



CASE STUDY

MONGOLIA

MONGOLIA'S EXEMPLARY COVID-19 VACCINE ROLL-OUT WHILE SUSTAINING HIGH ROUTINE IMMUNIZATION COVERAGE

Abstract:

By July 2021, Mongolia had vaccinated 60% of their population with the primary COVID-19 vaccine series while successfully maintaining high routine coverage in their national immunization programme. This case study describes the planning, coordination and vaccination strategies used to achieve this.

COVID-19 Vaccine
DELIVERY PARTNERSHIP



Global challenges in COVID-19 vaccination

Most countries developed and submitted a national deployment and vaccination plan (NDVP) for their COVID-19 vaccination response; however, the readiness and speed in obtaining and distributing vaccine supplies presented a major challenge and was highly variable across countries. Achieving high vaccine coverage involved a wide range of factors including a coordinated effort across multiple disciplines and sectors; a cold chain and vaccine supply management system; a trained workforce to safely administer vaccines rapidly and on a large scale; a means to monitor perceptions and implement measures to create demand and optimize vaccine uptake; and systems for monitoring vaccination coverage and safety.

In many countries, coordinating these different requirements strained the health-care infrastructure, especially in the provision of routine vaccination. Analysis of the impact of the COVID 19 pandemic on immunization services showed a substantial decline in routine childhood vaccination globally during 2020 and 2021;¹ the reasons for this included reduced health workforce and disruptions in fixed post and outreach services.

Background & context: Mongolia

Mongolia registered the first imported case of SARS COV 19 on 10 March 2020, and the first domestic case on 11 November 2020. The Government of Mongolia acted swiftly to suppress and reduce transmission by implementing increased testing, early detection, active surveillance, contact tracing, isolation, and quarantine measures.

Preparations for vaccine deployment and NDVP development began in October 2020 through joint assessments using the Vaccine Introduction Readiness Assessment Tool (VIRAT). Vaccination started on 23 February 2021 using the AstraZeneca/Covishield™ COVID-19 vaccine. This was followed by the Sinopharm/BIBP vaccine (10 March 2021), the Astrazeneca/Vaxzevria™ and Gamaleya/Gam-Covid-Vac™ vaccines (19 March 2021), and the Pfizer-BioNTech/Comirnaty™ vaccine (26 March 2021). All five vaccines had been issued emergency use authorization by Mongolia's Human Medicines Council.



Priority groups for the COVID-19 vaccination included health workers; COVID-19 pandemic response team members (e.g. officers of emergency management, the police, and specialized inspection organizations); adults aged above 50 years; people with disabilities and comorbidities; frontline workers providing essential services; people needing social assistance; and teachers.

1 Shet et al, Impact of the SARS-CoV-2 pandemic on routine immunisation services: evidence of disruption and recovery from 170 countries and territories. *Lancet Glob Health* 2022; 10: e186–94.

Mongolia's innovative response

Planning and coordination

Although all aspects of vaccine deployment needed to be in place for Mongolia to achieve high vaccination coverage, this case study focuses on the two most important contributing factors in planning and coordination, as outlined below.

- 1. Activation of highly functional and comprehensive Incident Management Teams.** A multisectoral Incident Management Team (IMT) was created at the national level, and led by the National Emergency Management Agency, with more than 70 officials from 21 government agencies covering health, transportation, border control, law enforcement, state administration, emergency management, communications, and information. Similar structures were established at the subnational (provinces) level and involved a multisectoral body including the local governor's office, an emergency management agency, the health department, the police, etc.), led by the governor of the province or locality. Both national and subnational IMTs worked 24 hours a day, 7 days a week, with all members regularly convening to receive and discuss new evidence, strategies and decisions.
- 2. Updated Disaster Protection Law.** Mongolia's Disaster Protection Law was updated in 2017. This law strengthened the country's governance framework for disasters and focused on risk reduction and prevention, as well as humanitarian coordination and recovery. The updated law provided for multistakeholder national and local platforms to be incorporated. These updates facilitated work of the IMTs in terms of resources and efficiency. The law included provision for a disaster reserve fund which governors could access to purchase supplies and finance critical activities; an example of this was the rapid establishment of temporary COVID 19 vaccination posts on a case-by-case basis. Nationwide, a total of 1200 temporary posts were created at strategic locations (such as outside health facilities, in schools, stadiums and shopping malls) which ensured easy access to vaccination services and the continued provision of essential health services on the ground.

Maintaining routine immunization

Key factors that facilitated maintaining high routine immunization coverage include the following:

- 1. A detailed directive from the Ministry of Health.** In May 2020, the Mongolian Ministry of Health ordered the continuation of routine immunization amid the COVID-19 pandemic, while taking into consideration the local context of the pandemic, as outlined below.
 - Where there are sporadic cases of COVID-19, immunization services should be provided on a routine basis; they should be physically separate from other essential health-care services; receptionists should be available at the entrance of the health facility to direct visitors to the location of their required service; catch-up vaccinations should be arranged.
 - Where there are clusters of COVID-19 cases, immunization services should be provided on a routine basis; they should be made available at different times than other essential health-care services; residents of the catchment area should be informed of any changes in service availability by telephone.
 - Where there is community transmission of COVID-19, the State Emergency Commission should make decisions relating to routine immunization services; a list of children who missed routine vaccinations should be compiled and catch-up vaccinations arranged; the public should be informed of any changes to the immunization services via social media messages or telephone calls.



2. Prohibiting task-shifting of vaccinators. Vaccinators in Mongolia's National Immunization Programme were prohibited from being deployed in the COVID-19 vaccination roll-out by a Ministry of Health order. Every district and provincial health department compiled a list of human resources to assist with COVID 19 vaccinations which included retired doctors, retired nurses, retired vaccinators and nurses from family health centres. COVID 19 vaccines were not administered at fixed sites which provided routine immunization services. Specific arrangements were made at some health-care facilities to separate routine immunization services from other health services. For example, at the provincial level, if there were three or four family health centres in a catchment area, only one centre would provide routine immunization services for children. The remaining centres provided health services related to COVID 19, including testing and treatment. By keeping the services separate, parents were less fearful of taking their children for routine vaccinations.

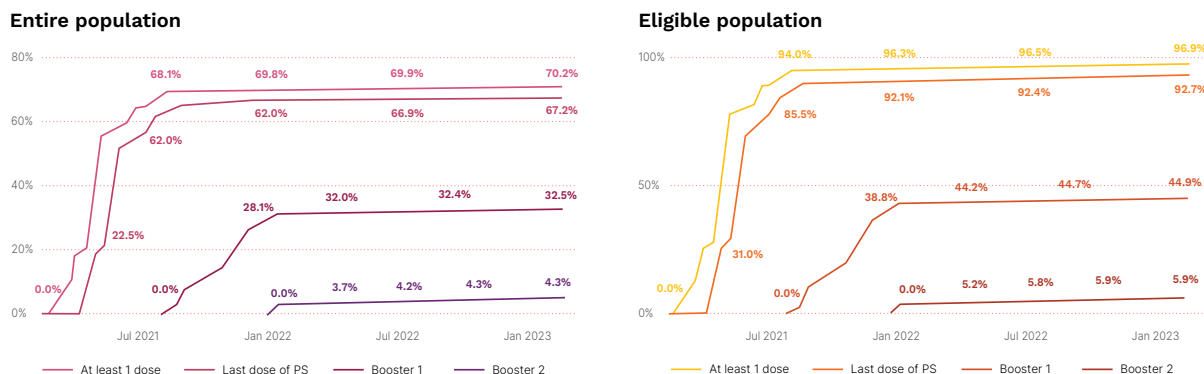
3. Conducting monthly catch-up sessions of routine vaccination during the pandemic. All health facilities with permanent immunization units were required, by Ministry of Health order, to conduct monthly catch-up sessions for children who had missed routine vaccinations. A list was compiled, and children were invited by telephone to attend. As a result of these activities, 43.6% of target children who missed routine vaccinations received catch-up doses in 2020; 44.7% of target children in 2021; and 45.3% in 2022.

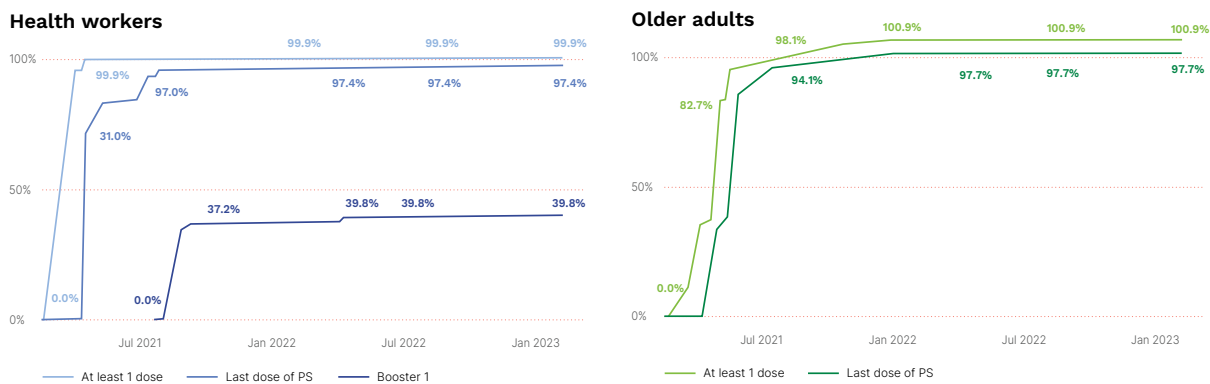
Outcomes

IMPACT

Mongolia's efficient planning, highly functional IMTs, and strengthened Disaster Prevention Law all contributed to achieving high rates of COVID-19 vaccination coverage: 92.7% of the eligible population, and 67.2% of the total population completed the primary vaccination series. Targets for completing the primary series were surpassed among health workers (97.4%) and older adults (97.7%) (Fig. 1).

FIGURE 1
Primary series COVID-19 vaccination coverage, Mongolia, July 2021–January 2023





Source: Source: WHO Western Pacific Regional Office
PS: Primary series vaccination

In addition, Mongolia’s impressively high routine immunization coverage throughout the pandemic included sustaining coverage of $\geq 95\%$ for three doses of diphtheria-, tetanus toxoid- and pertussis-containing vaccine (DTP3). Coverage rates for the third dose are shown in Fig. 2 below.

FIGURE 2
Coverage of the third dose of DTP-containing vaccine, Mongolia, 2016–2022

Country / Region	Antigen	Data source	2022	2021	2020	2019	2018	2017	2016
Mongolia	DTP-containing vaccine, 3rd dose	ADMIN		95.44%	96.38%	98.09%	98.56%	99.61%	98.7%
		OFFICIAL		95.44%	96.4%	98.1%	98.6%	99.6%	98.7%
		WUENIC		95%	96%	98%	99%	99%	99%

BENEFITS

- The successful use of legal frameworks, including the updated Disaster Prevention Law, and coordinating structures, increased confidence and preparedness for future emergencies and major disease outbreaks.
- By maintaining routine immunization services, cohorts of children are protected against other vaccine-preventable diseases, thereby minimizing the risk of outbreaks of these diseases.

CHALLENGES

- As the perceived effectiveness of additional doses of COVID-19 vaccines and the risk of severe disease wanes, the demand and uptake for booster doses have declined.
- For both COVID-19 and routine vaccination services, critical challenges included reaching mobile and scattered populations and serving large geographical areas. Additional resources – both human and financial – were needed to provide services to hard-to-reach communities and families.

- Constraints in human resources were reported, particularly during surges of COVID-19 cases and COVID-19 mass vaccination activities. Many health workers experienced heavy workloads and had to work long hours to compensate for these shortfalls.
- Although national routine immunization coverage remains high in Mongolia, decreased coverage in some areas has led to an increased risk of outbreaks of measles and other vaccine-preventable diseases.

Lessons

- The solid legal framework of the Disaster Prevention Law facilitated the work of the IMTs and contributed not only to directing Mongolia's rapid COVID-19 vaccination roll-out, but also to implementing vaccination guidance and providing resources.
- Despite decreased coverage in some areas, Mongolia's multifaceted approach to maintaining routine immunization services – which included providing a legal framework, protecting the immunization workforce, and conducting monthly catch-up vaccination sessions – was considered successful overall.

In the long term, investing in and building a resilient routine immunization system provides a level of protection such that when emergencies arise, services may be sustained and able to contribute to emergency preparedness and a successful response.

COVID-19 Vaccine

DELIVERY PARTNERSHIP

