



UN MULTI-PARTNER HUMAN SECURITY TRUST FUND FOR THE ARAL SEA REGION IN UZBEKISTAN

UNICEF and UNFPA Joint Programme
**'Improvement of Quality of Perinatal Care Service
to Most Vulnerable Mothers and Newborns'**

MPTF OFFICE GENERIC FINAL PROGRAMME NARRATIVE PROGRESS REPORT

REPORTING PERIOD:
26 AUGUST 2019 – 30 APRIL 2021





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**UNICEF AND UNFPA JOINT PROGRAMME
“IMPROVEMENT OF QUALITY OF PERINATAL
CARE SERVICE TO MOST VULNERABLE
MOTHERS AND NEWBORNS”**

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Programme Title & Project Number		Country, Locality(s), Priority Area(s) / Strategic Results	
<p>Programme Title: Improvement of Quality of Perinatal Care Service to Most Vulnerable Mothers and Newborns</p> <p>Programme Number <i>(if applicable)</i></p> <p>MPTF Office Project Reference Number: 00117258</p>		<p>Country/Region: Uzbekistan/Karakalpakstan</p> <p>Priority area/ strategic results: UNDAF Outcome 4: By 2020, all people benefit from quality, equitable and accessible health services throughout their life course</p>	
Participating Organization(s)		Implementing Partners	
<p>Organizations that have received direct funding from the MPTF Office under this programme UNICEF, UNFPA</p>		<p>National counterparts (government, private, NGOs & others) and other International Organizations Ministries of Health of Uzbekistan and Karakalpakstan</p>	
Programme/Project Cost (US\$)		Programme Duration	
Total approved budget as per project document:	\$1,619,666	Overall Duration	21
MPTF /JP Contribution: <i>by Agency (if applicable)</i>	UNICEF: \$980,344		
Agency Contribution <i>by Agency (if applicable)</i>	UNFPA: \$639,322 UNICEF: \$155,489 UNFPA: \$116,133	Start Date	26.08.2019
Government Contribution <i>(if applicable)</i>	\$0	Original End Date	31.12.2020
Other Contributions (donors) <i>(if applicable)</i>	\$0	Current End date	30.04.2021
TOTAL:	\$1,829,155		
Programme Assessment/Review/ Mid-Term Evaluation		Report Submitted By	
<p>Assessment/Review - if applicable please attach <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Date: dd.mm.yyyy</p> <p>Mid-Term Evaluation – if applicable please attach <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Date: dd.mm.yyyy</p>		<p>Name: Munir Mammadzade</p> <p>Title: Representative</p> <p>Participating Organization (Lead): UNICEF</p> <p>Email address: mmammadzade@unicef.org</p>	

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LIST OF ACRONYMS

CPAP	Continuous positive airway pressure
ECG	Electrocardiography
GOU	Government of Uzbekistan
HMIS	Health Management Information System
ICU	Intensive Care Unit
JP	Joint Programme
KSMI	Karakalpak State Medical Institute
MCH	Maternal and Child Health
MCNH	Maternal, Child and Newborn Health
MOH	Ministry of Health
NMCR	Near-miss Case Review
OB/GYN	Obstetrics and Gynecology
PD	Presidential Decree
PHC	Primary Healthcare
ROK	Republic of Karakalpakstan
ROU	Republic of Uzbekistan
SDGs	Sustainable Development Goals
UNDAF	United Nations Development Assistance Framework
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

EXECUTIVE SUMMARY

The end-of-programme report for the 'Improvement of Quality of Perinatal Care Service to Most Vulnerable Mothers and Newborns' programme covers the period of August 2019 – April 2021. Covering the whole period of the programme implementation, the report prepared jointly by the Ministry of Health (MOH) of Uzbekistan, UNICEF and UNFPA, aims to summarize the critical achievements, results and lessons learned from the implementation of the programme.

During the reporting period, UNICEF and UNFPA significantly contributed to the Government's efforts to improve the quality of perinatal services at secondary and primary levels in the Republic of Karakalpakstan by improving infrastructure, upgrading equipment, and building the capacity of medical professionals of three district perinatal centers, specifically of the Kungrad and Beruniy districts and Nukus City. All three facilities serve as inter-district perinatal centers and admit women from neighboring districts.

There are key results that have been achieved during the reporting period, despite the global pandemic and certain restrictions which have existed in the country in 2020 and 2021:

- Renovations at all target perinatal facilities were completed in the summer of 2020, significantly improving the infrastructure and allowing the centers to install and use a large set (more than 150 units) of modern equipment covering all significant aspects of care for mothers and newborns.
- More than 65 percent of JP's budget was spent on equipment procurement and 10 percent on renovations and infrastructure upgrades.
- All key personnel in the target facilities and neighboring districts (730 doctors, midwives, pediatricians, and nurses) have upgraded their knowledge and skill on evidence-based maternal and newborn survival practices through training, coaching, and supportive supervision via either online or face-to-face modalities. In response to the imposed COVID-19 lockdown restrictions, UNICEF and UNFPA procured ICT equipment for distance learning.
- All aspects of maternal and newborn health as well as optimal use of human resources, laboratory services, communication materials, and infrastructure were

improved through eight rounds of supportive supervision visits conducted in October-December 2020 and February-April 2021 in all target facilities. Supportive supervision training was also replicated at an additional five perinatal centers, including Chimbay, Kanlikul, Turtkul, Ellikqala and Muynak.

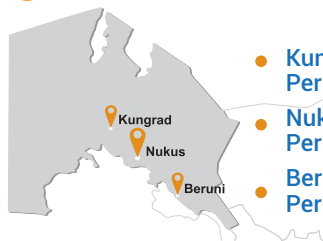
- Significant progress has been achieved in some target facilities:
 - The stillbirth rate decreased by almost 40 percent (5 cases in 2019 vs. 3 cases in 2020) at the Nukus City Perinatal Center and 29 percent (35 cases in 2019 vs. 25 cases in 2020);
 - Early neonatal deaths decreased by one-fourth (47 cases in 2019 vs. 35 in 2020) at three perinatal facilities.
- All target facilities have implemented their quality improvement plans with guidance from national and international experts:
 - Two facilities (the Kungrad and Nukus City Perinatal Centers) reached the target of 100 percent of post-partum women covered by standard obstetric monitoring in the early post-partum period to prevent near-miss and maternal death cases.
 - Initiation of breastfeeding within the first hour of life among stable newborns born by caesarean section in two facilities (Beruniy and the Regional Perinatal Centers) increased from 10 percent in Q1 2020 to 60-70 percent in Q1 2021.
- A total of 60 percent of all cases of perinatal death (31 out of 52 cases) and 30 percent of all near-miss maternal cases (117 out of 390 cases) were reviewed and audited, and context-appropriate courses of action were adopted under guidance from national trainers.
- A total of 12,159 mothers and 12,067 newborns, being approximately 28 percent of mothers and newborns in Karakalpakstan, have benefited from upgraded infrastructure and improved quality of care at the target perinatal centers during the reporting period (Sep 2019 – April 2021).
- Exit interviews have shown that the implementation of family-centered and evidence-based practices raised satisfaction among mothers from 66 percent in 2019 to 84 percent in 2021. Women's dissatisfaction with the quality of perinatal services dropped from 17 percent in 2019 to 5 percent in 2021.
- As a result of the Joint Programme (JP), the survival rate of newborns in the 1,000 to 2,499 gram weight category increased significantly from 76 percent in 2018 to 91 percent in 2020. According to data from MOH, the survival rate in the target perinatal centers of newborns in the 1,000 to 2,499 gram weight category reached 94.5 percent in the first quarter of 2021. For the increase in the survival rate in this weight category, the programme had initially set itself a target of 80 percent.
- The end-of-programme assessment team concluded that there was a need to: (i) reorganize and optimize the structure of perinatal health care services considering the new capacities and infrastructure of target perinatal centers; (ii) further strengthen infection prevention and control practices; and (iii) organize proper technical maintenance of new equipment. All findings were shared with the MOHs of Karakalpakstan and Uzbekistan, and a follow-up plan was agreed on.



IMPROVEMENT OF QUALITY OF PERINATAL SERVICES TO MOST VULNERABLE MOTHERS AND NEWBORNS

September 2019 - April 2021

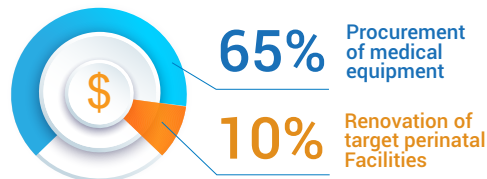
TARGET LOCATIONS



- Kungrad District Perinatal Facility
- Nukus City Perinatal Facility
- Beruniy District Perinatal Facility

INVESTMENTS

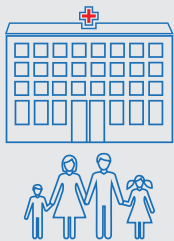
1,619,666 USD



COLLABORATION



GOAL



Ensuring the population's access to perinatal services through infrastructure improvement, provision of essential equipment to medical facilities and increase the quality of maternal and newborn health care services.

OBJECTIVES



Improving the infrastructure and equipping three perinatal care facilities with modern equipment (Beruniy, Kungrad districts, and Nukus city).



Strengthening the skills of health care providers in perinatal care facilities through various capacity building activities to provide high-quality care, counseling, and support to pregnant women and newborns.

RESULTS

12,000 >



12,159 mothers and 12,067 newborns have benefited from upgraded infrastructure and improved quality of care at the target perinatal centers.



70% of Karakalpakstan's population is served by modernized target inter-district perinatal centers in Kungrad and Beruniy districts and Nukus city.



Renovation and upgrade of ancillary infrastructure in three target facilities were completed.



150 units of modern medical equipment to cover all aspects of care for mothers and newborns were delivered



Significant progress has been achieved in all target facilities:

- the antenatal mortality rate decreased by almost **40%** (5 cases in 2019 vs. 3 cases in 2020) at the Nukus City Perinatal Center,
- early neonatal deaths decreased by nearly **30%** (35 cases in 2019 vs. 25 in 2020) at the Beruniy Perinatal Center, and
- a decreased of **17%** of early neonatal deaths (12 cases in 2019 vs. 10 cases in 2020) at the Kungrad Perinatal Center.



730 healthcare providers were trained on evidence-based maternal and newborn survival practices.

A total of **60%** of all cases of perinatal death and **30%** of all near-miss maternal cases were reviewed and a plan to prevent future occurrences was devised.



- By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.
- By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neo-natal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.



This Joint Programme is funded by the UN Multi-Partner Human Security Trust Fund for the Aral Sea region in Uzbekistan, which is generously supported by the Government of Uzbekistan, Norway, Finland, the Republic of Korea, the European Union, and Alwaleed Philanthropies.





Photo 1: Maternity ward at the Kungrad Perinatal Centre

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I. PURPOSE

The Government of Uzbekistan (GoU) has prioritized the reduction of maternal and newborn deaths and stillbirths in line with global efforts, as embodied by the Sustainable Development Goal 3 (SDG 3): by 2030 reduce the maternal mortality rate by a third, and neonatal and under-five mortality by half. The GoU has developed a national strategy for 2019-2025 outlined in Presidential Decree #4513 (dated 11.08.2019), which aims to improve the quality and coverage of healthcare services for women of reproductive age, pregnant women, and children.

This Joint Programme's (JP) general purpose is to improve access to quality perinatal health services for the most vulnerable mothers and newborns of the Republic of Karakalpakstan (ROK) by equipping three perinatal centers and building the capacity of healthcare staff to provide advanced maternal and newborn survival services. Within the framework of the programme, UNICEF and UNFPA have contributed to achieving the United Nations Development Assistance Framework (UNDAF) Outcome 4, which is: 'by 2020, all people benefit from quality, equitable and accessible health services throughout their life course', measured by Indicator 4.3. on 'percentage of health facilities (maternities, child hospitals, and primary healthcare [PHC] facilities) in targeted regions applying newborn/child survival standards/protocols as recommended by WHO and UNICEF'.

The expected outcome of this JP is improved quality as well as equitable and sustainable coverage of perinatal health services, and contributes to human security in the Aral Sea region with a particular emphasis on maternal and newborn healthcare. This is in line with the MPHSTF Results Framework Outcome 4: overall health of the local population is improved, and healthy lifestyle is promoted.

II. ASSESTMENT OF PROGRAMME RESULTS

i) Narrative reporting on results

This JP supports **MPHSTF Outcome 4** on overall health of the local population is improved, and healthy lifestyle is promoted with the following indicators:

Indicator 4.1. *percentage reduction in infant and maternal mortality: - infant mortality rate (up to 1 year, per 1000 live-born; - maternal mortality (per 100,000 live birth);*

Indicator 4.2. *percentage of the population satisfied with health services.*

The JP has helped make progress on contributing to MPHSTF Outcome 4. The annual statistics from the MOH of the RoK for 2020, for the targeted three facilities, have shown considerable improvements for both maternal and newborn survival. As a result of the Joint Programme (JP), the survival rate of newborns in the 1,000 to 2,499 gram weight category increased significantly from 76 percent in 2018 to 91 percent in 2020. According to data from MOH, the survival rate in the target perinatal centers of newborns in the 1,000 to 2,499 gram weight category reached 94.5 percent in the first quarter of 2021.

All three second-level perinatal centers equipped with modern equipment and up-to-date evidence-based maternal and newborn survival practices cater not only to their districts but also to neighboring ones, thus raising overall satisfaction with healthcare services across the eight targeted districts. During the end-line survey, patients' overall satisfaction with quality of services at targeted perinatal centers increased from 66 in Q4 2019 to 84 percent Q2 2021.

The JP also supports following additional MPHSTF outputs:

MPHSTF Output 10 on increased investment in local health services and pharmacies (e.g., facilities and equipment).

Indicator 10.1. *Amount of investment in local health infrastructure with the support of MPHSTF, mln. USD;*

Indicator 10.3. *Number of medical institutions equipped with equipment.*

In support of MPHSTF Output 10, more than 65 percent (\$1,065,048) of the programme budget was allocated for the procurement of equipment, and 10 percent (\$160,000) for infrastructure upgrade at the three perinatal centers.

MPHSTF Output 12. The quality of healthcare has improved through increased professional education.

Indicator 12.1. *Number of healthcare professionals educated and retrained through distance learning.*

In support of MPHSTF Output 12, the programme team renovated a training room at the Regional Perinatal Center in Nukus, and provided furniture for training rooms at the Regional Perinatal Center and the Karakalpak Medical Institute. It also equipped the

Regional Perinatal Center, the Karakalpak Medical Institute, and the Beruniy, Kungrad and Nukus City perinatal centers with sets of web-conferencing equipment and PCs, to enable face-to-face trainings, online learning and coordination meetings. More than 430 healthcare workers in Karakalpakstan have been trained in up-to-date newborn and maternal survival practices, through distance learning.

The abovementioned achievements complement **UNDAF Outcome 4** which indicates that by 2020, all people should benefit from quality, equitable and accessible health services throughout their life course. This is measured by the indicator on percentage of health facilities (maternities, child hospitals and PHC facilities) in targeted regions applying newborn/child survival standards/protocols as recommended by WHO and UNICEF (Indicator 4.3). The JP contributed to UNDAF Outcome 4 by having all three target perinatal facilities in Beruniy, Kungrad, and Nukus City fully implement standards and protocols recommended by WHO and UNICEF. During the reporting period, the JP trained 730 healthcare providers through face-to-face and distance learning modalities on these protocols and standards in eight targeted districts of ROK.

JP Outcome:

By 2020, mothers and newborns in the ROK, especially the most vulnerable, have received quality perinatal healthcare services.

After thorough analysis, the MOH has assigned three maternal facilities in Kungrad, Nukus City, and Beruniy which cover geographically most of Karakalpakstan's population (8 districts out of 16) as future second-level perinatal facilities, i.e., where most complicated cases could be referred, and advanced specialized care could be provided. The catchment population of the target perinatal facilities expanded from 630,000 people to more than 1,2 mln. Annually, the programme reaches more than 8,800 pregnant women and newborns living in targeted districts and around 9,800 pregnant women and newborns living in five referring districts.

Situation and determinant analyses have suggested that inadequate infrastructure, lack of equipment, poor quality of health services (especially at referral facilities), and insufficient knowledge and practice of caregivers are all significant bottlenecks for mother and child survival and wellbeing.

The JP outputs have focused on eliminating the bottlenecks mentioned above by equipping the three facilities with modern equipment and enhancing their staff's capacity on up-to-date, evidence-based maternal care and newborn survival strategies and protocols. Furthermore, maternal and newborn health improvements have been achieved through a comprehensive approach that combines supply, quality and demand-side interventions. Improving infrastructure, making modern equipment available, ensuring access to quality maternal and newborn care, and influencing populations' knowledge and attitudes were all crucial strategies employed by the JP.

The following two indicators measure the progress towards the JP outcome:

JP Outcome indicator. Proportion of survival of low-birth-weight newborns (1,000-2,499 gr.) in targeted facilities.

This integral indicator measures the perinatal service's overall capacity to provide routine and advanced care to mothers and newborns. It was estimated through the BABIES matrix that, on average, the survival rate of newborns in the 1,000 to 2,499 gram weight category increased from 76 percent in 2018 to 91 percent in 2020. According to data from the perinatal centers, the survival rate of newborns in the 1,000 to 2,499 gram weight category reached 94.5 percent in the first quarter of 2021. In terms of the increase in the survival rate for this weight category, the programme had initially set itself a target of 80 percent.

JP Outcome indicator. Percentage of mothers satisfied with perinatal health services in selected facilities.

Patient satisfaction is one of the key indicators to measure the quality of healthcare. UNFPA conducted exit interviews to measure the percentage of mothers satisfied with perinatal health services received at selected facilities as a part of baseline assessment: 66.4 percent of mothers were satisfied with services. Exit interviews in 2021 have shown that the implementation of family-centered and evidence-based practices raised satisfaction among mothers up to 84 percent. The level of dissatisfaction of women with the quality of perinatal services dropped from 12 to 5 percent.

JP Output 1. Secondary level perinatal care facilities have improved infrastructure and are equipped with modern equipment to ensure the population's access to evidence-based and equity-perinatal health services.

This output aims to improve sustainable access to perinatal healthcare services and to achieve a reduction in equity gaps through addressing priority bottlenecks in infrastructure and the availability of essential equipment for women with complicated deliveries, small newborns, and sick newborns in Kungrad, Nukus City, and Beruniy district perinatal centers. It is, therefore, concordant with MPHSTF's Output 10.

The following two indicators accurately reflect progress for this output:

Indicator 1.1. Number of medical institutions with improved infrastructure.

After careful assessment of existing problems with infrastructure, UNFPA, together with the Ministry of Health of the Republic of Karakalpakstan, developed a list of necessary renovation works. This renovation was planned for the Nukus City Perinatal Center, and the Kungrad and Beruniy perinatal centers. The main goal of the planned renovation was to maximally improve existing premises for district perinatal centers which serve women from their districts and neighboring districts at the same time, and as such operate as inter-district perinatal centers.



Photo 2. Handover ceremony of the final batch of medical equipment in Nukus City on 26 May 2021

NUKUS CITY PERINATAL CENTER

To ensure the safety and stability of electricity in emergency rooms, operating and intensive delivery rooms, and in key departments such as intensive care for the pathological pregnancy room, main electricity cables were dismantled and changed to new and more capable ones. Electrical boxes were updated, and new ones, along with electrical plugs in the rooms, automatic switches and stabilizers, were installed to avoid uneven distribution of power.

Four powerful water heating devices were installed in the pathological pregnancy room, admission room, shower rooms, and neonatological intensive care room. Pipes were upgraded to new plastic ones, and filters were installed on each heating device. Four air conditioners were installed in the neonatological intensive care room, emergency delivery room, operating room and emergency care room. After all renovations were completed, vital spaces in the Nukus City Perinatal Center have had uninterrupted electrical power, comfortable temperatures for conducting surgery and avoiding additional stress for emergency patients, and warm water required for many procedures during surgery and delivery. Additionally, five ACs have been installed to provide a comfortable environment for staff and patients.

As a result of this program, two more districts were added to the catchment area of this perinatal center: Nukus and Takhiatash districts, with the total population of 121,000 people, thus benefiting around 3,300 pregnant women and newborns annually.

KUNGRAD PERINATAL CENTER

As with the Nukus City Perinatal Center, the assessment of the Kungrad Perinatal Center's infrastructure concluded that there had been insufficient electrical cabling and lights, and a need for hot water and air-conditioning in the most vital rooms of the center, such as the delivery rooms, operating rooms, intensive care rooms, and others. As a result of the renovations, electrical cabling was improved in 14 rooms, including in intensive care, newborn intensive care, operating rooms and delivery rooms. All existing electrical cables were checked for their functionality, while four water heating devices were installed in the operating block, intensive care unit and delivery rooms.

The capacity of four water heating devices is enough to cover the entire hot water needs for delivery and operating rooms, and intensive care rooms for pregnant women. Water heating devices have been connected with plastic pipes to the heating system to ensure stable pressure and temperature, and a filter has been installed to prevent circulation blockages. Considering that often water is cut off at the perinatal center, a 1,000 kilogram water tank was installed to keep a sufficient water stock. Seven air conditioners were installed in operating and delivery rooms, intensive care and pre-delivery rooms, to keep the temperature at a comfortable level during delivery and surgery.

Muynak and Kanlykul districts, with the total population of 81,000 people, were added to the catchment area of this perinatal center upon completion of the program, thus benefiting around 5,600 pregnant women and newborns annually.



Photo 3. Neonatal ward at the Kungrad Perinatal Center

BERUNIY PERINATAL CENTER

This perinatal center is located far from Nukus and serves the Beruniy district and neighboring districts, making it an inter-district service point. Considering the number of deliveries and surgeries the center performs, the renovation was a vital measure to improve and sustain the quality of services. After assessment by the construction engineer, all electrical cabling was upgraded to a more powerful condition. Additional LED lamps were installed in all rooms and corridors and connected to the generator, which was procured and installed at the center to ensure uninterrupted electricity supply throughout the day. To ensure that all cables are appropriately connected, and that no high voltage damage has occurred, a new electrical box was installed along with a stabilizer, switches and emergency automatic voltage regulator.

Four water heating devices have been installed to provide hot water to delivery and operating rooms. The capacity of water heating devices allows the provision of hot water to patients' rooms to support mothers and children's joint stay through the post-partum period. Pipes were upgraded to ensure a stable water supply, while filters were installed to clean water before heating and delivery to rooms. To ensure required water pressure, two water pumps were installed.

The catchment population of this center grew by 366,000 people after becoming a referral center for Turtkul and Ellykala districts, thus benefiting around 9,800 pregnant women and newborns annually.

Indicator 1.2. Number of medical institutions supplied with modern equipment.



Photos 4. Handover of medical equipment to the Nukus City Perinatal Center in March and May 2021



Photos 5. Handover of medical equipment to the Nukus City Perinatal Center in March and May 2021

As per the list and specifications of equipment agreed to with the Ministry of Health, UNICEF and UNFPA have completed procurement of required items from certified suppliers, to ensure procurement of high-quality equipment with sufficient warranty periods. A total of 150 units of equipment have been delivered to the targeted perinatal facilities. During programme implementation, some delays in procurement occurred due to the high workload and prioritizing of COVID-19 supplies by UNFPA and UNICEF Supply Departments, and constraints on the global market. The list of required equipment and instruments, along with technical documentation in local languages, were sent to local partners for appropriate planning and use. Implementing partners have conducted a series of trainings on the proper use of the new equipment, and related troubleshooting.



Photo 6 and 7. Training rooms at the Kungrad and Regional perinatal centers equipped with video-conferencing equipment



Photo 8, 9, 10 and 11. Before and after renovation of the training room at the Regional Perinatal Center

JP Output 2. Healthcare providers at second level perinatal care facilities have increased capacity to provide quality of care, counselling and support to pregnant women and newborns.

A sustainable and progressive realization of women's and children's rights, and a reduction in equity gaps, are attainable through changes at the system level. This will translate into effectively-addressing priority bottlenecks, allowing the provision of evidence-based and high-impact interventions that ensure mother and child survival and development. UNICEF and UNFPA have been working to introduce highly effective life-saving technologies for mother and newborn healthcare, to improve the quality of health services and reduce morbidity and mortality rates. Under this output, the programme has focused on addressing the bottlenecks that reduce quality of care, specifically related to basic emergency obstetric and newborn care, and comprehensive obstetric care in three targeted (second-level) hospitals, and additionally through capacity building of healthcare providers (first-level) in five geographically-adjacent districts.

The following six indicators provide a measure of progress for this output:

Indicator 2.1. Number of healthcare professionals trained.

During the reporting period, UNICEF and UNFPA employed a combination of online and face-to-face trainings for better cost-efficiency, safety, and transfer of hands-on

skills. More than 730 medical professionals (400 planned for the reporting period) have improved their knowledge in basic emergency obstetric care, newborn care, supportive supervision, and resuscitation.



Photo 12. In-house training on newborn resuscitation at the Kungrad Perinatal Centre

In particular:

- 250 neonatologists have improved their knowledge and skills in evidence-based essential newborn care and sick newborn care developed by the American Academy of Pediatrics.
- 60 healthcare providers have gained new knowledge in Perinatal Death Audit.
- 195 midwives and obstetrician-gynecologists have improved their knowledge and skills in delivering high-quality Emergency Obstetric Care (EmOC).
- A total of 30 health professionals (including 23 anesthesiologists-resuscitation doctors and seven gynecologists) have strengthened their knowledge and skills in EmOC and resuscitation.
- 60 healthcare providers and managers built their capacity on quality improvement programmes.
- 38 healthcare workers were trained on supportive supervision.
- 27 obstetrician-gynecologists were trained on near-miss case reviews.
- A total of 70 healthcare providers and health managers from target facilities were engaged in five-day experience exchange and learning visits to leading national and subnational perinatal facilities in the country (in Tashkent and Fergana) to learn up-to-date, evidence-based maternal and newborn survival practices in the field.

Additionally, UNICEF has equipped all facilities with training aids: birth simulators, resuscitation dolls, intubation simulators, etc., so that in-house training could continue in the future in each facility. MOH and KSMI have articulated their plans to continue using the web conferencing equipment procured for all perinatal facilities in Karakalpakstan by UNICEF for future in-service training.



Photo 13. Baby handling instruction at the Nukus City Perinatal Center

Indicator 2.2. Number of supportive supervision visits.

Thirty-eight specialists have improved their knowledge on how to provide supportive supervision. National experts have developed guidelines on supportive supervision with the assistance of UNFPA and UNICEF.

The primary objective of supportive supervision in the context of maternal and newborn health is strengthening relationships within the continuum of perinatal healthcare, identification and resolution of problems, optimizing the allocation of resources,

motivating health workers, and promoting the use of standard procedures, and teamwork. It also provides opportunities for regular feedback and therefore promotes skill building through appropriate strategies, such as training and mentorships by senior colleagues and national trainers who have amassed experience over the years.

Four teams comprised of leading neonatologists have been assigned to target facilities, where they carried out eight rounds of supportive supervision in total. During each visit, teams scored each facility's performance based on checklists, with feedback and corrective actions having been implemented. Support supervision has focused on maternal health services, newborn care services, human resources, laboratory services, information availability, education and communication materials, and infrastructure. Through six days of work at these centers, they ran on-job training for trained local specialists from the three perinatal centers. They then continued with local specialists, conducting supportive supervision at the remaining centers. There were noticeable improvements in the support supervision style and adherence to clinical standards and guidelines.

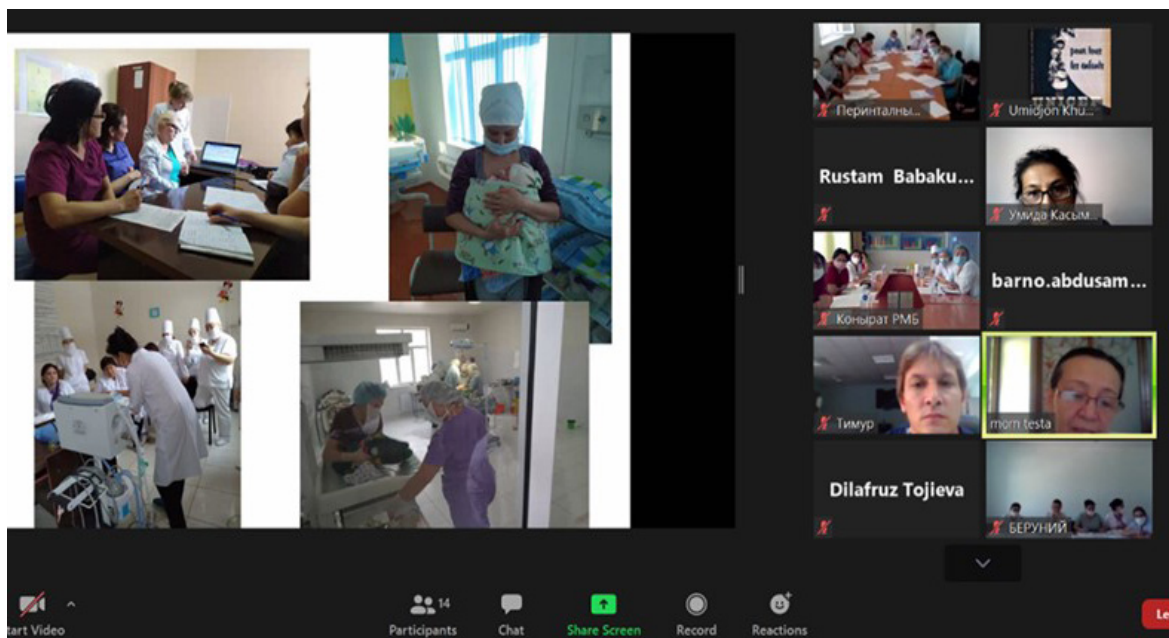


Photo 14. Training on supportive supervision over Zoom

Indicator 2.3. Percentage of perinatal deaths audited.

A perinatal death audit is a process of assessing factors related to perinatal death. It helps in reducing perinatal mortality by identifying preventable factors related to perinatal deaths. UNICEF hired a national consultant on perinatal audit and, jointly with MOH, completed a series of trainings in 2020. A WHO-recommended manual and training module on perinatal audit, drawing on best international practices, were printed and distributed. In Karakalpakstan, 40 healthcare workers were trained on how to conduct perinatal death audits and rectify situations based on findings on a regular basis. Regular perinatal audits can identify factors and lapses related to perinatal deaths and assist in implementing appropriate interventions to reduce avoidable perinatal deaths.

A total of 60 percent (31 out of 52 cases) of all deaths on average (planned 25 percent) were audited at the targeted facilities during the reporting period: 34.2 percent were macerated stillbirths, 31.7 percent were fresh stillbirths, and 34.2 percent were early neonatal deaths. Avoidable factors included poor neonatal resuscitation skills, incorrect use of partographs, and delay in performing caesarean sections. Based on the results of perinatal death audit, improvement plans were developed and implemented. The other activities implemented included three skills sessions on neonatal resuscitation, the introduction of Continuous Positive Airway Pressure (CPAP) for babies with respiratory distress, and updates on the use of partographs.

Indicator 2.4. Percentage of maternal complications reviewed.

UNFPA hired two national consultants on maternal complication review to conduct hands-on training for healthcare workers. Near-miss Case Review (NMCR) was introduced at four perinatal facilities of the Republic of Karakalpakstan and at the Nukus Medical Institute. In total, 60 healthcare specialists have improved their skills in this area. It was reported that, on average, 30 percent (117 out of 390 cases) of all near-miss cases that occurred in 2020 and Q1-2 2021 in the targeted facilities were reviewed (planned 25 percent). The analysis concluded that hemorrhage and hypertensive disorders were the leading causes of maternal near misses. Under guidance from national experts, local staff defined appropriate actions to be taken to prevent future occurrences and serious complications.

Indicator 2.5. Number of quality improvement plans implemented.





Photo 15 and 16. Quality improvement trainings in Tashkent and Nukus

Trainings on quality improvement of perinatal health services were conducted in Tashkent and Nukus in March 2020 for more than 40 healthcare workers. Under the guidance of an international consultant, two national medical clinics (the Tashkent Medical Academy and the Institute of Obstetrics and Gynecology), the three target facilities (Kungrad, Beruniy and Nukus City), and the Regional Perinatal Center in Nukus, developed and implemented their own quality improvement plans. In Karakalpakstan, two facilities reached the target of 100 percent of post-partum women covered by standard obstetric monitoring in the early post-partum period to prevent near-miss and maternal death cases, and two facilities increased the early initiation of breastfeeding within one hour among stable babies born by caesarean section, from 10 percent to 60-70 percent. death cases, and two facilities increased the early initiation of breastfeeding within one hour among babies born by caesarean section not getting into the ICU, from 10 percent to 60-70 percent.

Indicator 2.6. Health Management Information System (HMIS) for perinatal service developed and introduced in 3 level II maternity hospitals.

The programme implementation has been approved as a model in the Presidential Decree #4513 issued on 08.11.2019. The particular activity related to improving the electronic data exchange programme between the healthcare system and the civil registry office on birth and death is included in this PD. Under Output 2, 'Healthcare providers at second level perinatal care facilities have increased capacity to provide quality of care, counseling, and support to pregnant women and newborns', the programme planned

to develop, strengthen and sustain mechanisms for accountability for the quality of care (activity 2.17). To address shortcomings in data collection, UNICEF reached an agreement with the MOH of Uzbekistan and provided technical support to update birth and death registration software for nationwide use. The Centre for the Development of Information and Communication Technologies (ITMed) under the MOH performed a software update. The electronic birth and death registration system includes sex and location desegregation, key indicators recommended by WHO and UNICEF for analysis of health care system performance. The software has been installed in all maternities of Uzbekistan, including in Karakalpakstan, and will be operationalized from 1 January 2022.



Photo 17. Newborn intensive care unit at Kungrad Perinatal Center

ii) Indicator based performance assessment

	Achieved indicator targets	Reasons for variance from planned target (if any)	Source of verification
Outcome 1: By 2020, mothers and newborns in the ROK, especially the most vulnerable, have received quality perinatal health service.			
Indicator: Proportion of survival of low-birth-weight newborns (1,000-2,499 gr.) in targeted facilities. <i>Baseline: 76 percent. Planned target: 80 percent</i>	94,5 percent		MOH data (BABIES matrix)
Indicator: Percentage of mothers satisfied with perinatal health services in selected facilities. <i>Baseline: 66.4 percent. Planned: 80 percent</i>	84 percent		Exit interviews
Output 1. Secondary level perinatal care facilities have improved infrastructure and are equipped with modern equipment to ensure access by the population to evidence-based and equity-perinatal health services.			
Indicator 1.1. Number of medical institutions with improved infrastructure. <i>Baseline: 0. Planned target: At least 2</i>	3	The programme team managed to improve infrastructure at all three target facilities.	Invoices, delivery and handover acts, ISO certificates
Indicator 1.2. Number of medical institutions equipped with modern equipment. <i>Baseline: 0 Planned target: 3</i>	3		Invoices, delivery and handover acts, ISO certificates

	Achieved indicator targets	Reasons for variance from planned target (if any)	Source of verification
Output 2. Healthcare providers at second level perinatal care facilities have increased capacity to provide quality of care, counselling and support to pregnant women and newborns.			
Indicator 2.1. Number of healthcare professionals trained. <i>Baseline: 0 Planned target: 400</i>	730	Use of the distance learning modality allowed for the more efficient use of resources and the training of more people.	Programme and training reports
Indicator 2.2. Number of supportive supervision visits. <i>Baseline: 0 Planned target: 8</i>	8		Programme report and training reports
Indicator 2.3. Percentage of perinatal deaths audited. <i>Baseline: 0 Planned target: 25 percent</i>	60 percent	Local staff undertook a retrospective review of deaths after the training and managed to review occurrences in the beginning of 2020.	Programme report, final assessment report
Indicator 2.4. Percentage of maternal complications reviewed. <i>Baseline: 0 Planned target: 25 percent</i>	30 percent	Most of the near-miss cases that occurred during the reporting period in the target facilities were reviewed.	Monitoring reports, final assessment report
Indicator 2.5. Number of quality improvement plans implemented. <i>Baseline: 0 Planned target: At least 2</i>	6	In addition to the three target facilities, the Regional Perinatal Center of Karakalpakstan, the Perinatal Center of the Tashkent Medical Academy, and the Institute of Obstetrics and Gynecology have all implemented their own quality improvement plans.	Monitoring reports, final assessment report
Indicator 2.6. HMIS for perinatal service developed and introduced in 3 level II maternity hospitals. <i>Baseline: 0 Planned target: At least 2</i>	3	The HMIS software linked to the civil registrar's office has been installed in all target facilities as a part of a nationwide programme.	Monitoring reports, final assessment report

iii) Evaluation, Best Practices and Lessons Learned

Delays in implementation, challenges, lessons learned and best practices

The delays in renovations were caused by the strict lockdown introduced in all regions of Uzbekistan in March 2020 due to the COVID-19 pandemic, which continued until June. Right after the lockdown release, renovations began at all three locations.

Although the list and specifications for equipment were developed in 2019 and orders were placed at the beginning of 2020, the prioritization and focusing of the Supply Departments of UNFPA and UNICEF on COVID-19 procurement resulted in a significant delay in responding to regular programmes. Due to strict lockdown in the first half of 2020, the training component was postponed. Because the COVID-19 situation negatively impacted the overall implementation of programme activities, it was decided to procure and install equipment for online training, which moved capacity building components forward regardless of restrictions related to COVID-19. Physical visits, such as supportive supervision which could not be carried out online, were postponed to 2021 and completed by the end of March 2021.

Soaring global demand for critical resuscitation equipment has led to shortages, cost-prohibitive prices, and prolonged lead times for many medical items.

Actions conducted to mitigate challenges:

- Online training modalities were coupled with face-to-face training for trainings where hands-on practical skills are essential. Most of the trainings with practical parts were moved to the end of 2020 when the lockdown was lifted, and when public meetings with fewer than 15 participants were permitted with safety measures observed.
- UNFPA, jointly with UNICEF provided the necessary equipment for several capacity-building activities which were switched to distance learning mode. Additionally, web-conferencing equipment was procured for the Maternal and Child Health (MCH) department of the MOH of Uzbekistan and Karakalpakstan, to coordinate the new type of arrangements for capacity building.
- The programme team strictly adhered to safety measures such as social distancing and sanitation during all face-to-face events and procurement.
- Delayed procurement was expedited in the fall of 2020 and in the beginning of 2021 to meet programme deadlines.

Lessons learned

This programme has demonstrated good collaboration between UNICEF and UNFPA, which has resulted in the timely and quality implementation of activities. Good synergy has resulted in the appropriate planning of training activities, avoiding overlapping and duplicating activities, and additional contributions were made by each agency to the

capacity-building process of partners.

Due to the COVID-19 pandemic, shipping lead time increased tremendously due to prioritizing more urgent needs, which is an exceptional case experienced during the pandemic. There should be risk added as well as proposed mitigation action (s) to the programme which would address such a situation in the future.

The cost of some activities had been changed significantly due to changed procurement modality and increased transport costs, resulting from COVID-19 restrictions of movement between countries and within the country. The changes were presented and discussed with the Coordination Council and stipulated in the updated agreement. For the other risks, the programme team worked based on the Risk Ranking Matrix and implemented risk mitigation strategy activities as planned.

Qualitative assessment

UNICEF, jointly with UNFPA, supported the improvement of perinatal care services in the ROK. As highlighted in the previous sections, the level of perinatal care services, in terms of accessibility, availability and better quality of services, have improved in the eight districts covered in the reporting period. Healthcare workers' capacity has been enhanced through hands-on training on newborn survival practices, the foundation of which has been made more sustainable through collaboration with a local medical institute. This success has been possible through a close partnership with district authorities, the MOH of the ROK, and the MOH of the ROU, with overall guidance from Coordination Council members.

Sustainability

Notwithstanding the programme's notable results, further investments are needed to sustain its outcomes and keep infrastructure operational. The Ministry of Health of Karakalpakstan has agreed to allocate additional resources to support the capacity of target hospitals and optimize their catchment areas, considering their capacity, surrounding population density, travel times, transportation infrastructure, and other factors.

The end-of-programme assessment team concluded that there was a need to: (i) reorganize and optimize the structure of perinatal health care services considering the new capacities and infrastructure of target perinatal centers; (ii) further strengthen infection prevention and control practices; and (iii) organize proper technical maintenance of new equipment. All findings were shared with the MOHs of Karakalpakstan and Uzbekistan, and a follow-up plan was agreed on.

- All evidence-based MNH training programs will be incorporated into the academic curricula of medical universities and colleges at the national level.
- An assessment of client behaviors (community and family) related to maternal and newborn health will be conducted to provide information for creating appropriate

messages to include in MNH trainings, job aids, and community education materials.

- All target facilities have enough capacity (training aids, web-conferencing equipment, trainers, etc.) to continue providing in-house training programs to new staff.
- MOH will continue implementing digitalization initiatives such as electronic death and birth registration, electronic immunization registration, parenting apps on mobile phones, "internet of good things for health promotion", online knowledge hub for continuous professional education, etc., to improve reach and efficiency of health programmes.

Furthermore, evidence-based maternal and newborn survival practices could also be helpful in other regions of Uzbekistan in terms of planning and setting up programmes geared towards increasing access to maternal and newborn healthcare to achieve national MCNH goals. Here are some examples of best practices that could be replicated in other regions.

iv) A Specific Story: Gulnara's life

Gulnara was born on 2 December 2020 after only 30 weeks of gestation. She weighed just 1,000 grams. After two months in an incubator at the Neonatal Intensive Care ward of the Nukus City Perinatal Center, she now weighs 2.450 kilograms.

Gulnara's mother was admitted with a history of miscarriage. She suffered from multiple health conditions, including jaundice, arterial hypertension and intoxication, which led to premature labor. The head of the department, Dr. Kahramon Kabulov, who performed an emergency caesarean section to assist with Gulnara's birth, explained that Gulnara would have had slim chances for survival just a few years before. Thanks to the up-to-date, evidence-based advanced newborn care resuscitation protocols developed by the American Academy of Pediatrics, and recommended by WHO and UNICEF, and the latest



Photo 18. Newborn intensive care unit at Kungrad Perinatal Center

equipment and upgraded infrastructure, maternity staff can now save Gulnara and the other babies who are born preterm.



Photo 19. Dr. Jeyran Sherieva, neonatologist attending to Gulnara

"We fight every day to help babies survive, even the ones weighing 1,000 grams," said Dr. Jeyran Sherieva, the neonatologist doctor trained during the recent 'Helping Babies Breathe' training held by UNICEF, who oversaw Gulnara's care. "Before, babies weighing less than 1.1 kilograms had minimal chances to survive. We thought they were too small to have a chance at survival. We didn't have the equipment, skills, or knowledge we needed."

In 2019, within the framework of the 'Improving Quality of Perinatal Care Service to Most Vulnerable Mothers and Newborns' Programme, UNICEF and UNFPA have assisted three perinatal facilities in Karakalpakstan (in Nukus City, Kungrad and Beruniy) to enhance the capacity of neonatologists, obstetricians, and resuscitation specialists to strengthen staff capacities, through comprehensive training and support. UNICEF and UNFPA have also equipped the perinatal center's new Neonatal Intensive Care Unit with the latest medical equipment (ventilators, oxygenators, laryngoscopes and others) and training equipment. Today all premature babies that come through the perinatal center have a real chance of survival.



Photo 20..Gulnara's mother

At the Neonatal Intensive Care Unit, little Gulnara is getting better every day. She can now see lights and hear sounds, and uses her own strength to drink her mother's breastmilk. Once she reaches 2.5 kilograms, she will be released to go home. Her parents have been trained on how best to care for her and are looking forward to her arrival at home. It is expected that once the target perinatal centers receive in 2021 the status of second level referral facilities, they will extend their specialized service to mothers and newborns from the neighboring districts as well.

Annex 1. List of equipment

#	Name	q-ty
1	Surgery operating table	3
2	Surgical lights, portable	2
3	Surgical lights, ceiling operating	4
4	Critical care adult ventilator	2
5	Tabletop pulse oximeter for use in neonates and adults	16
6	Infusion pump	12
7	Capnograph	3
8	Oxygen concentrator	3
9	Obstetric, surgical kit	3
10	Ultrasound scanner with doppler	3
11	Electrocoagulation equipment, portable surgical	3
12	Pump, suction, surgical	6
13	Glucometer	6
14	Bed for labor delivery	12
15	Medical furniture	72
16	ECG machine	2
17	Anesthesia machine	1
18	Medical console	
19	Artificial lung ventilation device (IVL) for newborns	1
20	Newborn ventilator circuit	4
21	Humidifier chamber autoclavable (reusable) for ventilation	2
22	Antibacterial filters for ventilation	20
23	Oxygen supply hose with 90-degree connector for ventilation	4
24	Incubator for newborns	8
25	Resuscitation table for newborns	6
26	UPS / Voltage stabilizer	6
27	Skin temperature sensor	6
28	Portable patient monitor	14
29	Disposable Monitor Electrodes	240
30	Fetal monitor	17
31	Printing paper rolls	17
32	Ultrasound gel	68

#	Name	q-ty
33	Bilirubinometer	6
34	Autoclave 85 l	1
35	Phototherapy unit	7
36	Non-invasive ventilation device for newborns	4
37	Nasal cannula for newborns	40
38	Children's cap for CPAP	120
39	Infant t-piece resuscitator	6
40	Resuscitator, hand-operated adult set (Delivered)	18
41	Device for artificial ventilation of the lungs, neonatal (Delivered)	44
42	Laryngoscope, neonatal (Delivered)	6
43	Laryngoscope, adult (Delivered)	6
44	Vacuum extractor (Delivered)	3
45	Fetal heart monitor (Delivered)	20
46	Educational simulators (Mama Natalie) (Delivered)	690

Additional Equipment Procured

#	Name	q-ty
1	Air conditioner	20
2	Refrigerator	10
3	Electric oven	10
4	Air drier / Dehumidifier	4
5	Multi-functional Airway Management Model	10
6	Full-Functional Vein Injection Arm	10
7	Epidural and Spinal Injection Simulator	10
8	Peripherally Inserted Central Catheter for Neonates	10
9	Full Functional Neonatal Nursing Manikin	10
10	Newborn Injection Training Arm	10
11	Birth Simulator	10
12	Antishock garment	60

Annex 2. End-line Assessment

SUMMARY OF THE FINAL ASSESSMENT OF THE QUALITY OF INPATIENT CARE PROVIDED TO MOTHERS AND NEWBORNS IN MATERNITY FACILITIES OF THE REPUBLIC OF KARAKALPAKSTAN

5-10 APRIL 2021

In the course of implementing the programme funded by the UN Multi-Partner Human Security Trust Fund for the Aral Sea region in Uzbekistan, training for specialists of obstetric institutions was carried out under programs including 'Supportive supervision', 'Audit of critical situations in obstetrics', 'Helping Babies Breathe', 'Essential Care for Every Baby', 'Essential Care for Small Babies', 'Effective use of equipment in neonatal practice and the basics of respiratory support', 'Perinatal audit', 'Emergency obstetric care', and 'Improving the quality of perinatal care'. Training of obstetricians-gynecologists, neonatologists, midwives and neonatal nurses were performed. Supervised visits were carried out to the Republican Perinatal-Care Center of the Republic of Karakalpakstan (RPC RK), to the maternity ward of the City Medical Facilities in Nukus, and to the maternity wards of the Beruniy and Kungrad Regional Medical Facilities.

In the three targeted second-tier perinatal facilities, repairs have been carried out to improve infrastructure, and equipment has been purchased to provide assistance to women and children.

Comparative assessments of the quality of hospital care provided to mothers and newborns were carried out at the three target institutions and the Republican Perinatal-Care Center. To conduct both the baseline and final assessments, the 'Tool for assessing the quality of hospital care for mothers and newborns' as developed by WHO and adapted to Uzbekistan's conditions was used.

The quality of inpatient care has improved at institutions covered by the programme, where training, supervision visits and on-the-job training, and exchange of experience and investments in infrastructure and equipment have all taken place. The quality of hospital care at the Beruniy Perinatal-Care Center (PC) improved from +1.4 to +2.0 points, while at the Nukus PC it improved from +1.7 to +2.0 points, and at the Kungrad PC from +1.8 to +2.1 points.

Significant changes in health statistics have been seen at Beruniy with +1.0 points, and at Kungrad with +0.6 points. At the PC in Nukus, the increase is insignificant.

Significant improvements have been seen at all institutions in performing normal delivery (on average, an increase of +0.8 points), ensuring privacy for women, maintaining an appropriate temperature in the delivery room even during cold seasons, and placing a partogram nearby in which all information on carrying out a childbirth is entered.

The average score for the covered facilities was +2.2 points for the cesarean section. A visible increase in this regard was seen in Nukus (+0.6 points). The positive dynamics are due to the better availability of personnel for emergencies, readiness of the operating room and instruments for operation, the utilization of the partogram, proper timing of surgery, and obtaining informed consent.

Slight improvements are shown by sections of obstetric complications care (+0.4 points on average), emergency care for women, infection control, and monitoring and follow-up. In particular, it is necessary to improve practices regarding postpartum bleeding (+0.5 points on average), hypertensive conditions (+0.5 points on average), prolonged

labor (+0.25 points on average), infections in the mother (+0.45 points on average), and premature births (+0.4 points on average). In providing emergency assistance to women, the increase was +0.6 points.

A significant improvement has been seen in the area of nursery organization in the Beruniy region (+1.0 point), but the highest score is seen at the Kungrad PC (+2.3 points). Sick newborns are housed separately from healthy babies, and mothers of sick newborns are allowed to visit them and participate in their care.

Significant improvements also exist in the section on normal neonatal care. The increase at the Beruniy PC was +0.7 points; the Kungrad and Nukus PCs improved by about +0.3 points each. The change was thanks to improvements in the correctness of assessments of the postpartum condition of newborns, in preparedness for emergency situations and in primary resuscitation of newborns.

There has been a significant improvement in nursing and specialized newborn care. The most notable achievements are seen at the Beruniy PC (+1.0 points) and the Kungrad PC, thanks to improved monitoring of sick newborns, adherence to the principles of antibiotic therapy, feeding of low-birthweight newborns, managing hypoglycemia, ensuring parental involvement in care provided, and effective use of neonatal equipment.

As a result of the programme's work, the survival rate of newborns in the 1,000 to 2,499 gram weight category increased from 76 percent in 2018 to 91 percent in 2020. According to data from the perinatal centers, the survival rate of newborns in the 1,000 to 2,499 gram weight category reached 94.5 percent in the first quarter of 2021. For the increase in the survival rate in this weight category, the programme initially set itself a target of 80 percent.

All assessment results have been presented to and discussed with maternity facility teams. Upon completion of the final assessment, a meeting was held with the Minister of Health of the Republic of Karakalpakstan, the Deputy Minister for Motherhood and Childhood, and the Director of the Republican Perinatal-Care Center of the Republic of Karakalpakstan. During the meeting, the parties discussed achievements and lessons learned, as well as ways of solving newly identified problems.

