The Joint Learning Network for Universal Health Coverage (JLN) brings policy and technical leaders together to learn from each other and co-create solutions to their most pressing health systems challenges. Learning from each other what has and has not worked, they are able to build more equitable, resilient, and efficient health systems to accelerate progress towards universal health coverage. With the support of expert facilitation, the joint learning approach helps draw out country experiences in a structured way to frame problems, identify common issues, explore insights and knowledge, and synthesize practical solutions that are both country-specific and globally adaptable.

As part of this process, JLN members often co-develop new knowledge products, such as step-by-step costing and self-assessment tools. To date, JLN members have co-created 45 knowledge products on a variety of subjects. Members then bring knowledge products back to their countries, adapt them to their country's specific needs, and finally use or implement the knowledge product to solve a particular challenge. The use of JLN knowledge products is one clear example of the impact the JLN can have downstream in health systems; by enabling countries to use best-practices from JLN country experience as they work towards long-term health system goals, such as expanding and improving on UHC programs. This case study profiles the use of the *Empanelment Assessment Tool* in Mongolia.

Mongolia's use of the *Empanelment Assessment Tool* enabled a shift to a person-centered approach for PHC. Linking empanelment to a mobile technology initiative providing team-based PHC home visits has contributed to a national empanelment approach and shifts in health care seeking behavior.

JLN Knowledge Product:	Empanelment Assessment Tool
Country:	Mongolia
Use Case:	National-level implementation
Leading Implementers:	Ministry of Health
Technical Support:	Person-Centered Integrated Care Collaborative Technical Facilitation Team; World Health Organization
Primary Outcome:	Creation of a national empanelment strategy and implemented in 153 Soum Health Centers and 47 Family Health Centers
Timeframe:	2017

Data Collection Methodology

In order to document the link between JLN knowledge product development and country effects to-date, the JLN's case study series examines two evaluation questions:

1. What are the processes and preconditions necessary for JLN knowledge products to be used?

2. How has the JLN network and knowledge products contributed to health system changes?

The JLN's country case study series was structured as an explanatory single-case analysis, consisting of one or more key informant interviews per case study with key stakeholders identified by the relevant JLN Country Core Group (CCG). CCG leads were asked to use a snowball sampling methodology (a referral-based sampling approach) to identify the critical stakeholders involved in adaptation and implementation for each use case. In some instances a single key informant was sufficient to discuss the case and in other instances multiple

perspectives were required. Stakeholders interviewed are mostly mid- to senior-level government staff involved in the implementation of a health system reform that used a JLN knowledge product or approach. Drafts of summaries were shared with key informants to check for accuracy and completeness.

Data collection was conducted through in-depth interviews using a structured questionnaire that also included open-ended questions and, if relevant, potential prompts to encourage more detailed responses. Data collection was done using a standard Adaptation & Implementation tool developed and piloted by the JLN Monitoring and Evaluation (M&E) Technical Working Group.

Limitations

Although the approach to the case study was informed by the JLN theory of change, document review, and pilots, the scope of each case study is limited to few key informants and all data have been collected retrospectively. Furthermore, case studies traditionally explore the complexity of a single or limited number of cases, so findings may not be generalizable.

In addition, while JLN Network Manager designed and conducted the case study with integrity and with sensitivity to bias, the data collection efforts were conducted by the JLN Network Manager M&E staff and not by an independent data collector. The JLN Network Manager attempted to mitigate the potential for bias in this situation by requesting that respondents be open and honest to improve JLN knowledge products.

Country Context

Since 1998, primary health care in Mongolia's urban areas has been contracted out by the government to private organizations, known as family health centers. Government-funded facilities known as the soum health centers and village health centers provide services to rural populations in more remote regions of the country. The national commitment to ensuring primary health care to all Mongolians was codified into law in The Health Act in 2011 and updated in May 2020.[1]

People-centered integrated care (PCIC) is an innovative approach to primary health care (PHC). The PCIC approach aims to improve the effectiveness of health service delivery — a key component of universal health coverage — and rebalance the care delivery system by strengthening the central role of PHC and promoting care integration and coordination across provider settings and the spectrum of health needs. PCIC's goal is to enable health systems to deliver the right care at the right place and time at an affordable cost for patients and society.

Since 2017, the JLN PCIC Collaborative has focused on the basic pillars of PCIC, including the use of

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[1] JLN Knowledge Product Adaptation & Implementation in Mongolia, presentation prepared by the Ministry of Health Mongolia and Mongolian National University of Medical Sciences (Mongolia, 2020).

empanelment, or rostering, and a focus on creating multidisciplinary teams. This collaborative brought countries together to exchange their experiences and to co-create two knowledge products, *Empanelment: A Foundational Component of Primary Health Care* and the *Empanelment Assessment Tool*. As a JLN member country, Mongolia participated in the PCIC Collaborative and was active in the co-creation process of the knowledge products.

Mongolia decided to implement PCIC best practices to improve health services and outcomes among underserved populations who faced geographic barriers to PHC because they live in extremely remote and rural provinces. They did this by building PCIC best practices into another project they were scaling up at the same time, a mobile health pilot project focused on home visits. Mongolia integrated two pillars of PCIC into the mobile health project: a multi-disciplinary approach to the home care visits and the rostering of all co-habitants. These new approaches, influenced by participation in the JLN's PCIC Collaborative, helped the Mongolian Ministry of Health connect more members of nomadic or geographically dispersed populations to PHC providers, an important step toward universal health coverage.

Results

Implementing the Empanelment Assessment Tool

Prior to participating in the PCIC Collaborative, Mongolia had already committed to PHC in Mongolia. Leaders recognized that reaching the most remote sectors of the population and ensuring their access to routine PHC was a critical component to achieving UHC. In 2017, the Mongolian Ministry of Health (MOH) had already partnered with the World Health Organization (WHO) to implement a small mobile health technology project that provided community-based PHC services to 15 soums. The Minister of Health nominated three individuals, Bolormaa Norov (MOH), Jargalsaikhan Badarch (Mongolian National University of Medical Sciences) and Gandiimaa Riimaadai (Health Department of Arkhangai Province), to participate in the PCIC Collaborative (2017-2019), bringing their expertise from the WHO mobile health technology pilot; to learn more about how other countries approach PCIC; and share those learnings back within the Mongolian MOH.

How did the JLN support?
- **Co-development of the knowledge product** alongside the reform efforts in Mongolia
- **Ongoing support** from PCIC peers and the facilitation team

How did Mongolia use the KP?
- New **knowledge from the collaborative was immediately applied to shift towards a person-centered approach** and link empanelment to a mobile health initiative
- **Team-based home care visits** provided screenings and **empanelment for all household members**

What were the downstream changes?
- Arkhangai province is tracking data showing **increases in preventative screenings** and **decreases in ambulance calls and inpatient services** from rural areas

From participating in the PCIC Collaborative, the Mongolia delegation realized they should make two fundamental shifts to their approach to home visits to ensure they were person-centered. First, they restructured the process to include team-based care for the entire household. Originally, individual

providers would respond to a particular individual's medical concern. However, the team-based approach — which often involves a doctor, nurse, and public health worker — would not only treat the patient's needs, but also provide services to all individuals in the household. Second, all household members were empaneled (i.e., registered and assigned to a primary care provider) during the home visit.
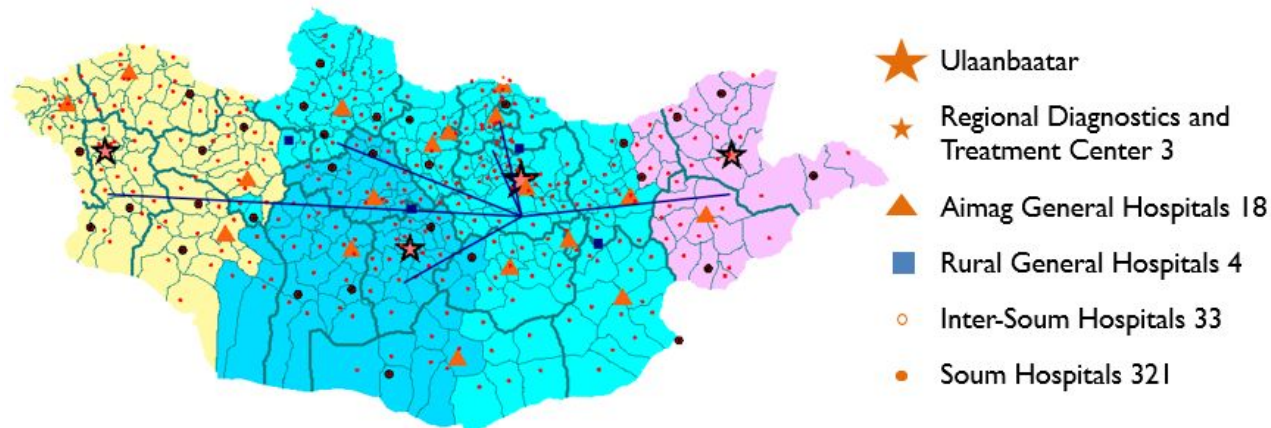
The Mongolia team then began translating the person-centered care changes from theory into action. In order to gain wider stakeholder buy-in, the MOH engaged provincial and soum governors and provincial health department directors. With government officials, the MOH organized a series of conferences and workshops to introduce the shifts in the approach and how it can be linked to the mobile health initiative. The team also trained providers using a train the trainers approach focused on the importance of empanelment and how to empanel a population while providing health services. The MOH distributed WHO-funded medical equipment necessary for the mobile health technology (including NCD screening equipment, communicable disease screening equipment, portable height and weight scales, iPads, and hard disk drives) and provided training on the new systems. Critically, these trainings focused not only on how to use the equipment, but also how providers should empanel patients by collecting, analyzing, and sending data to referral hospitals,

leveraging both the WHO-funded work alongside the JLN-developed resources.

Integrating the panel list into the mobile health software enabled the MOH to register all the people living within a bag (or sub-soum) in the most remote soums. Empanelment data collected during visits included the names, ages, and work/school status of each family member, as well as a basic health profile of each person. The panel list was then shared back to the provincial level, at which point, a PHC provider was officially "assigned" to each individual and/or household. Ultimately, the multi-disciplinary service provision and empanelment process gave the MOH a stronger sense of the demographics and health needs of Mongolians in remote parts of the country. To date, this program has been expanded to cover 153 soum health centers and 47 family health centers. In total the program covers 153 of 336 soums (45%) and the MOH plans to implement it nationally in all 336 soum health centers and most family health centers from 2020-2024.

Introducing the two initiatives together, mobile health and empanelment arguably saved time and money. While financial funding was provided from WHO for procurement of equipment and mobile health technology, provincial governments supported the rollout itself, and the strategic approach of the home visits was based on the JLN's

HEALTH CARE SYSTEM OF MONGOLIA

★ Ulaanbaatar
☆ Regional Diagnostics and Treatment Center 3
▲ Aimag General Hospitals 18
■ Rural General Hospitals 4
○ Inter-Soum Hospitals 33
• Soum Hospitals 321

person-centered integrated care and empanelment resources.

Health System Changes from the Empanelment Assessment Tool

By participating in the PCIC Collaborative and using the empanelment knowledge product the delegation helped co-create, Mongolia integrated empanelment practices into the country's mobile health technologies to provide PHC services in a more equitable and inclusive manner by reaching the most geographically isolated populations and better understanding their health needs, ultimately improving the availability and quality of services provided to these remote communities.

Supporting Shifts in National Evidence-Based PHC Guidelines

The political will at all levels of the health system was a catalyst for this work; however, the Mongolian PCIC Collaborative participants also successfully lobbied for policy change – including new country-wide evidence-based guidelines – for use of mobile technology to empanel patients. An unexpected positive outcome from the empanelment process is that the national government now has an updated health database covering a large proportion of the population aged between 18-65 years old that can drive evidence-based policy making. In addition, the team supported national legislation to revise the definition of PHC to include person-centered care in the National Health Law. The change was approved by the Mongolian Parliament in May 2020.

> "3.1.24.Definition of PHC
> 'Primary health care' means to be provide to everybody in the jurisdiction area, regardless of their territorial affiliation, with the participation of citizens, families and organizations and the **provision of family health care** and some essential healthcare based on the needs and demand of the population."

Improving Service Accessibility & Equity

Through this process, the MOH shifted the way they provide services to patients towards team-based home visits, a critical component of person-centered care. As part of the empanelment process, now, providers visiting a sick patient would automatically assess all members of the patient's household and empanel them using their smartphone. Services (using WHO-funded mhealth technology) are provided by a team of providers resulting in more holistic care for each individual household member. This roster of patients is now live and up to date at the soum referral hospital and is aggregated at the Province Health Department. The Province Health Department is responsible for sharing this with the National Development Center at the national level in Ulaanbaatar. Data aggregated by patient includes total screening, aggregation of clinical diagnoses, and referral disaggregated by location and age. This shift in practice means that more Mongolians in remote parts of the country – even asymptomatic individuals – receive routine PHC screening through home visits and are immediately assigned to a primary health care provider.

Improved Patient Satisfaction and Health Screening

Anecdotally, the team implementing the mobile health services and empanelment found that people are more satisfied with needs-based integrated health services at their community settings than they were traveling long distances to see a provider in a clinic setting. Mongolia has recorded an increase in the number of preventative screenings and a decrease in the number of emergency calls. For example, Arkhangai province started using mobile health technology and empanelment approaches in 2017 at the primary health care level. Currently, Arkhangai province has implemented the intervention – which includes two types of mobile health technologies for both the health center and during home health visits – in 11 soum health

centers, which is 61% percent of all soums in the province. In 2019, there was a 1.2% increase in coverage for preventative screening for non-communicable and communicable diseases.

Arkhangai has also seen an 8.6% decrease in patients referred to provincial-level general hospitals and a 13.2% decrease in inpatient service utilization. Ambulance calls from people living in remote areas of Arkhangai have also decreased since 2017 and continue to decline. In 2019, there were 16,996 ambulance calls and in 2020 that decreased an additional 8%.

By 2020, the total coverage of those empanelled using the mobile health technology was 18,400 which is about 20% of the population in Arkhangai province. Data is available for individuals from childhood to elderly age ranges. Of the 18,400 individuals, 7,683 are 18-40 (42%), 8,802 cases at the age 40-65 (48%), and 1,491 cases at the age over 65 (8%).

Recommendations

Here are some considerations from the implementing team to future implementers:

Home visits are an important strategy to achieve person-centered care: Conducting health screenings for all members of a household, not just for the patient who had the initial reason for the visit, allows for (1) improved person-centered care approaches, (2) a better understanding of community health needs, and (3) improved access for all members of the population to PHC.

Mobile technologies to enable empanelment during home visits is critical: For data management purposes, integrating empanelment processes into mobile health technologies is a best practice.

Linking two complimentary projects saves time and money: In this case, linking the mobile technology initiative with the shift towards person-centered care enabled opportunities for the MOH to create synergy and stake-holder buy-in.

Conclusion

Person-centered integrated care is foundational for high-quality PHC. Empaneling a population is important for understanding the health needs of the population and for ensuring they are formally connected with the health system and receive routine access to quality PHC, a critical component of UHC. By linking the empanelment process with an existing mobile health technology, Mongolia was able to empanel the most remote populations. The process also strengthened the mobile health technology by expanding the health screenings, and therefore improving the services available to the population and meeting their needs. Mongolia's early data on their empaneled population is already showing an increase in preventative screenings and a decrease in patients referred to provincial-level general hospitals and a decrease in inpatient service utilization. This early trend indicates that empanelment enables PHC systems to move from reactive care oriented around visits, to proactive care that leverages the primary health care team's potential to improve population health.