World Health Organization

European Region

Transforming the health system in Uzbekistan: two-year implementation review

World Health Organization

European Region

Transforming the health system in Uzbekistan: two-year implementation review

Document number: WHO/EURO:2023-7859-47627-70163

Suggested citation. Transforming the health system in Uzbekistan: two-year implementation review. Copenhagen: WHO Regional Office for Europe; 2023. Licence: CCBY-NC-SA3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris. Sales, rights and licensing. To purchase WHO publications, see http://apps.who.int/bookorders. To submit requests for commercial use and queries on rights and licensing, see http://www.who. int/about/licensing.

Design and typesetting by Aleix Artigal and Alex Prieto.

Abstract

Uzbekistan has started a process of health system reform that includes fundamental changes in service delivery and health financing arrangements, as well as digitalization of the health care sector. The reform was initiated in 2018 by the adoption of high-level legislation, which was put into practice in 2021 by initiation of a pilot project in the Syrdarya Oblast. The Government intention is to expand the new system to other regions and eventually implement planned reforms throughout the country. This review assesses the implementation of system changes and provides recommendations for future reform development. The report is organized around three key topics: transformation of primary health care provision, implementation of health financing reforms and development of the e-health system.

Keywords

PRIMARY HEALTH CARE
DIGITAL TECHNOLOGY
UNIVERSAL HEALTH INSURANCE
HEALTHCARE FINANCING
HEALTH CARE SYSTEMS
UNIVERSAL HEALTH CARE
UZBEKISTAN

Contents

Figures

Tables

Boxes

Acknowledgements

This document was written by Alona Goroshko (Health Financing Specialist and Consultant, WHO Regional Office for Europe), José Cerezo Cerezo (Health Policy Analyst and Consultant, WHO European Centre for Primary Health Care), Triin Habicht (Senior Health Economist, WHO Barcelona Office for Health Systems Financing), Arnoldas Jurgutis (Technical Officer, Primary Health Care Models and Systems, WHO European Centre for Primary Health Care), Alexandr Katsaga (Health Financing Specialist and Consultant, WHO Regional Office for Europe) and Aigul Kuttumuratova (Technical Officer, WHO European Centre for Primary Health Care). Christopher Fitzpatrick (Adviser on Health Policy, WHO Country Office in Uzbekistan) developed the technical content of the report and organizational support was provided by Khurshida Sagdullaeva (Programme Assistant, WHO Country Office in Uzbekistan).

Internal review of the current document was provided by Jonathan Cylus (Senior Health Economist, WHO Regional Office for Europe), Loraine Hawkins (Health Finance and Governance Advisor and Consultant, WHO Regional Office for Europe), Melitta Jakab (Head of Office, WHO European Centre for Primary Health Care), Ayesha Jamshaid De Lorenzo (Advisor on Health Policy, WHO Country Office in Uzbekistan), Elena Tsoy (Noncommunicable Diseases Technical Officer, WHO Regional Office for Europe) and Jens Wilkens (Health Systems and Financing Analyst and Consultant, WHO Regional Office for Europe).

WHO thanks representatives of the Uzbekistan State Health Insurance Fund, the Asian Development Bank, the World Bank, the German Agency for International Cooperation, the United Nations Population Fund and the United Nations Children's Fund for their invaluable feedback and comments provided during external review of this policy paper. WHO is also grateful to the representatives of the Ministry of Health of Uzbekistan for their continuous support in the process of this review.

Abbreviations

CVD	cardiovascular diseases
DRG	diagnosis-related group
EHR	electronic health record
FD	family doctor
ICD-10	International Statistical Classification of Diseases and Related Health Problems, version 10
INN	international nonproprietary name
IT	informational technology
IT-Med	institution to coordinate informational technology development in the health sector
NCD	noncommunicable disease
OOP	out-of-pocket (payment)
PEN	WHO package of essential noncommunicable disease interventions
PHC	primary health care
SB	Supervisory Board
SGBP	State Guaranteed Benefits Package
SHIF	State Health Insurance Fund

Executive summary

In 2018 Uzbekistan initiated comprehensive and far-reaching reforms of its health system, including fundamental changes in health financing and service delivery systems, with a primary health care (PHC) approach at its core. The planned reforms were outlined in the President's resolution approving the "Concept on health development of the Republic of Uzbekistan 2019–2025" and in subsequent legislation. In 2021 reforms were started as a pilot in the Syrdarya Oblast (Region) with a plan to gradually expand the new system to more regions and eventually implement planned changes throughout the country.

This report reviews implementation progress for the health system reforms in Uzbekistan, focusing on the Syrdarya Oblast and providing recommendations for further transformation. The review uses a qualitative approach and does not include quantitative measurements of pilot implementation because the implementation period is still relatively short and so there are as yet no data to enable evaluation of observed major trends in health outcomes.

This review is structured around three reform pillars: transformation of PHC, implementation of health financing reforms and further development of the e-health information system. The policy recommendations that follow again follow these three pillars.

Review conclusions

The following main conclusions regarding the implementation of health reform, future challenges and opportunities were derived in the review.

1. The implementation of the Syrdarya pilot has laid a solid foundation for future health reform in Uzbekistan. In just 2 years, the country has managed to establish a strategic purchasing agency, begun contracting health facilities and pharmacies, advanced the development of informational technology (IT) solutions for health and reorganized the service delivery network in the pilot region. This has created a strong basis for future changes in the health care system and will allow for the development of national capacity going forward.

2. Important progress has been made in strengthening PHC in the context of the Syrdarya pilot. The main achievements include the establishment of PHC teams with a defined catchment area; this has increased the ratio of nurses per family doctor (FD) in all facilities in Syrdarya, with early indications of improved team work and the expansion

of the role and autonomy of practising and patronage nurses (such as management of noncommunicable diseases (NCDs)). New evidence-informed clinical guidelines and protocols for priority conditions are being implemented and there are stronger links between PHC teams and local community organizations (makhallas) through the role of patronage nurses. Patient trust in PHC is increasing.

3. It is essential to have consistent high-level leadership and a realistic, step-by-step rollout strategy in order to achieve concrete benefits, such as improved health outcomes and reduced financial burden on the population. Moreover, PHC and health financing reform designs and step-wise rollout should be fully aligned. The implementation strategy should take into account the lessons learned from the initial years of implementation in Syrdarya. Additionally, the implementation of health reform in PHC, health financing and digitalization must be accompanied by efforts to increase efficiency in the hospital sector, a comprehensive strategy to address human resource challenges in health care and improvements in the pharmaceutical market.

4. Solid governance and optimized working groups, including the establishment of an interagency PHC task force, are needed to move the reform agenda forward. This will be critical as PHC reform enters a new phase with the rollout in Tashkent City and Karakalpakstan. Such steps will help to address the existing gap between high-level political commitment for PHC reforms and actual implementation arrangements. The interagency task force should be led by and include sufficient and stable Ministry of Health representation as well as representatives from the State Health Insurance Fund (SHIF), regional health authorities, managers and professionals. It should become a platform to ensure collaboration and close coordination among all key stakeholders involved in the PHC reform.

5. The development of a PHC strategy describing the main principles and strategic directions of the reform and the envisioned PHC model can play a fundamental role in promoting the understanding of PHC reform among key stakeholders. This will be critical as rollout expands over time to more oblasts. Such a strategy can also help to monitor implementation progress during the course of reforms and raise awareness and improve coordination among donors and international partners in PHC-strengthening efforts. The strategy should be based on the principles set out in Presidential decrees and resolutions and draw from the lessons learned from the pilot in Syrdarya, as well as from international evidence.

6. Increased attention to the roles and competences of FDs and the prestige of family medicine is paramount for the success and sustainability of the reforms. The role of family medicine worsening from 2005 when a regulation was implemented that defined all medical graduates who had completed 6 years of training as FDs as a response to the shortage in the country. A previously existing retraining programme for therapists and paediatricians and the 2-year family medicine residency training programme are both no longer running. Recent reforms such as the introduction of check-ups and triage before consultation with a doctor and run by practising nurses (referred to as pre-doctoral check-ups) have allowed FDs to spend more time on clinical issues. Time savings are not yet fully optimized, as FDs are not being trained to obtain essential clinical and nonclinical competences in family medicine. This would allow them to play a more dominant role in patient management and reduce the need for referrals to specialist practitioners.

7. The approval, implementation and effective monitoring of a single set of PHC performance indicators for the entire country are critical to be able to measure the impact of the PHC reform as the full rollout starts. Indicators should be based on those used in Syrdarya as currently indicators to measure PHC performance vary across oblasts. Moreover, there are no data available on performance monitoring from Syrdarya, which hinders the capacity for the Ministry of Health to assess quantitatively the results of the ongoing reform.

8. The SHIF has proven to be a crucial transformative force in implementing health system reform in Uzbekistan. The established governance structure of the SHIF adheres to international good governance practices in health financing. Its Supervisory Board (SB) has the potential to support the implementation and rollout of state health insurance, while bringing together the Ministry of Economy and Finance, Ministry of Health and the Presidential Administration. Additionally, the SHIF's structure provides some level of independence in making purchasing decisions, a critical factor for the successful implementation of reforms. However, continued institutional and capacity development will be necessary to support the nationwide rollout of the reforms.

9. Priority should be given to developing and implementing a comprehensive PHC service package that is free of charge, includes essential diagnostics and medicines, and covers everyone. This approach aligns with population health needs, equity and financial protection considerations. Focus on evidence-informed and cost-effective services tailored to health needs will improve health outcomes and increase efficiency.

10. Uzbekistan should continue to strengthen its general tax-funded health insurance system, which is the most feasible model for the country's context. While health insurance is frequently perceived as a system based on contributions such as premiums or payroll taxes, the primary objective of ensuring that people are protected (insured) in case of need can be achieved by funding the health system from the general budget. As such, the use of health insurance terminology in high-level policy documents, as well as in this assessment, does not suggest a need to change the source of revenue to labour-based taxes. A growing body of evidence suggests that low- and lower-middle-income countries should instead rely on the general budget to build financially sustainable, equitable and efficient health systems.

11. In order to get the maximum value for public funds and improve equity in resource allocation, the country should gradually transition towards a national single finance pool under the SHIF. Specific policy measures will be needed to ensure an equitable allocation of centrally pooled funds. First and foremost, strategic purchasing of services should be based on the health needs of the population rather than a specific region's contributions to pooled resources.

12. Greater financial and managerial autonomy should be granted to providers to allow them to effectively respond to the new financial incentives and increase the efficiency of service provision. The heightened level of autonomy must be accompanied by new accountability mechanisms, as well as capacity-building efforts to teach necessary new skills to health care management personnel to enable them to effectively utilize this increased autonomy.

13. Newly implemented payment systems must be closely monitored to gauge their impact, while policy objectives should guide further developments. The introduction of payment methods or purchasing arrangements should be motivated by clear policy objectives, such as increased equity, better access to care or improved health outcomes. Per capita payments for PHC represent a good first step towards creating new incentives for increased system performance and more equitable and population health needs-driven resource allocations to providers. A combination of a global budget and a case-based payment for inpatient services shows promising signs of reallocation of hospital funding based on performance. The increased financial and managerial autonomy provided within the pilot has enabled providers to better respond to new financial incentives that aim to improve both the quality of care and efficiency. However, additional capacity-building is necessary to equip

facility managers with the necessary new skills to effectively manage this increased autonomy. Careful monitoring of the progress and impact of the new payment and contracting mechanisms is crucial to adjust and inform further development.

14. To ensure the successful development and implementation of the e-health system, its priorities and clear and transparent governance and regulatory mechanisms for the system. This involves distributing roles and responsibilities among key stakeholders, such as the Ministry of Health, IT-Med (a specific institution to coordinate all IT developments in health sector) and SHIF. Additionally, a comprehensive legal framework should be approved to regulate the development and operational details of the e-health system.

Identified achievements and priorities

The achievements and priorities in moving forward in health system transformation in more detail are provided in Table 1.

Table 1. Achievements and priorities for future reform implementation

a. The term narrow specialist is widely used in the central Asian context to refer to clinicians with a specific specialization (e.g. cardiologists or endocrinologists) and who can often be co-located with FD, nurses and other professionals in a polyclinic.

Area	Achievements	Priorities moving forward
PHC		
Leadership	• The new PHC model enjoys high-level political support as reflected in the legal backbone of the reform, the sustained implementation efforts and the successes achieved so far • There is a clear understanding and acknowledgement by all relevant stakeholders of the importance of the PHC reform	• Establish an interagency task force led by the Ministry of Health tasked with taking the PHC reform agenda forward • Initiate the development of a PHC strategy which describes the main principles and strategic directions of the PHC reform and the envisioned PHC model in the short, medium and long term, and includes a timed rollout plan
Establishment of multidisciplinary PHC teams	• PHC teams have one FD, one practising nurse and two patronage nurses, with one midwife shared between two teams; teams have been established in all PHC facilities in Syrdarya with each team having a defined catchment area and responsibility for an average of 2000 people	• Address the unjustified variation of staff numbers of different professions across PHC teams in Syrdarya to ensure that team composition is fully aligned with the envisioned team-based model while accounting for context-specific needs • Ensure that attraction and retention policies for doctors in remote and hard-to-reach areas prioritize appropriately trained FDs, and that workforce planning policies promote a sustainable and stable number of FDs over time
Roles and responsibilities of multidisciplinary PHC teams	• Practising nurses have started to perform so-called pre-doctoral check-ups in separate rooms and have gained more responsibilities in NCD management • Patronage nurses now take a more systematic approach to assessing and addressing the needs of families, children and pregnant women and have been trained on the universal progressive patronage model • Patronage nurses have taken on new responsibilities for NCDs and they are now responsible for home visits to patients with chronic conditions • The systematic implementation of WHO protocols for PHC (e.g. the package of essential noncommunicable disease interventions and the technical package for cardiovascular disease management) along with the universal progressive patronage model is helping PHC teams to plan their work, distribute responsibilities and become more proactive • Every PHC team has been matched with the makhallas that operate in their catchment area and teams have started to assume greater responsibility for the population's health • There is a growing sense among health care staff of belonging to a team, initial signs of improved teamwork and a new Ministry of Health order defining the roles and responsibilities of team members has been approved	• Increase attention to the role and competencies of FDs, reintroduce the family medicine specialty training programme and strengthen the prestige and recognition of the discipline of family medicine • Further improve clinical and nonclinical competencies of practising and patronage nurses so that they can play a more prominent role in NCD management, patient education and community work, progressively increasing their responsibility for patient outcomes • Strengthen the work of makhallas with patronage nurses by focusing on outcome-oriented interventions to address the priority health needs of communities, tailored to local needs and aligned with national priorities • Enhance teamwork and shared decision-making within PHC teams through multidisciplinary training focused on new pathways for priority NCDs and on patient outcomes • Adopt a phased approach to adding additional professionals to PHC teams, focusing first on solidifying and improving the newly established roles, competences and ways of working
Optimized patient pathways	• A referral system with referral standards has been introduced as an initial step towards redesigning pathways and giving PHC a more predominant role in the health system • New clinical protocols have been approved intended to reduce unnecessary hospitalization for patients with NCDs and chronic conditions	• Remove the regulatory barriers that force FDs to issue unnecessary referrals to narrow specialists[a] • Identify and address system drivers that facilitate bypassing PHC and result in direct referral to narrow specialists, including people's traditional perceptions about preferred providers • Maintain and strengthen joint training between specialist and PHC teams to expand the skills of PHC professionals on NCD management, ensure full implementation of the new protocols, improve teamwork, and deepen specialists' understanding of the role of PHC professionals • Enhance communication and information exchange between FDs and narrow specialists and between PHC team members, using the online systems • Improve laboratory and diagnostic capacities at PHC level through a more comprehensive assessment of real-world needs, focused on improving equity in access and on exploring possibilities for sharing resources across facilities

Table 1. contd

Area	Achievements	Priorities moving forward
Performance monitoring	• A new set of 12 indicators to measure PHC performance, in line with the country's health priorities, has been approved for Syrdarya through a systematic, inclusive and collaborative process led by the Ministry of Health	• Ensure that the new set of PHC performance indicators for Syrdarya are fully implemented, adequately monitored through the electronic system and routinely used by PHC teams and relevant stakeholders for quality improvement purposes • Approve, implement and monitor a single set of indicators nationwide, based on those being used in Syrdarya, to measure the success of the PHC reform
Health financing		
Governance and operational management of the SHIF	• The SHIF was established in 2020 as a single purchasing agency and now requires development of capacity • The current governance arrangement of the SHIF aims to attain high-level support and cooperation between multiple agencies to support the health financing reform implementation	• Establish effective cooperation between the Ministry of Health and SHIF; develop a shared strategic vision for state health insurance and provide strong leadership to ensure the long-term success of the reform • Ensure that the SHIF has an appropriate level of independence and an adequate number of skilled staff at national and subnational levels to implement the new purchasing policy
Benefits design	• A more detailed and explicitly defined PHC benefits package was approved • The scope of benefits within the pilot was expanded: 11 NCD outpatient medicines were added to the benefits package in Syrdarya Oblast and provided to patients using the new reimbursement mechanism	• Focus on expanding PHC benefits (including essential diagnostics and medicines) when revising the benefits package, making PHC universally accessible and de facto free at the point of use • Ensure the guaranteed scope of services is evidence informed, aligned with the available budget and responsive to the health needs of the population • Enhance the design of the benefits package to increase transparency and improve the population's awareness of their entitlements; take a more proactive role in communication with beneficiaries as to how the health insurance system operates, what benefits are available under the state health insurance system and what conditions of access apply • Harness the early lessons from the newly introduced outpatient medicines benefits package to improve its design and to make it more attractive and accessible for the population in need; consider changing the pricing mechanisms for medicines included in the outpatient medicines benefits package
Health budget	• Improved pooling mechanisms at regional (oblast) level were implemented, which decreased the fragmentation of the health budget • The pooling mechanism was further improved in 2022, which reduced the administrative burden on SHIF and local administrations	• Continue with a general tax-financed health insurance system • Gradually move towards national-level pooling of health care resources to achieve maximum value for public funds; specific policy measures will be needed to ensure equitable allocation of centrally pooled funds – first and foremost, the strategic purchasing of services should be based on the health needs of the population and not on a region's specific contributions to pooled resources • Move towards a health needs-based budget estimation to obtain adequate allocations to the health sector; ensure greater SHIF involvement in the budgetary process • When expanding the pilot, make sure the pilot budget is adequate for financing planned services and administrative costs; ensure that the planned health sector budget adequately reflects the promised benefits package, payment rates and volume of services

Table 1. contd

Area	Achievements	Priorities moving forward
Provider autonomy	• A purchaser–provider split was implemented within the pilot • Increased flexibility to use budgetary funds at the provider level was granted to service providers; line-item budgeting is no longer used and so facilities can retain funds across financial years	• Grant greater financial and managerial autonomy to providers within the pilot with regards to resource reallocation between different structural units of facilities, staff numbers and staff remuneration policies • Pool resources at facility level by moving to a single facility (legal entity) account in the treasury system instead of using several accounts for different types of care • Accompany increased provider autonomy with clear financial and non-financial accountability mechanisms for providers of health services, which should go beyond the control of spending by economic categories; assign clear roles to the Ministry of Health, SHIF and local governments within the new accountability framework • Provide additional capacity-building to support facility managers with the necessary new skills to effectively use increased autonomy
New payment and contracting mechanisms	• The contracting of providers focuses on the defined scope of care to be delivered • A new per capita-based payment mechanism has been developed for PHC and outpatient specialist care, which represents a satisfactory first step towards creating new incentives for increased system performance and more equitable and health needs-driven resource allocations to providers • A new payment arrangement is being used for inpatient services – hospitalizations are paid for using a combination of the new case-based payment system and the global budget; the new payment arrangement shows promising signs of reallocation of hospital funding based on performance • Monitoring mechanisms to ensure providers' compliance with contract requirements were developed and implemented	• Use policy objectives to guide the discussions on how to further develop the payment system so that the introduction of payment methods or purchasing arrangements are motivated by clear policy objectives, such as increased equity, better access to care or better health outcomes • Carefully monitor the progress and impact of implementation of the new payment and contracting mechanisms to adjust and to inform further developments • Consider further development of PHC payment methods when the system is ready to effectively absorb more complex incentives • Gradually fine-tune the hospital payment system to better account for complexity of provided care and comorbidities • In the medium term, consider using criteria-based contracting for some specific sets of services • Invest efforts into training and proactive communication with providers and regional and national authorities with regards to the implementation of new payment methods and new health financing arrangements overall
Development and enhancement of the e-health information system		
Architecture of the e-health system	• The basis for the eventual e-health system has been created, including: – standard provider classifiers; – classification of surgery using the International Classification of Health Interventions, approved by the Ministry of Health; and – the central components of e-health	• Ensure clear and transparent governance and regulatory mechanisms and clear priorities for the development of the e-health system, including clear distribution of roles and responsibilities among key stakeholders – Ministry of Health, IT-Med, SHIF and the private sector; agree on clear priorities in the development of the e-health system • Secure sufficient funding for the development of the e-health system
Development and use of e-health modules	• Specific modules were developed and are now in use by providers in Syrdarya: – a software tool to register the population enrolled to PHC; – a software tool to enter data about services at the outpatient level; – a software tool to collect information about patients treated in hospitals; and – e-prescription software to simplify provision of outpatient medicine benefits • Specific software was developed for SHIF to calculate budgets for hospitals and PHC providers	• Ensure the compatibility and interoperability of all e-health modules including those developed by different companies • Review and revise the currently collected statistical reporting forms to allow partial transition to e-health modules in reporting the key statistical indicators and to ensure necessary data are collected • Develop the capacity and provide the necessary analytical tools for the SHIF and other providers to analyse information and use it in their daily work • After the currently planned modules are implemented, the Government should focus on the modules that will monitor clinical activities and provider performance

Introduction

In 2018 Uzbekistan approved key legislation aiming at transforming its health system into a modern, high-performance system. The high-level policy document "Concept on health development of the Republic of Uzbekistan 2019–2025" approved by Presidential Decree 5590 (7 December 2018) set the foundation for comprehensive health system reform. The Concept embodies the country's roadmap for the achievement of the Sustainable Development Goals and sets ambitious goals for 2025 including:

- addressing main causes of premature mortality to increase life expectancy;
- reforming the health financing system to ensure equal access to health care, financial protection of the population and the equitable distribution of resources; and
- strengthening the Ministry of Health's capacity in health governance to ensure the achievement of the Concept's goals and the improvement of quality of care.

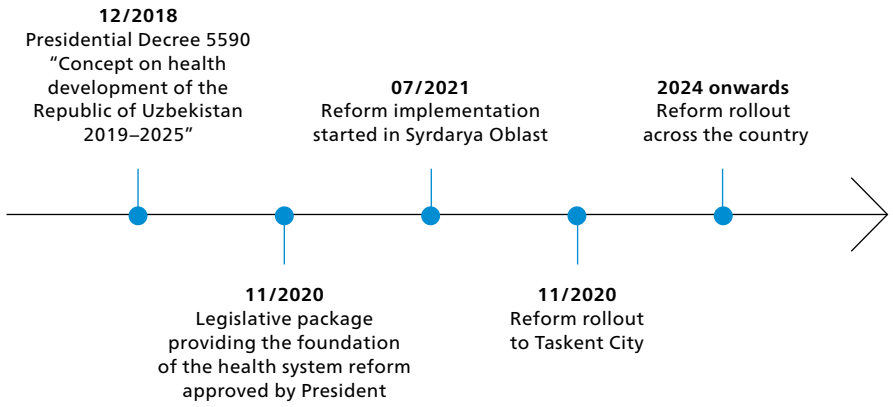
Despite the issues presented by the COVID-19 pandemic, the Government remained committed to the reforms, and in November 2020 a landmark legislative package was approved providing the foundation of the health system transformation.[1] The legislative package entailed the establishment of:

- the SHIF as a single national pooling and purchasing agency;
- strategic purchasing mechanisms for health services;
- single and universal State Guaranteed Benefits Package (SGBP);
- a framework for introducing a new team-based, community-oriented PHC model with greater attention to health promotion and disease prevention; and
- a stepwise approach for the countrywide rollout of the new systems, starting with a service delivery and health financing pilot in the Syrdarya Oblast.

The pilot was launched in July 2021. The gradual implementation envisions rolling out the new model to Tashkent City and the Republic of Karakalpakstan in the second and third quarters of 2023, with the final objective being complete national implementation (Fig. 1). This gradual implementation aims to allow for a better solidification of the changes implemented; ensure sustainability of the transformations through the alignment of all health system enablers; give some extra time to implement pending reforms and keep focusing on capacity-building; and develop an updated scale-up plan to other regions of Uzbekistan.

1. The legislative package included Presidential Resolution PP-4890 "on measures of implementation of new organizational model in health care and mechanisms of State Health Insurance in Syrdarya region" *(1)* as well as two related legislative documents: Presidential Decree PD-6110 "on implementation of the principally new mechanisms in the work of primary health care facilities and further increase of efficiency of current health reforms" *(2)* and Presidential Resolution PP-4891 "on additional measures for ensuring public health through increasing efficiency of the work on health prevention" *(3)*.

Fig. 1. Key milestones of the health system reform in Uzbekistan



Gradual implementation of reforms started with the pilot in Syrdarya Oblast and to provide an opportunity to pioneer new service delivery models with a PHC approach at the core, facilitated by the new financing arrangements.

There are three clear reform pillars with specific priority areas within each.

- Transformation of PHC:
  - establishment of PHC teams comprising FDs, practising and patronage nurses and midwives, and expansion of their roles and those of other mid-level health workers;
  - introduction of a new system of medical prevention procedures that envisages segmentation of the population into NCD risk groups with proactive follow-up for those at high risk, targeted screening and early diagnostics for specific diseases, and introduction of a system of targeted patronage nursing; and
  - establishment of a PHC performance framework.
- Implementation of health financing reforms:
  - development of a single, universal SGBP that would include free health services and essential medicines;
  - reduction in out-of-pocket (OOP) expenditure; and
  - establishment of a single pooling and purchasing agency (the SHIF) that will carry out the function of a state insurer and establish contracts with providers for the delivery of the services included in the SGBP.

- Development and enhancement of the e-health system:
  - establishment of a single electronic platform to monitor population health indicators;
  - establishment of a system to assign the empanelled population to health care facilities and maintain electronic health records (EHR); and
  - provision of a mechanism to issue e-prescriptions and referrals to other health care facilities in line with the SGBP.

The occurrence of the COVID-19 pandemic emphasized the importance of planned reforms in several areas, including removing financial barriers for accessing diagnoses and treatment; enhancing the role of PHC in identifying and proactively addressing the needs of the vulnerable and those at higher risk, and for working closely with communities; and, more generally, in providing increased capacity to resolve health issues at the community level.

The pilot scheme also envisaged changes in the service delivery system for inpatient care. An oblast hospital network was planned to be established during the pilot in order to initiate the optimization of unnecessary hospital infrastructure and bureaucracy at oblast level. This was intended to be a first step towards better integration of hospital services and the reduction of duplicated functions. Such restructuring was initiated within the Gulistan cluster of Syrdarya but its assessment is not covered in this review.

Methodology

This report reviews progress in implementation of the reforms, focusing on the achievements and status of reforms in Syrdarya Oblast. Based on the review it also provides recommendations for consideration when undertaking further transformation of the health system in Uzbekistan. The information included in this review comes from:

- several WHO missions to Tashkent and Syrdarya by experts from the WHO Barcelona Office for Health Systems Financing and the WHO European Centre for Primary Health Care;
- a series of online interviews with key relevant stakeholders (Ministry of Health, SHIF, SB, IT-Med, Syrdarya Oblast authorities, health managers, PHC workers, professional associations and local WHO consultants);
- regular meetings with WHO local consultants;
- reports monitoring several WHO initiatives; and
- participation of an Uzbekistan delegation, composed of representatives from the Ministry of Health, SHIF and Syrdarya Oblast health managers, doctors and nurses, in thematic workshops and site visits as part of the WHO Demonstration Platform for PHC in Kazakhstan.

The information included in the report was validated by the Uzbek Ministry of Health and SHIF representatives.

The assessment uses a qualitative approach and does not include quantitative measurements of pilot implementation because the implementation period is still relatively short and so there are no data as yet to enable evaluation of observed major trends in health outcomes.

This review is organized around the three reform pillars: transformation of PHC, implementation of health financing reforms, and development and enhancement of the e-health system. The policy recommendations that follow again follow these three pillars.

Transforming PHC

Leadership

Political support

The new PHC model being implemented in Syrdarya has enjoyed high-level political support as reflected in the legal backbone of the reform, the sustained implementation efforts and the successes achieved so far. The presidential decrees and resolutions set out the strategic priorities of the health system reform scheme and put improving equal access to quality services through PHC strengthening firmly at the centre of the reform agenda. Despite the disruption caused by the COVID-19 pandemic, a landmark legislative package was still approved and implementation of the reform process remained on track. As a result, there has been remarkable progress across all three pillars of the PHC reform.

However, there is a gap between high-level political commitment for PHC reforms and actual arrangements for its nationwide implementation. As scaling-up from Syrdarya to other oblasts starts, there is increased need for coordination given the overarching complexity of the reforms, and for greater leadership, vision-setting and implementation support. While the Syrdarya pilot is developing, preparations for implementing the new PHC model in other oblasts are happening in parallel. This requires bringing together national and regional health authorities, managers and health professionals for vision-setting, capacity-building, definition of implementation arrangements, performance monitoring and promotion of interregional learning. It is also of paramount importance for the Ministry of Health to be able to ensure that the core principles of the reform are respected as rollout progresses while also allowing for flexibility for context-specific adjustments. This will require a sizable group of people to be fully (that is, without any other additional responsibilities) and formally responsible for overseeing and supporting PHC reform implementation. However, currently there is only a single person who is fully responsible for PHC at the Ministry of Health. While this has proved to be effective for piloting in Syrdarya, it does not seem sufficient for the rollout stage.

Stakeholder support

There is a clear understanding and acknowledgement by all relevant stakeholders of the importance of the PHC reform in Syrdarya. The reform is well acknowledged at central levels and among authorities, health managers, health professionals, makhallas and the population in Syrdarya Oblast. In a WHO assessment mission followed by a policy dialogue, representatives from Syrdarya Oblast expressed commitment to strengthening PHC services, reducing unnecessary hospital admissions and optimizing hospital infrastructure. The representatives of makhallas are engaged in reform implementation efforts and have played an important role in explaining the main elements of the reform to the public (the new team approach, the referral system). They reported that, since the pilot started, the recognition of the important role of PHC has started to grow among the population. As a result, consulted experts report estimations and anecdotal data confirming that more people are now

using PHC services. PHC professionals interviewed in several PHC facilities in Syrdarya were fully supportive of the strategic directions of the reform. It was also observed that narrow specialists[2] have started to show greater appreciation for the distinctive role of PHC workers, finally recognizing their suitability as a first point of contact with the population.

2. The term narrow specialist is widely used in the central Asian context to refer to clinicians with a specific specialization (e.g. cardiologists or endocrinologists) and who can often be co-located with FD, nurses and other professionals in a polyclinic.

Establishment of multidisciplinary PHC teams

The newly established PHC teams are an initial step towards multidisciplinary teams and are underpinned by enhanced autonomy and competencies of nurses. The teams are, in general, composed of one FD, one practising nurse and two patronage nurses; one midwife is shared between two or three teams. Each team works with a defined catchment area for an average coverage of 2000 people. These teams have moved away from the doctor–nurse tandem and embody a first step towards a long-term vision of establishing multidisciplinary PHC teams in the country. The Syrdarya Oblast consists of eight districts and three district-level cities. Official estimations concluded that 435 PHC teams would be required to cover the Syrdarya Oblast's entire population. At the time of this review there were 407 operative. However, actual implementation of the new PHC model has not been closely monitored in all teams and, according to a SHIF assessment, PHC teams are fully and appropriately operative in 28 PHC facilities, which represent around a third of PHC providers in Syrdarya:

- City of Guliston: four PHC facilities (family polyclinics)
- City of Yangiyer: one PHC facility (the only family polyclinic in the city)
- City of Shirin: none
- Boyovut District: eight PHC facilities (family polyclinics)
- Sardoba District: three PHC facilities (two family polyclinics, one FD post)
- Oqoltin District: three PHC facilities (two family polyclinics, one FD post)
- Mirzaobod District: three PHC facilities (family polyclinics)
- Sayxunobod District: two PHC facilities (one family polyclinic, one FD post)
- Guliston District: one PHC facility (family polyclinic)
- Sirdaryo Region: one PHC facility (family polyclinic)
- Xovos District: two PHC facilities (family polyclinics).

There are variations in the actual composition of PHC teams across Syrdarya that do not necessarily align to contextual needs. This is due to shortages and/or a lack of planning and adequate

distribution of resources.

Nurses and midwives in PHC teams

There are quite wide variations in the number of nurses per team across Syrdarya. These do not necessarily align to contextual needs and are related to shortages and/or a lack of planning and adequate distribution of resources. For example, according to SHIF internal data, although on average there are 0.95 practising nurses nurse per team across the Oblast, one practising nurse is shared by two teams in the Yangier PHC facility. Higher variations are seen for patronage nurses and midwives; there are, on average, 2.20 patronage nurses and 0.50 midwives per team. The highest number of patronage nurses per PHC team is in the Sarbodin (2.70 per team) and Gulistan (2.50 per team) Districts, with the lowest observed in the Mirzaobodskij District (1.90 per team). All other PHC facilities have 2.00 patronage nurses per team. The highest numbers of midwives per team are in Sarbodin District (0.80 per team) and Shirin City (0.70 per team). However, there are no midwives at all in Yangier City.

Shortage of FDs

The current shortage of FDs, coupled with a lack of plans to scale up their capacity and insufficient attraction or retention policies for rural areas, compromises implementation of the envisioned PHC team structure. In Syrdarya, 5–10% of facilities do not have an FD, and in many their work is heavily overloaded. Until recently, the main Government proposal to cover these vacancies was to allow students to work in PHC after 6 years of medical studies. However, health managers have reported that students are either not interested in choosing this option or that they leave a few months after commencing. In order to retain FDs there is a Presidential programme that encourages municipalities to cover their housing costs. After 5 years they become house owners *(1)*. More recently Presidential Decree PD-215 on "additional measures to bring PHC closer to the population and improve the efficiency of health services" allowed doctors who have worked for 3 years in remote and hard-to-reach areas to be admitted into any residence programme without examination *(4)*. In the absence of family medicine residency training (see the next section), this approach is unlikely to have any impact and doctors may use this prerogative to be admitted to other specialties without undergoing tests. Moreover, this measure does not address the very low salaries of FDs compared with specialists, which critically limits the capacity to attract and retain them in PHC. Therefore, current regulations will be unlikely to contribute to the sustainable and equitable distribution of FDs across the country.

Roles and responsibilities of professionals in multidisciplinary PHC teams

FDs

Lack of attention to expanding the competencies and scope of practice of FDs is severely hampering the progress of the reform. Under the current legislation in Uzbekistan, which was introduced in 2005, all medical graduates who have completed 6 years of medical studies are considered to be FDs and can work in PHC without undergoing further training, contrary to the 3 years of additional mandatory training required to become a narrow specialist.[3]

Therefore, medical graduates who want to grow professionally are forced to do so by choosing another specialization which, along with low salaries, results in many leaving PHC altogether. The previously existing retraining programme for therapists and paediatricians is no longer running and neither is the former 2-year residency training in family medicine. Specialization is not required for working in PHC, and facilities that employ trained FDs (and FDs themselves) are not assisted financially or in any other way. In the absence of family medicine training programmes, family medicine competencies such as person-centred communication skills, holistic approaches, clinical governance over the wide range of common health problems and family- and community-centred approaches are neglected. These competencies are essential for being more responsive to population and individual health needs. Recent reforms initiated in Syrdarya, such as the introduction of check-ups and triage undertaken by practising nurses before a consultation with an FD (known as pre-doctoral check-ups), are allowing FDs to dedicate more time to clinical issues. However, time savings are not fully optimized, as FDs are not receiving training in the essential clinical and nonclinical competences of family medicine so that they can have a more predominant role in patient management (for example, medication prescription and adjustments for common chronic conditions or follow-up for diabetic patients) and reduce the need to refer patients to narrow specialists.

Practising nurses

Practicing nurses have gained more autonomy and responsibilities in NCD management and in children care. Practising nurses have started to perform check-ups and triage in a separate room before patients visit the FD. In these pre-doctoral check-ups, they carry out a basic health assessment and measure height and weight, blood pressure, respiratory rate, pulse and body temperature; they can also perform electrocardiography and peak oxygen flowmetry as needed. Afterwards, patients visit FDs based on the decision of the nurse. Practising nurses also focus on risk stratification for individual cardiovascular diseases (CVD) through applying the protocols set out in the WHO package of essential noncommunicable disease interventions for primary health care (PEN)

3. The term FD is now inadequately used to designate medical graduates who have recently completed 6 years of pre-service training and have been assigned to a PHC practice, typically in rural areas. It is also used to designate already practising doctors, who have been retrained in family medicine through a 10-month retraining programme (which is no longer running).

and the WHO technical package for cardiovascular disease management (HEARTS) *(5,6)*. Based on the CVD risk groups, practising nurses plan follow-up visits together with patronage nurses. They also monitor children for malnutrition and other developmental issues. Their functional responsibilities include working in a team with an FD to organize and supervise the activities of patronage nurses, working with midwives and contributing to the development of shared care plans. However, this is not yet fully implemented. A WHO assessment mission to Syrdarya observed that these new responsibilities for nurses are increasingly appreciated by the nurses themselves, by FDs and, increasingly, by patients.

Practising nurses lack sufficient training to be able to conduct holistic assessments of the individual needs of patients and to increase focus on patient outcomes. Despite good progress in a short amount of time, they are still overfocused on laboratory tests and on suggesting referrals to FDs. More attention needs to be paid to individual preferences and expectations of patients and to shared decisions on how to achieve better patient outcomes through the application of nonmedical skills. These include, for example, brief interventions on behavioural changes aimed at modifying NCD risk factors, improving medication adherence or enhancing self-monitoring. Since the onset of the pilot, there has not been a measured improvement in clinical outcomes.

Patronage nurses

Patronage nurses deploy a more systematic approach to assessing and addressing the needs of families with children or pregnant women. The approach applies the universal progressive patronage model *(7)*. The universal progressive model includes two components. The first covers every family with pregnant women, women in the postpartum period and children under the age of 5 years, following a newly approved protocol. The protocol defines the frequency of home visits, which are carried out by patronage nurses according to a plan prepared jointly with the PHC team and which is revised on a monthly basis. When visiting a household, patronage nurses administer a questionnaire defined in the protocol, which collects information on the family's medical, social and other issues. The second component is targeted at families identified as being at risk and includes the development of a Family Eco-Map for each family (a holistic assessment of a complex family's psychosocial environment), which is prepared by the PHC team and has tailored recommendations to reduce and/or remove potential risks. When problems are identified for a child or a mother, an individual plan is prepared collaboratively with the PHC team. Training started in Syrdarya in 2020 and was intensively supported by the United Nations Children's Fund through different stages and training modalities, starting with online training for patronage nurses. At present, all patronage nurses in Syrdarya (except those newly hired) have received some training in the new model and the model has been implemented in virtually all PHC facilities in Syrdarya Oblast and, with a different intensity, countrywide. Despite such encouraging progress, there is still room for patronage nurses to play a stronger role in the identification and early intervention of developmental delays and disabilities. Capacity-building activities, particularly for FDs, were not implemented evenly across all PHC facilities in Syrdarya. In 2021 and 2022

SHIF monitoring identified training gaps and lack of awareness among FDs concerning the model. As a result, in-person training supported by the United Nations Children's Fund and with the involvement of community workers was held during the summer of 2022 for FDs in three districts of Syrdarya. The training spanned 3 days of 8-hour sessions and was aimed at informing FDs about the universal progressive patronage model and its benefits and the role of different PHC team members for comprehensive assessment and shared care planning to address the complex needs of families at risk. Subsequently, three 2-day training sessions of 3 hours each day were held to train PHC teams together.

Patronage nurses have also taken on new responsibilities for NCD management and are now responsible for home visits to patients with chronic conditions. However, they lack sufficient clinical and nonclinical competencies to address the individual needs of every patient comprehensively. They do contribute to closer follow-up of such patients and ensure that patients attend follow-up appointments with FDs or practising nurses. However, some patronage nurses still expressed concerns about their skills in managing patients with NCDs, since capacity-building efforts have not been systematic enough in this area. As a result, in some cases their role is limited to advising patients to visit the PHC team and not in delivering a more comprehensive assessment of patients' needs or on coordinating engagement of other team members around them. Additionally, they are not provided with any means of transportation and must often cover their own travel costs when visiting patients in rural or remote areas.

Role of makhallas

The partnership of makhallas and patronage nurses has resulted in a close collaboration between PHC teams and communities but it lacks systematization and strategic direction. During the pilot, makhallas have started to assume greater responsibility for population health and have strengthened their cooperation with PHC teams; every team has been matched with the makhallas that operate in their catchment area. Makhallas actively collaborate with PHC facilities in supporting yearly renewal of the lists of registered families with PHC providers. They collect data on the social needs of women, young people and citizens with poor socioeconomic conditions in the so-called iron notebooks and carry out informal needs assessments for households, collecting information on factors such as unemployment, disability or families that have lost their breadwinner. They actively support the provision of health services and social assistance to these population groups. Makhallas also sporadically organize health promotion activities for the entire population, such as the creation of health and nutrition corners. Both makhallas and patronages nurses reported good communication with one another and expressed satisfaction with their collaboration. Patronage nurses are fully trusted by makhallas and this has been a determining factor in bringing PHC closer to people and in building trust in PHC. This collaboration was substantially reinforced in practice through the needs generated during the COVID-19 pandemic and the patronage nurses' expanded scope of practice. More recently, it has been formally strengthened through the approval of an order that defines the roles and responsibilities of PHC professionals (see

below). There is, however, still wide variation across PHC teams in the work carried out by makhallas, and health promotion activities are not sufficiently prioritized. Activities carried out by makhallas are often more focused on supporting those with increased health needs on a by-demand basis than on addressing upstream determinants of health. Lastly, there are not explicit planning mechanisms for joint work around shared goals, nor monitoring mechanisms in place to measure outcomes.

Protocols implemented by PHC teams

The systematic implementation of protocols and models is helping PHC teams to plan their work, distribute responsibilities and be more proactive. The PEN/HEARTS protocols are used for individual CVD stratification *(5,6)* and the universal progressive patronage model *(7)* for planning home visits and clinic support for families and children. This can form a basis for more advanced population risk stratification in the future. Teams meet to plan visits for patients according to their risk groups and plan their follow-up visits accordingly. However, work still seems to be more focused on scheduling appointments than on the content of the appointment (such as patient outcomes and interventions or development of shared care plans with clear clinical and nonclinical objectives) or on tailoring protocols to the individual needs of patients.

Increased sense of team work

There is a growing sense among health care staff of belonging to a team, with initial signs of improved teamwork, but shared decision-making within teams is not yet a reality. There is a growing understanding by all members of PHC teams that they need unique competencies and task profiles to contribute synergistically to the shared and overall goal of every PHC team: to achieve better health for the catchment population. The Syrdarya catchment areas have been revised and now teams have a well-defined catchment population and must work together to achieve shared objectives. PHC teams meet every day and plan their work for the day together, including visits by patronage nurses, but there are still not clear leadership roles within teams and team members do not contribute to decisions on an equal footing. The role of patronage and practising nurses is increasingly being recognized by FDs, and their views and contributions are asked for and considered, but they still do not have enough decision-making power.

In September 2022 the Ministry of Health approved an order that describes the roles and responsibilities of all members of PHC teams. Order No. 263 approves regulations and the procedures for evaluating the activities of medical teams in PHC institutions *(8)*. It was developed collaboratively by the Ministry of Health, the SHIF and Syrdarya Oblast PHC professionals. Although the establishment of PHC teams in Syrdarya occasioned new roles and responsibilities for team members, these were not reflected in the official regulations on the scope of practice of PHC professionals. This order is a good step to regulate, clarify and provide a more solid implementation basis of the new roles, particularly if it accompanies additional training of PHC professionals and is reflected in their professional curricula. The order reflects the newly envisioned roles

of patronage and practising nurses, FDs and midwives. It underscores the relevance of close work and coordination of all team members with the FDs and specifies the distribution of clinical and nonclinical tasks among team members. The order also sets up the main objectives of the PHC teams across prevention and health promotion, curative services, management and monitoring of patients with chronic diseases, rehabilitation and palliative care, and it describes the organization of work not only within PHC teams but also with partner organizations such as local authorities, makhallas and specialists from the social sector.

Optimized patient pathways

Referral system

A referral system with referral standards has been introduced, first in Syrdarya and then across the entire country, acting as an initial step in redesigning clinical pathways and giving PHC a more predominant role in the health system. Patients require an FD referral to access specialist services or inpatient care. Standards for referral have been introduced based on the existing protocols for CVD, diabetes and respiratory disease (PEN protocols); paediatric care *(9)*; and pathologies during pregnancy *(10)*. For other diseases, referral criteria are specified in the national standards of care. The referral system is appreciated by FDs and increasingly by narrow specialists and it has started to optimize patient flows as the numbers of self-referral have fallen. One of the approved PHC performance indicators (see indicator 8 in Table 2 below) is aimed at monitoring the implementation of the referral system. The SHIF monitors referrals for consultation with specialists and for hospitalization. According to national unpublished SHIF data, over the previous 9 months about 85% of hospitalized patients had a referral from an FD. The decrease in self-referrals is less likely a reflection of improvements in PHC capacity and more likely because patients without referrals must pay OOP for health services. If payments made by patients for visits to specialists without referral have a positive impact on the specialists' salaries, this may become a perverse incentive for specialists to encourage bypassing PHC for patients with a higher capacity to pay. This will result in these patients not benefiting from more efficient, coordinated clinical pathways that include preventive services and education on self-management at PHC level.

However, the clinical competencies of PHC professionals for addressing wider sets of problems have not improved alongside the introduction of the new referral system. This improvement is important not only to reduce unnecessary referrals and increase the efficiency of the health system, but also to make sure that patients perceive the requirement for referral as an instrument to receive closer and better care in PHC and not as a simple traffic light system. For example, the introduction of the extended medicines benefits in Syrdayra to include 11 international nonproprietary name (INN) drugs, all prescribed by FDs, for the treatment of hypertension, ischaemic heart disease, type 2 diabetes, obstructive pulmonary disease and bronchial asthma, was a positive step towards improving PHC's capacity to deal with issues

and its attractiveness to patients. However, current training is not yet sufficient to enable FDs to effectively prescribe, monitor and make necessary medication adjustments without having to refer patients to narrow specialists.

Updating of protocols

Old protocols that mandated hospitalization unnecessarily for some conditions have been replaced with new ones which no longer require this. However, these new protocols have not yet been widely taken up in clinical practice. Since 2017 national clinical protocols have been based on the WHO PEN and HEARTS protocols and updated every 2 years (Box 1). The last update of clinical protocols on hypertension and diabetes was in 2021. A new protocol for the universal progressive patronage model has been also implemented. Other protocols are currently being updated. The protocols no longer mandate unnecessary admissions, grant FDs a greater role in follow-up for patients with NCDs and include clear referral criteria for hospital care. Therefore, they are expected to reduce artificially induced demand for hospitalization. Protocols were seen in all health facilities visited during an assessment mission and are used by FDs, nurses and narrow specialists in their daily work. However, some specialists still recommend planned hospitalization, particularly for type 1 diabetes. Key informants from the PHC task force indicated that the implementation of the protocols has not been systematic enough; in some cases, PHC professionals were not involved or adequately considered for its implementation, and the local particularities of Syrdarya have not been considered sufficiently during for the implementation.

Box 1. Protocols currently used in Syrdarya

- PEN clinical guidelines: adapted from the WHO PEN guidelines (2021) *(5)*
- Universally progressive patronage model: organization of the work of home nurses to work with mothers and children in PHC (2020) *(7)*
- Standards for care and medical assistance during pregnancy in PHC (2016) *(10)*
- Integrated management of childhood illnesses (2015, currently being updated) *(9)*
- Monitoring the growth and development of children (2015, currently being updated) *(11)*.

Equipment in PHC facilities

Important efforts have been made to ensure that all PHC facilities are adequately equipped with necessary diagnostic, laboratory and IT equipment. There are positive trends in increased volume of diagnostic procedures and laboratory testing, which indirectly indicate increased accessibility to those services in PHC facilities. For example, according to data from 2021 to 2022 in Syrdarya provided by the SHIF, diagnostics through otoscopy increased by almost 300% (1777 otoscopies increasing to 6980 otoscopies), ultrasound diagnostics by 258% and electrocardiography by 98%.

However, there is still a lack of adequate equipment and laboratory testing capacity for NCD management at PHC facilities. This hinders adequate clinical care and follow-up in line with approved protocols and is a particular problem in small facilities in rural areas. This includes basic reagents and consumables for checking cholesterol levels or glycated haemoglobin (for diabetes control). SHIF data on an increasing volume of main laboratory tests and diagnostics in Syrdarya since the onset of the reforms may suggest better access to testing and diagnostics in PHC facilities. Preliminary analysis was made to assess if the availability of equipment corresponds to the real needs of PHC facilities. For example, electrocardiography equipment levels represent only 37% of facility requirements and pulse oximeters only 10%. Further analysis is needed on the necessary availability of equipment and on inequalities in access between urban and rural areas.

Communications between PHC teams and specialist care

There is a lack of communication and cooperation between FDs and specialists for patient care. There are no formal mechanisms in place and no evidence seen of informal communication, clinical information exchange or problem-solving between FDs and specialists through paper means, telephone or EHRs. FDs do not have access to clinical information resulting from their patients' visits to narrow specialists in clinics or hospitals. This is particularly relevant for patients with complex issues. It undermines FDs' work, results in unnecessary referrals and prevents adequate coordination between levels of care. Moreover, although specialists are increasingly appreciative of the role of FDs, there is still a lack of understanding about their unique role in the health system, which may hamper collaboration with PHC professionals for shared care pathways and implementation of clinical guidelines. Recently, the electronic population database (developed by IT-MED) has been linked with software used by narrow specialists to record clinical data (developed by MedHub). This enables linkage of any medical services registered by the software to the patient's personal identification number. This is a positive development, as it can eventually allow FDs to access medical information of the patient regardless of the level of care. However, this is not yet a reality. Moreover, not all facilities have access to computers, according to SHIF estimations.

Management of demand

Initial steps have been taken to improve management of PHC demand through an electronic system, but its limited development is hampering PHC teams' ability to plan their work in advance. The system allows patients to schedule visits for the same day. Anecdotal evidence suggests that this has reduced long queues in facilities, which was negatively perceived by the population. However, the electronic system only allows booking a visit for the same day by telephone, which, coupled with the fact that many patients still turn up without an appointment, limits opportunities for patients with chronic and subacute problems to plan visits to PHC centres at their convenience. It also limits the ability of PHC teams to plan their work and to spend more quality time with patients who have appointments, due to the high flow of patients without appointments.

Performance monitoring

Performance indicators

A new set of 12 indicators to measure PHC performance in Syrdarya has been approved by the SHIF SB. These were developed through a systematic, inclusive and collaborative process led by the Ministry of Health (Table 2). The indicators are being tested in Syrdarya and adjusted as needed based on the implementation experience before being implemented in other oblasts in later stages of the reform. The indicators were developed through a collaboration between the Ministry of Health and the SHIF with support provided by WHO from the first stages of the process. Since the onset of the reforms, there has been great interest in performance outcomes at all levels, and a shared understanding of the relevance of indicators in assessing the impact of the reforms. During WHO missions, representatives from the Ministry of Health, regional and local authorities, facility managers, FDs and nurses all emphasized the importance of establishing a set of indicators to monitor the impact of the implemented reforms. PHC professionals emphasized their willingness to use these indicators for benchmarking and quality improvement purposes, but this is not yet happening in practice.

Table 2. List of PHC performance monitoring indicators approved in Syrdarya Oblast

No.	Indicator
1	Share (%) of the population aged 40 and over assessed to have 10-year cardiovascular risk following the national clinical protocol
2	Share (%) of patients aged 40 and over with identified cardiovascular risk, CVD, arterial hypertension or diabetes mellitus, with hospitalization referrals warranted under national protocol recommendations (adapted from the WHO PEN disease interventions on constrictive pericarditis and the HEARTS protocol)
3	Share (%) of patients with diabetes mellitus complications (gangrene of foot, diabetic nephropathy and diabetic retinopathy with blindness) who have undergone the following procedures during the year indicated: major lower limb amputation below the knee, amputation above the knee, haemodialysis, focal laser photocoagulation
4	Share (%) of patients aged 40 and over with assessed cardiovascular risk for 12 months and longer whose cardiovascular risk fell, or at least did not increase, during a year
5	Average number of patient visits during the past month to practising nurses per resident assigned to a PHC institution
6	Average number of patient visits during the past month to family physicians per resident assigned to a PHC institution
7	Average number of visits to specialists per district resident 7.1. Average number of visits to specialists at central district multispecialty clinics per resident of the given district 7.2. Average number of visits during the past month to health care specialists per resident assigned to a PHC institution
8	Share (%) of the population who visited a hospital under a family physician's referral, via an ambulance or of their own accord
9	Share (%) of the population covered by planned patronage nurse home visits calculated from the number of planned visits per month at a PHC institution 9.1. Share (%) of pregnant women covered by planned patronage nurse home visits calculated from the number of planned visits per month 9.2. Share (%) of newborns and puerperal women covered by patronage planned nurse home visits during the first 3 days after discharge from a maternity hospital, calculated from the number of planned visits per month 9.3. Share (%) of children aged 0–5 years covered by planned patronage nurse home visits, calculated from the number of planned visits per month
10	Share (%) of ambulance calls that did not result in hospitalization
11	Share (%) of patients who received medications from the pharmacy network under the reimbursement programme, calculated from the overall number of e-prescriptions written out by family physicians
12	Preventable hospitalization indicator for the following conditions/exacerbations through provision of proper outpatient care for the population: cardiovascular risk for coronary heart disease (ICD-10: I20–I25), arterial hypertension (ICD-10: I10–I15), diabetes mellitus (ICD-10: E10–E14) and impaired circulation (ICD-10: I26–I28)

ICD-10: International Statistical Classification of Diseases and Related Health Problems, version 10.

Current indicators are in line with the country's health priorities, including for NCDs and reproductive, maternal, newborn and child health, and are a good starting point to promote performance monitoring and assess the impact of the PHC reforms. The selection of the final set of approved indicators was based on various factors, including feasibility of collection and information availability; progress of digitalization of the system; capacity to link the indicators with the health information system and e-records in the short term; relevance for PHC and alignment with national health priorities; and minimizing the bureaucratic

burden on health professionals. The process of implementation of the indicators is ongoing, as they are progressively being embedded in the information system. The aim is to make sure that reliable data are provided from e-databases and indicators are automatically calculated without creating a burden for PHC professionals. Currently, only one indicator can be obtained electronically and, therefore, the indicators are still being manually monitored and calculated by the SHIF. Data collection and the system for analysing the remaining indicators are in the process of development under the responsibility of MedHub.

There is not a unified set of PHC performance indicators to measure the success of the reforms. This will undermine comparisons between oblasts as reform progresses. In several missions, the WHO team observed that there are different indicators in place to measure PHC performance in Tashkent City and the Republic of Karakalpakstan, which are the chosen regions for reform rollout. This does not allow for a solid comparison of the impact of the reform between oblasts and cities. Moreover, lack of attention to quality of data and data recording in PHC may undermine the calculation of (any) of the indicators.

Implementing health financing reform

Governance and operational management of the SHIF

The establishment of the SHIF in 2020 as a single purchasing agency is a key landmark of the overall transformational health system reform in Uzbekistan. The SHIF is the national institution with an initial regional representation in Syrdarya Oblast. The SHIF is responsible for the phased implementation of the state health insurance system and SHIF regional offices will be established in the regions joining the pilot and will be present in every oblast when the system is implemented nationally. The functions of the SHIF, according to legislation, are:

- implementation and management of the state health insurance system;
- ensuring interdepartmental cooperation in the implementation of a coordinated government policy in the area of health insurance;
- introduction of a system of strategic purchasing of health services in order to provide quality and necessary health care to the population within the SGBP;
- pooling of resources; and
- ensuring targeted and effective spending of funds.

The SHIF governance arrangement aims to attain high-level support and cooperation between different agencies to make phased implementation of the health financing reform a success. The SB, the highest governing body of the SHIF, brings together representatives of the Ministry of Health, the Ministry of Economy and Finance,[4] the Presidential Administration, the SHIF, the Antimonopoly Committee and representatives of the pilot region (the Governor and the Head of Syrdarya Rayon Health Department). The SB is chaired by a representative of the Presidential Administration, with the first Deputy Minister of Health acting as deputy chair.

Achieving optimal and effective working arrangement takes time and organizational learning. The governance arrangement of the SHIF is novel in Uzbekistan's public sector. The SB is responsible for defining the SHIF budget, contracting and payment methods, development and launch of the electronic health system and approval of regulations necessary for the pilot implementation (Box 2). Moreover, the SB can provide recommendations to the Ministry of Health, the Ministry of Economy and Finance and other authorities for their consideration that are outside the functions of the SHIF. The SB does not intervene in daily work of the SHIF. In 2021 the SB reviewed the performance of the SHIF in terms of how Syrdarya pilot funds were used. Other government agencies, such as the Accounting Chamber, also have a mandate to oversee the SHIF performance and use of public resources. Along with strong technical capacity, it is important to ensure that the SHIF has sufficient managerial autonomy to implement the strategic purchasing function.

4. The Ministry of Finance and the Ministry of the Economy were merged on 1 January 2023.

Box 2. Pilot-related health financing reform regulation approved by the SB of the SHIF

- Use of per capita financing for PHC services including the rules for calculation of contract budget and age-gender adjustment coefficients.
- Use of global budget and case-based payments for inpatient services in the pilot, including:
  - the rules for calculating the basic rate per case and the contract budget;
  - a list of inpatient facilities by type of payment system applied (100% by global budget or combination of global budget and case-based payment);
  - a list of clinical groups and cost weights for the case-based payment; and
  - additional coefficients used for adjustment of payment depending on the type of facility.
- Contract template for all types of care.

The organizational capacity of the SHIF is growing, although the rapidly increasing workload presents a challenge. The concept of strategic purchasing is new to Uzbekistan and when the SHIF was established, its newly hired specialists lacked experience in this area despite having worked in the health sector before. Nonetheless, the SHIF managed to launch the Syrdarya pilot just 7 months after its establishment, demonstrating the high level of motivation and capacity of its staff. At the start of the pilot, there were nearly 20 people working at the SHIF. By July 2022, this number had increased to 50.

The SHIF has sufficient budget for administrative costs to support its development in 2023. During the early phases of the reform, the envisioned main task of the SHIF was to implement the Syrdarya pilot, but additional new initiatives (such as purchasing highly specialized care) were added to its responsibilities without increasing the administrative budget, despite the significant additional workload. The initial SHIF administrative budget for 2022 was 1% of managed funds, but with the President's resolution this was increased to 2%. This is a positive development that allows for the hiring of additional staff, and investment in much-needed digital solutions. Additionally, the new resolution allows for unspent administrative budget to be carried over to the next budget year.

Design of the SGBP

Heavy reliance on OOP payments in financing health care results in weak financial protection. In 2019 public expenditure accounted for only 42% of current spending on health, with OOP spending making up 58% *(12*). In 2018 around 18% of households experienced catastrophic expenditures, which is one of the highest levels in the WHO European Region. The level of unmet need is also high *(13)*. In 2020 18% of households reported that at least one household member had not received medical treatment because of high cost *(14)*.

According to the regulation, the SGBP should be aligned with the available budget for health care. The rules and principles of the SGBP are described in Government Order No. 832 of 30 September 2019 "regarding the approval of the provisions on the procedure for the formation of a list of guaranteed volumes of medical aid covered from the funds of the state budget of the Republic of Uzbekistan" *(15)*, which gives the Ministry of Health the task to develop the list of benefits in accordance with the annual budget for health within 15 days of annual budget approval and to agree it with the Ministry of Economy and Finance. In practice, this is difficult to achieve, given the short time frame for development of the SGBP. Alignment of the benefits with available annual budget is challenging, as the de facto cost of service provision is not analysed and facilities (excepting those in Syrdarya Oblast) are financed using a line-item budget, which is based on inputs, not outputs in relation to guaranteed services.

The unified national-level SGBP was developed and approved to provide a single, explicit document outlining the scope of guaranteed health services to support the pilot implementation. Before the pilot initiation, the list of guaranteed services was not approved within a single document but was described in multiple documents. Within the pilot the scope of benefits in terms of health services was not expanded but was more explicitly described. The SGBP as a single document was approved by the joint decision of the Ministry of Health and the Ministry of Economy and Finance on 7 June 2021. The approval of the SGBP is a good first step towards setting more explicit and realistic guarantees for the population. PHC guarantees are comprehensive and are well described. The focus on PHC is in line with the statistics of the population causes of death and disability-adjusted life-years, which are mostly related to NCDs, specifically to ischaemic heart disease and stroke *(16)*. In specialized care, the SGBP includes free-of-charge services at district and municipal levels for all patients; however, patients must pay the full cost of service for health services in oblast and national-level hospitals (people from 17 specific population groups are exempt from this). Within the SGBP, patients are explicitly requested to have a referral in order to access both outpatient and inpatient specialized care services. The SGBP is expected to be approved on an annual basis but was not officially approved for 2022.

Outpatient services

The scope of outpatient services benefits is comprehensive but could be further expanded to allow better disease management at PHC level. To achieve better management of chronic conditions and respond to some of the public health threats the Government could consider expanding the scope of laboratory diagnostics available to patients at PHC and specialized outpatient care (these may include glycated haemoglobin tests, glucose tolerance tests, blood coagulation tests, tuberculosis skin tests, polymerase chain reaction testing for COVID-19 and other tests).

Inpatient services

The SGBP design for inpatient services could be improved by moving away from provider-specific benefits. The inpatient services offered by district and municipal hospitals are determined based on the type of care, such as urgent care, obstetrics and gynaecology, internal medicine, cardiology, neurology, paediatrics, surgical care or infectious diseases. Meanwhile, the inpatient services offered by oblast-level facilities are defined based on the facility's name, with a specific set of services described for each group of facilities. Although using a provider list to define benefits could be viewed as the first step, it presents challenges in the medium term as it requires facility-by-facility decisions on the scope of benefits. Ensuring transparency in these decisions may also become an issue.

Coverage for specific population groups

Protective mechanisms are in place for specific population groups. At the national level, 17 population groups have access to more generous coverage based on their social status (such as orphans, elderly people, veterans and poor people) or health conditions (including children with rare diseases and cerebral palsy; people with cancers, tuberculosis, HIV and some other conditions). The SGBP specifies the facilities where some patient groups can receive services free of charge. For example, pregnant women with defined complications can receive health care services free of charge at the Republic Specialized Scientific Centre of Obstetrics and Gynaecology, but they must first receive a referral from the local medical commission. In 2021 a system of electronic referral for treatment in oblast and national hospitals was introduced for the 17 specific population groups across the country. Information on patients belonging to these groups is automatically updated, although additional information, mostly related to diagnosis, may be required in some cases, which could create administrative barriers. All other patients must pay the full cost of specialized care in oblast and national-level facilities. These facilities set their own fees without any further protective measures being applied, which has resulted in anecdotal evidence of service prices varying by provider.

Paid services outside the SGBP

The incentives for PHC providers to offer additional paid services not included in the SGBP contradict the reform objective of ensuring free and equal access to PHC. The Presidential Decree PD-215 on "additional measures to bring PHC closer to the population and improve the efficiency of health services" was adopted in April 2022 and enables PHC facilities to provide services that are not included in the SGBP, subject to user charges (co-payments) *(4)*. The Decree also states that these services could be used as salary supplements for PHC doctors. This presents a major threat to the ongoing reform as it will incentivize doctors to provide and/or refer patients to services not covered by the SGBP (and not necessarily clinically necessary) to receive higher salaries. This disadvantage patients in socioeconomically vulnerable situations and makes patients with a higher ability to pay more attractive to PHC providers.

Outpatient medicines

Before the pilot, outpatient medicines were covered for certain groups of patients through contracting between facilities and pharmacies or by direct procurement of medicines in all regions of the country. Outpatient medicines are covered under the mechanisms outlined in Government Order 204 of 22 July 2013, which defines 64 INNs, which should be provided to specific groups of patients (which include people with defined conditions, poor people, orphans and others) *(17)*. The funding for this programme is, however, still low. Distribution of medicines is organized via PHC facilities around the country – FDs and specialists are responsible for giving medicines to eligible patients. However, anecdotal evidence indicates that the rules of distribution and storage and the reporting system are weak, which creates further supply-side challenges in programme implementation. As a result, 37% of total current health spending in 2018 was by patients to cover their need for medical goods (most likely, medicines) *(12)*.

A new approach to improve access to outpatient medicines was introduced in Syrdarya Oblast. This new approach incorporates direct contracts between the SHIF and a pharmacy (first the state-owned pharmacy was selected for the pilot and then several private pharmacies joined the pilot later in 2022) and the use of e-prescriptions. The piloting of the new approach in Syrdarya Oblast started in July 2022. New outpatient medicines benefits include 11 INNs for treatment of hypertension, ischaemic heart disease, type 2 diabetes, obstructive pulmonary disease and bronchial asthma. The list of selected conditions is in line with the country's mortality indicators, as ischaemic heart disease and stroke (for which hypertension is the major risk factor) were the leading causes of death in 2019, along with diabetes mellitus, which was the fourth most common cause of death in Uzbekistan *(16)*. All patients diagnosed with these conditions have access to the covered medicines through prescriptions from FDs (as opposed to the previously used approach of providing medicines free of charge only to specific groups of the population). To finance outpatient medicines benefits, the SHIF allocated part of the PHC budget. It is planned that the new benefits will be expanded to more regions as part of the rollout of the state health insurance system.

Improvements are needed in geographical access, coverage, pricing approach and budget allocation rules to improve access to outpatient medicines. First, in 2022, the programme continued to face challenges in terms of geographical access as not all PHC facilities offered free outpatient medicines to patients. Secondly, the expanded benefits included a limited number of trade names for each of the 11 INNs. The initial approach only allowed for one trade name per INN, which limits access to treatment for patients who prefer different trade names. Thirdly, the pricing approach used in the programme is not the most efficient. WHO modelling conducted in 2022 (unpublished data) showed that amending the external reference pricing rules could generate estimated savings of 17–44% for the 11 INNs in the Syrdarya Oblast, and these savings could be reinvested to increase coverage. Lastly, the budget for outpatient medicines is fragmented at the health facility level. It is divided into separate budgetary ceilings at the PHC facility level to ensure cost control. However, this approach is not optimal as it limits the possibility to reallocate the budget within the oblast and requires more detailed planning of expenditures in situations with limited information about disease prevalence.

Communications about new entitlements

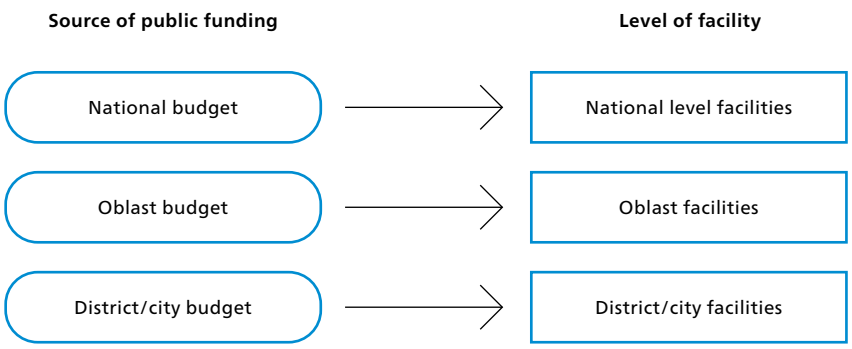
More systematic communication is needed to increase population awareness about their entitlements. Information about new entitlements within the pilot was disseminated through the media and social networks, but more systematic communication is needed to increase population awareness about their entitlements. This becomes even more important as the scope of the pilot is expected to expand. The SHIF has a unit responsible for communication with the population and its work should continue.

Health budget

Central pooling mechanism

One of the central objectives of the health financing reform is to address the weaknesses of the highly fragmented health budget by introducing a central pooling mechanism. In Uzbekistan, health services are financed from the local budgets of oblast, districts and municipalities (constituting about 70% of total public spending on health *(18)*), which leads to inequalities between regions. In 2021 actual per capita spending in Syrdarya Oblast was two times lower than the national average: 204 000 som compared with a national average of 421 000 som *(18)*. The current financing arrangement (in regions other than Syrdarya) in which the budget of an area finances the health facilities of that same area (Fig. 2) does not provide enough flexibility for redistribution of funding and decreases the efficiency of use of public resources because of duplication in service delivery that results from this funding arrangement.

Fig. 2. The source of public funding and facility levels



The Uzbek Government's cautious stepwise approach resulted in delays and difficulties in the implementation of the pilot, instead of pooling resources at the national level. During the initial months, virtual pooling was used, but funds were managed through local financial institutions. This meant that funds were actually not pooled and payments were made through local financial institutions after the SHIF provided necessary documents and calculations for the payments. This arrangement did not allow for the reallocation of funds between facilities. In late 2021 a new SHIF account in the treasury system was opened to consolidate the pilot budget at oblast level. However, the procedure for transferring money to this account created a major additional workload for the SHIF, as every month funds from local budgets were manually transferred from 88 treasury accounts to separate SHIF accounts and then to the single pool.

In 2022 improvements were made to the pooling mechanism. Syrdarya Oblast received transfers from the central government to support key services, including health. It was suggested that the national health care allocation to Syrdarya Oblast should be given directly to the SHIF without going to local budgets first, but this proposal contradicted Uzbekistan's current public financial management regulations. In the first part of 2022 the SHIF continued to transfer money manually from local budgets. On 1 July 2022, following a decision of the Syrdarya Oblast Council, all health funds were centralized at oblast level and transferred to the SHIF account. It is planned that in 2023 all regions included in the pilot will receive funds that will be kept at regional (oblast) level and transferred to the SHIF treasury account in the region by decision of local councils. This system is not sustainable in the medium term when the pilot is rolled out to more regions, as it will require the SHIF to carry out a massive amount of manual transfers of funds between budgets.

Funding issues

The SHIF has been facing a constant lack of adequate budgetary funds for pilot implementation. In 2021 the SHIF did not participate in the budget preparation process, as the health budget for 2021 was agreed before the SHIF was established and without considering additional funding needs related to the pilot implementation in terms of increasing the level of funding of service provision. The pilot started in mid-2021 and the pilot budget was defined as 50% of the total annual health budget for Syrdarya Oblast. This created a major challenge, as during the first half of 2021 local budget execution exceeded planned budgets. Furthermore, the planned national increase in the salaries of medical staff was not taken into account in the planned pilot budget. In addition, the PHC per capita payment rate calculation showed the need for additional funding. Dialogue between the SHIF and the Ministry of Economy and Finance resulted in additional funding, but it was predominantly used to cover increased staff salaries. To prevent significant financial losses for some of the PHC facilities, per capita financing for PHC was postponed and historical budgets were paid to facilities. The SHIF was involved in the 2022 budget formulation, but the process was based on historical spending not funding needs assessment. This approach, if continued, may also create major challenges for the reform rollout. For example, if the amount of contribution of local budgets to the pilot budget is set historically, it will create an incentive for budget holders to decrease spending on health before entering the pilot. It will also be difficult to obtain oblasts' buy-in for this approach.

Provider autonomy

All public sector health care facilities continue to be budgetary institutions. The de jure legal status of facilities has not changed. Before the pilot, Uzbekistan conducted a nationwide reorganization of the service delivery network to allow for better integration of care. Specifically, at the municipal and rayon level, PHC, outpatient and inpatient specialized care was integrated into one legal entity. The pilot has not changed the scope of responsibilities of facility managers, who continue to be responsible for hiring and firing staff, outsourcing services, organizing clinical care, improving quality and ensuring compliance with guidelines and pathways. However, provider autonomy is significantly restricted by national staff norms, approved facility number and specialties and regulations on salary rates, which still apply to facilities in the pilot region.

Role of local government as provider of services

The role of local governments has changed as a result of the pilot, which creates a purchaser–provider split. Before the pilot, local governments acted as purchasers and as owners of providers. This applied to oblast-, city- and district-level facilities, all owned by their respective local administrations. As a result of the pilot, local governments stopped acting as purchasers of health care services, except for some specific types of services, such as the sanitary-epidemiological service. The SHIF has become

the purchaser of services and local governments continue to perform the role of facility owners. Therefore, the principle of purchaser and provider split has been implemented.

Funding at the provider level

The use of budgetary funds at the provider level remains administratively cumbersome although the new payment system has resulted in increased flexibility. Before and during the pilot, all public facilities made their payments using the treasury system. Prior to the pilot, the Ministry of Economy and Finance was responsible for calculating providers' annual and monthly spending, disaggregated by line items. Reallocation of these funds was a difficult bureaucratic process. During the pilot, the line-item disaggregation has been removed at the treasury account level, but it is still used as a basis for facilities' spending plans. In the pilot, providers submitting a request for payment to the SHIF need to specify for which line items the funds will be spent and they need to give a written explanation in case their proposal differs from the agreed plan. In response to these requests, the SHIF pays a lump sum and monitors the actual expenditures via the treasury data. This arrangement somewhat increases financial flexibility, but autonomy remains insufficient to show any major improvement in the efficiency of spending. An increase in autonomy should be supported by improved capacity of facility management. Some capacity-building activities were offered and this work should continue further.

Facilities receive funds to finance different levels/types of care to separate treasury accounts. For example, the Rayon Medical Union Agglomeration of Sardoba District receives money in seven separate accounts: a multiprofile medical centre, family polyclinic, FD point, ambulance unit, central rayon hospital, an urgent care unit and a healthy lifestyle centre. The separation of accounts was meant to protect the PHC budget from its use for specialized care needs. In practice it leads to severe fragmentation in facility-level financial management and its primary purpose – protecting the PHC budget – is difficult to achieve. It could even mean that the PHC budget within one facility is separated further to different service provision units, such as the family polyclinic and FD point. A noteworthy positive change during the pilot is that facilities can retain their unspent funds for the next budgetary period. Before the pilot all public funds were supposed to be returned to the budget.

SHIF oversight of provider spending

Within the pilot, the SHIF was tasked with controlling provider spending and ensuring the "rational and rightful" use of funds by providers. Monitoring the financial performance of providers is an important component of implementing health financing reform, as it can provide valuable insights into further reform implementation. However, along with monitoring, providers must be given sufficient financial autonomy to respond to the financial incentives introduced by the new system. In 2021 the SHIF was unable to control the use of funds due to limited capacity to perform this function.

New payment mechanisms and contracting

Before the pilot, health services were financed using a line-item budget. The purchasing of services was passive, not linked to provider performance and carried out through the local (oblast, district, municipality) administrations. The level of funding was subject to decisions of local councils.

Criteria-based purchasing is not used in the pilot. The SHIF contracts all public providers in Syrdarya Oblast. It is planned that purchasing services from private providers, as well as a criteria-based contracting approach (which envisages having specific requirements about service provision and provider capacities in order to sign the contract), will be used at the later stages of the health financing reform, although the exact implementation details are not developed yet.

Transition to new payment methods

The pilot envisages gradual transition to the new payment methods. This would allow the purchaser and the facilities to adapt to the new system, incentivize the collection of necessary performance data and prevent significant changes in facilities' budgets. Per capita payment was planned to be used for PHC and outpatient specialized care. For hospital care, the case-based payment using diagnosis-related group (DRG) system was introduced in 2021.[5] To allow gradual transition, 10% case-based payment was introduced, along with global budgets to pay the other 90% of historical budgets of facilities. Some of the public health services (promotion of healthy lifestyle, blood safety, communicable disease treatment) are financed by the SHIF using the global budget based on historical spending. Vaccination services were included into PHC payments. Some of the services, such as sanitary–epidemiological oversight, are financed from local budgets.

Transition to new contracting methods for providers

The contracting of providers for a defined scope of work is a major shift from the pre-pilot line-item and input financing approach. Under the new financing system of the pilot, the SHIF has contracted 29 legal entities.[6] The contracts are paper based and financial transactions are made via the treasury e-system called UzAzBo. The contract between the SHIF and service provider regulates the scope of services that should be provided to patients, all service provision locations and the information required for budget calculation:

- the number and age–gender structure of the population that is being provided with PHC and outpatient-specialized services; and
- the amount to be paid as global budget for inpatient services, as well as estimated budget for 10% DRGs component of the payment (while actual payment using case-based approach depends on the actual number and type of hospitalization).

5. In this report, the terms case-based payment and DRG are used interchangeably.

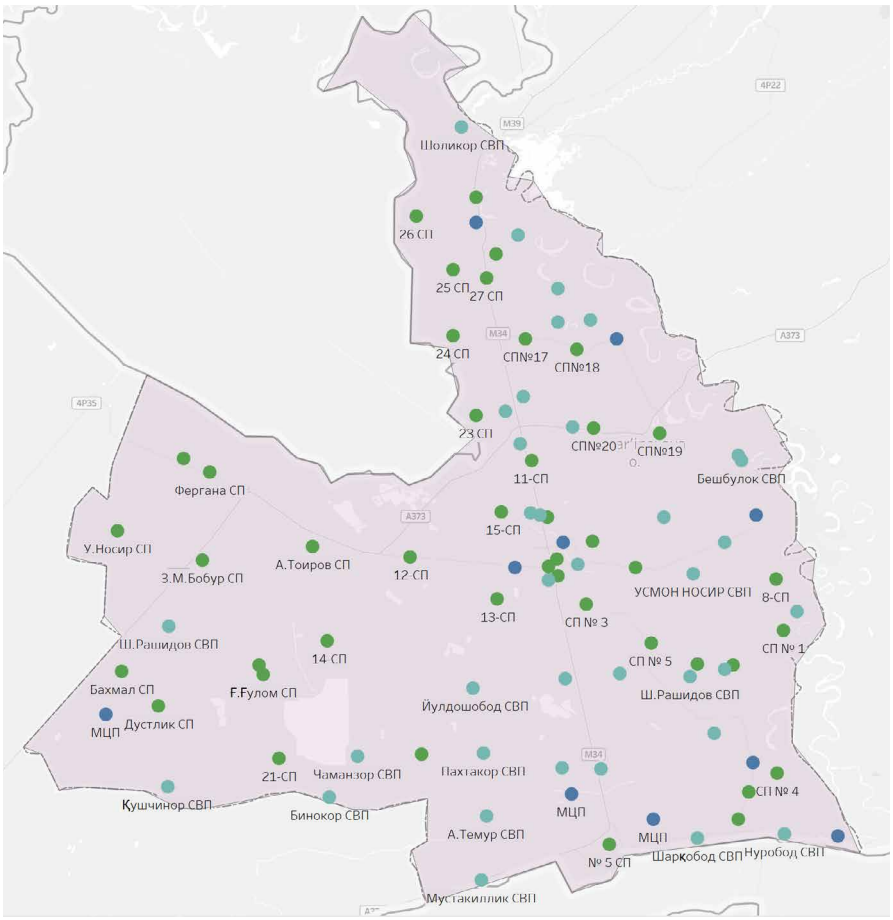
6. These legal entities include various types of provider: district/city medical unions, including hospitals, multidisciplinary outpatient clinics and PHC units under one legal entity; oblast-level facilities; and specialized centres.

According to contract provisions, providers are requested to input all necessary clinical data on discharged patients to the electronic health system.

Contracting for PHC and outpatient specialized services

Within the pilot, the SHIF contracts 11 legal entities (facilities) for provision of PHC and outpatient specialized services. These legal entities manage 98 service delivery points throughout Syrdarya Oblast (Fig. 3). As discussed above, providers receive separate lump-sum payments depending on the type of care provided and service delivery location into separate treasury accounts, which results in a fragmented facility level financial management.

Fig. 3. Contracted PHC and outpatient-specialized service delivery points in Syrdarya pilot, 2021



- Central multiprofile polyclinics (urban and district)
- FD point
- Family polyclinics (city and district)

Source: data provided by personal communication from the SHIF

Per capita payment rates for PHC and outpatient specialized services

The per capita payment rate for PHC and outpatient-specialized services was calculated using a bottom-up approach based on the estimated cost of inputs. The per capita calculation is based on estimated cost of input resources (mainly staff) needed to provide services and ensure availability of key medicines at facility level. The per capita rate was calculated separately for rural and urban PHC facilities. The rural PHC per capita rate was further divided for FD points and rayon polyclinics, both providing PHC services (Table 3). The calculated rate was based on staffing norms of 1.0 FD, 3.5 nurses (1.0 practising nurse, 2.0 patronage nurses and 0.5 midwife) serving a population of 2000. Additional staff such as specialists and nurses, statistician nurses, laboratory specialists, cleaners and auxiliary staff were included into the calculation.

Table 3. The per capita rates for different PHC providers, 2021

Type of facility	Annual per capita rate (Uzbek som)
Urban family polyclinic	141 520
Rayon family polyclinic	111 576
FD point	112 115

Per capita payments for PHC represent a good first step towards creating new incentives for increased system performance. This is particularly important as the move is made from line-item financing towards more modern payment methods. Per capita payment is a population-based payment method, which should be a cornerstone of financing PHC *(19)*. The transition to per capita payments is helpful in achieving higher transparency and equity of resource allocation, restructuring the care delivery model, increasing the efficiency of resource use, increasing the level of provider autonomy and expanding the scope of care undertaken in PHC facilities *(20)*. Still, changes in service delivery, medical staff knowledge and skills, and better use of information are needed to achieve significant improvement in terms of health outcomes.

The payment rate for specialized outpatient services was calculated as an additional separate per capita payment for the catchment population of city or rayon. The rate was calculated separately for municipal and rayon facilities, although the difference in per capita rates is very small (Table 4). The financing method of per capita payment was proposed for specialized outpatient services because it allows more stable and predictable financing of services. The alternative for per capita payment was paying a fee for services, which could have created incentives to over provide services and, therefore, create budgetary risks for the SHIF.

Table 4. The per capita rate for outpatient services

Type of facility	Annual per capita rate (Uzbek som)
Central urban multiprofile polyclinic	46 750
Central rayon multiprofile polyclinic	46 638

The difference in resource availability at urban and rural levels creates equity concerns in access to PHC. The payment rates were calculated considering the difference in available resources in rural, rayon and urban facilities, which are based on the norms defining service provision rules. To mitigate these differences, patients served by FD points (the smallest rural PHC facilities) can seek care in outpatient specialized care units of their rayon.

The adjusting coefficients for PHC are based on gender and age. Specifically, an analysis of the Fergana Oblast conducted by the United States Agency for International Development informed the calculations of the coefficients (Table 5) *(21)*. Capitation adjustment systems in other countries were also explored but the decision was to use local data, which are expected to best reflect country reality.

Table 5. Approved age and gender coefficients, 2021

Age (years)	Gender	
	Male	Female
<1 (0–12 months)	2.28	
1–5	1.51	
6–14	0.94	
15–39	0.59	1.05
40–49	0.73	1.10
50–65	1.10	
65 and older	1.15	

The per capita rates were approved by the Ministry of Health but were financially unaffordable. The use of decreased (and financially affordable) capitation rates could have created financial risks for several providers. The approved per capita rates were calculated based on norms, while the pilot budget was defined based on historical spending, indicating the misalignment between set norms and available budget. The approved per capita rate and coefficients multiplied by a general population of Syrdarya Oblast resulted in 71 billion som in 2021, which was 24% more than the 54 billion som that was allocated to the pilot for PHC. The option of decreasing the per capita rates using a top-down

approach was not used by the SHIF, as the budget modelling showed that it could have resulted in loss of budget for more than half of contracted providers. The risk of budget loss for some of the facilities arises primarily from the high actual number of staff working in the facility. The staffing norms for PHC were not reviewed in line with implementation of the new team based PHC model.

Transition to per capita rates for PHC and outpatient specialized services

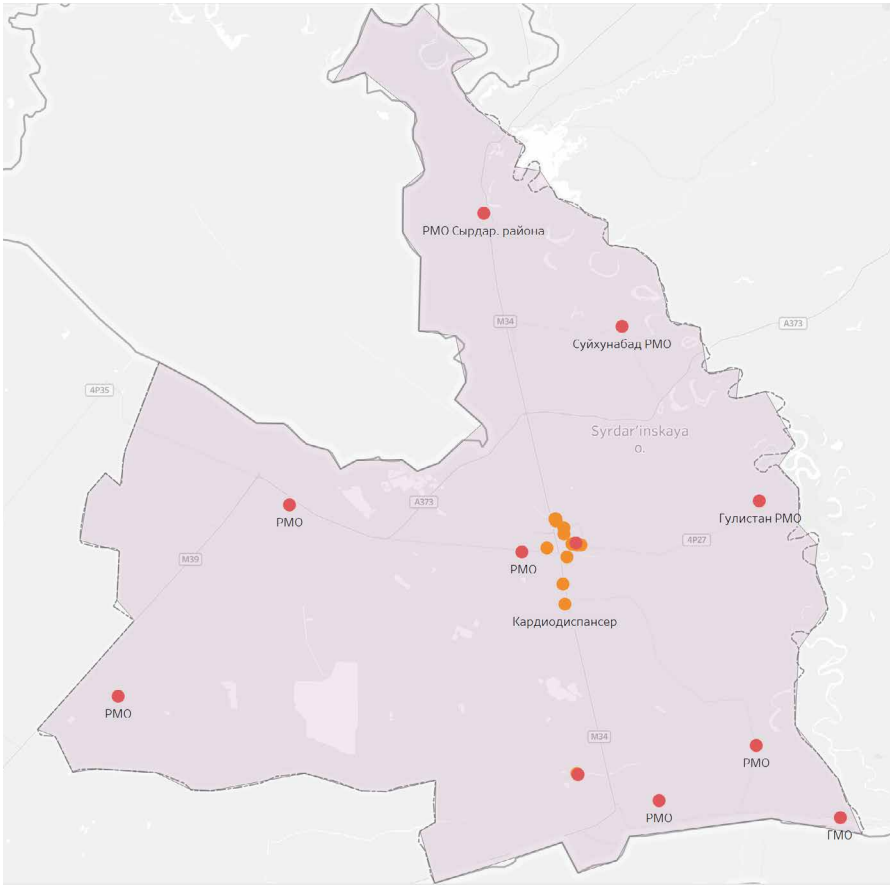
The transition to approved per capita rates has been continuously postponed because of the lack of budgetary funds. Given that the pilot budget was not increased in 2022 apart from an inflation adjustment, the SHIF did not have fiscal space to implement per capita financing without putting some providers in financial risk. Therefore, during the first half of 2022 the PHC and outpatient specialized services were financed using historical budgets. Compared with the pre-pilot era, the budget during the pilot has not been divided into different line-items, meaning that facilities received funding as a lump sum.

Per capita financing was partially implemented in 2022. In November 2022 the SHIF began using per capita financing in practice, using its reserve budget for this purpose. The 2020 rate was used for payments (not adjusted by inflation), and the official number of the population according to local statistics (not e-health data) was used to calculate the payment. Even with increased financing, some facilities could have been at financial risk due to implementation of the new payment method. Therefore, the facilities that were supposed to receive decreased budget were financed at the historical level. Other providers received increased financing according to the per capita principle. This approach is also used in 2023.

Contracting for inpatient services

Within the pilot, the SHIF contracted 27 facilities providing inpatient care. Of these seven are paid for providing care using solely global budget and 20 are paid using both global budget and case-based financing (Fig. 4). The principles of calculation of payment rates for hospital care were approved by SHIF SB decision No. 19. Before the approval, the approach was discussed within the task force comprising representatives from the Ministry of Health, Ministry of Economy and Finance and SHIF.

Fig. 4. Facilities contracted for provision of inpatient care in the Syrdarya pilot, 2021



City and district level hospitals

Oblast level hospital

Source: data provided by personal communication from the SHIF

The exclusive global budget payment is used to pay for services provided by the oblast-level narcological (substance-dependence) dispensary, tuberculosis centre, infectious disease hospital, psychiatric facilities, skin-venereological dispensary and oncological dispensary. The combination of global budget and case-based financing is used to finance inpatient services provided by oblast, district and city multiprofile facilities, as well monoprofile facilities such as endocrinological and cardiological dispensaries, ophthalmological clinics and war veterans clinics. For these facilities the global budget is calculated as 90% of historical expenditures.

Case-based payments

The base rate for case-based payment and coefficients were calculated using a top-down approach. The 2019 data on provider performance were used by the task force to make the grouping of hospitalizations and to calculate relative weights based on the duration of hospital stay and

cost of bed-days in different departments. The relative weights are fixed for the pilot duration, while the base rate is calculated monthly using available monthly allocation for hospital care to be paid using DRGs. The grouping approach was organized in five stages:

- clinical grouping for all forms into 68 homogeneous groups according to diagnosis under the International Statistical Classification of Diseases and Related Health Problems, version 10 (ICD-10) and 2019 data from inpatient annual statistical form;
- calculation of expenditure per single bed-day;
- calculation of per case expenditure based on bed-day expenditure and length of stay;
- calculation of average per case expenditure, base rate and weights; and
- merging of non-representative groups and expert adjustment of coefficients.

A total of 59 groups were used to pilot the simplified case-based payment mechanism. It was planned to start with a small number of groups to allow providers and the purchaser to adapt to the new payment system and coding requirements. The number of groups can be increased as the capacity of both increases and as mechanisms are put in place to prevent upcoding.

The Government opted for gradual introduction of case-based financing. In 2023 10% of base rate is used for payment along with 90% of historical budget being paid to facilities as global budget. The gradual implementation approach was applied to minimize financial risks for facilities, which could lose considerable funding due to changing the payment method. Gradual implementation also allows for smoother transition in terms of capacity development at the SHIF and on the provider side.

Additional adjustments to case-based rates

Additional adjusters were used to reflect the complexity of care and to stimulate data input. Before the pilot, surgeries were not routinely reported in statistics and it was decided that the additional coefficient of 1.2 would be applied for surgical hospitalizations. This coefficient was aimed at increasing payments for more costly hospitalizations and to stimulate reporting of surgical care. Given that the initial grouping is rather broad and does not reflect the complexity of provided care, it was decided to introduce additional coefficients based on the level of provider: hospitalization in oblast-level facilities were paid using a coefficient of 1.5 and care provided in rayon and city hospitals used a coefficient of 0.7. Further development of the case-based system is planned to better account for the complexity of care and comorbidities.

There are delays in payments for the case-based component. This results because the base rate is calculated monthly based on actual number of

hospitalizations and actual case mix. In order to calculate the base rate, the SHIF needs to receive and verify information about hospitalizations in all facilities paid using DRGs. Because of delays in the submission of discharge data on the providers' side, as well as pre-payment monitoring, the SHIF was not able to pay the 10% in time; in 2021 the payments for July and August were made in October and the payment for September was made in December. The situation improved in 2022, the SHIF paid the 10% of payment using DRGs with about a month's delay.

Monitoring of hospitalization

The SHIF verifies the data on hospitalizations using different monitoring strategies. The contract grants the SHIF the right to check and monitor providers' compliance with service provision requirements and providers are obliged to ensure that the SHIF has access to all necessary information. If the SHIF identifies any discrepancies between e-data and original paper-based medical documents, or any other violation of contract provisions, they can suspend or adjust the payment. In 2021 the SHIF monitored the appropriateness of hospitalizations and identified instances of the admission of patients with conditions that could have been treated in outpatient settings. The payments to the monitored facilities were decreased accordingly. Before the pilot, avoidable admissions were not monitored and, hence, no financial adjustments were applied.

The pilot resulted in reallocation of funds for hospital care according to facility performance. The in-depth analysis of facility revenues under the new system showed that the new financial arrangement increased financing of facilities with higher productivity, in particular the ones that had a higher number of hospitalizations and treated more complicated conditions. This suggests that further use of case-based payment will help to align financial incentives with the policy objective of increasing productivity of inpatient facilities. There was some confusion among the providers with regards to calculation of the 10% of the budget using DRGs, although the SHIF conducted several technical meetings with hospital managers. Some of the providers assumed that 10% of budget is applied for the salary component of a payment (although the pilot payments are not organized in a line-item structure). This situation proves the need to continue communication with providers.

Development and enhancement of the e-health information system

Architecture of the e-health system

The new approach to data collection and data management is at the core of the pilot implementation. The pilot concept envisages the development of the integrated e-health system and its use by the health facilities within the pilot project. To coordinate all the IT developments in health sector, the Government has established a separate institution called IT-Med. Within this mandate, IT-Med was appointed as a responsible body to organize development of the IT modules to support the Syrdarya pilot. In spring 2022 to speed-up the process and engage additional capacity, the Ministry of Health engaged a private IT company for development of separate e-health modules. The role of public and private institutions in the future e-health system is not yet defined.

Temporary solutions were applied as the pilot implementation of relevant e-health modules was delayed. These modules included the patient registration module for PHC, the hospital discharge module (Form 66) and the module for calculations of provider payments. None of these modules was available by July 2021 due to the Government's other priorities in e-health development, particularly development of the modules for the national health financing pilot. However, the pilot started and temporary solutions were found during implementation. An additional module allowing providers to report their activities was implemented at outpatient level.

Functionality for data aggregation and visualization of e-health data for providers is lacking. This means that providers can only input data but cannot receive the information back from the system in aggregated or disaggregated formats. It negatively affects providers' motivation to work in the e-health system and does not allow facilities and health specialists to analyse their performance using more convenient and modern e-solutions.

Governance and adequate funding of the development of the e-health system remains a challenge and puts the reform implementation at risk. There is no approved strategy for the development of a health information system and the coordination mechanisms and distribution of functions and authorities among the key participants are not sufficiently clear and transparent. There is also weak integration between e-health development and state health statistics for their alignment. This requires facilities to maintain a parallel flow of documents (in paper and electronic form). The funding for the development of the e-health system has been insufficient and the Ministry of Health and IT-Med faced a shortage of funding to develop all necessary e-health modules.

Development and use of e-health modules

PHC data management

The PHC module with population registration functionality became available in autumn 2021. This module is used for population empanelment and includes basic demographic data, the personal identifier of an individual, their NCD risk group and information about the PHC provider responsible for delivering care to this patient. No clinical information about a patient, apart from NCD risk group, was included in the dataset of the first PHC module in 2021. The data input was organized by PHC providers in districts and cities for their catchment population (population officially registered in the respective district/city). The level of population registration in the e-health system is high: in December 2021 providers registered 92% of the official population in the system.

Further system upgrades to register chronic conditions and issue e-prescriptions were developed in June 2022. The introduction of the outpatient medicines programme required future development of the PHC module. To ensure the availability of needed information, the private IT company MedHub developed modules allowing staff to add information about patient diagnosis to patient EHRs. After this information is added, the new functionality of issuing e-prescriptions became available in the system. The system also allows referrals to be made and for registering some basic measurements. Further development of the module will be needed to accommodate the data on clinical activities and performance indicators. The International Classification of Primary Care *(22)* was approved for the pilot and will be added to the e-health module in 2023, but the challenges concerning educating health staff on how to use the new classification are not yet addressed.

Specialized care data management

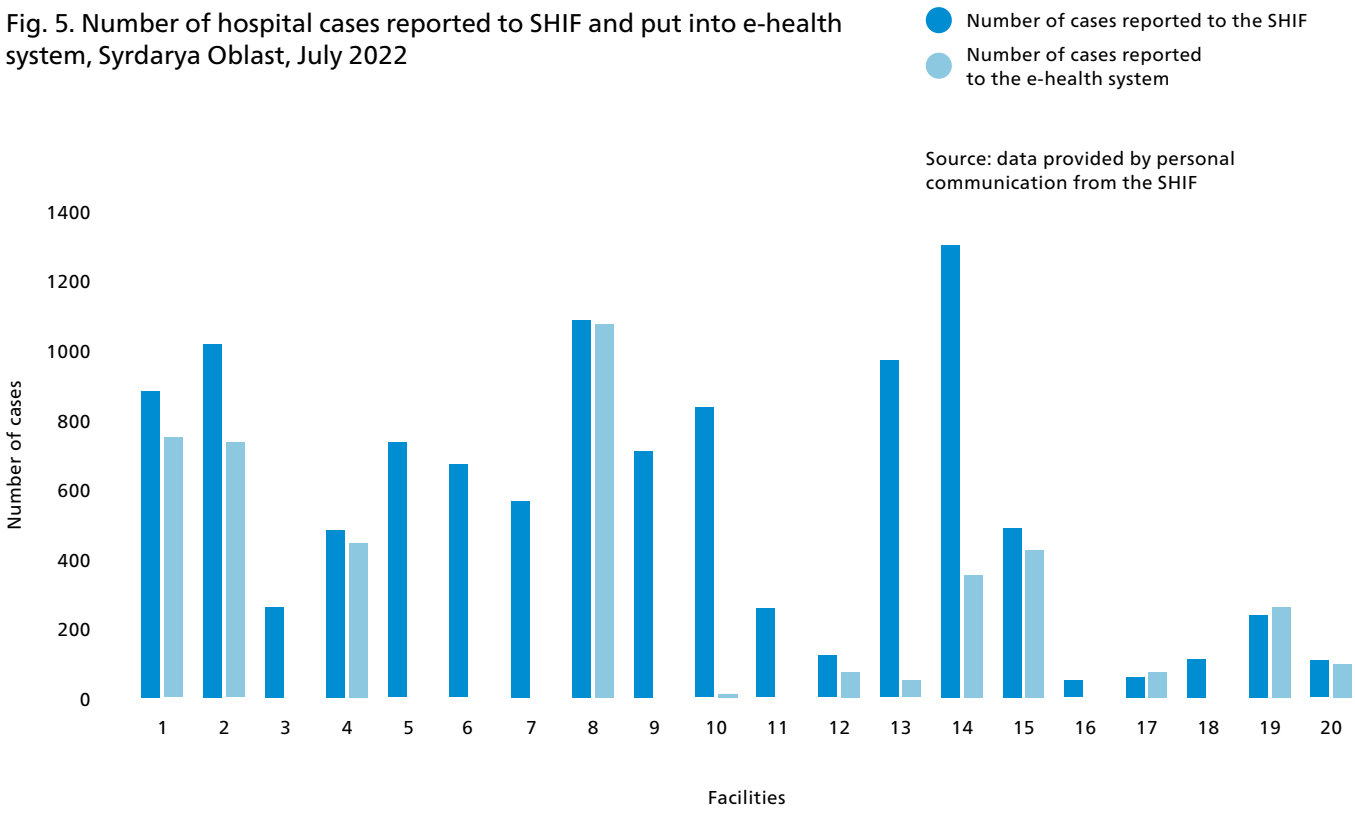
The module for the hospital discharge data is available at the specialized care level but requires further development. The ICD-10 classifier is used for coding the diagnosis and the International Classification of Health Interventions is used to code surgical procedures. The latter was approved by Ministry of Health within the preparation of the pilot project. No surgical interventions classifier was available before the pilot. Some of the additional classifiers, such as one defining standard department names, were approved for the pilot as well.

Parallel data collection mechanisms about hospitalizations were used in 2021 to implement case-based payments. As the e-health module on hospital discharges was not ready at the beginning of the pilot, the 10% DRG payment was under threat. Two options were discussed to overcome this challenge: either pay 10% of the historical spending in addition to the already paid 90% or use ad hoc data collection mechanisms. The latter was selected with the key objective of testing operational procedures and developing the SHIF capacity in using DRGs

for payments. The SHIF developed an Excel model for data reporting. The providers submitted the data on the hospitalization in aggregated format according to the 59 DRGs.

The e-health module on hospital discharges became available for providers in autumn 2021, but the use of the Excel module continues. Given that the e-health data were not used for payment, providers have low motivation to put information in the e-health system. As of 15 December 2021, hospitals have entered into the electronic system the data on 48 305 patients treated in the hospital between July and November 2021, which is approximately 50% of the total number of patients for this period. The situation of major discrepancies in data provided within the e-health and Excel module continued in 2022 (Fig. 5). The key bottlenecks in the use of e-health information for actual payments are the absence of internal control functions to support data quality, the fact that the SHIF has no direct access to the hospitalizations database and that there is no function of automatic report generation.

Fig. 5. Number of hospital cases reported to SHIF and put into e-health system, Syrdarya Oblast, July 2022



Source: data provided by personal communication from the SHIF

Policy considerations

Further system transformation in PHC provision, health financing and building the new e-health system will help the country to progress towards universal health coverage. This section provides recommendations for consideration both for high-level necessary health policy changes and for specific implementation improvements to support the development of the health care system.

Rollout of the reform

Developing a realistic, detailed and stepwise rollout strategy for implementing the health reform in other oblasts is crucial. This strategy should build on the lessons learned from the initial years of implementation in Syrdarya and consider amendments and further development of the currently piloted model. To achieve this, the PHC task force should develop the PHC components of the strategy. The strategy should also include comprehensive changes to health financing arrangements, including a higher level of pooling of resources, introduction of contracting, new payment methods and provider autonomy. Some activities can work in parallel, such as extending the model to selected new regions while starting preparations and capacity-building in other oblasts. Furthermore, an increase in the number of staff working in the SHIF should accompany the pilot extension.

Further implementation of health reform will require changes beyond PHC provision, health financing and e-health. The currently piloted changes should be accompanied with increased efficiency in the hospital sector, further service delivery changes, a comprehensive strategy in addressing challenges in human resources for health, improvements in management of the pharmaceutical sector and other fundamental changes.

Transformation of PHC

Leadership

- **Establish an interagency task force led by the Ministry of Health to take the PHC reform agenda forward.** Sufficient and stable Ministry of Health representation and leadership should be ensured but task force composition should include representatives of the SHIF, regional health authorities, managers and professionals. The roles and responsibilities of the different members of the task force should be clearly defined. The task force should become a platform to ensure collaboration between the Ministry of Health and the SHIF and between central and oblast health authorities. As the new PHC model is implemented in other regions, the work of the task force will intensify substantially and new members from other regions should be included to facilitate cross-learning and implementation. The task force should oversee the rollout process and ensure sustainability of the transformations through the alignment of all health system enablers, including financing, workforce strategies, support of digital technologies and the contributions of

all donors and partners. The task force should identify the elements of the service delivery model that need to be improved/adjusted as the implementation progresses and should ensure that common core elements are respected while there is flexibility to account for context-specific (oblast) characteristics. The task force's immediate priority should be to make sure that all facilities in Syrdarya fully operate under the new model and that all PHC teams have received equal and appropriate training to be able to do so. For this, the first step is to clearly assess the implementation status of the new model in all PHC facilities in Syrdarya. Based on this, facilities could be classified as those with the new model fully implemented, partially implemented and not implemented, and a tailored plan should be developed accordingly. The task force should play an essential role in ensuring that the evaluation and monitoring framework of the pilot is properly implemented. It should lead the development of a PHC strategy for Uzbekistan.

- **Initiate the development of a PHC strategy.** This should describe the main principles and strategic directions of the PHC reform and the envisioned PHC model in the short, medium and long term and include a timed rollout plan. The sum of legislative documents, mostly in the form of presidential decrees, provides a solid foundation for the PHC reforms to proceed. To enhance operationalization of the reforms, a strategic document outlining the transition to the envisioned PHC model with a timed rollout plan would help as the gradual scaling up begins. The PHC strategy can play a fundamental role in promoting the understanding of the PHC reform among key stakeholders, which is critical as rollout starts in more oblasts. It can also help in monitoring implementation progress over time and in raising awareness and improving coordination among donors and international partners for PHC-strengthening efforts. The development of the strategy could be one of the key tasks of the PHC task force. The strategy should be based on the principles set out in the Presidential decrees and resolutions and draw on the lessons learned from the pilot in Syrdarya as well as on international evidence.

Establishment of multidisciplinary PHC teams

- **Address staffing across PHC teams to ensure composition is fully aligned with the team-based model while accounting for context-specific needs.** Currently there is unjustified variation in numbers of personnel of different professions across PHC teams in Syrdarya. While there may be justified deviations from the general team structure (one FD, one practising nurse and two patronage nurses for a population of 2000) that tailor a team's composition to contextual needs (such as rural location, population density, health needs, coordination with other providers), current variations do not result from strategic planning but from shortages and irrational distribution. The pilot provides a good opportunity to analyse advantages and challenges of different mixes of professionals and to refine team numbers based on lessons learned. This requires a more systematic analysis and the involvement of PHC managers and professionals from Syrdarya.

- **Ensure that workforce planning policies promote a sustainable and stable number of FDs over time.** Attraction and retention policies are

needed to ensure that FDs are prioritized for remote and hard-to-reach areas. Currently there are no efficient policies to attract FDs to rural areas nor to improve the production capacity of FDs. The shortage of FDs in Syrdarya cannot be overcome simply by adding other professionals to the teams. Attraction and retention policies for PHC professionals to rural areas should be embedded in a formal long-term workforce planning process that accounts for the human resources for health needs indicated in the new model being piloted in Syrdarya. Workforce planning policy should focus on forecasting demand aligned to the new model of care so that an adequate long-term workforce supply is guaranteed. It should not be limited to an accounting exercise of the current workforce numbers and their replacement.

Roles and responsibilities of professionals of multidisciplinary PHC teams

- **Increase attention to the role and competences of FDs and strengthen the prestige and recognition of family medicine.** This requires introducing a 3-year family medicine specialty so that it has the same relevance and prestige as any other specialization. In the short and medium term, reintroducing the retraining programme in family medicine for specialists and providing ad hoc specific training to FDs so that they are adequately equipped to deal with patients with more complex conditions should be considered. Such training should focus on the most prevalent conditions in the oblasts undergoing the reforms as well as on the principles of the envisioned PHC model. It should be designed by trainers previously engaged in the family medicine training programmes (considering support from international experts when needed) to support development of multidisciplinary training programmes with prioritization of participatory training methods, such as case discussions, role plays and problem-solving sessions.

- **Further improve clinical and nonclinical competences of practising and patronage nurses.** The establishment of check-ups before an FD visit (pre-doctoral check-ups) has been a good step towards the expansion of the autonomy and tasks of practising nurses. However, there is room for improving their clinical and nonclinical competences so they can progressively take on a more significant role in clinical management of patients with NCDs and deliver, for example, brief interventions on behavioural change aiming to modify NCD risk factors, improving medication adherence or enhancing self-monitoring. Likewise, initial steps have been taken to expand the role of patronage nurses from focusing on maternal and reproductive health to working with patients with NCDs. This is a good mechanism to improve the proactivity of PHC for patients with chronic conditions. However, their role is mostly limited to performing some basic tests and asking patients to visit their FD or the practising nurse. Their responsibilities on patient education and their community work with makhallas should be clearly defined, and systematized and appropriate training should be implemented.

- **Strengthen the work of makhallas with patronage nurses.** A focus on outcome-oriented interventions to address priority health needs of communities can thus be tailored to local needs while aligning with

national priorities. There is room for strengthening the way makhallas work with patronages nurses as this provides a good opportunity for reinforcing the linkages between health and social sectors. This will entail moving from irregular or sporadic interactions to systematic and better planned activities; from reactive care to proactive care focused on prevention and health promotion; and from individual needs to communities' upstream health needs focusing on the social determinants of health. Makhallas play a significant role in identifying a wide array of needs of individuals within their community, who may need special support (such as needing wheelchairs, support for visual impairment or other special needs, support to purchase medicines, or needing complex surgery in a Republican hospital). This work must be balanced with more proactive preventive work on specific, outcome-oriented interventions in coordination with PHC teams (particularly patronage nurses) to define priority health problems for the community. These should be jointly decided between each makhalla and PHC team based on context-specific and national priorities and may include, for example, early detection of hypertension and diabetes, family planning interventions, addressing irrational use of medicines (such as antibiotics) or polypharmacy, reducing alcohol consumption or stopping smoking, and promoting physical activity. The information collected by makhallas on the social determinants of health of households (access to running water or electricity, economic status, employment status of the breadwinner, unwanted loneliness, etc.) should be collected through a standardized tool (survey) that ensures the quality of the information collected and enables comparison across makhallas. Such socioeconomic data should be combined with or integrated through the EHR with data on morbidity and health service utilization.

- **Enhance multidisciplinary teamwork and shared decision-making within PHC teams.** Multidisciplinary training should focus on new pathways for priority NCDs and on patient outcomes. Efficient PHC teamwork requires not only well-distributed task profiles but also well-distributed decision-making capacities and new organizational arrangements for effective teamwork. For example, patronage nurses could gain unique competences in assessing a family's comprehensive psychosocial needs and making decisions on the support needed. Their role in shared decision-making would then be equally important to that of FDs. This requires a team-based organizational culture and a switch from doctor-centred decisions towards shared team decisions supported by digital shared care planning tools. To achieve this, in addition to organizational changes, the continuous medical education system should also be revised. Formal training courses geared for one specific group of professionals should be complemented with multidisciplinary teamwork training (see a specific recommendation on this below) that includes interactive training methods based on practical cases. This would allow a better understanding of what skill mix is needed to assess and address complex needs and to achieve better PHC performance outcomes for individuals and populations. Multidisciplinary teamwork can be achieved while still prioritizing the needs of patients with complex conditions, for example through the development of shared care plans where all professionals have the chance to contribute equally. These plans could encompass not just the activities of PHC professionals but also the role of the patient, family members and community support

(such as from makhallas, when agreed with them). Multidisciplinary work can be supported by digital solutions such as shared EHRs that grant equal access to all the PHC team members and enhance information collection and sharing (and with specialists, see below).

- **Adopt a phased approach to adding additional professionals to PHC teams focusing first on solidifying and improving the newly established roles, competences and ways of working.** There are ongoing discussions about moving quickly to a greater multidisciplinary approach in PHC by adding professionals such as psychologists or rehabilitation specialists to the newly established PHC teams. While this is a good idea over time, it is most important to address the present challenges that teams face, as described throughout this report, as well as to expand the entire model to all family polyclinics in Syrdarya and actively monitor the expansion. The key features of the new PHC model (such as check-ups before a doctor visit, universal progressive patronage model, greater teamwork) have not been equally implemented and/or monitored in all PHC facilities in Syrdarya. It is of utmost importance that this is addressed before moving towards further transformations. In addition, the staffing norms for PHC facilities should be reviewed and aligned with the new team-based PHC model.

Optimized patient pathways

- **Remove the regulatory barriers that force FDs to issue unnecessary referrals to narrow specialists.** These barriers include the inability to prescribe essential drugs for treating chronic conditions, such as insulin for diabetes (some of this is partially addressed through the reimbursement programme), or indicate some laboratory tests, for example glycated haemoglobin testing, which can be performed only with a referral from an endocrinologist.

- **Identify and address system drivers that facilitate bypass of PHC and result in direct visits to narrow specialists.** These drivers include traditional perceptions about preferred providers.

- **Maintain and strengthen joint training of specialists and PHC teams.** Such an approach will help to expand the skills of PHC professionals on issues such as NCD management, ensure full implementation of the new protocols, improve teamwork and increase understanding among narrow specialists of the distinct role of PHC professionals (who through continuity of care and nonclinical competences are better positioned to tailor clinical knowledge to individual and family needs). There is willingness from both narrow specialists and PHC professionals to participate in joint training. Previous experiences in Syrdarya at the beginning of the pilot in which endocrinologists were brought together with PHC professionals to improve their skills in diabetic care should be maintained and further expanded (for example with cardiologists or neurologists). Nurses must be included to ensure understanding and acceptance of their expanding role, including in patient education. The focus of this training should be on promoting teamwork in real practice, on contextualizing the approved clinical guidelines and protocols to the realities in the oblast and on agreeing on the role and responsibilities of

PHC nurses, FDs, specialists and patients. These training sessions, which should be included in the continuous medical education system, will contribute to improved understanding among health professionals. Multiprofessional conferences can also be organized on specific themes, where nurses, FDs and narrow specialists could present their perspectives in a mutually inclusive manner. Overall, such approaches will contribute to increasing the recognition among medical professional that there is a pressing need to invest in the competences of PHC professionals for prevention and outcome-oriented management of NCDs.

- **Enhance communication and information exchange between FDs and narrow specialists through the electronic system.** At present, there are several electronic systems that are not fully integrated. There are plans to invest in them to increase their functionality and achieve full integration, which are supported by the KfW Development Bank and the Asian Development Bank. Any developments in this area should favour the systematic information exchange between FDs (and other members of PHC teams) and narrow specialists. A promising development in this direction is the recent linking of the electronic population database (within IT-MED) with the software used by narrow specialists to record clinical data (MedHub). This enables linking any medical services collected through the software to the patient's personal identification number and it can eventually allow FDs to access all the medical information for a patient regardless of where it has been produced. However, this is not yet a reality. FDs should be able to easily access information on the tests and diagnostics made by narrow specialists. A formal channel to enable solving questions should be established.

- **Improve laboratory and diagnostic capacities at PHC.** A more comprehensive assessment of real needs in this area should focus on improving equity in access and on exploring possibilities for sharing resources across facilities. Despite past and ongoing efforts, there are PHC facilities, particularly small facilities in rural areas, that lack adequate equipment and laboratory test capacity for NCD management. There are preliminary analyses of the availability of equipment and its alignment with real needs at PHC facilities, which is a good step. However, a more comprehensive assessment is needed that would account for (i) existing inequalities in access between urban and rural populations; (ii) the possibility of sharing laboratory equipment within PHC networks; and (iii) ensuring efficient collection and transportation of samples from remote PHC facilities.

Performance monitoring

- **Ensure that the new set of approved PHC performance indicators for Syrdarya are fully implemented, adequately monitored and calculated through the electronic system.** These indicators should be routinely used by PHC teams and all relevant stakeholders for quality improvement purposes in Syrdarya. The indicators need to be tested and adjusted based on how well they work, and they can be monitored in practice before their implementation in other oblasts. The first step is to make sure that all PHC workers in Syrdarya are familiar with the indicators. This is critical to ensure that PHC teams start to use them to assess their

own performance and eventually to establish a benchmarking system. In parallel, and to make sure that these indicators are properly monitored, it is essential in the short term to ensure that all of them can be obtained electronically.

- **Approve, implement and monitor a single set of indicators nationwide. These should be based on those being used in Syrdarya to measure the success of the PHC reform.** The final set of indicators can be informed by implementation experience in Syrdarya and can be expanded to include additional indicators to cover other priority areas (such as cancer screening or antenatal care) as performance monitoring capacities increase. Moreover, it is important to ensure coordination with the indicators being developed for the PHC information management system with Asian Development Bank support. Regardless of the final selection, these indicators should be the same across the country to allow for proper comparison. Ideally, the indicators should be monitored electronically and without placing an additional burden on PHC professionals.

Implementation of health financing reform

Governance and operational management of the SHIF

- **Establish effective cooperation between the Ministry of Health and the SHIF.** Strong leadership will be required to ensure the long-term success of the reform and to develop a shared strategic vision for state health insurance. The SHIF's governance structure with its established and operational SB has good potential to support implementation and rollout of the reform. However, further efforts are required to ensure clear cooperation and delineation of roles between the Ministry of Health and SHIF in policy development and implementation of the reform. The Ministry of Health plays a crucial role in leading interdepartmental cooperation in health insurance but also needs to rebuild its capacity to support the pilot and rollout, particularly in service delivery. The SB must provide support and ensure continuity of the reform while both the SHIF and Ministry of Health are strengthened. While the comprehensive review of the governance structure can be conducted after full implementation nationwide, adjustments may be necessary in the short term to the SB's composition during the reform rollout to multiple oblasts.

- **Ensure that the SHIF has an appropriate level of independence and adequate staffing.** A number of skilled staff will be needed at national and subnational levels to implement the new purchasing policy. The SHIF's scope of responsibilities should align with its budget, capacity and level of maturity. The experience from implementation of the Syrdarya pilot is a solid foundation for rollout to other regions. However, assigning too many tasks for the newly established organization creates risks for its sustainability and development. Number and skills of staff in the SHIF remains insufficient for the scale of the ongoing pilot and

is caused predominantly by the absence of necessary expertise in the country. The recruitment of new staff and creation of a competitive salary level are vital to cope with rapidly increasing workload and highly complex tasks. The newly hired SHIF staff needs capacity-building and support. Moreover, the rapidly growing organization creates management challenges such as the need to review the organizational structure and bring more clarity in central and regional-level functions. These issues along with other governance challenges should be addressed in the SHIF strategic development plan, which should be approved by the Government of Uzbekistan. Broad-based and coordinated assistance from development partners is imperative to support successful reform implementation.

Benefits design

- **Revise the benefits package to focus on expanding the role of PHC services.** This would include provision of essential diagnostics and medicines, making PHC universally accessible and de facto free at the point of use. This approach is aligned with population health needs, equity and financial protection considerations. The focus should be on evidence-informed and cost-effective services tailored to health needs to improve health outcomes and increase efficiency. Financial protection considerations will require additional analysis to understand which services cause the most financial hardship. Further development of the SHIF's capacity in designing and regularly reviewing the scope of benefits would be necessary.

- **Ensure the guaranteed scope of services is evidence informed, aligned with the available budget and responsive to the health needs of the population.** This will increase the credibility of the reform among both the population and providers. In practice, this alignment is possible with the analysis of service provision cost, as well as implementation of new payment methods.

- **Enhance the design and development of the SGBP to increase transparency and improve population awareness of entitlements.** A more proactive role in communications to beneficiaries is needed on how the health insurance system operates, what benefits are available under the health insurance system and what conditions of access apply. For example, additional laboratory diagnostics available at PHC and outpatient specialized care can improve disease management in outpatient settings, and more detailed description of specialized inpatient care services would enable better understanding of what diagnostics, procedures and medicines are included in the Government-funded SGBP. Benefits packages should be organized by types of service, not by the list of providers. Criteria-based contracting would be a more suitable instrument to select the capable and best-performing providers to deliver certain types of service within a benefits package (as discussed below). In the medium term, it is important to move to a unified benefits package across the country and to conduct a regular review of the package in a transparent and participatory manner to ensure its responsiveness to population health needs and alignment with the available budget.

- **Harness the early lessons from the newly introduced outpatient medicines benefits package.** These can help to improve its design and to make it more attractive and accessible for the population in need. First, it is necessary to increase the number of PHC facilities prescribing free outpatient medicines and the pharmacies that have contracts with SHIF and provide medicines free of charge to patients in order to ensure good geographical access to treatment. Secondly, it would be preferable to include several trade names for each of the selected INNs. Thirdly, revising external reference pricing is necessary to bring significant savings that could be used to expand the coverage. Cost control via improved pricing of medicines should be seen as the first best option. Lastly, the outpatient medicines budget should be pooled at the oblast level and not be divided into separate budgetary ceilings at the PHC facility level.

Health budget

- Continue with a general tax-financed health insurance system. There is a widespread misunderstanding that the introduction of separate payroll taxes for health is necessary because the Uzbek health financing system is referred to as a state health insurance system. This is not correct and it is highly recommended to rely on the general tax-financed system without introducing a payroll tax.[7] A recent WHO analysis suggests that the additional resources generated by the potential introduction of compulsory payroll contributions are limited. However, the risks of harming the labour market and the overall fiscal situation are significant *(24)*.

- **Gradually move towards national pooling of health care resources to get maximum value for money of public funds.** National-level pooling involves (i) direct transfer of national budgetary support for health from the central budget to the SHIF budget; (ii) one pool of funds for all oblasts planned to join the pilot; and (iii) a simplified procedure for transferring local spending on health to the national pool. If national pooling is not possible in the short term, oblast-level pooling should be the option used. However, an increasing number of oblasts covered by the new financing system will require the introduction of mechanisms to redistribute funding across participating oblasts to ensure a fair allocation of financial resources. In the situation of a transition to new financing principles, the use of historical financing for health at regional level becomes difficult to continue and may eventually create negative incentives for regions. Specific policy measures will be needed to ensure equitable allocation of centrally pooled funds – first and foremost, the strategic purchasing of services should be based on the health needs of the population and not on a region's contribution to the pooled resources. The new system of collecting revenues for health from general taxes would be a more preferred option as in that case the level of health spending does not depend on the historical decisions of local councils.

- **Move towards a health needs-based budget estimation.** When the pilot is expanded, it will be essential to make sure the budget is adequate in allocations to the health sector to finance planned services and

7. Based on international evidence and the Uzbek context, the optimal design for health insurance in Uzbekistan is a general tax-funded health insurance system. Although historically health insurance has been seen as a contribution-financed system (from premiums and payroll tax), this is no longer the case *(23)*.

administrative costs; the SHIF should have greater involvement in the budgetary process. In the short term it is crucial to improve the annual budget process to prevent the need to use funds from the next budget cycle to cover the gaps created in the previous year, as occurred in 2021. The pilot budget should be aligned with proposed payment rates and volumes of services. In midterm, the budgeting process will need substantive arguments about the increase of health spending, which could be generated with analytical efforts. The planned health sector budget must adequately reflect the promised benefits package, payment rates and volume of services, as well as take into account the changes in population size and structure, which have an impact on health needs.

Provider autonomy

- **Grant greater financial and managerial autonomy to providers, including for resource reallocation between different structural units of the facility, staff numbers and staff remuneration policy.** International evidence shows that achieving greater efficiency in resource use and better quality of services requires increased autonomy of health care facilities in managing their financial and human resource aspects. Although some of the minimal requirements on staff availability are important to ensure quality of care, existing centrally set rigid and unrealistic staffing regulations do not leave room for facility-level decision-making and flexibility to ensure optimal composition of staff to meet the health needs of the population. Strict regulation of wage schedules leads to similar challenges and limits the impact of the ongoing health system reform. For future health system transformation, it is worth exploring the pros and cons of applying a more autonomous form of public legal entity (a so-called state unitary enterprise) to public providers. Management training to prepare facility managers to take on more financial and managerial responsibilities is also needed.

- **Pool the resources at facility level by moving to a single facility (legal entity) account in the treasury system.** Currently, there are several accounts for different types of care. Using one sub-account for priority services, such as PHC, would allow tracking and protecting of priority service areas and would simplify overall financial management. All other accounts could be merged to decrease the administrative burden.

- **Accompany increased provider autonomy with clear financial and non-financial accountability mechanisms.** Providers' accountability should go beyond the control of spending by economic categories and cover services provided, compliance with contract provisions and patients' clinical outcomes, as well as the monitoring of the providers' use of funds and financial performance. Clear roles should be assigned to the Ministry of Health, SHIF and local governments within the new accountability framework. The SHIF could focus on collection of provider financial and cost data for costing and price-setting and analysis of financial performance to better understand how increased financial autonomy translates into changes in provider behaviour.

- **Provide additional capacity-building support to facility managers.** Managers will need new skills to effectively use increased autonomy, including financial management skills, implementation of improved human resource practices and overall management changes to better respond to the population health needs.

New payment and contracting mechanisms

- **Let policy objectives guide the discussion on how to further develop the payment system.** The introduction of new payment methods (fee for service, pay for performance, etc.) should be motivated by clear policy objectives, such as increased equity, better access to care or better health outcomes. The use of the new payment system should be assessed as an instrument to create the right incentives in the system, not as an end goal. Payment methods alone cannot resolve major health system challenges but should be accompanied by the changes in service delivery (which are already taking place in Syrdarya), increased provider autonomy and accountability, improved access to medicines, and so on.

- **Carefully monitor the progress and impact of implementation of the new payment and contracting mechanism.** The gradual transition to the new financing mechanism allows new incentives to be tested on a smaller scale, adjusted and necessary revisions introduced before rolling out across the system.

- **Consider further development of the PHC payment methods.** When purchaser and providers have gained implementation experience in the use of basic capitation, more complex incentives could be included, such as the introduction of additional adjustment coefficients beyond age and gender or additional payment methods at PHC level. The e-health system needs to be developed enough to provide reliable data for payment and provider autonomy increased so that the providers have room to respond to new and more complex incentives. Before the introduction of more complex payment methods, the Government will need to review the age and gender coefficients using the actual data on service utilization and providers' expenditures for service provision. At the initial stage of the reform, the basic capitation payment is a solid foundation for the system development.

- **Gradually fine tune the hospital payment system to better account for complexity of provided care and for comorbidities.** Analysing statistical and financial data from the first full year of the case-based system's implementation would allow for an assessment of whether adjustments in the relative weights system are necessary. Moreover, the successful implementation of the surgical procedures classifier enables the development of a case grouping algorithm for surgical treatment. This would improve the quality of the case-based payment system and replace the surgical cost adjustment coefficient with a more accurate cost weights system based on the specific features of different surgical procedures. The hospital payment system can also be further improved by moving towards automatic data processing.

- **In midterm perspective consider introduction of criteria-based contracting.** This envisages the use of a specific set of criteria with regards to a facility's capacity to provide services, also referred to as selective contracting. Criteria-based contracting could be first implemented for the limited scope of services with clearly defined service delivery requirements (for example obstetric care).

- **Invest in training and proactive communication with providers regarding the use of new payment methods and new health financing arrangements.** Publishing a pilot manual with answers to the most common questions could be a useful and practical step for building a common understanding of the use of new financial mechanisms.

Development and enhancement of the e-health system

Architecture of the e-health system

- **Ensure clear and transparent governance and regulatory mechanisms for the development of the e-health system.** This includes a clear distribution of roles and responsibilities among key stakeholders: Ministry of Health, IT-Med and SHIF. Engagement of private IT companies for development of e-health components requires explicit definition of the private sector role, regulation of its work and establishment of transparency mechanisms, as well ensuring safety of patient information.

- **Agree on clear priorities in the development of the e-health system.** Currently, the development of the electronic system has many competing priorities; this has resulted in delays in the development of the modules that are key to the pilot. Therefore, the clear roadmap agreed by key stakeholders and aligned with the pilot implementation timeline should be developed further and followed. In addition, a comprehensive legal framework should be approved to regulate development and operational details of the e-health system.

- **Secure sufficient funding for the development of the e-health system.** The availability of funding should be aligned with priorities in system development and expected timelines for further pilot implementation.

Development and use of e-health modules

- **Ensure the compatibility and interoperability of all e-health modules.** This includes those developed by different companies and requires unified data standards and classifiers and data exchange and storage standards for all the modules for the future e-health system.

- **Review and revise the currently collected statistical reporting forms.** This would allow partial transition to e-health modules in reporting the key statistical indicators and to ensure necessary data are collected. The

double burden of data input in both paper-based and electronic forms creates frustration among health workers and decreases the time they can allocate to patients. Making the reporting system integrated and allowing a more efficient process of statistics reporting will help to build trust and support from medical staff.

- **Develop the capacity and provide the necessary analytical tools for the SHIF and providers to analyse information and use it routinely.** This will include an increase in general computer literacy as well as special education on how to use specific e-health modules. The analytical tools should have an easy-to-use interface and feedback system to empower providers to access and analyse their data. This will improve data quality and enable information to be used to make management decisions. Easy access to an analytical module will also increase providers' motivation to use the e-health system.

- **Consider further modules after the currently planned modules are implemented.** The Government should focus on the modules to monitor clinical activities and provider performance. These modules will allow a better understanding of the providers' daily activities and of results for the patients. Use of these data for decision-making is a key feature in improving clinical quality of care.

References

1. Постановление Президента Республики Узбекистан, от 12.11.2020 г. № ПП-4890 о мерах по внедрению новой модели организации системы здравоохранения и механизмов государственного медицинского страхования в Сырдарьинской области [Presidential decree No. PP-489 0 of 12 November 2020 regarding measures to introduce a new model of organization of the healthcare and mechanisms of state medical insurance in the Syrdarya region]. Tashkent: President of the Republic of Uzbekistan; 2020 (https://lex.uz/ru/docs/5100701, accessed 20 June 2023) (in Russian).

2. Указ Президента Республики Узбекистан, от 12.11.2020 г. № УП-6110 о мерах по внедрению принципиально новых механизмов в деятельность учреждений первичной медико-санитарной помощи и дальнейшему повышению эффективности проводимых в системе здравоохранения реформ [Presidential decree PD-6110 of 12 November 2020 on implementation of fundamentally new mechanisms in the work of primary health care facilities and further increase of efficiency of current health reforms]. Tashkent: President of the Republic of Uzbekistan (https://lex.uz/ru/docs/5100679, accessed 8 July 2023) (in Russian).

3. Постановление Президента Республики Узбекистан, от 12.11.2020 г. № ПП-4891 о дополнительных мерах по обеспечению общественного здоровья путем дальнейшего повышения эффективности работ по медицинской профилактике [Presidential resolution PP-4891 of 12 November 2020 on additional measures for ensuring public health through increasing efficiency of the work on health prevention]. Tashkent: President of the Republic of Uzbekistan; 2020 (https://lex.uz/ru/docs/5100665, accessed 8 July 2023) (in Russian).

4. Постановление Президента Республики Узбекистан, от 25.04.2022 г. № ПП-215 о дополнительных мерах по приближению к населению первичной медико-санитарной помощи и повышению эффективности медицинских услуг [Presidential decree PD-215 of 25 April 2022 on additional measures to bring primary health care closer to the population and improve the efficiency of health services]. Tashkent: President of the Republic of Uzbekistan; 2020 (https://lex.uz/ru/docs/5979176, accessed 8 July 2023) (in Russian).

5. WHO package of essential noncommunicable (PEN) disease interventions for primary health care. Geneva: World Health Organization; 2020 (https://apps.who.int/iris/handle/10665/334186, accessed 20 June 2023).

6. HEARTS: technical package for cardiovascular disease management in primary health care: healthy-lifestyle counselling. Geneva: World Health Organization; 2018 (https://apps.who.int/iris/handle/10665/260422, accessed 20 June 2023).

7. New model of the patronage service helps to improve health services for mothers and children. Tashkent: United Nations Children's Fund; 2020 (https://www.unicef.org/uzbekistan/en/new-home-visiting-model, accessed 20 June 2023).

8. [Ministry of Health order No. 263 on the approval of regulations and the procedures for evaluating the activities of medical teams in PHC institutions]. Tashkent: Ministry of Health; 2022.

9. Integrated management of childhood illness [website]. Geneva: World Health Organization; 2023 (https://www.who.int/teams/maternal-newborn-child-adolescent-health-and-ageing/child-health/integrated-management-of-childhood-illness, accessed 20 June 2023).

10. Standards for improving quality of maternal and newborn care in health facilities. Geneva: World Health Organization; 2016 (https://apps.who.int/iris/handle/10665/249155, accessed 20 June 2023).

11. Caring for the child's healthy growth and development. Geneva: World Health Organization; 2015 (https://apps.who.int/iris/handle/10665/204356, accessed 20 June 2023).

12. Global health expenditure database [online database]. Geneva: World Health Organization; 2018 (https://apps.who.int/nha/database/Select/Indicators/en, accessed 20 June 2023).

13. Health systems in action: Uzbekistan. Brussels: European Observatory on Health Systems and Policies; 2021 (https://eurohealthobservatory.who.int/publications/i/health-systems-in-action-uzbekistan, accessed 20 June 2023).

14. Crisis and recovery in Uzbekistan: economic and social impacts of COVID-19. Washington (DC): World Bank; 2021 (https://thedocs.worldbank.org/en/doc/a141cb6bace3f340df173e75d4463970-0080062021/crisis-and-recovery-in-uzbekistan-economic-and-social-impacts-of-covid-19-uz, accessed 20 June 2023).

15. Постановление Кабинета Министров Республики Узбекистан, от 30.09.2019 г. № 832 об утверждении положения о порядке формирования перечня гарантированных объемов медицинской помощи, покрываемых за счет средств государственного бюджета Республики Узбекистан [Cabinet of Ministers order No. 832 of 30 September 2019 on approval of the regulations on the provisions on the procedure for the formation of a list of guaranteed volumes of medical aid covered from the funds of the state budget of the Republic of Uzbekistan]. Tashkent: Cabinet of Ministers of the Republic of Uzbekistan; 2019 (https://lex.uz/docs/4535088?ONDATE=05.04.2022, accessed 20 June 2023) (in Russian).

16. Global health estimates 2020: leading causes of DALYs. In: Global Health Observatory [online database]. Geneva, World Health Organization; 2020 (https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/global-health-estimates-leading-causes-of-dalys, accessed 20 June 2023).

17. Постановление Кабинета Министров Республики Узбекистан, от 22.07.2013 г. № 204 о мерах по дальнейшему совершенствованию порядка обеспечения лекарственными средствами отдельных категорий лиц на льготной основе [Decree 204, 22 July 2013, on improving the framework for outpatient pharmaceutical coverage of special groups of patients]. Tashkent, Cabinet of Ministers of the Republic of Uzbekistan; 2013 (https://lex.uz/docs/2211624, accessed 8 July 2023) (in Russian).

18. UNDP, Ministry of Finance Uzbekistan. Citizens' budget: public healthcare expenditures in 2021. New York: United Nations Development Programme; 2021 (https://www.undp.org/uzbekistan/publications/citizens%E2%80%99-budget-public-healthcare-expenditures-2021, accessed 20 June 2023).

19. Hanson K, Brikci N, Erlangga D, Alebachew A, De Allegri M, Balabanova D et al. The Lancet Global Health Commission on financing primary health care: putting people at the centre. Lancet Glob Health. 2022;10(5):e715–72. doi: 10.1016/S2214-109X(22)00005–5.

20. Langenbrunner JC, O'Duagherty S, Cashin CS. Designing and implementing health care provider payment systems. Washington (DC): World Bank; 2009 (https://elibrary.worldbank.org/doi/abs/10.1596/978-0-8213-7815-1, accessed 20 June 2023).

21. ZdravPlus. Сектор здравоохранения и реформирование системы финансирования и управления ПМСП [Health sector and reforms of financing and management of PHC]. Tashkent: US Agency for International Development; 2005 (https://pdf.usaid.gov/pdf_docs/Pnadh017.pdf, accessed 20 June 2023) (in Russian).

22. International classification of health problems in primary care (ICHPPC), second edition. Oxford: Oxford University Press; 1998.

23. Yazbeck AS, Savedoff WD, Hsiao WC, Kutzin J, Soucat A, Tandon A et al. The case against labor-tax-financed social health insurance for low- and low-middle-income countries. Health Aff (Millwood). 2020;39(5):892–7. doi: 10.1377/hlthaff.2019.00874.

24. Feasibility study for the introduction of mandatory health insurance in Uzbekistan. Copenhagen: WHO Regional Office for Europe; 2021 (https://apps.who.int/iris/handle/10665/341045, accessed 20 June 2023).

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania
Andorra
Armenia
Austria
Azerbaijan
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czechia
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands (Kingdom of the)
North Macedonia
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
Türkiye
Turkmenistan
Ukraine
United Kingdom
Uzbekistan

WHO Barcelona Office for Health Systems Financing

Sant Pau Art Nouveau Site (La Mercè pavilion)
Sant Antoni Maria Claret, 167
08025 Barcelona, Spain
Tel.: +34 675 788 902
Email: eubar@who.int
Website: https://www.who.int/europe/teams/office-for-health-systems-financing-(barcelona)

WHO European Centre for Primary Health Care

UN Plaza
303 Baizakova Street
Almaty A15G7T0
Kazakhstan
Email: eurocphc@who.int
Website: https://www.who.int/europe/teams/centre-for-primary-health-care-(kaz)