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Deliberation-based learning: strengthening neonatal care in China

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ABSTRACT

This paper presents a case example from China, where detailed deliberations were instrumental in bringing together national and subnational managers to tailor implementation protocols for neonatal care strategies at provincial and county levels. The China National Health Development Research Center (CNHDRC) organised deliberations to support the formulation of strategies for improving early essential neonatal care for rural areas. The aim was to help counties, the lowest level jurisdiction in China, learn what could work locally, and to help provinces and the national government learn what should inform national policy and be disseminated widely in China's decentralised health system. It became clear that central-level stakeholders needed to learn how to help counties support the pilots. CNHDRC staff, national-level experts and academics visited pilot provinces and counties to discuss local policies, initiatives and challenges (including with patients), build a common understanding of the project and identify local support needs including by examining health records and observing health facilities. What followed were county-specific reports with priority interventions and implementation plans, which were further refined through county-level meetings. They helped central stakeholders better understand and address variations in county capacities and needs.

SUMMARY BOX

⇒ Management of health system reforms is challenging, especially in complex environment.
⇒ Muti-stakeholder deliberations, in addition to standard data collection, can help implementers develop locally tailored and feasible plans, and identify support needs.
⇒ Such approaches can support multilevel learning of all key stakeholders in complex context, and contribute to policy learning.
⇒ Researchers should incorporate deliberations into plans for pilot studies to increase learning about local situations.

BACKGROUND

Much of China's transition to a socialist market economy has proceeded by 'feeling the stones while crossing the river', a famous quote from Deng Xiaoping, describing the action of a person tentatively crossing a river, by feeling for the next foothold. Deng was speaking in the 1970s, when China was at the start of major economic reforms. This gradual approach to reform has distinguished China's approach to transition from that of many other command economies, and it is argued that this has contributed to its sustained economic development.[1] China tries to strike a balance between the speed of change and reform and the need to preserve social stability in the face of great uncertainty. A major central government reform strategy issued in 2013 reaffirmed the need to combine top-down setting of goals with bottom-up learning and innovation.[2] As development has progressed and government has had to deal with ever more complex tasks, the leadership has recognised that China is increasingly crossing a zone of 'deep water',[3 4] where it is no longer easy to feel the stones as a guide to the way forward. This has led to a growing government interest in systematic approaches for managing reform and change and it has encouraged the establishment and growth of think tanks (Chinese think tanks are quite different from the conventional type of think tank. Think tanks like CNHDRC, undertake a wide scope of work, such as policy research, consultancy, evaluation of programmes and pilots, as well as providing policy advice. The Chinese government issued a national policy to develop thinktanks in 2015).

This pattern has been replicated in the ways the government has managed adaptation of China's highly decentralised health sector to the changing context by employing a 'learning by doing' approach to develop policies and reform organisational arrangements.[5–8] The government has increasingly recognised the need for more systematic approaches to the management of health sector change.[9] In this context, the China National Health Development Research Center (CNHDRC) has become a leading think tank on health issues. The National Health Commission (NHC), China's health

ministry, has commissioned it to conduct many policy research and evaluation projects.

POLICY LEARNING APPROACHES IN CHINA

Evidence gaps in effective health service delivery in low/middle-income countries (LMICs)

There has been a lot of international effort to generate evidence to inform the choice of cost-effective interventions for LMICs.[10–14] A number of studies have shown that the impact of these interventions depends on the presence of a functioning health system and adequate resources.[14] The health systems of many LMICs resemble complex adaptive systems,[5 15 16] in which it is essential to adapt an intervention to the local context.[14] This is especially the case with mixed health systems with a variety of service providers (public and private) and a regulatory system in which the behaviour of different actors may be influenced by multiple factors. A review of effective health service delivery in LMICs by the World Bank has found that many well-designed intervention programmes may not necessarily lead to expected outcomes.[14] The key health reforms in China are an example, where despite detailed design, interventions, such as the essential drugs policy, did not achieve the expected outcomes at its initial stage and even led to unexpected negative consequences.[5]

Deliberation-based learning in China

In a rapidly changing context, the ability of a health system to adapt is crucial to maintaining sound and rapid development. Learning health systems that build on available knowledge and continue to learn from errors are better able to adapt to a changing environment and innovate successfully.[17] Such learning health systems often adopt an experimentalist style of policy-making and develop a capacity to assess and scale up innovations.

Many analysts have identified factors other than the availability of evidence that influence health decision-making process.[18–20] Greenhalgh and Russell[19] argue for a constructive approach to using rhetorical argumentation for a 'fair' policymaking process. Decisions are considered as context-sensitive choices made through negotiation and deliberation in uncertainty. Such an argumentation or deliberative process is especially necessary in making difficult health decisions such as resource allocation and rationing of health services.

In such deliberation-based learning, key stakeholders are engaged in processes of dialogue and reflection, which link past to future actions. This deliberation approach is considered to contextualise problems and develop a collective understanding and consensus on how to anticipate, prevent and solve potential problems.[17 21 22]

China has made extensive use of experimentation and rapid assessment of innovations in its management of reforms, including in the health system. As in other sectors, reform of the health system has been through a process of trial and error, including subnational experimentation, innovation and learning.[8 21 23] Some key Chinese think tanks have experienced rapid development and adopted and adapted new methods and approaches for evaluating policy innovations, and promoting learning from pilot reforms.[5 8] Deliberations are widely employed in the design and planning stages of large pilot programmes,[8 21] for better understanding the context and tailoring local interventions.

A CASE OF DELIBERATION-BASED LEARNING

The Safe Newborn Project (SNP) (2016–2020), was a large trial of county-level introduction of high impact interventions aimed at saving newborns' lives. Designed jointly by the NHC and the United Nations Children's Fund (UNICEF), the project implemented pre-identified high impact interventions in selected high burden counties in four western provinces, namely Ningxia, Guizhou, Qinghai and Sichuan. In consultation with the NHC, the provinces selected 20 counties with the highest maternal and child mortality and morbidity. These counties were all poverty-stricken, and predominantly inhabited by ethnic minority people, with population size ranging from 46 000 to 760 000. Because of regional variations in health problems, stakeholders, resources and policies, it was not practical to design and implement a uniform plan across all localities. Local pilot counties were encouraged to test innovations and explore their own pathway for providing essential newborn care.

The most distinguishing feature of the project was its focus on providing tailored evidence for local health service delivery. One of the five project components was evidence-informed support for local programme planning and decision making. A framework for producing situation analyses was developed (figure 1) and issued to pilot counties, after negotiations between officials in the NHC, UNICEF and the research team of a national think tank (CNHDRC). This framework was strongly influenced by the bottleneck analysis tool developed by WHO and UNICEF in a global action plan called Every

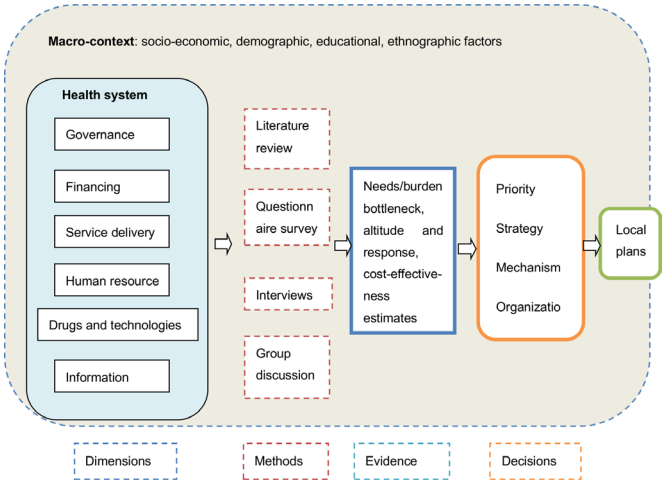

Figure 1 Framework of the SNP situational analysis. SNP, Safe Newborn Project.

Xiao Y, *et al. BMJ Global Health* 2022;**7**:e007934. doi:10.1136/bmjgh-2021-007934

Newborn: An Action Plan to End Preventable Deaths (ENAP)[24] and the OneHealth Tool (OHT),[25 26] covering an analysis of the main bottlenecks to the delivery of neonatal care and cost-effectiveness analysis. A framework based on the complexity of healthcare delivery and non-health and health factors,[5 27] on six building blocks was constructed.[28 29]

In addition to the collection of data, deliberations were widely employed to facilitate learning and communication. The deliberations were not special interventions; rather, they were part of the project management process and of efforts to support local pilot design. These deliberations enabled the researchers to share evidence and collect valuable feedback. The approach to deliberation reflected the assumptions of the researchers. First, maternal and child health (MCH) service delivery in local settings is a complex process, influenced not only by the quality and quantity of evidence, but also by the attitudes of various local stakeholders. Second, local priorities and intervention strategies need to be determined by local stakeholders, who are better informed about local conditions than outsiders, such as national experts or administrators,. The Chinese authors of the paper executed the activities with the local project partners, took notes, extracted key information and used this information in supporting the formulation of local plans. The lead author drew on this information in drafting the reflections in this paper in conjunction with the English authors, both of whom have long experience of working on the Chinese rural health system. The following section presents the deliberation approach and the result of learning.

Building a learning platform

In early 2016, while the NHC and UNICEF were designing the project, CNHDRC was invited to design the monitoring and evaluation component. It puts together a team composed of national and local experts. It then convened a meeting for all participating counties and provinces to discuss the programme and the monitoring and evaluation (M&E) plan.

The situation analyses were re-designed on the basis of feedback from local researchers, decision-makers and project implementors. In addition to cost-effectiveness analysis and bottleneck analysis, other elements were added, including an analysis of the local socioeconomic and ethnographic situation and interviews with caregivers and receivers. Working together with local stakeholders, the CNHDRC undertook an assessment of the local health services, which served as the basis on which interventions would later be designed. This approach has proven to be effective in contextualising the pilot and its interventions, and in reaching consensus regarding approaches to local implementation.

Planning and design of the interventions took place in late 2016 and in 2017, during which time CNHDRC engaged 20 counties in selecting interventions, setting the expected objectives and understanding key implementation issues. OHT is a data hungry tool and requires rich data inputs for making accurate estimates. The research team worked closely with local M&E experts as well as implementors in pooling the data. The collaboration process itself served as a learning opportunity, through which local and national stakeholders improved their communication regarding the pilot design and M&E plan.

Deliberations before, during and after the research

Deliberations were organised before the design of the situation analysis was finalised, to enable local stakeholders to contribute to the overall design. In March 2017, the CNHDRC convened an inception workshop in Beijing that was attended by 35 people from four provinces and 20 pilot counties. Participants included decision-makers from the Provincial Health Commissions plus prospective implementers from county health bureaus and county MCH hospitals. The agenda was designed to inform participants about the overall objectives and the planned situation analyses, as well as to gather information on the counties' expectations of the pilot—the problems the project would help the counties to solve—and the support they would need to achieve success.

The workshop showed that the cost-effectiveness of the interventions was only one consideration for the counties. Stakeholders said that they would need support from provincial officials to help them work through local challenges and gain access to resources. Overall, 33 of 35 attendees recognised that the pilot was in line with national and provincial policy priorities, although 25 thought it would be difficult to implement, due to resource and skill constraints. This meeting was a turning point for the design of the situation analyses. The researchers decided to include more county-tailored inputs besides cost-effectiveness and bottleneck analysis—such as context analysis and health system assessment—to help ensure successful implementation.

Deliberations were organised along with data collection activities, such as field surveys, to facilitate learning between local, provincial and national stakeholders, as well as to secure buy-in from key policy actors. Between June and August 2017, field visits to rural counties and provinces were conducted, which usually began with meetings with the Provincial Health Commission and other key agencies in the provincial capital to discuss the project's aims, to secure the province's support and to gather information on relevant local policies and initiatives. The team brought together a wide range of experts including CNHDRC staff, representatives of the Chinese Centre for Disease Control and Prevention (CDC), national-level clinical experts and local university-based researchers. The local project management agency was the provincial MCH Hospital, which has an overview of the MCH situation.

Following provincial meetings, the team—including central and provincial representatives and local university staff—visited the counties. This broad representation

communicated the importance of the pilot and helped to build a common understanding of its aims, the challenges faced by the counties and their support needs. Information was collected through questionnaires, stakeholder interviews, examination of records and facility data and observation in facilities. In this way, the team gained a good understanding of the situation in the counties, including capacity levels and readiness for the pilot.

Deliberations were used to communicate study findings and help the local stakeholders make implementation plans. In August 2017, the NHC and UNICEF organised a project launch meeting. This was a one and a half days' event, in which the CNHDRC presented the findings of the situation analyses in the morning session and parallel group discussions were scheduled in the afternoon to engage local and provincial stakeholders in discussing research findings and reflecting on their implementation plans. The M&E experts partnered with technical experts and facilitated the group discussion as follows: (1) presentation of a summary of the current maternal and child health and health services in each county and the province, including potential benefits and bottlenecks of implementing the pilot, and recommendations for overcoming the issues; (2) comments on the findings and reflections on the potential implementation plan and (3) drafting the implementation plan with troubleshooting and consultation of technical and management issues by the CDC expert, clinician and project coordination staff. In the morning session the following day, representatives of the participating counties and provinces were invited to present their draft action plans, and policy-makers, experts and the CNHDRC researchers made comments. In an evaluation of the meeting, people from the pilot sites claimed that they benefited from this new way of 'learning and planning together'. Further meetings after the launch helped the counties to continue to receive feedback and refine their implementation plans.

Multilevel learning and relevant outcomes

The deliberations in the SNP project, mostly in the form of research-related meetings and field visits, facilitated many kinds of learning by key stakeholders at different levels.

The pre-launch discussions enabled the national pilot programme to take account of local needs and context-specific considerations. Learning on the part of the national policymakers and experts (including CNHDRC staff) resulted in a re-design of the situation analyses and the adoption of a more locally oriented approach to the pilot study.

Site visits and meetings during the situation analyses helped the CNHDRC team to spot potential barriers to implementation, such as insufficient staffing and low capacity, and also enabled counties to articulate clearer and more targeted requests for support. This helped central stakeholders to better understand the capacities of the counties and the areas in which they would need assistance.

In the major deliberation event—the project launch meeting, the sharing of data and evidence, and the discussions of opportunities and bottlenecks helped the provinces and counties design more realistic implementation plans. This way of organising the event combined three objectives: (1) managed discussion, reflections and consultation on the national pilot programme and its potential implementation in different settings, to support all the stakeholders to rethink programme design and implementation based on currently available best evidence; (2) facilitating direct and open communication between local, provincial and national policy-makers and implementing organisations, to support consensus on key issues concerning the national pilot implementation, such as who should do what and with what available resources; (3) providing targeted support to the local pilot counties and provinces in designing a realistic implementation plan, based on realistic situational analysis and extra onsite consultation from national and local experts. Such deliberation is complex and difficult to manage. CNHDRC, as a national think tank with a legitimate role in supplying evidence and knowledge into the health policymaking process, led the design of the important deliberation event.

By convening group discussions and troubleshooting sessions, the research team facilitated peer-to-peer learning between the province and its counties, integrated national expertise with local tacit or experiential knowledge, and linked the stakeholder's past experience with future implementation plans. The clinical experts reported on the lack of proper skills and essential drugs and technologies for delivering the interventions. The CNHDRC and local university researchers discussed their worries about the anticipated workload with representatives from the county-level government and documented their concerns. Project officers at various levels communicated the management plan and tried to match it with the local conditions. All counties reported a lack of health staff, inadequate skills and competences, and poor access to essential medicines and medical technologies. Cultural and language issues were also reported as an important barrier to accessing essential neonatal care, as many ethnic minorities reside in China's remote counties.

This kind of deliberation-based learning helped to assess barriers to success, and prepare all stakeholders for uncertainties and potential surprises. It surfaced richer messages and inputs than survey data and technical report writing. This extra consultation and communication has played a role in facilitating multilevel communication and understanding. For instance, in the meeting with Yuexi County in Sichuan Province, the team was told about the weak infrastructure there and about local concerns about lack of personnel for the pilot work. They also heard about failure of previous projects, and understood the situation by talking with frontline health workers. The county was finally withdrawn from the list of pilot sites as a result.

Deliberations also supported consolidated learning and articulating needs. For instance, the

researcher–implementer mixed group discussions facilitated understanding and uptake of the study findings. Rather than circulating county-specific technical reports, the CNHDRC team presented key results in a policy-briefing style. Neonatal deaths, challenges to implementation, potential health benefits and costing of priority early essential newborn care (EENC) interventions were shown in figures and summary tables. Interactions between decisionmakers, researchers, managers and health workers during the launch meeting and particularly in the group discussions consolidated mutual learning and built trust and connection between multiple stakeholders. All participating parties got a chance to articulate their perspectives and interpretation explicitly.

As a result of the meetings, visits and collaborations described above, when the counties kicked off implementation in late 2017, they had much more detailed implementation plans than would otherwise have been possible. Most counties launched their programmes as expected and have chosen high-impact interventions that cover 90%–95% of the eligible population. Ningxia and Sichuan provinces are already rolling out this package of interventions province-wide. Implementation strategies in these provinces have drawn on the lessons learnt by the pilot counties to include training and capacity-building for medical staff and project managers, and to build an information reporting system to monitor progress.

CONCLUSION

Within highly decentralised health systems, such as in China, pilot studies at the local level can help to identify barriers and facilitators relevant to successful implementation of initiatives at scale. The case described demonstrates how deliberation-based learning fostered success in policy implementation by facilitating learning between stakeholders at different levels and thereby reducing information asymmetries and enhancing coherence between national project design, provincial implementation plans and the needs of poor counties. The deliberations were organised before, during and after research activities, to support research plan making, to expand sources of extra information and inputs and to consolidate learning and clarify the needs of key stakeholders. Such deliberation-based learning helped national decisionmakers and experts better understand local contexts, enabled provincial officers to contextualise interventions and enabled local counties to voice their needs and concerns.

Reflecting on the research and intervention process, it is evident that such deliberations should be embedded in the overall pilot plan. The CNHDRC team helped plan these extra deliberations when revising the original situation analysis. Besides conventional cost-effectiveness analysis and bottleneck analysis, they used such deliberations to extract rich inputs for assessing barriers and understanding the local conditions, as well as to facilitate mutual understanding and learning of stakeholders at all levels. This approach was based on the assumption that no one holds the whole picture of reality, and situation analysis itself served as a channel for all stakeholders to understand the local reality. During the inception phase of a big social interventional programme, such learning is necessary for programme planners and researchers to design realistic pilot plans. The position of CNHDRC in the intervention was an important support to its success. The CNHDRC, while affiliated to the NHC, is not a government agency but has a mandate to support central government in carrying out complex policy reforms. This position enables the Centre to play a convening role, bringing together stakeholders from government at multiple levels (from centre down to the local level), from outside government (including academics, providers and patients) and to act as a bridge between stakeholders. The Centre's close working relationship with the NHC enables it to act as a trusted source of analysis and support to government. The analyses of county-level situations and extensive engagement with policymakers, professionals and patients in pilot counties ensured a better-informed and feasible implementation plan.

This case tells us that even simple interventions, such as exclusive breastfeeding and perinatal care, with proven records of effectiveness—need to be carefully planned and implemented to reach target populations in local contexts, and that both pilot planners and implementors need to understand local realities and anticipate potential benefits and barriers. Such learning can be facilitated by well-designed deliberations conducted alongside research activities. Deliberative activities cannot replace conventional M&E or research activities, but can help to collect extra information and inputs to support the decision-making of the main stakeholders.

The staff of the CNHDRC played an important role in designing and facilitating learning. This required an unconventional understanding of health research and evaluation methodology, a desire for learning and substantial investment of effort and time. In addition, it required a change in the mindset and positionality of the researchers/evaluators, whose role was transformed from a comparatively passive one (as observers, note-takers, data-collectors) to active engagement in the design and execution of the learning process. In recent years, the CNHDRC team has adopted novel research and evaluation methods, such as developmental evaluation, realist evaluation and health technology assessment. These methods have a theory-driven focus and have stimulated the team to situate their research in the policymaking process, including through studying policy and programme design before diving into data and information. Influenced by the new paradigm in evaluation, researchers are no longer an emotionless third-party observer, but actively engaged in the design and implementation process as facilitator of learning and ambassador of evidence and knowledge for decision-making. In complex and rapidly changing contexts, pilot programmes need to go through continuous adaptation, and both the programme implementor and researcher have to be open to continuous learning and adaption to the local context.[8] In this sense, deliberation-based learning that

facilitates learning of many kinds among all key stakeholders at different levels is very helpful.

One major challenge is how to institutionalise this kind of learning process to enable China's health system to improve its capacity to meet health needs. More nuanced methodological, contextual and relational study of the learning process itself is needed to address that challenge. Experience from this pilot is contributing to 'meta learning' or 'deutero-learning' within CNHDRC—learning how to better support multi-stakeholder learning during policy or programme design and implementation.[30] The Chinese government's open, active and adaptive altitude to policy learning creates a favourable condition for the think tank's trial of new methods and tools.

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