

Mongolia's system-wide health reforms: lessons for other developing countries

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Abstract

Mongolia is a poor country that lost 30% of its GDP when the Soviet Bloc collapsed in 1990. Its health care system had the typical weaknesses of centrally planned economies - quantity rather than quality, excessive medical specialisation, dominance of the hospital sector, weak policy and management capabilities, little community participation in decision making, and so on.

This paper describes Mongolia's attempts to resolve these problems through a radical program of reform that began in 1998. There have been significant successes in spite of almost overwhelming difficulties, and this may be a consequence of the strong sense of community that has been present for five hundred years and re-emerged intact at the end of 70 years of Soviet dominance.

We argue, however, that good design and skilful implementation of the reform program may have made a contribution. Its notable features have included the use of a comprehensive and integrated model rather than piecemeal reform, the generation of political support for change through social marketing campaigns, a team approach using local and international experts, and co-ordination of international donor activities. Some of these features may be relevant to other transitional and developing countries.

The need for reform

Since the break-up of the Soviet Union in the early 1990s, the countries of the former Soviet Central Asia and Eastern Europe have been undergoing rapid change in almost every sector. The focus has been a move away from centrally-planned and towards market-based economies. The effects have often been negative in the social sectors including health care, mainly because they respond poorly to unconstrained market forces. Moreover, the social sectors were particularly dependent on government budgets - and reduced government funding has been a common feature of the new socio-political order.

In general, all the former Soviet Bloc countries have witnessed a battle between economic rationalism on the one hand, and a desire to retain the social justice of the previous order - at least in health and education. In most countries, this has led to frequent changes in strategy, as illustrated by the initial turmoil in Hungary (Makara 2000).

There have been many reports of disappointing trends relative to similar countries in other parts of the world. A typical view is that of Ciment (2000). He notes the general trend towards poorer health care and static or declining health status, and concludes that "... the health situation in (parts of) the former communist bloc is dire".

The adverse trends have been reported across a wide range of health problems. For example, Stegmayr et al (2000) note there has been a widening gap in stroke mortality between Russia and Sweden since the break-up of the Soviet Union.

Parízková (2000) examined trends in the former Soviet states with respect to adolescent nutritional status. He observes that the changes of the early 1990s led to an increase in differences, both between countries and within them. The underlying factors have included greater civil unrest, a widening of incomes, and large fluctuations in the price and availability of important foodstuffs.

In some cases, health problems have emerged that were considered largely resolved many years previously. An example is diphtheria, as reported by Niyazmatov et al (2000) and by several other authors with respect to neighbouring countries including Russia and Tajikistan. There is some uncertainty about the epidemiology of the outbreak that occurred in the early 1990s, but most researchers argue that a failure adequately to respond was caused in part by the disruption of the health care system.

Rivkin (2000) points out the difficulties that the former socialist states have experienced in matching the new and the old cultural logic. The problems have often been exacerbated by the "... limitations of development agencies to engineer post-socialist change". He describes experiences in a recent WHO project in Russia, in which "... the ideology of democracy was rejected, while WHO's recommendations were partially appropriated as profit-making strategies."

Ivanov (2000) describes similar experiences in a project designed to improve maternal and child health in Russia. She concludes that one cannot use patient satisfaction instruments and associated models of relationships between utilisation and satisfaction originally developed for use in the United States because "... the Russian health care system has been and remains different from that of the United States."

In summary, it is necessary to find new ways of financing and delivering health care. Most observers believe it would be unwise to assume that a free market will do the job by itself, and there must be health-specific reforms. For example, Ensor (1999) stresses the need to increase access and affordability through adopting a population health perspective; that is, one that focuses on appropriate levels of care for all citizens and manages on the basis of the effects on health status. In general, the challenge has been to ensure that the specific details of good health policy were not lost in the simplistic models of central planning and market forces.

Common features of the health systems of the Soviet Bloc

The dominant objective of health care in the former Soviet Bloc countries was universal access. Nation-wide networks of government facilities were established, mainly to provide curative services free of charge. Hospital and medical services were considered most useful. In contrast, primary health care (including illness prevention, family medicine, and holistic approaches) were given little emphasis (RRP, 1997). Success was judged mainly in terms of inputs such as the numbers of doctors and hospital beds per capita.

Service delivery, human resources and infrastructure were all centrally planned, and there was hardly any community participation in decision-making processes. With rare exceptions, private sector involvement was negligible.

There was a high degree of specialisation and compartmentalisation of labour. This resulted in a high doctor to population ratio, because it was considered necessary to provide specialist services in all hospitals, even in the most remote areas. There was little professional education for specialists, and the majority received only a few months of postgraduate training. Skills were consequently low. The concern was for quantity rather than quality.

Each major urban area typically had several hospitals with various specialisations and some degree of duplication. The mid-sized urban areas usually had 'district' hospitals with a range of secondary general specialties and outpatient services, and the smaller urban areas had hospitals with little or no equipment and a small bed base (ZdravReform, 1999).

Primary health workers mainly comprised doctors (often trained initially as paediatricians or obstetricians) who were employed at hospital-based clinics and required to work within defined catchment areas. For many reasons including a lack of skill, these primary care staff referred all but the simplest of cases to hospitals. Specialists also operated from a hospital base (ZdravReform, 1999).

Mainly because of the lack of resources, primary care was regarded as the least prestigious area of medicine, attracting the least qualified physicians and lacking in public esteem and confidence. The clinic-based system favoured self-referral to specialists, and provided little incentive for primary care physicians to manage patients as part of a holistic general practice approach.

Another significant weakness concerned drugs. Most of the centrally planned economies lacked adequate policies designed to standardise and regulate essential drug provision, increase availability and affordability of essential drugs, or improve prescribing and dispensing practices.

There were obvious weaknesses with respect to policymaking and management capacity. One factor was that the Ministry of Health was typically subordinate to the Finance Ministry in terms of priority setting and financial resource allocation, and an understanding of the distinctive features of health policy was largely missing.

Incentive systems in the hospital sector typically rewarded inefficiency through use of such approaches as budgeting in proportion to bed numbers or expenditure history.

Management information systems typically involved the routine collection of large volumes of data, but analytical capacity or the imperatives to use data to support decision-making and planning were virtually non-existent. Data were frequently modified to suit particular political and mainly bureaucratic uses, and valid trend analyses and other comparisons were rarely possible (RRP, 1997; HSDP, 1999; ZdravReform, 1999).

The Mongolian health system

As in other Soviet Bloc countries, the dominant aim was to give roughly equal access to medical and hospital services (WHO, 1999). This was achieved in Mongolia by the establishment of facilities at four levels, as follows.

- Physician's assistant (bag feldsher) posts in rural areas. During the late 1990s, these have been augmented in part by the establishment of family doctor posts in provincial towns and cities.
- First-level referral hospitals at the Sum level. A Sum is a small town or village together with a mobile, nomadic rural population of herdsmen and their families. The hospital staff were mainly doctors and midwives.
- Second-level referral hospitals serving each district (Aimag) and located in the main town (or Aimag centre). The average population of an Aimag is 85,000. There were general hospitals with around 200 beds in each Aimag centre.
- Third or national reference level institutions. They comprised general and specialised medical and public health centres in Ulaanbaatar, the country's capital.

The Government instituted a decentralisation policy in the early 1990s as part of the move away from central planning. Local governments are now directly responsible for the provision of health and education services. Their responsibilities include budgeting, capital investment, and the control of expenditures.

Health expenditures represented between 4% and 4.5% of GDP between 1990 and 1995. However, real expenditure in health has steadily declined due to inflation and an overall fall in per capita GDP. Financial constraints have adversely affected operation and maintenance of physical infrastructure and equipment in the health sector. General hospitals and facilities are too large and otherwise badly designed. This is a primary cause of maintenance difficulties and high running costs - including those related to heating, which is a major factor in Mongolia's climate.

The hospital sector in Mongolia is generally too large, both in terms of beds and staff, to be affordable. Costs are excessive, cases are insufficient to maintain clinical skills of staff, and duplication and redundancy are marked - especially in Ulaanbaatar. Until recently, primary health care strategies in Mongolia were limited and hospitals remained the main access point for health care for most of the population. There was no formal referral system, or other arrangements for networking.

Table 1 shows that Mongolia has high ratios of doctors and beds to population. The problem is compounded by an excess of doctors in urban areas and distinct shortages in rural areas reflecting the end of compulsory Government assignments to the countryside in the early 1990s. In 1996, there were 51 doctors per 10,000 population in Ulaanbaatar, but only 16 per 10,000 in Aimags. There are particularly serious shortages of specialists in rural areas including surgeons, anaesthetists and obstetricians (RRP, 1997).

There have been particular problems in Mongolia with respect to clinical training, including continual improvement of clinical skills (RRP, 1997). This was partly a consequence of difficulties of communication: Mongolia's population density is very low (only 2.5 million people in a country of 1.56 million sq km - about the size of European Union).

Table 1: Demographic and health indicators (1993) - selected transitional countries

Country	GDP per capita	Hospital beds per 1000	Doctors per 10,000	Life expectancy		Infant mortality rate per 1000 live births	Maternal mortality rate per 100,000	Fertility rate (1)	Popn. growth rate (2)
				M	F				
Selected low-income countries									
Mongolia	400	9.9	25.4	63	65	58	240	3.5	1.6%
China	490	2.6	13.7	70	78	31	95	2.0	1.2%
Vietnam	170	3.3	3.5	63	68	36	120	3.8	2.2%
Mean values	350	1.0	1.5	62	64	71	—	—	—
Selected middle-income countries									
Kazakhstan	1540	13.6	41.0	70	78	31	53	—	—
Kyrgyzstan	830	12.0	37.0	69	76	37	43	—	—
Indonesia	810	0.7	1.4	61	65	36	450	2.8	1.7%
Sri Lanka	600	2.8	2.1	70	74	17	30	2.4	1.2%
Mean values	2480	16	4.9	67	73	38	—	—	—

Sources: ADB 1996 Key Indicators Vol XXVII, and UNDP 1995 Human Development Report

(1) Fertility rate is the number of newborn babies per woman of childbearing age.

(2) Population growth rate is the new population in a given year divided by the population of the previous year. A ten-year average is shown.

The role of the private sector in health service delivery remains limited, even after 10 years of transition to a market economy. One constraint is the low incomes, and another is the low population density - and consequently the difficulties in realising economies of scale.

The Mongolian Health Sector Development Program

Following independence from Soviet influence in 1990, and experiencing the difficulties of economic transition, the Mongolian Government recognised the need to reform the country's health system to increase productive and allocative efficiency. An approach was made to the Asian Development Bank (ADB) in 1995 to review the health sector and to develop a comprehensive set of policy measures, investments and interventions to address the most significant problems. Following a technical evaluation, the Mongolia Health Sector Development Program (HSDP) was formulated with a broad aim of transforming the health system into an efficient and sustainable network within the framework of market economy reform (RRP, 1997).

The Program was activated in mid-1998 and will continue until the end of 2002. It is funded by \$US16 million in program and project loans to the Mongolian Government from the ADB. International consultants have been involved through an Australian-Finnish Consortium comprising the Snowy Mountains Engineering Corporation (SMEC), AusHealth International and STAKES (the Finnish government international assistance agency). High-quality inputs have also been obtained from local consultants.

The Program's design was based on three key principles: communication and dialogue with all stakeholders (central Ministry of Health, international donor agencies and bilateral organisations, health personnel and the Mongolian community); continuous and overall improvement in health care and delivery of services, with an emphasis on customer satisfaction and community participation; and access and availability, especially for the poor and vulnerable in Mongolian society. The major areas and content of the HSDP are briefly outlined below.

Family Group Practice. This involves establishing groups of general practitioners to become private providers of service under contract, developing capitation payment systems and performance-based contracts, retraining in general practice, and registration of the community with providers of their choice.

Health care financing and management. This includes the development of output-based payment systems for hospital services, hospital boards, processes for the transfer of resources to primary health care, and quality systems.

Licensing and accreditation. This comprises the development of licensing criteria for all health professionals and health facilities, accreditation systems, and monitoring and evaluation processes relating to attestation procedures.

Human resource development. Key elements are workforce policy development, assessment of training needs, human resources planning, development of standard roles and job descriptions, and revision of the core medical curriculum.

Hospital master planning. This includes the development of master plans for hospital rehabilitation, guidelines for maintenance programs, and master planning tools.

Civil works and design involves rehabilitating and upgrading project hospitals within a redefined referral network.

The medical equipment component includes identifying equipment needs, developing criteria for standardising medical equipment, master planning for equipment procurement, and developing bio-medical maintenance programs.

Hospital sector rationalisation involves developing rationalisation plans for the hospital sector, and role delineation of the type, range and extent of hospital services.

Private sector involvement involves assessing the potential for contracting out of non-core hospital services, and development of guidelines for the outsourcing of non-essential hospital services and building stock.

Monitoring and evaluation. The aims are to improve information systems for various purposes. They include assessing the impact of the reforms on poor and otherwise vulnerable groups, ensuring equity of access and service provision, and increasing strategic capacity.

Initial impact of the Development Program

Considerable progress has been made on each of the components. First, 84 Family Group Practices (FGPs) with 334 doctors have been established in the first two years, serving 435,000 people - 17% of the Mongolian population.

The doctors have transferred from hospital-based clinics to premises in their target population areas. Performance contracts have been developed that specify levels of essential services (emergency cover, vaccination targets, home visits, etc). Modern equipment to support primary health care activities has been provided to each FGP.

A risk-adjusted capitation payment system is used (Hindle et al, 1999). This is a highly effective model for several reasons. Inter alia, because higher capitation rates are paid according to both clinical need and poverty, the model serves to equalise access since doctors have a financial incentive to work in poor communities and to enrol low-income families.

Evaluation of the FGP model is under way through satisfaction surveys, impact assessment, and cost and utilisation studies. Preliminary analyses have shown the policy objectives and implementation targets are being achieved, and that there is general community approval of the initiative (HSDP Mid Term Review Report, 2001). The model is currently being extended, and will cover the whole country within two or three years.

Second, structures and processes to facilitate licensing and regulation of personnel have been enacted by the Mongolian parliament and standards for licensing have been developed. All health professionals in Mongolia are now registered and licensed according to criteria that have been drawn from a variety of models used in other countries including Australia.

Third, hospital boards have been established with strong community representation to set strategic directions for hospital services and to monitor financial management. Guidelines have been provided to Boards that encourage the application of principles of continuous improvement, customer focus and systematic and methodological approaches. Ideas were obtained from the excellent Board management series issued by the Australian Healthcare Association.

Fourth, there has been progress in human resource development, including the establishment of a policy framework for workforce planning. Preliminary incentive schemes have been developed to encourage shifts in personnel to disadvantaged areas, and considerable effort is being expended on curriculum redevelopment to guide clinical practice.

Fifth, medical equipment has been procured and is being installed in selected hospitals. The focus has been on diagnostic radiology and pathology equipment to support the role of referral hospitals in the new health care network and to increase treatment capacity overall. Programs for biomedical engineering training and maintenance are being developed.

Sixth, an extensive civil works program was completed in January 2001, that made use of master plans designed specifically for Mongolian facilities and conditions. 27 hospitals have been upgraded and refurbished, and in some cases entirely rebuilt. The building program was based on a strategic plan of roles and functions of each facility, including a redesigned referral system.

Seventh, progress has been made in encouraging private sector involvement. Guidelines and orders have been issued to facilitate leasing of infrastructure to private providers and the outsourcing of non-core services. Pilot schemes are operating in several hospitals that concern cleaning, building management and laundry services.

Eighth, a hospital sector review was conducted concerning the number and distribution of hospitals. This has allowed plans to be formulated for significant reductions, together with increased investment in primary care. A framework for role delineation and referral has been established that draws heavily on Queensland Health guidelines. Inter alia, it specifies levels of service and relationships between specialties to support optimal care and treatment.

Ninth, a set of performance indicators has been designed that will initially be used to monitor the extent and impact of the reforms, with particular emphasis on access to and utilisation of services by disadvantaged groups. The long-term aim is to improve management capacity and strategic planning across the sector.

Finally, the reforms have been complemented by an extensive information and awareness campaign (HSDP, 1999). It has been directed at education of the population on the directions being taken in health, and at encouraging community participation in the process through representation on Hospital Boards, registration with doctors of their choice and communicating views on the implementation of the Program.

Related developments in other countries of the former Soviet Bloc

Most countries of the former Soviet Bloc have focused on five main types of reforms. They are the rationalisation of hospital services (and predominantly significant reductions in capacity); the development of general practice networks for registered populations (often using private practitioners and capitation payments); clinical retraining programs; attestation programs involving licensing and registration processes; and raising cost-effectiveness in all areas and across all disciplines through quality improvement processes. There have been wide variations in terms of success.

Several projects throughout the region have concerned the development of family medicine faculties in the medical schools - such as the Postgraduate Training Institute through US assistance in Kazakhstan and Kyrgyzstan, and the British Know-Fund in Uzbekistan. The World Bank is also supporting the development of family medicine in medical schools in these countries.

FGP networks have been established in Kazakhstan and Kyrgyzstan, although (unlike in Mongolia) doctors remain government employees. Bulgaria has introduced capitation payments for general practitioners and is moving resources towards primary care.

One of the most concerted attempts to change clinical practice has been carried out by international donor agencies in conjunction with the World Health Organisation (WHO), which has developed protocols for a range of clinical conditions such as acute respiratory infections, childhood diarrhoeal diseases, tuberculosis and family planning. However, it has been claimed that there is resistance to changes in practice and the implementation of protocols has not been particularly successful (ZdravReform, 1999).

In strengthening community participation, methods such as small grants programs to encourage collaborative health activities have been introduced, particularly in Uzbekistan (ZdravReform, 1999). Various donors including the United States Agency for International Development, WHO and German Technical Co-operation have provided technical assistance to Central Asian countries with respect to health insurance.

The transition to output-based funding has begun in Kazakhstan and Kyrgyzstan. Hungary has adapted the diagnosis related groups classification, as have several other eastern European countries. Bulgaria is taking a more sophisticated approach to per case payment that includes defining case types by clinical pathway.

The HSDP as a model for change

Some mistakes have been made, and there are aspects that could have been better handled. For example, there were weaknesses of synchronisation: designs were sometimes completed before or after the time that people were ready to implement, and related elements of the model were not always completed in the optimal sequence. The design team sometimes lost touch with those responsible for implementation, and we did not always fully appreciate the difficulties of continuing to operate a health system while it was being redesigned. There were also some weaknesses in the evaluation design, and one consequence was that we were sometimes slow to recognise the need to make changes to the reform program as a consequence of initial experiences.

In general, however, it is fair to claim that Mongolia has had more success thus far than most of the other transitional economies. It is therefore worth considering the elements that distinguish its reform program. We will mention four that seem important to us.

First, Mongolia recognised at an early stage that aspects of health sector reform are inextricably linked. For example, developing primary health care networks requires rationalisation of the hospital sector, redistribution of resources to primary care and prevention, and major changes in medical education and postgraduate training. The HSDP was therefore designed specifically as an integrated package that is also linked to the government's overall agenda for reform.

Consider the FGP model, which is leading to a reduction in the number of doctors as a direct consequence of careful use of market forces. Resources follow the registered patient via capitation. Doctors unable to attract patients have no option but to look for alternative employment.

A well-defined FGP network would be supported by the transfer of resources from a reduction in the size of the hospital sector. The FGP model has the potential to build a referral network guiding the appropriate and efficient use of secondary and tertiary facilities through incentive (and disincentive) systems. For example, output-based funding could be linked to the degree of adherence to referral protocols such as GP referral letters for specialist services. Overall, primary care services have the capacity to hold down health costs through more economical service delivery while maintaining universal access for the community.

Another example concerns licensing and accreditation systems. They have the potential to raise quality and standards through criteria for clinical practice and the need for continuing medical education to retain license to practice. By prescribing criteria, the number of doctors can be regulated (through age, qualifications, experience, imposition of penalties, etc) and attestation procedures can allow the development of professional bodies to ensure higher standards and training in future.

Civil works and rehabilitation of hospitals provide the opportunity to develop referral networks by defining the scope and role of local and district hospitals. The overall aims may include the reduction of excess inpatient beds and the physical redesign of facilities in a way that encourages and facilitates ambulatory and outreach care.

Rationalisation of the hospital sector reduces the number of hospitals. This has the potential to affect doctor numbers and to refocus clinical practice to accommodate the changed role of hospitals. Reductions in bed numbers encourage the development of clinical protocols to decrease lengths of stay, moves towards day-only procedures, admission criteria, standardised treatments, and development of outcome-based funding approaches. Hospital rationalisation also builds management capacity by making senior managers and clinician responsible for restructuring and managing the processes of change through, for example, performance agreements and contracts.

Human resources planning and development refocuses medical education to emphasise primary care and general practice and to address oversupply and maldistribution of doctors and health personnel. Finally, monitoring and evaluation builds data integrity leading to better information systems and enhanced management and planning capacity.

These points apply to some degree to Australia. It has been regularly noted over at least fifty years (and most recently by the Senate Inquiry into public hospitals in 1999-2000) that services are poorly integrated as a consequence of fragmentation in financing streams, management responsibilities, and so on. In contrast, the HSDP components are systematic - each element has links with other major reform aspects leading to more effective and sustainable results in the long term.

One might argue that there is nothing like a crisis to prepare the ground for major reforms in health care. However, the speed of change is not obviously correlated with the level of crisis across the former members of the Soviet Bloc. It is interesting to note that Australia's periodic reviews of the health care system are usually precipitated by claims of crisis - and usually fail to result in any change whatsoever, possibly because those involved in the review could find little evidence of pending doom.

Another possibility is that one needs both a crisis and some reasonable degree of social cohesion. Australia has lost this in recent years, like many other countries that have embraced economic rationalism.

A second distinctive factor contributing to success of the Mongolian reforms has been the continued and broad-ranging bipartisan support across the political spectrum. This has been encouraged by Program staff and the ADB through persistent and ongoing communication with members of the government and the Parliament on the reform package and the expected benefits. As noted earlier, there has been an extensive and professionally conducted social marketing campaign - which has not only stimulated the interest of the population at large but also their political representatives.

There may, however, be a more important reason for bipartisan support. Perhaps more than in any other country of the former Soviet Bloc, Mongolia has a strong sense of community. Mongolians are proud of their long history, and have a high degree of cultural homogeneity. It has consequently not been difficult to achieve a high degree of commitment to a process that is directed at the wellbeing of all Mongolians.

Third, the reform program has made good use of an integrated team approach, with the right kinds of staff being employed according to a rigorously designed schedule of inputs. Particular note should be made of the contribution of local consultants. They comprised carefully selected experts with wide recognition and standing in the Mongolian professional community. This ensured access to important players and stakeholders, conferred status and legitimacy on program aspects, and ensured there was thorough knowledge of the Mongolian context.

Finally, there has been an unusually high degree of collaboration among the international donors and technical assistance agencies. There has been a free sharing of ideas and pooling of resources. For example, UNICEF has contributed expertise in community participation, the European Union has given support to improved financial management through its TACIS project, and the United Nations Population Fund and WHO have provided valuable inputs on clinical retraining. It may reasonably be argued, however, that this has been a second-order attribute. Given the commitment of Mongolians to socio-economic progress through collaboration, they would be unlikely to accept anything less from foreign players.

In summary, Mongolia has been more successful in health reform thus far than anyone might have expected, given the difficulties: the chronic poverty, seventy years of central planning, and the loss of perhaps 30% of its resource base overnight when the Russians pulled out. Moreover, there have continued to be new challenges, including the severe winters of 1999 and 2000 that led to enormous losses of livestock among the predominantly herding rural population. Mongolians have a right to be proud of what they are achieving in the health sector.

The success has not gone unnoticed. The ADB has recently concluded that progress with the reform program warrants its further investment and support. The lessons learned thus far are worth noting by other transitional countries.

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