

Trip Report, Uzbekistan, August, 18-22nd, 2014

The aim of the mission was to analyze and review the existing sources of information on maternal and child health.

Scope of work

1. To spend one week in Uzbekistan and together with the local consultants to review the existing healthcare information system at the national, regional and district levels. The district level was represented by the Namangan region, a pilot for the joint UNICEF and WHO project in Uzbekistan. Review of the information system will contribute to better understanding of problems related to quality, availability and use of medical statistics with a focus on data related to maternal and newborn health.

2. To develop a detailed report on the mission including results of the review, recommendations and priority directions for further investments at the regional and national levels aimed at improving the existing information systems in the sphere of maternal, infant and child health (i.e. data collection and analysis, informed decision making).

3. To analyze indicators for monitoring and evaluation of the National strategy on reproductive health, mother and child health; to determine their relevance and efficiency, to evaluate expediency of collection and (baseline) data processing on a regular basis and to develop recommendations for improvements in certain spheres related to maternal and child health.

Problem relevance and available information

On June 26-28, 2013, a joint UNICEF and WHO mission visited Uzbekistan with the main objective to review mortality statistics in Uzbekistan with due regard to indicators of maternal and child mortality. The Mission was primarily focused on analyzing causes of discrepancies between national indicators of infant and child (under 5) mortality and estimations of those indicators made by Interagency UN Group. Other objectives included to understand what prevented Uzbekistan from providing WHO with data on death causes in standard format since 2005.

The Mission Report presented analytical data and hypothesis taken as basis for evaluating infant and child mortality and developed recommendations to improve reliability of the national data on infant and child mortality.

Following the visit of international experts Uzbekistan made certain efforts to eliminate the identified problems according to the experts' recommendations. Therefore, progress evaluation and its review in a broader context served as a platform for this visit.

Meetings and discussions

From August 18-22, 2014 the following meetings and consultations were conducted: with Head of the WHO Office in Uzbekistan; representatives of UNICEF and UNFPA offices in Uzbekistan; officials of the Uzbekistan Ministry of Health; heads of regional and district healthcare departments in Namangan region; Director and specialists of the Uzbekistan Institute of Health and Medical Statistics as well as heads and specialists of the Institute's branches in Tashkent and Namangan; Head and specialists of the District medical association (DMA) in Namangan region; Head of Family Outpatient Clinic in Tashkent and Rural Medical Office (RMO) in Namangan region.

I. Monitoring of implementation of recommendations of the joint UNICEF and WHO mission.

During the Mission 2013 the following problems were identified:

- 1.1. Problems related to legislative and regulatory control
- 1.2. Problems related to interagency coordination at national and regional levels
- 1.3. Problems related to validity of information on births and infant deaths in terms of completeness of cases' registration.

The first group of problems was mainly related to incomplete transition to the WHO live-birth criteria. Uzbekistan continues double registration of events.

1.1.1. Medical institutions implemented complete registration of births and deaths including infants with extremely low body weight and gestation under 28 weeks, while the civil registry authorities registered live births and deaths of infants from this group only if the infant lived longer than 168 hours. Therefore, fertility and infant mortality (primarily neonatal) were underreported.

In February 2014, joint efforts of the Ministry of Health, Ministry of Justice and State Committee on Statistics of the Uzbekistan Republic resulted in the Order #21 that stipulates transition to the WHO live birth criteria starting July 2014. This means availability of comparable data on births and deaths of children under one year in Uzbekistan with other WHO member states. However, since new criteria were implemented about one month ago it is not possible to evaluate real situation in this sphere.

1.1.2. Furthermore, the Mission 2013 noted that medical certificate of death used in Uzbekistan health care facilities doesn't correspond to the internationally recommended form and doesn't contain the 4th line in the description of cause of death (a place to record a prior cause of death).

Analysis of the current situation showed that the Order #287 as of June, 26th, 2006 introduced new certificates of death and perinatal death that correspond to international recommendations. However, analysis of the use of modern form of certificate in health care facilities showed that even the Perinatal center in the pilot region – Namangan region – uses the out-of-date- form of medical certificate of death. The similar situation was noted at a district level and in rural medical office. Thus, conditions for transition to modern recording documents were created while the process of replacing those out-of-date death certificates was not completed.

The second group of problems related to interagency coordination at the national and regional levels.

The 2013 Mission pointed out that mortality data in Uzbekistan after 2005 was not submitted to WHO in the required format with distribution by age and causes of death.

The current visit found out that the process of data acquisition and its further submission to WHO is hampered by organizational issues between the Ministry of Health and State Committee on Statistics of the Uzbekistan Republic. WHO request for data to the Ministry of Health of the Uzbekistan Republic has to be redirected by the Ministry to the State Committee on Statistics where data on vital statistics is developed. Then, the State Committee has to submit the data file in the WHO recommended format to the Ministry of Health and the Ministry then forwarded to WHO.

The situation analysis showed that organizational issues were not solved following the 2013 Mission. However, we believe that this problem can be resolved. Consensus on live birth criteria between the Ministry of Health, Ministry of Justice and State Committee on Statistics of the Uzbekistan Republic supports this belief.

The third group of problems related to validity of information on births, infant and maternal mortality.

The 2013 Mission indicated facts of incomplete registration of children mortality mainly in children of young ages as well as maternal mortality. However, sources of underestimation were not investigated in detail. Therefore, mechanisms for improvement were not discussed either.

Within the framework of the current visit possible sources of under-registration were discussed with the local specialists.

1.3.1. In case of deliveries outside health care facilities death of infant and/or mother is not documented in medical certificate of death and in civil registration office.

Analysis of medical documentation and survey of specialists showed that regardless of place of delivery the woman and baby are hospitalized to a health care facility where all

necessary care is provided and medical certificate is filled in. The Uzbekistan system of mother and child health doesn't consider delivery at home as a statistically significant source of under-registration of deaths and births.

1.3.2. Parents neglect the need for civil registration of birth or death of their baby especially in the early period of life.

Review of medical documentation in health care facilities of the pilot region – Namangan region – showed that the mother is discharge from the maternity hospital only after her relatives registered the birth at the civil registration office based on the medical certificate. In case of still birth or death after birth medical certificate is also filled in, while civil registration is based on this certificate. Copies of corresponding documents are kept in women's medical records.

Namangan region is a rather compact one which allows to use the described mechanism of obligatory registration of births and deaths not only for dwellers of the regional center but for district dwellers as well. At the same time the situation in other regions is different. For example, in Tashkent birth and death certificates are given only to those parents who permanently live in Tashkent. Parents, residing in the other regions of Uzbekistan or in the other countries receive medical certificates confirming the fact of birth or death of a child. On the basis of such certificates parents have to receive civil registration records at the place of permanent residence. It is unknown how many new mothers receive such certificates because there is no feedback from the civil registration authorities at place of parents' permanent residence including those parents from other countries. It is also unknown how many of the newborns died because death certificates are issued at place of permanent residence of new mothers too. In Tashkent, in 2013 the share of such women of the total number of new mothers added up to 19.1% or 9465 women.

1.3.3. Tradition to bury the dead before the sunset can also lead to underestimation of deaths among children.

Analysis of such practice at the level of DMA and RMO in Namangan region showed that in case of child death in a health care facility it is obligatory to make postmortem autopsy and to fill in a medical certificate of death. After civil registration of death by parents or relatives, the certificate copy is submitted to the health care facility and inserted into the medical record of dead. In other words, in such cases complete registration of events is implemented.

In case of child death at home (usually from external causes) ambulance is called for along with a representative of internal affairs body. In that case autopsy is even more obligatory, medical certificate with the cause of death is issued by bodies of forensic medical examination. The further procedure is similar.

Thus, according to the organizational procedures in the pilot region – Namangan region - there are no significant sources of under-registration.

Yet, analysis of factual data raises doubts about completeness of registration (see Annex).

II. Informational support for healthcare activity in the sphere of maternal and child health

Visits of the regional and district level health care facilities showed that statistics offices are equipped with computers and statisticians master skills to work with software. Activity of the Uzbekistan Institute of Health and Medical Statistics aimed at collection of medical statistics from the regional branches in electronic format essentially improved electronic workflow. But despite obvious positive achievements healthcare informatics requires further development. Directions of informatics development are determined by the following:

2.1. The process of information support is organized from the top-down, from the Institute of Health and Medical Statistics to its regional branches and then to statistics offices of health care facilities that present medical statistical reports in electronic format. However, electronic documentation in health care facilities is yet to be developed. Primary reporting documents exist in hard copies only. Those hard copies are verified, grouped and transformed into reporting forms manually. Only final reports are entered into computer when ready.

2.2. Along with accounting and reporting documents adopted by the Uzbekistan Ministry of Health there is a number of records that are kept manually at the facility level. Information

from those records is hardly available for analysis because it requires additional extraction and processing. Doctors and nurses manually fill in the outpatient register that documents time of visits, number of visits including a note whether the visit was primary or a follow-up one. To select nurse's or other visits it necessary to extract this information from the outpatient register on a daily basis. Within this documentation practice it is impossible to conduct analytical work, plan visits etc.

2.3. Manual processing of paper documents inevitably results in mistakes and serves as a possible source of distortion of information.

2.4. Data analysis of "headquarters of reproductive health" is vitally important for evaluating and forecasting the structure of diseases that can be detected during regular health examinations. Need for additional beds and medical staff that could become necessary in case of increased number of primary detected patients should be estimated.

2.5. "Mother's passport", a new document that can be regarded as accounting record has been developed and tested. The document contains history of pregnancy and delivery. It is important that the passport is filled in by doctor and nurses based on medical documentation rather than interview of women which improved quality of information. In fact, existence of such documents makes a solid basis for anamnestic analysis of fertility and child mortality. However, the document was developed for manual filling only without a version for computer processing and summary analysis. Furthermore, the Passport is not related to other forms of accounting documents becoming another partly redundant document.

III. Monitoring indicators of the "Program on further improvement of population reproductive health, maternal, child and adolescent health in Uzbekistan for 2014-2018"

The adopted Program is continuation and further development of measures that the Government in Uzbekistan implements jointly with international organizations. The Program includes five sections covering quality of health care, rehabilitation and health improvement of differently abled children, human resource development, development of infrastructure of specialized and high-tech medical care, and improvement of information system in healthcare.

3.1. Every activity included in the Program envisages description of mechanism of its implementation and expected results. Unfortunately, expected results are not quantified; therefore, it is challenging to evaluate achievement of targets. It's only possible to evaluate indicators' trends in cases when expected results indicate "decrease" or "increase". In this regard implementation of activities related to the "Program monitoring and evaluation implementation" seems problematic.

3.2. Section V "Improvement of healthcare information system, coordination, monitoring and evaluation of interagency cooperation and implementation of activities aimed at improvement of population reproductive health, maternal, child and adolescent health" envisages "monitoring over delivery of medical services to women of reproductive age, pregnant women, children and adolescents at primary care facilities". As shows description of informational support for healthcare in Section II, monitoring is hardly possible within the practice of paper documentation workflow in health care facilities since it requires increased load for both medical staff and specialists of statistics offices related to manual processing of data from hand-written documents. Furthermore, such approach is fraught with numerous errors and distortions.

3.3. Analysis of morbidity preventable by means of vaccination showed that in rural settlements of Namangan region the situation with Hepatitis A is not improving. In this regard it was suggested to include vaccination from Hepatitis A into the National vaccination calendar and provide population with free of charge vaccination (activity 6 in the Program) as well as to include indicator of Hepatitis A morbidity in the list of Program's monitoring indicators.

3.4. Analysis of morbidity data received from DMA in Namangan region showed that anemia morbidity remains high including children. In this respect it is suggested to extend activity 5 of the Program adding issues related to the provision of patients with additional

nutrition not only in rural areas but in all districts with high morbidity. It is also suggested to include indicators of anemia morbidity (including in children) into the list of monitoring indicators of the Program.

3.5. Situation with TB in children calls for a special investigation. This suggestion is based on the following. First, measures on annual TB diagnostics by means of Montoux test have not been undertaken for the last 5 years. This may lead to decreased detection of TB in children in the Uzbekistan republic. Nowadays there is a high possibility of outbreaks of tuberculosis meningitis in children with high mortality. Second, epidemiological situation and significance of indicators of morbidity and mortality from TB should to be evaluated by the group of experts including TB specialists, specialists in X-ray diagnostics and surgeons who deal with tuberculosis of bones and joints in children. Third, the Russian experience rules out X-ray methods for TB detection in children (activity 7 of the Program). To improve quality of diagnostics of tuberculosis of intrathoracic glands in children Russia uses methods of computer tomography at the second level health care facilities.

In view of the above along with morbidity indicators, to monitor TB situation in children we suggest to use indicators of coverage with tuberculin skin test and share of TB cases detected per 100 covered as well as mortality indicators including mortality from tuberculosis meningitis and tuberculosis of bones and joints as indicators.

IV. Recommendations.

4.1. To conduct inventory of medical certificates of death and perinatal death that are in use in health care facilities and replace all out-of-date documents with the new ones containing information about “approximate interval between the onset of condition and death” and the 4th line to describe the death cause.

4.2. To hold a coordination meeting with representatives of the Uzbekistan Ministry of Health, Ministry of Justice and National Statistics Service with the focus on:

- elaborating a collaborative mechanism for submission of data on population mortality to WHO in requested age grouping and death causes;
- entering information from medical certificates (birth weight, gestational age) into personalized database of the National Statistics Service to develop and submit to WHO internationally comparable indicators of infant mortality.

4.3. To conduct in pilot regions representative medical and demographic study in compliance with international standards to understand the actual level of fertility, child and maternal mortality.

4.4. To develop the National Program aimed at computerization of health care institutions to develop accounting documents in electronic format and set up electronic workflow from the visit slip that documents visits and patient’s medical record up to generation of medical statistical reports. For a pilot project we recommend development and statistical processing of the “Mother’s passport” that includes pregnancy and delivery history in electronic format.

4.5. To streamline the use of the number of accounting and reporting forms in health care facilities and rule out manual keeping of additional registries.

4.6. Within the framework of the Program on further improvement of population reproductive health, maternal, child and adolescent health in Uzbekistan for 2014-2018:

- to develop quantitative monitoring indicators for each Program activity;
- to develop monitoring indicators on delivery of medical services to women of reproductive age, pregnant women, children and adolescents at primary health care facilities;
- to extend the list of monitoring indicators with additional indicators to characterize situation with anemia morbidity including in children, Hepatitis A morbidity and TB in children.

4.7. To develop incentives including economic ones for parents to ensure timely registration of birth or death at civil registration authorities.

4.8. To ensure development and publication of the National Report with analysis of the Program implementation.

V. Annex.

Analysis of the latest data available for 2012 points out a nearly twofold gap in infant mortality indicators across Uzbekistan regions – from 13.1 in Tashkent to 7.4 per 1000 live births in Surkhandarya region.

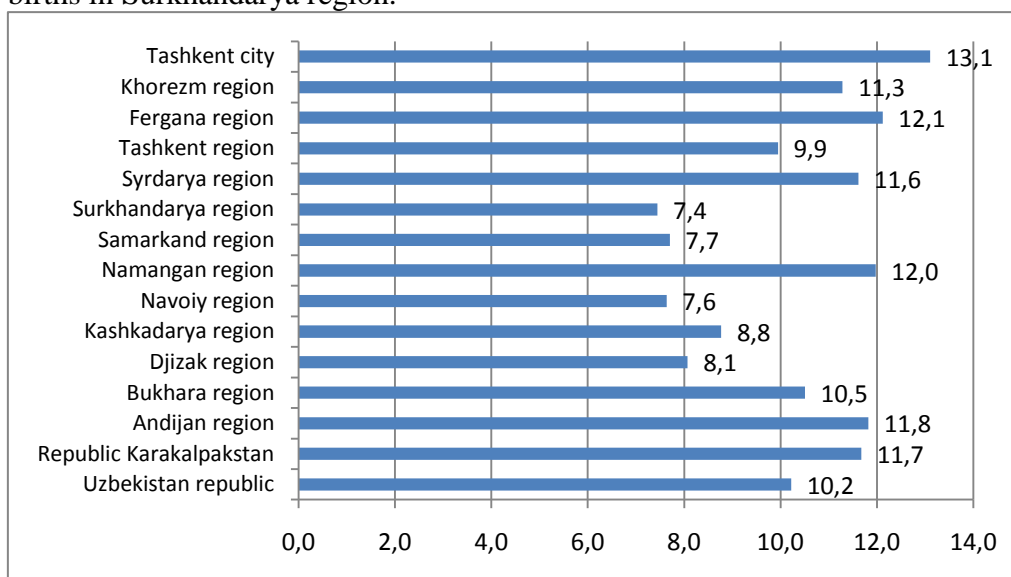


Fig. 5.1. Infant mortality in 2012 (per 1000 live births)

In Namangan region infant mortality equals to 12.0 per 1000, which is slightly higher the Uzbekistan average (10.2 per 1000) but lower the rate reported for the capital - Tashkent (13.1 per 1000) (fig. 5.1). This fact could be interpreted in two ways: from the one hand - as an indicator of effective performance of the healthcare system in the pilot region, and from the other hand – as a result of underestimation.

To answer this question let's view the situation in more detail.

Analysis of infant mortality provides a useful piece of information. Let us recall that the lower infant mortality the smaller share of exogenous mortality causes and higher the share of congenital malformations.

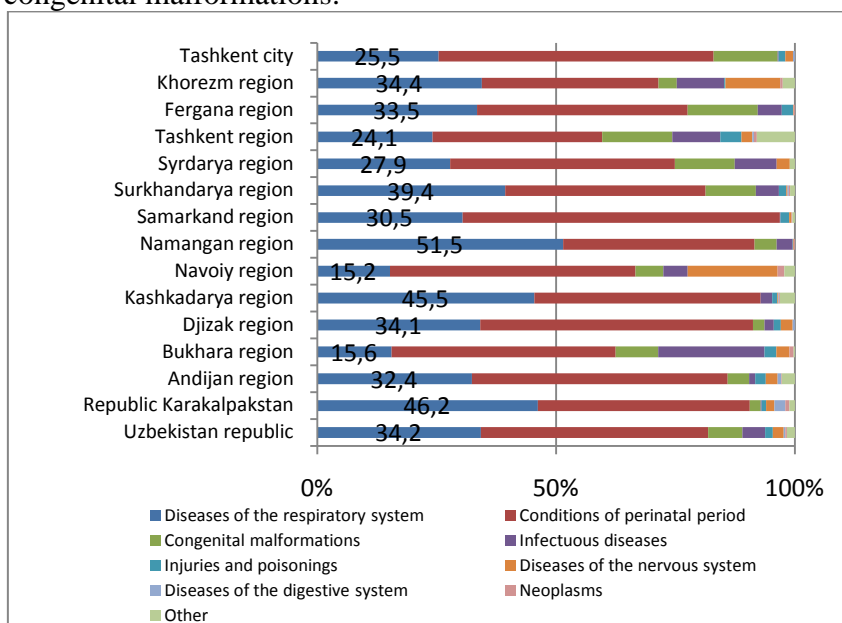


Fig. 5.2. Structure of infant mortality causes in 2012, %

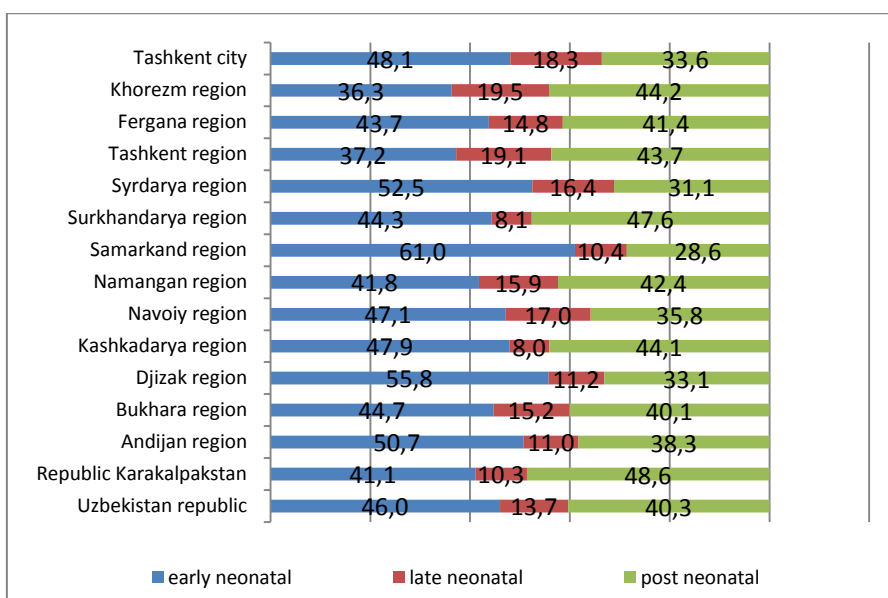


Fig. 5.3. Infant mortality by life periods, % to total number of infant deaths

According to official data, in Namangan region half of infants died from respiratory diseases and 25.5% - in Tashkent. And this is against the background of higher crude indexes. Congenital malformations in Namangan region caused 4.6% deaths and 13.4% deaths in Tashkent (fig. 5.2). This may be accounted for by the quality of death cause' diagnostics, however this factor alone cannot explain the multifold variance.

Analysis of infant mortality by life periods also provides a valuable piece of information about registration accuracy. The lower infant mortality the higher share of events concentrated within the neonatal period, mainly the early neonatal one.

In Namangan region 57.6% of infant deaths fall within the neonatal period; in Tashkent where infant mortality is higher the share adds up to 66.4%. At the same time 72.5% of infants who die during the neonatal period die during the early neonatal period i.e. the same as in Tashkent (fig. 5.3).

Table 1 – Mortality dynamics in early and late neonatal periods.

	Early neonatal			Late neonatal		
	Per 1000 live births		Change rates, %	Per 1000 live births		Change rates, %
	2003	2012		2003	2012	
Uzbekistan republic	5.5	4.7	-14.5	2.2	1.4	-36.4
Republic Karakalpakstan	5.2	4.8	-7.7	1.8	1.2	-33.3
Andijan region	4.5	6.0	33.3	1.7	1.3	-23.5
Bukhara region	5.3	4.7	-11.3	2.5	1.6	-36.0
Djizak region	5.4	4.5	-16.7	1.1	0.9	-18.2
Kashkadarya region	4.9	4.2	-14.3	1.2	0.7	-41.7
Navoiy region	4.5	3.6	-20.0	1.6	1.3	-18.8
Namangan region	5.8	5.0	-13.8	1.6	1.9	18.8
Samarkand region	4.6	4.7	2.2	1.6	0.8	-50.0
Surkhandarya region	4.7	3.3	-29.8	1.2	0.6	-50.0
Syrdarya region	7.4	6.1	-17.6	3.7	1.9	-48.6
Tashkent region	5.1	3.7	-27.5	2.3	1.9	-17.4
Fergana region	5.8	5.3	-8.6	2.9	1.8	-37.9
Khorezm region	5.4	4.1	-24.1	3.4	2.2	-35.3
Tashkent city	9.7	6.3	-35.1	6.2	2.4	-61.3

Important information is also available from the analysis of mortality trends by life periods. If performance of the healthcare system is effective and events' registration is complete, post neonatal mortality should be decreasing with higher rates because its main causes are

preventable. Late neonatal mortality should be decreasing by higher rates in the structure of neonatal mortality.

If we view dynamics of indicators for the last decade from this perspective i.e. from 2003 to 2012, it turns out that Namangan region is the only one where late neonatal mortality increased against the background of its decrease in the early neonatal period (tab. 1) explicitly suggesting underestimation of deaths during the first week of life.

Another important indicator of registration accuracy is dynamics and structure of perinatal mortality. Namangan region is one of the few where perinatal mortality in 2003-2012 increased by 13.3%. Since the neonatal component reduced it is obvious that the negative trend was shaped by still births. Indeed, in Namangan region still births for the last 10 years increased by 41.8% that is 7 times higher the total for Uzbekistan (by 9.1%). The share of still births in perinatal mortality in the region increased from 48.7% in 2003 up to 60.9% in 2012. As a result, Namangan region is among the three regions with the highest shares of still births in the structure of perinatal mortality.

In general, the situation analysis in Namangan region shows that the pilot region failed to achieve the satisfactory level of infant mortality registration. This conclusion is confirmed by distortion of infant mortality structure, mortality by life periods and structure of perinatal mortality due to increased share of still births.