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UNICEF Evaluation of the District Health System Strengthenig (DHSS) Model in Uzbekistan 2016-2020

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EVALUATION REPORT

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List of abbreviations

CPD	UNICEF and Government of Uzbekistan Country Programme
DHSBA	District Health System Bottleneck Analysis
DHMT	District Health Management Team
DHSS	District Health System Strengthening
DIVA	Diagnose, Intervene, Verify, Adjust
EE	Enabling environment
FG	Focus Group
GAVI	Global Alliance for Vacine and Imunization
GoU	Government of Uzbekistan
GP	General practitioner
HFA	Health Facility Assessment
HMIS	Health Management Information System
HSS	Health System Strengthening
HV	Home visiting
IR	Inception Report
LMIC	Low-middle-income country
MCH	Maternal and Child Health
MNCH	Maternal, Newborn, and Child Health
MoH	Ministry of Health
PHC	Primary Health Care
PN	Patronage nursing
QMC	Quality management coordination
QI	Quality implementation
SDG	Sustainable Development Goal
ToC	Theory of Change
ToR	Terms of Reference
UNICEF	United Nations Children's Fund
USD	US dollar
VFP	Village Family Policlinic
WASH	Water, Sanitation and Hygiene

Executive summary

1. This section summarizes the results of the *UNICEF Evaluation of the District Health System Strengthening (DHSS) Model in Uzbekistan*, carried out under Contract No. 43313690, between the United Nations Children's Fund (UNICEF) Country Office in Tashkent and Pluriconsult Ltd. The evaluation was implemented between January and June 2021. This document closely follows the Terms of Reference (ToR – Annex 1) and the Inception Report.

2. The evaluation had the following **objectives**: 1/ Assess the relevance, efficiency, effectiveness, sustainability, coherence of the model, and, to the extent possible, its impact; 2/ Provide recommendations to guide policy level decision-making by UNICEF and relevant stakeholders on DHSS model readiness and potential for scalability; 3/ Identify and document successes, challenges and lessons learned; and 4/ Provide recommendations to better incorporate gender equality and equity issues.

3. **The object of the evaluation** was the District Health System Strengthening (DHSS) model which was one of the key programme components of UNICEF Health Programme under the Outcome 1[1], Output 1.1[2]. The main aim of the DHSS was to support MoH and regional health authorities to build capacity and to support evidence-based planning for improving the health system at the sub-national level. The DHSS model was designed within the frame of UNICEF's "2016-2030 Strategy for Health" which has two overarching objectives: Ending preventable maternal, newborn and child deaths, and promoting the health and development of all children. The Strategy prioritizes the most deprived children, promotes multi-sectoral approaches to enhance child development and address immediate causes and underlying determinants of poor health outcomes.

4. **Evaluation scope**: the evaluation covered the period between 2016 and 2020. As per the ToR, the evaluation looked at the DHSS model holistically in the framework of UNICEF health programme as well as national and global priorities. It covered the implementation period, from January 2016 and until December 2020. The geographical scope included Khorezm region (Urgench, Khonka, Gurlan, Bogat, Yangibazar districts), Surkhandarya region (Baisun, Uzun, Sarasya, Denau, Altinsay districts) and, to a limited extent, central level in Tashkent city. The evaluation followed the UNEG Norms and Standards[3] and focused on the criteria of relevance, effectiveness, efficiency, coherence and sustainability. The contribution to the impact was also estimated to a limited extent. Also, the evaluation reviewed the gender and equity focus. This was particularly important as DHSS model was designed with a view of strengthening sub-national capacities for evidence-based planning and decision making, including to address the needs of the most marginalized children. A special consideration on COVID-19 was added to the original scope given the current context which the DHSS model has been operating in for the last months.

5. The evaluation **intended users** included the following stakeholders: Ministry of Health (MoH), Regional and District Health Managers District Level Health Care Facilities managers and staff, the Republican Scientific Practical Medical Paediatric Centre under MoH WHO Country Office UNFPA Country Office, Health Care Managers Departments of Center for Development of Professional Qualifications of Medical Workers under MoH, UNICEF CO Uzbekistan and UNICEF ECARO.

6. The **evaluation methodology** followed internationally accepted evaluation criteria of relevance, effectiveness, efficiency, sustainability, impact, and coherence. The evaluation was based on a non-experimental design and used mixed-methods and participatory approaches for data collection. The data collection included 5 individual interviews, 7 group interviews, 6 focus groups discussions with healthcare professionals, 2 focus groups with mothers, and desk review of qualitative and quantitative data. In total, 56 people participated in the data collection activities, including 12 mothers who have one to three children, which gave the opportunity to discuss the origin of changes in the provision of maternal and child health services over the last 4-5 years. The qualitative data, both primary data (i.e. field data resulting from interviews and focus groups) and secondary data (i.e. data resulting from desk review) was processed using a combination of framework analysis (focused on pre-determined topics) and thematic analysis (a more exploratory perspective).

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[1] By 2020 mothers and children, especially the most vulnerable, have access to quality healthcare services (individual and population based), including in emergencies.
[2] By 2020, health managers have increased capacity to implement evidence-based and equity-focused district health system strengthening plans, including in emergencies
[3] http://www.uneval.org/normsandstandards/index.jsp

Main findings and conclusions

Relevance

7. Suboptimal performance of Uzbekistan on decreasing maternal and neonatal mortality was the main driver for DHSS design and justified its relevance. Moreover, the favorable political context contributed to the increase in relevance of the DHSS model at the time it was designed. Although DHSS model in Uzbekistan was developed up to some extent in accordance with global UNICEF HSS approach in the sense that it aimed to address both national and sub-national levels, in practice due to several constraints and changing external conditions, the initially planned design was not fully operationalized. The centralized and hierarchical system remains a bottleneck which requires specific consideration in the design of future health system strengthening interventions. To a certain extent, complementary initiatives focusing predominantly on community level (e.g., patronage nurses, PHC) added to DHSS relevance (and impact).

8. *The District Health System Strengthening (DHSS) model remains a key prerequisite for improvement of health system outcomes in Uzbekistan, although the model is not fully embedded in healthcare reform nowadays.* Although the model was in line with national policies in the domain of mother and child health, due to the persistent weak institutional capacity at different health system levels, low uptake of DHSS specific interventions into health policies, and the application of concurrent health system reforms, DHSS implementation encountered additional challenges, and UNICEF had to provide constant and relevant feedback both ways to advance the model implementation.

9. *Overall, the DHSS model was aligned as much as possible with the rapid changes of national health policies during the implementation period.* The model was adjusted by UNICEF to increase leverage at lower levels of health system; likewise, UNICEF sustained the implementation of health policies that were synergic with the DHSS objective, facilitating their implementation at district level.

10. *The DHSS model sustained its relevance in the context of ongoing health system reform by addressing major components of health services provision at district level in the field of mother and child health in a more structured approach.* DHSS initiatives, such as increasing quality and providing more evidence-based health services closer to people, retained model relevance through increasing access especially for vulnerable groups. Downsizing the model implementation from 10 to 3 districts and the number of medical specialties addressed, could be considered as a revision of the DHSS model to maintain its relevance (as well as the effectiveness and sustainability) at least in the remaining three districts.

11. *During the COVID -19 pandemic several DHSS interventions (e.g., hand washing protocol, isolation rooms, triage system) proved to be instrumental.* The pandemic had negative impact through social distancing measures on key activities of the model such as trainings provision and monitoring and evaluation field visits / meetings that were partially addressed through online interaction.

Effectiveness

12. *The DHSS model implementation managed to achieve positive results with major constraints in place* such as constant budget downsizing, lengthy decision approval, high turnover of top-level decision makers and healthcare managers, as well as limited readiness to delegate power and resources to lower levels of health system. *The main achievements were reflected on increased capacity building for healthcare managers and health professionals* to use available local information in a systematic manner, to identify and implement evidence-based solutions aiming to enhance the quality of healthcare services provision for the most underserved and vulnerable groups.

13. Despite improvements, *data availability and data analysis remain a major problem at all levels of health system,* impacting the quality and relevance of monitoring and evaluation activities and hindering the quantification of DHSS impact.

14. Several factors advanced or hindered the DHSS implementation. The *new PHC reform had a significant positive influence* on DHSS implementation allowing targeted facilities to get additional funds and specialized personnel at lower levels of health system. On the contrary, the utilization of performance standards at the central level as a control and penalizing tool for underperformance had a strong negative influence and is opposing to supportive supervision included in DHSS approach.

15. Overall, the *main hindering factors* were insufficient interaction between different levels of health system, as well as inadequate allocation of resources, lack of a comprehensive and clear human resource policy, and insufficient coordination between MoH representatives and lower health system management levels.

16. *Although gender and equity dimensions are embedded in the core activities of the DHSS model, there is insufficient disaggregated data available to measure results*. However, equity dimension was considered in the design and implementation of the DHSS model by targeting two of the most deprived regions, and vulnerable groups. Also, the continuum of health education provided by DHSS interventions, starting in hospitals, and continuing at home brought added value to all beneficiaries.
17. The implementation of DHSS model conveyed both unintended positive and negative results. Out of the *unintended positive results* worth to be mentioned, are the facilitation of meaningful communication with superior decision levels, continuation of implementation of DHSS instruments outside of the project coverage, improved chances to secure additional funds from international donors to address supply bottlenecks related to infrastructure. As for *unintended negative results*, the evidence is pointing to addition of bureaucratic and administrative tasks to the existing high workload, capacity development to identify and assess the bottlenecks without the possibility to remediate the problems.
18. *UNICEF has been instrumental in monitoring activities across the plans developed*, implementing activities to support health professionals, and overcoming identified barriers to M&E. However, major *challenges* were encountered on availability of valid and comparable data, poor HMIS performance and lack of specialized knowledge on data analysis of stakeholders (local and central level health professionals, and UNICEF) involved in implementation of monitoring DHSS model.

Efficiency

19. *Financial cuts had a negative implication on DHSS* model's geographical coverage (decreasing the number of pilot districts from ten to three) and scope (decreasing medical domains from five to three). Also, despite the synergy, the ongoing and concurrent health reforms might have had adverse effects on DHSS model implementation, through frequent tasks and resources shifting.
20. DHSS interventions improved health managers capacity to identify bottlenecks and prioritize solutions, as well as reallocate/shift funds and human resources. However, factors such as high turnover of health managers, limited decision capacity at lower levels, and problems that needed systemic changes were impacting negatively on efficient allocation of resources and, subsequently, on DHSS model's outputs and outcomes.
21. In terms of leveraging resources, since Uzbekistan was classified as a lower-middle-income country (LMIC), *fundraising opportunities have further reduced*, which affected the availability of resources for the continuation of DHSS interventions in the country. The notion of corporate social responsibility is not well developed, consequently *there were no corporate partnerships and alliances* available to diversify and increase DHSS funding sources.

Sustainability

22. *There is a broad agreement that DHSS is insufficiently embedded at central level to be robust and sustainable*. Most of the DHSS model interventions seem to be better embedded and owned at lower levels of health system (regional/district level). The planned scale-up for DHSS is lagging due to the lack of government agreement on implications for budget resources. However, despite the delays in securing financial resources for DHSS scale-up, MoH issued regulations aimed to ensure the legal framework for DHSS model's implementation. Also, the integration of DHSS into post-service curriculum will contribute to ensuring sustainability.
23. In terms of UNICEF's future support, it is unlikely that the scalability of DHSS model as such will be based on CPD 2021-2025 allocations due to the diversity and complexity of interventions expected to be implemented between 2021 and 2025. It is foreseen that DHSS model will be part of PHC system strengthening, which will ensure certain sustainability of DHSS. However, *national scalability can be assured only through stronger political and financial ownership on behalf of the Government of Uzbekistan*.

Impact

24. DHSS model contributed to enhancing the quality of maternal, newborn and child healthcare in two piloting regions by 30 per cent through the implementation of local healthcare improvement plans[4]. The stakeholders perceived an additional benefit for pregnant women, mothers and children health and

[4] This was calculated based on the monitoring data according to the proportion of mother and child health care facilities correctly applying newborn and child survival standards. *Source:* UNICEF (2018) – "Implementation of District Health System Strengthening approach in Uzbekistan. Lessons Learned"

wellbeing in DHSS pilot districts. However, the model had limited impact especially for vulnerable families and families with children with disabilities.

Coherence

25. In terms of DHSS model's design and implementation complementarity with international partners' agenda in the country, UNICEF ensured a synergetic collaboration with WHO and UNFPA on supportive supervision, capacity building of patronage nurses and home visiting system. UNICEF's health system strengthening interventions in Uzbekistan are also coordinated with ADB's assistance to the country, including PHC improvement, integrated perinatal care and response to COVID-19 pandemic.

Lessons learned

26. ***DHSS implementation in Uzbekistan demonstrates that PHC planning using the DIVA model can potentially improve health system performance***. However, effective implementation in centralized countries requires central government oversight, while the lower levels of decentralized health systems are known to pose implementation challenges in LMICs largely due to weak capacity of governance, as well as administrative constraints. For this reason, advocacy to ensure the ownership of the central level throughout the project is crucial to ensure the government's buying in. Also, proper assessment and feasibility study during the design phase proves to be very important. Several methods implemented to improve PHC performance prove to be effective such as supportive supervision, mentoring, tools and aids, quality improvement methods and coaching.

27. The major ***challenge in developing and applying DHSS as a quality improvement measure*** lies in the availability of reliable data, the frequent absence of good baseline data, and in how to connect and use the outputs of the quality control mechanism with the broader health system reform in the country. Furthermore, DHSS design and implementation should be prepared to address confusion regarding who is in charge of monitoring and who is responsible for inspection, what does monitoring mean and how is this different from inspection, or how to connect evidence resulting from systematic monitoring and evaluation of various aspects of health services with policy making or with improving decision making.

28. Low capacity in implementing sustainable health policies represents a real challenge for LMICs going to transformational systemic changes. Development aid fails in its effort to create sustainable development, even when adopting "best practices" from other countries, because the conditions required to make those practices work elsewhere are not present. While ***the traditional methods of capacity building*** *(e.g., policy advice, technical assistance, and training)* ***have a limited capacity to achieve the expected results, because they are less successful in addressing the root causes*** *(e.g., centralized governance, management culture penalizing for underperformance etc.),* ***DHSS using DIVA approach encourages local actors to identify the problems and solutions by themselves***.

Recommendations

The commitment of the Government to empower lower health system levels through decentralization is a key prerequisite for effective HSS implementation. As already demonstrated by the DHSS implementation, decentralization in planning should be integrated with decentralization of functions, resources, and authority to the district. Considering the current power dynamic in the health system and vertical chain of command, MoH should invest ***more efforts in delegating power to lower levels of health system*** to increase the flexibility of resource allocation and economic use. The health sector reform policy will have to continue to recognize that the district is the most important operational level for implementing the new primary health care (PHC) reform. In this context, UNICEF should support PHC focused programs.

Responsible entity	Priority	Time Implication	Resource Implication
GoU, MoH, UNICEF	High	Current programming cycle 2021-2025	High

29. This new responsibilities of ensuring continuity of quality health care brought by DHSS will continue to be a challenge to the regional and district health managers, who are responsible for the planning and management of district health services. One important new task introduced by DHSS model for the district health managers is decentralized planning which allows a closer understanding of different needs and demands of communities. This in turn will require ***effective community participation and equity***

in the provision of health services, as well as sustained supportive supervision, constructive feedback and peer-review.

Responsible entity	Priority	Time Implication	Resource Implication
Regional and district health managers	High	Current programming cycle 2021-2025	Medium

30. While political commitment at the highest level can serve as an initial impetus for all health system strengthening interventions, it must be followed by the achievement of strong policy consensus, a clear 'critical mass'[5] of stakeholders in favor of such a consensus, and the continued existence of ***a strong 'coalition for change' at all levels to ensure progress of the health system reform at national level***. UNICEF should support these efforts through advocacy and sensitization of key decision makers on decentralization of PHC and quality improvement.

Responsible entity	Priority	Time Implication	Resource Implication
GoU, MoH, regional and district health managers and Ministry of Support of Makhalla and Family, UNICEF	Medium	Current programming cycle 2021-2025	Medium

31. ***Capacity of rapid response of the national and subnational actors to emergent threats should be incorporated in the future healthcare interventions.*** Health system resilience at all levels is a priority that needs to be considered now for the future, and specific health system strengthening interventions should be designed to address this domain. New approaches used to deliver health services or interventions during the COVID-19 pandemic should be incorporated in the planned PHC interventions for increasing capacity to deliver primary healthcare services.

Responsible entity	Priority	Time Implication	Resource Implication
GoU, MoH, UNICEF	High	Current programming cycle 2021-2025	High

32. The core of the DHSS model evolved around relevant data availability at every level. This experience gained through DHSS implementation is expected to be used for the achievement of all outputs planned for the current health programme, since this depends on ***increasing the availability of robust data.*** UNICEF should exploit the advantage of e-health implementation, use up to date information channels to gather relevant and timely insights about changes in health policies, and develop solid monitoring of the current health programme outputs in the context of ongoing health system reform.

Responsible entity	Priority	Time Implication	Resource Implication
UNICEF, GoU, MoH	High	Current programming cycle 2021-2025	Medium

33. ***Particular attention should be paid to increasing availability of reliable data for assessing how gender and equity aspects are incorporated and delivered***, therefore any initiative to optimize HMIS and increase capacity for gender and equity-sensitive data analysis should be fostered and sustained accordingly. Assessments of the impact of health interventions on the most vulnerable groups should be performed, and the results incorporated in the national health policies. Better coordination with national relevant stakeholders in this field coupled with more substantial involvement at community level will increase the relevance of future health system strengthening interventions.

Responsible entity	Priority	Time Implication	Resource Implication
GoU, MoH, UNICEF	High	Current programming cycle 2021-2025	Medium

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[5] The concept of 'critical mass' reffers to a group of stakeholders having developed much experience and/or momentum in an area who are encouraged to work with *a common set of objectives and priorities*, strengthening their *approaches*, actively documenting and sharing *experience and lessons learned*, drawing on expertise as well as networks and using *M&E* as a tool for course.

1. Introduction

34. The present document is the Evaluation Report for the *UNICEF Evaluation of the District Health System Strengthening (DHSS) Model in Uzbekistan*, carried out under Contract No. 43313690, between the United Nations Children's Fund (UNICEF) Country Office in Tashkent and Pluriconsult Ltd.

35. The evaluation was implemented between January and June 2021. The object of the evaluation was an intervention of a rights-based organization (i.e. UNICEF), therefore the evaluation mainstreamed gender and child rights' considerations throughout. This document closely follows the Terms of Reference (ToR – Annex 1) and the Inception Report. The Evaluation report includes the purpose, objectives and scope of the evaluation, it presents the intended audience of the evaluation and its methodology, and most importantly, it offers a detailed presentation of the evaluation findings and highlights conclusions and lessons learned. Based on these evaluation results, the report concludes with a set of recommendations both for the Government of Uzbekistan and for UNICEF Country Office in Uzbekistan. If implemented, these recommendations are likely to strengthen the country's health system and to contribute to the improvement of all children and families' health.

2. Context and description of the object of the evaluation

2.1. Overview of the country context and DHSS model background

36. Uzbekistan, with a child population of over 10 million, became a lower-middle-income country in 2010. Notwithstanding a reported decrease in national income poverty rates from 26.1 per cent in 2004 to 15 per cent in 2012, disparities remain high, particularly in rural areas and in Karakalpakstan, Kashkadarya, Khorezm and Surkhandarya regions.[6] More recently, the number of people living in poverty[7] has risen during the outbreak. According to World Bank projections, the poverty rate rose to between 8.7 and 10 percent following the outbreak, compared to pre-COVID estimates of 7.4 percent – between 450,000 and 880,000 additional people in poverty. The share of households reporting reduced food consumption spiked to 26 percent in April, before moderating to 22 percent in June.[8]

37. In 2016, the UN Inter-agency Child Mortality Report estimated under-5 mortality at 21.09, with infant mortality at 18.81 and neonatal mortality at 12.04 per 1,000 live births. Infant mortality rates are higher in rural areas and among children from the poorest quintile[9]. While infant and child mortality is declining over time, neonatal mortality did not change significantly. Likewise, the UN Maternal Mortality Rate (MMR) Estimation Interagency Group reported MMR at 29 per 100,000 live births in 2017. Maternal and child mortality, particularly neonatal mortality, and existing equity issues, despite the high coverage of antenatal care and skilled attendants at birth, suggest there are issues with the quality of healthcare services and further justifies the need for strengthening healthcare system to provide adequate quality of continuum of care.

38. In Uzbekistan, the right to health is explicitly recognized in the Constitution. The government provides a basic package of health services, which includes primary health care, emergency care and treatment, treatment of "socially significant and dangerous" diseases and specialized treatment for population groups classified by the state as particularly vulnerable. Over the last two decades, Uzbekistan initiated important health care reforms aimed at improving the quality of health care, infrastructure and hardware components, management and financing of the health care system. In particular, the Government adopted State Programme on Strengthening and Development of System of Protection of Reproductive Health of Population, Health of Women, Children, and Adolescents in Uzbekistan 2014 – 2018. In 2018, the Concept of development of the healthcare system of the Republic of Uzbekistan for 2019-2025 and national programme for its implementation in 2019-2021 have been adopted. In line with this concept, the Government adopted a new Programme for improvement of quality and further extension of coverage of health care for women of reproductive age, pregnant women and children in 2019-2023.

[6] UNICEF (2016): "District Health System Strengthening (DHSS) approach and its implementation strategy in Uzbekistan"
[7] Measured at the line appropriate to lower middle-income countries ($3.2 per person per day in 2011 PPP terms)
[8] World Bank (2020): Economic and Social Impacts of COVID-19 June 2020 update from Listening to the Citizens of Uzbekistan
[9] Uzbekistan MICS 2006 Report

39. From a perspective of the country's health system need for reform, a World Bank country analytical study[10] pointed to the need for the *strengthening of primary health care* as a mean to reduce the number of people needing hospital care and shift incentives toward improving detection and introducing preventative measures. Improvement of primary and secondary healthcare units would increase access to adequate health services, specifically for the rural population. Health service provision was constrained, both by the lack of quality standards for health professionals and the lack of incentives. While the Ministry of Health (MoH) was acknowledged to have started these reforms, much is left to be done, including integrating care pathways, strengthening the governance system, revision of medical education, continuous professional development of health workers, and *quality assurance mechanisms*.

40. From a planning perspective, health outcomes and deliverables would probably need to shift from the current centrally planned system to a model of accountability with performance contracts and incentives. A shift toward activity and performance-based payments for health services, as opposed to block budget allocations, could result in significant savings and also improve outcomes. In addition, *better data is needed to inform health care policies.* [11]

41. In terms of the linkages between the DHSS targets and the SDGs, the implementation of 2030 Agenda and SDGs in Uzbekistan coincided with the introduction of an ambitious national governance and economic reform agenda. The MAPS Mission Report[12] indicates that health and well-being are essential for development and stability in Uzbekistan and are a key GoU priority; they also contribute to virtually all the SDGs. Health system reform in Uzbekistan has led to an increased emphasis on primary care, but the coordination of different levels of care is a major challenge and universal health coverage remains elusive. While a state-guaranteed health benefits package has been established, several essential services have been left outside of the package for most of the population, including secondary and tertiary services and outpatient pharmaceuticals. As a result, medical expenses pose significant burdens for many households. Also, despite improvements in maternal and child health services, neonatal disorders are the fourth highest cause of premature mortality in the country. Further progress will require *additional strengthening of the quality of MCH health care as well as removal of key bottlenecks and barriers related to enabling environment, supply, demand and quality*.[13]

National health policy context relevant to the DHSS

42. The Presidential decree approving the State Program for Health of Women, Children, and Adolescents in Uzbekistan for years 2014 – 2018 outlined the following priorities related to the strengthening of PHC and patronage nursing system:

- Further enhancement of legislative and regulatory framework related to protection of the family, motherhood with particular emphasis on the role of the women, enhancing their role in the upbringing of a healthy baby, strengthen the family as the foundation of a strong, stable and prosperous state;
- Continue work on the creation of the necessary social, household and medical conditions, establishment of social infrastructure and improving the quality of services; Further strengthening of the material-technical base and human capacity of health facilities, improving the efficiency of PHC facilities, ensuring the growth of the number of patronage nurses and training of obstetricians and pediatricians;
- Improve the quality of their health services, particularly at the primary health care and enhance information, education and communication of all layers of population;
- Cultivating better sanitation, hygiene, health, nutrition and improvement psychophysiological condition of pregnant women, as well as provision of appropriate care to young mothers and children.

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[10] World Bank (2016): "Systematic Country Diagnostic for Uzbekistan" (available at http://documents1.worldbank.org/curated/en/304791468184434621/pdf/106454-REVISED-PUBLIC-SecM2016-0167-1.pdf)

[11] World Bank (2016): "Systematic Country Diagnostic for Uzbekistan" (available at http://documents1.worldbank.org/curated/en/304791468184434621/pdf/106454-REVISED-PUBLIC-SecM2016-0167-1.pdf)

[12] Mainstreaming, Acceleration, and Policy Support (MAPS) for Achieving the Sustainable Development Goals in Uzbekistan (2018)

[13] Ibid.

43. It was reported that while intentions were well formulated, implementation of the programme lacked clear guidance on the process and standard operational procedures for the provision of patronage services[14].

44. In 2017, the new President and the Government of Uzbekistan launched an ***Action strategy in five priority directions of the Republic of Uzbekistan in 2017 – 2021*** accompanied by continual public discussions and inter-active dialogue on the Strategy. It is reported that out of the total number of the complaints about public services, 65% concerned the health sector (poor quality of care, high costs, and inadequate health insurance).[15]

45. Large-scale health sector reforms are ongoing (public health system, primary health care) and in this regard many Presidential decisions were taken in 2018, with a major Resolution ("New Concept") adopted in 2018 by the President. In May 2018, the President of the Republic of Uzbekistan issued a ***Decree on the organization of critical study and preparation of proposals for the cardinal improvement of the health care system***. For the primary health care (PHC), the current reform aimed to optimize and improve the effectiveness of institutions at PHC level. The process includes not only a quantitative change in the number of polyclinics and rural medical facilities, but also an improvement in the quality and quantity of PHC services.[16]

46. UNICEF adopted a health system strengthening (HSS) approach in its ***Strategy for Health 2016-2030*** as a key element to address the system level barriers and bottlenecks for delivering quality health services. This approach connected national and sub-national levels, focusing particularly on strengthening sub-national management capacity and fostering community engagement. This approach facilitates the translation of health policies and strategies into accessible, affordable and quality services for all, particularly the most deprived and vulnerable children and their families. This approach is designed to address the systemic bottlenecks such as those encountered by the health system in Uzbekistan.

2.2. Object of evaluation

2.2.1. Overview of the DHSS Model

47. District Health System Strengthening (DHSS) is one of the key programme components of UNICEF Health Programme under the Outcome 1[17], Output 1.1[18]. No separate ToC for DHSS component was developed. The main aim of the DHSS model was to support MoH and regional health authorities to build capacity and to support evidence-based planning for improving the health system at the sub-national level. Topics such as gender and disability were included in the DHSS model which was designed in line with the observations of the UN Committee on the Rights of the Child (UNCRC) and the Elimination of All Forms of Discrimination against Women (CEDAW), and to support Uzbekistan's ratification of the UN Convention on the Rights of Persons with Disabilities.

48. The DHSS model was designed within the frame of UNICEF's "2016-2030 Strategy for Health" which has two overarching objectives: Ending preventable maternal, newborn and child deaths, and promoting the health and development of all children. The Strategy prioritizes the most deprived children, promotes multi-sectoral approaches to enhance child development and address immediate causes and underlying determinants of poor health outcomes. To accomplish the two strategic objectives, it was foreseen that systemic programmes to address critical conditions and to explicitly strengthen health systems and build resilience are needed.

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[14] CURATIO International Foundation (2016): "Assessment of the Patronage Nursing System with Equity Analysis in Uzbekistan"
[15] UNICEF (2018): "Implementation of District Health System Strengthening Approach in Uzbekistan. Lessons Learned and Next Steps"
[16] Ministry of Health, UNICEF, WHO and GAVI (2018): "Joint National-International Review of Immunization Program in Uzbekistan"
[17] By 2020 mothers and children, especially the most vulnerable, have access to quality healthcare services (individual and population based), including in emergencies.
[18] By 2020, health managers have increased capacity to implement evidence-based and equity-focused district health system strengthening plans, including in emergencies

49. ***District Health System Strengthening (DHSS) model was designed based on the DIVA*** (Diagnose, Intervene, Verify, Adjust) tool. DHSS model adopted by UNICEF CO is based on UNICEF's global approach to strengthening local health systems by developing the capacity of district health management teams in addressing key bottlenecks and improving quality of mother and children health services, including for the most vulnerable. It is based on four distinct elements, also known as DIVA:

- *Diagnose* - support a systematic assessment of supply-side, demand-side and managerial performance bottlenecks, and provides district health management teams with better evidence for assessing the effectiveness and quality of the services they provide.
- *Intervene* - develop the capacities and skills of district health management teams so they can design local plans with context-specific interventions to reduce supply-side and demand-side bottlenecks and improve overall district performance on young child survival and development.
- *Verify* - conduct systematic monitoring of progress towards resolving critical bottlenecks and achievement of set targets.
- *Adjust* - adjust/revise quality improvement plans by district health management teams based on the results of monitoring, as needed.

50. Despite not having a separate ToC, the DHSS did have a framework for change defined at the beginning of implementation during the District Health System Bottleneck Assessment (DHSBA). This was the first step of the DIVA approach – *Diagnose* – and provided an in-depth analysis of the health system at the district level which correlated Tanahashi's conceptual model on effective health services coverage with elements of UNICEF's generic ToC[19].

51. According to Tanahashi, to orient health system strengthening towards impact, it is important not only to assess the proportion of the population that could be covered by a health intervention, but to assess the "effective coverage" which indicates coverage of sufficient quality to achieve the desired health impact. Tanahashi proposed five measures of coverage that can be used to assess the capacity of the health system to deliver the full effect of interventions; i.e. achieve effective coverage. These five measures of coverage reflect five distinct stages in the process of service provision and allow an assessment of the potential capacity to deliver effective coverage, as well as "actual coverage" in terms of the health services output. He terms these measures "availability" (people to whom the services are available), "accessibility" (people who can use the services), "acceptability" (people who are willing to use services), "contact" (people who use services) and "effectiveness coverage" (people who receive effective care). Identifying and addressing the bottlenecks along the service delivery process that impede effective coverage of services is critical. Within a defined geographic group / target population, the classification of different coverage stages thus allows for the measurement of gaps in coverage levels across five levels. The Tanahashi framework allowed further classification of bottlenecks into four domains. As per the adapted health system strengthening framework based on the Tanahashi model, there are four domains influencing effective service coverage: the enabling environment, supply, demand and quality (Figure 1). Within each domain there are specific determinants which directly affect coverage and which were analyzed and monitored during the DHSS implementation.[20] The evaluation observed this conceptual framework and reconstructed retrospectively the DHSS model's ToC as further presented see also Annex 2).

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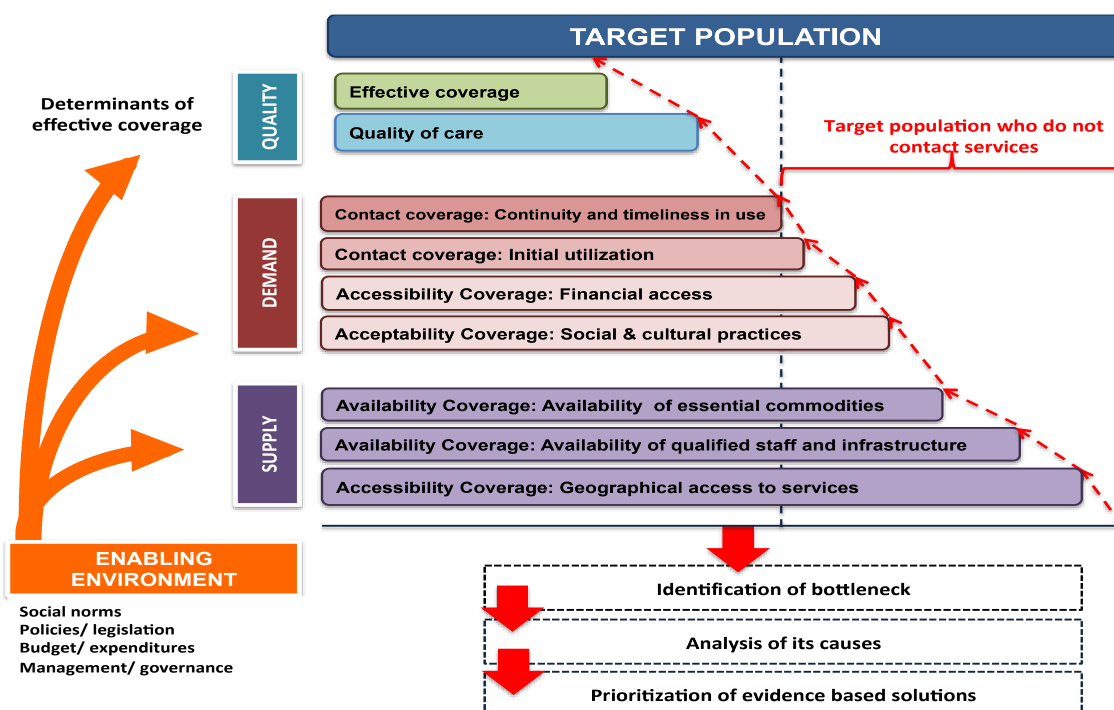
[19] In a nutshell, according to UNICEF's generic ToC, to reduce child rights violations and equity gaps, changes must take place in systems at various levels (national, regional, local) to ensure that they are fully operational. A fully operational system requires at the level of the following four categories of determinats: 1/ an *enabling environment* with conducive social norms, adequate legislations in place, adapted budgets and operational coordination mechanisms; 2/ *appropriate supply*, which involves availability of essential commodities and access to adequately staff services, facilities and information; 3/ *ability to express demand*, which is based on financial capacity to access the services, enabling social and cultural practices and continued ability to timely use the services; and 4/ ***quality,*** involving adherence to required quality of services.

[20] UNICEF (2018): "Implementation of District Health System Strengthening Approach in Uzbekistan. Lessons Learned and Next Steps"

52. An overview of the DHSBA results indicated the following major *bottlenecks* identified and planned to be addressed by DHSS model: insufficient accuracy and validity of data and follow-up planning; no formal approaches to develop leadership and governance competencies of members of health management teams at regional and district levels; poor service quality management; insufficient health infrastructure and professionally competent staff at PHC; low level of basic health education among caregivers; lack of knowledge and skills of patronage nurses (PN); insufficent quality improvement efforts; traditional discriminatory gender norms influence the position of women in society and patriarchal norms define a hierarchical family structure, which are influencing the mothers' health-seeking behaviour.[21]

Figure 1. Determinant framework



53. At the ***impact level***, UNICEF's engagement in District Health System Strengthening (DHSS) in Uzbekistan aimed to ensure that mothers and children, especially the most vulnerable, have access to quality healthcare services, both individual and population based, and ultimately child rights to health, especially those of the most vulnerable, are increasingly realized. To reach this ambitious goal, the ***assumptions*** were that the model will be implemented in a context of political stability, sustainable development of the country, that there will be no humanitarian crisis and there will be political commitment to address inequalities and decentralization, as well as a sufficient focus on systemic approach.

54. At the ***outcome level***, the DHSS model was planned to demonstrate how the health care system can meaningfully evolve to reduce equity gaps in access and significantly improve quality of healthcare. More specifically, to ensure an ***enabling environment,*** the DHSS model addressed the increasing availability of relevant statistical information which consisted of verification of data with primary source documents once a month of all hospitalization cases which was introduced in selected health facilities. The competency in leadership and governance of the regional and district health management teams was increased through the establishment of the Quality Management Committees (QMCs) in the

[21] Gotsadze, T. (2016): "District Health System Bottleneck Assessment in Uzbekistan – Summary Report" and Asian Development Bank (2018): "Uzbekistan Country Gender Assessment"

hospitals where these committees were not available according to the DHSBA. Also, with UNICEF support, some hospitals started to practice periodic audit of the quality of medical documentation, and check lists provided by UNICEF are used for periodic M&E of maternity and pediatric departments, as well as Village Family Policlinics (VFP). Some QMCs used direct observation methods for monitoring the service quality by using check lists, to identify weaknesses and prioritize topics for training. Staff performance assessment was carried out only at PHC level in accordance with the new staff performance assessment rules ("Rating system") introduced in accordance with the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 718 on "Additional measures to improve the quality of medical services, increase the responsibility for the effectiveness of ongoing preventive interventions in primary health care facilities".[22]

55. To improve ***supply***, due to the DHSS model in the targeted districts there was some progress in terms of provision of equipment and renovation of infrastructure and increasing the availability of life saving medicines at admission departments. Also, Internal training courses were organized around identified professional development needs. At PHC level, on-job trainings were organized for GPs and nurses. In addition, a team of supervisors (Ob/Gyn, Pediatrician, infectionist) were established and assigned to VFP to support staff. Twice per month they visit VFP and provide specialized services in those policlinics where there are no specialists available. Some hospitals managed to organize a separate room for non-severe patients who do not require hospitalization. These rooms are equipped with necessary staff, equipment, medicines and information materials.[23]

56. In terms of increasing ***demand***, due to the DHSS model, steps were made to improve continuity of care and promote effective care coordination in the targeted districts by establishing coordination between PHC and hospital levels. In some districts, especially from Khorezm region, the GPs with the help of Machala provided population information and caregivers' education.[24]

57. To ensure ***quality,*** the DHSS model facilitated provision of integrated supervision at both outpatient and inpatient levels. In general, the ***assumptions*** behind the achievements at the outcome level were that policies and budget allocations provide necessary conditions for health managers to implement DHSS and improve quality, there will be no staff turnover and the improved quality of services will encourage mothers and children, especially the most vulnerable, to use health care service.

58. UNICEF's engagement in system change for the progressive realization of child rights to health and equity was possible in practice, at the ***output level***, due to a set of core roles[25] translated in practice into a series of activities, as follows:

- *Enabling knowledge exchange* through DHSBA, capacity building (including training, supporting supervision, peer-to peer learning and couselling) of regional and district health managers and healthcare providers, meetings and organization of consultations with stakeholders and partners.
- Support for *monitoring* of bottlenecks reduction and changes in equity /level of coverage in targeted regions.
- *Technical assistance* through supporting development / update of health facilities quality improvement plans in modelling districts, supporting implementation of quality improvement plans (supervision and monitoring visits), supporting monitoring of bottleneck reduction and changes in equity/level of coverage in targeted regions, supporting dissemination of supportive supervision approach at all levels of maternal and child healthcare system of targeted regions, and carrying out a deep analysis of DHSS, monitoring results to identify facilities needed support in adjusting quality improvement plans.
- *Leveraging support from partners* through joint actions with key partners (WHO, UNDAF etc.).

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[22] Gotsadze, T. (2018): "Final Report on District Health System Strengthening and Perspectives of Reforming Patronage Nursing/Home Visiting System in Uzbekistan"
[23] Ibid.
[24] Ibid.
[25] Key roles UNICEF plays to support systemic changes.

- *Facilitating national dialogue* through a national workshop which aimed to increase national and local MoH awareness and knowledge on DHSS, and discuss lessons learned and ways to ensure sustainability.
- *Modelling/piloting* through development and test of guidelines / tools / reporting forms for district health management teams to ensure implementation of quality improvements plans, and through documenting the process of DHSS modelling at different stages of implementation.

59. The achievements at the output level are presented in detail in the Section 5.2.1. The ***assumptions*** behind the achievements at the output level were that health managers use evidence-based and equity-focused prioritization, planning and monitoring tools for QI planning; PN have the capacity and motivation for appropriate HV; supportive social norms and population with good level of health awareness exist.

Figure 2. Map of Uzbekistan

60. The DHSS model covered maternity departments, pediatric departments and PHC facilities in the two most deprived regions of Uzbekistan (Figure 2) and five districts in each region, namely Khorezm region (Urgench, Khonka, Gurlan, Bogat, Yangibazar districts) and Surkhandarya region (Baisun, Uzun, Sarasya, Denau, Altinsay districts). Due to the shortage of funds the geographical coverage of the model was reduced in the third phase to three districts per region.
61. The evaluation looked at the DHSS activities over the period 2016-2020 and covered three UNICEF workplans with MoH: 2016-2017, 2018 and 2019-2020. The budget allocated for implementation of the activities in the first phase (2016-2017) was 750.000 USD, for the activities in the second phase the budget planned was 278,380 USD (78,380 USD funded and 200,000 USD funding gap) and for the activities in the third phase the budget planned was 288,000 USD (220,000 USD funded and 68,000 USD funding gap).

62. Overall, the evaluation assessed the role and importance of the DHSS model, the enablers and challenges in implementation, as well as the readiness and potential for scalability of the model.

3. Purpose, objectives and scope of evaluation

3.1. Purpose

63. The evaluation aimed to critically assess readiness and potential for scalability of the DHSS model, as well as its role and importance in the broader context of the health sector reform.

3.2. Objectives

64. According to the ToR, the main objectives of the evaluation were to:

- Assess the relevance, efficiency, effectiveness, sustainability, coherence of the model, and, to the extent possible, its impact;
- Provide recommendations to guide policy level decision-making by UNICEF and relevant stakeholders on DHSS model readiness and potential for scalability;
- Identify and document successes, challenges and lessons learned;
- Provide recommendation to better incorporate gender equality and equity issues.

There were no changes in the evaluation objectives.

3.3. Scope of evaluation

65. The evaluation covered the period between 2016 and 2020. As requested by the ToR, the evaluation looked at the DHSS model holistically in the framework of UNICEF health programme, as well as national and global priorities. It covered the implementation period, from January 2016 until December 2020. The geographical scope included Khorezm region (Urgench, Khonka, Gurlan, Bogat, Yangibazar districts), Surkhandarya region (Baisun, Uzun, Sarasya, Denau, Altinsay districts) and, to a limited extent, central level in Tashkent city.

66. The evaluation followed the UNEG Norms and Standards[26] and focused on the criteria of relevance, effectiveness, efficiency, coherence and sustainability. The contribution to the impact was also estimated to a limited extent.

67. The evaluation reviewed the gender and equity focus. This was particularly important, as DHSS model was designed with a view of strengthening sub-national capacities for evidence-based planning and decision making, including to address the needs of the most marginalized children. However, it should be mentioned that in the absence of disaggregated monitoring data (e g. per gender, disability, socially excluded groups or other vulnerability criteria) the evaluation could collect only modest evidence on these topics. A special consideration on COVID-19 was added to the original scope given the current context which the DHHS model has been operating in for the last months.

3.4. Primary intended users involved in evaluation, their roles and stakes

68. According to the ToR, the primary intended users, their role and respective contributions in DHSS model planning and implementation are described below:

69. *Ministry of Health* participated in the adaptation of the model and oversaw its implementation. Through its structures at sub-national level – Regional and District Health Departments - it also provided support and monitored the model implementation within the target regions and districts. Based on the outcomes of the model, it will further decide on model scale up, including development of necessary normative documents and required funding.

70. *Regional and District Health Managers* were responsible for the establishment of the District Health System Management Teams as part of their structures, for the management and coordination of all activities relating to model implementation in the respective districts of target regions. They were also in charge of adopting and implementing supportive supervision approach for the district level health care managers and Quality Management Committees.

71. *District Level Health Care Facilities managers and staff* ensured direct implementation of the model, including development, implementation, monitoring and adjustment of Quality improvement Plan and

[26] http://www.uneval.org/normsandstandards/index.jsp

establishment of Quality Management Committee at health facility level. They also benefited from supportive supervision and capacity building during the model implementation.

72. *The Republican Scientific Practical Medical Paediatric Centre under MoH* was involved in the capacity building of the regional and district health staff, development of a training program and supportive supervision tools. They delivered introductory trainings, as well as provided continuous training for improving the professional competencies of regional and district healthcare staff and managers on primary and hospital IMCI, essential new-born care and neonatal resuscitation and other competencies. They also provided trainings on supportive supervision and conducted supportive supervision visits to the target regions and districts.

73. *WHO Country Office* provided technical support to the adaptation of the model and development of supervision tools and methodology.

74. *UNFPA Country Office* provided technical support to the adaptation of the model, development of supervision tools and capacity building of health care providers.

75. *Health Care Managers Departments of Center for Development of Professional Qualifications of Medical Workers under MoH* - supported introduction of DIVA training to the curriculum for post service training of health managers.

76. Evaluation Reference Group (ERG) comprised of representatives of Ministry of Health, The Republican Scientific Practical Medical Paediatric Centre under MoH, Centre for Professional Development of Health Care Providers under MoH, Regional/District Health Authorities, WHO, UNFPA and UNICEF programme staff was established to oversee the evaluation throughout the entire process.

77. The knowledge generated by the evaluation will serve the primary intended users as follows:

    - UNICEF to take stock of lessons learned and best practices and informing its future programing on readiness and scalability of the DHSS model.
    - Ministry of Health and other key sectoral stakeholders at national and sub-national level to identify and further address existing challenges to support DHSS model implementation and scale up and to support health sector reform agenda for improving quality of mother and child health services.
    - UN agencies and other relevant development partners to identify potential synergies and avoid overlaps in planning and implementation of interventions in the area of mother and child health.

4. Evaluation methodology

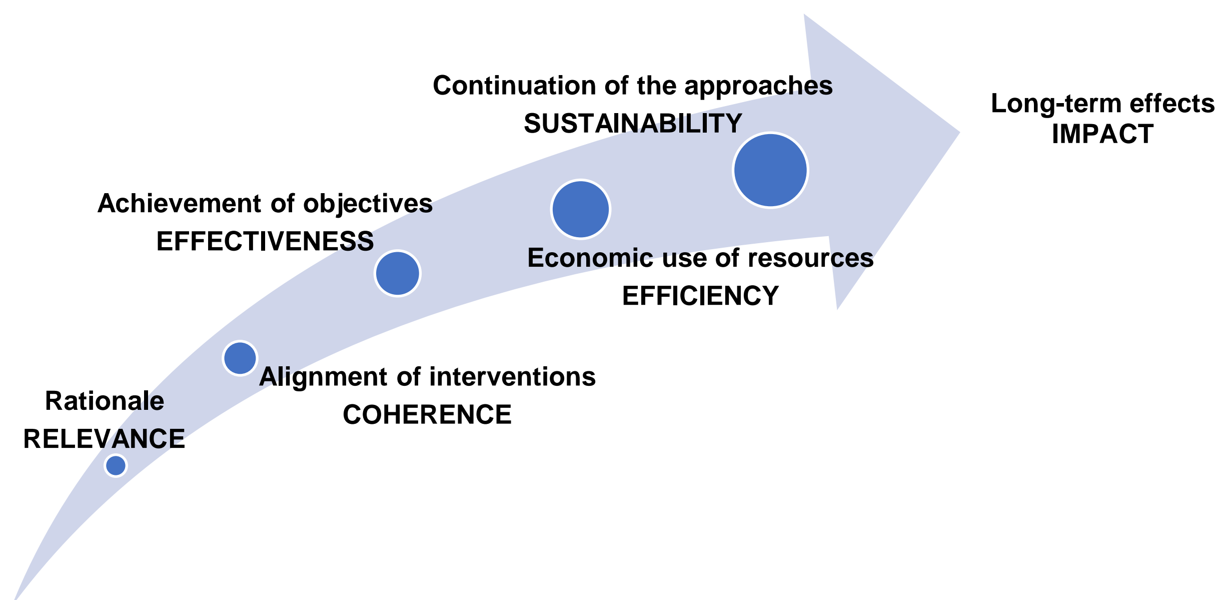
4.1. Description of evaluation design and methods

78. According to the ToR, the evaluation assessed DHSS model design, progress in its implementation and potential for scaling up in terms of its *relevance* to the child rights and equity agenda, as well as the national development agenda, *effectiveness, efficiency, sustainability, impact* and *coherence*. Overall, the evaluation's methodological approach was gender responsive. In relation to the evaluation criteria, the ToR proposed 17 evaluation questions. In the inception period, the evaluation questions were revised, and their number was reduced to 14 to increase their strategic focus, to eliminate overlaps and to increase the use of the evaluation results. One of the evaluation questions particularly focused on gender and equity-related achievements. All the changes, both in terms of number and scope, made in the evaluation framework were presented in the Inception Report (Annex 3) and reflected in the Evaluation Matrix (Annex 4).

79. The *framework for analysis* followed the internationally accepted OECD-DAC intervention logic model (Figure3). First, it presents the elements of relevance in terms of the rationale of DHSS model for the needs of the children and families. It continues with the coherence of the DHSS in terms of coordination with development partners, effectiveness in achieving objectives, analysis of economic use of resources (efficiency), continuation of DHSS interventions and scaling-up (sustainability). At the end, the analysis is focused on the DHSS contribution to long-term effects and observed progress in children's health and well-being in the target regions/districts.

80. The stakeholders participated in the evaluation through discussions and consultations, provision of data and some of them are responsible for follow-up to the evaluation report recommendations. In gathering data and views from stakeholders, the evaluation team ensured that it considered a cross-section of stakeholders with potentially diverse views to ensure the evaluation findings are triangulated and as impartial and representative as possible.

Figure 3. Framework for analysis



81. The *evaluation was based on a non-experimental design* using UNICEF's Health ToC in Uzbekistan and the DIVA model. The evaluation used mixed-methods and participatory approaches, the data collection included interviews, focus group discussions, desk review of reports, studies and quantitative data. The qualitative data, both primary data (i.e. field data resulting from interviews and focus groups – Annex 9) and secondary data (i.e. data resulting from desk review – Annex 8) was processed using a combination of framework analysis (focused on pre-determined topics) and thematic analysis (a more exploratory perspective).

82. The data analysis was based on specific methods for processing quantitative and qualitative data collected through the desk review and stakeholders' consultations (interviews and focus groups). First, the evaluation team carried out a *thematic narrative analysis* through structured desk review to enable identification of key themes covered by the DHSS model which are relevant to the indicators presented in the Evaluation Matrix. The DHSS monitoring data was analysed using a *descriptive quantitative approach*. *Qualitative iterative data analysis* allowed to connect and structure the key preliminary findings to each evaluation question deriving from stakeholder interviews into clusters and identifying the key themes within each cluster. These formed emergent themes from each category for further analysis. These were validated during a consultation meeting. Triangulation of data was conducted to determine if data was coming from multiple sources. Data coming from a single source was given less weight during the building of the analysis. The DHSS ToC formed the basis for the *contribution analysis* which assisted in assessing to what extent the DHSS model has contributed to the perceived outcomes. This type of analysis assisted to infer the findings and conclusions, and to provide the recommendations.

83. The evaluation used two types of *triangulation* that served to identify any inconsistencies between the preliminary data resulted from desk review and the data from key informants: 1/ *methods triangulation*, both qualitative and quantitative data was used to explain complementary aspects of the same subject; and 2/ *data sources triangulation*, which involved examining the consistency of different data sources within the same methods.

84. The desk review relied on programme monitoring data and documentation including assessments, studies, policy documents, strategy papers, plans of action and documentation of interventions implemented. The list of documents which were subject to desk review is available in the Annex 5. The desk review allowed the evaluation team to collect evidence available at country level in relation to both systemic results and immediate results of the interventions. Our methodological approach to primary data collection combined focus group discussions with interviews to ensure, together with desk review, the triangulation of information from a cross-section of national and local stakeholders (Annex 6). In total, 56 people participated and informed the evaluation. An overview of the field work is presented in the Table 1.

Table 1. Primary data collection design

Target groups	Method	Data collection instruments	Sample covered
Central level stakeholders (representative of MoH, regional health managers – 2 from the pilot regions and 1 from a non-pilot region), 3 representatives of the Republican Scientific Practical Medical Paediatric Centre under MoH, WHO CO staff, UNFPA CO staff, development banks, 2 trainers from the Centre for Professional Development of Health Care Providers under MoH, UNICEF CO staff	Interview	Interview guide	12 interviews (5 individual interviews and 7 group interviews)
District health managers District health care facilities managers and staff Mothers and caregivers	Focus group	Focus group discussion guides	2 focus groups (1 from the pilot regions and 1 from a non-pilot region) 4 focus groups (3 from the pilot regions and 1 from a non-pilot region) 2 focus groups (1 per each pilot region)

Interviews

85. To capture the in-depth views of the evaluation stakeholders in relation to the evaluation questions, the evaluation team conducted 12 interviews (5 individual interviews and 7 group interviews). The interviews were conducted by the international consultants with the following categories of central level stakeholders: one manager at MoH, 2 regional health managers from the pilot regions (Khorezm and Surkhandarya regions) and 1 from a non-pilot region (in order to document contextual pre-conditions for the replication of the DHSS model in other regions), 2 representatives of the Republican Scientific Practical Medical Paediatric Centre under MoH, WHO CO staff, UNFPA CO staff, 2 trainers from the Centre for Professional Development of Health Care Providers under MoH, UNICEF ECARO and CO staff. The data collected through interviews informed in-depth the evaluation.

86. In terms of sampling strategy, the selection of participants in the interviews and focus group discussions was done by UNICEF and MoH's support, according to the following criteria: geographic profile (urban, rural) and coverage (national, regional, district, local) specificity of participants' activity (PHC, perinatal care, paediatric care) and their availability. It should be noted that the limited number of informants available was due to the relatively small scale of the pilot model and the limited availability was due to the pressure on heath staff caused by the pandemic. The interviews and focus groups discussions were carried out online. The interviews will be based on a standard guide (available in the Annex 5).

Focus groups

87. As presented in Table 1, there were 8 focus groups discussions carried out for this evaluation, as follows: 2 focus groups with district health managers (1 from the pilot regions and 1 from a non-pilot region), 4 focus groups with health care facilities managers (3 from the pilot regions and 1 from a non-pilot region) and 2 focus groups with mothers (1 per each pilot region). The focus groups were conducted by the national consultant, with participation of the international consultant only in the focus groups with district health managers.

4.2. Limitations and mitigation measures

88. The evaluation encountered certain limitations. Even though all efforts were made to generate and/or access to the needed data, one of the limitations which affected the evaluation was the limited availability of reliable data. The available data was not disaggregated, which hindered the assessment, for example, of the gender equality or equity issues. Furthermore, fully disaggregated data at the local level was not available. The lack of project logic framework, including a definition of expected impact, and limited monitoring data was also challenging. Some monitoring data could be reconstructed from secondary sources, nevertheless this remained a challenge which was addressed based on the interviews and focus groups discussions. As for the DHSS model's impact, this was not possible to be measured (there is no data available for a counterfactual analysis). However, an empirical estimation of the contribution of the DHSS model to the children's health and well-being in the target regions was possible, to a limited extent.

89. Lack of systematic documentation of the programme implementation and key factors that enabled or affected the implementation process was also a limitation to the evaluation. In order to mitigate the lack of this type of secondary data, to the extent possible, the evaluators collected the relevant data from primary sources.

90. Assessing efficiency was challenging due to lack of cost-benefit and budget data. To mitigate this limitation in terms of quantitative data, the evaluators collected qualitative data, requesting estimations made by the informants themselves, facilitated by the evaluators asking for documented evidence to increase objectivity of the statements. Due to COVID-19 restrictions, the evaluation was conducted without traveling to the country, which had certain challenges associated with it. The data collection was carried out online. A longer timeframe for primary data collection was set forth to allow wider participation considering remote data collection approach. The focus groups were mostly carried out by the national consultant to ensure better interaction with participants. Eventually, the evaluation team was able to keep to the intended plan and methodology, which ensured confidence in the robustness and quality of data collected to inform the assessment. One remaining limitation related to the remote approach was a lack of opportunity to observe and gain insights from observation and site visits, as it would have done in other evaluations.

4.3. Observation of norms, standards and ethical considerations

91. The evaluation was administered in line with UNICEF's Procedure for Ethical Standards in Research, Evaluation, and Data Collection and Analysis (2015) and Evaluation Policy (2018) to ensure the highest ethical standards in all stages. Ethical considerations were taken into account in the evaluation process since this includes collecting data directly from stakeholders. As it is stipulated in UNEG Norms and Standards, the evaluators were "sensitive to beliefs, manners and customs and act with integrity and honesty in their relationships with all stakeholders", "ensured that their contacts with individuals are characterized by respect" and "protected the anonymity and confidentiality of individual information".

92. The evaluation took into the consideration the "Do no harm" principle, which guaranteed avoidance of any risks for any of the participants involved in the evaluation and in particular final beneficiaries. No compensation for participation in the evaluation process was envisaged.

93. The team members were fully informed during their work on application of the ethics guidelines. At the beginning of the interviews and focus group discussions, the evaluation team members involved in data collection asked verbal consent from the participants of the primary data collection. Prior to the implementation of the interviews or focus group discussions, participants were also informed by UNICEF in writing about the evaluation and were invited to participate in the data collection activities upon their availability. The risk concerning national professionals not feeling comfortable to talk freely and openly about the current situation and work with children and their families, therefore they were fully reassured that privacy was guaranteed in all stages of the process in accordance with UNICEF standards. No challenges occurred during the interaction of the evaluation team with evaluation stakeholders.

94. Special measures were put in place to ensure that the evaluation process is ethical and that the participants in the evaluation process can openly express their opinion. The sources of information were protected and known only to the evaluation team. Transcripts were done by the consultants and only the consultancy team members had access to transcripts. At the end of the evaluation the records will be erased.

95. Confidentiality of information is also respected in the process of data storage. After the end of the data analysis, all documents containing data (datasets and transcripts) were stored on the password protected hard drive until the finalization of the evaluation and erased from all other places. At the end of the evaluation contract, all the data sets and transcripts will be erased.

96. During the phases of processing the data and quoting statements by the participants, proper attention was paid to secure that quotes do not allow identification of the persons that provided them. In case the contextual information would have allowed identification of the persons involved, the statement was modified.

97. The consultancy team ensured that the evaluation process was in line with UNEG Ethical Guidelines[27], i.e. ensuring ethical conduct in data generation. Particular attention was paid to issues specifically relating to:

    - Respect for dignity and diversity
    - Right to self-determination
    - Fair representation
    - Harm and benefits
    - Informed consent
    - Privacy and confidentiality, and
    - Conflict of interest of the evaluation informants.

98. Consequently, the team leader ensured that it was clear to all of the subjects that their participation in the evaluation was voluntary. All participants were informed or advised of the context and purpose of the evaluation, as well as the privacy and confidentiality of the discussions.

99. As per UNICEF's standard procedure, this Evaluation Report underwent an Ethics review procedure by the Ethical Review Board (ERB), facilitated by UNICEF, to ensure that appropriate ethical considerations were taken into account during the evaluation process. The ERB approval is attached in Annex 8.

[27] http://www.unevaluation.org/ethicalguidelines

5. Findings

100. The findings of the evaluation are based on triangulation of multiple data sources such as interviews with central and local actors, focus groups with health managers, mothers and caregivers and a variety of secondary data (monitoring data, reports and studies) which ensured robustness of the judgments and their validity.

5.1. Relevance

5.1.1. To what extent was DHSS model designed in line with global UNICEF Health System Strengthening approach? Was it sufficiently adapted to the country context?

101. UNICEF defines HSS (Health System Strengthening) as actions that establish sustained improvements in the provision, utilization, quality, and efficiency of health services, including both preventive and curative care, as well as the resilience of the system. UNICEF's global approach to HSS connects national and sub-national levels, focusing particularly on sub-national management capacity and community engagement based on sound national policy, plans and financing. Attention to these three levels facilitates the translation of policies and strategies into accessible, affordable, and quality services for all, particularly the most deprived and vulnerable, or universal health coverage. Priority is determined by local context, based on a sound and agreed situation analysis conducted by government and development partners .[28] In Uzbekistan, although a sound situation analysis (i.e. DHSBA) was carried out, this was mostly UNICEF and local partners' contribution with less active involvement from central level.

102. In terms of conceptual framework, the DHSS model in Uzbekistan was designed based on a correlation between UNICEF's theory of the four determinants for change (enabling environment, supply, demand, and quality) and Tahanashi's concept of health services coverage. The District Health Bottleneck Assessment (DHSBA) in Uzbekistan methodology explains this correlation. It should be noted that ***the DHSS model aimed to address both national and sub-national levels and to cover all determinants***. However, in practice due to several constraints and changing external conditions ***the initially planned design was not fully operationalized***. The centralized and hierarchical system remains a bottleneck which requires specific consideration in the design of future health system strengthening interventions.

103. At district level, UNICEF's HSS global approach includes three main sets of interventions: 1/ improving health managers' capacity for evidence-based planning, budgeting, supervision, and monitoring of priority interventions for children and women; integration with community-based systems; 2/ coordination with other sectors (WASH, child protection, education etc.); and 3/ efforts to formalize contingency planning and emergency response capacity.[29] Even though the model designed for Uzbekistan was aligned with UNICEF HSS approach, DHSS was intended to focus primarily on sub-national levels of health system, without actively involving communities in the process or coordinating with other sectors (especially child protection and education). ***The DHSS model's design (and implementation) encountered several challenges mostly regarding professional norms, predictability of health policy and legislative framework, as well as its financing.***

104. In terms of how the DHSS model was relevant to UNICEF's strategic priorities in the health domain, it should be mentioned that UNICEF developed its "2016-2030 Strategy for Health", with two overarching objectives: 1/ ending preventable maternal, newborn and child deaths, and 2/ promoting the health and development of all children. The Strategy prioritizes the most deprived children and promotes multi-sectoral approaches to enhance child development and address immediate causes and underlying determinants of poor health outcomes. This Strategy requires both vertical programmes to address critical conditions and "horizontal" programmes to explicitly strengthen health systems and build resilience.[30] In Uzbekistan, UNICEF engaged in HSS to promote survival, growth and development of children and women, especially the most vulnerable. Jointly with the Ministry of Health (MoH), UNICEF in Uzbekistan started the implementation of 2016-2020 Country Program aiming to improve access to

[28] UNICEF (2016): The UNICEF Health Systems Strengthening Approach
[29] Ibid.
[30] UNICEF (2018): "Implementation of District Health System Strengthening Approach in Uzbekistan. Lessons Learned and Next Steps"

quality healthcare services to all mothers and children, including during emergencies. The decision was based on lessons learned during implementation of 2010-2015 Country Program.[31]

105. The Health Facility Assessment surveys conducted by IMCHS II project generated evidence on quality of healthcare services and informed decision-making. The results of the survey showed that building MCH analytical capacity and evidence-based policy and managerial decision-making capacity at national and local levels is an area requiring special attention. Based on survey findings, the health facility management lack capacity in data analysis, which leaves them shorthanded for decision-making.

106. The DHSS model's design included a combination of vertical approaches (e.g., mother and child program, vaccination, patronage nurses) with horizontal ones (local bottleneck analysis, and improvement plans, empowerment, supportive supervision), however the assumption that the model will be accepted and supported to implement horizontal approaches and power delegation at lower levels of government (regional/district levels) proved to be optimistic. ***The DHSS model requires a certain level of decentralization reforms, which makes it less suitable for centralized and very hierarchical health systems.***

107. In this challenging context, UNICEF decided to support the MoH in implementing DHSS approach focused on increasing capacity of health managers to implement evidence-based and equity-focused district health system strengthening plans. DHSS model was aimed to enhance the capacity of district-level managers to identify bottlenecks, develop, implement, and monitor local plans aiming at addressing equity gaps and improving quality of services in two most deprived regions. Local improvement plans addressed some equity gaps and quality related to maternal, and child health, nutrition, HIV/AIDS, and WASH services. Modelling was planned to demonstrate how the system can meaningfully evolve to reduce equity gaps in access and significantly improve quality of healthcare. In addition, it was planned that the programme will support strengthening of the existing monitoring system, as well as develop real time monitoring to generate evidence for policy development and health management and coordination.[32] The utilization of new knowledge and skills by health facility managers in daily practice at Primary Health Care (PHC) and hospital levels also showed positive results.[33]

108. *"Continuous care for children's and women's health was one of the main thrusts of the health reform that was presented to us by UNICEF. The concept focuses on child healthcare during pregnancy, childbirth and child healthcare to ensure good health for the new generation."*[34]

109. Although its improvement in recent years, suboptimal performance of Uzbekistan on decreasing maternal and neonatal mortality was the main driver for DHSS design and justified its relevance. Several shortcomings in the MCH area were acknowledged from previous initiatives (situational analyses, evaluation reports, local datasets) and contributed to document the decision of DHSS implementation. Also, the complementary initiatives (e.g., patronage nurses, home visiting) planned to be implemented during the same period, added to DHSS relevance. In addition to these facts, the momentum for starting the implementation of DHSS model was favorable and reached the Government and MoH agreement in 2016. This favorable political context contributed to increasing the relevance of the DHSS model at the time it was designed.

110. Even though DHSS was in line with UNICEF global HSS approach, prerequisites such as a certain level of decentralization reforms available in the implementing country, as well as a more balanced approach regarding the four determinants that were to be addressed were missing, so the local model appears insufficiently adjusted to the country context.

5.1.2. To what extent is the DHSS model aligned with the national and sub-national policies and priorities in the area of maternal and child health and overall health system?

111. The interventions of DHSS model were aligned with the highest-level strategic documents in the country such as: presidential initiatives such as the Declaration of 2016 - Year of a Healthy Mother and Child, The Presidential Decree approving the State Program Health of Women, Children, and Adolescents in Uzbekistan for years 2014 – 2018" and the Presidential Decree No. PP 2650 of 02.11.2016 "On

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[31] UNICEF (2018): "Implementation of District Health System Strengthening Approach in Uzbekistan. Lessons Learned and Next Steps"
[32] Ibid.
[33] CURATIO International Foundation (2015): "Evaluation Report of the Project Improvement of Mother and Child Health Services in the Republic of Uzbekistan – Phase 2"
[34] Focus group health managers

measures to further improve the maternal and child health system in Uzbekistan for 2016-2020". These strategic documents could be assumed as the main policy triggers for DHSS model design in Uzbekistan. At programmatic level, the DHSS model interventions were aligned with health policies and state programs in the MCH area, as indicated by most of the key stakeholders.

112. *"Recent decrees of our government, resolutions of the Cabinet of Ministers, orders of the Ministry of Health are aimed at radically upgrading the quality of services provided to mothers and children, mainly through primary healthcare. Together with the medical staff, we have identified and solved problems raising up the quality of services provided to mothers and children."*[35]

113. A determinant analysis, carried out by UNICEF in Uzbekistan following the Monitoring Results for Equity System (MoRES) methodology, demonstrated that high maternal and neonatal mortality is related, among others, to supply-side bottlenecks impacting on the quality of healthcare services[36]. Some of the supply-side bottlenecks are very important and relevant at district level, a domain that has a tremendous impact on mother and child healthy survival and quality of life.

114. Moreover, the DHSBA identified several shortcomings of mother and child health services provided by different healthcare suppliers at district level, with direct negative impact on maternal and children disability and mortality. However, the enabling environment components mentioned in the DIVA tool were covered only to a very limited extent by the bottleneck analysis performed through DHSBA. For example, the assessment focused primarily on quality measures and did not properly address policies, budget, and governance. It appears that this limitation of the DHSBA methodology reduced the DHSS model's alignment to national health policies.

115. As presented in Table 2, a comparative analysis of DHSBA recommendations and DHSS designed interventions demonstrates a satisfactory level of alignment between the two. Furthermore, despite previously mentioned limitation of the DHSBA methodology, the DHSS planned interventions addressing for example changes of the social norms.

Table 2. Alignment of DHSBA interventions to the DHSBA recommendations

Relevant health domain	DHSBA recommendation	DHSS designed intervention
PHC (antenatal care)	Enhance enabling environment through QMC capacity building	QMC establishment Peer cross monitoring practices Monitoring of the service quality Need forecasting practice Steps to improve continuity of care and promote effective care coordination
	Enhance laboratory services	-
	Enhance staff capacity (examination, counseling)	Staff performance assessment Human resources capacity building
	-	Population information/ Caregiver education Supportive supervision
PHC (childcare)	Enhance enabling environment through QMC, patronage nurses and home visiting capacity building, ensure supportive supervision, improve staff performance assessment, develop patient feedback system	QMC establishment Peer cross monitoring practices Monitoring of the service quality Staff performance assessment Need forecasting practice Steps to improve continuity of care and promote effective care coordination
	Ensure availability of professional staff and implement interventions directly affecting provider practice (examination, counseling)	Human resources capacity building
	Develop and implement strategies to overcome demand-side barriers to child	Supportive supervision

[35] Focus group health managers
[36] UNICEF Uzbekistan (2014): Situational Analysis of Children

	healthcare access and their challenges through evidence-based practice, health literacy, communication skills	
	-	Population information/ Caregiver education Home visiting
Hospital care	Enhance EE through QMC capacity building, statistical data collection and analysis, quality of medical documentation, improve staff performance assessment	QMC establishment Quality of medical documentation Peer cross monitoring practices Improved timeliness and quality of statistical information Monitoring of the service quality
	Improvement of the quality of maternal and newborn care through updated evidence-based checklist, algorithms, protocols availability, clinical audit, and care coordination	Quality of medical documentation Monitoring of the service quality Steps to improve continuity of care and promote effective care coordination Availability of clinical protocols Case critical analysis Rational drug use
	-	Provision of equipment and renovation of infrastructure Availability of life saving medicines at admission departments Separate patient room for hospital admission and consultations
Pediatric care	Remove supply side bottlenecks through better infrastructure, financing and supply of medicines and increased staff availability	Provision of equipment and renovation of infrastructure Availability of life saving medicines at admission departments Supply of oxygen therapy Separate patient room for hospital admission and consultations
	Improve pediatric services quality through proper triage system, care coordination, and availability of clinical decision support	Triage of patients in admission departments Availability of clinical protocols Rational drug use
Emergency pediatric care	Ensure availability of clinical decision support, clinical audit, care coordination, availability of clinical dashboards	Steps to improve continuity of care and promote effective care coordination Availability of clinical protocols Rational drug use
	Build human resource capacity	
Infectious diseases	Enhance enabling environment through QMC capacity building, statistical data collection and analysis	QMC establishment Improved timeliness and quality of statistical information Monitoring of the service quality
	Improve service quality through use of updated evidence-based checklist, algorithms, protocols availability, clinical audit, and care coordination	Quality of medical documentation Steps to improve continuity of care and promote effective care coordination Availability of clinical protocols Rational drug use

116. Evidence also demonstrates that other important national health policies and priorities such as home visiting, nurse patronage system, PHC improvement, reorganization of referral system at district/regional level for mother and child health services, and supportive supervision, were incorporated in the DHSS model. However, health priorities of the national health system were changing frequently and were not able to be captured entirely by the DHSS interventions, or had negative implications not only on the

effectiveness of DHSS, but also on its relevance and sustainability. For example, the structural new PHC reform is using "performance" criteria for services provision to operate underperformance penalties, is not properly addressing the high turnover of healthcare managers, and the provision of supportive and effective feedback at lower levels of health system.[37]

117. Overall, ***the DHSS model was aligned as much as possible with the rapid changes of national health policies during the implementation period.*** The model was adjusted by UNICEF to increase leverage at lower levels of health system; likewise, UNICEF sustained the implementation of health policies that were synergic with the DHSS objective facilitating their implementation at district level.

5.1.3. Did the model stay relevant in the context of ongoing health system reform? How was it revised to stay relevant?

118. DHSS model's scope and objectives remained consistent with strategic priorities of National Development Strategy 2017-2021 of Uzbekistan (Priority 1 - Objective 1.2 and Priority 2 - Objective 4.2) that advocates for further implementation of comprehensive measures to strengthen family, maternal and child health, ensuring greater access of mothers and children to quality healthcare, providing them with specialized and high-tech healthcare, reduction of infant and child mortality.

119. The DHSS model maintained its relevance in the context of ongoing health system reform by addressing major components of health services provision at district level in the field of mother and child health in a more structured approach. DHSS initiatives such as increasing quality and providing more evidence-based health services closer to people, maintained model relevance through increasing access especially for vulnerable groups.

120. In contrast, the high number of norms issued by the Government determined fluctuation in DHSS model's relevance (and sustainability)[38]. Downsizing the model implementation from 10 to 3 districts and the number of medical specialties addressed, could be considered as a revision of the DHSS model to maintain its' relevance in view of the constraints faced such as funding reduction, shifts in health reform priorities, changes in MoH and regional level management etc.

121. According to a report concerning the achievement of SDGs in Uzbekistan[39], the DHSBA conducted by UNICEF in 2016 identified important barriers resulting from health managers' limited abilities to *inter alia* analyse data for decision-making, design, implement, and monitor quality improvement plans, as well as limited knowledge and skills on equity-focused prioritization. Consequently, improving capacity building of health managers at various levels through regular trainings was one of the strategic interventions offered through the entire period of DHSS implementation.

122. The relevance and flexibility of the DHSS model to the needs and the context is generally noted positively by various stakeholders representing different levels of the health sector. The managers of regional and district health centers consider that a major emphasis of the project was given to strengthen the capacity of district health managers to assess, analyze, act and be accountable for ensuring equitable service delivery to effectively strengthen district healthcare system.

123. A global evaluation that recorded how UNICEF's engagement in HSS is playing out in the country, indicated that DHSS in Uzbekistan is using a range of approaches (e.g., piloting) which are consistent with the country's needs and demand, and appropriate for the country context. However, the country context is challenging and not always conducive to effective, sustainable HSS interventions, which includes Government positioning in relation with DHSS model, challenges in relation with the capacity of human resources in the health system, limited donor landscape and weak coordination mechanisms etc. Despite these challenges, it was recommended that UNICEF CO Uzbekistan continue its effort of documenting the country's experience with DHSS because this model has potential value as global good within UNICEF and more broadly.[40]

124. ***A new and comprehensive PHC reform was started in 2017, during the DHSS model implementation*** and it is important to understand how the DHSS interventions were addressing several

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[37] Interviews at central level

[38] Interview central level

[39] Mainstreaming, Acceleration, and Policy Support (MAPS) for Achieving the Sustainable Development Goals in Uzbekistan – draft report 2018

[40] ITAD (2017): Formative Evaluation of UNICEF's Approach to Health Systems Strengthening. Uzbekistan Light Touch Case Study

components of the new PHC reform in the piloting districts. Main activities implemented in the DHSS model, such as evidence-based planning and better resource allocation, staff performance assessment, supportive supervision / mentorship, increased population health literacy were in line with structural PHC reform aiming to improve health services closer to people. Complementary interventions such as building capacity of patronage nurses and home visiting systems were adding value both to DHSS scope and positive outcomes of PHC reform.

125. Another example of policy alignment was ***the adjustment of the DHSS model to contribute to the regionalization of perinatal services***. *“Under the national program for regionalization of effective perinatal care, maternity wards have been reorganized, with methodological guidance from UNICEF. In this regard, when the condition of a pregnant woman, a woman in labor or a mother and newborns is severe, they are referring them to the appropriate maternity facilities, according to the three-tiered system”.*[41]

126. Since 2017-2018, the Ministry of Health has been optimizing and regionalizing perinatal care and DHSS model interventions helped establish principles for regionalization of perinatal care such as building staff capacity, finding internal solutions to the proper allocation of facilities, ensuring adequate supplies, and improvement of communication. *"Measures have been taken to eliminate all the shortcomings and problems identified, and the supply of medical equipment and implementation of the measures identified has reached 95 per cent. We constantly monitor the quality of the work done and follow on a quarterly basis, compiling reports, summarising what has been done, what has not been done and what our achievements and our shortcomings are. The results and benefits of the project have been studied and recognised by experts from Tashkent.”*[42]

127. Optimizing perinatal health services at district level required management skills which were not developed prior the implementation of the DHSS model. *"The obstetric complex in Denau district had 200 beds until 2018, and there were plans to create a second perinatal center for 5 districts in the northern districts of Surkhandarya province. In 2018, out of the 200-bed OB/GYN complex, 120 beds were allocated to Oblast Perinatal Centre No 2 and 80 beds to the district medical association. Of these, 60 beds were designated as maternity beds and 20 as maternity treatment beds. However, due to our lack of experience in dealing with these organizational issues, our participation in the project as a pilot district was helpful. We have sent obstetricians and gynecologists, midwifes, neonatologists and nurses to Tashkent and Urgench on three occasions for training. As a result of this practice, we organized emergency obstetrics teams in the maternity hospital."*[43]

128. The stakeholders perceive that despite the bottlenecks encountered, evidence-based interventions were documented and applied through DHSS implementation in the sense that there is an increase in the quality of care for children in the admission department, the triage of patients, and the separation of sick children into separate children's wards. Centralized oxygen was provided in all departments according to the UNICEF recommendations and drug supply and uninterrupted drug delivery has improved. Consequently, treatment of patients according to standards and protocols has reduced the number of admissions to the hospital.

129. Overall, the model remained relevant even in the context of several and concurrent health reforms implemented during DHSS implementation. Some of the health reforms were targeting the same population and care domains, and DHSS was facilitating the implementation of such reforms (e.g., PHC reform, regionalization of perinatal services, evidence-based approach to mother and child health problems).

5.1.4. Is the model relevant in the context of the COVID-19 pandemic? What adjustments were needed to be made to keep it relevant to the changing needs of its target population?

130. The DHSS model remained relevant in the context of the COVID-19 pandemic through promoting increased health literacy for vulnerable population (e.g., home visits, patronage nurses), increased coverage at the PHC level, better organization of referral system (e.g., supportive supervision), and rapid identification and assessment of threats (e.g., DIVA training). Also, the DHSS model was a suitable vehicle for proper implementation of COVID-19 specific medical guidelines due to previous guideline trainings. Furthermore, the model was relevant in the context of the COVID-19 pandemic as all

[41] Focus group health managers
[42] Ibid.
[43] Ibid.

nosocomial infection control measures previously implemented were used in the context of this pandemic.

131. The training provided by DHSS was found to be highly relevant during the COVID-19 pandemic. *"Skills taught on trainings on organisation of neonatal and perinatal care and baby-friendly services such as prevention of hospital-acquired infection, hand-washing techniques were successfully applied during COVID-19 pandemic. A programme developed by UNICEF for handwashing techniques, with images in 11 episodes, was placed in all handwashing areas, and patients were also trained."*[44]

132. DHSS was influential in addressing specific standards and protocols, for example, by setting up isolation units in COVID-19, if a patient shows symptoms of a respiratory infection, they are placed in an isolation unit to prevent contact with others, and then tested for coronavirus, and if the result is positive, they are referred to hospital.[45] *"During the COVID-19 pandemic, we set up isolation rooms for women and organised work according to these guidelines on the observance of all personal hygiene rules."*[46]

133. DHSS was instrumental in addressing some of the supply side determinants, such as continuous oxygen availability. *"There is now centralized oxygen at the District Medical Association Hospital. During the pandemic, the delivery of oxygen to each room helped a lot. The pediatric ward is fully equipped with oxygen. Also, because of working with UNICEF, we learned how to plan for the supply of medicines, and these skills helped us well during the pandemic."*[47]

134. In terms of negative implications, the pandemic heavily impacted training and monitoring activities related to the DHSS implementation, activities that had to be downsized or discontinued due to the social distancing measures. Even though some training activities were switched from in-person to an online format, the district health personnel found classroom and on-the-job training more accessible and effective than online classes.

135. The partnership of UNICEF and ADB was highly relevant for handing over medical supplies to the Agency of Sanitary Epidemiological Wellbeing of Uzbekistan to assist the country in fighting COVID-19. "Government of Uzbekistan allocated significant resources to fight the coronavirus pandemic. In this regard, assistance of ADB and UNICEF in strengthening the health system will help to ensure the safety of medical personnel and prevent the spread of coronavirus infection among the population." To respond to the COVID-19 pandemic, ADB allocated $1.56 million as a grant to procure medical equipment, personal protective equipment, and laboratory supplies in Uzbekistan. UNICEF managed the procurement and delivery of laboratory supplies that will be used in COVID-19 testing, portable pulse oximeters and oxygen concentrators for COVID-19 patients, and protective garments and masks for medical workers. Although most COVID-19 cases have been mild in Uzbekistan, about 15% of cases require oxygen therapy as a cost-effective intervention. Procured medical equipment laboratory supplies and personal protection equipment were distributed to all regions of Uzbekistan including remote areas.[48]

136. In general, some skills and competences thought during DHSS implementation contributed to a more evidence-based provision of health services at district level during COVID-19 pandemic (e.g., hand washing, antimicrobial resistance protocols, scheduling drugs provision based on need, centralized oxygen provision in hospitals).

5.2. Effectiveness

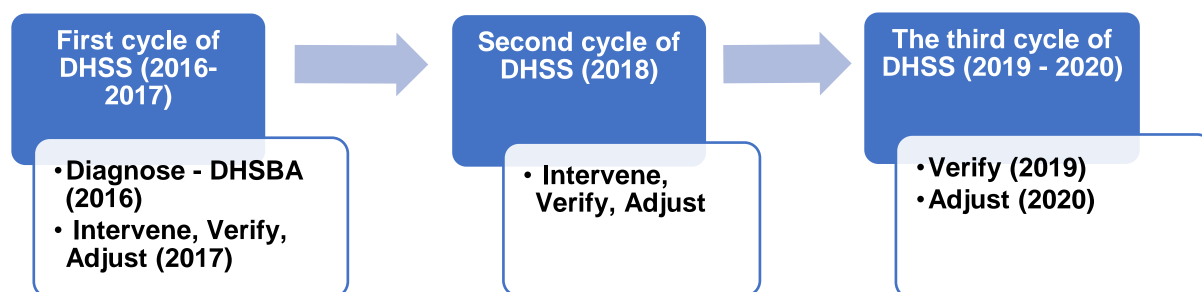
5.2.1. To what extent were the planned results achieved? To what extent were the bottlenecks identified in the model addressed?

137. In practice, the achievements of the DHSS progressed according to the model's cycles of implementation and DIVA steps[49]. As presented in Figure 4, the DHSS model implementation was

[44] Focus group health managers
[45] Focus group health professionals
[46] Ibid.
[47] Ibid.
[48] https://www.unicef.org/uzbekistan/en/press-releases/unicef-and-adb-join-efforts-assist-government-of-uzbekistan-in-fighting-covid-19
[49] D (diagnose) – I (intervene) – V (verify) – A (adjust)

structured in three phases/cycles, each phase addressing the DIVA steps in the limits of the resources available. A detailed presentation of outputs per DHSS implementation cycle is available in Annex 12.

Figure 4. The cycles of DHSS implementation



138. The first step of D-I-V-A, Diagnose, which is also the first step of DHSS implementation, was the DHSBA. This assessment was the foundation on which strong evidence-based and needs-built plans were based. It is reported by UNICEF that the overall goal of DHSBA was to identify inequalities and health system bottlenecks across different population sub-groups, locations and geographic areas for analysis and prioritization of proximate and contributory causes to develop district level evidence based and context sensitive solutions and strategies to overcome bottlenecks which are amendable at district level actions. The DHSBA employed a mixed methods of data collection, such as Health Facility Assessment, Household survey, and Focus Group Discussions. The quantitative component was based on the Lot Quality Assurance Sampling survey methodology.

139. To better understand social and cultural beliefs of the communities and individuals influencing demand to health services that hamper effective coverage of women and children in particular geographical location, the qualitative data was collected and analyzed through Focus Group Discussions of pregnant women and caretakers of children under 5 years old. The assessment indicated four types of bottlenecks observed in effective coverage of mother and child health such us enabling environment, supply-side, demand-related, and quality-related, varying significantly between type of health facility, districts, and regions (Table 3). The exercise facilitated setting up a baseline and a scoring system that was used to assess improvement.[50]

140. It should be mentioned that although the supply, demand and quality related determinants are similar with those in the original DIVA approach[51], for the enabling environment determinants, there were selected quality and monitoring specific determinants without reference to the policy, legislation, financing, management, and social norms determinants. The DHSBA methodology did not mention the limitations of the analysis, therefore it cannot be inferred the reasons behind this limitative approach.

141. The domains of care with the highest number of bottlenecks identified were PHC - Antenatal care, and Perinatal care (five key bottlenecks in three out of the four domains) followed by PHC - childcare, Pediatric care, and Infectious Diseases (three key bottlenecks in three out of four domains), and the least affected domain of care was Emergency pediatric care (one key bottleneck in one out of 4 domains of care). It is important to note that the bottlenecks identified have different significance levels inside and across the four domains of care.

142. The results of the DHSBA were presented in Tashkent, Surkhandarya and Khorezm regions in December 2016. Meetings have been attended by key stakeholders at national and regional level. According to district health managers, the data provided by DHSBA was key in determining the evidence-based quality healthcare.

[50] UNICEF (2018): Implementation of District Health System Strengthening approach in Uzbekistan. Lessons learned and next steps
[51] UNICEF and MSH (2013): The Guidebook Strengthening district management capacity for planning, implementation and monitoring for results with equity

Table 3. Summary of key bottlenecks by type of service (key bottlenecks areas highlighted in red)[52]

DOMAIN	DETERMINANT	PHC: ANC	PHC: CHILD CARE	PERINATAL CARE	PEDIATRIC CARE	EMERGENCY PEDIATRIC	INFECTIOUS DISEASES
ENABLING ENVIRONMENT	Availability of relevant statistical information						
	Quality of medical documentation						
	Management of service quality						
SUPPLY	Availability of medicines						
	Availability of basic equipment						
	Availability of basic infrastructure						
	Availability of services						
	Availability of Human Resources						
DEMAND	Contact Coverage						
	Financial Access						
QUALITY	Service quality						

143. The analysis of the overall progress of DHSS model by determinants based on the monitoring data indicated improvement across all four determinants, to a lesser extent for enabling environment (Figure 5).

Enabling environment

144. In terms of the changes at the level of enabling environment, ***establishment of the functional Quality Management Committee (QMC)*** at facility level was perceived by the health managers as one of the most important interventions of DHSS model. *"As a result of the work carried out in cooperation with UNICEF at district health level, a quality management committee was established at the district health associations and the multidisciplinary polyclinic. Since the establishment of the QMC, there has been a change in many managerial processes. The members of the QMC could organize the workflow based on their proposals."*[53]

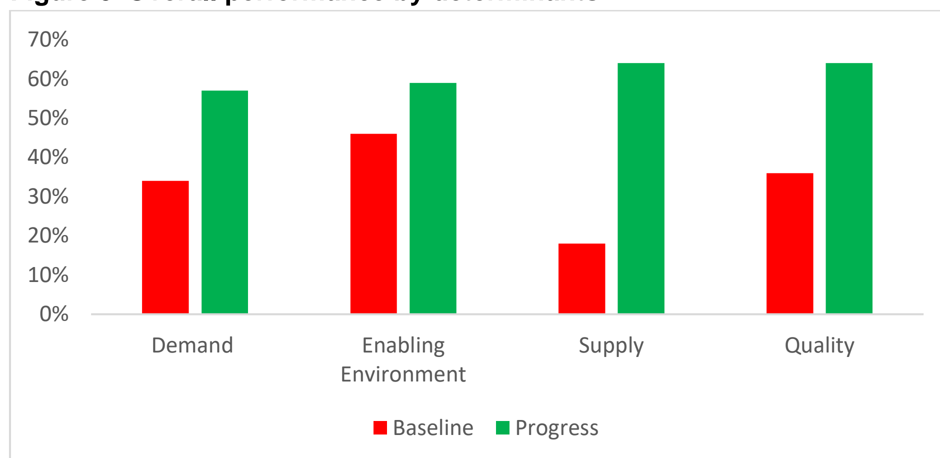
145. The Quality Management Committees (QMCs) were responsible for the development of ***quality improvement plans***. Due to UNICEF's support, more than 85 health managers were trained on quality improvement planning and budgeting. About 82 new healthcare facilities created quality improvement plans and started implementation. The quality improvement plans are monitored regularly by District Health Management Teams (DHMTs), mostly in Khorezm region, but it was reported that these plans are not updated accordingly.[54]

146. Capacity building of regional and district health managers in analysis of the DHSS bottlenecks', evidence-based and equity focused district/facility health system strengthening for quality improvement planning and budgeting was facilitated through training of more than 300 health managers that were

[52] UNICEF (2018): Implementation of District Health System Strengthening approach in Uzbekistan. Lessons learned and next steps
[53] Focus group health managers
[54] Tamar Gotsadze (2018): Final Report on District Health System Strengthening and Perspectives of Reforming Patronage Nursing/Home Visiting System in Uzbekistan

made aware of the main bottlenecks and discussed steps to overcome bottlenecks and monitor the progress in the following years.

Figure 5. Overall performance by determinants



Source: Monitoring data – UNICEF Uzbekistan (2021)

147. Due to the DHSS model, ***monitoring of the service quality and peer cross-monitoring practices*** were introduced as a new practice. Checklists for the audit of medical documentation were developed and used frequently. The difficulties encountered in filling medical forms were identified and, when needed, training of staff was organized. *"Basically, in 2017, we started by analyzing the bottlenecks, and the main problem identified was the lack of proper skills and knowledge of the medical staff. The first thing we did was to introduce the standard protocols in the pediatric department, maternity department, neonatology and then in the primary healthcare unit, so there were protocol sessions organized every Thursday, and every reading helped to gain practical skills."*[55]

148. UNICEF provided checklists for periodic monitoring of maternity, pediatric departments, and Village Family Policlinics (VFP). Some QMCs used direct observation methods for monitoring service quality by applying checklists and identifying priority topics for professional development training. When representatives of a department monitored the services of another department, this practice was considered peer cross-monitoring. Monitoring progress towards resolving critical bottlenecks was supported by UNICEF and covered the implementation of quality improvement plans developed by newly trained healthcare managers and the plans they adjusted based on monitoring results.

149. It was also reported that with UNICEF support, ***timeliness and quality of statistical information has been improved***. Verification of data with primary source documents once a month of all hospitalization cases has been introduced in selected health facilities. Verification is mostly performed by Methodological Department of the hospital together with Heads of Departments.[56]

150. ***Monitoring progress towards resolving critical bottlenecks*** was supported by UNICEF after 6 months of local quality improvement plans implementation. This was one of the most challenging activity of the DHSS model implementation. The poor performance of the health management information system on data collection, data validation and analysis decreased the robustness of results. In addition, the structure, number, and diversity of the indicators selected in the piloted districts did not ensure comparability of quality scores. However, consistency in the use of methods and tools helped enhance comparability of data and enabled DHMTs to develop their skills for performing reliable analyses.

Supply

151. As indicated in Figure 5, the supply determinants proved the highest level of performance. Thus, in terms of ***human resources capacity building***, more than 1000 health professionals in targeted regions received training on evidence-based new-born and child survival packages in accordance with revised standards and protocols of healthcare. Also, 42 health professionals received trainings on supportive supervision approach provided by UNICEF jointly with WHO and the UNFPA. This was confirmed by

[55] Focus group health managers
[56] Tamar Gotsadze (2018): Final Report on District Health System Strengthening and Perspectives of Reforming Patronage Nursing/Home Visiting System in Uzbekistan

the health professionals who informed this evaluation. *"During the training in Tashkent, we learned how to analyse supply, demand and quality indicators of DHSS. Based on the indicators we learned how to identify bottlenecks, problems, make an action plan, how to implement and monitor them."*[57] In addition, more than 423 health professionals in targeted regions received training on evidence-based new-born and child survival packages to improve their knowledge and skills in provision of quality medical care.

152. The DHSS contribution to addressing supply side and quality bottlenecks related to emergency pediatric departments was also acknowledged by the stakeholders. *"The quality of care for children in the admission department is improved, there is triage of patients, an emergency department, and separation of sick children into separate paediatric units. The work of doctors has been made much more easy. This has been beneficial for the patients as well. As a result of managing patients according to standards and protocols, the number of patients has been reduced".*[58]

153. ***Separate patient room for hospital admissions*** and consultations, as well as ***improvement of supplies for oxygen therapy*** are considered by the health managers as progress due to the DHSS implementation. *"In the admission department, for example, in the past there was no difference in the admission of adults and children. Now, because of the DHSS implementation, a pediatric ward has been added to the admission department. The ward is equipped with a first aid kit, scales for measuring a child's height and weight and equipped with a height and weight stadiometer. The pediatric ward was not previously provided with oxygen. Now the supply of oxygen is also available in the intensive care unit and the pediatric ward."*[59]

154. The DHSS model and the way UNICEF managed to implement it was perceived as a contribution to substantial changes in healthcare provision at district level. "*UNICEF's assistance has improved the quality of care for children, a pediatric ward has been set up, a doctor has been provided and 24-hour duty has been introduced. There were no gaps in provision of syringes, medicines and oxygen - all because of UNICEF training and monitoring*".[60]

Despite the accurate identification of the supply side bottlenecks by DHSBA, ***addressing some of these bottlenecks required more than just local efforts.*** "*We have made great progress in improving the skills of the medical staff, but there are also outstanding issues, for example, we have two admission departments in the district medical association, one for emergencies and one for routine patients. There are 147,000 people under the age of 18 and 10,000 children under the age of 1. The children admission poses a significant problem, and despite our numerous complaints, this has not yet been resolved."*[61]

155. Assessment of bottlenecks, which has been used ***effectively in identifying gaps in staffing capacity*** for mother and child healthcare, was perceived as the most striking feature of the DHSS model. The bottleneck identification methodology was perceived as a very good tool, but due to the limited mandate of the health managers at district/regional levels, the gaps in budget allocation and upgrading infrastructure were only partially addressed.

Demand

156. ***Increased health literacy and effective communication*** between different levels of care and families were implemented through the DHSS model. There are few districts where the coordination between PHC and hospital levels was prioritized. Also, monitoring of the hospital admissions with and without referral from the PHC level, as well as transferring information about discharge to the Village Family Policlinics by establishment of dispatcher services is in place. "*The link between the inpatient and family clinic has improved, as well as the teaching of mothers. The fact that UNICEF has proposed a new form of medical history has led to proper treatment of children's conditions and writing individual patient profiles for adults and children is an accomplishment.*"[62]

157. In terms of ***caregiver education***, it was reported that in the Gurlan district, the PHC GPs organize meetings once a month with the population, with the help of makhalla, and inform, educate the population, especially women, on different health related topics. In a majority of the district in Khorezm

[57] Focus group health managers
[58] Ibid.
[59] Ibid.
[60] Ibid.
[61] Ibid.
[62] Ibid.

Region, specialists and nurses from hospital visit VFP as well as meet population, mostly mothers, and inform them about childcare issues and health risks.[63]

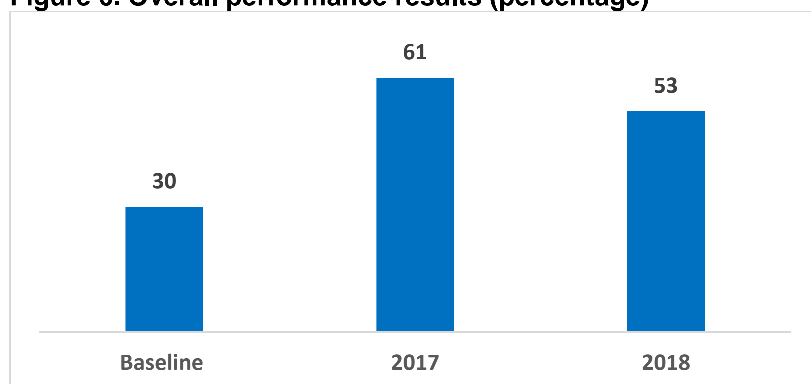
Quality

158. Technical support for dissemination of ***supportive supervision*** approach at all levels of maternal and child healthcare system was achieved by presenting and discussing results of the bottleneck assessment within the targeted regions; the supportive supervision visits proved the compliance of practices with the protocols and identified local initiatives to sustain performance monitoring by establishing local monitoring groups to regularly assess the performance of midwives in maternities and provide support for improvement.

159. To support effective adjustment of activities, UNICEF organized meetings with key members of DHMT to ensure ***peer-to-peer learning*** and experience sharing. In addition, to support future implementation of local plans, UNICEF trained DHMT members on supportive supervision approach and facilitated supportive supervision visits of newly trained supervisors with national trainers to ensure that new knowledge and skills are correctly applied. The supportive supervision teams provided their recommendations on improvement of quality of care to healthcare staff and managers.

160. Measurement of performance was assessed through quality scores[64] at the beginning of the DHSS implementation as well as at the end of the verification step of DIVA process. However, the comparability of these "overall performance" quality scores is posing several problems because health facilities are using different indicators and different numbers of indicators for each of the four determinants. As presented in Figures 6 and 7, in 2018 the monitoring results showed a slightly negative trend in the overall performance of the health systems compared to the previous year. It is reported by UNICEF that detailed analysis defined two main reasons for this situation. The first reason is that new facilities trained in the beginning of 2018 were included in 2018 monitoring round. The second reason is that healthcare facilities selected in 2017 (the first cohort) updated their workplans and selected more complicated activities to improve quality of care.[65]

Figure 6. Overall performance results (percentage)



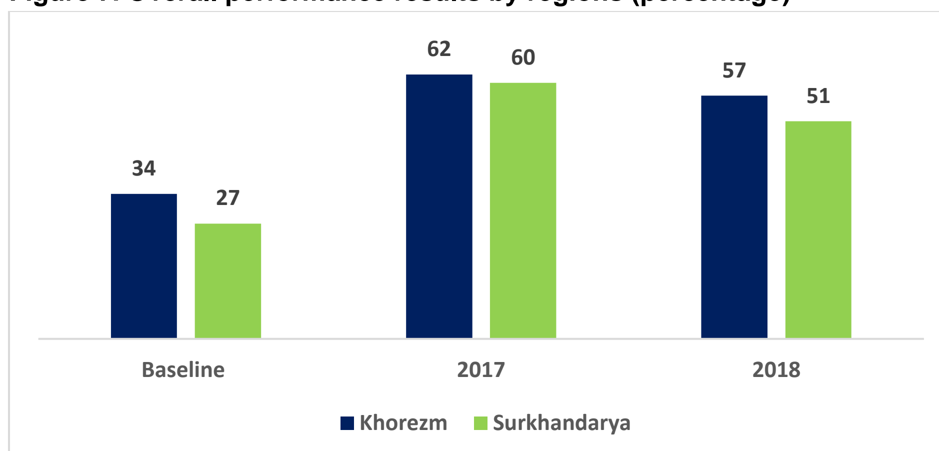
Source: Monitoring data – UNICEF Uzbekistan (2021)

[63] Tamar Gotsadze (2018): Final Report on District Health System Strengthening and Perspectives of Reforming Patronage Nursing/Home Visiting System in Uzbekistan

[64] The health system performance was measured by by overall quality scores acumulated by the region Khorezm and Surkandaria) collected by all health faciities from the three domains (PHC, maternity and newborn, and pediatrics) monitored (i.e. covered by DHSS). At the level of each health facility the scores were calculated based on four sets of indicators gathered around the determinant areas of interventions (enabling environment, supply, demand and quality). These indicators were defined and assessed by DHSBA, thus generating baseline data.

[65] UNICEF (2018): Implementation of District Health System Strengthening approach in Uzbekistan. Lessons learned and next steps

Figure 7. Overall performance results by regions (percentage)

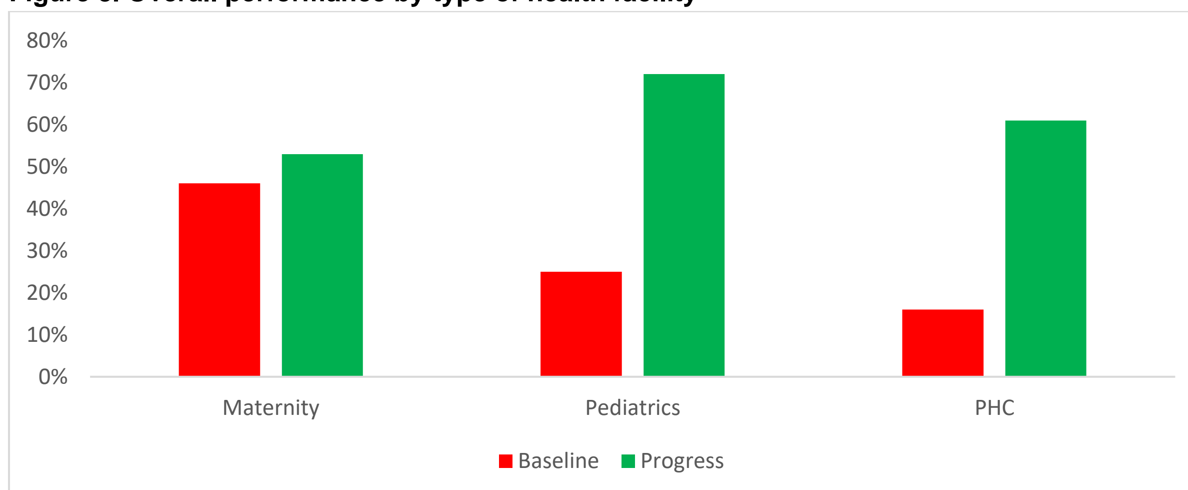


Source: Monitoring data – UNICEF Uzbekistan (2021)

161. The monitoring data indicates ***an important variability of determinants' improvement among care domains (PHC, pediatrics, maternities), as well as among districts*** (Annex 11). The variation and the negative tendency for a majority of determinants could be explained to some extent through introduction of new health facilities in the project and by increasing the number or selecting more complex bottlenecks to address. Even though, the problems related to indicators' definitions and the scoring systems had negative implications for comparability among districts, domains of care and determinants. The scoring system is more reliable at the health facility level and the reliability is decreasing while going up to the district and regional levels.

162. The monitoring data indicates ***improvements across all health facilities***, however Pediatric Departments and PHC in both regions show better results compared with the baseline by contrast with Maternity departments, where the overall performance improved only by 7% (Figure 6).

Figure 8. Overall performance by type of health facility



Source: Monitoring data – UNICEF Uzbekistan (2021)

163. During the most recent years of the DHSS implementation reference period (i.e. 2019 and 2020), ***all activities and funding were reduced substantially*** and there is no clear evidence to sustain that the DIVA approach was applied any longer in the same manner as it was over the earlier years.

164. Starting with 2019, the coverage of the DHSS model was downsized to 11 health facilities, and the focus was to update and implement health facility quality improvement plans. Other achievements included:

- the development of hospital care supportive supervision tools for district pediatric ward;
- the design of the System for regional, district and health facility level;

- the development of Supportive Supervision step-by-step guideline for DHSS.
- the integration of DIVA and Supportive Supervision modules in pre- and post-graduate curricula for health managers;
- support participation of MoH officials and health managers at study tours, conferences, workshops related health system strengthening (3 visits);
- support for revision of neonatal standards and in-service neonatal care training curricula for medical schools;
- support for modelling universal-progressive home visiting system.

165. It should be mentioned that although monitoring data is available for the selected 11 health facilities, trends of the determinants scores for the 2017-2019 period are not suitable to be interpreted due to significant decrease of health facilities involved in the project. In addition, UNICEF's methodology for reporting results has changed. For these reasons, capturing the recent dynamic of DHSS achievements is difficult to infer.[66]

In 2020, the implementation of the DHSS model covered the same number of health facilities and aimed to adjust and implement the health facility quality improvement plans. ***Due to the COVID-19 pandemic, trainings, monitoring and supportive supervision activities were reduced and shifted to online sessions***.

166. The added value of team approach in ***solving bottlenecks in a systematic manner*** was mentioned as an important achievement of the DHSS model. *"Local problems and solutions vary from region to region, so we believe that involving all members of the network in identifying problems and taking their feedback into account is our accomplishment. For example, the rooming-in of mothers and babies worked towards solving hot water problems, measures were taken to install a heater. We provided timely information to the quality management committee about problems with medicines and consumables."*[67]

167. Most identified bottlenecks were addressed at least partially, some of them fully, and a few were not addressed at all, mainly because of a limited mandate of district/regional health system levels to address them (e.g., budgeting or infrastructure challenges).

5.2.2. What were the factors that promoted or hindered the model implementation including in the time of COVID-19 pandemic?

168. There were several factors that either fostered or hampered the DHSS implementation for the period analyzed. The main ***positive factor*** was the PHC reform, that regrouped scattered "autonomous" health facilities in a pyramidal network of health services and rearranged the managerial relationships between healthcare managers from different levels of care. Also, increasing funding and the number of medical specialties covered for PHC level was an add-on for the project, helping the issues found and prioritized on QMC meetings to be solved faster.

169. The main ***drawbacks*** identified were the management culture that penalizes for "underperformance", low staff morale, the higher turnover of HCMs along with lack of health management training and particularly quality management competences, the lack of feedback especially from national to regional / district level and the poor performance of HMIS. Other factors which had a negative impact on model implementation were the high degree of centralization and bureaucracy related to power chains, the growing number of regulations issued by the Government, the substantial decrease in donor funding, the suboptimal level of training of health staff and low-quality services provision, and the variability of implementation in the field (e.g., different indicators in every site having negative impact on comparability of outcomes). Another major hindering factor was represented by the government's decision to centralize health care system including withdrawal of the legal status of the PHC entities.

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[66] According to the *Evaluation of Country Programme of Co-operation between the Government of Uzbekistan and UNICEF 2016–2020* the COAR 2018 report is much shorter than previous annual reports and does not give progress on outputs – only outcomes. The reduction in the number of outputs and the changes in wording of several outputs during the CP pose some challenges, too. UNICEF's internal systems and terminology for assessing effectiveness are constantly evolving and this can make it difficult for evaluators to follow performance under one and the same component in different programme periods.
[67] Focus group health professionals

170. The pandemic had a negative impact on project implementation through reduction of trainings and monitoring and evaluation visits on sites. The switch to the online format was perceived by the health professionals as being not so effective as on-site events.

171. The DHSS model's beneficiaries considered that poor interaction between different level of health system, as well as inadequate resources allocation, lack of a comprehensive and clear human resources policy, as well as reduced coordination between MoH representatives or those responsible for implementing new strategies to ensure their sustainability, impacted negatively on the model's effectiveness.

5.2.3. To what extent were gender and equity aspects effectively mainstreamed and delivered?

172. Although gender and equity dimensions are embedded in the core activities of the DHSS model, there is ***no disaggregated data available to measure results***.

173. Due to social and cultural norms predominant at the level of local communities and families, as well as the dynamic of intergenerational relationships, gender roles had to be considered for all services provided to pregnant women, mothers, and children. A particular focus was on provision of health literacy interventions, home visits, capacity building of patronage nurses, and first interaction with health system. ***Health personnel was trained on how to incorporate gender dimensions in their work.***

174. ***Equity dimension was considered in the design and implementation of the DHSS model*** by targeting two of the most deprived regions, and vulnerable groups (e.g. people from low-income families, single mothers). *"Increased awareness of maternal and child health among health workers, in turn, led to increased literacy among population."*[68]

175. Increasing the knowledge and competencies of midwives to address the needs of women living in remote areas and low-income families demonstrates the gender and equity dimensions of the DHSS model. Also, it was reported that a different approach towards vulnerable groups was implemented at district level to increase the equity of service provision. *"Our district health department has made lists of the poor and vulnerable families by rural family policlinics coverage. Obstetricians, gynaecologists and midwives working in our maternity unit are assigned to each rural policlinic. They go to the policlinic once per week to work with families in need, and to contribute to the updating the DHSS plans to support them."*[69]

176. The DHSS model contributed to strengthening the health services from the perspective of gender-responsiveness by increasing the availability of home-based care skills among pregnant women, which proves to be one of the main achievements in raising medical awareness about childcare. Also, emergency department nurses have been trained in first aid based on standards and protocols. National standards and protocols have been adapted to local conditions and approved.

177. The continuum of health education provided by DHSS, starting from hospital to home brought added value to all beneficiaries (including the most vulnerable). There is evidence demonstrating that the emergency care nurses advised all family members, including the elderly in the family. *"The grandmothers are at home all the time and help their daughters-in-law to bring up and take care of their grandchildren. They are the first ones to decide when to go to a healthcare facility.*[70]

178. The decision-making power in many Uzbek families still belongs to the elders, based on Uzbek traditions to mother-in-law and/or the husband. In some cases, confidence levels of young, pregnant woman, especially if they are unemployed and dependent on her husband, is very low. Young mothers suggest strengthening the awareness campaigns towards to mother-in-law and husbands on maternal and child healthcare. *"When nurses were visiting families, it was very difficult to gain access to the families. Family members used to close their gates and inquire the reason for visiting, as would a stranger coming into the house and not bringing caregivers too close to them. For example, by providing them with health information and other useful details, they increased the population's confidence in the effectiveness of health services."*[71]

179. UNICEF has supported the trainings related to strengthen the communication and counseling of mothers in this patronage system. The provision of health education among pregnant women has been shown

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[68] Focus groups health managers
[69] Ibid.
[70] Focus groups health professionals
[71] Ibid.

to be one of the main achievements in raising medical awareness about childcare. *"Both parents and grandparents in the family are all now responsible for vaccinating these children. For example, in the polyclinic, hepatitis vaccination is done every Saturday, for example, because of outreach work, even though it is paid, everyone comes voluntarily and gets tested, and actively participates in this vaccination. It is concluded that UNICEF has trained the community nurses and that the benefits of this are now taking their toll."*[72]

5.2.4. Were there any unintended negative or positive outcomes and, if so, were they appropriately managed?

180. The implementation of DHSS model conveyed both unintended positive, and negative results. The evidence collected for this evaluation pointed to the followings ***unintended positive effects***:

- Training on structured patterns of problem identification have made it easier for healthcare managers (e.g., facility managers) to communicate with those higher up on solving the issues identified;
- The pilot institutions established inter-district supportive supervision to identify problems and provide assistance;
- The districts and institutions excluded from the list of pilot organizations continued to implement monitoring, mentoring, and training tools through local trainers;
- Some facilities were able to apply for and receive grants from other international donors based on the improvements carried out during DHSS model implementation.

181. The evaluation identified several concerns regarding the followings ***unintended negative effects***:

- Some activities related to the implementation of the DHSS model were increasing the duties of front line healthcare professionals/healthcare managers adding bureaucratic and administrative tasks to the existing high workload;
- The decline of funding for implementation of the DHSS model reduced the scope of the activities that had a negative effect especially on health professionals whose initially high expectations remained unmet;
- The capacity to identify and assess the bottlenecks without the possibility to remediate the problems (e.g., updating procedures by locally trained health workers) is hampering the optimal implementation of the model;
- Insufficient standardization and clarification regarding how to fill the reporting forms used in the DHSS model. *"There are different reporting forms which are systematically approved by the Ministry of Health in accordance with new laws issued by the government, but one report is interpreted in 10 different ways which leads to uncertainness. It is suggested that the reporting forms should be unified in collaboration with the MoH system."*[73]

5.2.5. To what extent were the monitoring system and documentation of the model appropriate to inform planning and programming of UNICEF and key stakeholders? What could be improved?

182. While the DHSBA was a thorough process applied to the 10 districts selected at the beginning of the DHSS implementation, the monitoring process, and the documentation of model appropriateness for further planning and programming was not that explicit. However, there is strong evidence that UNICEF worked closely with all key stakeholders of the DHSS model, facilitating the intervention at different levels. UNICEF has been instrumental in monitoring activities across the plans developed, implementing activities to support health professionals, and overcoming identified barriers.

183. Despite DHSBA's decisive role in setting up the baseline for further monitoring of determinants during DHSS implementation, major challenges were encountered concerning availability of valid and comparable data, poor HMIS performance and lack of health professionals specialized in data analysis.

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[72] Focus groups with health professionals
[73] Focus groups health managers

184. Although the development of the new implementation plans was completed based on the results of the internal monitoring system, this system was performing inadequately, decreasing data comparability between piloting districts or health facilities.

185. According to an intermediary report[74] on DHSS implementation, the role of the DHMTs in setting up an optimal monitoring system was essential for the DIVA approach. Two out of the eight recommendations for optimizing the DHSS model implementation provided in the report pointed to the improvement of the DHMT members' monitoring and evaluation skills.

186. It appears that despite all the challenges, the monitoring carried out as part of DHSS activities has made the current maternal and child health system at hospital and primary healthcare level more effective, transparent, and responsive. *"During the monitoring, we implemented all the plans and achieved success. The first achievements are standardisation of respiratory diseases, regularisation of treatment, reduction of medication used, improvement of resuscitation for severe cases etc.. We presented our achievements at regional and national meetings."*[75]

187. The importance of monitoring training was acknowledged by the health professionals involved in DHSS implementation. *"Having the trainings on monitoring and supportive supervision, I realized that monitoring is essential. By identifying shortcomings and asking what is going on and what can be done, we have had some success."*[76]

188. *"We trained staff based on BABIES training materials. The process of collecting data from each staff member was monitored. The figures were checked for accuracy. The analysis was done in a timely manner and the results were regularly discussed at the district medical association meetings."*[77]

189. The link between monitoring activities and implementation of improvement plans was part of the capacity building process during DHSS implementation. *"I have been working in the intensive care unit for 20 years and during the project, monitoring activities were carried out in the paediatric ward and the outpatient intensive care unit. We participated in the assessment and made plans together with the monitoring experts."*[78]

190. "I have participated in all UNICEF trainings, I have improved my skills, we have continued to work to strengthen the district health system, to support curatorship in primary healthcare, to assess ourselves within two inter-districts model and improve our skills through peer-to-peer counseling. We monitored and assessed each other's work in family clinics at the district level on monthly basis."[79]

5.3. Efficiency

5.3.1. Were the available financial, material, and human resources adequate to achieve results?

191. During the project implementation, ***the amount of funds allocated by UNICEF were constantly reduced*** (Table 4) along with downsizing the project activities from ten to two districts, and the medical domains covered from five to three. Taking into consideration the complexity of the DHSS model and the workload provided by UNICEF, it appears that more human resources would have been necessary to complement UNICEF national health team's activities with additional international consultancy, especially for the second and third implementation phases.

192. The DHSS model had a pivotal role in addressing allocation of resources at the level of piloted health facilities and districts through identifying and prioritizing the problems and planning accordingly. There is evidence indicating that QMCs and DHMTs had to allocate available resources to activities with highest impact on health indicators (e.g., health expectancy, quality of life). The DHSS project helped the healthcare managers to identify and prioritize main issues, and to reallocate/shift funds and human resources to better address the health problems of the population through specific trainings. Despite these efforts, ***the high turnover of members of QMCs and DHMTs had negative implications on resource allocation***.

[74] Tamar Gotsadze (2018): Final Report on District Health System Strengthening and Perspectives of Reforming Patronage Nursing/Home Visiting System in Uzbekistan
[75] Focus group health managers
[76] Ibid.
[77] Ibid.
[78] Ibid.
[79] Ibid.

Table 4. The budget allocated by UNICEF (in USD) for implementation of DHSS activities[80]

DHSS implementation phase	*Planned budget*	*Allocated budget*	*Funding gap*
First phase (2016 - 2017)	*750.000*	*750.000*	-
Second phase (2018)	*278,380*	*78,380 USD*	*200,000*
Third phase (2019-2020)	*288,000*	*220,000*	*68,000*
Total	***1,316,000***	***1,048,380***	***268,000***

193. The evidence collected for this evaluation demonstrates that despite its limited resources, in the piloting districts DHSS contributed to better resource allocation in the following areas:
    - increased availability of laboratory tests, and essential medicines for vulnerable groups;
    - better access to emergency care services for mothers and children;
    - increased capacity of neonatal intensive care units beds;
    - availability of healthcare personnel on duty (clinical rounds).

194. At the national level, the implementation of the new primary healthcare reform increased the budget, material, and human resources allocation at the district level to some extent, but the continuous and concurrent health reforms most probably had a negative impact on the allocations for DHSS model implementation.

195. To provide appropriate solutions for some of the supply side bottlenecks (e.g., underfunding of perinatal services) ***a cost analysis was performed for perinatal care services*** across three levels of care in piloting regions. According to the costing analysis, the funding gap suggests that ***financial allocations would need to be increased to ensure health facilities with enough resources to deliver care compatible with the current clinical guidelines***. Overall, drugs and supplies emerge as primary targets for increased funding, as the gaps between current and ideal provision appear to be substantial. However, any additional funding requires careful targeting because health facilities have different needs, reflecting their case-mix and current endowment. The funding needs for some interventions or conditions, particularly the more complex ones, are much more significant than for others. [81]

196. In terms of leveraging resources, since Uzbekistan was classified as a lower-middle-income country (LMIC), ***fundraising opportunities have further reduced***, which affected the availability of resources for the continuation of DHSS interventions in the country. In this less favorable context, jointly with WHO, UNICEF Uzbekistan partnered with the Ministries of Health and Finance to facilitate phasing out of Global Alliance for Vaccine and Immunization (GAVI) support to Uzbekistan, and to finalize key actions for financial sustainability of vaccine procurement. GAVI has allocated 20 million USD to UNICEF to strengthen the health system by improving vaccine management. This initiative worked both ways, on one hand to help with proper DHSS implementation through provision of vaccination protocols, standards for vaccine distributions, and on the other hand facilitate achievement of higher vaccination coverage. More recently, new challenges have occurred due to ceasing GAVI funding and involvement of national budget in vaccine provision and coverage. Telecom operator UCELL contributed 100,000 USD to support WASH in schools and support UNICEF's advocacy by disseminating messages to their subscribers and jointly commemorate key public events. Latter-day Saints (LDS) Charities will supply equipment worth 12,732 USD for training on neonatal intensive care in two regions.[82]

197. The evaluation did not find evidence concerning any attempts to attract funds from potential private sector donors for the DHSS. It appears that the notion of corporate social responsibility or corporate partnerships and alliances is not well developed in the country.

[80] UNICEF CO Uzbekistan and MoH Multi-Year Work Plan 2016-2017, Annual Work Plan 2018, Multi-Year Work Plan 2019-2020

[81] Oxford Policy Management (2017): Costing of perinatal care services across three different levels in selected regions of Uzbekistan

[82] UNICEF CO Uzbekistan: COAR 2016

5.4. Sustainability

5.4.1. To what extent do the national stakeholders demonstrate ownership of the model?

198. The Draft Concept for Comprehensive Socio-Economic Development of the Republic of Uzbekistan until 2030 indicates ***a certain interest for the process of public administration decentralization*** which will increase the responsibility of local and territorial authorities in the implementation of state policies locally and will phase transfer of powers of central government bodies to local government bodies, as well as the transfer of powers of regional government bodies to the district and city government bodies.[83] Considering that decentralization is a major pre-condition for an effective and sustainable development of DHSS, it could be implied that a future orientation of political commitment towards decentralization of public administration will support the decentralization of the health sector as well.

199. The Evaluation of Country Programme of Co-operation between the Government of Uzbekistan and UNICEF 2016–2020 refers to DHSS in the context of assessing Outcome 1 – Mother and Child Health of the CP. This evaluation reports that modelling projects took place in a variety of health-care facilities within the DHSS programme and the universal-progressive model on Patronage Nursing/Home Visiting system, however ***the planned scale-up for DHSS is lagging behind*** due to the lack of government agreement on implications for budget resources.[84]

200. Despite the delays in ensuring financial resources for DHSS scale-up, ***MoH issued regulations for endorsement of DHSS model implementation.*** However, acceptability and ownership of DHSS interventions differ at facility/district/regional and national level. Some interventions were perceived as having a higher ownership at national level such as: supportive supervision, curricula development and trainings of healthcare personnel and healthcare managers at different levels.

201. Acceptance of DHSS quality improvement tools by decision makers was an important achievement of DHSS model implementation and a pre-requisite for sustainability of the model. In this process ***UNICEF had a substantiative role on facilitating the transfer of lessons learned from the pilot districts/regions to the national level.*** *"MoH accepted a supportive supervision tool which is used for maternal and children healthcare. UNICEF has a very professional healthcare team from whom we learned a lot and now managers can really use DIVA approach. There are also changes in health facilities' practices".*[85]

202. ***Most of the DHSS model interventions seem to be better embedded and owned at lower levels*** of health system (regional/district level). Despite the reduction of the number of piloting districts and medical domains covered by the DHSS implementation, the piloting districts that were not involved in the implementation any longer decided to continue implementing the lesson learned through DIVA training by themselves, which demonstrated a high ownership of the model at the local level. *"One of the greatest achievements of DHSS is that it helps the implementation of government decisions and decrees and conveys them in an understandable methodology. The perception of the individual will be different. UNICEF specialists provided very clear recommendations. The way the information is delivered is perfect. The methodology is good. If UNICEF continues its activities in our country, skills of midwives, obstetricians, primary healthcare workers, doctors and nurses will improve".*[86]

203. *"During the project, I was a supervisor and used curatorial forms and checklists to assess the quality of medical care for children in family clinics. There was no monitoring, no supervisory visits, no systems for evaluating them, and now this is being done. The checklists facilitate quality control of the behavior. For me, this approach is useful for presenting services to mothers and children and I will continue to use it."*[87]

204. The DIVA approach methodology recommends establishing a national focal point to oversee application and sustainability of the model. The composition of this committee was supposed to include good representation of key partners who can hold periodic meetings to assess the status of implementing the model and resulting impacts, and to provide advice on future activities (including scale-up) at the national

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[83] Ministry of Economy and Industry of the Republic of Uzbekistan (2019): Draft Concept for Comprehensive Socio-Economic Development of the Republic of Uzbekistan until 2030
[84] IOD PARC (2020): Evaluation of Country Programme of Co-operation between the Government of Uzbekistan and UNICEF 2016–2020
[85] Interview with key informant at central level
[86] Focus group health managers
[87] Focus group health practitioners

level.[88] Despite the fact that in Uzbekistan such a steering body was missing, UNICEF decided to conduct a National workshop with a wide stakeholders' participation[89] to review DHSS implementation and discuss strategies for future national scale-up. The objective of the meeting was to share experience on DHSS approach and to discuss lessons learned, ways to ensure sustainability and actions to be taken for national scale-up of DHSS/DIVA. The discussions facilitated by the workshop were related to national scale-up of activities related to improvement of health system performance, strategies to overcome demand-side barriers and improve linkage between community and health facility in accessing healthcare.[90]

205. Overall, most key stakeholders expressed concerns that frequent changes of MoH's top management and priorities can result in a loss of momentum for DHSS and there is a broad agreement that ***DHSS is insufficiently embedded at central level to be robust and sustainable***.

5.4.2. To what extent is the model sustainable, including financially and scalable? How can the model or its components be integrated in the context of mother and child health sector reform and broader the health sector reform?

206. During the DHSS implementation period (2016-2020), donor funds decreased constantly, as well as the number of piloting districts and the number of medical domains involved in the project. Throughout the same period, a PHC new reform was implemented that increased financial and material resources to some extent, allowing some facilities to address some bottlenecks identified when rolling out the DIVA approach. ***Shortage of specialized human resources especially at lower levels of health system*** and inability to retain health professionals in rural and disadvantaged areas is still posing a threat to optimal implementation and sustainability of DIVA model.

207. Even though some of the strategic documents regarding future direction of Uzbekistan refer to the new PHC reform as an important pillar in improving citizens health[91], certain legal norms are embedding elements of DHSS model, and there are initiatives to modernize HMIS, there are ***still major challenges in sustainability and scalability of the model due to highly centralized systems of decision-making, and low-level governing capacity at local levels***.

208. Progress on the reform agenda requires further strengthening the capacity of the Government in implementing the intended reforms, including adequate financial or human resources, quality of data and monitoring systems, stability of leadership and priorities, as well as decreasing duplication and competing functions between different Government actors and ambiguity regarding their roles and responsibilities. The latter has also been posing challenges to the continuity of UNICEF interventions (including DHSS) and effectiveness of advocacy efforts.[92]

209. At lower levels, ***high turnover of healthcare managers and healthcare professionals that were initially trained on DIVA approach might undermine the sustainability of DHSS***. *"In 2017, two heads of departments left the position of coordinators and were replaced by a different head of department, so there is no information on health system strengthening at their respective levels. The implementation of these activities in these departments is lagging."*[93] However, recent initiatives to incorporate DHSS tools on medical students and healthcare managers curricula will contribute to sustainability and scalability of the project.

210. According to UNICEF and Government of Uzbekistan Country Programme (CPD) 2021-2025, in the programming period recently launched, there are four areas which will be addressed to improve mother and child health (Table 5). Although the document acknowledged the positive results of DHSS pilot in increasing quality of maternal and newborn health, it is mentioned that to ensure sustainability, more efforts are required in the new country programme to involve the national Government and institutes in implementation from the outset, to institutionalize the HSS concept.

[88] UNICEF and MSH (2013): The Guidebook Strengthening district management capacity for planning, implementation and monitoring for results with equity

[89] Ministry of Health specialists from national, regional and district levels, medical universities, UNICEF, donor agencies and UN organizations

[90] UNICEF (2018): "Implementation of District Health System Strengthening Approach in Uzbekistan. Lessons Learned and Next Steps"

[91] Presidential Decree No 6621/May 2021

[92] UNICEF and Government of Uzbekistan Country Programme 2016-2020: Strategic Moment of Reflection (2018)

[93] Focus group health managers

Table 5. Priority and areas of intervention to improve mother and child health as per CPD 2021-2025

Priority area	**Outputs**
Children die in their first month of life due to preventable diseases	By 2025, the Government and partners are able to deliver quality perinatal health service through strengthening of the healthcare system.
Young children are exposed to risks of contracting vaccine-preventable diseases, and immunization sessions are not fully utilized to provide nurturing care at the primary healthcare level.	By 2025, national and subnational actors have increased capacity to delivery child health and development services at primary healthcare level in early years.
Poor nutrition status of children undermines their prospects of thriving and developing	By 2025, the Government and partners are able to deliver multisectoral nutrition services for young children, adolescent girls and pregnant women.
Adolescents’ health needs are not met	By 2025, state and non-state service providers have the capacity to provide gender-responsive adolescent health services.

211. There is evidence that the implementation of the interventions tested within the frame of the DHSS model has potential to contribute to the CPD 2021-2025 outputs[94], especially for addressing the following:

- address barriers within the enabling environment including gaps in legislation, strengthening implementation of policies and guidelines on maternal and new-born health;
- support efforts to achieve affordable and sustainable universal health insurance for children, adolescents and women through strengthening national capacities and ensuring that evidence-based policies, strategies, costed plans for quality MNHC services are in place;
- provide technical assistance to the Government to implement the national e-health strategy, to improve the quality, completeness and timeliness of reporting of data and using MNHC data to generate evidence on newborn and maternal health to influence the policy environment and budgeting;
- support the MoH to strengthen supply chain management for essential medicine through identifying supply chain gaps and improving supply chain functional capacity (forecasting, quantification, planning, procurement and distribution);
- support the MoH to maintain resilience in the face of changing needs, such as the COVID-19 pandemic;
- support the development and use of clinical standards and guidelines and tools for quality of care, implementation and use of perinatal death surveillance and response, capacity development on evidence-based interventions including WASH in healthcare facilities and infection prevention and control, introducing quality improvement approach, and supportive supervision and monitoring systems;
- foster effective leadership and governance skills of health managers to drive quality improvement initiatives and test new ideas on MNHC services;
- strengthen the capacity of healthcare providers on gender-responsive care so that healthcare provision reflects the gender-specific needs and interests of the population.

212. Although the amount allocated to the first two outputs is several times higher than the amount allocated and committed to DHSS piloting (2016 - 2020), ***it is unlikely that the scalability of the DHSS as a standalone model will be based on CPD 2021-2025 allocations*** due to the diversity and complexity of interventions expected to be implemented between 2021 and 2025. It might be the case that the

[94] Interviews at central level

above-mentioned interventions will be mainstreamed in MNHC and PHC new projects, which will ensure certain sustainability of DHSS, even in the context of less commitment from the government. The national scalability of DHSS model can be estimated only if there will be a stronger political and financial ownership on behalf of the Government of Uzbekistan.

5.5. Impact

5.5.1. To what extent can the model be considered to have contributed to an observed progress in children's health and wellbeing in target regions/districts? Are there any differences in terms of its impact on the most vulnerable children and families?

213. Overall, it is important to note that during the evaluation reference period, UNICEF continued working across health system areas to ensure mothers and children, especially the most vulnerable, had access to quality individual and population-based healthcare services. It is reported by UNICEF that the ***DHSS model contributed to the enhancement of the quality of maternal, newborn and child healthcare in two piloting regions by 30 per cent through the implementation of local healthcare improvement plans[95].*** The percentage of children aged 2-59 months who received medical care by general practitioners according to approved protocols and standards increased from 47 per cent in 2017 to 58 per cent in 2018, after two implementation cycles of DHSS. UNICEF contributed to these achievements through technical assistance, advocacy, capacity development and evidence generation, working closely with the Government.[96]

214. Several interventions implemented with UNICEF support during the DHSS project are estimated to have an impact on the improvement of children's health and well-being in the piloted regions/districts such as:

- infrastructure improvements for child healthcare: *"UNICEF's assistance has improved the quality of care for children, a pediatric ward has been set up, a doctor has been provided and 24-hour duty has been introduced"[97];*
- separate patient room for hospital admission and consultations for perinatal care: *"the creation of a Regional Multidisciplinary Children's Medical Centre No. 2, for example, as a separate regional multidisciplinary perinatal facility, could enable the creation of a separate admission ward"[98];*
- improve continuity of care and promote effective care coordination with attempts to address vulnerable families: *"Our district health department has made lists of the poor and vulnerable families by rural family policlinics coverage. Obstetricians, gynaecologists and midwives working in our maternity unit are assigned to each rural policlinic. They go to the policlinic once per week to work with families in need, and the DHS plans to support them."[99]*

215. The evidence inferred from data collection indicates that all stakeholders perceived an additional benefit for pregnant women, mothers and children health and well-being in DHSS pilot districts. Skills taught through DHSS implementation helped the health managers to better implement the regionalization of perinatal care through provision of updated protocols for referral of mothers and newborns. "*Under the national program for regionalization of effective perinatal care, maternity wards have been reorganized, with methodological guidance from UNICEF.*"[100]

216. The District Health System Strengthening (DHSS) model supported by UNICEF also contributed to the improvement of PN/HV services through better reaching out to different population groups at grassroots level, especially for mothers with young children, however, for families with older children or with children with disabilities, the effectiveness and impact of health services needs to be further improved. *A new*

[95] This was calculated based on the monitoring data according to the proportion of mother and child health care facilities correctly applying newborn and child survival standards. *Source:* UNICEF (2018) – "Implementation of District Health System Strengthening approach in Uzbekistan. Lessons Learned"
[96] UNICEF CO Uzbekistan: COAR 2018 and UNICEF (2018): "Implementation of District Health System Strengthening Approach in Uzbekistan. Lessons Learned and Next Steps"
[97] Focus groups health managers
[98] Ibid.
[99] Ibid.
[100] Interview key stakeholder at central level

home visiting model has been proposed to strengthen support for families with greater needs, while ensuring universal minimum coverage, yet to be implemented.[101] "*Our polyclinic serves more than 20,000 people. Before the project, the home visits of the home care nurses to the target population were superficial. Now the home care nurses increase the health awareness of mothers about the importance of breast milk and the care of the baby from the very beginning. 85% of the patronage nurses know the entire population by social groups and plan to increase awareness.*"[102]The scope of DHSS interventions did not cover interaction and communication with relevant foundations (makhalla) and social support agencies. Ultimately, this indicates a limited impact especially for vulnerable families and families with children with disabilities. Better interaction and communication with relevant foundations (makhalla) and social support agencies is expected to have a greater impact on families of children with disabilities in the future.

"Previously the patronage service was intended to cover all segments of the population, but it did not take into account the availability of a nurse and a doctor. If we had more than 165-166 thousand people in our district, we would all have to do patronage for everyone. Now targeted patronage has been established, e.g. pregnant women, children under 1 year old and persons with disabilities (no matter the age) *are given priority. Thanks to this we were able to provide quality patronage assistance. Despite all this work, we still have a lot of people with disabilities, in all the districts where perinatal screening has been opened, 1.2% of the population, 1.8% of people under 18 years of age with disabilities, 1,837 people with disabilities, we need to educate them how to reduce disabilities."*[103]

5.6. Coherence

5.6.1. To what extent did UNICEF coordinate with development partners and other UN agencies to avoid overlaps, leverage contributions and catalyze joint work?

217. UNICEF is considered a long standing and trustworthy partner for MoH and other stakeholders at national, regional, district and health facility levels, as well as for the international development partners active in Uzbekistan and in the region.

218. In terms of the DHSS model's design and implementation complementarity with international partners' agenda in the country, ***UNICEF ensured a synergetic collaboration with WHO and UNFPA on supportive supervision, capacity building of patronage nurses and home visiting system***. This collaboration needs further strengthening to maintain the positive outcomes of these initiatives. Collaboration with donor projects aimed at strengthening infrastructure and procurement at district level would strengthen the impact of DHSS components in addressing bottlenecks.

219. According to the *Uzbekistan United Nations Development Assistance Framework 2016-2020 - Joint Work Plan for the Years 2016-2017* have agreed to join resources and pursue *Output 4.3.3: Health managers in targeted regions have increased capacity to develop and implement evidence-based and equity-focused MNCH district health system strengthening plans, including in emergency.*

220. In relation to the alignment and complementarity of efforts between UNICEF and WHO, through the *Universal Health Care Partnership,* the latter supported the development of a legal foundation for the health system transformation, including a Presidential Resolution establishing mandatory health insurance and a strategy for piloting service delivery reforms in Sydarya Oblast. The government's intention is to scale up these reforms to the entire country by 2025. The system needed to enhance quality of care, good management and strategic governance. The limited capacity to deliver services at community level, and to ensure access for vulnerable populations contributed to serious health and financial inequities. The new service delivery reforms promote the provision of PHC services that are evidence-based. Complementary to DHSS interventions, WHO's UHCP aims to expand the role and functions of family physicians, nurses and other healthcare professionals in early detection and health services for disease prevention.[104]

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[101] UNICEF (2020): Situation Analysis of Children in Uzbekistan 2019/2020
[102] Focus groups health professionals
[103] Focus groups health managers
[104] https://www.who.int/news-room/feature-stories/detail/uzbekistan-strengthens-its-health-system-in-the-midst-of-covid-19-crisis

221. ***UNICEF's health system strengthening interventions in Uzbekistan are also coordinated with ADB's assistance to the country***. It was already presented (see Section 5.1.4.) that UNICEF, with financial support from ADB and in consultation with the Ministry of Health of Uzbekistan has procured medical equipment, personal protective equipment, and laboratory supplies as a response to COVID-19 pandemic. These were distributed to all regions of Uzbekistan, including the two regions where DHSS was piloted. In addition, it should be mentioned that ADB is implementing two other projects which are complementary to the DHSS objectives: 1/ *Primary Health Care Improvement*[105] and 2/ *Integrated Perinatal Care*[106].

[105] This project aims to strengthen the rural health sector by providing the 793 newly established rural family polyclinics with modern diagnostic equipment and health workforce development to expand their service delivery. This is supported by tools to monitor the government's broader primary health care reform and the project and includes a pilot of a health management information system in a rural region.

[106] This project will support reducing maternal and child mortality, the rural urban disparities in the quality of health care provision and will assist in the development of an e-health system, aiming at integrating different levels of healthcare and increasing its efficiency.

6. Conclusions

Relevance

222. Suboptimal performance of Uzbekistan on decreasing maternal and neonatal mortality was the main driver for the DHSS design and justified its relevance. Moreover, the favorable political context contributed to increase the relevance of the DHSS model at the time it was designed. Although, the DHSS model in Uzbekistan was developed up to some extent in accordance with the global UNICEF HSS approach, in the sense that it aimed to address both national and sub-national levels and to cover all determinants. However, in practice due to several constraints and changing external conditions, the initially planned design was not fully operationalized. The centralized and hierarchical system was and remains a bottleneck which requires specific consideration in the design of DHSS. To a certain extent, complementary initiatives focusing predominantly on community level (e.g., patronage nurses, PHC) planned to be implemented during the same period, added to DHSS relevance (and impact).

223. *The District Health System Strengthening (DHSS) model remains a key prerequisite for improvement of health system outcomes in Uzbekistan, although the model is not fully embedded in healthcare reform nowadays.* Although the model was in line with national policies in the domain of mother and child health, due to the persistent weak institutional capacity at different health system levels, low uptake of DHSS specific interventions into health policies, and the application of concurrent health system reforms, DHSS implementation encountered additional challenges, and UNICEF had to provide constant and relevant feedback both ways to advance the model implementation. The synergetic implementation of the DHSS, new PHC reform along with capacity building of patronage nurses and home visiting interventions positively impacted and added value to the relevance of the DHSS model. However, “performance” criteria for services provision which in practice sometimes operates as penalties for underperformance at PHC level, threaten the DHSS concept of quality improvement.

224. *Overall, the DHSS model was aligned as much as possible with the rapid changes of national health policies during the implementation period.* The model was adjusted by UNICEF to increase leverage at lower levels of health system; likewise, UNICEF sustained the implementation of health policies that were synergic with the DHSS objective facilitating their implementation at district level.

225. *The DHSS model sustained its relevance in the context of ongoing health system reform by addressing major components of health services provision at district level in the field of mother and child health in a more structured approach.* DHSS initiatives, such as increasing quality and providing more evidence-based health services closer to people, retained model relevance through increasing access especially for vulnerable groups. Downsizing the model implementation from 10 to 3 districts and the number of medical specialties addressed, could be considered as a revision of the DHSS model to maintain its relevance in view of constraints faced such as funding reduction, shift in health reform priorities, changes in MoH and regional level management etc.

226. *During the COVID-19 pandemic several DHSS interventions (e.g., hand washing protocol, isolation rooms, triage system) proved to be instrumental.* The pandemic had a negative impact through social distancing measures on key activities of the model such as trainings provision and monitoring and evaluation field visits / meetings that were partially addressed through online interaction.

Effectiveness

227. *The DHSS model implementation managed to achieve positive results with major constraints in place,* such as constant budget downsizing, lengthy decision approval, high turnover of top-level decision makers and healthcare managers, as well as limited readiness to delegate power and resources to lower levels of health system. *The main achievements were reflected on increased capacity building for healthcare managers and health professionals* to use available local information in a systematic manner, and to identify and implement evidence-based solutions aiming to enhance the quality of healthcare services provision for the most underserved and vulnerable groups.

228. Despite improvements, *data availability and data analysis remain a major problem at all levels of health system* impacting the quality and relevance of monitoring and evaluation activities and hindering the quantification of DHSS impact.

229. There is an important difference of determinants scores among different care domains (PHC, pediatrics, maternities), between districts and among determinant categories. The inconsistency of some

indicators' definition and the scoring systems had negative implications on comparability between districts, domains of care and determinants. The scoring system is most relevant at the health facility level; however, the relevance is decreasing while going up to the district and regional level.

230. Several factors advanced or hindered the DHSS implementation. The *new PHC reform had a significant positive influence* on DHSS implementation allowing targeted facilities to get additional funds and specialized personnel at lower levels of health system. On the contrary, the utilization of performance standards at the central level as a control and penalizing tool had a strong negative influence and is opposing to supportive supervision included in DHSS approach.

231. Overall, the *main hindering factors* were insufficient interaction between different levels of health system, as well as inadequate resources allocation, lack of a comprehensive and clear human resource policy, and insuffcient coordination between MoH representatives and lower health system management levels. Another major hindering factor was represented by the government's decision to centralize health care system including withdrawal of the legal status of the PHC entities.

232. *Although gender and equity dimensions are embedded in the core activities of the DHSS model, there is not sufficient disaggregated data available to measure results*. However, equity dimension was considered in the design and implementation of the DHSS model by targeting two of the most deprived regions, and vulnerable groups. Also, the continuum of health education provided by DHSS interventions, starting in hospitals, and continuing at home brought added value to all beneficiaries.

233. The implementation of the DHSS model conveyed both unintended positive and negative results. Out of the *unintended positive results* worth to be mentioned, are the facilitation of meaningful communication with superior decision levels, continuation of implementation of DHSS instruments outside of the project coverage, improved chances to secure additional funds from international donors to address supply bottlenecks related to infrastructure. As for *unintended negative results*, the evidence is pointing to addition of bureaucratic and administrative tasks to the existing high workload, capacity development to identify and assess the bottlenecks without the possibility to remediate the problems, which is hampering the optimal implementation of the model.

234. *UNICEF has been instrumental in monitoring activities across the plans developed*, implementing activities to support health professionals, and overcoming identified barriers to M&E. However, major *challenges* were encountered on availability of valid and comparable data, poor HMIS performance and lack of specialized knowledge on data analysis of health professionals involved in implementation of monitoring determinants scores of DHSS model.

Efficiency

235. *Financial cuts had a negative implication on DHSS* model's geographical coverage (decreasing the number of pilot districts from ten to two) and scope (decreasing medical domains from five to three). Also, despite the synergy, the ongoing and concurrent health reforms might have had adverse effect on DHSS model implementation, through frequent task and resources shifting.

236. DHSS interventions improved health managers' capacity to identify bottlenecks and prioritize solutions, as well as reallocate/shift funds and human resources. However, factors such as high turnover of health managers, limited decision capacity at lower levels, and problems that needed systemic changes were impacting negatively on efficient allocation of resources and, subsequently, on DHSS model's outputs and outcomes.

237. In terms of leveraging resources, since Uzbekistan was classified as a lower-middle-income country (LMIC), *fundraising opportunities have further reduced*, which affected the availability of resources for the continuation of DHSS interventions in the country. The notion of corporate social responsibility is not well developed, consequently *there were no corporate partnerships and alliances* available to diversify and increase DHSS funding sources.

Sustainability

238. *There is a broad agreement that DHSS is insufficiently embedded at central level to be robust and sustainable*. Most of the DHSS model interventions seem to be better embedded and owned at lower levels of health system (regional/district level). The planned scale-up for DHSS is lagging due to the lack of government agreement on implications for budget resources.

239. In terms of UNICEF's future support, it is unlikely that the scalability of DHSS as a standalone model will be based on CPD 2021-2025 allocations due to the diversity and complexity of interventions

expected to be implemented between 2021 and 2025. It might be the case that some DHSS interventions will be mainstreamed in MNHC and PHC new projects, which will ensure certain sustainability of DHSS. The *national scalability of DHSS model can be estimated only if there will be a stronger political and financial ownership on behalf of the Government of Uzbekistan*.

Impact

240. The DHSS model contributed to enhancing the quality of maternal, newborn and child healthcare in two piloting regions by 30 per cent through the implementation of local healthcare improvement plans[107]. The stakeholders perceived an additional benefit for pregnant women, mothers and children health and well-being in DHSS pilot districts. However, there is limited evidence about the model's impact especially for vulnerable families and families with children with disabilities.

Coherence

241. In terms of the DHSS model's design and implementation complementarity with international partners' agenda in the country, UNICEF ensured a synergetic collaboration with WHO and UNFPA on supportive supervision, capacity building of patronage nurses and home visiting system. UNICEF's health system strengthening interventions in Uzbekistan are also coordinated with ADB's assistance to the country, including PHC improvement, integrated perinatal care and response to the COVID-19 pandemic.

[107] This was calculated based on the monitoring data according to the proportion of mother and child health care facilities correctly applying newborn and child survival standards. *Source:* UNICEF (2018) – "Implementation of District Health System Strengthening approach in Uzbekistan. Lessons Learned"

7. Lessons learned

242. ***DHSS implementation in Uzbekistan demonstrates that PHC planning using the DIVA model can potentially improve health system performance.*** However, effective implementation in centralized countries requires central government oversight, while the lower levels of decentralized health systems are known to pose implementation challenges in LMICs largely due to weak capacity of governance, as well as administrative constraints. For this reason, advocacy to ensure the ownership of the central level throughout the project is crucial to ensure the government's buying in. Also, in-depth assessment and feasibility study during the design phase proves to be very important. Several methods implemented to improve PHC performance prove to be effective such as supportive supervision, mentoring, tools and aids, quality improvement methods and coaching.

243. The major ***challenge in developing and applying DHSS as a quality improvement measure lies in the availability of reliable data***, the frequent absence of good baseline data, and in how to connect and use the outputs of the quality control mechanism with the broader health system reform in the country. Furthermore, DHSS design and implementation should be prepared to address confusion regarding who is charged with monitoring and who is responsible for inspection, what does monitoring mean and how is this different from inspection, or how to connect evidence resulting from systematic monitoring and evaluation of various aspects of health services with policy making or with improving decision making.

244. Low capacity in implementing sustainable health policies represents a real challenge for LMICs going to transformational systemic changes. Development aid fails in its effort to create sustainable development, even when adopting "best practices" from other countries because the conditions required to make those practices work elsewhere are not present. While ***the traditional methods of capacity building (e.g., policy advice, technical assistance, and training) have a limited capacity to achieve the expected results, because they are less successful in addressing the root causes*** (e.g., centralized governance, management culture penalizing for underperformance etc.), DHSS using DIVA approach encourages local actors to identify the problems and solutions by themselves.

8. Recommendations

Recommendations were developed based on key findings of the report and in consultation with key stakeholders across the evaluation process. Evaluation recommendations were further presented and validated through interactive discussions with UNICEF and key national stakeholders during the ERG online meeting held in May 2021. As not all findings imply a need for substantive change, not all led to recommendations for action. The evaluation team has focused the recommendations on areas of potential change that are of greatest significance and utility for UNICEF Uzbekistan, GoU and MoH, as well as for regional, district and facility health managers. Recommendations also include a description of their priority (high or medium), time horizon (current programming cycle 2021-2025) and financial resource implications. In the interests of maximizing the utility of this section, low-priority recommendations were not made.

245. Most likely, decentralization will continue to play an important role for the future health care reform in Uzbekistan. The commitment of the Government to empower lower health system levels through decentralization is a key prerequisite for effective HSS implementation. As already demonstrated by the DHSS implementation, decentralization in planning should be integrated with decentralization of functions, resources, and authority to the district. Considering the current power dynamic in the health system and vertical chain of command, MoH should invest ***more efforts in delegating power to lower levels of health system*** to increase the flexibility of resource allocation and economic use. The health sector reform policy will have to continue to recognize that the district is the most important operational level for implementing the new primary health care (PHC) reform. In this context, UNICEF should support PHC focused programs.

Responsible entity	Priority	Time Implication	Resource Implication
GoU, MoH, UNICEF	High	Current programming cycle 2021-2025	High

246. These new responsibilities of ensuring continuity of quality health care brought by DHSS will continue to be a challenge to the regional and district health managers, who are responsible for the planning and management of district health services. One important new task introduced by the DHSS model for the district health managers is decentralized planning which allows a closer understanding of different needs and demands of communities. This in turn will require ***effective community participation and equity in the provision of health services,*** as well as sustained supportive supervision, constructive feedback and peer-review.

Responsible entity	Priority	Time Implication	Resource Implication
Regional and district health managers	High	Current programming cycle 2021-2025	Medium

247. While political commitment at the highest level can serve as an initial impetus for all health system strengthening interventions, it must be followed by the achievement of strong policy consensus, a clear ‘critical mass’[108] of stakeholders in favor of such a consensus, and the continued existence of ***a strong ‘coalition for change’ at all levels to ensure progress of the health system reform at national level***. UNICEF should support these efforts through advocacy and sensitization of key decision makers on decentralization of PHC and quality improvement.

Responsible entity	Priority	Time Implication	Resource Implication
GoU, MoH, regional and district health managers and Ministry of Support of Makhalla and Family, UNICEF	Medium	Current programming cycle 2021-2025	Medium

[108] The concept of ‘critical mass' reffers to a group of stakeholders having developed much experience and/or momentum in an area who are encouraged to work with *a common set of objectives and priorities*, strengthening their *approaches*, actively documenting and sharing *experience and lessons learned*, drawing on expertise as well as networks and using *M&E* as a tool for course.

248. ***Capacity of rapid response of the national and subnational actors to emergent threats should be incorporated in the future healthcare interventions.*** Health system resilience at all levels is a priority that need to be considered now for the future, and specific health system strengthening interventions should be designed to address this domain. New approaches used to deliver health services or interventions during the COVID-19 pandemic should be incorporated in the plan for increasing capacity to deliver primary healthcare services.

Responsible entity	Priority	Time Implication	Resource Implication
GoU, MoH, UNICEF	High	Current programming cycle 2021-2025	High

249. The core of the DHSS model evolved around relevant data availability at every level. This experience gained through DHSS implementation is expected to be used for the achievement of all outputs planned for the current health programme since this depends on ***increasing the availability of robust data.*** UNICEF should exploit the advantage of e-health implementation, use up to date information channels to gather relevant and timely insights about changes in health policies, and develop solid monitoring of the current health programme outputs in the context of ongoing health system reform.

Responsible entity	Priority	Time Implication	Resource Implication
UNICEF, GoU, MoH	High	Current programming cycle 2021-2025	Medium

250. ***Particular attention should be paid to increasing availability of reliable data for assessing how gender and equity aspects are incorporated and delivered***, therefore any initiative to optimize HMIS and increase capacity for gender and equity-sensitive data analysis should be fostered and sustained accordingly. Assessments of the impact of health interventions on the most vulnerable groups should be performed, and results incorporated in the national health policies. Better coordination with national relevant stakeholders in this field coupled with more substantial involvement at community level will increase the relevance of future health system strengthening interventions.

Responsible entity	Priority	Time Implication	Resource Implication
GoU, MoH, UNICEF	High	Current programming cycle 2021-2025	Medium

List of Annexes

(Attached as a separate document)

Annex 1 – ToR

Annex 2 – Schematic presentation of the DHSS ToC

Annex 4 – Evaluation Matrix

Annex 5 – List of Documents for desk review

Annex 6 – List of participants to the data collection

Annex 7 – Primary data collection guidelines and tools

Annex 8 – Summary of desk review

Annex 10 – Research Ethics Approval Letter

Annex 11 – Performance monitoring data

Annex 12 Detailed presentation of outputs per DHSS implementation cycle