



GOOD PRACTICE BRIEF

TELEMEDICINE IN KAZAKHSTAN: Bridging the urban–rural divide in delivering prevention, diagnosis, and treatment of noncommunicable diseases

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Summary

Since the inception of a telemedicine network in 2004, Kazakhstan has progressively built a world-class service platform as a key component of the national approach to strengthening health care delivery in rural settings and achieving the country's goal of universal health coverage. The telemedicine network, which was established to ensure the accessibility of specialized medical care for rural populations, provides a range of tele-consultation services, including some designed specifically to support the diagnosis and treatment of noncommunicable diseases (NCDs).

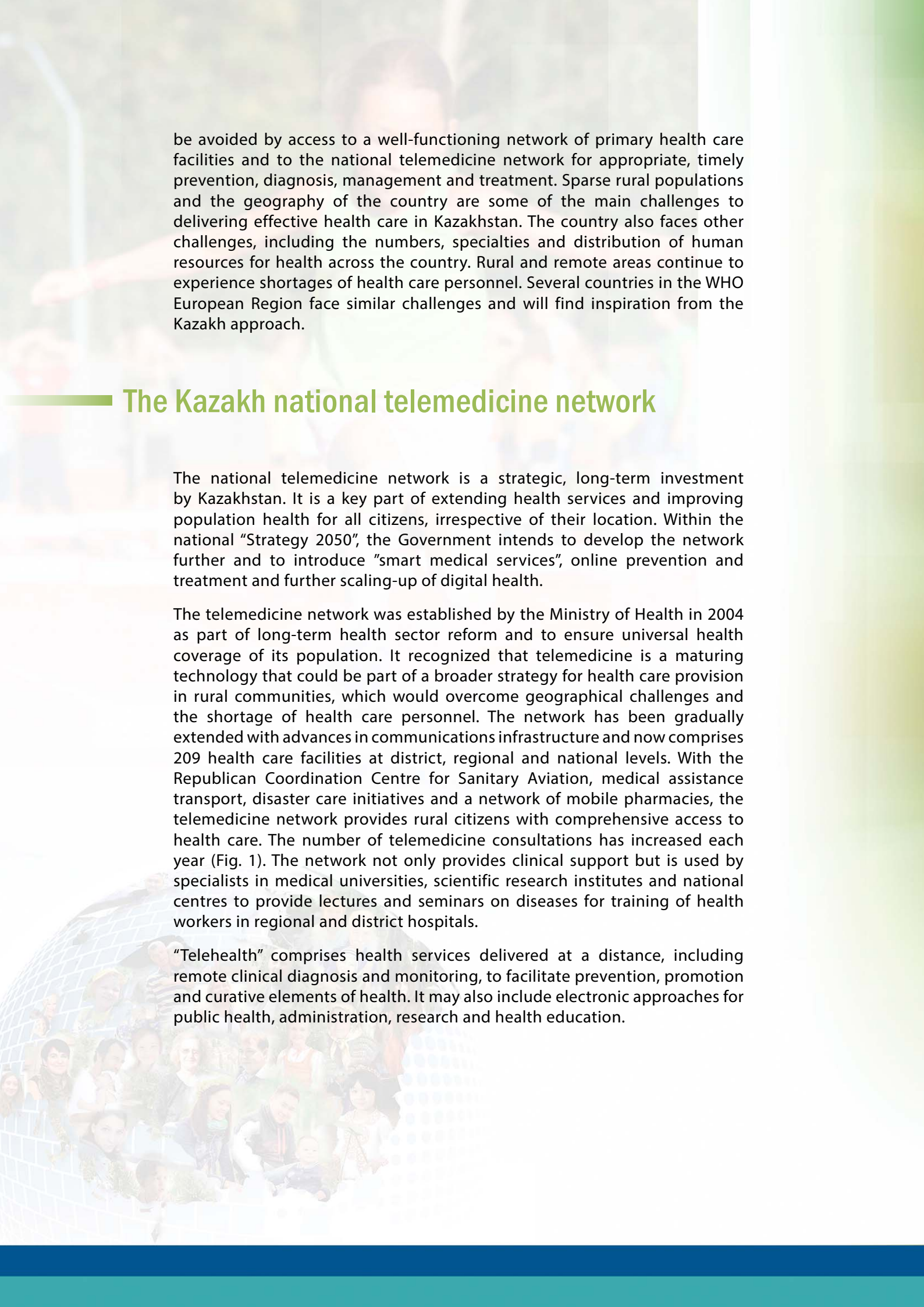
Through the national telemedicine network, the Government of Kazakhstan is successfully realizing its vision of “an effective and accessible health system that meets the needs of the population”, as embodied in the strategic plan of the Ministry of Health for 2017–2021. It considers that expansion of the telemedicine network will be pivotal to further improving the quality of medical care in rural areas by 2050.

Addressing the burden of NCDs in rural communities

Kazakhstan has a high burden of premature mortality due to four major NCDs: cardiovascular disease, diabetes mellitus, chronic respiratory disease and cancer, which accounted for 84% of all deaths nationally in 2014. Many of these chronic conditions can

Key Messages

- Telemedicine can be a key component of strengthening health services delivery and achieving universal health coverage.
- A well-governed, national telemedicine network can be effective for timely prevention, diagnosis, management and treatment of NCDs.
- Scaling-up telemedicine requires a multifaceted approach, including identifying appropriate use, applying standards, ensuring training for health care professionals, developing supportive policies and integrating health information.
- Public–private partnerships may be helpful for scaling up telemedicine and introducing frameworks for integrated people-centred care, although public interest must be adequately protected.
- Information and communications technology can address previously intractable policy problems, such as access of rural populations in large, sparsely populated countries to care and specialist care.



be avoided by access to a well-functioning network of primary health care facilities and to the national telemedicine network for appropriate, timely prevention, diagnosis, management and treatment. Sparse rural populations and the geography of the country are some of the main challenges to delivering effective health care in Kazakhstan. The country also faces other challenges, including the numbers, specialties and distribution of human resources for health across the country. Rural and remote areas continue to experience shortages of health care personnel. Several countries in the WHO European Region face similar challenges and will find inspiration from the Kazakh approach.

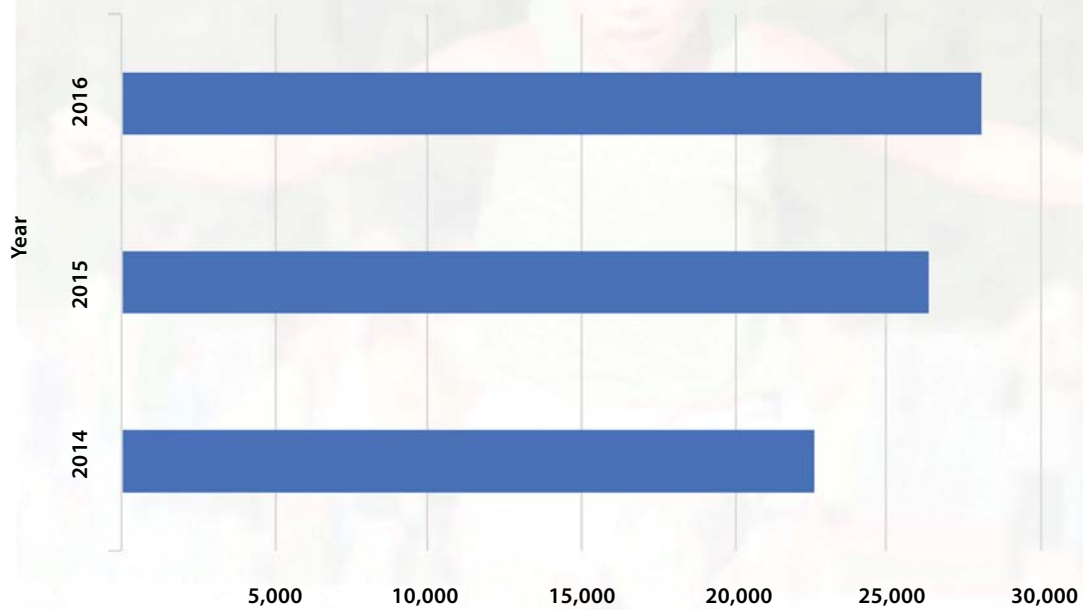
The Kazakh national telemedicine network

The national telemedicine network is a strategic, long-term investment by Kazakhstan. It is a key part of extending health services and improving population health for all citizens, irrespective of their location. Within the national “Strategy 2050”, the Government intends to develop the network further and to introduce “smart medical services”, online prevention and treatment and further scaling-up of digital health.

The telemedicine network was established by the Ministry of Health in 2004 as part of long-term health sector reform and to ensure universal health coverage of its population. It recognized that telemedicine is a maturing technology that could be part of a broader strategy for health care provision in rural communities, which would overcome geographical challenges and the shortage of health care personnel. The network has been gradually extended with advances in communications infrastructure and now comprises 209 health care facilities at district, regional and national levels. With the Republican Coordination Centre for Sanitary Aviation, medical assistance transport, disaster care initiatives and a network of mobile pharmacies, the telemedicine network provides rural citizens with comprehensive access to health care. The number of telemedicine consultations has increased each year (Fig. 1). The network not only provides clinical support but is used by specialists in medical universities, scientific research institutes and national centres to provide lectures and seminars on diseases for training of health workers in regional and district hospitals.

“Telehealth” comprises health services delivered at a distance, including remote clinical diagnosis and monitoring, to facilitate prevention, promotion and curative elements of health. It may also include electronic approaches for public health, administration, research and health education.

Fig. 1. Numbers of telemedicine consultations conducted annually in Kazakhstan, 2014–2016



Source: Ministry of Health of Kazakhstan

Impact

Timely, correct diagnosis and treatment through telemedicine allow health care professionals in Kazakhstan to administer emergency medical care to patients promptly, reduce the costs associated with travel for care and reduce the complexity of accompanying multi-morbid patients to regional or state clinics.

In 2016, experts in 15 regional hospitals, the children's regional hospital of Shymkent and 14 state clinics conducted 28 060 telemedicine and video consultations, of which 26 252 were conducted by regional hospitals and 1808 by state clinics. In the same period, the telemedicine network was used to facilitate 7477 radiographic, 4698 electrocardiographic and 1563 ultrasound examinations.

Reflecting the growing burden of NCDs in Kazakhstan, the most frequent tele-consultations in 2015 were for cardiology (16.7% of all consultations), pulmonology (13%) and neurology (9.7%). Telemedicine is most often used in Karaganda, South Kazakhstan and Akmola oblasts. The state clinics that conduct teleconsultations most often are the Institute of Cardiology and Internal Medicine, the National Scientific Medical Centre and the Scientific Centre of Paediatrics and Children's Surgery.

The Ministry of Health is now exploring whether public-private partnerships could offer additional means for scaling-up the national telemedicine network.

Lessons learned

- An appropriate governance structure for standardization and progressive scaling-up ensures the long-term sustainability of telemedicine.
- Adoption of telemedicine also requires non-technical support, including appropriate policy, regulation and reorientation of care pathways.
- Investment in continuous training and support of health care personnel in the use of telemedicine is a catalyst for further extension of the network.
- The uses of telemedicine may extend beyond clinical care to include communication, training and research.
- In rural environments, an intersectoral approach to linking telemedicine with other modes of care delivery (e.g. aviation, medical transport, emergency care, mobile pharmacies) increases the quality and effectiveness of the health system response.
- Integration of telemedicine into the national health information system enables access to information for the delivery of remote care and avoids the creation of information silos.

References

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