Review Article

Implementing health financing policies to overhaul the healthcare delivery system in Ukraine

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Abstract: Health system reform in Ukraine encompasses a series of structural reforms to increase the efficiency of service delivery with the goal of improving the health of the population. Health financing policies based on strategic purchasing of services are used as the levers to overhaul the entire health system. The reform is a political response to a broken Soviet-style system on the edge of collapse, one characterized by low- performance, outdated polyclinics, and underfunded, understaffed, and low-quality hospitals. It relies on inefficient budgeting processes designed to pay for inputs, such as the number of beds, the size of facilities, or number of staff, as opposed to results. Bureaucratic, unmotivated, and low-salaried health workers supported a culture of demanding informal out-of-pocket payments from users of services; such household payments financed up to 53 percent of total health funding. The government is introducing strategic purchasing, contracting arrangements, and e-health systems to change behaviors, foster productivity, increase transparency, and pay for results. In other words, it is reforming the payment system of health services to drive efficiency. The reform is shifting to capitation for primary health care and contracting with hospitals for inpatient hospital services. The newly created National Health Service of Ukraine (NHSU) is a single payer agency and people have a free choice of provider based on the principle of "money follows the patient". The NHSU has signed capitation contracts with more than one thousand primary health care (PHC) providers and, in the record time of less than a year, almost 28 million people enrolled and signed declarations with a preferred provider. A diagnosis-related group (DRG) payment system is anticipated to result in hospital rightsizing, specialized care mergers, and the elimination of underutilized beds. The new payment system is expected to create the necessary incentives to improve quality, boost performance, and establish a healthier, financially protected citizenry. Effective reform will reduce the burden of disease, control costs, improve wellness, and foster economic growth.

Keywords: Health system reform; health financing; strategic purchasing; Ukraine

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Introduction

Twenty-five years after Ukraine gained independence, the country's Healthcare Financing Reform Concept was approved by a decree of the Cabinet of Ministers in 2016 (1). In October 2017, parliament approved the new health financing Law on "Government Financial Guarantees of Health Care Services" (Law 2168 and related by-laws). This landmark legislation created the legal and political framework necessary to implement the new health financing reforms (2). The healthcare financing bill had several provisions and some of them are already in operation including the following: the money follows the patient principle is adopted, the old input-based financing system is replaced by strategic purchasing, the National Health Service Ukraine (NHSU) is the independent purchasing agency, and healthcare providers changed their legal status and now are registered as public non-for profit enterprises.

These changes are creating autonomy, free choice, and competition within the system. The principle of "money following the patient" means that patients are empowered to select their PHC doctor, creating competition and more responsive providers. The reform in Ukraine incorporates supply and demand-style market economics with the aim to increase competition, improve standards, and drive down cost. The new payment system is the enabler ensuring that choice and competition are not only delivered, but also financed in such a way that the money moves freely around the health system following a patient's choice and health needs. These reforms will create the financial incentives for improved performance and quality of the health services. Healthcare entitlements are defined in the program of medical guarantees (PMGs), which represents the package of services and medicines that every citizen of Ukraine has the right to receive free of charge. The health system will be supported largely by an integrated electronic platform able to handle patient appointments, electronical medical records, prescriptions, and the billing system.

The provisions of the Law (2) include a government-guaranteed healthcare benefits package comprising primary care, emergency care, key types of outpatient services, inpatient care and outpatient medicines covering all Ukrainian citizens. The NHSU is funded from general taxation into a single national pool. The NHSU is the single national purchaser of health services and acting on behalf of patients, purchases the government-guaranteed healthcare benefits based on defined tariffs and quality requirements. Local authorities can design and deliver their own healthcare initiatives and use local budgets to cover additional healthcare services for communities that may not be included in the central government-guaranteed health care package. Healthcare providers have management autonomy and the ability to sign contracts and receive direct payments from the NHSU. The principle that "the money follows the patient" is leading to a transition to payments being made to healthcare providers based on services provided. All the operations will be maintained by an electronic health information management system supporting financial planning, contract development, and performance monitoring. Availability and accessibility of data on medical and economic parameters of health service provision at all levels are mandatory, including the introduction of a strategic medical services purchasing system. This reform is paving the way toward universal health coverage in Ukraine.

Ukraine inherited the Semashko model (3) from the Soviet Union and many features of the old system are still in operation. This health model was characterized by central planning, strong hierarchical organization, and central budgeting of health units. Political power dominated the allocation of resources with less attention being paid to the population's needs. PHC was underfunded and the population had no trust in this level of care. Meanwhile, the population had direct access to specialized care at polyclinics and hospitals. The system functioned as a fee-for-service scheme and charged informal out-of-pocket payments to the users of services. Government financed only 46% of total health expenditures and an additional 53% of the total spending was paid out-of-pocket for medicines, diagnoses, and informal fees.

One of the major objectives of the reform is to finance and improve primary healthcare to reduce the burden of chronic diseases. Health indicators in Ukraine require attention as life expectancy is reported at 77.1 years for women and 67.6 years for men, which is below the 84 years for women and 79 years for men reported in the European Union (4). Leading causes of death and disability are non-communicable diseases, mostly cardiovascular diseases, injuries, and cancers. Coronary heart disease deaths reached 346,205 or 53.56% of total deaths in 2017 and the age-adjusted death rate of 395.73 per 100,000 population places Ukraine at the number two spot in the world. At the same time, Ukraine is experiencing one of the highest rates of HIV and multidrug resistant tuberculosis in Europe. Low immunization coverage rates resulted in measles outbreaks (4). The maternal mortality ratio was 19 deaths per 100,000 live births in 2017, more than double the European average (5).

While the healthcare reform bill is centred in health financing, modifying the architecture of the health system requires structural reforms involving the institutional governance and regulatory framework in which local authorities, public health, and healthcare providers operate (6). A successful implementation of the reform requires not only addressing public financing management challenges, but also strengthening the stewardship of the Ministry of Health. Monitoring the implementation process and developing indicators is important to measure progress and ensure the reform is achieving its intended objectives. Expected results include reducing informal payments and out-of-pocket expenditures and improving access to and availability of health services. A communication strategy is critical to report the evidence that the changes are achieving their intended results and build up consensus in support of the reform process.

The objective of this paper is to present a narrative review of the status and progress of the health system reform in Ukraine. It also will describe the financial policy instruments that the government is introducing to overhaul the healthcare system and how the payment system is used as the main lever to reform the provision of primary healthcare and hospital services.

Health financing and structural reforms

Total health spending in Ukraine is reported at 7.4% of gross domestic product (GDP) in 2017, while health expenditure per capita was reported at Intl $584 in 2014 (7). The public health system is financed through general taxation (value-added tax, income tax, customs fees, and excise taxes). The reform is already experiencing increases in funding, as the Supreme Council of the Parliament of Ukraine allocated US$4.2 billion to the 2020 state budget to finance the health system, a 13% increase over the 2019 budget. The PMG was budgeted at US$2.7 billion, equivalent to 64% of the entire health budget. The PMG includes a wide range of inpatient and outpatient care and medications and the law requires that these entitlements are accounted for and distribution is recorded accurately in terms of the beneficiary populations. Currently, only pharmacies are electronically recording prescriptions for medications that are part of the Program of Affordable Medicines which provides reimbursement of essential medicines for treatment of priority diseases (8).

Government sources of funding represent only 46% of total health expenditures or 3.4% of the GDP, while households spend a considerable amount of money for medicines, diagnoses, and informal fees. Out-of-pocket expenditures represent about 53% of total health funding (9). Hospitals managed "charity funds" financed by informal payments that were in fact discretionary fee-for-service charges to the users. These funds were used to supplement salaries of doctors and sometimes to make minor repairs to the infrastructure. Private voluntary health insurance represents less than 3% of total health expenditure.

Historically, budgets were allocated to an extensive network of public health facilities based on the number of hospital beds, staff, and building size. Vertical funding for health services in the form of subventions flowed from central authorities to the oblast's healthcare department and from there to hospitals and clinics. Such an input-based financing system created incentives to maintain high occupancy bed rates, prolong the length of stay, and generate enormous wastage of limited resources. This inefficient hospital system is unsustainable in the long term.

In recent years, the Ukrainian health system experienced a partial decentralization characterized by the delegation of few managerial decisions to the regional authorities of the 27 oblasts. The objectives of the decentralisation policies in the health sector included improving efficiency, accountability, and innovation. However, these improvements were not realised given the poor mechanism for the disbursement of funds, which remained centralized. An evaluation reported that the budgetary decentralization in Ukraine outside the health sector resulted in improved services and more efficient use of resources (9). Further progress in Ukraine is expected to help improve the quality of health service delivery and increase service utilisation resulting in improved health system performance.

In 2015, the Ministry of Health developed a 10-year National Health Reform Strategy for Ukraine (6). The strategy documented all the problems of an outdated, underfunded, and neglected health system affected by low performance, multiple inefficiencies, and imposing informal payments to patients. The quality of the services was poor and unresponsive to the population health needs. The strategy defined a vision for the health system and the main health priorities, as well as a set of guiding principles for the reform. Patients' empowerment was placed at the center of the new system, one shaped by national standards of excellence and professionalism; a single purchaser of health care services instead of fragmented funding, and a strong emphasis on accountability to communities and patients (6).

The reform of the healthcare delivery system was also supported by changes in the pharmaceutical sector to improve access to essential medicines. Several government programs were implemented, intended to increase the availability of medicines and to reduce out-of-pocket expenditures and economic burden to households. A current drug reimbursement scheme includes affordable medicines for cardiovascular diseases, diabetes type 2, and bronchial asthma. The government allocated almost US$ 20 million to the 2017 budget for the purchase of 21 generic drugs reimbursed at a minimum generic price level (10).

In support of the PMG and to strengthen PHC services, on April 1, 2019, the management of the medicine reimbursement program was transferred to the NHSU. This program provides medicines free of charge or with a small surcharge and is accessible only by electronic order. In this way, patients can get medicines from any pharmacy enrolled in the country. Under this electronic

system, 27% of all electronic prescription are repaid within one hour. This translates into a more convenient service to the patient; in a relatively short period of time, the patient receives a consultation with a doctor, gets an electronic prescription, and receives the medication at the pharmacy. It is estimated that more than 1.8 million people are beneficiaries of the "Program of Affordable Medicines". Patients will save 10–62% of disposable income in a month; for example, for pensioners, these savings are equivalent to the minimum pension payment. During 2019, around 10 million prescriptions were paid under the affordable medicines scheme (8).

The successful management of the new healthcare system would require comprehensive and quality information. As an integral part of the reform, the government is leveraging digitalization and building a modern and integrated electronic health information system. Its operation will support the principle of "the money follows the patient" and will introduce transparency into the system (11). The expectation is that the e-health system will reform the public financing management of the health sector. A transparent and orderly public financial management system is one of the enabling elements for budgetary outcomes such as fiscal discipline, implementation of government objectives, and effective service delivery. This modern electronic health information management system will support all the operations from financial planning and contract development to performance monitoring. Availability of data on medical and economic parameters of the health service provision at all levels is mandatory to support the strategic purchasing of medical services.

Closely monitoring performance would improve the decision-making process, empower patients and doctors, and ensure continuity of care across levels of health system. Ukrainian e-health is developed by the state-owned enterprise eZdorovya in cooperation with the government, private business, and civil society (12). The development of a national information system will increase the capacity of the National Health Service of Ukraine and e-health state-owned enterprise (SOE) to operate the electronic health (e-health) system as well as patient data under the medical information system and ensure that healthcare records are securely protected. A cybersecurity framework guides the NHSU and the SOE while managing the e-health system from different medical information systems and healthcare providers who input medical and accounting data that are transferred from the facilities to the central level (12).

One major direction of the reform includes shifting funding to revitalizing primary healthcare, while optimizing the hospital sector. The strategy clearly is shifting resources to PHC to achieve value for money. To effectively use limited resources, PHC services must strengthen prevention, achieve early diagnosis, and provide timely treatment to reduce the burden of diseases and curve future cost of care.

Primary healthcare

Primary healthcare in Ukraine is experiencing rapid changes in terms of governance, financing, and service delivery. Governance transformation started with a decentralization process of administrative functions and was followed by the devolution of the ownership of healthcare facilities to local authorities. Dramatic changes in the funding mechanisms for PHC services include the implementation of the capitation payment system under the "money follows the patient" principle. Service delivery is now based on family medicine and patient-centred services. The Ministry of Health of Ukraine issued an order in March 2018, No. 504, "On approval of the regulation for the primary health care provision", which stipulated the scope of PHC activities including prevention, screening, health promotion and treatments (13).

According to the capitation method, the government pays a set amount per patient registered, with a particular PHC doctor, for a pre-defined PHC benefits package in a defined period of time. To be eligible to receive capitation payments, a primary healthcare centre had to change its legal status to municipal non-for-profit enterprise, develop a business plan, and commit to comply with a set of minimum quality requirements. Private providers and doctors can register as individual entrepreneurs. The fact that public and private providers receive the same conditions for contracting with the state and accept the same payments for their services is considered a great achievement for independent Ukraine. Providers receive prospective capitation payments into their bank accounts with no intermediation. In low-resource settings, undertaking decentralization and provider autonomy, this payment mechanism is called direct facility financing (14,15). It allows facilities to receive resources that otherwise are reduced at every layer of the administrative chain. Capitation also allows for smoother budgeting and management of funds for both providers and the payer; facilities experience more optimal cash flow by receiving their payment early in the month rather than submitting claims, while the payer can more easily project total outlay

regardless of how catchment populations vary by facility.

In 2019, when PHC facilities began operations under the new payment mechanism, there were 1,466 providers signing a contract with the NHSU; 1,050 facilities were community owned, 168 were private facilities, and 248 were independent entrepreneurial doctors. More than 29 million people were enrolled with the PHC physician of their preference by signing a declaration. These affiliations with the system represent a 69% coverage to PHC services for a population of 42.1 million and more than 70% of the users report to be satisfied with the chosen doctor (8). Patients have the freedom to change their physician as many times as they want. Among the people enrolled, 56% are women and 44% are men. Patients are given the opportunity to freely choose their trusted doctor. The doctors submit the declaration and the NHSU pays for the medical care to the PHC center in which the doctor works.

The new capitation payment has made an increase to the revenue of the PHC centers possible and in some cases increased between two and three times the salaries of health care providers, improved the facilities, and increased the number of services. In general, in 2019, the NHSU paid over US$ 600 million to primary healthcare providers (8).

To enhance the autonomy of the providers, the legal status of the PHC facilities shifted from budgetary (public) organization to not-for-profit municipal enterprises. This change allows primary healthcare providers to have an account in the commercial banks, and to reinvest surplus back into their facilities (8).

Most of the diagnosis services are provided in polyclinics and hospitals owned by the public sector. However, there is a growing number of labs from the private sector not well quantified. Diagnosis and labs are included in the PMG and are paid as part of the capitation and DRG payment systems. There is also a large number of registered private for-profit pharmacies selling a wide range of over-the-counter medicines without requiring medical prescriptions.

The published evidence to support the introduction of capitation payments in Ukraine suggests positive results of this payment mechanism in other countries. Capitation is associated with slower growth of healthcare expenditures of services that are profitable under fee-for-service and these payments are helpful as a cost-containment strategy (16). Capitation is associated with cost savings of 29% on pharmaceuticals and 21% in laboratory services (17). Capitation achieves standardization of care and improvement in clinical outcomes alongside cost reduction (17) and overall these assessments suggest that capitation does not affect the quality of care provided (18).

There are also unintended consequences of the capitation payment mechanism. Once implemented, capitation requires close monitoring to avoid deviations from stated objectives. For example, the introduction of capitation may result in providers reducing the time dedicated to patients, less use of laboratory testing, and a greater number of referrals to specialized care. There are reports that physicians administer fewer medications to chronic patients and less-skilled health personnel manage specialist conditions (19). It has been observed that capitation produced shifts from PHC services to more visits to emergency departments and a high proportion were semi-urgent and non-urgent (20). Another study found that under capitation, providers underserve patients in bad and intermediate health, while fee-for-service providers overserve patients in good and intermediate state of health (21). Primary care physicians have a negative perception about capitation payment (22) and patients accessing capitated physicians have a lower level of trust in their physicians (23). Patients under capitation were 36% more likely to switch their primary care provider over time than those with fee-for-service providers (24).

The introduction of capitation in Ukraine has been well received since it represents a more predictable source of revenue for PHC providers. However, flat capitation rates are likely to overpay or underpay providers for certain patient groups. Capitation may lead to disincentives to provide quality care for the chronically ill, underproviding costly services, reducing the length of consultation, avoiding home visits, and overall compromising the quality of care. In order to mitigate these negative effects, Estonia (25,26) and Turkey (27,28) introduced pay-for-performance schemes to improve the responsiveness of healthcare providers and deliver quality services. Family physicians in Denmark receive a third of their pay through capitation and the rest as fee-for-service to strategically modulate incentives to induce demand for priority services and control over utilization of certain procedures (29). In Finland, general practitioners receive a mix of basic salary (60%), capitation (20%), fee-for-service (15%) and local allowances (5%). Brazil introduced variable compensation for PHC services and family doctors receive incentives to provide a full range of integrated care as opposed to number of patients or volume of services, for example, for providing a comprehensive package of antenatal services for pregnant women (30,31). To improve the referral system and reduce over-referrals, capitation is paid to networks of providers to deliver both primary and hospital services in Thailand and China (32).

The risks of negative results from capitation are higher for a primary healthcare system that is in transition and still very influenced by old practices. Monitoring contracts and key performance indicators are critical elements to implement adaptive management and ensure course correction and the achievement of the capitation objectives. The referral system is still weak, as patients had direct access to specialists and diagnosis testing at the polyclinics and hospitals. Ukraine needs to organize the intricate system of patient pathways that led to the overutilization of specialized care and hospital beds and overall irrational use of services. Health providers had the incentive to create demand, generating more referrals, ordering unnecessary lab test, and prescribing unnecessary medicines. The system based on informal payments was in fact a fee-for-service model, though, with no patient pathways, of poor quality and sometimes compromising the health of patients and severely impacting the economy of the population.

The fact that NHSU signed capitation contracts with more than 1,000 PHC providers and ensured free-of-charge access to PHC centers for almost 28 million people in the record time of less than a year is very impressive. Yet, the successful implementation of the capitation model must be sustained with performance and outcomes data. The capitation payment in Ukraine has positive results; however, evidence needs to be generated to demonstrate better access and utilization of PHC services, reduction of out-of-pocket expenditures, and investment in improved facilities that are better equipped and refurbished, and evidence needs to be generated to demonstrate better quality, access, and utilization. It is too early to characterize the health reform at the primary healthcare level as successful without conducting an evaluation and without a robust monitoring mechanism in place.

The capitation model needs to be supported by information obtained through monitoring and evaluation. Improving the performance of healthcare providers requires an iterative process including these steps: define, measure, analyse, improve, and sustain. This data-driven improvement cycle can be applied to improving, optimizing, and stabilizing PHC clinical and administrative processes. The final goal is to improve the health of the population by expanding preventive services, achieving early diagnosis, and improving the quality of treatments.

Strategic purchasing in hospitals

Hospital care spending in Ukraine increases nearly every year and accounts for almost 50% of total healthcare funding in the country. Therefore, optimizing the use of half of the healthcare budget is key to reforming the healthcare system. Ukraine's main challenges in the area of financing specialized care revolve around prioritizing services, delivering effective treatments, developing efficient delivery models of care, and improving the quality of care. The strategies to address some of these challenges include the new payment system and the program of medical guarantees that explicitly target priority diseases with the objective of ensuring the long-term financial sustainability of specialized and complex care.

During the design phase of the healthcare reform in Ukraine, the National Health Reform Strategy team proposed a payment mechanism for hospitals that would be able to simultaneously enhance efficiency, increase budget transparency, and promote accountability (5). Activity-based funding was the proposed approach (33,34) to substitute for the old hospital funding mechanism of global budget. There are several potential benefits of activity-based funding reported in the literature including greater efficiency (35,36), containing hospital costs (37,38), reducing length of stay (39), and improving transparency (40,41).

A better hospital performance based on modern, dynamic, and productive patient management will increase access to hospital services while improving quality of care. Activity-based funding for hospitals is expected to change the structure of incentives across the health system by introducing the diagnosis-related group (DRG) payment system (42,43). The NHSU can use these payment mechanisms to streamline priority hospital services, leading to the optimization of services, providers, and facilities.

The health financing reform in Ukraine, as it relates to hospitals and specialized care, is in transition until the e-health system becomes fully operational. Under the new payment system, the NHSU will process the information by grouping interventions and then pay hospitals based on DRGs. Contracting hospitals began on April 1, 2020, using global budgets until the DRG system is implemented. Healthcare facilities providing specialized services are required to perform medical record-keeping and clinical case coding in e-health for the treatment of acute myocardial infarction, acute stroke childbirth, and complex neonatal care cases.

Accurate, timely, and complete coding of diagnosis and interventions in hospitals represents a critical input that needs to be strengthened to allow for a smooth implementation of the DRG system. In Ukraine, the coding

process involves the classification of the clinical information documented in the health record within each episode of admitted care into alphanumerical diagnosis codes using the ICD-10-AM classification, and number codes for interventions using the Australian Classification of Health Interventions (ACHI). These codes are then grouped into categories using the Australian Refined Diagnosis Related Group (AR-DRG) classification system. Ensuring the quality of data inputs will increase the reliability and acceptance of the DRG payment among stakeholders. Doctors from specialized services are receiving online training for coding diagnosis and interventions, and some facilities are submitting ICD-10 reports. Another critical step consists of developing and improving accounting systems to generate reliable costing data to support the successful implementation of the payment system. Also, to improve confidence in the system, it is necessary to develop a verification system that includes random audits to confirm that medical interventions are provided, to reduce reporting errors and to prevent fraud. The NHSU needs to set a national tariff for hospital services and therefore encourage competition based on quality of the service as opposed to hospitals offering low-cost services.

Ukraine has more beds than many other countries in Europe with 879 hospital beds per 100,000 people. The average length of hospital stay is 11.8 days, compared to six days reported by countries that are members of the European Union (44). The length of stay represents solid evidence of the inefficient model of inpatient care financed by the number of bed-days. Budgeting by the number of wards and beds represented a strong incentive to keep beds open and fill them with patients, irrespective of whether they really needed hospital services. Paying for results using activity-based funding is intended to change the incentives across the hospital system. The benefits of the DRG payment system include containing hospital costs, reducing length of stay, and overall improving efficiency.

Progress toward optimization of the hospital infrastructure and care represent a major challenge for the reform of the healthcare system. It is critical to develop transformation/investment plans for inefficient hospitals and consider whether to close or re-profile them. Rationalizing hospital services and setting a maximum number of beds and staff per capita would result in strong resistance from both healthcare leadership and the many medical personnel at the local level. For the former it would mean a cut in funding and for the latter, it could represent redeployment, job losses, and disruptions to the workforce.

The Ministry of Health is working to optimize the number hospitals and beds to create efficient regional hospital networks. Oblasts are administrative divisions equivalent to states in other countries. Oblasts are composed of districts (rayons) and cities/towns directly under oblasts' jurisdiction. In fact, it is possible to find the oblast hospital, the city hospital, and the rayon hospital in close proximity in the center of cities. Oblast authorities are preparing hospital district development plans targeting investments to strengthen hospital capacity and modify patient pathways to provide timely, high-quality medical care to all patients. To determine the optimal number of hospital beds with more efficient use of financial and human resources, hospital district development plans apply international benchmark data and modeling to estimate the demand for and utilization of inpatient services in each one of the regional hospital networks. This reorganization of the hospital sector will lead to increased efficiency of healthcare resources to and increased access and quality of hospital services for patients.

In March 2017, the Cabinet of Ministers of Ukraine approved hospital districts in 11 oblasts (Dnipro, Zhitomyr, Zaporizhzhya, Kyiv, Luhansk, Poltava, Rivne, Ternopil, Kherson, Khmelnytsk, and Chernigiv) and Kiev city. These oblast administrations developed the geographic boundaries of the hospital districts to cover at least 120,000 people and a travel radius of no more than one hour. The introduction of a policy allowing patients to choose a hospital within a network will require a payment system that reimburses hospitals for the number of patients treated and the types of treatment given (45).

Conclusions and policy recommendations

As in any other reform process. there are formidable challenges ahead; however, the health sector reform in Ukraine must keep its focus on building a new system that performs efficiently and is able to improve population health. The social objective is to ensure access to an integrated and modern primary healthcare and hospital system that provides free-of-charge quality services. Geographic inequalities persist across Ukraine and policy attention should be directed toward people at risk of being excluded. An equitable health system must improve access for rural, vulnerable, and poor communities.

Improving the performance of the system will be possible if the implementation follows a clear vision, complies with a robust strategy, keeps the workforce motivated, and

ensures effective execution. The introduction of strategic purchasing, contracting arrangements, and e-health systems is expected to improve providers' behaviors, foster productivity, increase transparency, and pay for results. In other words, reforming the payment system for health services will drive efficiency and value for money.

The implementation of pro-efficiency solutions in Ukraine represents the major strategic objective to improve the health system. In reform's first phase, the government is implementing the structural reforms that are going to increase the performance of the system. At this point, injecting more money into the system alone would not ensure improvements in performance to a degree that would be adequate to reach social expectations. Until these structural and operational reforms demonstrate results, more resources need to be mobilized toward the health sector. The association between health investments and economic growth are well documented (46). Population health is directly linked to income growth in developing economies, where investments in health can lead to a more productive, educated, and therefore wealthier population (47).

Government health expenditure in Ukraine was reported at 3.5% of GDP in 2017, while household spending accounted the other half of total health funding. Out-of-pocket expenditures are paying for medicines, complementary labs, and diagnosis as well as informal fees. Multicounty analysis shows a strong and inverse relationship between government health spending and reliance on out-of-pocket payments (48). When public spending increases to about 6% of GDP, the out-of-pocket payments decline below 20% of the total amount spent on healthcare. It has been also observed that only when out-of-pocket payments fall below this 20% threshold, the incidence of financial catastrophe and impoverishment falls to negligible levels (49). Countries whose entire population has access to a guaranteed package of services usually have relatively high levels of mandatory pooled funds–in the order of 5–6% of GDP (50). In fact, the National Health Service in the United Kingdom spent 7% of its GDP on healthcare (51).

In order to successfully eliminate informal payments and provide financial risk protection for health in Ukraine, the government must improve the efficiency of the use of resources and mobilize additional resources for health. Higher public expenditure with financial protection not only expands health access, but also represents another strategy to reduce poverty. Without public financing, some people will not be able to afford the care they need and will be forced to live with sickness alongside financial ruin (52). Ukraine's health expenditure per person at US$177 is lower than Estonia (US$1,300), Poland (US$907) and Romania (US$555) (7). Therefore, gradually increasing public spending on health, through the NHSU, up to 6% of the GDP is a reasonable target for Ukraine.

The provision of health services free of charge and abolishing informal payments in an environment of low salaries for doctors and nurses is an extremely complex problem. Eliminating informal payments reduces providers' revenue. Without a clear understanding of the structure of incentives for healthcare providers, cutting this source of funding would more likely affect the motivation of providers and the quality of services. It also has the potential to reduce health access and service utilization. Salaries of medical personnel, at under $200 per month, are below the subsistence level and health facilities were using the funds from informal payments to supplement the salaries of medical personnel (53). Potential solutions include increasing provider revenue and establishing a system of co-payments that is legal and that, by publishing these user fees is fully transparent. Doctors' financial incentives under informal payments, which is a de facto fee-for-service system, often encourage actions that are to the detriment of patients, who often face unnecessary and unjustified prescriptions and needless referrals to expensive laboratory tests and diagnostics.

Strengthening the governance and stewardship role of the Ministry of Health and its capacity to implement tools to monitor, control, enforce, and improve the performance of all actors in the system is also critical. The Ministry of Health must strengthen control functions to grant providers certification and accreditation so that they are eligible to sign contracts from NHSU. The Ministry of Health's capacity to conduct inspections, to audit, and to develop clear rules and criteria to regulate the system must be improved.

To keep health financing reform on track, effective coordination between the NHSU payment system and the regulatory power of the Ministry of Health is necessary to establish a well-functioning, efficient, and quality-driven healthcare facility network. Oversight and regulation are among the most important pillars of the new health system's architecture. Healthcare regulation comprises regulation of the quality and safety of care and regulation of the market of healthcare services. While one of the principles of the Ukrainian reform is to foster competition among health care providers, the private provision of health services is a nascent industry.

The development of the private sector would help to modernize the health system, would foster competition and innovation, would provide more options for consumers, and would help to diversify the economy. In a public and private mixed healthcare model, any licensed and accredited provider could offer services to NHSU. The NHSU will be able to choose and contract with public or private providers, while patients will be free to enroll with any public or private provider of their preference. Private sector participation will impose the need of a robust form of regulation to ensure that market forces are working to the benefit of patients. The United Kingdom's experience with the Care Quality Commission offers good lessons as the independent regulator of health and social services, in charge of key functions such as inspecting NHS providers, assessing their performance against national standards, and recommending special measures where quality and performance are poor (54).

The ongoing reform has effectively created a separation of functions between healthcare facilities' managers, owners of the facilities (districts), the Ministry of Health, and the NHSU. However, these four agents work under the assumption that they are autonomous organizations and tend to make decisions without good collaboration and the same goal. There is also a lack of clarity about the responsibilities of health facility owners toward the implementation of the healthcare services and their co-financing. This situation deters the health system from working in a coordinated manner, affects performance, and prevents the health system from achieving the objective of improving the health of the population. The Ministry of Health needs to prevent a divide between ambulatory and hospital care, which might create competition for resources and animosity within groups of professionals. In order to improve collaboration and foster consensus building, it is necessary to define the stakeholders' common vision, improve understanding of the roles of the different players, and ensure that their stated responsibilities are fully aligned with current law and regulations.

Progress will be possible with transparent governance and inclusive stakeholder participation. Setting time-bound targets is necessary to measure progress. The reform would benefit from regular assessments and formal evaluations guiding the course of action. Developing a logical framework is critical to understanding the potential effects of the health reform process. Regular evaluations of progress would help to monitor an evolving political and economic context and to identify solutions that are strategic to achieve the desired outcomes. This process will help the reform leadership make any assumption explicit and revise the available evidence of the proposed policies as well as identify the metrics needed to quantify the potential social and economic impact of the reform.

Health reform in Ukraine is introducing structural health reforms with five major distinctive attributes: (I) avoiding fragmentation of risk pools, (II) optimizing the use of scarce resources, (III) paying for results, data, and quality, (IV) empowering citizens under the principle of "the money follows the patient", and (V) by improving value for money, ensuring the long-term sustainability of the health system. Policymakers need to strengthen the institutions that will safeguard the reform process and that are the enablers of a resilient and inclusive health system.

In conclusion, the current reform in Ukraine requires more than a financial overhaul. In fact, additional resources would not solve the operational and managerial problems. Despite the political will to mobilize additional resources for health, in times of macro-fiscal turmoil, this remains a political and technical challenge. The reform and proposed solutions require strategic sequencing and implementation. The first step is to achieve the structural reform and work on improving processes to make efficient use of scarce resources while developing the managerial and clinical capacity of the health workforce. As providers are better equipped to perform their clinical work, this would increase responsiveness of the facility and will result in increased utilization among the population. These are preconditions to move to a second phase of the reform based on higher investments in a better-performing system. Some of these phases will overlap; developing a blueprint for implementation will ensure that milestones are achieved in the different areas of the reform. The long-term sustainability of the health system in Ukraine relies on the effectiveness of the reform in reducing the burden of disease to curve future cost of care, while improving population health and boosting economic growth.

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