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Restructuring Regional Health Systems In Russia

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Key Messages

- **The delivery of health services in Russia is a federal, regional and municipal responsibility. Reform of the regional health systems - which suffer from over-reliance on curative and inpatient care, deteriorating infrastructure and equipment, and poor quality of services - is a major challenge for the country.**
- **From 2003-2008, the World Bank helped strengthen the stewardship capacity of Russia's Federal Ministry of Health and Social Development (MOHSD) and restructure health systems in two pilot regions: the Chuvash Republic and Voronezh Oblast.**
- **In both regions, hospital bed numbers were reduced while simultaneously increasing service delivery capacity at the primary care, specialized ambulatory, and long - term care facility levels through the introduction of new technologies, clinical protocols, and resource allocation mechanisms that link payments to performance.**

The Context

After the dissolution of the Soviet Union in the early 1990s, Russia inherited a publicly-funded health system that promised universal access to comprehensive services. The system was fragmented and financially unsustainable, characterized by over-reliance on curative and inpatient care, with incentives that encouraged providers to hospitalize patients for lengthy periods. Underfunding of the health system over the last two decades further contributed to the deterioration of infrastructure and equipment, poor quality of services, and escalation of out-of-pocket payments by patients.[2] The system is not adept in responding effectively to the health needs of the population, particularly due to the high prevalence of non-communicable chronic diseases such as cardiovascular diseases, cancer, and injuries, which are the leading causes of ill-health, premature mortality and disability in the country.

The delivery of health services in Russia is a federal, regional and municipal responsibility, carried out in accordance with federal and regional regulations and funded through multiple sources (for example, the federal budget and transfers, regional budgets, and health insurance). The reform of regional health systems is a major challenge for the country.

From 2003-2008, the World Bank supported the MOHSD's Health Reform Implementation Project (HRIP) which restructured the health systems in two pilot regions southeast of Moscow: the Chuvash Republic and Voronezh (with 1.28 and 2.27 million population, respectively), at a total cost of US$ 41 million. The Chuvash Ministry of Health and the Voronezh Department of Health managed the implementation of the reforms.

Reform Components

Master Plan for Health System Restructuring: Comprehensive plans were prepared in the two regions on the basis of detailed assessment of needs and options for streamlining health care organization and financing. Lessons from international experience were incorporated into the plans. The aim of the reform was to improve access to quality health care and ensure financial sustainability of the system by shifting from inpatient to outpatient services and from specialist to primary care.

The plans were formulated in accordance with the federal government's strategies and approved at the highest political level in the regions - by the cabinet of ministers and president in the Chuvash Republic, and by the local parliament and governor in Voronezh. The plans were

1 This Knowledge Brief takes into account the findings of the Implementation Completion Report of the Russia Health Reform Implementation Project prepared by Anne Bakilana in December 2009, on the basis of a report prepared by the Russian Health Care Foundation and regional agencies. Peer review comments were provided by J.P. Uribe, C. Lovelace, J. Langenbrunner, and P. Belli, World Bank, and Kalipso Chalkidou, UK NICE.

2 Marquez, P., R. Atun, and others. 2008. "Better Outcomes Through Health Reforms in the Russian Federation: The Challenge in 2008 and Beyond." The World Bank, Washington D.C.

endorsed by the MOHSD, and US$20 million from the HRIP was channeled to support their implementation, complementing regional and federal allocations. The Canadian International Development Agency (CIDA) funded technical assistance activities in the Chuvash Republic and the delivery by the World Bank Institute of a training program on health reform in both regions.

Stewardship: Policy and regulatory instruments (for example, standards, manuals, and licensing methods) were developed at the MOHSD to guide the restructuring of regional health systems across the country in accordance with disease profiles, geographic conditions, institutional capacity, and resource constraints in each region. About 500 disease management protocols were produced on the basis of available clinical evidence to improve the process of care in health facilities. The health workers' remuneration system was restructured and related regulations adopted. A national health accounts system was developed and fully institutionalized at the MOHSD and in the regions to monitor financial flows and uses across the country.

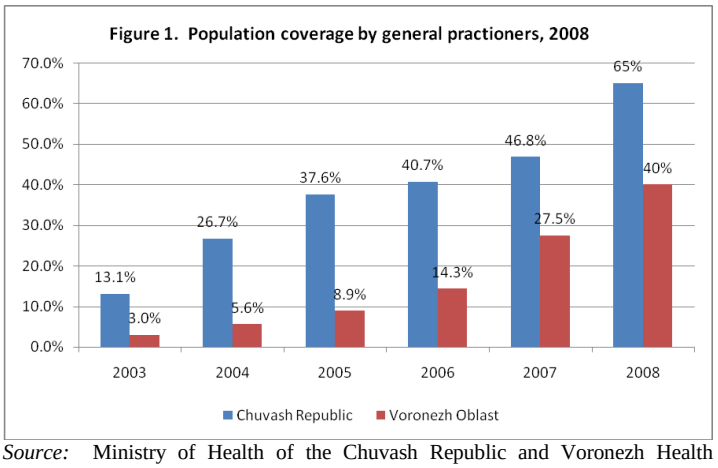
Health Care Organization and Service Delivery: The master plans defined investments to be made in infrastructure, medical equipment, information systems, and training. Emphasis was placed on increasing the capacity at the primary care level while gradually substituting hospital care with outpatient services.

The primary care network was strengthened with the construction of new centers and repair of existing facilities. Investments in modern equipment helped improve diagnostic and problem resolution capacity.

The scope and scale of primary care services were also modified and expanded. The tripartite polyclinic system - which provides services separately for adults, women and children - is being gradually and partially replaced with unified general/family medicine practice units that provide services for the whole population. These units, which are staffed with general practice physicians, nurses and auxiliary personnel, are now responsible for the care of patients within defined geographical catchment areas (e.g., in Voronezh, each unit is responsible for 2,500 persons in rural areas and 1,700 persons in cities). In addition to curative services, the units also focus on health promotion and disease prevention, emphasizing the use of primary care physicians as gatekeepers to specialists and other medical resources, and continuity of care - the latter is particularly important for the management of chronic illnesses.

Innovative ambulatory approaches to health services delivery were also introduced - such as, day-care centers for outpatient diagnostic, surgery and rehabilitation services. Modern medical equipment (e.g., video-laparoscopic equipment, arthroscopic and anesthesia equipment) was procured to expand outpatient surgery. The setting up of inter-municipal centers is helping minimize the duplication of investments for costly specialized medical equipment and facilitating the rationalization of health care organization.

The population covered by general practice units has increased significantly in both pilot regions (Figure 1). In 2010, the Chuvash Republic and Voronezh were ranked among the top three regions in the Russian Federation, as measured by the number of general practitioners per 100,000 population (the other region is Samara). The emphasis on the gatekeeping role of general practitioners, with care continuity, is already bearing fruit, with reduced cases referred to specialists. In the Chuvash Republic, referral to specialists declined from 8.7% in 2003 to 2.3% in 2008.



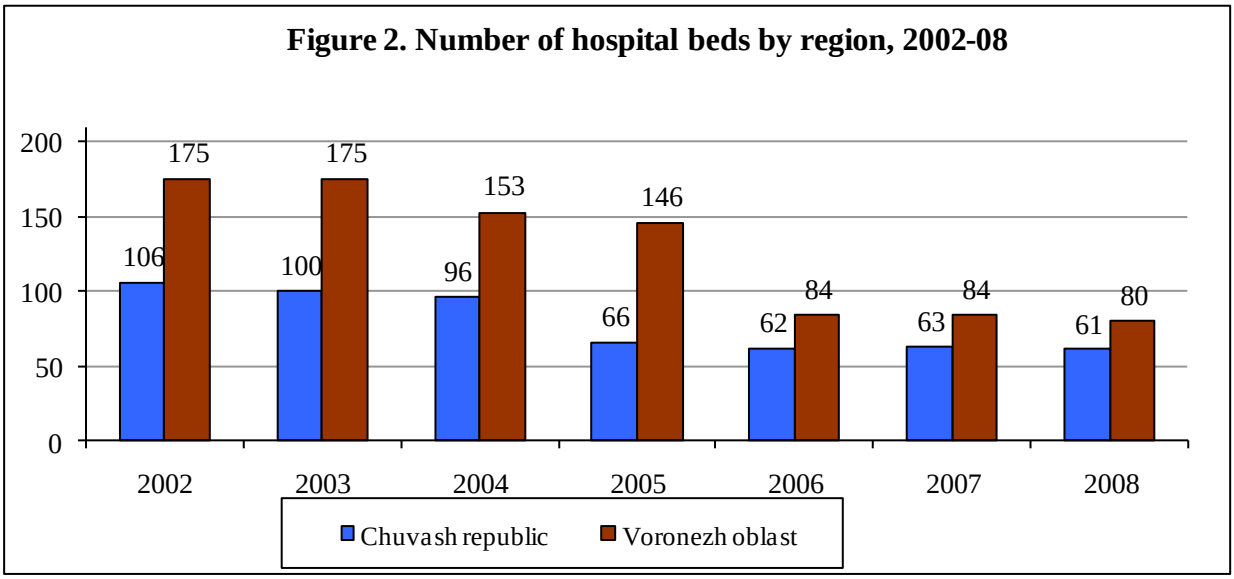
Source: Ministry of Health of the Chuvash Republic and Voronezh Health Department.

Medical facilities were reorganized, and in some cases merged, to reduce excess hospital infrastructure and bed capacity. Some hospitals were converted into long-term care facilities. As a result, the number of hospitals was reduced over 2003-2008: in the Chuvash Republic by about 43% and in Voronezh by 54% (Figure 2). Similarly, the number of 24-hour hospital beds was reduced in the Chuvash Republic by 18% and in Voronezh by 20%. By 2008, the availability of hospital beds (except for psychiatric and tuberculosis patients) in the Chuvash Republic stood at 84 beds per 10,000 population, down from 100.7 per 10,000 in 2003.

Reflecting the increased reliance on ambulatory facilities, the number of day-care beds out of the total number of beds increased from 9% to 21% in the Chuvash Republic, and from 7% to 18% in Voronezh over 2002-2007. In Voronezh, the number of patients treated in day-care facilities increased by 79% during this period, and in 2008, 40% of surgeries were done at ambulatory centers. Hospital

admissions also decreased during this period (e.g., in Voronezh City, by 12%). All these improvements in health organization and service delivery also resulted in shorter average length of stay in hospitals, albeit at a still high level. In the Chuvash Republic, the average length of hospital stay was reduced from 13.2 days in 2002 to 12.1 in 2008; in Voronezh from 13.5 to 11.8 days. These figures are below the average for Russia, which is 13.6 days. This trend stands when disaggregating data by type of service: in Voronezh, the average occupancy rate of cardio-surgery beds declined from 13.8 days in 2002 to 10.1 in 2008.

Figure 2. Number of hospital beds by region, 2002-08



Source: Ministry of Health of the Chuvash Republic and Voronezh Health Department.

In both regions, the pre-hospital emergency medical services were revamped by:

- Upgrading the communication systems, putting in place a single system for emergency calls (e.g., in the Chuvash Republic, by dialing '112'), and establishing 24-hour ambulance dispatch centers;
- Modernizing the ambulance fleets by stocking them with essential equipment and drugs, radio connections and cellular telephones, and satellite geo-positioning systems;
- Providing training on basic and advanced life support services to improve knowledge and skills among paramedic and medical personnel; and
- Making triage arrangements to determine the order and priority of emergency treatment, transport and destination for patients.

This contributed to a timely response to emergency calls and improved quality of services. The average response time for 86% of emergency calls in the Chuvash Republic declined from 20.9 minutes in 2006 to 13.5 minutes in 2008, lower than the average of 25 minutes for all of Russia. Similarly, in Voronezh, 83% of emergency calls were attended to within 15 minutes of being received.

Process of Care: New disease management protocols developed by the MOHSD were adapted in accordance with local conditions: 220 in the Chuvash Republic and 154 in Voronezh. This is helping improve the quality of care and optimize referrals to hospitals. Over the 2002-2008 period, the percentage of patients readmitted for the same condition after discharge was reduced in the Chuvash Republic by 26% and in Voronezh by 44%.

Continuous quality improvement programs - targeted at regional, municipal, hospital, primary health care, and individual health worker levels - were also established. Target achievements are benchmarked against past performance and levels achieved in the Russian Federation.

Annual population surveys showed that the proportion of the population satisfied with health care delivery increased: in the Chuvash Republic from 68% in 2002 to 74% in 2008, and in Voronezh from 48% in 2002 to 70% in 2008.

Health Information Systems: Investments were made in health information systems to coordinate the flow of clinical and financial information across the health systems in the two regions. Health care facilities, units within facilities, and regional health agencies are now "virtually" connected through broadband networks. Electronic health records, which collect data at the point of service, support clinical decision-making and faciliate performance measurement. Inter- and intra-regional medical consultations and distance-learning activities were supported by establishing telemedicine networks. In Voronezh, consultations using videoconferencing increased by 381% over the 2003-2008 period.

Human Resources: Retraining of medical personnel and training of new general practitioners and nurses were done in regional institutions such as the Voronezh State Medical Academy, and outsourced to leading centers such as the Family Medicine Department of the St. Petersburg Medical Academy. An indicator of training quality is the share of certified physicians and nurses: in Chuvash Republic, certification increased by 29% among physicians and 55% among nurses over the 2002-2008 period.

Managerial capacity was strengthened at all levels of the system through the provision of training in health policy and management, and health economics and finance, to implement and sustain the reforms.

***Health Finance*:** The Chuvash Republic adopted "a single payer system" of health finance, pooling all funding sources (regional and municipal budgetary allocations for the non-working population, and health insurance contributions from employers and employees) under the management of the regional health insurance scheme. This has helped eliminate administrative duplication in the management of health financing (previously, certain services were funded using budgetary allocations managed by regional and municipal entities and others were funded by the regional health insurance agencies), and increased flexibility in the allocation of funds between services.

Major changes were also introduced in the payment methods for general practitioners and services provided at the facility level. In the Chuvash Republic, primary care facilities now remunerate general practitioners using contracts that include fixed salaries with variable monthly payments. These payments are based on the attainment of program targets as measured by 30 indicators – e.g., population coverage for priority services such as vaccinations or cervical cancer screening, and reduction of maternal and infant deaths. A similar arrangement was adopted in Voronezh. In both regions, 100% of general practitioner physicians now work under performance-based contracts. These payment modalities have helped general practitioners achieve remuneration levels that are 25% higher than salaried doctors, and regional authorities are able to attract and retain trained personnel in peri-urban and rural areas.

For services provided at the facility level, a new reimbursement system was introduced in the Chuvash Republic. It combines fixed tarrifs and bonuses that vary in accordance with the performance of doctors and nurses in different types of facilities, as measured by process and outcome indicators (e.g., compliance with treatment protocols, unjustified hospital admissions, and post-surgery complications).

Resource allocation has improved in both regions, with substantial increases in the resources channeled to primary care and outpatient services and a proportionate decline in funding allocated to hospital services due to the reduction in the number of hospitals and 24-hour beds. Spending on primary health care as a percentage of total health expenditure rose in the Chuvash Republic from 31% in 2002 to 46% in 2008, and in Voronezh from 42% in 2002 to 53% in 2008.

***Health Promotion*:** In parallel to the restructuring of the medical care system, both regions are implementing health promotion strategies to modify the health risk factors of their populations (e.g, information and education campaigns on the negative effects of smoking and alcohol abuse, promotion of physical activity and healthy diet, and mandatory use of seat belts to prevent traffic fatalities and injuries).

Conclusion

The experience of the Chuvash Republic and Voronezh has been disseminated in federal and regional forums within Russia. It provides evidence that it is possible to effectively restructure the regional health systems in the country. A critical lesson from the experience is that successful reforms require holistic and well-sequenced approaches, based on detailed plans for investment in institutional and human resource development. Partial reforms produce imbalances. In both regions, reducing the numbers of hospital beds made it necessary to increase service delivery capacity at the primary care, specialized ambulatory, and long term care facility levels by redesigning the process of care through adoption of new disease management protocols, introduction of modern medical equipment to improve the diagnosis and treatment of patients, development of information systems to coordinate the flow of data and information across levels of care and within facilities, training of personnel, and resource allocation mechanisms that link payments to performance.

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