in this market is through the aggressive differentiation of services, not commoditisation in the form of general or multipurpose hospitals. Entrepreneurial clinicians can consider setting up “focused factories” of

specialised, dedicated services (Herzlinger, 1997) either in Hong Kong or major cities in the mainland to capture a significant share of this niche, bourgeoisie market.

The term “focused factory” was coined by Wickham Skinner, a Harvard Business School professor, when he argued that complex and overly ambitious industrial factories were at the heart of the American productivity crisis in the late 1960s and early 1970s. He concluded that “simplicity and repetition breed competence” (Skinner, 1974). The parallel with the production of health care is striking. There is a steep learning curve for most medical interventions. Centres that have a higher volume of cases generally report better clinical outcomes at a lower cost than do centres with a lower volume of cases. This phenomenon seems to hold true for most interventions, irrespective of the technological sophistication involved (Bennett et al., 1995; Grumbach, 1995; Tu et al., 2001). The experience of Shouldice Hospital in Ontario, Canada, is typical. The hospital performs only abdominal hernia repair, a relatively low-tech procedure. Yet its excellent outcomes, low relapse rates and relatively low costs have prompted former patients to celebrate anniversaries of their operations with a gala banquet every year. What is so special about the hospital? It is a focused factory. Such a streamlined focus and dedicated infrastructure can realise enormous clinical and financial economies of scale (Leung, 2000). In the US, there are many examples of such organisations including the Johns Hopkins Breast Center for breast disease, the Dartmouth-Hitchcock Medical Center for heart surgery, and the Pediatrix Medical Group, which manages neonatal and paediatric units in 21 states. Procedure (or organ system) based focused factories are already proliferating in the form of centres of excellence in some parts of East Asia (mostly catering to “medical tourists” by offering highly income-elastic services such as cosmetic and orthopaedic surgery), and Hong Kong is beginning to see similar setups by the larger private hospitals. However, some appear to be little more than repackaged marketing deals rather than bona fide units with full-time teams and the attendant infrastructure that must be in place to support these focused operations. If these initiatives are to succeed in Hong Kong, then more flexible visa requirements must be negotiated with the Chinese government to allow patients to stay longer than the current maximum of two weeks and to be granted multiple entries for follow-up and adjuvant treatment sessions. The alternative is to locate the facilities in hub mainland cities such as Guangdong, Shanghai and Beijing, but the main concern will then be the recruitment and training of qualified health care professionals.

CEPA now provides Hong Kong medical graduates with three-year temporary or transitional licences to practise in the mainland, after which they must sit Chinese qualification examinations. This is an improvement from the previously haphazard application procedures, but so far it has attracted few takers mostly because remuneration and working condition differentials between Hong Kong and the mainland remain large and there is little incentive (positive or negative)

for local doctors to emigrate. A related issue is the lack of market awareness among local professionals because most clinicians do not have sufficient time, skills or resources to develop and cultivate a new client base. While present conditions may not favour relocating immediately, we caution that the profession as a whole should take a longer-term perspective lest it lose the first-mover advantage for market entry and penetration. The profession needs to rethink how it can overcome Hong Kong's huge disadvantage of a high cost base, in order to compete effectively with Thailand and Indonesia (and Singapore) to attract the same pool of mobile high-income patients. We must compete on quality with the US and Europe, while leveraging our geographic and cultural proximity, rather than pursue the dead end of commoditification of low-risk medical business.

Next, education and training services seem to be ripe for export almost as soon as the bureaucratic hurdles are cleared. For instance, undergraduate medical places have been cut by as much as one-third at both local medical schools since 2002. This is largely in response to the budget deficit incurred by the Hospital Authority and its default postgraduate training, and thus employer of last resort, role. This very short-sighted, reactive response by the University Grants Committee (which funds all tertiary institutions in Hong Kong), largely supported by the profession (with a potential pecuniary interest in keeping the supply of doctors limited), has not taken into full account Hong Kong's current and future medical manpower needs. Even allowing for the geospatial concentration of our population, with only 1.4 doctors per 1,000 population (Table 2), Hong Kong already lags behind most OECD doctor to population ratios, which range from 2.5 to 3.5 per 1,000. Nevertheless, faculty numbers at the medical schools have not decreased and such fixed costs remain high. The University of Hong Kong and the Chinese University of Hong Kong medical schools should fill the currently underused capacity of their education function by recruiting high-quality students from mainland China and elsewhere (especially places with medical licensing boards that recognise Hong Kong medical qualifications such as most Commonwealth countries). At least one medical school has proceeded in this direction, although concrete steps have yet to be implemented beyond the experimental stage.

Lastly, with ongoing and impending deregulation of the health care market (including many previous state owned and operated facilities), China needs back-office, logistics and operational management skills, at which Hong Kong excels. However, much of the health care-specific expertise resides in the Hospital Authority, which has undergone many similar changes since being founded in the early 1990s. More general purveyors of such services include management consulting firms and accounting or even law outfits. Therefore, neither categories of potential service providers impact on the private health sector in Hong Kong. It may be high time for administratively minded health care professionals to consider a parallel career using their clinical experience.

Bacon-Shone et al. (2005) recently completed a follow-up study for the TDC which undertook patient and employee surveys in four mainland cities covering the Yangtze and Pearl River Deltas (Shanghai, Hangzhou, Guangzhou and Shenzhen) to better understand the potential inbound market for mainland patients. They also surveyed private doctors and hospitals in Hong Kong to better understand the supply side and interviewed key stakeholders.

The key message from the mainland patients was that they know very little about the Hong Kong medical system, but are willing to learn. Not surprisingly, they are unaware of the high quality health care options which the private doctors in Hong Kong believe that they provide. One concern is that they seem more interested in visiting the already under pressure public hospitals, rather than the private hospitals. The patients in these four cities are well aware of the individual traveller option for visiting Hong Kong. While the willingness to learn about Hong Kong is reassuring to marketers, the question remains as to how best to get the message across. The current strict limitations on medical advertising mean that private doctors are not able to inform either Hong Kong or mainland patients about their expertise and experience. This suggests a key role for the TDC in helping market Hong Kong services, at least until the advertising rules are changed, pending further deliberations by the Medical Council of Hong Kong.

This picture is consistent with the private doctor survey, which shows that many doctors have a small, but growing, clientele of walk-in mainland patients (84% had mainland patients in the last 3 months, with a median proportion of total business volume of 5%), who seem to come almost entirely through informal referrals via friends and relatives, in the absence of any formal referral networks. Doctors identify follow-up, fee levels, advertising restraints and immigration as the major constraints. Few of the doctors are interested in expanding their services into the mainland, primarily because of the capital requirements and low patient fees.

Most private hospitals are non-profits, so it is not too surprising that, although a substantial number are expanding in the expectation of more patients crossing over from the public sector, only two show real interest in the mainland market, one in the mass market in Guangdong, the other in the expatriate market. They are explicit about their concern that it will not be possible to decant catastrophic cases onto the Hospital Authority, unlike local patients! A key niche may be in providing second opinion and diagnostic services. For those who question the quality or impartiality of the diagnosis they receive on the mainland, they can come to get a second opinion or better diagnosis using Hong Kong's higher technology equipment and doctors who do not have an ulterior motive of selling expensive drug treatment. Follow-up treatment could be prescribed in Hong Kong and completed on subsequent visits or even completed in the patients' place of domicile, to minimize cost and travel inconvenience.

Private hospitals could focus on low-risk, pre-paid services, especially those that require the latest equipment or techniques. Hong Kong doctors' good

English language, training and equipment give them an advantage in this area. The need to focus on low-risk procedures is to avoid the payment risks that concern hospitals.

This all suggests an important, but limited, role for Hong Kong in supplying medical services to mainland patients, particularly in the Pearl River Delta (PRD), which is geographically and linguistically convenient, as well as containing a significant number of households with income levels that would enable them to purchase some health care in Hong Kong. Crude analysis suggests that the inbound mainland market may already be worth HK\$300 million, with a potential pan-PRD market of HK\$1.5 billion.

From Quality Improvement to Value Creation

Hong Kong has certainly come a long way since the first Secretary for Health and Welfare, Henry Ching, signalled concern and called for a large-scale review of services in hospitals in a 1985 Executive Council briefing paper, which subsequently led to the commissioning of the Scott Report. The reasons for this review were demographic expansion (especially Vietnamese and mainland legal and illegal immigrants), deteriorating and overcrowded conditions at the 38 publicly funded (i.e. either government or subvented) hospitals, longstanding management inaction or failure in terms of cost control and staff productivity (via the Director of Medical and Health Services) and pressure from the legislature and the public (Hutcheon, 1999). The efforts of the Hospital Authority and its predecessor the Provisional Hospital Authority led by Chung Sze Yuen (the senior unofficial member of the Executive Council at the time the idea of a Hospital Authority was first mooted), paid off quickly soon after establishment. Camp beds that once lined the corridors of even the most prestigious public hospitals disappeared, a coherent management ethos pervaded the entire organisation, local professional clinician-managers were recruited and trained, care processes and guidelines were developed and promulgated, logistics and operation management was upgraded and professionalised, and community relations were improved, to name but a few improvements. At the risk of sounding negative despite the long list of impressive achievements and belittling the immense progress made, the Hospital Authority was flush with new capital and recurrent money until the 1997 financial crisis, mostly thanks to the hard lobbying initially by Chung and his colleagues within and without the Executive Council, and supported by David Wilson, the then Governor. This history of strong financial backing made reform a much easier task than it otherwise would have been. (Section IV provides more detailed accounting and secular trend analysis of total public expenditure on health and health care (about 90% is consistently consumed by the Hospital Authority).) In addition, the disparate and often poor quality of care in all respects throughout the publicly funded hospitals at the time

of the reform made raising this low baseline to an acceptable threshold a less than insurmountable task to accomplish.

However, the leaders in the present health system are presented with a much more difficult challenge. They are essentially victims of their own success in so effectively and rapidly upgrading all quality dimensions (i.e. clinical care, amenities and management processes) over the last decade and a half. Public expectation has been elevated in parallel, further fuelled by a recent community-wide call for accountability of all public services. For the next generation of managers, the task is to improve on a high-quality status quo "at the margin" that is commensurate with Hong Kong's socioeconomic development and world-class image. Any incremental change will be subjected to the economic law of diminishing returns, where the same amount of effort will yield increasingly less improvement and results. Several areas that we highlight below should attract special attention from policymakers and managers in the next decade of continuous quality improvement.

Medical error tops the list partly because it is a relatively new area in health services research, championed by Don Berwick, David Blumenthal and Lucian Leape at the Harvard School of Public Health for a dozen years or so. Hong Kong has yet to face the reality of its commonplace existence. The Institute of Medicine of the US National Academy of Sciences issued landmark reports in 1999 (*To err is human*) and 2001 (*Crossing the quality chasm*) to bring this important issue to the forefront on the national and international health care agenda. The Harvard Medical Practice Study, the most extensive research on adverse events (defined as an injury caused by medical management rather than by the underlying disease or condition of the patient), found that such events occurred in 3.7% of the over 30,000 hospital episodes they studied (Brennan et al., 1991) in 51 randomly selected institutions in New York State in 1984. The proportion of adverse events attributable to medical error (i.e. events that were preventable) was 58%, and 28% were due to negligence. While most of these adverse events led to disability lasting fewer than six months, 14% resulted in death and 3% caused permanent injuries. Complications related to medication error were the most common type of adverse event, followed by wound infection and technical complications after procedures. These findings have since been confirmed in other settings (Institute of Medicine, 1999). For instance, Dr Foster (an independent research organisation) based in Imperial College, London, reported that about 850,000 (2.2% of all in-patient episodes) medical errors occur in National Health Service hospitals every year, resulting in 40,000 deaths, excluding ambulatory episodes, obstetric complications and hospital-acquired infections (Aylin et al., 2004). Based on extrapolation of the Harvard Medical Practice Study (1991) to all 1,098,006 hospital admissions in Hong Kong during 2001/2, and allowing for temporal improvement in error reduction and geographic differences between the US and Hong Kong, we estimate that the annual number of local deaths due to preventable medical errors falls between 239 and 3,817 (Table 4). The mortality

burden of the 2003 SARS epidemic, in which 302 died, pales in comparison to this largely invisible toll that is sustained from year to year in the production of in-patient health care. In response, the WHO recently launched a World Alliance for Patient Safety to promote the cause (WHO, 2004). Specific action areas include a biennial global patients' safety challenge, patient empowerment, the development of standards and dissemination of best practice, all underpinned by research, reporting and learning (Donaldson, 2004).

All of this is, of course, closely related to patient complaint and redress (see Chapter 12 by Felice Lieh-Mak, Chairwoman of the Hong Kong Medical Council, which regulates the medical profession). Medical errors take place in the very hospitals that the public perceives to be safe, where patients are supposed to be cured rather than exposed to potential harm. There is an implied social contract of benefit when a patient is admitted for care. However, there appears to be a disconnection between public perceptions and actual health care error rates, especially outside the western hemisphere. The lack of media attention or indeed recognition of an error may play a large part in explaining this misperception.

Table 4
Potential annual burden of adverse events and related outcomes in Hong Kong

Annual hospital admissions	Adverse events (ADE)		Attributable to medical error (preventable ADE)			Resulting in death or permanent injuries		
	No.	% of admissions	No.	% of ADE	No.	% preventable ADE	No.	
1,098,006	3.70%	40,626	58.0%	23,563	16.2%	3,817		
				11,782		1,909		
			29.0%	11,782	16.2%	1,909		
			8.1%		8.1%	954		
			1.85%	20,313	58.0%	11,782	16.2%	1,909
			8.1%		8.1%	954		
	0.925%	10,157	58.0%	5,891	16.2%	954		
				2,945		477		
			29.0%	5,891	16.2%	954		
			8.1%		8.1%	477		
			0.925%	10,157	58.0%	5,891	16.2%	954
			8.1%		8.1%	477		
			2,945	16.2%	477			
				8.1%	239			

Sources: Estimates adapted from Brennan et al. (1991) and applied to local hospitalisation statistics in 2001/02 compiled by the Hospital Authority and the Department of Health. Proportions in bold type are derived from the original estimates, and the remaining are projections allowing for temporal improvements and geo-ethnic differences.

An individual health care adverse event does not have the collective impact of a nuclear waste disaster or an aviation accident, although the probability of death due to medical error from being admitted to hospital for treatment is several orders of magnitude higher than that of dying from a commercial plane crash. Patient safety is also hindered by the liability system and the threat of malpractice, termed the “prosecutory or disciplinary” model by Lieh-Mak in Chapter 12. This “bad apple” approach encourages tacit behaviour about medical errors throughout the system due to the discoverability of evidence under legal proceedings, with the result that most adverse events go undetected and unreported, both internally within health care organisations and externally (Institute of Medicine, 1999). This important shortcoming of a solely punitive redress system is in urgent need of reform. Instead, a “learning” model should be adopted. Health systems should become learning organisations that continually seek to reinvent outmoded work systems with poor designs to enhance safety and the quality of care. It is gratifying to note that the Hospital Authority recently carried out a system-wide audit of its public complaints committee cases from 2000 to 2002. The findings revealed “useful patient demographic data, as well as important insights into the reasons for complaint. Associations were found between selected populations of patients and the outcomes of complaints, suggesting that evidence-based targeting of particular risk factors may lead to better management” (Choy et al., 2004a). However, this has barely scratched the surface of the much more important underlying problem of medical errors, as previously explained. As the second article in the two-part audit report acknowledged, “what we can see from the complaints received is only the tip of the ‘complaints iceberg’” (Choy et al., 2004b).

This issue of medical error and quality improvement is closely linked to the maintenance of practice standards by health care professionals, especially medical practitioners. Over ten countries and 37 American states have already moved to implement revalidation and re-certification, whereby lifelong medical licences are a thing of the past. The UK and Canada are closely following suit. It is clear that there is increasing societal expectation that doctors regularly demonstrate fitness to practise, much like what is expected of airline pilots, members of the military and even truck drivers and other transport workers given the high risk environment in these occupations. Yet many medical leaders, especially those with vested interests in protecting the status quo, have repeatedly withheld support for linking continuous medical education credits to the renewal of the annual practising certificate and in fact have campaigned on this issue during elections. This attitude does not bode well for a well-respected, self-regulating profession with an unequivocal mandate to demonstrate continuing competence. Viewed from the global perspective, Hong Kong is more than several steps behind where the profession is heading globally. The link between continuous medical education and actual clinical performance is tenuous at best. The Hong Kong Academy of Medicine has been actively pursuing the idea of adopting continuous

professional development since it was first introduced during the presidency of David Fang. Continuous professional development is the purposeful, systematic activity of individuals and their organisations to maintain and develop the knowledge, skills and attributes that are needed for effective professional practice. In contrast, continuous medical education is often rather more passive and does not necessarily require the same degree of purposeful planning and reflection that are distinguishing attributes of effective andragogy. It is apparent that if the profession fails in rising to the challenge of reorienting to a continuous validation and evaluation paradigm, the public, through government regulation, will fill the void. The only question is how and when, not whether this will proceed in tandem with world trends. Nevertheless, authorities need to think carefully about the way forward as revalidation and recertification would require a tremendous amount of resources, both in cash from the government and in kind from the professional colleges and universities. It could potentially compound the problems of an overstretched health system and affect service delivery. Lastly, the different purposes of revalidation require more detailed thinking as they apply to the local situation. One is to identify seriously under-performing doctors, while another concerns supporting all doctors in striving constantly to improve their performance. The mode of learning and appraisal will differ depending on the outcomes of interest and acceptability by doctors (Bruce et al., 2004).

From the provider management perspective, the concept of “clinical governance” has been embraced in recent years as a tool to improve quality. On the theoretical level, it requires structures and processes that integrate financial control, service performance and clinical quality in ways that engage clinicians and generate service improvements (Sally and Donaldson, 1998). Many previous efforts, notably in the UK National Health Service, have failed because programmes that were originally designed to improve quality were often perceived as unhelpful top-down, managerial impositions. Critical to the success of any effort, clinicians and other frontline staff who are at the core of delivering care must be at the heart of clinical governance – a bottom-up approach. Failure to take account of the detailed composition of clinicians’ work results in their disengagement from management and thus the failure of quality improvement activities (Degeling et al., 2004). In Chapter 16, the Hospital Authority’s Vivian Wong and her colleagues review the past efforts of Hong Kong’s public hospitals in approaching clinical governance and how it has helped in improving the quality of care at the patient-provider interface.

From the patients’ or consumers’ perspective, Chu Yiu-Ming, having served on the Hospital Authority’s Public Complaints Committee, argues strongly and passionately in Chapter 13 for a thorough review and overhaul of that system in the interest of quality of care and patient rights. System redesign must be a priority item on the annual plan of every health care organisation. A major strategic focus in any redesign effort should be an integrated information technology platform that can support and enhance care delivery by bringing together clinical,

laboratory and administrative data across care providers and payers longitudinally using a single interface at the point of care. This sort of computer architecture in the clinical setting has already demonstrated its usefulness in reducing prescribing errors and improving drug compliance, minimising anaesthesia-related mortality with the implementation of new computer monitoring techniques, and improving the coordination of complex care in chronic diseases such as diabetes. Further refinement of these functions such as the incorporation of artificial intelligence and their pervasive integration with most clinical processes are trends for the future. (Leung, 2003b)

Currently in Hong Kong, however, health informatics penetration is woefully low, with the notable exception of the Hospital Authority. According to a population-based physician survey in 2001. We (Leung et al., 2001b) reported that at best, about only half of all doctors in Hong Kong have computerised any clinical function. Similar results were obtained for administrative tasks involved with daily practice management. We found large variations in the extent of computerisation between physicians practising in large corporate organisations such as the Hospital Authority or private HMOs (health maintenance organisations) and those in solo or small-group clinics that provide at least 60% of ambulatory care in Hong Kong (Figure 6). Time costs, lack of technical support and large capital investments were cited as the biggest barriers to computerisation, whereas improved office efficiency and better quality care were ranked highest as potential incentives to computerise, according to another recent survey (Leung et al., 2003c). Our task ahead is to focus on building implementation plans by overcoming the identified barriers and designing tailored incentive schemes for care providers with different characteristics and needs to encourage computerisation, especially in the ambulatory solo and small group practice settings.

More importantly, once there is good informatics penetration throughout most care settings in Hong Kong, we must ensure that data are regularly downloaded into a central repository for cleaning, checking, formatting and finally detailed analysis to inform research, policy development and evaluation. The lack of routinely available morbidity data from ambulatory care visits, which is mostly provided for in the private sector, amounts to a medical emergency on the community level. Without access to good quality records and information systems, many of the problems that are associated with chronic disease management (a major driver for use of public sector health services) and quality assurance in general will remain unidentified, unrecognised or otherwise insoluble. An excellent example of the utility of such a resource is the UK General Practice Research Database (GPRD — www.gprd.com), which is the world's largest computerised database of anonymised longitudinal patient records from general practice, containing more than 35 million patient-years of data. It allows the prosecution of hypotheses in different areas of medical science, including clinical epidemiology, drug safety, pharmaceutical utilisation, health outcomes, health

subject to rules that are not entirely transparent to external partners. The principle that the Hospital Authority and indeed all public agencies are trustees of the publicly-owned data on behalf of the wider community should be inculcated among the guardians of such data, health professionals and scientists in academia and industry. Subject to the usual rules of privacy, confidentiality and a legitimate use of the data requested, the data should be promptly and unconditionally released. Indeed, most quality periodicals in the medical and scientific literature now require that sponsors (financial or otherwise) and data suppliers have absolutely no role in or influence over the design, conduct, and reporting of the study or in the decision to submit the manuscript for publication. It is neither the job nor in the remit of such guardians of public data to question or second-guess the value or potential outcomes of the proposed projects. Otherwise, we run a very real risk of losing the already thin layer of autonomous health service researchers in Hong Kong. Set on its present course, the findings and recommendations based on the released data and officially sanctioned projects cannot be received as entirely objective and credible, warranting the full confidence of the various stakeholders and the lay public. As a more general principle, the sequestration of data within the bureaucratic confines of a restricted sector is not conducive to medical progress. Unfortunately, this restrictive behaviour is endemic in the Hong Kong Government, from the Census and Statistics Department (C&SD) outwards, which continues to place unrealistic contractual demands on any researcher wishing to make good use of data already paid for from the public purse. Researchers are forbidden from publishing any research based on samples and are required to pay C&SD to repeat their analysis on the complete dataset and accept recoding of the dataset, even where no tables are to be published, only model parameter estimates. Until the Harvard consultancy, C&SD had never allowed access to record level data from the General Household Survey (GHS) and this restriction was only removed when it was pointed out that proper analysis of the health care expenditure of households requires access to household level data. An ironic example of the damage done by this attitude is that one round of the GHS collected both smoking behaviour and hospital utilisation data simultaneously, which went unanalysed for ten years! There are many other good examples of policy research undone in demography because of this short-sightedness. A close parallel can be drawn to the open access policy of the Human Genome Project. John Quackenbush (2001) summarised this position succinctly.

The paradigm under which we operate as scientists is that even published, peer-reviewed findings represent hypotheses that must be tested and validated, and that the primary data supporting those hypotheses should be freely available to facilitate this process. As published data and findings are reviewed and analysed by others, this allows the conclusions to be confirmed. This also opens the work to the identification of errors, misinterpretations, and even flaws in the underlying assumptions or the logic used to deduce the final results.

A proper data archiving policy for Hong Kong with all government funded data being deposited is long overdue.

The business administration parallel to patient-centred care in the clinical realm is the consumer-driven health care movement. Regina Herzlinger (2004) has been a long-time advocate calling on health care insurers, providers and policymakers to embrace and adjust to this movement, and she predicts that consumerism will ultimately improve quality, citing past examples in the education, financial and business sectors. The essence of her argument, when applied to Hong Kong, is that most of health care is presently controlled by third-party technocrats rather than innovative providers who are intent on delivering health care in a way that is responsive to consumers' needs for efficient and personalised services. She claims that "a technocrat's notion of managing care is ... to wean consumers away from wasteful, expensive specialists" and policy elites do not "seek to recreate the way health care is delivered through competition among different services for the consumers' custom" (Herzlinger, 2004). Her criticism of the US health system finds echoes in Hong Kong's gargantuan public sector that is for all intents and purposes centrally planned and controlled by the Hospital Authority head office via the different hospital clusters. Like many other policy analysts (Robinson, 1997), while we do not subscribe to many (even most) of Herzlinger's arguments in a wholesale fashion, a large consumerism tide is quickly approaching and health care managers should be prepared to respond. Our proposal for a primary care-led health system that commissions integrated secondary and tertiary care from public or private providers on an equal competitive platform is compatible with Herzlinger and her colleagues' (2004) vision of a consumer-driven culture (albeit filtered through the professional judgement of primary care purchasing cooperatives, but ultimately accountable through the annual renewal of patient rosters) as well as Enthoven's plea (2000) for a decentralised approach to health care production and delivery. We caution that a decentralised, market-driven approach to health care should not translate into loosely fragmented service provision with no continuity through the system. Two prerequisites must be in place for this to function properly: a seamless, confidential information technology platform that holds a person-based electronic health record that can be accessed by patients and all authorised providers for clinical purposes and by third-party payers for billing administration; a strong public health agency that protects, promotes and improves health and health care, and provides oversight of the entire system.

To push this idea of competition in health care further, we turn to some recent work by Michael Porter, arguably the best known and most respected strategist in the world. Porter and Teisberg (2004) argued that competition currently takes place at the wrong level where providers, payers and financial intermediaries (e.g. insurers) are simply shifting costs from one sector to another in a zero-sum exercise. Instead, the different players must focus on competing at the level of preventing, diagnosing and treating health conditions through

innovation in hubs of excellence like Herzlinger's focused factories. Competition should be centred on creating value (e.g. cost per quality-adjusted life-year) and not just reducing costs. Better care need not mean higher costs. In fact, better quality can often be less expensive because it involves eliminating unnecessary effort, redeploying resources efficiently and improving clinical decision making based on scientific evidence.

* * *

Many of the lessons in the preceding paragraphs, concerning an integrated acute care infrastructure (both in terms of levels of care and ownership) putting preventive and primary care first and continuous quality improvements, can and should be translated to the areas of elderly and long-term care, as Chu Leung-Wing and Iris Chi point out in Chapter 11. However, care of the elderly, who are ever increasing in numbers and relative proportion (see Chapter 4 by Paul Yip and his colleagues), in sickness and in health brings its own unique set of issues that are not always paralleled in acute adult and paediatric care. Reform strategies must therefore be thoughtfully adapted to these special circumstances. Health care and social services are inextricably linked in the elderly unlike in other age groups. The line that separates health care services from non-health care services is increasingly blurred because the social determinants of health are particularly important in old age as deinstitutionalisation and the dissolution of live-in arrangements of extended families (i.e. with parents and grandparents) become the norm in most of the developed world including Hong Kong, even with our strong Confucian tradition of looking after family elders. For instance, poor living conditions, the unavailability of caregivers and the lack of social support are commonly associated with frequent admissions and readmissions (or the "revolving door" phenomenon) to hospitals. Chu and Chi emphasise a multidisciplinary, multisectoral approach to managing such frail elders. Another case in point is dementia, which represents the category of disorders that afflict the elderly almost exclusively (another example is Parkinson's disease) but do not fit neatly into an acute or even conventional definition of chronic disease such as diabetes or hypertension given the myriad clinical and social manifestations and attendant care needs outside of the strictly medical realm. The costs of informal, unpaid caregiver time make up an unusually large share of the direct personal and indirect costs that are associated with Alzheimer's disease (the most common version of dementia) compared to other conditions. This reflects the hands-on, intensive nature of care by chiefly family caregivers, which accounts for 40% to 70% of total costs (Leung et al., 2003d). The responses that these examples call for are in concert with our previous argument for a seamless, integrated, primary care-led system, where a focus factory-like approach (e.g. acute geriatric units as opposed to general medical beds) dedicated to elder care that bridges the home and the hospital is required. On the macro-level, the present

grouping of health with the welfare and elderly portfolios in the Health, Welfare and Food Bureau should be retained to optimise policy coordination and coherence.

Additionally, long-term residential services and/or care are another focus of priority. There is currently a serious mismatch between need, which mirrors demand closely (unlike many other areas in health care), and supply. From an organisational point of view, because of the invalid and unreliable division of care homes into residential and nursing, “care and attention homes”, “homes for the aged”, “hostels” and “infirmaries”, there are perverse incentives that confuse rather than differentiate between health and social care. Trying to separate care into these two labels is an unproductive exercise, consuming thousands of hours of scarce resources. Instead, full recognition of long-term care as an integral part of a comprehensive health service is long overdue. The crux of the problem lies in the financing of quality elderly welfare and long-term care. Whereas this can be prohibitively expensive for the public purse, which is already saddled with a structural budget deficit, let alone for an individual or a family, a possible solution likely lies in a compulsory, pre-funded savings model that smoothes anticipated expenditures over the working life. Ultimately, a mixture of public and private finances will be involved. A major pitfall to avoid is what the UK’s National Health Service has recently committed, i.e. trading greater equity of finance for equity of access (Deeming and Keen, 2004). Asking people to pay for elements of their care assumes that they will exercise choices in ways that maximise their own well-being, largely uninfluenced by social and other considerations, but this is often not the case. We previously emphasised the imperfect economics of health care, which is again pertinent here, where seniors often do not have the presence of mind or symmetry of information to optimally assess the pros and cons of different service offerings at the time of need. We provide a fuller treatment of long-term care financing in Part IV. While we continue to debate about an optimal system for the future (which can take many years, even decades, if past experience in local health system reform is anything to go by), the present difficulty is to organise a transitional arrangement whereby the intervening “sandwich” generations can be taken care of appropriately in the meantime.

Reinventing the Public Health Function

We end this section by revisiting the starting premise of our commentary, i.e. a public health and system approach to health reform.

Hong Kong appears to have done well, at least until the 2003 SARS outbreak, at the more traditional public health functions of communicable disease control and disease prevention. Indeed, Hong Kong boasts vital statistics and health indicators that are among the most favourable in the world. Today, however, the government is receiving broadsides from all sectors on its handling of the SARS

epidemic and communicable diseases generally. Most of this is gratuitous criticism based on 20/20 hindsight (Hedley and Leung, 2003). Overall, as reports commissioned by the government and the Hospital Authority have concluded, the health system responded as well as could have been expected under the circumstances of a novel agent causing a large community epidemic. This view was not shared by most in the community and the media. The *Asian Wall Street Journal* editorialised its opposition by headlining the government-commissioned report "Hong Kong's SARS whitewash" (Editorial, 2003) the day after its release. A third report by the Legislative Council, reflecting the prevailing public opinion and acutely aware of impending elections later in 2004, named specific individuals and assigned blame in the spirit of political accountability that ultimately brought down the health minister and the chairman of the Hospital Authority. There had even been talk of a fourth review of professional standards by the Medical Council, although this did not materialise.

From the public health perspective, there is a proper role for retrospective reflection from which lessons should be drawn and learnt. First, there is no doubt that the global medical myopia that developed in the 1960s and 1970s in relation to communicable disease has led to under-investment in the public health function as it applies to surveillance, research and control of communicable disease. SARS demonstrated just how urgently the whole of southern China needs integrated information systems and laboratories to monitor the possible emergence of new microbial species. A substantial part of the debriefing process should now focus on developing a new in-depth understanding of Hong Kong's public health needs and recognition of the resources that are required to protect community health rather than simply treat illness. Second, there are inconsistencies in the public health regulatory powers delegated to the Department of Health. For instance, the 44 Hospital Authority hospitals fall outside the Department of Health's purview by legislative ordinance. In essence, this creates a triple role for the Hospital Authority: that of purchaser, provider and regulator. This is an untenable situation. The US has the Joint Commission on Accreditation of Healthcare Organizations, which is independent of any hospital board, and the UK has the Commission for Healthcare Audit and Inspection separate from the National Health Service. Hong Kong deserves the same organisational independence and structural integrity. Third, to be truly effective at detecting and controlling the next infectious disease outbreak, whether it be SARS, dengue fever or bird influenza (H5N1), cross-border collaboration is essential. The Pearl River Delta is a mixing vessel for new viruses, as the preceding sections show. Hong Kong should push for structural integration with the relevant public health and disease control and prevention agencies in Guangdong at both the municipal and provincial levels. More important, however, is genuine operational collaboration, including the unconditional and routine sharing of micro-level surveillance datasets and information (not just aggregate numbers), the harmonisation of data standards and the collaborative training and posting

of personnel. All of these can only be made possible through regular dialogue, mutual understanding and trust, and greater political openness. On a different level, the same willingness to cooperate and to work together is demanded from within each jurisdiction. At least one major international newspaper has attributed research and outbreak control failings in how China handled the SARS epidemic to entrenched bureaucratic inflexibility, intramural bickering and government-directed agendas in Beijing (Hutzler, 2003). Similar anecdotes abound in other quarters locally. The tasks and approach that are needed to avoid this are now clearly set out for politicians and public servants. (Leung et al., 2004)

In response, the government has established a new Centre for Health Protection, the mission of which is to “achieve effective prevention and control of diseases in Hong Kong in collaboration with major local and international stakeholders” (Centre for Health Protection, 2004). It pledges to adhere to the seven common principles as laid down by the government-appointed SARS Expert Committee in its report (2003), namely strengthening epidemiologic capacity, installing systems for early detection and reporting, planning for contingencies, delineating clear command and control structures, integrating a unified response to outbreaks, planning for and managing surge capacity of health care facilities, and promoting transparency and effective communication (SARS Expert Committee, 2003). If the new agency can maintain its initial momentum in persisting along these lines, then the public health function in Hong Kong will have made a great leap forward in the area of infectious disease control, recovering much ground that was lost in the previous two decades.

However, with the demographic transition to an ageing population, the epidemiologic transition to chronic, non-communicable diseases, the technologic transition to ever more sophisticated equipment and scientific techniques, and the economic transition to a post-industrialised knowledge-based society, the portfolio of modern public health responsibilities has expanded considerably. It includes health technology assessment, the development of clinical practice of proven impact, the evaluation of preventive interventions, sound health economic and policy analyses, health target setting and benchmarking (see Chapter 15 by Geoffrey Lieu), regulatory oversight of health care and related organisations, and the creation and maintenance of a comprehensive health information system that includes both the public and private sectors, to name but a few core competencies of a comprehensive public health function. Hong Kong as a whole urgently requires the necessary resources to build this infrastructure to maintain an intact public health function. These resources should be directed at training public health professionals, funding additional posts, strengthening existing organisations and establishing new ones, and facilitating the further integration of public health with clinical medicine on the one hand and society at large on the other (Horton, 1998a and 1998b).

On technology assessment, Hong Kong needs to quickly get up to speed in managing technological innovations in health care, a key cost driver of the upward

expenditure spiral. A prototypical case in point concerns the UK National Institute for Health and Clinical Excellence (NICE), which gives guidance on individual health technologies, the management of specific conditions and the safety and efficacy of interventional diagnostic and therapeutic procedures, grounded in the best available evidence. Currently, the introduction and adoption of new drugs and technologies in the Hospital Authority is a non-transparent process and does not meet many of the criteria laid down by the *British Medical Journal* during the first phase of implementing NICE (Smith, 2000). These criteria called for an agency that admits openly that it is about rationing, works transparently, uses evidence, looks right across health care, incorporates ethical thinking systematically into its judgements, is more distant from politicians and the pharmaceutical industry and is directly accountable to the public. While taking lessons from overseas organisations such as NICE, Hong Kong must avoid committing the mistakes that those organisations have made. For instance, a favourable appraisal from NICE essentially amounts to a compulsory purchase order from health care providers, irrespective of budgetary constraints. This blatantly disregards the rationing role of NICE and leaves the dirty work of saying no to the health service, and also goes against the spirit of decentralisation of decision-making to primary care trusts at the local level. A related issue concerns the fact that NICE has focused on evaluating new rather than existing technologies, thus creating inflationary cost pressures that the National Health Service cannot afford. What is needed is an ordinal ranking of all technologies, old and new, by incremental cost-effectiveness ratios in ascending order and a systematic “shopping spree” approach to adopt as many as possible down the list of interventions under a realistic budget cap. The current NICE appraisal system also fails to leave an option of safe “understudy” treatments in case the mainstay becomes unavailable for whatever reason. The recent examples of Vioxx and Baycol highlight the importance of appropriate redundancy in the system. In addition, some critics of cost-effectiveness evaluations have argued that utilitarian values are inadequate and consideration of other perspectives such as the “fair innings” approach should be explicitly included in the appraisal process. (Maynard, 2004) Lastly, if Hong Kong plans to go along this route of an explicit, evidence-based technology appraisal process, and it should because of the predominant role of the public sector in the health care market, it needs to adequately resource the initiative, unlike what its public agencies have always done in the past: i.e. expend minimally and expect everything. As a rough guide, each technical appraisal alone, discounting the administrative, bureaucratic and fixed expenses, currently costs £80,000 or about HK\$1.2 million. Six universities in the UK are commissioned to carry out six such reviews annually on five-year contracts to establish and maintain institutional expertise and memory. This represents non-trivial effort by the technical experts to collect, collate, analyse and synthesise the best current evidence, and cannot be sustained on a shoestring as many other similar public health activities have been.

Concerning research and development in public or population health, there is a woeful lack of dedicated resources locally. This has been largely driven by the implicit (and perhaps insincere) belief that “a solution to a biological or clinical problem found at, say, the molecular level can be equated to ‘the’ solution of the problem for a population. Ignoring population oriented research is not only naive but delays effective actions to improve health or to avert harm to health” (Saracci et al, 2005). The main funding body, the Research Grants Council (RGC), has a pitiful record of funding non-bench research projects through its Biology and Medicine Panel, let alone epidemiologic investigations. The Social Science and Humanities Panel, on the other hand, has a narrow remit on health-related research. As a result, public health research falls into no-man’s land which is profoundly discouraging and anti-educational for younger researchers in the field as it penalises the ability to compete on scientific grounds through rigorous professional peer review. The only other source of relevant funding is the Health and Health Services Research Fund administered by the government health ministry. However, there is a funding cap of HK\$800,000 and such sponsorship does not carry the “prestige” of RGC money. Whereas there is a large pot of funds in the most recently established Research Fund for the Control of Infectious Diseases (in response to the 2003 SARS experience), many public health researchers have had to change their expertise and interest areas to match the availability of resources which in the long term may not be good for Hong Kong where chronic diseases still claim the most lives every year.

There has been some discussion recently about the duplicative organisational structure of the Health, Welfare and Food Bureau and the Department of Health, and whether the two should be merged into a larger secretariat, similar to the education and manpower portfolio. The Bureau is mostly staffed by administrative and executive staff, whereas the Department of Health is a professional public health agency. Combining the two will give much needed critical mass and bring together complementary staff mixes under one roof, thus eliminating redundant management personnel, although the main benefit for such an exercise lies not in budgetary savings but in the operational efficiency and effectiveness of having a single policy formulation, development, implementation and evaluation agency responsible for public health and welfare. During 2004, there were preliminary proposals circulating in government concerning the reorganisation of the Health, Welfare and Food Bureau portfolio, including the merger of the Department of Health with the policy branch and other structural and reporting changes although its priority appears to have been reassigned downwards in the present administration. Such a reorganisation effort is to be welcomed, although the new arrangements must retain and indeed strengthen its public health focus. Perhaps Anthony Hedley’s proposal for a truly and effectively public health agency, or the “ICAC” of public health, merits further consideration.

One important point bears particular mention. Public health is a distinct professional discipline with its own body of knowledge and skills. According to the UK Faculty of Public Health (2004), it is

... the science and art of preventing disease, prolonging life and promoting health through organised efforts of society. Public health is concerned with improving the health of the population, rather than treating the diseases of individual patients. Public health professionals work with other groups to: monitor the health status of the community; identify health needs; develop programmes to reduce risk and screen for early disease; control communicable disease; foster policies which promote health; plan and evaluate the provision of health care; and manage and implement change.

Therefore, all public health providers should be properly trained, certified through professional examinations, and recognised as such in the health system. Accordingly, this training and certification mechanism should be expanded to include non-medically qualified candidates who wish to become specialists in the discipline. The Hong Kong College of Community Medicine and its parent, the Hong Kong Academy of Medicine, should take the lead in actively pursuing this goal despite the necessary political and legislative challenges it will entail. The age of Brownian motion in terms of the recruitment and deployment of public health personnel is over. Moreover, while senior clinicians (and indeed non-medics) will continue to occupy important positions in Hong Kong's health system, they must be fully supported by a team of public health specialists. Otherwise, they risk falling into the trap many public, well-respected figures have stepped into, i.e. managing or making policy on topics outside their ken by overstepping the usual compartmentalisation of competence for which they became noted (Posner, 2001). On a related and deeper level, intellectuals and experts who have achieved public recognition for their specialised area of work have been known to find themselves driven into a political sphere they hardly understood and consequently fell blind to its many pitfalls with disastrous consequences for the population for whom they were supposed to have served. Lilla (2001) outlined the momentous events involving intellectual giants such as Heidegger, Schmit, Foucault and Derrida and their political insouciance during the time of the insurgence of fascist ideology in Europe. A recent and perhaps more relevant example could be the role of Lee Yuan-Tseh, Taiwan's first Nobel Prize winner and President of Academia Sinica since 1994, in his unwavering and unquestioning support for Chen Shui-Bian's educational reforms which failed on a massive scale and has left a crippling system that is increasingly strained under regional and international competitive pressures.

Lastly, the university schools of public health can play an important role in training, service and research if they are allowed to, but they are particularly vulnerable to the current higher education cuts and territorial wars for intellectual space from some quarters within and without the walls of the academe. Both units are small and ageing, despite recent infusion of small new sums of seeding money as a result of fundraising efforts galvanised by the government's matching schemes

although neither faculty of medicine appears to be truly committed to the discipline beyond such and other lip-service appearances in strategic planning documents. Unless better opportunities and incentives are made available to attract young specialists to public health on a sustainable basis, this academic specialty will be dead within about ten years. This would be disastrous, especially as the service sector needs more and not fewer teachers and trainers in the discipline to boost its own capacity. New thinking is needed to overcome institutional inertia. At present, there is a complete mismatch of need and demand/accountability. The discipline suffers from years of benign (or some may say deliberate) neglect thus there is an urgent need to build basic necessary infrastructure, such as an adequately funded (in terms of recurrent budgets as opposed to soft money) academic base that includes all cognate disciplines of the public health sciences as well as research and teaching programmes that are fit for purpose in contemporary Hong Kong and Asia, for the next generation of public health professionals. However, public health academics spend a substantial amount of time teaching medical undergraduates because they are (90%) funded through the general first-year-first-degree formula of the University Grants Council. This detracts from developing their own separate, albeit related, postgraduate discipline of public health sciences. Unlike other clinical specialties which can rely on leveraging HA resources in the hospitals for the recruitment of new trainees annually, there is no parallel mechanism for public health medicine. In order to make up for the constant financial shortfall due to a cut in medical student numbers (from 180 to 125 per year at the University of Hong Kong in the last four years), both departments have had to subsidise their income through offering a large number of self-financing postgraduate courses, thereby further restricting time resources and productivity. Lastly, all academics in Hong Kong are evaluated by original research output, almost to the exclusion of all other scholarly activities, in the form of a UK-style research assessment exercise. In conclusion, public health departments are funded to carry out undergraduate teaching (not in their primary focus area), expected to produce research output that is competitive in the international scientific literature (with a Research Grants Council funding bias against population health research on the Biology and Medicine assessment panel) but the discipline actually needs to expend the most resources in building basic infrastructure. There is not enough critical mass at either medical school in the public health sciences, which presents two options. First, the two departments could merge and form a Hong Kong-wide school or institute of public health that would be better able to attract new resources, especially in the present climate of “deep” collaboration encouraged by the University Grants Council among the eight universities. Second, whereas many related activities that are not branded as public health research and training are actually taking place across the rest of the campus communities, university-wide reorganisation and consolidation should take place to bring together like-minded people under the umbrella of a school of public health with core funding. In

the past, virtual centres proliferated but yielded little in terms of real output and impact. These two approaches are not mutually exclusive, in fact they must be vigorously followed up in parallel if this discipline is to have a fighting chance at survival, let alone responding to urgent calls from society to become a thriving community of public health scholars. The time is now ripe to bring forward substantive proposals, with the necessary resources, to be implemented in the coming decade.

Epilogue

In the preceding pages, our contributors have attempted to highlight key questions, rather than provide complete answers. These chapters are not meant to be prescriptive in offering exact blueprints for reform. Rather, they are presented as material to be reflected upon, perspectives to be debated and visions that challenge orthodox thinking while foreshadowing prospects for the future.

Gould (Chapter 1) laments the slow progress on key decisions about financing and macro-organisation since the 1980s, when the government first began to think about such issues. Twenty years on, it looks as though Hong Kong may finally be on the verge of a radical shift away from this inertia, with a whole new cast of players joining the health policy and political scene in 2004. After all, the forces for change in terms of socio-demographic patterns (Chapter 4), epidemiological shifts and economic realities, such as convergence with mainland China (Chapter 16) coupled with the shaky financial sustainability of the Hospital Authority current accounts (Part IV), will ultimately dictate the pace of reform. Hedley (Chapter 7) argues that a systematic public health approach is the formula for successful change to meet the three principles that guide health system reform, and that the system should use scarce resources efficiently to deliver care which is appropriate for and acceptable to users and which consistently reduces inequalities in health care across the community. Whatever we decide to do, we must not lose sight of our equity target. The Secretary for Health, Welfare and Food, York Chow, was particularly emphatic about this last point when he declared during the announcement of his ministerial appointment that his top priorities were to fight for the underprivileged and to “address the effective support and services to be given to the elderly, disabled, chronically ill and those families disadvantaged by poverty”. In contrast, the president of the Hong Kong Medical Association, Choi Kin, retorted that “the social medicine system has been tested and shown not to work”, which perhaps implies a *laissez faire* vision of an unfettered health care market with the attendant moral hazard of the inequitable

distribution of services. This is exactly the divide that Maynard observes (Chapter 22) when he categorises health reformers into libertarian and collectivist camps. Even within the collectivist camp, like-minded people often differ on how best to reform the system, as is proven by the widely divergent visions that have been espoused by the Harvard team and the health ministry under Yeoh Eng-Kiong. Roberts (Chapter 2) cautions that it is easy to lose sight of the important moral, philosophical and ethical aspects of decisions about health reform amidst the noise and obfuscation of political grandstanding and emotive public debate. However, we must not allow such fundamental notions of fairness and social justice to be obscured by scare mongering or shortsighted politics. The way in which a community organises and finances health speaks volumes about what it collectively represents.

From the micro-environment of how care is and should be delivered in a hospital ward or community-based clinic (Parts II and III) to the macro issues of funding healthcare and paying providers through various financial intermediaries (Part IV), our contributors have offered a wide range of viewpoints for readers to digest, discuss and debate. This book will have served its purpose if it can motivate and encourage an ongoing dialogue on the vision of health for all in Hong Kong.

Too often in policy and politics, what we cherish most we inadvertently fail by believing that the protection of something means the preservation of the status quo, when its improvement actually requires unorthodox thinking and visionary change. If we are to sustain Hong Kong's health system and allow it to thrive, we will have to change it, and the sooner that we institute evidence-based reform, the smoother the evolution will be. This is not about improving a system; it is about the patients who entrust us with their care every day. There is a trust that we must honour.

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