Strengthening prenatal and obstetric care in Belarus

Overview

High maternal mortality rates recorded throughout the 1990s and early 2000s in Belarus pushed maternal and child health up the government agenda and made addressing this issue the focus of several government programmes, namely the National Programme for Demographic Security 2006–2010. Studying mortality trends, the Ministry of Health identified a lack of prenatal screening and low rates of attended births as key contributors to these statistics. Government backing, evidenced by supportive legislation and allocation of necessary funding for activities, was a key enabler for changes in the delivery of prenatal and obstetric services. In response, new prenatal screening recommendations were developed, with providers receiving the necessary equipment and training to implement these. Pregnant women are financially incentivized to enrol in prenatal care early and follow recommendations issued by providers. Increased emphasis has been placed on care delivery in lower-level settings and home-care visits have also been made available. Resources have been redistributed between health facilities, with specialized equipment and providers pooled at higher levels of care. Additionally, Republican Scientific and Practical Centres have been introduced to lead highly-specialized care delivery for high-risk pregnancies. Over time, improvements in key indicators have been recorded, with reductions in infant mortality rates from 11.4 to 3.7 per 1000 births between 2000 and 2013.[1] Today, the infrastructure, regulations and incentives put in place continue to support improved maternal and child health outcomes.

Problem definition

In 1991, levels of maternal mortality in Belarus, at 31 per 100 000 live births compared to a Regional average of 26 per 100 000 that same year, made improvement of maternal and child health a key priority for the Ministry of Health.[1] A lack of prenatal care and screenings, as well as low rates of attended births, were identified as root causes to observed problems (Box 1). Geographic disparities in access to prenatal and obstetric services were also observed. Capacity to provide adequate prenatal and obstetric services was weak across all care levels, hindered by a lack of necessary equipment and appropriate training.

Box 1
What problems did the initiative seek to address?

- High maternal and infant mortality rates.
- Inadequate provision of prenatal care and low rates of attended births.
- Weak capacity for delivery of prenatal and obstetric services in appropriate care settings.
- Geographic disparities in access to prenatal and obstetric services.

Health services delivery transformations

Timeline of transformations

In the early 2000s, the Government of Belarus identified improving maternal and child health as a key priority (Table 1). Maternal and child health subsequently became a main focus for several government programmes, including the National Demographic Security Programme 2006–2010 and the Children of Belarus Programme. Guided by supportive government policy, legislation and incentives, changes in the organization of prenatal and obstetric services have supported improvements in maternal and child health outcomes which continue to be seen today.

Description of transformations

Selecting services. Basic prenatal services have been expanded to include a minimum of three prenatal screenings. Specialist services for high-risk pregnancies and births have also been widened to include services such as genetic diagnostics, surfactant therapy, mechanical lung ventilation and paediatric surgery.

Designing care. New regulations for the order and timing of prenatal screenings have been developed, with specific care pathways adapted based on screening results, pregnancy risk-level and individual needs. Additionally, clinical protocols

Table 1
What were the chronological milestones for the initiative?

Early 2000s	High rates of maternal and infant mortality make matemal and child health a government priority.
2003	Preparation for health system reforms to improve maternal and child health begins.
2005	National Programme for Demographic Security 2006–2010 and Children of Belarus Programme launched; programmes focus on strengthening prenatal and obstetric care.
Present	Infrastructure, regulations and incentives put in place during the reform period continue to support improved maternal and child health outcomes.

outlining referral processes and specifying which services are to be provided at each level of care have been developed.

Organizing providers. Improved coordination and definition of referral protocols allows patients to receive necessary care in the most appropriate setting based on individual risks and needs. Delivery of prenatal and obstetric care is led by obstetricians and gynaecologists. Primary care staff, including district midwives and paediatric nurses, provide care support and serve as care coordinators across primary practices in each region, communicating with patients, sending appointment reminders and organizing transportation as needed.

Managing services. Funds provided by the Ministry of Health have allowed resource investments to be made across care levels, including equipping maternity centres with ultrasound machines to carry out prenatal screenings and providing vehicles to transport patients. Improving existing resource management has also been an important focus, with resources being reallocated between facilities to promote more equitable distribution and reduce geographic variability. Additionally, underutilized maternity centres delivering less than 200 births were closed, with transportation networks to the closest facility established.

Improving performance. Providers received training in ultrasound diagnostic skills from the ultrasound equipment supplier to enable the provision of required screenings. Specialist trainings, for example on perinatal diagnosis and surfactant therapy, were conducted in European centres in Moscow. Additional provider trainings were offered using a cascade system, with higher-level specialists responsible for training lower-level providers.

Health system enabling factors

Strong government backing for the initiative created a supportive regulatory framework to guide changes in services delivery (Table 3). Laws enacted by the government require obstetric care to be provided free of charge to all women and dictate which services are to be provided at each level of care, ensuring continuity and efficient use of resources. While no financial incentives were incorporated for providers, financial incentives have been made available for maternity patients to encourage early enrollment in prenatal care and increase adherence to pregnancy advice issued by providers. These financial incentives have appeared effective in generating desired participation from patients.

The Department of Human Resources under the Ministry of Health oversees continuous education for providers and helps coordinate trainings with foreign care partners. Providers are required to receive training through the Department every one to three years to ensure continued professional development. Additionally, Republican Scientific and Practical Centres have been established as highly-specialized care facilities in which providers can research and trial new technologies and procedures.

The National Statistics Committee conducts ongoing data collection and monitoring of the initiative, providing information to guide the Ministry of Health with health system planning. Reporting on maternity bed utilization and number of pregnancies, for example, helps the Ministry make evidence-based decisions about the reallocation of resources, redistribution of providers and other planning decisions. Reports produced by the Committee also allow progress in maternal and child health outcomes as a result of the initiative to be tracked. “It can be shown what was before the programme, how the programme has been implemented and what we got out at the end of the programme.”

Outcomes

While transformations took time to deliver observable results, given the gradual introduction and long preparatory stage of the initiative, substantial improvements in maternal and child health have now been achieved (Box 2). Both maternal and infant mortality rates have seen significant reductions and access to care has reportedly increased.

Table 2
How was the delivery of health services transformed through the initiative?

Before	After
Selecting services	
Maternity care included in the basic package of government-mandated free services; low rates of prenatal screening; specialized obstetric and neonatal care limited.	Minimum of three prenatal screenings offered; expansion of specialized obstetric and neonatal care.
Designing care	
No specified care pathways or guidelines for obstetric care.	Clear government guidelines and regulations define services to be provided at each care level and the order and timing of prenatal screenings; care pathways adaptable based on individual needs and risk level.
Organizing providers	
Concentration of providers in higher levels of care; geographic inequities in provider access; high rates of unsupervised pregnancies and unattended births.	Four-tier care system building on primary care established; obstetricians and gynaecologists lead prenatal and obstetric care delivery, supported by district midwives and nurses.
Managing services	
Lack of prenatal screening resources; inequitable distribution of available resources across facilities.	Investment in new equipment, including ultrasound machines; existing resources reallocated across facilities to even distribution; underutilized maternity facilities closed.
Improving performance	
Absence of training on conducting prenatal screening; lack of training opportunities for specialists.	Ad hoc trainings for using new ultrasound equipment led by the equipment supplier; specialists receive additional training abroad; specialists responsible for training lower-level providers in a cascade training model.

Table 3.
How has the health system supported transformations in health services delivery?

System enablers	Example
Accountability	• Provision of free prenatal and obstetric care according to guidelines is required by law.
Incentives	• Pregnant women receive financial incentives to enrol in prenatal services prior to the twelfth week of pregnancy.
Competencies	• Department of Human Resources for Health requires providers to complete continuing professional education every one to three years.
Information	• National Statistics Committee conducts ongoing data collection and monitoring to help inform evidence-based health system planning.
Innovation	• Republican Scientific and Practical Centres established to research and trial new technologies and procedures.

Box 2
What were the main outcomes of the initiative?

- Infant mortality fell from 11.4 to 3.5 per 1000 births between 2000 and 2013.[1]
- Maternal mortality fell from 32 to 1 per 100 000 births between 2000 and 2013.[1]
- Access and availability to health care is reported to have increased; 98% of women now receive standardized, free prenatal care.
- Approximately 350 women with high-risk pregnancies receive specialist care within Republican Scientific and Practical Centres annually.
- Monitoring of clinical practice shows improved adherence to care guidelines by providers.

Change management

Key actors
A strong government-led effort by the Ministry of Health through a top-down approach was the main driver of change. However, a number of government departments and national agencies played a key role in improving delivery of maternal and child health services (Box 3).

Box 3.
Who were the key actors and what were their defining roles?

- **Ministry of Health.** Identified maternal and child health as a priority area for improvement; provided funding for initiative; developed regulatory framework and new guidelines to support improved care delivery.
- **National Statistics Committee.** Collects data to show impact of initiative; informs Ministry of Health on emerging health needs.
- **Department of Human Resources for Health.** Oversees provider training and continuous education.

Initiating change
In the early 2000s, government agencies were each tasked with identifying key problem areas. The resulting observation by the Ministry of Health regarding the high rates of maternal mortality led the government to prioritize maternal and child health and initiate the development of efforts to drive improvements.

Implementation
Regulatory frameworks designed by the Ministry of Health provided clear guidelines for professionals to follow. The commitment of specialists and providers to learn new techniques required under the initiative was essential in determining the effectiveness of practice.
Close relationships with foreign care partners helped implement necessary trainings for providers. The National Statistics Committee collects and examines performance data, which is used by the Ministry to make adjustments to the initiative as needed.

Moving forward
The initiative continues to be actively implemented with continued investment in infrastructure and ongoing development of regulatory frameworks. The National Statistics Committee continues to track progress and maternal and infant mortality rates remain low at present.

Highlights
- Investigation into key challenges and a strong understanding of root causes ensured health reforms responded to observed needs.
- Broad services delivery reforms took time and a long-term vision was needed.
- Strong top-down support for change reinforced by legislation provided a guiding framework for transformations.
- Provider uptake and adherence to new guidelines were facilitated through provision of necessary trainings and equipment.
- Financial incentives helped encourage desired uptake and participation in prenatal care from women.

1 World Health Organization. (2015). *European Health for All Database.* Retrived from: http://data.euro.who.int/hfadb