

EDITORIAL

INFORMATION AND DISEASE PREVENTION IN PUBLIC AND PRIVATE HEALTH DOMAINS

The public-private health sector debate is hotting up around the world, as health budgets burst the seams of well-planned health care systems. In the euphoria engendered by the onward march of free market economics, the expectations that wealth will be generated for most, if not for all, are not being borne out by equity indicators in many countries. The discrepancies between top and bottom income groups are generally widening in many nations, as a combination of investment incentives, unfettered entrepreneurial spirit, reduced tariffs and international networking favor the already rich, tending to disadvantage the poor. The rich have capital and know-how, even with education the poor lack the means to compete favorably. If the market mechanism is seen to encourage risk, this risk may be greater at the top but there the buffers are many, whereas for the minor entrepreneur who lacks capital the risk of the market so often spells doom, for the buffers are nil.

The rush to exploit the market opportunities stimulates high mobility of the poor, as they migrate from rural stagnation to urban construction industries, willing to live in threatening environments for the return of jobs, jobs which do not pay so well, but which have relative consistency (Watanabe, 1992). Families split for long periods, so that many villages become home only for the very young and very old (Ekachai, 1990), as male and female working adults move to the cities, to live in construction slums, where they have more children, who endure a mobile education, if any. Such is the treadmill of the poor in the midst of rapid economic change, hoping against hope. A few make it, most pass on their poverty to the next generation. The per capita GNP rises, the equity declines.

Some will debate this scenario. They will argue that the "trickle-down effect" does work, that purchasing power parity (PPP) does measure what the average person can buy in their own country and that as PPP rises so general prosperity rises also. This group of analysts sees economic miracles as positive forces for greater good and government roles as supportive rather than directive, with minimal moderating force for attainment of greater equity.

Against this general socio-economic backdrop the prevalent scenario of health systems presents a dichotomy (Phillips and Verhasselt, 1994). Health ministries generally see their mandates as relating only or mainly to the public sector, yet find they must undertake health sector reform focused on alternative mechanisms of financing to supplement their budgets because of runaway costs. Strangely, even in nations devoted to the free market system in their overall economies, health ministries often cast a semi-blind eye to the private sector in their own domains, as if it were a sidestream for health care delivery when in many cases it has become the mainstream.

This supposed sidestream offers higher wages, often better conditions and selected patients, so contributing to the diversion of human resources from serving the poor to serving the richer echelons of society. The need is clearly to build mechanisms of partnership, to formulate licensing provisions in the private sector that ensure service also to the poor, that place obligations on the promulgation of preventive medicine on par with money-making, curative medicine.

Ultimately it is this latter issue that must be given front page, locally in every nation and globally at the same time. We are reminded in so many ways in recent years of the critical importance of preventive strategies, Garrett (1994), for example paints a vivid picture of the *coming plague* of explosive waves of infectious disease out of control, although in reality we have staggered from epidemic to epidemic as history unfolds, as indeed history has evolved over eons of time (McNeil, 1976; Karten, 1995). Yet as the current AIDS pandemic so starkly reminds us daily, only when the rich world is at risk do the megadollars flow for infectious disease control. This despite the rhetoric of the *global economy in a borderless world* (Ohmae, 1990, 1995) which envisages a functional merging of world populations in a frenzy of money-making interchange. People movements will continue to rise, megacities will continue to arise in the rubble of their macro precursors, infectious diseases will continue to spread, new mutants will continue to engender excitement in the hallowed halls of molecular genetic endeavor.

But a key question will still be the ability to mobilize resources and political will to stay forever on the alert and to forestall epidemic or pandemic tragedy by preventive measures. In this sense China represents a prime example of what can be done and yet at the same time what may not be done if market economics overruns the world. In this journal issue an important paper by Tang Lin-hua and colleagues (1997) reports the outcome of a long, painstaking study on modification of well-entrenched approaches to malaria surveillance which have been responsible for remarkable containment of the disease in most of China for a long time. The slow caring manner in which changes have been considered reflects the realization that altering a well-trying system of disease control and prevention must take into account technical, economic, political and strategic issues. The changes are inevitably related to the the economic returns of disease control, as well as to the control strategy itself.

China has a big advantage over many other nations in that many years ago it invested in a nationwide disease information network which reaches ultimately into every village, through a reporting chain that provides rapid feedback at provincial and county levels and builds continually on a cumulative epidemiologic data base to give case cluster warning signals of potential epidemics (Chen, 1992). To keep such a system working effectively requires considerable stability in data collection strategies, something which is under challenge as free market mechanisms increase their sway. Motivation to devote time and effort to disease control is continually challenged by opportunity to make money in the market. As in every other field, private enterprise in the health sector grows daily, placing strains on the public sector system. In some areas with high malaria endemicity, such as Yunnan Province, more patients appear to seek treatment in the private than in the public sector. If the two were integrated effectively this would be fine, underscoring the need for efficient human resource utilization.

But there, as in so many endemic countries the private sector does not consider case reporting a high priority, so the information flow is interrupted. Disease information reporting is a serious matter, since it represents the database on which preventive strategies are designed. It is perturbations in the information patterns that give the clues that disaster is impending. If these are received and

acted upon rapidly that disaster may be averted or at least contained if we accept the reality of the growing private health sector, then we must also accept the reality that enforceable legislation is essential to recruit actively the human resources in that sector into the information flow which is such an essential prerequisite to disease control. Action needs to be based on concerted information, updated regularly, with clear pathways to appropriate, concerted action. Harnessing the fruits of the information revolution for operational public health requires that both public and private sectors are co-participants. Much can be done by way of positive encouragement, but much can also be done through licensing mechanisms, by requiring cooperation in case reporting as a basis for the right to practise.

One lesson from the Chinese experience is the advantage of rapid feedback. So many national disease information systems involve rapid flow from periphery to center, but very slow or absent feedback from center to periphery. Thus the databases give useful annual reports for office or library shelves but little or no support to rapid local action in a time frame appropriate to preventing disease outbreaks.

The issue of public-private partnership is not easy to resolve. But at least part of the problem would seem to be the division that is allowed to exist in such a manner that the responsibilities are seen to be different, whereas they should have common goals, mechanisms for quality assurance, and responsibilities. The information that flows from disease reporting in public or in private sectors depends both on accuracy of case diagnosis and management, and on available information transmission mechanisms. To be useful in epidemic containment, case cluster analysis must be immediate, not hidden in annual reports.

One of the basic problems is the difference in approach to goals in preventive and curative spheres. Curative practice, so-called, focuses primarily on individual cases, the diagnosis and treatment. This process of necessity should include the family, but rarely anything beyond. Yet it is from unusual connotations of individual cases that some of the most important epidemiologic clues arise, in public or private sectors. Building a continuous awareness of epidemiologic implications of cases and case management must be a goal common to both sectors and a natural flow-on from curative to preventive medicine. Such a flow of information at

local and higher levels has been the secret to China's disease management, which is now challenged by the more myopic focus of private medicine in the less constrained free market era.

Computer network methods provide a means of information flow that did not exist previously. In considering investment options, the private sector in many countries could well take the lead in their application, since case data recording can be coordinated with disease reporting to the advantage of efficiency of medical practice. There is a need for intensive and extensive economic analysis of potential investment patterns: hardware, software, personnel, training, but also public investment in telecommunication systems strategically placed. Since the latter enhance business in the wider sense, the cost of health system initiatives will be only a fraction of the overall costs, even in remote rural settings. The general process is happening everywhere anyway, it behoves the health sector, public and private in consort, to take advantage of the technology.

However, the key point is to interweave curative and preventive components of the health paradigm, not simply put money into making more money. It would be worthwhile in each country to consider the cost-benefits of options in telecommunications that would allow maximal utilization of disease information, using economic analyses that encompass potential costs of unforewarned epidemics which could have been prevented. Even at a simple level the rewards are likely to be considerable. There will never be a perfect flow of disease information but trends can be informative enough to be of practical use.

Smallpox in the recent past, polio in the immediate present reflect well on the wisdom of prevention, when there are known causes, defined disease patterns and efficacious vaccines. Some other diseases loom attractively, such as measles, yet just as EPI programs are gaining ground in many poorer countries, so they are losing ground in some wealthier countries. The latter has multiple causes but a question that is too seldom asked is the role of the private sector in this most attractive prevention strategy. It is worth reviewing the private-public division of vaccination labor in this context, as it is in relation to a whole spectrum of preventive options. But unless there is equal participation in the disease information business we will never know the answer. Vaccination is a nice technical starting

point for broader preventive medicine perspectives, which stand firmly on health education as a base.

Disease surveillance is the hard grind of prevention strategy. It is unexciting, monotonous, financially unrewarding to the individual, yet in the final analysis it offers great rewards to the community. That is where epidemic prevention starts, it is where wise public investors will place their money, if they can see useful action ensuing in a short time frame. The Chinese model (Chen, 1992) is a good starting point, from which many other countries can learn. It also contains the elements of potential uncertainty in a changing economic climate. It is because of that changing economic climate, with its rising private focus, that effort needs to be placed in planning new emphasis on public-private sector partnership in information systems for improved disease prevention and control.

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REFERENCES

- Chen CM. Disease surveillance in China. Proceedings of the 1992 International Symposium on Public Health Surveillance. US Department of Health and Human Services, Center for Disease Control and Prevention 1992; 111-22.
- Ekachai S. Behind the Smile. Bangkok, Post Publishing, 1990.
- Garrett L. The Coming Plague: Newly Emerging Diseases in a World out of Balance. New York : Penguin 1994.
- Karlen A. Plague's Progress: A Social History of Man and Disease. London : Gollancz 1995.
- McNeil W. Plagues and People. New York : Anchor 1976.
- Ohmae K. The Borderless World. London : Collins 1990.
- Ohmae K, ed. The Evolving Global Economy. Harvard 1995.
- Phillips D, Verhasselt Y, eds. Health and Development. London : Routledge, 1994.
- Tang LH, Qian HL, Cui G, *et al.* Study of simplified measures for malaria surveillance in the late consolidation phase in China. *Southeast Asian J Trop Med Public Health* 1997; 28 :
- Watanabe T. Asia: Its Growth and Agony. Honolulu : East West Center, 1992.