Building capacity in the Mongolian health sector: a training methodology based on identified needs assessments

Michael O'Rourke, Kainyam Tungalag, Don Hindle and Takako Yasukawa

Michael O'Rourke and Dr Kainyam Tungalag are consultants to the Health Sector Development Program of Mongolia. Professor Don Hindle is Visiting Professor in the Medical School, University of NSW, Sydney. Dr Yasukawa is a Social Sectors Specialist with Asian Development Bank.

Abstract

Mongolian health care is moving from a centrally planned hierarchical basis towards greater decentralisation as part of overall sector wide reform. To identify key needs of health personnel to help to build capacity, we undertook research aimed at assessing priority training areas. The research results indicated gaps and weaknesses in many technical areas, but also significant problems in terms of how Mongolian health organizations function, including rigid structures, isolated management, and little internal communication. These features militate against optimal agency effectiveness. This paper discusses how specific training programs were developed based on quantitative research and an overarching organisation improvement theme emphasizing openness; communication; and participation to maximize the benefits of skills transfer and capacity development.

Health sector reform in Mongolia

Mongolia has embarked on a program of major reform in the health sector. Previously, Mongolian health care was organised along the lines of the Soviet model with central planning of health service delivery; little participation of local communities in decision-making processes; predominance of hospital based services; poorly developed primary health care; and limited management and strategic planning capacity (ZdravReform 1999; Field 2002).

A major vehicle for health service reform in Mongolia is the Health Sector Development Program (HSDP), an initiative funded from Asian Development Bank (ADB) loans to the Mongolian Government, aimed at reforming the health system to provide high quality care to the Mongolian people.

The Program has been underway since mid 1998 and has already impacted on the structure and delivery of health services in Mongolia which had undergone decentralisation in 1994 (O'Rourke and Hindle 2001). HSDP is directed towards structural and organisational reform (RRP 1997) - mainly moving the system to primary health care via the Family Doctor initiative (through doctors working in groups as general practitioners separate from hospital based services); improving quality (through quality assurance processes to focus on continuous improvement practices); improving services (through equipment provision and hospital refurbishment and upgrading); and strengthening systems capacity (through Licensing and Accreditation systems, management retraining and improved health management information systems).

Important emphases of the program have been protection of poor and vulnerable groups in Mongolia and community participation.

Mongolian health sector reform, therefore, encompasses a spectrum of policy and service delivery interventions, intended to restructure the health system and improve quality and overall capacity.

Supporting decentralised health services

A major part of the change process in Mongolia is implementing reform at the local level. Health sector reform is directly affected by the decentralisation process instituted by the Mongolian government during the early 1990s. Under this process, local governments are responsible for the delivery of social services including health services. Local governments establish priorities and determine the level and extent of funding support for health care in their areas (WHO 1999).

Local government staff, therefore, have an important role in planning, funding and organizing services at the local level and in reducing poverty and disadvantage in their areas. However, the rapid rate of decentralization and the transfer of many activities, duties and responsibilities to local staff have placed a burden on their ability to manage all activities effectively. In addition, most health managers in Mongolia tend to be medically trained doctors with little formal management training or qualifications.

An ADB Technical Assistance (TA) program, Support for Decentralized Health Services, was therefore developed to complement the HSDP and intended to assist local government staff in their day to day work by helping them to develop practical and theoretical skills. The program, which commenced in 2001, is geared to extending the reform package by building up local implementation capability.

The program recognises that the success of the health sector reforms in Mongolia depends significantly on the understanding, support and technical capacity of local governments to implement the various initiatives, in particular, strategies aimed at protecting poorer members of the community and developing primary health care capacity and coverage.

The aims under the TA were therefore strengthening local governments' capacity in technical areas; assisting local governments to implement health sector reforms; and strengthening coordination mechanisms and consultative and participatory frameworks.

Assessing sector needs

One of our first tasks was to assess sector needs for decentralised staff in Mongolia. Needs assessment was considered essential to identify the status of planning, management, analytical and assessment processes in the current Mongolian health structures and highlight the priority areas of training and necessary skills enhancement. Needs assessment would provide a platform for constructing appropriate training materials and processes to help staff in their day-to-day work.

To facilitate the above aims and activities, a comprehensive needs assessment process was undertaken at the commencement of the TA Program in September 2001. This paper outlines the needs assessment survey approach and methodology; describes the results; and illustrates how the information compiled was used to develop specific training structures and reference materials.

Methodology

Two approaches were taken in the needs assessment – a formal mail questionnaire survey distributed to a sample in each aimag (Mongolian province) and in Ulaanbaatar (the capital city) Health Districts; and an interview methodology directed at specific aimags and urban districts.

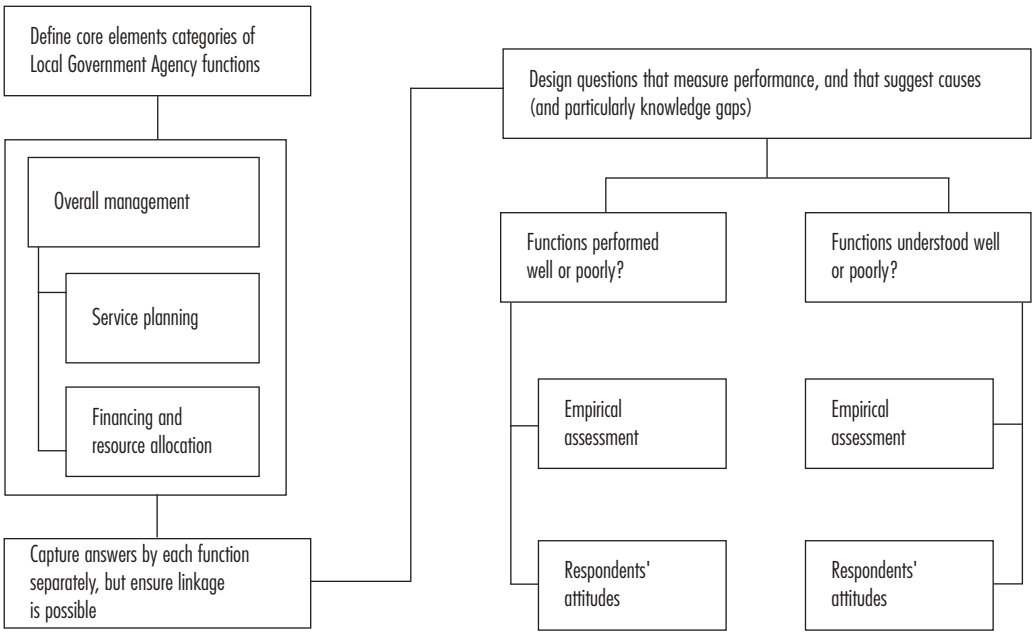
Study design

The conceptual structure for the mail questionnaire is shown in Figure 1 below.

There were some key design elements – the areas of focus selected were overall management, service planning, and financing (including resource allocation); sets of questions were linked to establish relationships between the topics; the emphasis was on identifying problems; and respondents' perceptions about significant issues were actively sought – a soft systems methodology approach, looking at social, cultural and environmental factors contributing to organisation problem situations (Braithwaite, Hindle, Iedama and Westbrook 2002; Checkland and Scholes 1990; Cavaleri 1994). Opinions and ideas were also invited in the questionnaire to build interest and commitment among the respondents.

A stratified sample of respondents in each aimag and district was developed based on function, (management etc), and level of responsibility to ensure a range of viewpoints. In all, 27 health departments were surveyed with up to 72 respondents in specific areas.

Figure 1: Conceptual model of the questionnaire survey instrument



The overall aim was to identify areas with the potential to improve the functioning of the Local Government Agencies (LGAs), and ultimately improve health service provision and planning.

Topics we selected are summarised in Figure 2.

Figure 2: Topics investigated through the mail questionnaire

Topics	
Common elements for Finance, Management and Planning	
Work patterns	Time management
	Balancing group work and team work
	Emphasis given to planning and evaluation
Teamwork	Staff development, team building
	Balancing group work and team work
	Coordination within and between agencies
Technical	Budget setting and service priorities; Cost control; Payment formulas; Measuring and purchasing value for money; Planning; Health needs assessment; Analysis and research; Priority setting; Implementing plans
	Management. Quality; Management techniques and skills; Human resource issues
Skill and knowledge	Training needs of self and supervised staff
Physical constraints	Supplies, equipment

The second approach in the needs assessment was a series of face-to-face interviews using a specifically designed and pretested interview schedule (Martin and Henderson 2001). The interviews were carried out in all urban districts and two rural aimags. A summary of the interview instrument contents is set out below.

Figure 3: Topics assessed through the interview questionnaire

Planning areas	Frequency and extent of planning activities undertaken
	Assessment of major training needs in planning
	Assessment of coordination within and outside the organization
	Assessment of areas most needing improvement
Management and Coordination	Frequency and extent of various management practices in the organization
	Assessment of the most important management functions required
	Assessment of training most relevant to improved management
Finance	Frequency and extent of various financial activities undertaken
	Assessment of the importance of specific finance functions
	Major training areas most relevant to finance

Respondents were selected on the basis of function (e.g. Planners; staff involved in Monitoring and Evaluation; Department Heads etc). Protocols on the interview process were developed to minimize any potential bias. The major focus of the research was to elicit views on activities carried out in the department, major training needs, coordination issues and areas most in need of improvement.

Results

(i) Mail questionnaire results

Results for each of the components were as follows:

Planning

Figure 4: Summary characteristics of Planning respondents (n = 72)

Level of respondents			Years of experience	Education level	
Senior	Middle	Junior		Degree	Higher degree
36%	31%	24%	Range: 4.3 - 17.7 years	66%	25%

In terms of respondent characteristics, there was a fairly even split between Senior, Middle and Junior staff, with an average of 4 years experience in the Health Department and 8 to 9.5 years experience in planning overall. At least two thirds of respondents had university degrees.

Respondents reported a wide range of work activities around planning with time spent on processing / checking / analyzing and visiting units occupying most time. Overall, there was also a balanced range of activities reported for planning / implementing and evaluating. Respondents noted time spent on all the various planning activities listed in the instrument (health care needs; studies; option papers; meetings; writing plans etc). Under dealing with staff, respondents listed significant time spent on advising on technical matters and evaluating performance.

Respondents were asked for views on a list of issues. Surprisingly, less than 50 % felt there was a need for more long term planning. Areas with strong agreement responses were:

- lack of shared information;
- lack of community involvement in planning choices;
- lack of information on health care needs;
- lack of information on cost of services; and
- need for more evaluation.

Under training, respondents noted the need for a range of training areas (but surprisingly, not for long range planning) – in particular, integrating service and financial planning; product costing; information technology; and forecasting. Coordination aspects were overall rated good or average for most agencies with the exception of the Health Insurance Office – a key health service player in Mongolia.

A number of suggestions were received on areas of concern or priority in planning:

Figure 5: Planning priority areas (5 highest ranked)

1. need to organize training and information campaigns about prevention
2. need to improve hospital equipment provision
3. need to control environment health
4. need to organize training for family doctors
5. need to improve doctors payment arrangements

Finance

Figure 6: Summary characteristics of Finance respondents (n = 51)

Level of respondents			Years of experience	Education level	
Senior	Middle	Junior		Degree	Higher degree
14%	37.3%	45%	Range: 7.5 – 14.3 years	66%	10.6%

In Finance, the majority of respondents were junior staff although the average time spent working in the Health Department was 7.5 years and experience in government offices averaged some 15 years. Despite relative junior standing, 66% had university degrees and 10.6% had higher degrees. Reported time indicated most time was spent on tasks working alone, with processing/ checking / analyzing consuming the majority of work time. In keeping with this, most time was spent on implementing tasks and routine work. Money related activities consisted of fairly allocating resources; finding more money; and making and receiving payments.

Responding to views on technical issues, staff reported agreement on:

- improving reports to Ministry of Health (MoH);
- need for improved hospital and primary health care reports;
- inadequate spending on repairs;
- budget allocations to maximize health gain;
- over investment on the hospital sector;
- need for improved budget decision making; and
- need for costs on patient types.

In terms of training needs, respondents listed all financial aspects as requiring training – with the exception of long range planning. Potential problem areas in coordination included:

- less than optimal coordination with other divisions of the health department;
- poor coordination with finance staff in other Health Departments; and
- poor coordination with the central Ministry of Finance (MoF).

Suggestions put forward included:

Figure 7: Finance priority areas (5 highest ranked)

1. need to increase number of Finance staff
2. need to improve hospital equipment budgets
3. need to improve health education of population in terms of PHC
4. need to control expenditure
5. need to organize training for doctors to improve their professional skills

Management

Figure 8: Summary characteristics of Management respondents (n = 56)

Level of respondents			Years of experience	Education level	
Senior	Middle	Junior		Degree	Higher degree
77%	11.3%	9%	Range: 4.2 – 18.3 years	60%	47.2%

Respondents in management were mainly senior personnel with on average, 4 years in the Health Department and 7/8 years experience as managers in government offices. Over 50% of senior managers and 33 % of middle managers had a higher degree. In terms of reported time, there was a fairly even range of time spent in the major categories of meetings and working alone (including processing / checking; reading materials etc).

In the major listed categories, respondents listed as the most common functions, time spent on planning; implementing; and evaluating. In dealing with staff, the major activity listed was advising on technical matters followed by evaluating performance. Gauging views and assessments on a range of issues elicited the following results:

- staff were rarely encouraged to discuss work problems;
- free sharing of information was limited;
- junior staff were rarely encouraged to give suggestions;
- senior staff tended to dominate conversation; and
- agreement that the community had not been well informed about health matters.

For barriers to improved performance, respondents agreed on the following:

- poorly designed rules and regulations;
- rigid budget structures;
- lack of skills and knowledge; and
- poor motivation and enthusiasm.

On training needs, respondents listed all areas of management noted on the questionnaire as requiring training. Coordination with some agencies was noted as poor, in particular the Ministry of Finance; and with others, only average – finance staff in other health departments and local governments. Suggestions for improvement from respondents included the following:

Figure 9: Management priority areas (5 highest ranked)

1. need to improve health education of population in terms of PHC
2. need to improve postgraduate training programs for doctors
3. need to improve professional skills of doctors
4. need to improve working conditions
5. need to improve social welfare

(ii) Interview questionnaire results

In total 18 respondents with duties and responsibilities related to health services planning, managing, financing, monitoring and evaluation were interviewed. These included Deputy Department Heads, officers in charge of health service planning and Human Resources, and Accountants, Statisticians and Epidemiologists. Respondents had been working between 8 months and 7 years in their respective positions.

Figure 10: Planning

Identified problems from respondents	Suggestions for improvement
Unclear job descriptions	Clearer job descriptions
Unclear goals and targets	Improved monitoring and evaluation
Misunderstanding between levels	Exchange of information
Opposite or inconsistent tasks from managers	Implementation based on agreed decisions
Poor management capacity	Improved understanding of management roles
Lack of clarity on responsibility for certain activities and tasks	Improving coordination
Duplication of tasks and activities	Improved communication

Figure 11: Management

Identified problems from respondents	Suggestions for improvement
No medium term department goals and target for staff	Forward planning processes
Lack of staff appraisal process	Staff appraisal systems
Lack of assessment of staff training needs	Training programs for development
Lack of organization charts or department plans	Team building
Lack of communication from management	Improved communication channels

Figure 12: Financial activities

Identified problems from respondents	Suggestions for improvement
Little incentives to be cost-effective	Understanding of efficiency processes
Limited understanding of health services costs and health financing principles	Exposure to methods of product costing
Poor coordination between health and other sectors	Increased links between different departments and agencies
No connection with strategic development plans	Formal planning processes to involve finance
Absence of financial evaluation	Exposure to technical aspects of monitoring and evaluation

Discussion

Observations on strengths and weaknesses in the current structures

The exercises provided valuable information on the management culture and frameworks operating within the decentralised health services in Mongolia. To assist in focusing the training program (and as a reference for further work or inputs from other agencies), we constructed a Strengths and Weaknesses analysis (Gorman 1998) to describe some of the processes observed in decentralised Health Departments.

Figure 13: Strengths and weaknesses in Mongolian health organizations

Strengths	Weaknesses
Motivated staff	The organisational context
Most staff exhibited a determination to work hard to improve the health care services for the population as a whole, considering factors such as equity and quality of care.	Confusion over the roles and responsibilities of agencies, in particular between central and district levels of government and between health departments and district governments.
Well-trained staff	Failure to build capabilities of junior staff
Many staff have good academic qualifications and basic technical skills, with considerable competence in computing, the operation of routine data collections, budgeting, and accounting.	Manifested in several ways: a prevalent view that more senior staff have greater knowledge and understanding; a tendency to delegate unpleasant or difficult problems to junior staff whereas successes are attributed to senior staff; and staff are freely criticised and rarely praised. The overall result is often disillusionment and frustration.
Understanding of development needs	Barriers to innovation
Most staff had a clear understanding of the need for strategic change, recognising the need to move from curative to preventive health care services, and from hospital - to community-based primary health care.	New ideas are often treated with suspicion, especially if raised by junior staff. Changes are excessively difficult to make, with many levels of approval required.

Knowing the importance of community attitudes Widespread appreciation of the extent to which community attitudes and expectations influence service delivery.	Lack of strategic vision An emphasis on excessive detail of health care provision through inflexible line budgets and often unnecessary levels of routine statistics. In contrast, little attention is paid to strategies to be implemented to improve performance.
Strategic development plans Most decentralized organisations have begun to design and implement mid-term service development plans, typically of three to five years' duration.	Failure to involve junior staff in decision making Decisions are usually made in private and at a high level, with information rarely shared.
Availability of data on health utilization Extensive and detailed current and historical data for potential use in planning, monitoring and evaluating	Less than optimal use of statistics An excessive dependence on routine and not very useful statistical collections and conflicting views about data for management - lack of mutual understanding between data collectors and data users
Good knowledge of local conditions Meaning that there was appreciation of what was feasible in a particular area	Funding methods creating wrong incentives Failing to use funding methods to encourage cost-effective care.
Decentralised management Links already strengthened between education and health, partly as a consequence of the establishment of powerful 'social policy' positions in local governors' offices	Budget planning with no coherent framework Most budget plans are little more than projections of previous expenditure history adjusted for expected price inflation.
Integration of clinicians in management Clinicians in senior positions meant that there was good knowledge of hospital and clinical processes at a higher management level	Weak control over clinical practice Most decentralized agencies do not play an active role in the review of clinical practice, resulting in lack of protocols, guidelines or costing of clinical systems.
Continuity of personnel By and large, managers had been in their positions and agencies for a long time, and corporate knowledge was strong	Limited understanding of participatory change processes In particular, little understanding of continuous quality improvement ideas, community participation or staff involvement in planning.

Based on analysis of the results of the two processes, we identified a series of patterns which pointed to significant deficiencies in basic organizational functions.

Implications for optimal organisational effectiveness

In the area of Planning, activities were sporadic. In many aimags, planning was unstructured and seemingly non-related to the integrated tasks of management. In some aimag Health Departments, planning was undertaken as a regular and intrinsic activity, although in many cases, the actual planning does not necessarily follow recognized processes and principles of strategic or service planning – e.g. a collaborative approach; assessment of needs and priorities; goal setting; strategy development; and operational implementation. We concluded that the application of formal planning structures and a formal planning framework at the Health Department level would facilitate a more systematic and outcome based end result.

Similarly, Monitoring and Evaluation processes, while carried out to varying degrees, were not generally fully integrated into management day-to-day functions. The potential for monitoring and evaluation is significant in Mongolia as there are existing and readily available data systems present. The long term task we felt would be to develop structured monitoring and evaluation approaches to facilitate performance review; financial management and control; program assessment; and development of specific indicators and measures to assist in management and decision making.

A major problem we encountered was lack of financial incentives to encourage or strengthen management potential. The current system of financial budgeting, allocation and monitoring discourages innovation and prolongs inefficient practices and obsolete systems. While we considered that our program could identify these problems and present various options, a more significant overhaul of the system itself may be a better long term solution. In some respects these structural reforms are beginning to emerge in the Finance Sector in Mongolia. At the time of writing this paper, a new finance and budgeting framework for the government sector had just

been introduced. The Public Sector Finance and Management Act (2002) has the potential to introduce significant improvements by moving health organizations to output based funding, with targets and outcomes clearly specified, and by building flexibility into overall budgets to encourage initiative and cost-effectiveness.

Many of the survey responses we received indicated lack of understanding of relative success or failure, indicating a lack of coherent evaluation processes and management arrangements generally. Incentives for increased performance, cost control issues, resource allocation and optimizing benefits were also apparent as major factors in management and financial skills upgrading requirements. Coordination varied with the specific activities – e.g. in Planning, coordination with finance staff, Ministry of Health, family doctors and aimag hospitals was average, while with the Health Insurance Office, the overall assessment was poor. In Finance, coordination was poor or average with other Health Departments and poor generally with Ministry of Finance and Ministry of Health - key players in the health spectrum. Similarly, Management coordination with the Ministry of Finance and other Health Departments' staff and local governors' staff was not well assessed. An interesting difference emerged in respondents' assessment of "openness" and encouraging junior staff: senior managers felt strongly in the questionnaire that they were responsive to junior staff and communicated issues, whereas more sensitive results from the Interviews pointed to a different conclusion – that senior and older managers were aloof and non-attentive to the needs of junior personnel; a clear indication of organisational problems in communication and interaction.

By and large, the Questionnaire research supported the Interview process. While, overall, a range of planning, management and financial management activities were undertaken in decentralised Health Departments, it appeared that they lack a formal, institutional basis and were often not integrated. While commendable that these key activities were being carried out, our clear inference was that local Mongolian authorities would benefit from a consistent and recognised methodological approach based on accepted techniques and emphases – communication; collaboration and coordination mechanisms between agencies; participatory frameworks for both staff and the community; and more reliance on empirical and analytical processes.

Applying learning organization principles

These assessments were important in terms of structuring training activities. While generally, there was strong agreement on the need for training in the technical areas of planning (forecasting, data etc) and management (modern management techniques and methods), our conclusions were that there was also an underlying need for a more open and flexible management approach along the inclusive and participatory lines described variously by Martin (2001); Weber and Joshi (2000); Spreckley and Hart (2001) and Ho (1999). This approach would value technical methods, but would also focus on building teamwork and staff involvement as part of an overall emphasis on improvement.

Overall, Mongolian Health Departments tend to be vertically structured with clear hierarchies and rigid apportioning of responsibility and roles. This militates against the idea of the developing organisation - a structure and style that values communication; involvement; transparency; collective goals and priorities, and encourages change and innovation. This model of openness; sharing ideas and information; and enhancing communication (sometimes referred to as the "learning organisation") has been shown to be more effective in leading and promoting change and good practice with benefits accruing to staff and to the organisation's overall goals and objectives (Senge 1990; Birleson 1998). We considered this approach had significant immediate potential for improving management skills and capacity in Mongolia and accordingly became the overarching theme of our training programs.

Our solution: interactive training modules

Based on the research, we developed a series of training modules to address the identified gaps and weaknesses we found. Thus, for planning we emphasized a structured framework using technical aspects but underlined by participation and interaction. For management and quality issues, we stressed teamwork and collaboration. These "learning organization" ideas formed a training platform to underline the overall themes of transparency, involvement and sharing that we wanted to develop. In summary, the training programs we constructed were as follows. All programs consisted of workshop sessions (with extensive group work and exercises) and supporting notes and reference materials in English and Mongolian.

Planning Workshops

- Need for planning as a structured approach
- Levels of planning (strategic/ operational etc with contextual models)
- Planning issues for Mongolia as identified by Mongolians
- Planning processes – steps in service and strategic planning
- Data for planning using Mongolian specific references
- Planning techniques and methods including community and staff participation
- Workforce planning – methods and examples to address oversupply and maldistribution of staff
- Interactive group processes
- Applying planning processes to focus on issues in Mongolian health care

Management Workshops

- Management processes and functions
- Applying management methods and tools – organization structures; job descriptions; leadership; communication; etc
- Areas of management focus – HR; quality; planning; setting priorities; etc
- Interactive Management exercises to build teamwork
- Applying management techniques and processes to problem solving in the Mongolian context

Financial Management Workshops

- The most important decisions in financial management
- Comparison of aiming health sector budgets
- Case payment and product costing in hospitals for use in the Mongolian health sector
- Design of case payment and product costing systems for Mongolian hospitals
- Capitation payments for Family Doctors
- Managing Family Doctors to emphasise quality and patient focus

Monitoring and Evaluation Workshops

- Designing monitoring schemes using interactive approaches
- Design evaluation schemes
- Standard instruments for monitoring and evaluation
- Selecting appropriate monitoring and evaluation statistics for Mongolia
- Performance based contracts for Family Doctors and other clinical staff

Community Focus

- Identifying ways to involve the community in health management; developing appropriate structures for Mongolia with inputs from community representatives

Health Needs Assessment

- Health indicators and quantitative methods: using Mongolian data on morbidity; epidemiology; service utilisation; forecasting need for services
- Survey approaches: qualitative methods – research; questionnaires; focus groups; community participation and involvement
- Practical examples in the Mongolian context with the emphasis on community inputs

The Learning Organisation

- The idea of the learning organisation: basic attributes
- Identifying problems
- How to build a learning organization stressing openness and consultation

Quality Workshops

- The Quality Approach to lead to service improvements
- Quality Improvement processes including structures, designated personnel, management support and participatory involvement
- Quality Improvement tools including questionnaires, surveys, audits, checklists
- Applying Quality Improvement techniques in Mongolia
- Practical examples

These workshops were conducted in 2001 and 2002 in various locations in Mongolia – reflecting the program's decentralised approach of bringing services to the users. Evaluations undertaken on the workshops, based on participants' ratings and comments, were overwhelmingly positive.

Conclusions

Our research indicated significant gaps in health organisation functioning in Mongolia, which obviated against the best potential outcomes in terms of delivering services and achieving agency effectiveness.

Lack of technical capacity and skills in specialist areas were clear from the surveys we carried out, but the research also showed that the organisation processes were barriers to achieving the overall objectives of quality health care to the population. Our tasks have been twofold: to develop and demonstrate new methods and techniques in specialist areas (planning; finance; assessment etc); and to encourage an organizational outlook that aims to improve the functioning and operations of the organization itself. The Mongolian response to our emphases on innovation, communication and personnel and community involvement has been extremely strong.

Our view is that linking technical training to an organisation improvement focus produces a synergistic effect – increasing the impact of the new methodologies in day-to-day work; and enhancing the capacity of the organisation, managers and staff, to get the best outcomes possible.

This viewpoint is one we are continuing to advocate for future training and capacity building in the Mongolian health sector. We see the organisational focused approach as leading to more sustainable skills development and greater willingness and participation of staff to engage in ongoing health reforms.

Acknowledgements

We are grateful to the central and local health staff of Mongolia for their assistance in undertaking the research and for their enthusiasm and support for our ideas.

References

Birleson P 1998, 'Learning organizations: a suitable model for improving mental health services?' Aust N Z J *Psychiatry*, vol 32 no 2, pp 214-22.

Braithwaite J, Hindle D, Iedama R & Westbrook JI 2002, 'Introducing soft systems methodology plus (SSM+): why we need it and what it can contribute', *Australian Health Review* vol 25 no 1.

Cavaleri SA 1994, 'Soft systems thinking: a pre-condition for organizational learning', *Human Systems Management*, vol 13 no 4.

Checkland PM & Scholes J 1990, '*Soft systems methodology in action*', John Wiley and Sons, Chichester.

Field MG 2002, '*The Soviet legacy: the past as prologue in Health care in central Asia*' (eds: Healy J, Falkingham J and McKee M), Open University Press, Buckingham.

Gorman P 1998, '*Managing Multidisciplinary Teams in the NHS*', Kogan Page, London.

Ho W 1999, 'Hospital transformation and organizational learning', *Journal of the Royal Society of Health*, vol 119 no 4, pp 247-50.

Martin J 2001, '*Organisational Culture: Mapping the Terrain*', Sage New York.

Martin V & Henderson E 2001, '*Managing in health and social care*', Routledge, London.

O'Rourke M & Hindle D 2001, 'Mongolia's system-wide health reforms: lessons for other developing countries', *Australian Health Review* vol 24 no 2.

RRP 1997, '*Report and Recommendations of the President to the Board of Directors on the Mongolia Health Sector Development Program*', Asian Development Bank, Manila.

Senge P 1990, '*The fifth discipline; the art and practice of the learning organisation*', Doubleday, New York.

Spreckley P & Hart T 2001, 'Organisational development: reigning cats and dogs', *Health Serv J*, vol 111 no 5756, pp 28-9.

Weber V & Joshi MS 2000, 'Effecting and leading change in health care organizations', *Jt Comm J Qual Improv*, vol 26 no 7, pp 389-99.

WHO 1999, '*Mongolia Health Sector Review*', World Health Organisation, Ulaanbaatar.

ZdravReform 1999, '*Conceptual Foundations for Central Asian Republics Health Reform Model*', Abt Associates, Almaty.