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IMPROVING HEALTH AND HEALTH CARE IN BELARUS

BELARUS HEALTH POLICY NOTE

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Acronyms

AIDS	Acquired immune deficiency syndrome
BCG	Bacille Calmette-Guérin (vaccine)
CIS	Commonwealth of Independent States
CVD	Cardiovascular disease
DOTS	Directly observed treatment, short course
DRGs	Diagnosis related groups
ECA	Europe and Central Asia
FSU	Former Soviet Union
GDP	Gross domestic product
GP	General Practitioner
HIES	Household income and expenditure survey
HIV	Human immunodeficiency virus
ICD-10	International classification of diseases, 10 th edition
IDU	Intravenous drug user
MoH	Ministry of Health
MIS	Management information system
NGO	Non-government organization
NIS	Newly independent states
OECD	Organization for Economic Cooperation and Development
PHC	Primary health care
PPD	Purified protein derivative (skin test for prior TB exposure)
SOE	State-owned enterprise
STI	Sexually transmitted infection
TB	Tuberculosis
UNAIDS	United Nations Organization on AIDS
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
US	United States of America
WHO	World Health Organization

Vice President:	Johannes Linn
Country Director:	Luca Barbone
Sector Director:	Annette Dixon
Sector Manager:	Armin Fidler
Task Team Leader :	Verdon S. Staines

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Preface

Belarus inherited from the Soviet era an easily accessible and extensive health system which continues to function. Its overall performance, however, has generated increasing dissatisfaction within the country. Both the President and the Prime Minister have actively articulated the need for better and more economical care. Similarly, the Ministry of Health has identified problems in the sector that center on ineffective and inefficient use of resources, but also involve issues of public dissatisfaction with the quality and appropriateness of care and of access to needed care.

During 2000, the Ministry of Health indicated its interest in developing a health policy note with World Bank assistance. It suggested that the note focus on changing the financing system to achieve more efficient resource use. The Ministry and the Bank agreed that a Government working group, drawn from relevant Ministries, would collaborate with a Bank team to produce such a note.

Given these origins, this health policy note has two principal objectives. First, it offers Belarusian policy makers a strategic overview of issues in health policy that merit their priority attention. In this respect, the note emphasizes issues relevant to the effective use of resources within the sector, discusses options for addressing those issues, and suggests possible strategies that might help the sector achieve an economically more sustainable structure. Second, it provides World Bank staff with better information and a more strategic sectoral perspective. These could help them to frame relevant advice on health and economic policy issues and to assess priorities for future country programs concerned with effective resource use and public investments.

The Belarus Working Group included specialists and experts from the Ministry of Health, the Ministry of Finance, the Health Department of the Vitebsk Oblast Executive Committee, the Belarusian Academy of Post-Graduate Education, and the National Medical Technologies Center. The World Bank task team for the health policy note was led by Verdon Staines (ECSHD), who was also the primary author. Other Bank contributors were Joana Godinho, Sergiy Kulyk, Nikolai Lisai, Elena Klochan, and Irina Oleinik. Mukesh Chawla and John Langenbrunner were peer reviewers. Sidonie Jocktane was responsible for document processing. Annex 1 is adapted from material prepared by Joseph Antos in another context. Bank managers for the task were Galina Sotirova (Program Team Leader), Armin Fidler (Sector Manager), Annette Dixon (Sector Director), and Luca Barbone (Country Director).

Executive Summary

How is the Belarus Health System Performing?

i Belarus inherited from the Soviet era an easily accessible and extensive health system which continues to function. Its strengths included:

- ◆ good health indicators, relative to its average level of income;
- ◆ a strong commitment to providing all families with equitable access to needed health care services without financial barriers to access;
- ◆ a medical work-force that had been thoroughly trained within a particular, treatment oriented, doctor-centered, specialty-based approach to health care; and
- ◆ an extensive system of health infrastructure and equipment.

ii Nevertheless, the system's overall performance has generated increasing dissatisfaction. Both the President and the Prime Minister have actively articulated the need for better and more economical care. Similarly, the Ministry of Health has identified problems in the sector that center on ineffective and inefficient use of resources, but also involve issues of public dissatisfaction with the quality and appropriateness of care and of access to needed care.

iii One source of concern is health status that has deteriorated in many respects. The population is declining because death rates rose and birth rates fell. Avoidable mortality and morbidity are high as a result of:

- ◆ excessive alcohol consumption,
- ◆ rising rates of smoking,
- ◆ inadequate prevention and treatment of cardiovascular disease (which accounts for more than half of all mortality and most premature deaths), and
- ◆ dangerous new or renewed epidemics of communicable diseases—particularly, tuberculosis (TB), HIV/AIDS, and sexually transmitted infections. Policy action, however, could help to mitigate their impact.

iv A further concern is that the 5 percent of GDP allocated to health care could do much more to improve people's health if it were allocated differently. This is especially unacceptable when the population is complaining that access to care from the public sector is limited and its quality in many cases is unsatisfactory.

v The poor performance arises partly because the inherited health system, despite its strengths, was also misdirected in important ways.

- ◆ Clinical protocols and treatment methods do not yet consistently reflect the growing international body of empirical evidence about what constitute the most effective approaches to medical care and disease prevention;
- ◆ The health care delivery system is unbalanced. It has too many hospitals and too few general practitioners. Moreover, most health programs are structured vertically and are poorly coordinated. So they fail to interact in mutually supportive ways.
- ◆ The mix of skills among providers emphasizes specialist skills for treating "cases" over competence in family medicine and a holistic, coordinated approach to the care of individuals. It also does not allow skilled nursing to play the expanded role that it has achieved in modern health care systems.
- ◆ Because primary care is relatively weak and ineffective, many medical conditions flow through the system and are treated in hospitals—the most expensive sector of the health care system.
- ◆ Management systems for the whole sector and for individual health facilities are inadequate. They are characterized by: (a) poor information on the true costs of health care activities and on the impact that different clinical methods or combinations of inputs could have on health outcomes; (b) outdated budgeting, accounting, and accountability systems; (c) significant constraints on the autonomy of managers in allocating resources among or within facilities; and (d) a culture that discourages experimentation, initiative, or responsible risk-taking. These characteristics partly reflect the inappropriate incentives and objectives discussed below.
- ◆ More generally, the health sector allocates resources among its main subsectors ineffectively—that is, in ways that cannot achieve the maximum potential impact of these resources on health status and outcomes. Then, within subsectors, it uses resources inefficiently—that is, it achieves less than the maximum outputs or improvements in health status possible from the inputs financed.

How and Why Could Changes Help?

vi With the funding levels currently allocated for health, the population could potentially stay healthier and enjoy increased access to more appropriate care of higher quality if resources were used more effectively. Achieving a new pattern of resource use that would make this possible in practice, however, would require a sustained and wide-ranging process of gradual, carefully planned improvements in the health care system. This process would extend over a lengthy period of 10 to 15 years.

vii The changes introduced as the system evolved through this process could be expected to reflect a number of principles. These include:

- ◆ Fostering a culture that values healthy lifestyles and exploits all opportunities to prevent disease rather than to cure it;

- ◆ Promoting clinical practice patterns that adapt the best medical evidence and professional judgment to Belarusian circumstances;
- ◆ Structuring the decision-making responsibilities of physicians with different roles in the health system so that the system as a whole provides coordinated, clinically appropriate, cost-effective care for each individual;
- ◆ Remolding the system of health infrastructure into a balanced and more diverse network of categorized, professionally accredited facilities that have sharply defined roles, commensurate technology, and greater accountability for clinical excellence and effective use of resources;
- ◆ Developing information and management systems and delegating authority so that health sector managers have both the technical tools and the autonomy they need if they are to be held accountable for clinical excellence and effective resource use;
- ◆ Realigning professional and financial incentives for health providers, as well as incentives for consumers, so as to encourage the provision of care in these ways;
- ◆ Offering opportunities for training and for developing newly required professional roles so as to support and equip health-sector staff while they adapt to changes in their roles within the system; and
- ◆ Financing appropriate health services for individuals (rather than financing health institutions), and recognizing that health financing systems should be designed to help match total expenditures on health with politically derived judgments about its overall social priority.

viii One key to changing the functioning of the health system so extensively will be to restructure the incentives that health care providers, managers, and consumers face. Currently, a fundamental problem is that the health system's existing system of funding incorporates incentives for providers to behave in ways that result in the inappropriate patterns of care and wasteful use of resources that people find unsatisfactory. Currently, the level of revenue that a facility receives depends on the number of officially registered regular beds that it has. MoH therefore considers that facilities have no direct economic interest in increasing the pressure of work and the number of occupied bed-days per year. Nevertheless, incentives can also be created indirectly by unstated patterns in how funding flows are adjusted over time. In particular, to the extent that facilities can retain beds from year to year by keeping them full, and can minimize their costs by having patients who require little care, managers already face inappropriate incentives. Those incentives are to retain unnecessary beds, to admit patients with little or no need for hospital care, to keep these patients hospitalized for as long as possible, and to invest little effort in improving the quality, appropriateness or efficiency of their care. Such incentives also have the effect of discouraging larger roles for public health, health promotion, primary health care, and outpatient secondary care within the sector.

Building on Reforms Already Launched: What Directions and Kinds of Changes are Suggested?

ix Fortunately, health policy makers recognize the need to reorient the current system and they understand the main directions of change that are needed. Central to the Government's reform strategy is a regional pilot in Vitebsk that will gradually be replicated nationwide. It tests the impact of creating new incentives for providers by changing the rules of the health financing game. Overall funding for the Vitebsk pilot region is being set on a per capita basis. Line-item budget requirements are suspended or significantly reduced. Facility managers have been given substantially increased autonomy in how they use resources and manage health care delivery within their facilities. Insofar as they achieve demonstrable savings through more effective or efficient use of resources, they can reallocate the savings for equipment, pharmaceuticals, other materials, salary bonuses, or development of new services (including expanded primary health care). These changes have greatly altered the incentives facing health providers in Vitebsk. The pilot is expected: (i) to divert potential hospital patients to more appropriate treatment in primary health care or outpatient specialist (polyclinic) settings; (ii) to cut average lengths of inpatient stays; (iii) to lead to new treatment protocols for conditions now treated through inpatient care; and (iv) to release funds for expansion of primary health care services. The efficiency and appropriateness of services provided would be monitored partly using an existing "final results" model of 25 quarterly indicators and 50 annual indicators. Early results indicate that the experiment has had the expected effects.

x Other recent initiatives include:

- ◆ establishing a pilot wellness center for prevention of cardiovascular disease through screening, early detection, education and counseling;
- ◆ a commitment to introduce new training programs in economic aspects of health policy making, health financing, and health systems management;
- ◆ a start on development of a stronger primary health care system through the creation of new programs to retrain physicians as family medicine specialists who will take on new roles as general practitioners within primary health care; and
- ◆ new approaches to communicable disease that are designed to respond more effectively to burgeoning epidemics of tuberculosis, HIV/AIDS, and other sexually transmitted infections. The thrust to redirect care down the pyramid of health care services to more appropriate, less resource-intensive levels cannot succeed unless the inadequate primary health care base of the pyramid is enlarged and strengthened. The key here is to train, and integrate into the health system, a substantial number of primary health care doctors with more extensive skills.

xi The Government's various pilot initiatives, however, need to be strengthened technically. They also need to be incorporated into a broader and more systematic medium-term program of phased sectoral development.

xii The Vitebsk pilot remains a work in progress, not a finished product. Primarily because of the speed of its introduction, it requires significant support with a range of technical tasks that

are important but difficult and urgent. These tasks also largely define the ongoing agenda for the development of new approaches to allocating funding and managing care within the health sector as a whole. Five kinds of technical support would help ensure that the Vitebsk pilot is implemented and evaluated successfully and that it leads easily into a continuing process of further sectoral development. This technical support would focus on:

- ◆ Developing statistical methods that address key data gaps so that the pilot's overall impact can be evaluated accurately and credibly;
- ◆ Completing the development of processes for managing and allocating the global budget for the Vitebsk region;
- ◆ Specifying methods for managing health care delivery within institutions and for coordinating care across providers;
- ◆ Incorporating family medicine, which would be provided by general practitioners and other health personnel, into the Vitebsk primary health care system and integrating this new approach into Vitebsk's overall health care system; and
- ◆ Implementing an appropriate management information system (MIS) that supports clinical, financial, management, monitoring, evaluation, statistical, and policy-making functions.

xiii In practice, the Vitebsk pilot and its evaluation will continue for several years, even as initial lessons from the pilot begin to be applied in other regions of the country.

xiv Two areas for further change are key priorities. One is to improve the quality of care. This could begin with the development, for a limited number of common conditions, of clinical protocols that adapt internationally available evidence to Belarusian circumstances. These protocols could be introduced once doctors are trained in their use. The other priority area is to improve further the way that the financing system allocates resources. This could begin by creating the technical basis for a health financing system that sets global budgets for providers on a rational basis and then uses these budgeted resources more effectively. This would involve developing agreements with health care providers covering the expected volume, cost, and quality of medical services to be provided. In turn, that would require attention to:

- ◆ new methods for estimating the expected costs of effective care for the medical conditions that are most common or that generate most health care costs,
- ◆ improved accounting systems to measure the actual cost of health processes and outputs, rather than just those of inputs,
- ◆ tracking health expenditures by type of service, type of provider, patient characteristics, and source of funding,
- ◆ monitoring the quality of services,
- ◆ creating management information systems that give providers the tools they need to manage resource use within their facilities, and

- ◆ training health-sector personnel in basic economic concepts as well as skills required for cost-conscious clinical and managerial decision-making.

xv Other areas that deserve attention are: sectoral systems for goal-setting, management, and accountability; keeping people healthy; sustainable access to affordable care; rebalancing the provider network; and ensuring that private payments for care are transparent and consistent with future policies.

Moving Forwards

xvi Belarus wants gradually to develop and reorient its health sector. To do this successfully will require a broad and shared vision of the policy and institutional changes needed—for example, one that builds on the principles suggested in paragraph *vii*. The process for implementing that vision could be structured in three overlapping phases. Phase One could consolidate progress to date by extending and strengthening initiatives already launched. Phase Two could design a specific, medium-term program of policy and institutional changes. This program would aim to provide a more supportive and sustainable environment for the changes in Phase One and for the effective future functioning of the sector. The medium-term program would also establish priorities among the changes needed and would suggest how they might best be sequenced and implemented. The program, however, should be seen as an evolving guide to ongoing change within the sector rather than as a rigid blueprint for its future development. Phase Three would implement the program of priority changes developed in Phase Two. The Health Policy Note discusses at length potential elements that might be included in each phase. However, these elements represent a menu of options for policy makers to consider, rather than a specific proposal or plan for sectoral development.

Chapter 1

BELARUS HEALTH POLICY NOTE OVERVIEW PAPER

1.1 Health Policy. The goal of health policy is a population with two characteristics. First, the population has the opportunity to achieve and maintain good health. Second, it can rely on an efficient, financially sustainable health care system to provide prompt, affordable access to appropriate and effective medical care when illness or injury interrupt that good health.

1.2. Role of Health Policy Note. Accordingly, this Health Policy Note explores how well Belarus is currently reaching that goal. It also examines policy responses that might assist the country to achieve the goal more fully.

1.3 Desire to Improve Health Sector Performance. Belarus policy makers are committed to improving the health status of the population and the effectiveness of its health care system by gradually restructuring its health sector. To do this successfully will require a broad and shared vision of the policy and institutional changes needed. That vision could reflect, for example, the principles suggested in paragraph *vii* of the Executive Summary.

1.4 Linkage to Broader Economic Changes. The desire to improve the structure and functioning of the health sector is fully justified by the potential for improving health status and health care outcomes through new approaches to prevention and treatment. In addition, it reflects the opportunity to make far more effective use of the substantial resources that Belarus commits annually to the health sector—including public funding equivalent to five percent of GDP. The pressure to use resources more effectively in the health sector can be seen as part of a broader drive by policy makers to achieve better use of resources throughout the Belarusian economy as a whole, given the strains in economic performance that became apparent after the Russian financial crisis of 1998. To sustain a pattern of continued economic growth, Belarus will need to build on its recent initiatives that introduce greater flexibility in the allocation and use of resources. Besides allowing prices a larger signaling role in resource allocation, a new approach will require greater flexibility for enterprise and facility managers, better enterprise governance, and a less directed financial system. These approaches to improving overall economic performance closely parallel many of the changes needed to improve performance in the health system itself.

1A HEALTH STATUS AND THE CURRENT HEALTH CARE SYSTEM

1.5 Changing Health Status. At independence, Belarus inherited patterns of health status that were high by comparison with other countries from outside the Former Soviet Union that had comparable levels of income per capita. However, a decade later, deteriorating health status is a prominent concern in Belarus. A decline in total population in 1999, a falling birth rate, and increasing mortality all illustrate why. The main patterns of disease are clear.

1.6 Non-Communicable Disease. Non-communicable diseases lead the causes of death. Cardiovascular diseases alone account for more than half of overall mortality and of premature deaths. Cardiovascular diseases are best addressed through primary and secondary prevention; and Minsk now has a pilot center offering integrated preventive services (screening, early detection, education, and counseling). Smoking, excessive alcohol consumption, a fatty diet, lack of physical exercise, and stress all increase the risk of these diseases. However, evidence for the region as a whole—although not specifically for Belarus—suggests that excessive use of alcohol is the main underlying risk factor explaining the 10-year differential in life expectancy between countries from the former Soviet Union and Western countries. This difference is especially great for men aged 15-45. Excessive use of alcohol raises death rates from cardiovascular disease, accidents, cirrhosis of the liver, and alcohol poisoning.

1.7 Communicable Disease. Nevertheless, Belarus also faces a sharp resurgence of communicable disease.

- ◆ Belarus now has the region's second highest incidence of HIV/AIDS. An explosion of new HIV infections, particularly in mid-sized industrial towns, poses the danger of infections rapidly spreading into the general population. Injecting drug use accounts for 80 percent of registered cases since 1987, but the share of heterosexually transmitted cases rose from 7 percent in 1996 to 30 percent in 1999.
- ◆ The case notification rate for TB grew at an average annual rate of 10.6 percent from 1991 to 1998. TB infects 0.6 percent of the population, with one of every six new cases resistant to multiple drugs—among the highest rates in the world. TB incidence among prisoners is 30 times higher than in the general population.
- ◆ Sexually transmitted infections (STIs) have also increased. Most cases involve people aged 15-29 years. Syphilis is the most frequently reported STI, but the number of reported gonorrhea cases is rising.

1.8 Patterns of Change Since 1990. Patterns of change in disease in the last decade are more complex. Many health indicators worsened over the decade, including mortality linked to circulatory diseases, the total incidence of new cancer cases, and the standardized death rate from chronic liver disease and cirrhosis. Others, such as the incidence of several vaccine-preventable diseases and the infant mortality rate, first deteriorated but then improved over the decade. Still other indicators, including the incidence of two other vaccine-preventable diseases, hepatitis A and B, showed a downward trend over the decade. The maternal mortality rate fell, overall, while fluctuating around a trend level of about 21 per 100,000 births.

1.9 Comparative Indicators. Comparisons within the broad European region are often possible. For example, the trend level for the maternal mortality rate was considerably below that for Russia, but in most years it was higher than the average for countries in central and eastern Europe and more than three times the average rate in western Europe. For hepatitis A and B, the incidence remained well above average levels for European Union (EU) countries, although lower than the averages for Newly Independent States (NIS) of the Former Soviet Union. For measles, however, the incidence in Belarus was consistently below the average for EU countries during the 1990s.

1.10 Chernobyl and its Health Legacy. Many within Belarus believe that the Chernobyl nuclear accident has cast a long shadow over the current and future health status of the population. Chernobyl's health impact has been controversial, significantly adverse for at least some population subgroups, and hard to measure. The accident also had broader ramifications, including population movements affecting several hundred thousand residents, clean-up costs, interference with agricultural production, and ongoing mitigation activities. Nevertheless, the most exhaustive retrospective review of relevant studies of Chernobyl's health impact, which was undertaken by an international panel, reached a relatively optimistic overall assessment of the longer-term consequences of the accident.¹ It found that, apart from the deaths of 30 firemen and plant operators involved in the initial containment efforts, the most serious demonstrable health consequence among the population of the affected areas was a dramatic increase in thyroid cancer rates in children under 15 years, involving 1067 cases during the period 1990-98. Those cancers arose from accumulation of radioactive iodine within the children's thyroid glands. These cancer rates remained at elevated levels until at least 1998. The panel concluded, however, that other major public health impacts related to ionizing radiation, including on leukemia rates, have not yet been demonstrated by scientifically reliable evidence. Despite these findings, a firm belief exists in Belarus that Chernobyl significantly increased registered cancer and other illnesses (such as mental health and psychological consequences) within the population. Methodological difficulties associated with definitive research on the effects of Chernobyl leave open the possibility that Chernobyl did indeed have adverse health consequences for which scientifically convincing evidence has not yet been obtained, as well as the possibility that a variety of health problems have been wrongly attributed to Chernobyl.

1.11 Extensive Current Sources of Avoidable Mortality. The debate over Chernobyl, however, should not distract the attention of policy makers from clear evidence that health in Belarus today is being harmed much more seriously by extensive sources of avoidable mortality and morbidity that policy action could help to mitigate. Among these sources, as noted above, are excessive alcohol consumption, rising rates of smoking, inadequate prevention and treatment of cardiovascular disease (which accounts for more than half of all mortality and most premature deaths), and dangerous new or renewed epidemics of communicable diseases (particularly, tuberculosis, HIV/AIDS, and sexually transmitted infections). Recent steps to discourage

¹ United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). *Exposures and Effects of the Chernobyl Accident*. UNSCEAR 2000 Report to the General Assembly, Annex J. In *International Journal of Radiation Medicine* 2000, v. 2-4 (6-8), pp. 3-109.

smoking are a useful start towards addressing the second of the two most lethal long-term underlying threats to Belarusian health.

1.12 Overview of Health Care System. The Belarus health system is substantially financed, managed, regulated, and delivered through the public sector. The legal framework for this system is provided by articles of the Constitution and a basic framework law, as well as subsequent laws, Presidential decrees, and regulations on more specific issues. Among Constitutional guarantees for all citizens are the right to the protection of health, including treatment at no charge in state-run health care facilities and affordable access to medical services. Responsibility for the health system rests primarily with the Ministry of Health and secondarily with a series of other Ministries and government bodies.

1.13 Resources Available. Belarus has financed extensive inputs of staff and facilities. These inputs are also used at high rates.

- ◆ Overall, for every 1000 people, there are 12.7 hospital beds, 4.8 doctors, and 12.2 nurses. Of these, 12.0 beds, 4.3 doctors and 11.1 nurses are within the Ministry of Health system. Non-government entities employ nearly 1,900 doctors, or four percent of the total.
- ◆ However, because many physicians are not working in service delivery, the number of doctors in service delivery is only 2.6 per 1000 people.
- ◆ Within primary health care, under prevailing conditions and wage rates, there are 3000 vacancies for physicians.
- ◆ The geographic distribution of doctors is quite uneven, ranging from 1.3 to 7 per 1000 people.
- ◆ Hospitalization rates are high—28.2 hospitalized patients per 100 people in 1999. Average lengths of stay are also long. For example, typical stays are 10-11 days for an appendectomy, 4-5 days for laparoscopy, and 5-14 days for cataract surgery.
- ◆ There are 12.2 visits to doctors per person per year and 400 ambulance calls per 1,000 people.
- ◆ One quarter of all pharmaceuticals sold to families are priced at a discount. Discounts range from 50 to 100 percent. Hospitals provide available pharmaceuticals without charge to admitted patients. Pharmaceuticals and properly functioning equipment are at times unavailable in public facilities, however, leading to sub-optimal care.

1.14 Primary Health Care. Primary health care (PHC) is provided mainly through the polyclinic system, which also provides outpatient specialist care and diagnostic services. Western models of PHC are uncommon. However, a new program is retraining physicians to work as general practitioners (GPs) engaged in family medicine within PHC settings. This has increased the number of GP facilities from two in 1997 to 120 in 2000. These facilities are located mainly in rural areas. The Ministry of Health estimates that 400 GP facilities are needed.

1.15 Health Financing. Most health funding comes from the national budget, which is raised from multiple tax bases and collected on a regionally progressive basis. In recent years,

Republican budget revenues for health have represented 4-5 percent of GDP. The government envisages increasing this to 7 percent of GDP by 2005, but current budgetary difficulties have delayed the start of this process. Oblast governments can supplement national funding for their own regions by up to 17 percent. Formal user charges raise 2-5 percent of total health spending, although they represent 50 percent of dental spending. Informal payments to providers are reported anecdotally, although evidence on their scale is limited. There are no good data series on health expenditures per capita over time – particularly, health expenditures adjusted for price changes. Inpatient care is estimated to account for almost two-thirds of the health sector's fund. Hospitals are paid based on the total number of beds. Polyclinics are paid based on the average number of patients per shift. Polyclinics typically admit complex cases to the hospital.

1.16 Provider Incomes. Physicians are paid at different rates, although the basic rate is 70 percent of the average salary in the country. Those in hospitals earn more than those in polyclinics. An experienced hospital physician can reportedly earn the equivalent of up to about \$US 100 per month as an official salary, while a new hospital physician might earn half that amount. General practitioners are being paid more than other doctors to encourage existing doctors to retrain as GPs. Ministry of Health nurses earn approximately 30,000 BYB (\$US 20) per month.

1.17 Assessing Health System Performance. Belarus does not systematically record data on many of the indicators relevant to a full assessment of the population's use of health care services. This is particularly true for indicators relating to health promotion, disease prevention, and primary health care. Nor can Belarus disaggregate its overall spending on health according to the functions for which it was spent – that is, the mix of services financed. Nevertheless, certain striking patterns are evident in the use of health services from indicators of system performance that are available for Belarus.

- ◆ Almost all indicators of hospital usage in Belarus are high by international standards and, in addition, they are often increasing. Such indicators include hospital admission rates, hospital bed numbers per thousand people, and average lengths of stay. The very high levels of hospital admissions, lengths of stay, and bed supply in Belarus might partly reflect differences across countries in how beds for medical-social services are classified. Village hospitals in Belarus focus mostly on providing these services.
- ◆ Belarus has a high and rising number of physicians, relative to its population. The number of doctors per capita was larger than Russia's by 1998 and more than double that of the United Kingdom in 1985 and 1993.
- ◆ Although Belarus has long paid attention to public health measures designed to prevent communicable disease, it has invested very little in the development of health promotion.
- ◆ The state of primary health care in general—and of family medicine by general practitioners, in particular—is underdeveloped. However, initiatives to change this have begun.
- ◆ Abortion is the dominant method of fertility control; and abortion rates are among the highest in the world.

- ◆ Inequities in access to care are also starting to be apparent. As one indication, anecdotal reports suggest that most pharmaceuticals and care are available in Belarus for a price and that informal payments for care are more extensive than authorities perceive to be the case.

1B MOVING FORWARDS

1.18 Restructuring is a Large Task. By its nature, restructuring the health sector is a broad undertaking, which is only partly about the health care delivery system. Its three main dimensions are: to take advantage of intersectoral avenues for promoting health; to reduce the high prevalence of avoidable illness; and to create affordable, effective delivery systems that better match the health care available with the main patterns in causes of illness, disability and death. Moreover, restructuring the health sector will be a lengthy (e.g., 15-year) process. It involves the sequenced, coordinated restructuring of many subsectors that are complex and highly interdependent. The restructuring of each subsector should be consistent with an emerging, long-term vision of the desired future health system, which will be organized, governed, financed, managed, and regulated in new ways.

1.19 Starting Points. Any review of policy begins with an assessment of the current system's strengths and weaknesses, which are summarized in paragraphs *i* and *v* of the Executive Summary. The former provide a basis on which to build. The latter highlight areas requiring sound diagnosis of problems and their causes, the choice of a strategy and priorities in response, and the initiation of constructive change. The Executive Summary also summarizes the Government's view of the fundamental incentives problem that pervades the health sector and of its intended strategy for addressing this problem (paragraphs *viii–xi*).

1.20 Vitebsk Pilot. The Government has moved furthest in planning health financing changes. In particular, it adopted a specific program of efficiency-enhancing initiatives in the health sector, under Decree #1225 of August 10, 2000. This was to be implemented first in the Vitebsk region and subsequently to be extended nationwide. Based on favorable preliminary results, the Government recently decided to extend the approach used in Vitebsk to parts of two other Oblasts as the first stage in its national extension.

1.21 Strengthening the Vitebsk Pilot. The Vitebsk pilot remains a work in progress, not a finished product. Primarily because of the speed of its introduction, it requires significant support with a range of technical tasks that are important but difficult and urgent. These tasks also largely define the ongoing agenda for the development of new approaches to allocating funding and managing care within the health sector as a whole. The tasks could be continued, as part of the ongoing program discussed below, to refine or improve the approaches that are being developed quickly for Vitebsk. The refinements would be possible because they could take advantage of additional information or new methods that could be developed when additional time is available.

1.22 Timetable for the Vitebsk Pilot. The processes for organizing, funding and undertaking these tasks are such that the Vitebsk pilot will not have all of its operating systems fully in place

until at least the latter part of 2002. A proper evaluation will then require data for one to two years of experience with the pilot in its fully operational mode. So policy makers should recognize that the full lessons of the Vitebsk pilot will not be available and documented until at least the end of 2003 or 2004, although earlier progress reports might give an indication of whether the kinds of performance changes that have been predicted for Vitebsk appear to be becoming apparent. Thus, the Vitebsk pilot and its evaluation will continue, even as initial lessons from the pilot begin to be applied in other regions of the country.

1.23 Other Issues in Restructuring. Other major issues that the restructuring process will need to address include: health promotion and disease prevention; the quality of care; changing the mix of providers and skills; extending and adapting the approaches and lessons from the Vitebsk pilot to the rest of the country; and reviewing existing structures for governance and accountability within the health sector. The last issue will require strengthening the distinct functions of policy making, health financing, service delivery, regulation, health promotion, disease prevention, information management, and performance evaluation within a coordinated framework that—given Belarus's fundamental preferences—is predominantly government-managed and budget-financed.

1.24 Three Overlapping Phases. To develop and reorient its health sector gradually, Belarus will need first to identify, and then to implement, a broad and shared vision of the policy and institutional changes needed. The process for implementing that vision could be structured in three overlapping phases. Phase One could consolidate progress to date by extending and strengthening initiatives already launched. Phase Two could design a specific, medium-term program of policy and institutional changes. This program would aim to provide a more supportive and sustainable environment for the changes in Phase One and for the effective future functioning of the sector. The medium-term program would also establish priorities among the changes needed and would suggest how they might best be sequenced and implemented. The program, however, should be seen as an evolving guide to ongoing change within the sector rather than as a rigid blueprint for its future development. Phase Three would implement the program of priority changes developed in Phase Two. The sections below present potential elements that might be include in each phase. However, these elements represent a menu of options for policy makers to consider, rather than a specific proposal or plan for sectoral development.

Phase One: Consolidating Existing Initiatives

1.25 Support for the Vitebsk Pilot. An obvious starting point for achieving better resource use is to ensure that the Vitebsk pilot is implemented and evaluated successfully and that it leads easily into a continuing process of further sectoral development. Five tasks could contribute to this objective.

1.26 Monitoring and Evaluation for Vitebsk. One task is to use statistical methods to estimate missing elements of the baseline data, so that the pilot's overall impact can be evaluated accurately and credibly. Meeting the decreed starting date of January 2001 required simultaneous introduction of the new financing arrangements themselves (whose effects are to tested) and of the new systems for collecting data required to evaluate the pilot. Consequently,

there is not a year's worth of clean baseline data prior to the start of the "experimental" period of the project. Unless statistical methods are used to estimate missing elements of the baseline, estimates of the pilot's impact will understate its true impact if changes in things such as inpatient admissions policies and average lengths of stay began to occur quickly--which seems to have been the case. Related work could refine processes for monitoring the Vitebsk pilot and measuring its impact on: patterns of care; the mix of services provided overall and at different levels of care; the severity of illness of patients treated through different levels of care; the efficiency and effectiveness of resource use overall and at each level of care; the quality and appropriateness of care; health status and outcomes; costs; expenditures; incomes of providers; the level and mix of human and material inputs used; and other indicators of health system performance, including those within the Ministry of Health's current "final results" model. In turn, that work could extend to a review of current methods for monitoring and evaluating performance in the Belarusian health system more generally, including the "final results" model.

1.27 Managing Funding for Vitebsk. Another task is to finish developing processes for managing and allocating the global budget for the Vitebsk region, including methods for:

- ◆ Holding and managing health funds for the region;
 - ◆ Allocating available resources across levels and types of care;
 - ◆ Allocating resources among different providers within each level or type of care;
 - ◆ Paying institutional and individual providers;
 - ◆ Establishing effective budgeting systems within care-giving institutions; and
 - ◆ Satisfying reporting requirements to ministries.
- ◆ Moreover, international experience strongly suggests that, because regions are too small, placing the function of fund-holding for health care at the regional level typically has four important disadvantages. It does not promote optimal decisions about achieving the most efficient structure for a coordinated national network of health facilities and health services, many of which have national significance. In particular, it does not help structure decisions about major capital investments in facilities or services so that they minimize the overall national level of ongoing recurrent costs that result from these decisions. In addition, it might not offer a large enough population base for satisfactory pooling of the financial risks associated with care for people who have complex medical conditions or a need for expensive treatment. It also disadvantages regions with lower average incomes or a more limited base for economic activity. Accordingly, policy makers might wish to identify an alternative to regional fund-holding. The alternative arrangements should retain all or most of the fund-holding function at the national level but should be designed so that they do not undercut the flexibility currently being achieved through regional management of funds for the Vitebsk pilot.

1.28 Managing Health Care Delivery for Vitebsk. A parallel task is to specify methods for managing health care delivery within institutions and coordinating care across providers. This includes methods for managing:

- ◆ Relationships between the fund-holding organization and institutions providing health services;
- ◆ The structure and organization of clinical care within care-giving institutions;
- ◆ Staffing and employment issues in those institutions;
- ◆ The selection, procurement and management of materials and equipment they require;
- ◆ Professional, institutional, and business relationships with other organizations or individuals providing health care services; and
- ◆ The incorporation into the Vitebsk primary health care system of family medicine, provided by general practitioners and other health personnel, and the integration of this new approach into Vitebsk's overall health care system.

1.29 MIS for Vitebsk. A further task is to design and implement an appropriate management information system (MIS) that supports clinical, financial, management, monitoring, evaluation, statistical, and policy-making functions.

1.30 Investing in Crucial New Skills. The unbalanced, hospital-centered nature of the current health care delivery system will, over time, call for a variety of restructuring initiatives. Among these is the need to invest in developing two sets of skills that are largely missing from the current health system but that will be crucial for creating a more balanced and effective future system.

1.31 Skills for General Practitioners. The skills required by general practitioners (GPs) engaged in family medicine represent one of these missing sets. GPs are envisaged as a key resource for strengthening the primary health care system. The previous Minister of Health suggested that, particularly in rural areas, GPs could function as local ministers of health within their districts, coordinating with local governments and regulators, and playing active roles in developing health promotion programs and addressing ecological issues affecting health. In parallel with the Vitebsk initiatives, MoH is seeking to build a more adequate network of primary health care providers, especially in rural areas. As one aspect of this, it has created an institute within the Belarusian Academy of Post-Graduate Training and a program to retrain physicians (mainly pediatricians, obstetrician/ gynecologists and surgeons) as family medicine specialists who could take on new roles as GPs within primary health care. Ensuring the continuation and further development of this program could be another step towards rebalancing the health care system.

1.32 Skills for General Practice Managers. An additional, complementary option would be to develop and implement a new training program for general practice managers. The program could train a new cadre of experts in the skills needed to provide administrative and managerial support for primary health care doctors running individual or group practices, allowing physicians to practice medicine, not manage businesses

1.33 Skills in Health Financing, Management, & Policy. Skills in health-sector financing, management, and policy-making represent the other missing sets of skills. Skills of these kinds

will become increasingly valuable as the health system evolves towards one where policy makers and providers both have increased autonomy but are also more accountable for the quality and effectiveness of their performance. To augment existing courses on the administration of health care and health financing under the present health system, MoH plans to develop one or more new training programs that would teach Ministry staff, health-sector personnel, and other relevant individuals about (i) health financing, (ii) managing health systems, services, and institutions, and (iii) policy-making related to both areas. Implementing this proposal could help to address a significant point of vulnerability within the present system.

1.34 Other Skill Initiatives. Other complementary initiatives to build institutional capacity for the analysis of health financing, policy and management could include: support for a variety of forms of short-term training; scholarships for study abroad; and establishing "twinning arrangements" between Belarusian health or medical education institutions and partner institutions abroad that would foster the sharing and enhancement of professional and administrative skills through staff exchanges and other forms of professional collaboration.

Phase 2: Building on the Current Initiatives and Creating a Framework that Supports Them

1.35 Other Kinds of Initiatives Needed. The initiatives launched recently represent only a first step towards restructuring. Much additional work will be needed to foster a more appropriate and balanced mix of services that are encouraged through redesigned financing systems embodying improved incentives for health care providers and supported through better analytic and administrative processes. The issues involved include incentive structures, payment modalities, clinical improvements, quality enhancement, performance measurement, monitoring and evaluation (both of the system as a whole and of the Government's pilot initiatives), personnel retraining and restructuring, system rationalization, and the data systems required to support these activities. There are associated needs to reorient health policy and to strengthen the sector's capacity to develop, implement and manage an ongoing review of health policy, regulation and financing.

1.36 Possible Broader Process. Restructuring will involve extending and adapting the approaches and lessons from the Vitebsk pilot to the rest of the country. This process could be embedded within a broader process that involves: (i) evaluating the pilot; (ii) developing the key elements of a medium-term restructuring program for the health sector through a range of activities that are consistent with overall sectoral goals and objectives and that build on, but go beyond, the lessons and experience of the Vitebsk pilot; and (iii) synthesizing the results of work undertaken through those activities into a phased and sequenced 5-year program for further restructuring of the Belarusian health sector. The last step would include the gradual extension to other parts of the country of approaches piloted in Vitebsk (with suitable modifications to reflect experience there and lessons learned). The overall restructuring program could be organized into sub-programs consisting of discrete but coordinated activities. Priorities among those activities would need to be established.

1.37 Grouping Options. This section outlines a variety of options that policy makers could consider as activities contributing to the development of the restructuring program. The options are grouped by their broad focus.

1.38 Governance, Management and Accountability Framework. Strengthening the framework for governance, management and accountability appears to minimize difficulties elsewhere in the system. A variety of options could assist in achieving this strengthening.

1.39 Policy Making Processes. A review could be undertaken to suggest the best ways to strengthen policy-making processes and capabilities within the health sector as a whole and the Ministry of Health in particular. Particular aspects of this review might focus on:

- ◆ Defining more clearly the objectives of restructuring and the changes required to achieve them;
- ◆ Reviewing current institutional capacity to plan and manage an ongoing process of health-sector restructuring;
- ◆ Evaluating existing capacity to train health policy experts and health economists and assessing the need to establish and fund related fellowships and study tours;
- ◆ Designing the optimal structure for, and relationships among, units that report to the Minister of Health and that are responsible for the functions of policy making, health financing, quality assurance, regulation, management information systems, and monitoring and evaluation;
- ◆ Synthesizing overseas experience in numerous related policy issues;
- ◆ Planning the most strategic phasing of subsectoral restructuring activities; and
- ◆ Examining options for the relative roles of the Ministry, local governments, professional bodies, and other relevant organizations in relation to such activities as:
 - Decision-making about capital investments within the health sector;
 - Managing activities relating to accreditation and standards;
 - Managing MIS processes for the health sector and access to the resulting databases;
 - Developing a systematic program to analyze health outcomes and processes; and
 - Advising the Minister of Health on related matters of health policy.

1.40 Substance of Policy. Complementary activities could include reviews of the substance of policy in such crucial areas as the overall effectiveness and efficiency with which pharmaceuticals are used in Belarus, the appropriate use of high-cost technology in health care, and the framework of laws, decrees, and regulations relating to the health sector.

1.41 Expanding Choice. A powerful tool for improving accountability for providers could be to expand the degree of choice available both for health care consumers and for referring physicians. The awareness among health care providers that they do not have a guaranteed market for their services can strongly reshape incentives and focus providers' attention on how

the quality of their services is perceived by those who use them. Choice is enhanced when multiple providers of a service are available in the relevant geographic area, when regulatory restrictions limiting the exercise of choice are minimized, and when good information is publicly available about the quality of care being offered by alternative providers.

1.42 **Improving the Health System's Information Base.** Better management of information will be a key to success in moving to a more effective health system. In addition to developing the design for a national MIS that builds on work required to create an MIS for Vitebsk, policy makers could consider strengthening the health system's information base in six other ways.

- ◆ Measures to quantify severity of illness, which could be developed from patient-level data on secondary diagnoses and co-morbidities, could then facilitate adjusting provider payments for “case-mix” (average severity), categorizing inpatient facilities partly according to case-mix among their patients, and developing accreditation systems for providers.
- ◆ A national inventory of all hospital facilities and their capabilities could be established, taking into account what equipment is fully operational.
- ◆ New measures of health outcomes and processes could be constructed and analyzed to explore the effectiveness of current care patterns.
- ◆ To make possible analysis of the efficiency and effectiveness of resource use, a cost-accounting system could be developed to generate improved information about levels and trends in the costs of clinical and administrative processes in the health system.
- ◆ An ongoing system of national health accounts could be developed to improve systematic understanding of the overall levels and composition of all flows of expenditure and services within the health sector and to document the relationship between sources of funds, expenditures, inputs of labor and materials, and outputs of different kinds of health services.
- ◆ A methodology to project the baseline level of health expenditures could be developed as a tool for improved budgetary planning and monitoring. The baseline expenditure projections could provide a valuable tool for assessing future changes in health spending that require policy management. As revenue sources for the sector diversify, a revenue baseline and projection methodology could be added to complement those for expenditures.

1.43 **Helping People Stay Healthy.** Prevention is better than cure. In addition to existing initiatives to address tuberculosis, HIV/AIDS, and sexually transmitted diseases, five illustrative activities could contribute to the development of a strategy for improved health promotion and disease prevention.

1.44 **Health Surveys.** Because health surveys are essential to track secular changes in health and determinants of health, a comprehensive health survey of the population could be designed and introduced. A key to policy change is analysis of data, use of data to develop health policy, and reporting of health data to the public and policy makers.

1.45 Health Promotion. A health promotion program could be designed that:

- ◆ Develops a strategy for public education concerning healthy lifestyles and disease prevention;
- ◆ Clearly links educational health promotion activities with related efforts by the clinical medical community;
- ◆ Ensures that health information systems can track the appropriate clinical treatment of cardiovascular disease (CVD) and precursor conditions;
- ◆ Links financing incentives to appropriate preventive care and treatment; and
- ◆ Monitors clinical interventions for effectiveness and efficiency.

1.46 Program for Cardiovascular Disease. A national health care program for CVD could be designed that includes new standards, improved protocols, and initiatives for primary and secondary prevention of CVD,

1.47 Allocating Related Responsibilities. A report could be prepared for the Ministry of Health that presents options for who should have responsibility for initiating and/or supporting health promotion activities at the national and local levels.

1.48 Sanitary and Epidemiological Functions. A review could be undertaken of the functions and activities of the sanitary and epidemiological service and of what changes in its role, responsibilities, activities, or structure might be appropriate as other aspects of the health care system are restructured.

1.49 Enhancing the Quality of Care. There are many options available for improving the quality of care. One, noted above, is to expand the degree of choice available to consumers of health care and to referring physicians.

1.50 Clinical Protocols. Another is to review existing clinical protocols and guidelines for care to improve their consistency with evidence-based approaches to medicine and to assess how well providers are trained in their use, the degree of compliance with protocols by health professionals, and the extent to which needed equipment and medical consumables are available. Protocols could be reviewed first for a relatively small number of diagnoses that are the most common, or the principal generators of health-sector costs, or that involve management of high levels of patient risk. Ideally, clinical protocols would incorporate pharmaceutical protocols.

1.51 Other Options. Other options include the following.

- ◆ Management of health-care facilities could be recognized as requiring a distinct set of professional skills; training in these skills could be established; and positions for managers of hospitals, health facilities, and primary health care practices could be created.
- ◆ Management information systems that track provider performance (including relative to protocols) could be developed.

- ◆ Twinning arrangements between local and international health institutions could be established.
- ◆ Health care processes could be reviewed and revised to help minimize pharmaceutical errors from production through consumption.
- ◆ Medical education systems, including those for continuing professional education of providers, could be improved.

1.52 **Standards and Evidence.** To be sustainable, effective use of facilities and new approaches to care must be based on clear professional standards and relevant evidence. Accordingly, Belarus could also develop new systems for quality assurance, categorization of facilities and services, and formal accreditation of facilities and providers. The initial categorization of facilities could be based on data from a national inventory of facilities (paragraph 1.42) and on preliminary comparisons across facilities of patients' severity-of-illness. The new process of accreditation could flow from the initial categorization of facilities, the development of clinical protocols (starting with the most common or expensive or high risk diagnoses), and subsequent development of formal standards for facilities and guidelines for care, which could be derived from the clinical protocols.

1.53 **Improving Sustainable Access to Affordable Care.** Household survey data show that high-income families in Belarus report spending more out-of-pocket on health care than low-income families. This might indicate that current policies are working satisfactorily to eliminate financial barriers to care for low-income families--for example, because they receive pharmaceuticals at no charge or are exempt from official user charges. Alternatively, it might indicate that poor families are less likely to seek care when it is needed, to buy medicines that they cannot obtain without charge from public health care institutions, or to seek care from licensed private providers on a fee-for-service basis. Moreover, these data probably do not reflect informal payments to providers that anecdotal accounts and some other survey data suggest are quite common. Taking account of informal payments would probably show that differences in access to health care are greater than the household survey data indicate. Differences between high-income and low-income families in the quality, timeliness, and appropriateness of the care they receive are also suggested by anecdotal accounts.

1.54 **Budget Limitations and Access.** At the same time, a variety of health care services that in theory should be available to all people who need them are, in fact, not available (or not always available) from public health care institutions. That is because the health budget is not sufficient to finance all care that the public is theoretically entitled to receive. The challenge for policy makers is to introduce financially realistic but socially acceptable limits on the obligations of the public sector to provide and finance health care, while ensuring that individuals have access at affordable prices to health care services that are appropriate to their medical needs.

1.55 **Possible Responses.** To address these difficulties jointly, policy makers could consider the following options.

1.56 **Review Concept of Free Care.** Authorities could consider adjusting the concept of free medical care as an entitlement to reflect the need to balance concern over access to needed health

care with accountability for effective resource use and preservation of solidarity in health financing arrangements. The goal might be re-expressed as "ensuring affordable access to clinically appropriate and medically necessary care."

1.57 Coinsurance Payments. A study could identify options that policy makers could consider for the policy governing coinsurance payments by individuals who receive health care services. The options could take into account the possibilities of making these payments contingent on a family's economic circumstances, an individual's health or social (e.g., pensioner) status, the nature and degree of medical necessity of the health services involved, and whether the individual had sought the service directly or through appropriate referral processes. This process could form part of a broader review of policies concerning possible limits on publicly financed services.

1.58 Role of Private Providers. As the role of general practitioners is expanded and some form of capitation-based payment (rather than a salary) is used to fund the care they provide, consideration could be given to (i) broadening the categories of private providers who may provide care within the health system and (ii) permitting these providers to receive public funding for services they provide on the same basis, and subject to the same coinsurance requirements, as providers of the same services who operate in the public sector.

1.59 Survey on Informal Payments. A study or anonymous survey of health care users could be undertaken to establish the extent of informal payments for health care that is provided by public providers or using public facilities and to identify patterns in the circumstances that affect when informal payments are made.

1.60 Relating Salary & Employment Changes. A review could be initiated of options for adjusting, in related ways, the levels of income received by physicians and other medical staff employed in the public sector and the number of such staff. Addressing the adequacy of official salaries is likely to be one important component of eliminating the practice of informal payments for health care.

1.61 Eliminating Informal Payments. A related review could identify other possible measures through which to eliminate informal payments, which have the potential to be the largest financial barrier to affordable health care services for low-income families.

1.62 Reshaping the Service Providing Network. One key to more effective resource use will be balancing the mix, number and scale of medical facilities, their clinical programs, and other health services so that these are better matched to the pattern of health care services needed to treat the population using the most clinically appropriate and cost-effective methods that are economically sustainable. Health-sector restructuring is likely to involve a 15-year period of progressive restructuring of primary, secondary and tertiary care. This restructuring should improve the quality of care while lowering its cost structure and substantially changing the composition of the system. Currently, health care is seriously skewed towards hospitals and away from primary health care. A substantial share of health-sector resources are absorbed by the fixed costs of running the hospital system—mainly salaries, buildings and heat. Adjusting the mix of health infrastructure to reflect changes in patterns of health services could reduce fixed costs and release resources to help cover the incremental costs of expanded care elsewhere in the

health system. A change in the mix of providers and skills should accompany changes in the structure of care. This would involve not only raising substantially the ratio of general practitioners to specialists among physicians, but also increasing the number and skill levels of nurses and other skilled health support staff to match the upgraded roles that nurses and health paraprofessionals play in modern medical systems.

1.63 Possible Initial Steps. Many of the possible initial steps in the restructuring process have been discussed above. They include:

- ◆ Effective implementation and careful evaluation of the Vitebsk pilot for more cost-effective approaches to many aspects of inpatient and outpatient care;
- ◆ Development of new approaches to primary health care based on general practitioners trained in family medicine;
- ◆ Education of health-sector personnel in skills required for more effective approaches to policy making, health financing, and management of health care delivery systems;
- ◆ Development of new management information systems that would integrate clinical, financial, managerial, administrative, and policy-oriented data and that, by doing so, would give providers more powerful tools for managing care cost-effectively and would give policy makers organized information for evaluating the health system's performance and designing further improvements;
- ◆ Development of new systems for quality assurance, categorization of facilities and services, and accreditation of providers; and
- ◆ Preparation of a flexible but systematic overall strategy for the progressive restructuring and development of the health care sector.

Phase 3: Implementing the Health-Sector Development Program

1.64 Phase 3 of sectoral development and reform could be to implement whatever medium-term reform program the Government might adopt for the health sector. Implementing such a program could incorporate two complementary processes. One is the gradual extension to other parts of the country of approaches piloted in Vitebsk, with suitable modifications to reflect experience there and lessons learned. The Government recently decided to begin this process from January 2002. However, because structural and functional changes planned for the Vitebsk pilot are, in many cases, still being introduced and because behavioral changes in response to these are likely to increase over time, the Vitebsk pilot will continue to generate new lessons for several years.

1.65 The other complementary process would be implementation of priority measures within the medium-term restructuring program that is developed through Phase 2. Implementation of that plan could itself occur in one or more of three different ways.

- (i) The Government is close to finalizing a TB/AIDS project with the World Bank that would include a modest component to support health sector restructuring. It is currently anticipated that funds within that component would be allocated not only for

supporting the Vitebsk pilot (through technical assistance and funding to assist in establishing a management information system) but also for the preparation of key elements of the medium-term restructuring plan envisaged in Phase 2. Moreover, a portion of the project's funds would be reserved for later investments that could help to implement priority elements of that phased restructuring plan.

- (ii) Other parts of the plan might potentially form the basis for a second Bank-supported health project.
- (iii) The Government might decide to implement the action agenda through other arrangements.

1.66 The overall objectives of such a program for sectoral restructuring could be to enable the sector to:

- (a) Make more efficient and effective use of the resources available to it;
- (b) Achieve, more consistently, a high level of quality of care;
- (c) Enhance equitable and affordable access to health care services;
- (d) Replace a system of accountability based primarily on accurate compliance with line-item expenditure budgets with a system of accountability based primarily on effective use of resources to achieve performance targets relating to the sector's processes, outputs, outcomes, and quality;
- (e) Give the managers of health facilities and health services greater autonomy in allocating and using resources together with the technical tools for doing so, while holding them accountable for achieving the new standards of performance referred to in (d) above; and
- (f) Strengthen the distinct functions of policy making, health financing, service delivery, regulation, health promotion, disease prevention, and information management within a coordinated framework that is predominantly government-managed and budget-financed.

Chapter 2

BROADER CONTEXT OF HEALTH SECTOR POLICY

2.1 This chapter outlines the economic, social, and Chernobyl contexts of health policy in Belarus.

2A ECONOMIC CONTEXT OF HEALTH SECTOR POLICY

2.2 Over the last decade, economic developments and experience in Belarus have created new pressures to improve resource allocation throughout the economy. The quest for more effective health services and more efficient use of resources within the health sector can be seen as an outgrowth of those more general pressures.

2.3 Early Years of Independence. At independence, in 1991, Belarus found itself in a complex situation. On the one hand, it had one of the highest standards of living in the former Soviet Union (FSU), as it was part of its industrial heartland and had inherited a relatively better stock of enterprises than other republics. Many of these enterprises had recently been refurbished and produced mainly consumer goods. On the other hand, the economy was very vulnerable, as it was dependent on the FSU for 90 percent of energy and 70 percent of raw materials imports, with its exports almost exclusively going to the former republics. Moreover, in the late 1980s the country had suffered a major setback due to the Chernobyl accident and had to divert considerable resources to relocate people from highly contaminated areas, develop technologies to remove the impact of radiation, and deal with new health challenges and other associated consequences (see Section 2C and Box 1 below).

2.4 With the support of international organizations, Belarus initiated preliminary reforms towards a market economy, including price liberalization and small-scale privatization and by 1995 had made modest progress in structural reforms. However, the economic management of the period was inadequate to address the consequence of the breakdown of the FSU. Indeed, Belarus suffered both from an extraordinary deterioration in the terms of trade and through a substantial loss of markets, due to the collapse of the inter-enterprise relations and payments and the influx of more competitive western goods. Therefore by the middle of the decade, the country was faced with a bleak prospect of accelerating inflation and collapsing GDP.

2.5 Period from 1995 to 1998. The new Government appointed in 1995 adopted an approach to economic policy that was based on exogenous production targets, price controls, and directed credit. This approach relied on an elaborate but very general set of views which combined remnants from the old system with modifications needed to operate in the new environment at home and abroad. The state remained in control of most of the productive resources and a significant share of GDP was allocated to social expenditures and subsidies. Restructuring to

increase the market orientation of the economy was very limited.² The openly stated objective of this strategy was to create a socially conscious market economy, with a very active role of the state. These principles, however, were not subsequently developed into a cohesive set of systematic, detailed sectoral strategies.

2.6 The new policy approach produced tangible results. A review in 2001 found that economic targets set in 1995 had been met for growth, exports, housing and food supplies, but not for capital investments, which declined significantly. A dramatic increase in industrial production helped GDP to recover after 1995. As a result, Belarus' GDP level is closer to its 1991 level than that of any other FSU country.³ Most output went to private consumption and residential housing. A complex multiple exchange rate system was an important instrument in meeting domestic production targets and commitments under the barter agreements. Money creation was used to support domestic demand and provide working capital for agriculture and export sectors. Despite price control, this led to high inflationary pressures, which have continued until today.

2.7 Belarus also took advantage of its special relationship with Russia. This resulted in substantial energy subsidies, which according to some estimates amount to 10 percent of GDP. Moreover, Russia was the main destination for Belarusian exports, which were bartered for energy supplies. An open border providing easy access to the Russian markets further helped this trade. Lastly, a significant collapse of output in Russia and Ukraine created a ready market for traditional consumer goods.

2.8 Recent Economic Developments. The economic strategy followed by the Government since 1995 came under strain during the 1998 Russian crisis. The pace of economic growth slowed down, the multiple exchange rates became unmanageable and it soon became evident that the country cannot generate the necessary resources to increase capacity and modernize technologies. The level of inventories has increased, arrears have emerged, domestic consumption has not picked up, and the agricultural and housing sectors continue to need significant transfers to meet their goals. Meanwhile, government continues to loom large in the Belarusian economy. General government revenues and expenditures – including social security funds - amounted to over 45 percent in both 1999 and 2000. The public sector also continues to be the owner of most productive assets--enterprises, land, and real estate. In contrast, the private sector is estimated to account for no more than 10 percent of the GDP. Privatization has proceeded slowly and the overall macro environment has not been nurturing of new economic activity.

2.9 As a response to this situation, the country has initiated reforms by unifying the exchange rate and setting a long-term program for economic unification with Russia, based initially on a fixed parity between the two currencies and free flow of goods and capital between the two

² Such restructuring could include internal and external liberalization, promotion of competition, privatization of both small and large enterprises, private business development, enterprise restructuring, and financial sector development.

³ In fact, according to official statistics Belarus had the best performance of all CIS countries. Only some central European countries have surpassed that achievement.

countries. The Union State treaty that Belarus and Russia signed in December, 1999, sets out (through an implementation protocol) a timetable for achieving a monetary union (by 2005) and harmonizing civil and economic legislation, including: (a) price regulations (by 2001); (b) tax code (by 2002); (c) foreign trade and customs regime (by 2005); and (d) harmonization of transport, energy, and telecommunications (by 2005). If implemented as proposed, this agenda would guide critical structural reforms and future economic policies. However, the scope and speed of the proposed integration remain uncertain.

2.10 Facing Altered Circumstances. Belarus today faces a set of realities that will pose considerable challenges for the country and the Government. These factors can be expected to require Belarus to adjust its strategy so as to be able to sustain its gradual reform approach. To sustain a pattern of continued economic growth, Belarus would need to build on its recent initiatives that introduce greater flexibility in the allocation and use of resources. Besides allowing prices a larger signaling role in resource allocation, a new approach would require greater flexibility for enterprise and facility managers, better enterprise governance, and a less directed financial system. Those changes would also facilitate the introduction of hard budget constraint practices that contribute importantly to a stable macroeconomic environment. The greater flexibility would also facilitate shifting resources to the most productive sectors and thus avoiding an overall payment crisis, as has happened in other FSU countries. An improved environment for the creation of new companies could enhance flexibility and help generate new employment. Improved efficiency of public expenditure would help release resources from the budget for the most productive sectors to undertake needed investments and thus overcome the process of technological obsolescence now underway. The agreements with Russia, discussed above, have set up a framework of gradual liberalization of basic macro-economic arrangements, and could potentially lead to considerable microeconomic reforms, granting more flexibility to the economic entities of the country.

2B SOCIAL CONTEXT OF HEALTH SECTOR POLICY

2.11 Economic growth since 1995 has not improved economic welfare correspondingly. Instead, unemployment has grown and households' real incomes have not increased. Despite substantial public spending on the social sectors and on social assistance, poverty remains a significant problem. The incidence of poverty can be measured as the share of the population with incomes below 60 percent of the Minimum Consumption Budget. This increased from 32.1 percent in 1997 to 38.9 percent in 1999.⁴ Although the poverty rate of 35.7 percent in 2000 had declined from its 1999 level, it remained higher than in 1997 and 1998 (33.0 percent), showing a clear upward trend since the mid-1990s. Poverty rates peaked in 1999 as an aftermath of the

⁴ In Belarus, poverty is measured using two main indicators – Minimum Consumption Budget (MCB), and Minimum Subsistence Level (MSL). MCB is a minimum “basket” of goods and services necessary to secure the basic physical needs of food, clothing, and shelter. The MCB is calculated for different socio-demographic groups. MSL equaled 60 percent of the MCB until 1998, 65.7 percent in 1999, and 64.4 percent in 2000. For comparability, the line of 60 percent of the MCB is used, and data on the poverty profile are based on the 2000 household survey.

financial crisis in Russia. The Government effort to raise pensions and wages of low paid employees and to lower inflation in 2000 appears to have had a mitigating effect. However, the duration of poverty has been increasing steadily and more people experienced longer periods of poverty in 2000—18.0 percent of the population were in poverty more than nine months. At the same time, income inequality remained low, with Gini coefficients of 0.258 and 0.270 in 1997 and 2000, respectively.

2.12 Who are the poor in Belarus? The poverty profile in the country shares the general characteristics found in recent studies in other CIS countries. As in other countries, children run a particularly high risk of poverty, especially in families with three or more children and in households headed by a single parent. The incidence of poverty is much higher in rural areas, and among those in the population with low educational levels. Pensioner households are less likely to be in poverty than other households. Gender differences in poverty rates are generally not significant.

2.13 To make public spending for social purposes more effective will require improved understanding of the nature of the problems to be addressed and of the characteristics of the affected populations. In particular, the lack of a growing private sector, especially for small and medium enterprises, has precluded the growth of employment opportunities and has put the burden of generating employment on the state and its state-owned enterprises.

2C CHERNOBYL AND ITS HEALTH LEGACY

2.14 The health impact of the Chernobyl nuclear accident has been controversial, significantly adverse for at least some population subgroups, and hard to measure. The accident also had broader ramifications, as noted above, for Belarus has had to relocate people from contaminated areas, develop technologies to remove the impact of radiation, and deal with other associated consequences.

2.15 The accident in April 1986, just 20 km. beyond the border with Ukraine, was the most severe to have occurred in the nuclear industry. Abnormal operation of one reactor led to an uncontrollable surge of power and to successive steam explosions that destroyed the reactor and severely damaged the reactor building. This caused intense fires on site, levels of on-site radiation that were lethal for some workers, and hemisphere-wide dispersion of radioactive materials such as iodine and caesium, particularly in the first ten days. The radionuclides released were deposited most densely in surrounding regions, especially in what are now Belarus, the Russian Federation, and Ukraine. Within Belarus, the most contaminated areas are located in the Gomel and Mogilev regions, respectively south-east and east of Minsk.

2.16 Emergency responses sought to control the release of radiation, deal with debris, and subsequently to create a confinement shell ("sarcophagus") around the reactor. Other major mitigation efforts at the reactor or within a 30-kilometer radius in 1986 and 1987 involved 240,000 people, termed "liquidators." By 1990, residual mitigation efforts had raised this number to 600,000. The number of clean-up workers in Belarus was 127, 716, according to 1997 data. Additional mitigation measures included the evacuation in 1986 of about 116,000

people from immediately surrounding areas and the subsequent relocation of 220,000 people from areas of Belarus, the Russian Federation, and Ukraine.⁵ In 1986, the evacuations included 24,275 people in Belarus.⁶

2.17 The accident affected health through several transmission channels. These have included direct radiation exposure on-site during or after the emergency, exposure to airborne radionuclides that were deposited in surrounding areas, and ongoing radiation from radioactive particles accumulated within the body following consumption of contaminated food products such as milk, vegetables, and their derivatives. Psychological and sociological transmission mechanisms have also been proposed.

2.18 The accident's health effects, which have been heavily researched and extensively debated, remain a source of controversy. Detailed retrospective reviews of the many relevant studies have been undertaken by international panels. Of these, the most exhaustive is the report to the General Assembly in 2000 by the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).⁷ It reached a relatively optimistic overall assessment of the longer-term consequences of the accident. This assessment is not wholly accepted by some medical and government bodies in the countries most affected, who view it as an unduly limited and optimistic assessment of Chernobyl's full consequences that understates some likely medical effects and fails to capture its full sociological and psychological impact.

2.19 The UNSCEAR report found the principal health effects to be as follows.

- ◆ Immediate containment efforts caused the deaths of 30 firemen and plant operators within days or weeks.
- ◆ The accumulation of radioactive iodine within the thyroid glands of children in contaminated areas led, more rapidly than expected, to the most serious demonstrable health consequence among the population of the affected areas.
- ◆ Within Belarus, thyroid cancer rates in children under 15 years rose dramatically from an average of 0.3 per 100,000 children during 1986-89 to 1.9 in 1990, 3.9 in 1991, and 5.5 in 1992. They remained at elevated levels until at least 1998. A total of 1067 thyroid cancer cases were diagnosed in Belarus during the period 1990-98 among children 0-17 years at the time of the Chernobyl accident.⁸ [It should be noted that the Ministry of Health reports later data indicating that, from 1996 to 2000, 975 cases of thyroid cancer among children aged 0-18 years and 7,504 cases in the total population were registered in Belarus as receiving surgical treatment.]

⁵ United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). *Exposures and Effects of the Chernobyl Accident*. UNSCEAR 2000 Report to the General Assembly, Annex J. In *International Journal of Radiation Medicine* 2000, v. 2-4 (6-8), pp. 3-109.

⁶ *Ibid*, Table 20, p. 74.

⁷ *Op. cit.*

⁸ *Ibid*, Tables 57-58, pp. 87-88

- ◆ Fourteen years after the Chernobyl accident, other major public health impacts related to ionizing radiation, including on leukemia rates, have not yet been demonstrated. It is possible, however, that either the passage of time, or methodologically improved studies that reconstruct estimated radiation doses for individuals affected, might reveal further effects. (Box 1 presents an extract from the report's summary of its findings.)

2.20 The UNSCEAR 2000 report also highlighted certain issues for health policy makers.

- ◆ Adding iodine to the diet of populations living in iodine-deficient areas and screening the high-risk groups could limit the radiological consequences. Even for those who develop thyroid cancer, however, the prognosis is good.
- ◆ Studies that estimate the radiation doses received by recovery operation workers would improve the possibility that epidemiological studies could detect any increase in cancer incidence or mortality among this group that results from ionizing radiation. Such increases will be difficult to detect.
- ◆ "[A]lthough those exposed as children and the emergency and recovery operation workers are at increased risk of radiation-induced effects, the vast majority of the population need not live in fear of serious health complications from the Chernobyl accident. For the most part, they were exposed to radiation levels comparable to or a few times higher than the natural background levels, and future exposures are diminishing as the deposited radionuclides decay."⁹

2.21 Although the health and other effects of the Chernobyl disaster continue to be debated, there is a firm belief in Belarus that the Chernobyl accident has caused a significant increase in registered cancer and other illnesses in the population. For example, one hypothesis that has been advanced is that exposure to radioactive caesium speeds up aging processes throughout the life cycle, leading both to earlier ages for puberty and to reductions in life expectancy in general. It has therefore been suggested that life expectancy of the generations born after 1985 in areas where radioactive caesium contamination exceeds 1 curie could be 25-30 percent lower than it would otherwise have been.¹⁰ Other observers hypothesize that Chernobyl had significant mental health and psychological consequences. The methodological difficulties associated with definitive research on the effects of Chernobyl leave open the possibility that Chernobyl did indeed have adverse health consequences for which scientifically convincing evidence has not yet been obtained as well as the possibility that a variety of health problems have been wrongly attributed to Chernobyl.

2.22 Chernobyl continues to be a significant burden for the society in other ways. One effect has been on agricultural production, which has traditionally been economically important to Belarus. Lowlands dominate its topography; one-third of the country is forested; river basins

⁹ *Ibid*, p. 67

¹⁰ Working paper commissioned from local authors on development of a strategy for public health sector in Belarus.

drain into the Baltic and Black sea; and a temperate continental climate allows agricultural cultivation of 45 percent of the land, producing primarily grain, potatoes, vegetables, rape-seed, milk and meat. When over 70 percent of the radioactive fall-out from Chernobyl landed on Belarusian soil, almost 23 percent of its territory was polluted. As a result of high levels of contamination, economic activity has been banned on 261,000 hectares of arable land (about 3 percent of the total arable land) and on 36,000 hectares of forests.

2.23 Chernobyl has also had an enormous human dimension. Overall, within Belarus, about 130,000 people were evacuated from the highly contaminated areas and an estimated 200,000 left the areas in an unorganized way. Moreover, about 1.8 million people continue to live in areas with measurable degrees of radiation. In addition, 50,000 new settlers came to the radioactive zones of Belarus, predominantly fleeing places of military or civil conflict in the FSU.

2.24 The Government has been allocating significant, although declining, resources, to address the consequences of Chernobyl. In addition, donors, including the World Bank, have provided complementary financing for studies and investments.¹¹

¹¹ The World Bank, for instance, conducted an Environmental Assessment of Radiological Consequences for Forestry in Contaminated Areas of Belarus (FY94). In addition, through the Forestry Development Project (FY95), the Bank financed measures to prevent the spread of radio nuclides through forest fires and helped build the capacity needed to manage the forest resources contaminated by the Chernobyl disaster.

**Box 1. Overall Health Effects of the Chernobyl Accident:
Summary Findings of a 15-Year Retrospective Review**

The UNSCEAR 2000 report summarizes the health effects, and related measurement and interpretation issues, in part, as follows.

"Apart from the substantial increase in thyroid cancer after childhood exposure observed in Belarus, in the Russian Federation, and in Ukraine, there is no evidence of a major public health impact related to ionizing radiation 14 years after the Chernobyl accident. No increases in overall cancer incidence or mortality that could be associated with radiation exposure have been observed. For some cancers no increase would have been anticipated as yet, given the latency period for solid tumours. The risk of leukaemia, one of the most sensitive indicators of exposure, has not been found to be elevated even in the accident recovery operation workers or in children. There is no scientific proof of an increase in other non-malignant disorders related to ionizing radiation.

"The larger number of thyroid cancers in individuals exposed in childhood, particularly in the severely contaminated areas of the three affected countries, and the short induction period are considerably different from previous experience in other accidents or exposure situations. Other factors, e.g. iodine deficiency and screening are almost certainly influencing the risk. Few studies have addressed these problems, but those that have still find a significant influence of radiation after taking confounding influences into consideration. The most recent findings indicate that the thyroid cancer risk for those older than 10 years at the time of the accident is leveling off, the risk seems to decrease since 1995 for those aged 5-9 years old at the time of the accident, while the increase continues for those younger than five years in 1986.

"There is a tendency to attribute increases in cancer (other than thyroid) over time to the Chernobyl accident, but it should be noted that increases were also observed before the accident in the affected areas. Moreover, a general increase in mortality has been reported in recent years in most areas of the former USSR, and this must also be taken into account in interpreting the results of the Chernobyl-related studies. Because of these and other uncertainties, there is a need for well-designed, sound analytical studies, especially of recovery operation workers from Belarus, the Russian Federation, Ukraine, and the Baltic countries, in which particular attention is given to dose reconstruction and the effect of screening and other possible confounding factors.

"Increases of a number of non-specific detrimental health effects other than cancer in accident recovery workers have been reported, e.g. increased suicide rates and deaths due to violent causes. It is difficult to interpret these findings without reference to a known base-line or background incidence. The exposed populations undergo much more intensive and active follow-up than the general population. As a result, using the general population as a comparison group, as has been done so far in most studies, is inadequate."¹

¹ United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). *Exposures and Effects of the Chernobyl Accident*. UNSCEAR 2000 Report to the General Assembly, Annex J. In *International Journal of Radiation Medicine* 2000, v. 2-4 (6-8), pp. 3-109. Para's 113-117, pp. 66-67.

Chapter 3

OVERVIEW OF CURRENT BELARUSIAN HEALTH SECTOR

3.1 This chapter summarizes four main dimensions of the health system in Belarus: its legal basis, structure, functioning, and financing. It also summarizes the design of the Vitebsk pilot.

3A LEGAL BASIS OF HEALTH SYSTEM

3.2 The legal framework for the health system is provided by articles of the Constitution of the Republic of Belarus, a basic framework law (the Law on Health Care of the Republic of Belarus), and subsequent laws on more specific issues. In addition, relevant Presidential decrees and orders have the force of law; and regulations and resolutions of the Council of Ministers amplify the general legal framework. Together, these create a health system that is substantially financed, managed, regulated, and delivered through the public sector, in accordance with the inherited Semashko model of health care.

3.3 Article 45 of the Constitution of the Republic of Belarus (1994 version) states that “the citizens of the Republic of Belarus shall have the guaranteed right to the protection of health, including treatment at no charge in state-run health care facilities. The state shall ensure to all citizens affordable access to medical services. The right of the citizens of the Republic of Belarus to the protection of health is also secured by the development of physical culture and sport as well as by the measures aimed at the rehabilitation of the environment, the possibility of enjoying access to recuperation facilities and improvement of labor safety.”

3.4 The Law on Health Care of the Republic of Belarus defines the policy relating to the protection of the health of Belarusian citizens as well as the legal, social, economic, and organizational basis of the health care system. This law secures:

- ◆ Affordable access to health care services and pharmaceuticals;
- ◆ A focus on prevention;
- ◆ Priority in providing medical services and supply of pharmaceuticals to children and mothers;
- ◆ Control over professional activities of health care providers and pharmaceutical workers;
- ◆ Responsibility of government authorities and employers for people’s health status;
- ◆ Equal opportunities for the development of health care enterprises, facilities and organizations, regardless of subordination and form of ownership;

- ◆ The economic interest of legal entities and private individuals in preserving the health of people; and
- ◆ Involvement of the general public and individuals in health protection.

3B STRUCTURE OF HEALTH SYSTEM

3.5 As Figure 3.1 shows, responsibility for the health system rests primarily with the Ministry of Health and secondarily with a series of other Ministries and government bodies. The latter include the Ministries of Interior, Defense, Social Protection, Sports and Tourism, and Emergency Situations, as well as the State Security Committee (KGB), the Frontier Guard Troops, the authorities managing civil aviation, road and rail transport, and the medical investigative authorities.

3.6 The health system is dominated by hospitals and inpatient care institutions, of which there are 728. The Ministry of Health system includes 12 regional hospitals, 110 municipal hospitals, 113 central rural district hospitals, 25 specialized hospitals (including veterans hospitals), 24 district hospitals, and 386 community or local hospitals. They have a combined capacity of 118,591 hospital beds. In addition, there are 156 dispensaries and blood transfusion stations, 572 polyclinics and institutions for outpatient care, and 4091 other medical institutions. Staffing this health care system are 41,000 doctors and 113,000 nurses. Other authorities run an additional 31 hospitals and various other services, with an additional 4,700 doctors and 9,600 nurses.

3.7 Overall, for every 1000 people, there are 12.7 hospital beds, 4.8 doctors, and 12.2 nurses. Of these, 12.0 beds, 4.3 doctors and 11.1 nurses are within the Ministry of Health system. Non-government entities employ nearly 1,900 doctors, or four percent of the total. However, because many physicians are not working in service delivery, the number of doctors in service delivery is only 2.6 per 1000 people. Within primary health care, under prevailing conditions and wage rates, there are 3000 vacancies for physicians. However, the geographic distribution of doctors is quite uneven, ranging from 1.3 to 7 per 1000 people.

3.8 Fixed assets are heavily depreciated. More than half of all medical equipment is obsolete, dilapidated, and over 10 years old.

3.9 The Republic of Belarus now has the Belarusian State Concern for the production and sale of pharmaceutical and micro-biological products (“Belbiopharm” Concern). The Concern comprises pharmaceutical enterprises that functioned prior to the break-up of the Soviet Union and that produce a limited range of pharmaceuticals. The enterprises of Belbiopharm Concern export about 45 percent of their products. The revenue earned is used to procure basic materials and equipment that are made abroad. Since becoming independent, Belarus has established a new enterprise for producing pharmaceuticals—the Republican Unitary Enterprise (“Ekzon”) and five non-public pharmaceutical enterprises. After the introduction of a single exchange rate, pharmaceutical enterprises have been relatively profitable. Prices for pharmaceuticals are fixed and identical within the whole country.

3C FUNCTIONING OF HEALTH SYSTEM

3.10 The health system operates under a generally bureaucratic structure, with policies, regulations, and guidelines that are centrally determined and with staff of the system responsible for carrying these out within vertically organized, hierarchical lines of reporting. This vertically organized structure results in relatively limited interaction and coordination among different kinds of services in the same geographical region.

3.11 In addition to care provided through the public sector, there is a list of private medical services for which a license is required. The Ministry of Health regulates this sector. Government doctors can do some private work, either part-time or under contract. Four percent of doctors have licenses for private practice. This number has fallen since the Ministry of Health assumed responsibility for managing the licensing process.

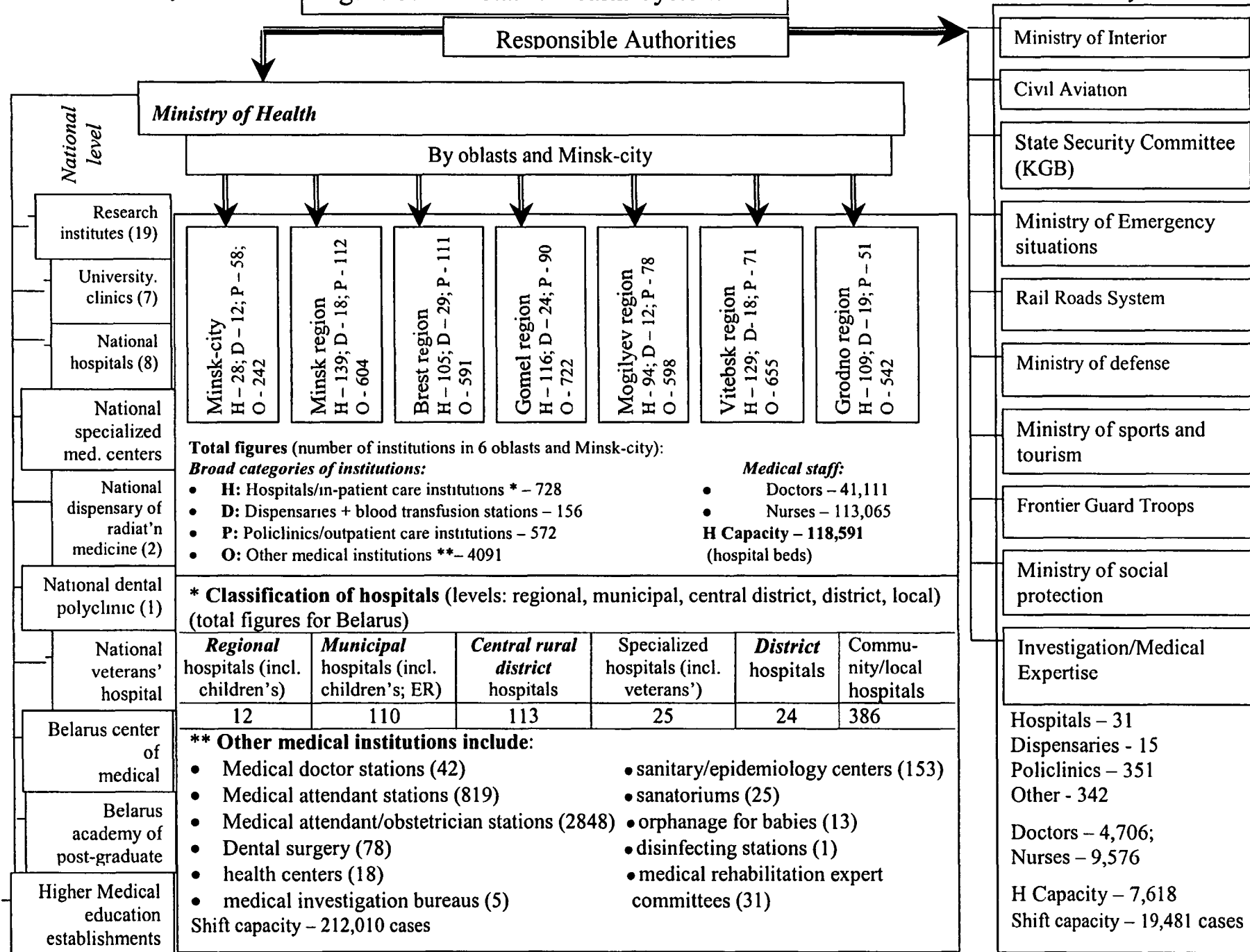
3.12 Hospitalization rates are high—28.2 hospitalized patients per 100 people in 1999. Average lengths of stay are also long. For example, typical stays are 10-11 days for an appendectomy, 4-5 days for laparoscopy, and 5-14 days for cataract surgery. There are 12.2 visits to doctors per person per year and 400 ambulance calls per 1,000 people.

3.13 Health promotion programs are quite limited. However, measures to discourage smoking have been adopted; and schools provide health education programs, although these might need to deliver more specific messages about safe sex and the risks of drug use before students reach the ages where some youth begin to experiment. Disease prevention through public health measures is the responsibility of the Sanitary and Epidemiological Service.

3.14 Primary health care is provided mainly through the polyclinic system, which also provides outpatient specialist care and diagnostic services. Primary health care systems of the kinds typical in western medical systems are highly underdeveloped. However, through the Belarusian Academy of Post-Graduate Training, a program has been introduced to retrain physicians (mainly pediatricians, obstetrician/ gynecologists, specialists in internal medicine, and surgeons) as family medicine specialists so that they could take on new roles as general practitioners within primary health care. This has enabled the number of GP facilities to increase from two in 1997 to 120 in 2000. These facilities are located mainly in rural areas. The Ministry of Health estimates that 400 GP facilities are needed.

Figure 3.1 Belarus Health System

May 2002



3.15 There are 33 categories of people eligible to receive pharmaceuticals at no charge; 4 categories eligible to receive pharmaceuticals at 50 percent discount and 3 categories eligible to receive pharmaceuticals at 90 percent discount. People suffering from 58 types of diseases are also eligible to receive pharmaceuticals at no charge. In the year 2000 sales to population at no charge or with a discount made up 24.9 percent of total sales of pharmaceuticals which totaled 104,278 million Belarusian rubles; sales to health care facilities made up 34.6 percent. In the first half of 2001, total sales to population amounted to 78,384 million Belarusian rubles; sales at no charge or with a discount amounted to 18,488 million Belarusian rubles which made up 23.5 percent of the total sales of pharmaceuticals; sales to health care facilities made up 31 percent.

3D FINANCING OF HEALTH SYSTEM

3.16 Most health funding comes from the national Republican budget. Revenue for this budget is raised from a variety of tax bases, including profits, excises, value added tax (VAT, at 24 percent), land use fees, payroll, income, Chernobyl, local retail taxes, and road fees. Part of the revenue from local areas passes to the national government, with the proportion retained locally varying by region. Revenue contributions are regionally progressive and there are no grants to the regions, apart from a few targeted subsidies for social sector facilities (assets divested from municipal enterprises, some housing, and certain privileges). User charges raise 2-5 percent of total health spending.

3.17 Belarus has allocated 4-5 percent of its GDP to health in recent years. The government envisages increasing this amount from 5 percent to 7 percent of GDP over the period 2001-2005, although current budgetary difficulties appear likely to delay the start of this process. Budgeted funds are based on prices at the beginning of the year. Given that inflation has been high in recent years, mid-year reviews reflect available revenues and evolving budget priorities as well as budget execution in the first six months. Indexation of funds within the year has ceased. The funds made available are allocated across regions on the basis of a per capita norm that is uniform, except for certain adjustment factors related to such things as heating season differences, underused capital that generates costs, and the number of health facilities in the regional network. Oblast governments can supplement national funding for their own regions by up to 17 percent.

3.18 What is the level of private spending for health care? Revenue from paid services that state health institutions provide amounts to only 2 percent of total funding. For dental care, however, 50 percent of funding is private. Voluntary supplemental medical insurance exists, but its scope is insignificant. Anecdotal accounts suggest that, in addition to official copayments for some health care services, there are also informal payments to providers within the system. However, evidence on the scale of these is limited.

3.19 Although there are no good data series on health expenditures per capita over time, estimates are that the current level of public health spending per capita is around [\$US 55] at the official exchange rate. Inpatient care is estimated to account for almost two-thirds of the health sector's funds.

3.20 Uneven and inadequate funding destabilizes the functioning of public health institutions. It causes large increases in indebtedness relating to expenditures on pharmaceuticals, utilities, heat, and energy.

3.21 Hospitals are paid based on the total number of beds, not the number of beds in use, and the funds are provided subject to a line-item budget. Under-utilization of beds might lead to a reduction in the number of beds allowed in subsequent years. So empty beds are typically filled by "social" admissions.

3.22 Polyclinics are paid on the basis of the average number of patients per shift. Polyclinics typically admit complex cases to the hospital.

3.23 Physicians are paid at different rates, although the basic rate is 70 percent of the average salary in the country. Those in hospitals earn more than those in polyclinics. An experienced hospital physician can reportedly earn up to about \$US 100 per month as an official salary, while a new hospital physician might earn half that amount. General practitioners are being paid more than other doctors to encourage existing doctors to retrain as GPs. Ministry of Health nurses earn approximately 30,000 BYB (\$US 20) per month.

3E VITEBSK PILOT

3.24 Vitebsk is the northernmost oblast in Belarus and has a population of 1.36 million people, which declined by 9000 people in the year 2000. The oblast has many lakes and much forest land, but its low rainfall makes for poor agriculture. The part of the oblast nearest Chernobyl experienced contamination measuring about 3 curies. Vitebsk's health system has 11.9 beds per 1000 people. Vitebsk has the oldest average age of Belarusian oblasts. Partly for that reason, it also has the highest cancer rate. In addition, there is a high level of undiagnosed hypertension, a risk factor for cardiovascular disease.

3.25 The Vitebsk pilot is one key element of a broader strategy for development of the Belarusian health sector. That strategy was presented in considerable detail in Resolution No. 1490 by the Council of Ministers, dated September 25, 1998: "Concept of public health service development in the Republic of Belarus." On August 10, 2000, the Council's Enactment No. 1225 ("On improving the health care financing mechanism") authorized the establishment of "an experiment aimed at improving the economic management mechanism of the health care institutions (using the Vitebsk Region's health care institutions.) This enactment also approved a regulation setting out the objectives, financing framework, evaluation criteria, and management authority for the pilot. Resolution No. 643 of the Vitebsk Oblast Executive Committee of November 13, 2000, and its annexes, spelled out the concept and budgeting processes for the pilot.

3.26 The Vitebsk pilot in health financing and health care delivery systems was designed after a review of the Scandinavian, Dutch, and French health systems and of changes in the health systems in Russia and other formerly Soviet republics. Core reforms are being piloted. Total

budgetary funding for the region would be determined on a weighted capitation basis, with higher rates for women, children and elderly people. (Revenues from the development of paid medical services in public health care facilities are expected to rise to a level equal to 10 percent of total health sector financing.) The region would have substantial autonomy in how it allocates the funds among services and institutions and how it manages the delivery of the resulting care. Financial planning and funding allocations are expected to be based on measures of resource costs for needed care that is provided efficiently, not on the number of hospitals and facilities. Medical staff would decide whether the best mode of care for an individual is inpatient, outpatient, or at-home care. Primary health care would be based on the development of family medicine practices, staffed by general practitioners with a preventive focus who would be supported with upgraded laboratory equipment and medical training. (Presidential funds are available to upgrade rural ambulatories to family practices.) In contrast to the virtual absence of any management information system (MIS) apart from a few dispersed computers, a new MIS would integrate clinical, financial, managerial, administrative, and policy-oriented data in ways that would give providers more powerful tools for managing care cost-effectively. This would give policy makers organized information for evaluating the health system's performance and designing further improvements. Demonstrated savings from improved efficiency would be available for reallocation to needed equipment, materials (including pharmaceuticals), and salary supplements, or for development of alternative services including primary health care. Performance of the system would be evaluated using the process and outcome indicators of the "final results" model, rather than compliance with line-item budgeting requirements.

3.27 Efficiency improvements and cost reductions would come from several sources. One is using less resource-intensive forms of care to treat the many patients whose medical conditions could be addressed more appropriately either with shorter lengths of inpatient stay, in day-program or outpatient settings, or in less sophisticated hospital facilities. Another is offering a more differentiated range of levels of care, including day hospital, day surgery, hospice, nursing homes, respite care, home care, and family medicine by GPs. (One Vitebsk center now undertakes day surgery; and a polyclinic has a day hospital program. Community hospitals might be converted to hospices.) Standardized clinical protocols for treatment would be followed. Both hospital inpatient admission rates and average lengths of stay are expected to fall sharply, particularly if care providers adopt new technologies (such as endoscopic, laparoscopic, and laser interventions) and improved pharmaceutical therapies.

3.28 Initial experience conforms broadly with changes expected in patterns of care, although the data currently available are not adequate to provide methodologically satisfactory estimates of the savings achieved so far. Nevertheless, nine percent of inpatient beds have already been converted for use in the provision of day-hospital and day-surgery programs. In addition, large numbers of patients are now referred to polyclinics instead of being admitted to hospitals; and the average cost of polyclinic care is estimated to be 30 percent of the average cost of inpatient care. Others receive home-based care instead of being admitted for inpatient care. Use of emergency medical transportation has also fallen sharply. Overall, an estimated 40 percent of the inpatient beds available are no longer required to provide the current level of inpatient care. However, these beds have not yet been closed permanently. Ironically, this reflects concern among facility managers that, in practice, doing so would not lead to the reallocation of the funds saved to finance other modes of health care within the Vitebsk pilot. Instead, they worry, it

would be used to achieve fiscal savings through an equivalent reduction in the health budget for the Vitebsk region.

3.29 The Government originally planned that 2001 would be a year for establishing operational systems in Vitebsk, 2002 would be a year when fully operational systems could be observed and a start could be made on spreading the Vitebsk model to other regions, and 2003 would be the year when a successful pilot model would be extended to the rest of the country. The Government has recently decided to extend the methods of Vitebsk to parts of two other oblasts (including parts of Minsk) from January 2002.

Chapter 4

ASSESSING THE CURRENT SYSTEM'S PERFORMANCE

4.1 Any review of policy begins with an assessment of the current system's strengths and weaknesses. The former provide a basis on which to build. The latter highlight areas requiring sound diagnosis of problems and their causes, the choice of a strategy and priorities in response, and the initiation of constructive change. The discussion below examines indicators of system performance that are available for Belarus in relation to the dynamics of demography, health status, access to affordable care, the effectiveness and efficiency of health expenditures and of the health care they finance, providers' skills, and perceptions of the health system among users and providers¹².

4.2 The review suggests that, at independence, Belarus inherited: good health indicators, relative to its average level of income; a strong commitment to providing all families with equitable access to needed health care services without financial barriers to access; a medical work-force that had been thoroughly trained within a particular, treatment oriented, doctor-centered, specialty-based approach to health care; and an extensive system of health infrastructure and equipment.

4.3 Along with these sources of strength, Belarus also inherited an inefficient health system with the wrong mix of health infrastructure, a sub-optimal mix of skills among providers, and frequently outmoded approaches to clinical care and to the prevention of non-communicable disease. Because primary care was weak and ineffective, many medical conditions flowed through the system and were treated in hospitals.

4.4 The decade since independence has been economically difficult for people and the health system. Rising mortality and falling fertility are now reducing the population of Belarus and are changing its age-sex structure as well. Increasing deaths from circulatory diseases drove the overall increase in the standardized death rate between 1990 and 1997. Many health indicators have deteriorated during the decade, although others have improved and still others have begun to recover after initial deterioration.

4.5 By world standards, Belarus has very high levels of hospital admissions, lengths of stay, and bed supply. To some extent, that might reflect differences across countries in how beds for medical-social services are classified, because village hospitals in Belarus focus mostly on providing these services. Concurrently, however, Belarus has very low levels of health promotion and of primary health care based on family medicine. Moreover, the quality of medical care could be significantly improved. Clinical methods frequently do not reflect international best practice; abortion is the dominant method of fertility control; abortion rates are among the highest in the world; and inequities in access to care are also starting to be apparent.

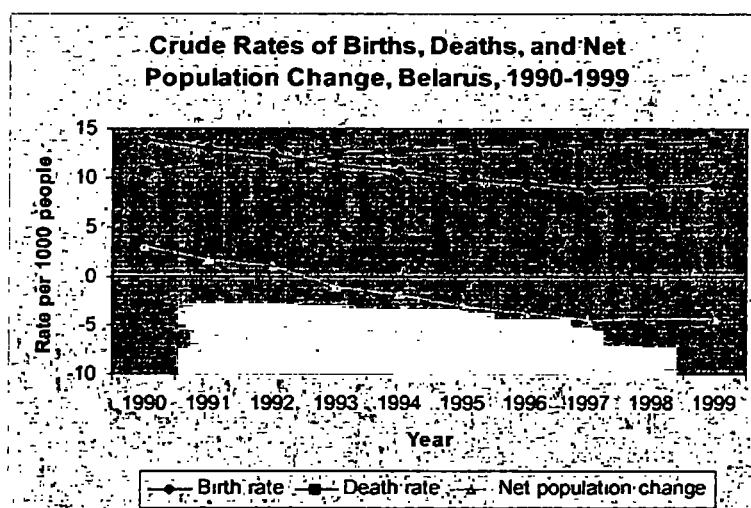
¹² In the discussion of indicators below, the choice of years for which data are presented differs across indicators partly because of the years when data are available for Belarus or comparator countries and partly because of differences in the years indicators showed interesting patterns of change

4A DEMOGRAPHIC PATTERNS

4.6 **Key Population Trends.** Rising mortality and falling fertility are reducing the population of Belarus and changing in its age-sex structure. The 1999 census recorded 10,035,000 people. Of these, 70 percent lived in urban areas (up from 50 percent in 1975); and 1.7 million lived in Minsk.

4.7 The 1990s have seen several significant changes in the structure and dynamics of the population. The most dramatic is that, with the crude birth rate falling over the decade from 13.9 to 9.2 per thousand people, and the crude death rate rising from 10.7 to 13.6 per thousand people, net population growth of 0.3 percent in 1990 changed to a population decrease exceeding 0.4 percent per year in 1997-1999 (Figure 4.1).

Figure 4.1

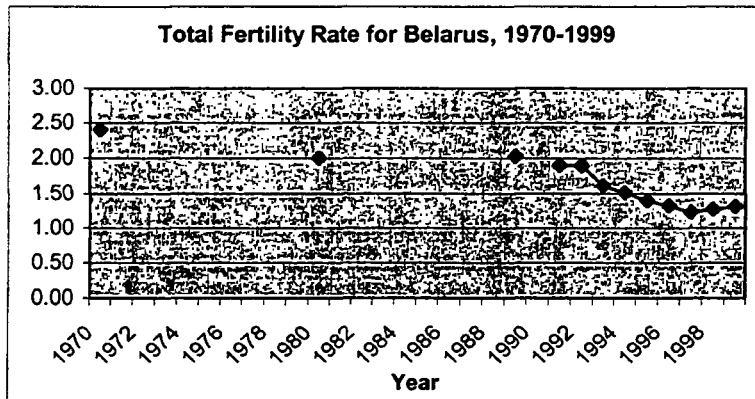


Source. World Bank. World Development Indicators

4.8 This change in population dynamics presumably reflected, at least in part, the impact of difficult living conditions on both fertility and mortality patterns. Total fertility, for example, dropped sharply between 1990 and 1997, although a longer-term prospective shows that this renewed a process of pronounced decline which was apparent in the 1970s (Figure 4.2).

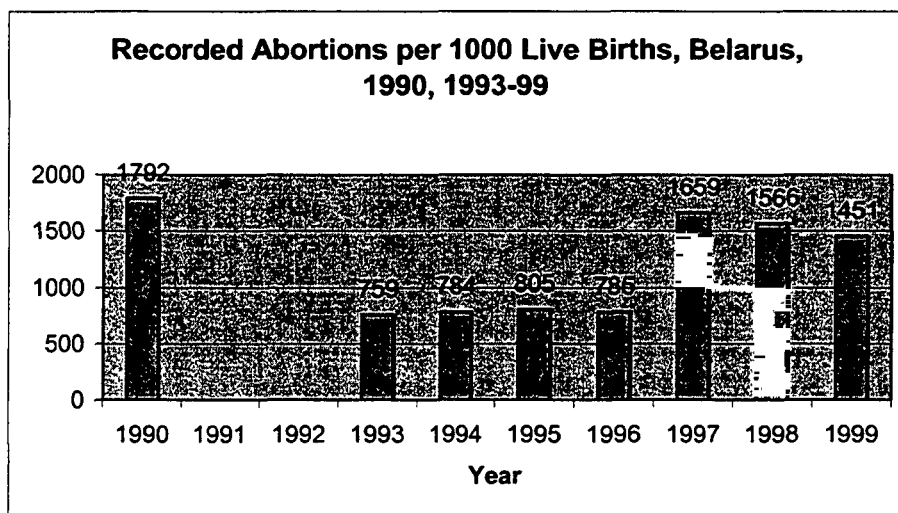
4.9 Also relevant is that Belarus appears to have a very high abortion rate. The Health For All database data has missing values for 1991 and 1992 for abortions per 1000 live births and the values recorded for 1993-96 suggest that, in those years, either the actual level of abortions was significantly underreported or the procedure was temporarily less available. Nevertheless, the data for 1990 and 1997-99 suggest that the underlying abortion rate, although probably declining, remains very high relative to other countries in the region (Figures 4.3 and 4.4).

Figure 4.2



Source: European Public Health Information Network for Eastern Europe, September 2000

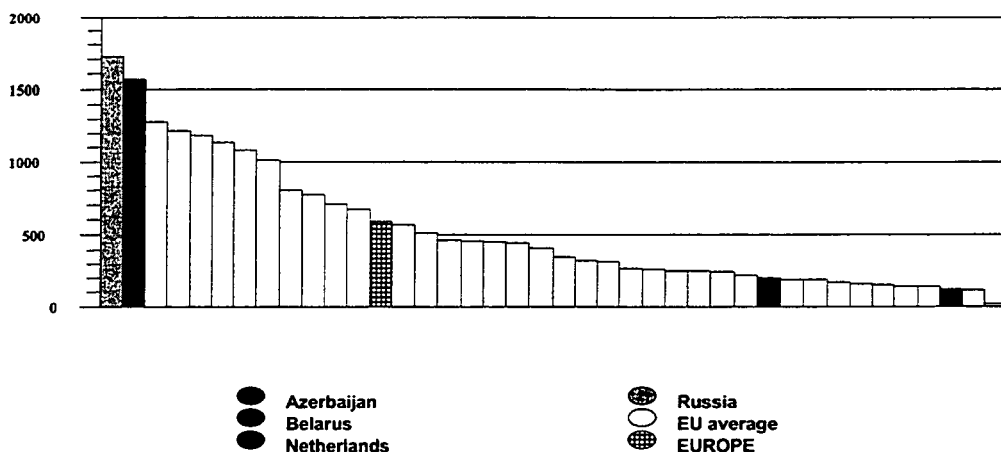
Figure 4.3



Source: WHO Health For All database

Figure 4.4

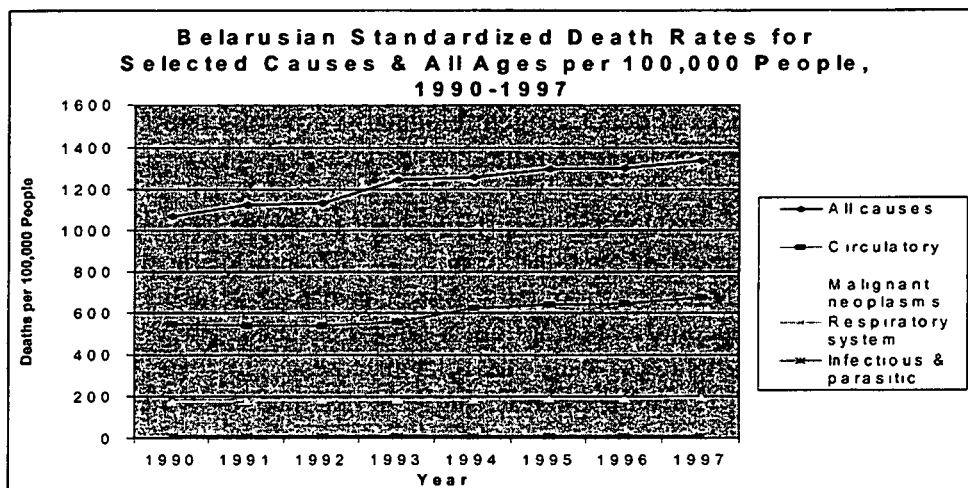
Number of Abortions per 1,000 Live Births, Belarus, 1998



Source: WHO Health For All database

4.10 A rising standardized death rate for circulatory diseases between 1990 and 1997 was the primary source of an overall increase in the standardized death rate (Figure 4.5).

Figure 4.5

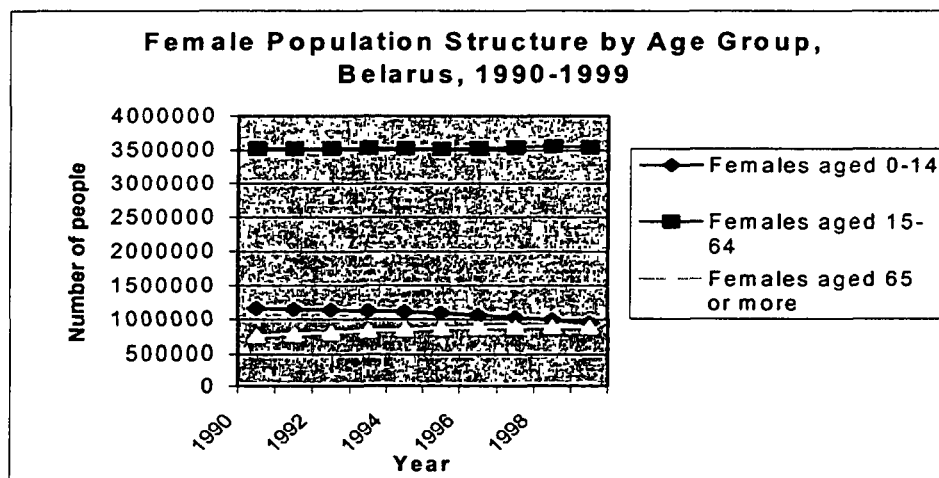


Source. Statistical Yearbooks

4.11 Next, reflecting the changes in crude fertility and mortality rates, the age structure of the population began to change, as the proportion of people aged 0-14 began to fall towards the number aged 65 or more. This pattern was particularly pronounced for the female population (Figure 4.6). In turn, that reflected a gender shift among the older population cohort aged 65 or

more. For this group, instead of 229 women for every 100 men in 1990, there were only 200 by 1999 – a drop of 12.7 percent.

Figure 4.6



Source. World Bank. World Development Indicators

4B HEALTH STATUS AND STAGE OF EPIDEMIOLOGICAL TRANSITION

4.12 Deteriorating health status is a prominent concern in Belarus. The decline in total population in 1999, the falling birth rate, and increasing mortality all illustrate why. Although the main patterns of disease in Belarus are clear, patterns of change within the last decade are more complex. The leading causes of death, epidemiologically, are non-communicable diseases, but Belarus also faces a sharp resurgence in communicable disease.

4.13 Cardiovascular diseases, which are best addressed through primary and secondary prevention, accounted for 54 percent of overall mortality in 1999 and for most of the premature death observed in the country. (Mortality from cardiovascular disease is higher in south-western Belarus.) Smoking, excessive alcohol consumption, a fatty diet, lack of physical exercise, and stress all play a role in the high rate of cardiovascular diseases. However, evidence for the region as a whole, but not specifically for Belarus, suggests that alcohol is the main underlying risk factor explaining the 10-year differential in life expectancy between countries from the former Soviet Union, such as Belarus and Russia, and Western countries, especially for adult males 15-45 years old.¹³ Its impact is manifested through a variety of channels, including cardiovascular disease and accidents, as well as through more direct channels, like cirrhosis of the liver and alcohol poisoning. A pilot Center for Cardiovascular Disease Prevention at Minsk City Polyclinic #36 has opened, with Ministry and international support, to offer integrated

¹³ Alcoholism in Belarus has reached unprecedented levels, with studies suggesting that 25 percent of the population show signs of alcoholism.

services in cardiovascular disease screening and early detection, education and counseling services.

4.14 Burgeoning communicable disease also requires urgent action.

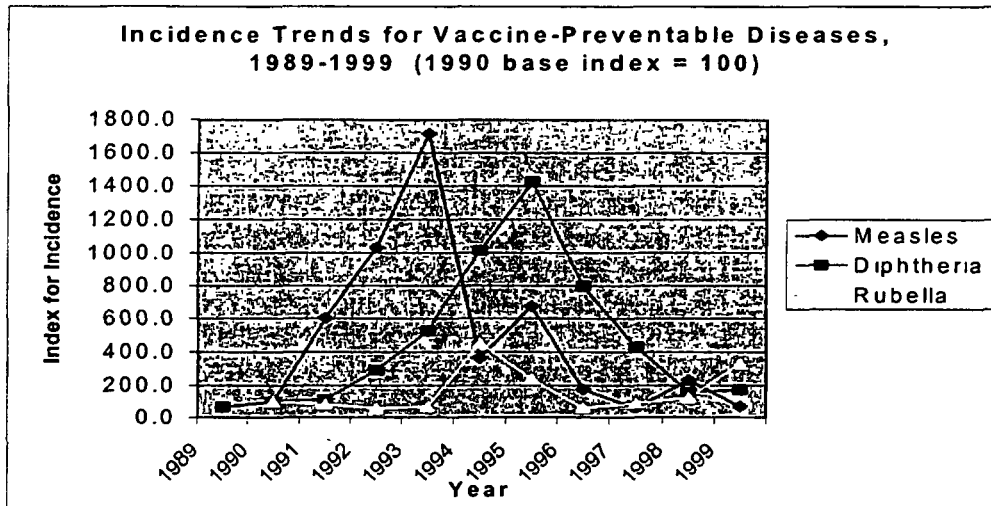
- ◆ Belarus now has the region's second highest incidence of HIV/AIDS. An explosion of new HIV infections, particularly in mid-sized industrial towns, poses the danger of infections rapidly spreading into the general population. Injecting drug use accounts for 80 percent of all HIV cases registered in Belarus since 1987, although the percentage of heterosexually transmitted cases increased from 7 percent in 1996 to 30 percent in 1999.
- ◆ The case notification rate for TB rose at an average annual rate of 10.6 percent from 1991 to 1998. TB infects 0.6 percent of the population, with one of every six new cases resistant to multiple drugs—among the highest rates in the world. TB incidence among prisoners is 30 times higher than in the general population.
- ◆ Sexually transmitted infections (STIs) have also increased. Total morbidity reached 800 cases per 100,000 in 1999. Syphilis is the most frequently reported STI, although its rate has stabilized (210 cases per 100,000 in 1996). Reported gonorrhea cases, however, rose in 1999 to 110 per 100,000. An estimated 50-70 percent of STI cases involve people aged 15-29 years.

4.15 During the decade following independence, several patterns of change in health indicators are apparent. Many health indicators worsened, although some of these reversed that pattern as the decade ended. Other indicators improved during the period.

4.16 Various indicators of non-communicable disease showed a deteriorating health picture. One was the rising incidence of mortality linked to circulatory diseases, noted above. Another was a steady rise between 1993 and 1999 in the total incidence of new cancer cases from 285 per 100,000 people to 330 -- an increase of 16 percent. A further, stark example was an overall increase of 78 percent between 1992 and 1999 in the standardized death rate from chronic liver disease and cirrhosis. The corresponding increase was even higher for women (94 percent) than for men (49 percent), although men in 1999 were still twice as likely as women to die from these causes.

4.17 Other health indicators first deteriorated but then improved during the decade. For example, the incidence of several vaccine-preventable diseases, including measles, diphtheria and rubella, first climbed then fell between 1990 and 1997 (Figure 4.7). Similarly, the infant mortality rate rose from 10.0 in 1990 to 12.4 in 1994, before dropping back to 10.4 in 1997.

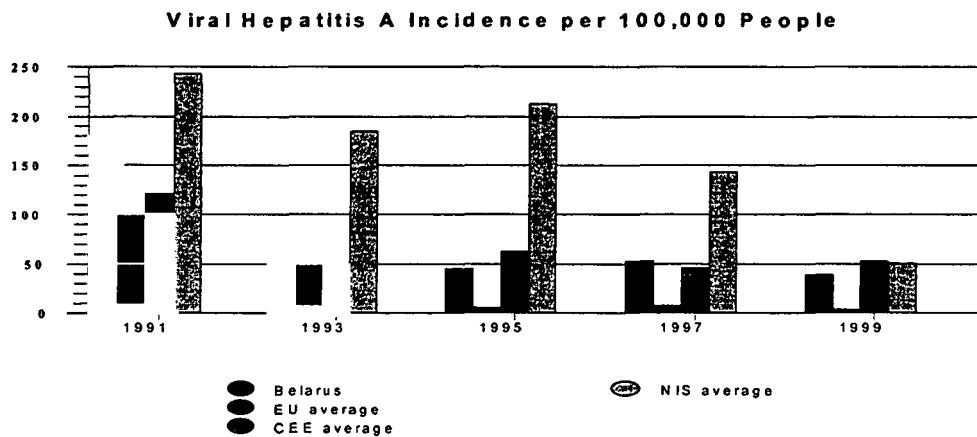
Figure 4.7



Source: European Public Health Information Network for Eastern Europe

4.18 The incidence of two other vaccine-preventable diseases, hepatitis A and B, showed a downward trend over the decade, however. Their incidence nevertheless remained well above average levels for European Union (EU) countries, although lower than the averages for NIS countries (Figure 4.8). For measles, the incidence in Belarus was consistently below the average for EU countries during the 1990s

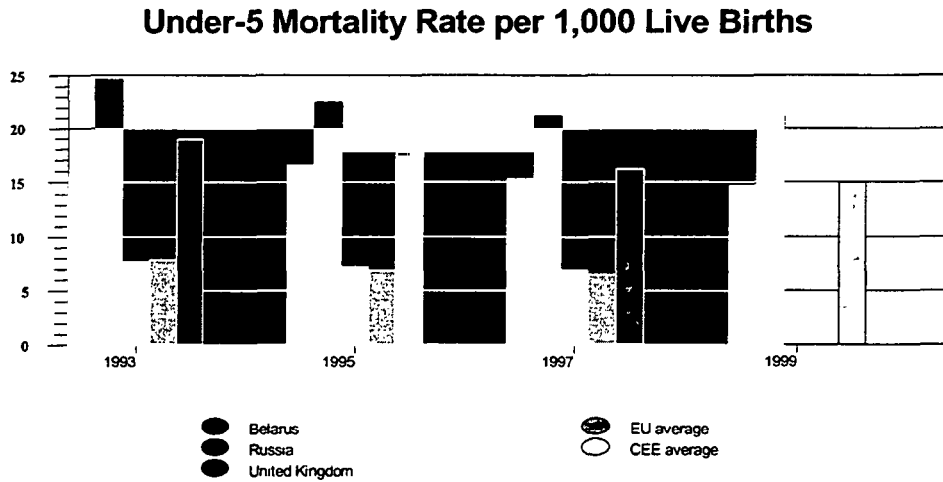
Figure 4.8



Source: WHO Health For All Database

4.19 The under-five mortality rate, which was 15.6 per thousand children in 1993, rose in 1995 and fell again in 1997 and 1999. Its level was considerably below that for Russia, and slightly below the average for countries in central and eastern Europe, but about double the average rates for countries in western Europe (Figure 4.9)

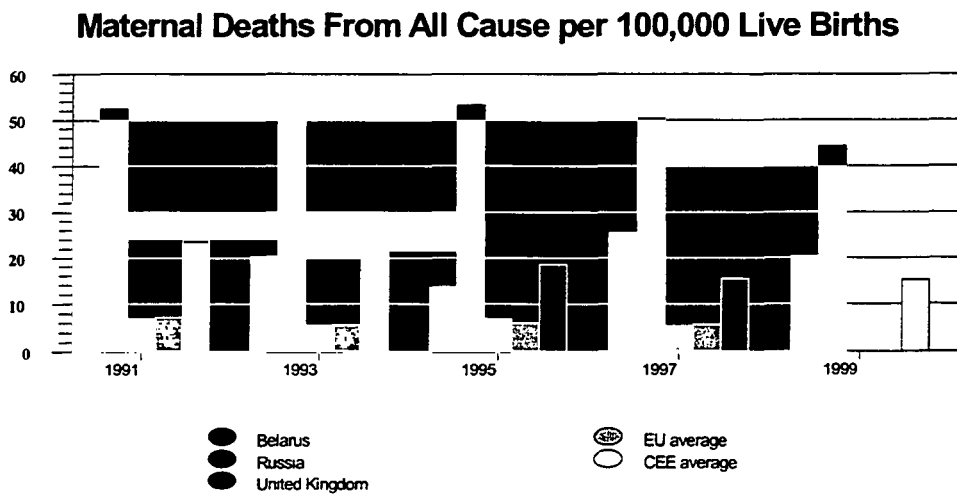
Figure 4.9



Source: WHO Health For All Database

4.20 During the period 1991-99, maternal mortality rates fell, overall, while fluctuating around a trend level of about 21 per 100,000 births. Once again, this level was considerably below that for Russia, but in most years it was higher than the average for countries in central and eastern Europe and more than three times the average rate in western Europe (Figure 4.10).

Figure 4.10



Source: WHO Health For All Database

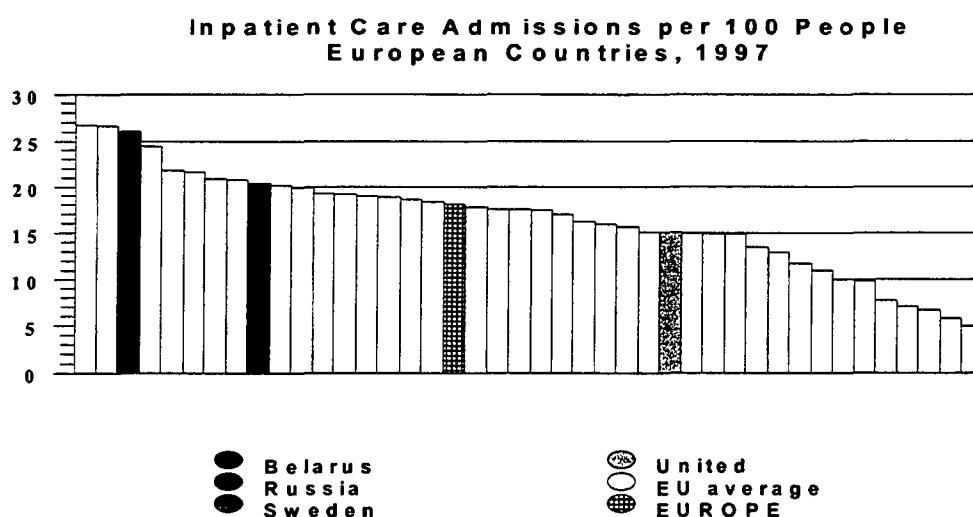
4.21 As countries develop economically, changes in the pattern of disease typically proceed in two steps. First comes the demographic transition, when mortality from infectious diseases declines and, partly as a result, fertility decreases as well. Then comes the epidemiological transition, when the population becomes older and non-infectious diseases become the main cause of ill health. Clearly, Belarus has passed through the epidemiological transition, although the resurgence in life-threatening communicable disease demands urgent attention.

4C LEVELS AND TRENDS IN USE OF HEALTH CARE SERVICES

4.22 Belarus does not systematically record data on many of the indicators relevant to a full assessment of the population's use of health care services. This is particularly true for indicators relating to health promotion, disease prevention, and primary health care. Nor can Belarus disaggregate its overall spending on health according to the functions for which it was spent – that is, the mix of services financed. Indeed MoH officials noted that decisions about spending on health and decisions about the composition and levels of services that are provided have been taken through separate and largely unrelated processes, so that attempts to attribute causal linkages between financial and service-delivery patterns are likely to be misleading.

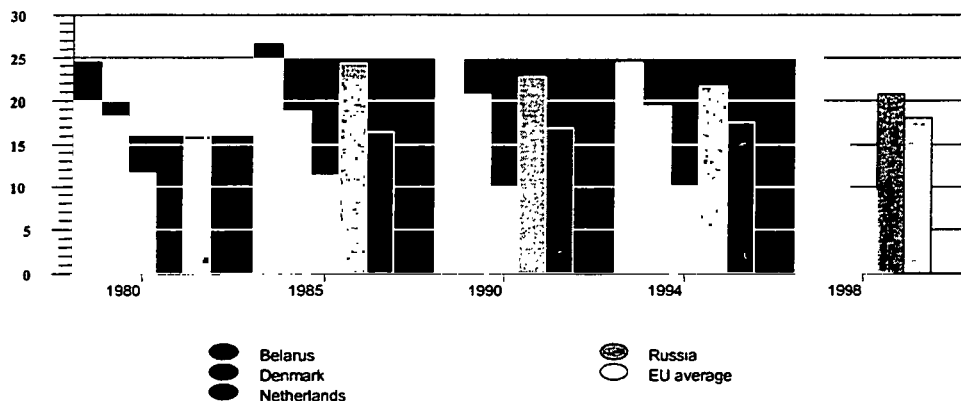
4.23 Nevertheless, certain striking patterns are evident in the use of health services. First, almost all indicators of hospital usage are high by international standards and, in addition, they are often increasing. For example, the latest generally available data for the region (1997) show that Belarus had more hospital admissions per 100 people than every other country in the Europe and central Asia region except Finland and Austria (Figure 4.11). Moreover, while the number of hospital admissions in Russia and the Netherlands had fallen since 1980, the number in Belarus had risen (Figure 4.12). Belarus also had a larger supply of hospital beds per 100,000 people than every other country in Europe (Figure 4.13).

Figure 4.11



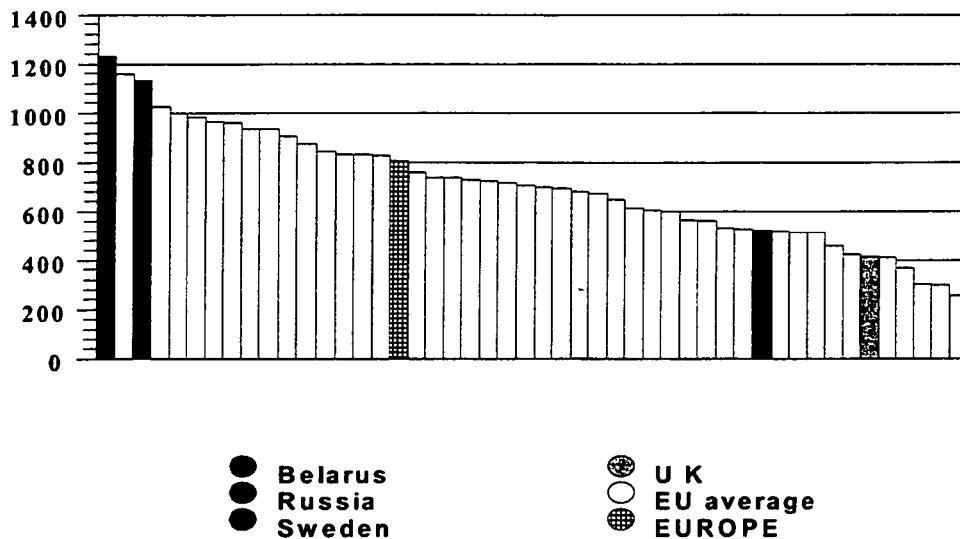
Source: WHO Health For All database

Figure 4.12
Inpatient Care Admissions per 100 People,
Selected Countries and Years



Source: WHO Health For All database

Figure 4.13
Number of Hospital Beds per 100,000 People for
Countries in Region, 1997



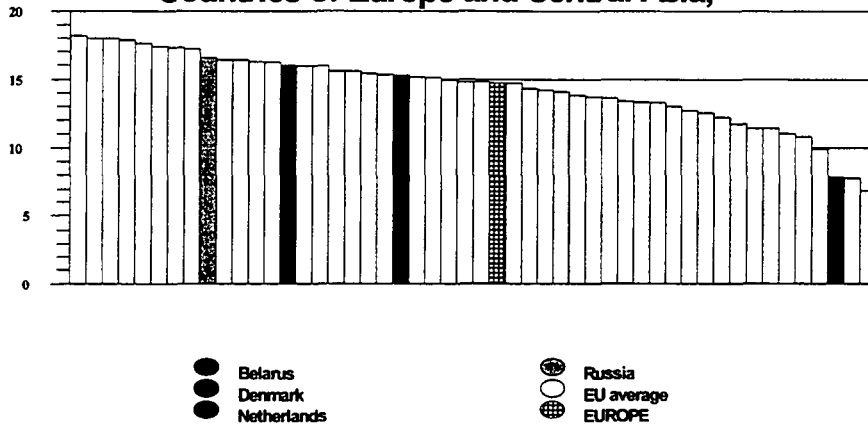
Source: WHO Health For All database

4.24 Not only is the number of hospital admissions high in Belarus. So is the average length of time that patients stay in hospitals. Moreover, between 1990 and 1997, average length of stay

for Belarus shifted from around the middle of the distribution for the region to the high end of the distribution, as average stays fell in many other countries but not in Belarus (Figures 4.14 and 4.15). In 1997, for example, among all the countries of Europe and central Asia, only Moldova, Azerbaijan, Russia, Kyrgyz Republic and Ukraine [and the average for the newly independent states (NIS)] had longer average lengths of stay.

Figure 4.14

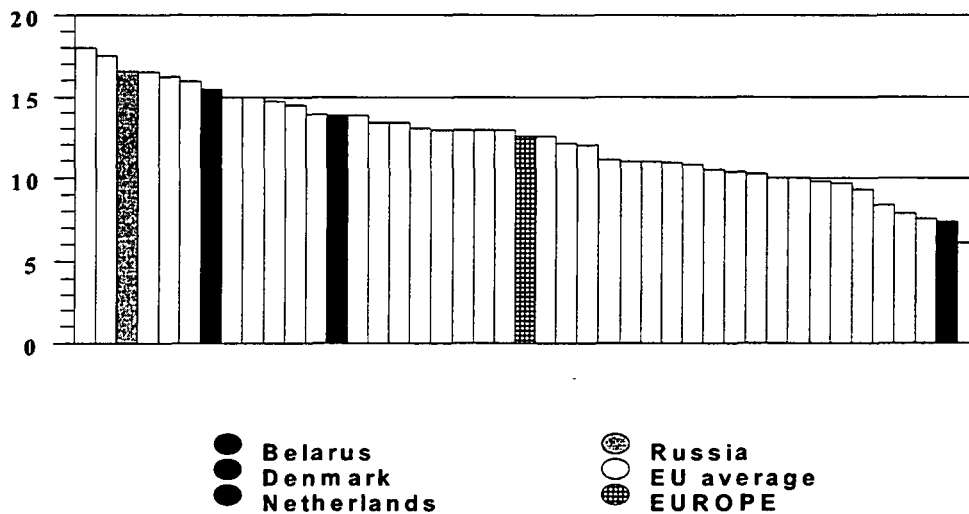
Average Length of Stay, All Hospitals, Countries of Europe and Central Asia,



Source: WHO Health For All database

Figure 4.15

Average Length of Stay, All Hospitals, Countries of Europe and Central Asia, 1997

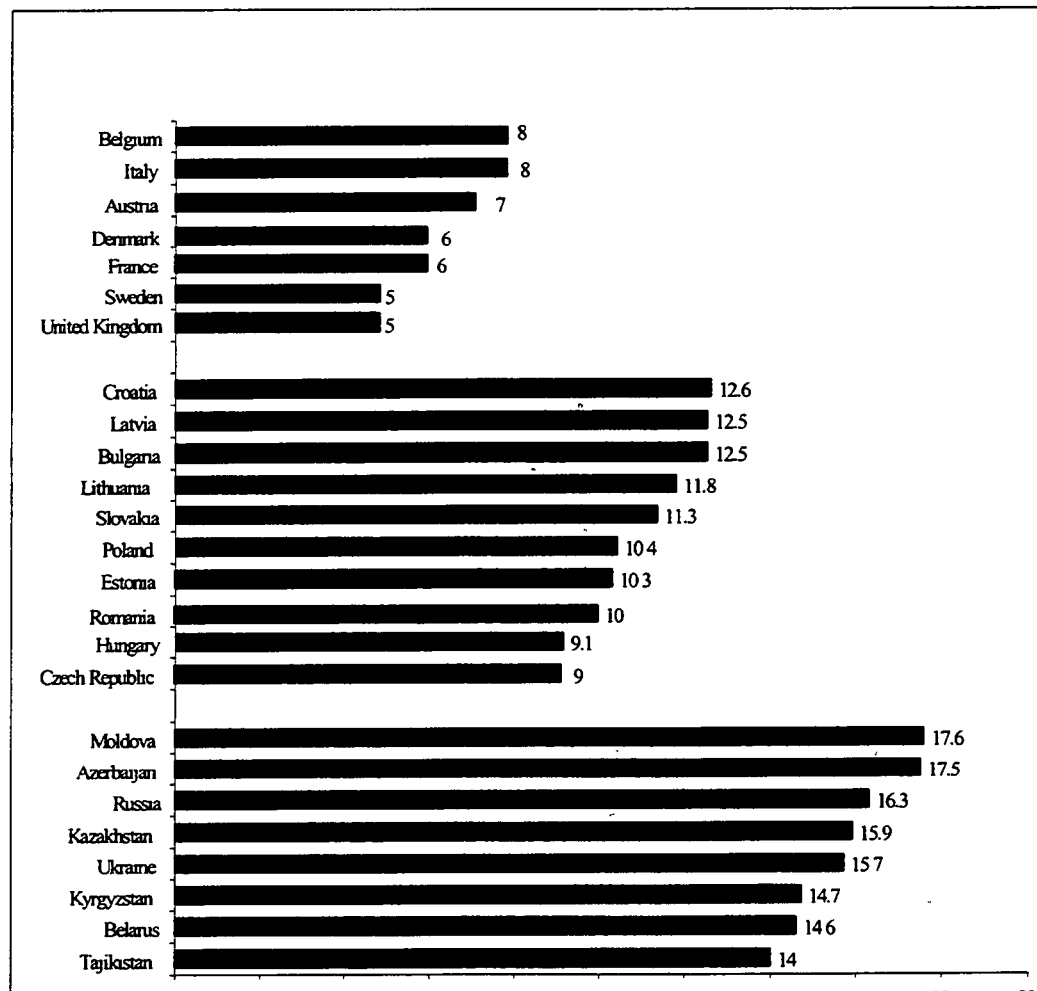


Source: WHO Health For All database

4.25 It is particularly instructive to compare average lengths of stay in the former Soviet republics, the other transition countries of central and eastern Europe, and western Europe (Figure 4.16). The Former Soviet states displayed consistently longer average stays than the other transition countries, which in turn had lengths of stay above those of Western European countries. Western European lengths of stay are themselves higher than those in the most reformist OECD health systems.

Figure 4.16

Average Length of Acute Care Hospital Stay in Days, 1996-1997

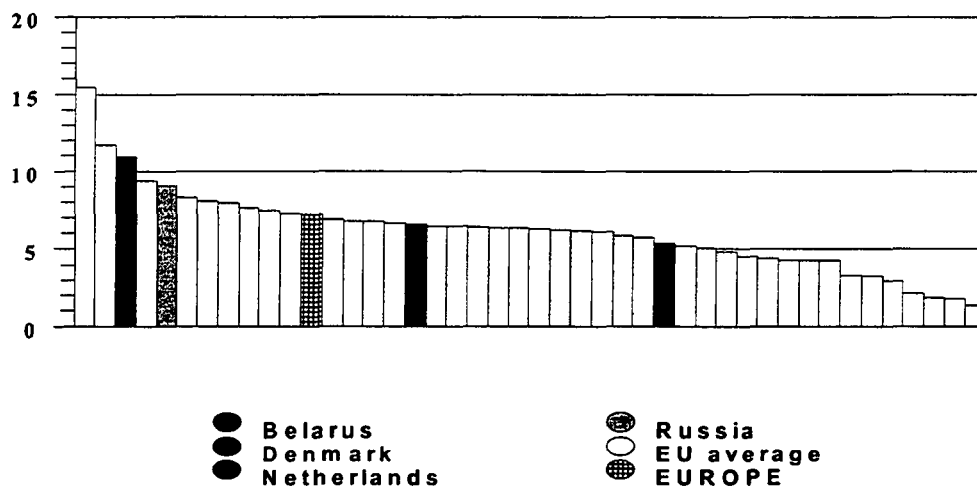


Source: OECD health data; WHO (2001).

4.26 Even the rising rate of outpatient contacts for hospitals in Belarus was relatively high when viewed in a regional perspective (Figure 4.17). In 1996, only the Czech Republic and Hungary had higher rates.

Figure 4.17

Number of Outpatient Contacts per Person per Year, 1996

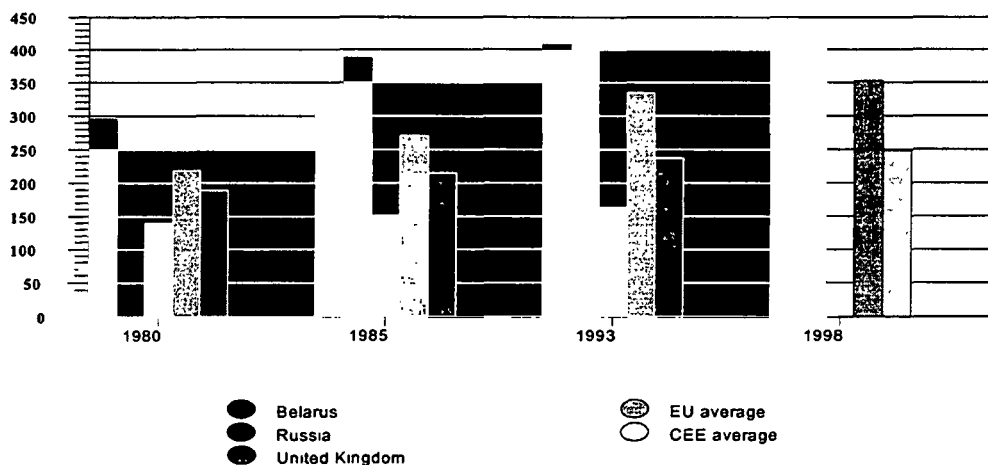


Source: WHO Health For All Database

4.27 A second striking pattern evident in the use of health services is the high and rising number of physicians in Belarus, relative to its population (Figure 4.18). By 1998, Belarus had overtaken even Russia and its rate in 1985 and 1993 was more than double that of the United Kingdom.

Figure 4.18

Number of Physicians per 100,000 Population



Source: WHO Health For All database

4.28 Particularly given the large number of doctors in Belarus, a third striking pattern in the use of health services is the underdeveloped state of primary health care in general and of family medicine by general practitioners (GPs) in particular. Belarus has a total of 422 GPs for its population of 10 million, or about one GP for every 22,500 people. Indeed, Belarus has many hospitals and too few GPs. Although a serious effort has begun to train new general practitioners, initially for work in rural areas, there is neither a tradition nor a cadre of experienced practitioners to support this initiative.

4D ACCESS TO CARE AND PROTECTION AGAINST RELATED FINANCIAL RISKS

4.29 One goal underlying the current structure of the health care system is to ensure that the population has access to needed health care without financial barriers. The Constitution requires that many essential medical services, particularly for mothers and children, be available free of charge from public health care providers. Other services are provided by public providers subject to small copayments by users. In addition, patients pay for outpatient medicines dispensed by private pharmacies. They also have the option of receiving medical services, for a fee, from private providers who operate independently of the public system and are not receiving public funds for the care that they provide. This private sector, however, appears to be very small.

4.30 Anecdotal accounts suggest that some medical providers who work in the public sector also provide medical services for a fee outside the framework of public health care institutions. Moreover, the anecdotal accounts suggest that some medical providers receive informal payments for care that they provide through public health care institutions. These kinds of medical practice are not sanctioned officially, but do not seem to be uncommon. Related policy issues are discussed in Chapter Five.

4.31 How well does the current system work in providing needed care to families without financial barriers? To what extent do households with different levels of income receive comparable care when this is needed? To what extent do they pay similar amounts in total for the care that they receive? Available data permit some but not all of these questions to be answered.

4.32 The Ministry of Statistics and Analysis conducts a Household Income and Expenditure Survey (HIES) that has been redesigned to provide data that is representative for all households. The sample includes 6000 households and data are gathered using both diary and interview methods. The survey includes questions about household cash expenditures for personal consumption, including consumption of health care (defined to include medicines, medical supplies, and health facilities). It is not clear whether respondents to the survey reported only official user charges for health care services received or whether, in addition, they reported unofficial or informal payments as well. It appears likely, however, that many households would have reported only official charges because unofficial payments were either illegal or at least discouraged.

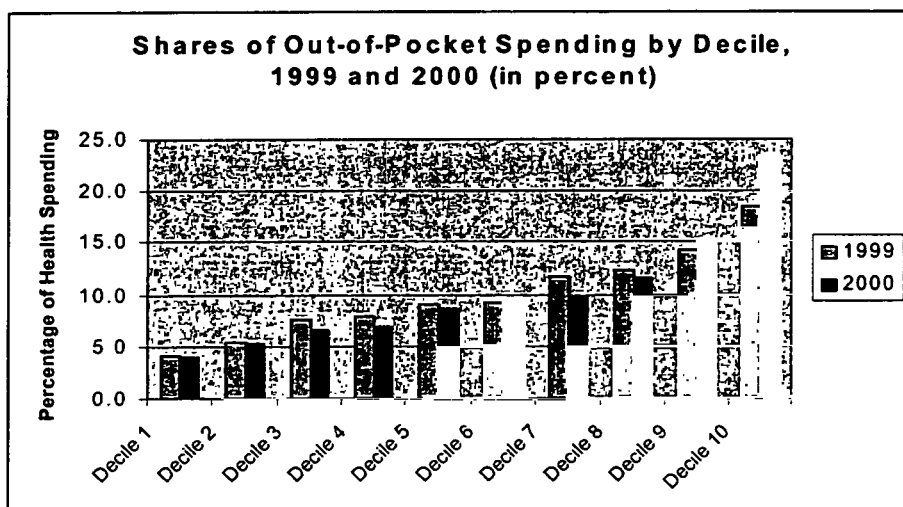
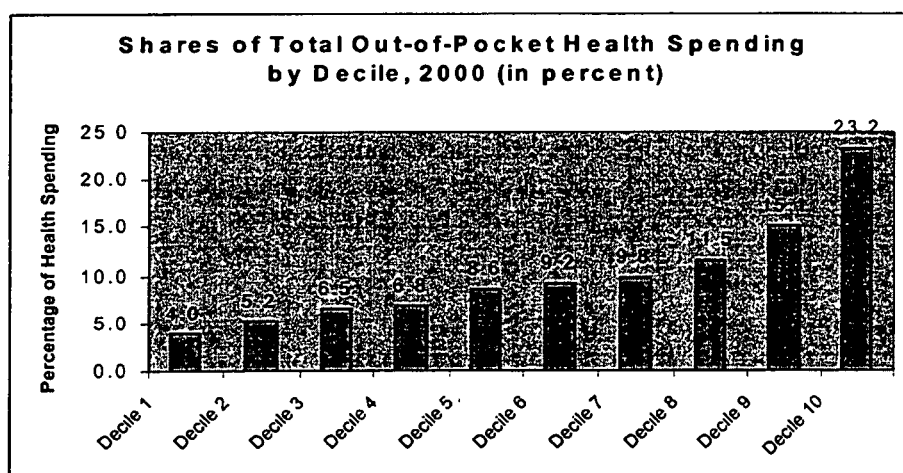
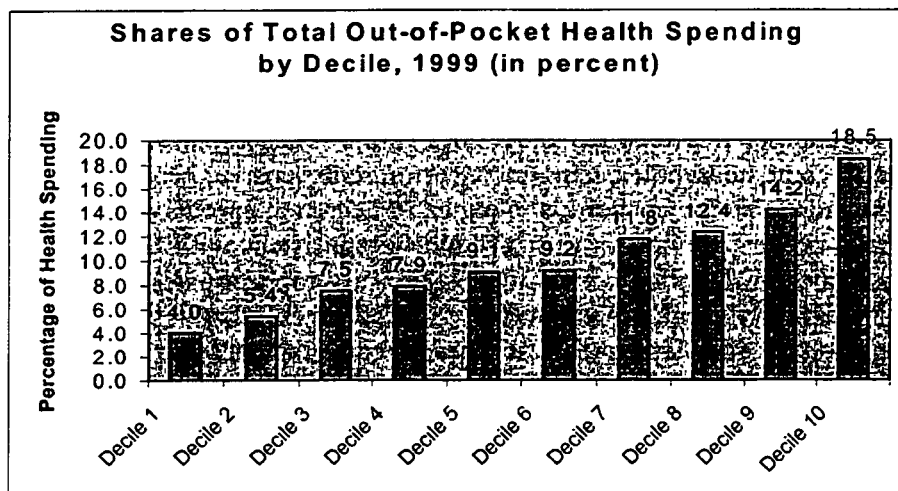
4.33 HIES data for 1999 show that households' reported health expenditures represented 1.9 percent on their cash consumption expenditures in 1999.

4.34 The HIES data on health spending can be examined in more detail by grouping households into deciles or quintiles on the basis of their household incomes and then examining the patterns of out-of-pocket health across and within these subgroups. The Ministry of Statistics and Analysis kindly tabulated these data for 1999 and 2000 and the results are shown in Annex 2B. An analysis of these data reveals the following patterns.

- ◆ In each of 1999 and 2000, the proportion of households reporting no out-of-pocket expenditures on health was almost twice as great for households in the lowest income quintile as it was for households in the highest quintile.
- ◆ In 1999, 79 percent of households in the lowest decile reported spending less than 300 Belarusian rubles per month on health, compared with 53.6 percent for the top decile. Conversely, 0.8 percent of households in the poorest decile reported spending more than 1800 Belarusian rubles per month on health, compared with 5.5 percent for the top decile. A comparable pattern existed in 2000.
- ◆ Between 1999 and 2000, the distribution of households' reported out-of-pocket spending on health became more unequal. In 1999, the top decile spent 4 1/2 times as much as the bottom decile, while the top quintile spent 3 1/2 times as much as the bottom quintile. By 2000, the distribution had become more unequal, with the top decile spending almost six times as much as the bottom decile and the top quintile spending over four times as much as the bottom quintile [Figures 4.19 (a) - (c)].¹⁴

¹⁴ How are these estimates generated from the survey data? Within each income decile, the percentage of households whose level of health spending fell within each of 11 spending ranges is known. Because all deciles contain the same number of households, this gives the distribution of households by health spending level and income level for the whole population. Similarly, the average health spending level of households in each decile/spending category is known. So, by combining (a) the distribution of households by health spending level and income level with (b) data on the average health spending level of households in each decile/spending category, it is possible to estimate the overall percentage distribution of all out-of-pocket spending by decile/spending categories. That analysis gives the results for deciles reported in the text. Combining adjacent deciles into quintiles and repeating the analysis gives the corresponding results for quintiles. See Annex 6B for the underlying data and the detailed results.

Figures 4.19 (a) - (c) *



* Source: Special tabulations from Belarusian Household Income and Expenditure Survey, 1999 and 2000, and World Bank staff calculations

4.35 It is clear from these data that households with higher incomes spend more on health care than households with lower incomes. Part of the explanation is almost certainly that households with higher incomes are less likely to qualify for medicines, treatment, and related supplies at zero, or reduced, out-of-pocket prices.¹⁵ It is possible, as well, that households with higher incomes purchase more pharmaceutical products, or more expensive ones. Other explanations are also possible. If households reported only official user charges, the data could also be explained by higher-income households using more, or more expensive, health care services. If true, this would also imply that they benefited to a greater degree than otherwise from the public contributions towards health care costs. (That would be consistent with evidence from other countries that higher-income families typically capture a disproportionate share of the public subsidies for health care services). Alternatively, to the extent that the HIES health data incorporate informal or unofficial payments for health care, the patterns observed could be explained by higher-income households being more able to afford to go outside the public health care system to obtain needed health care services. In that case, lower-income households would in fact be experiencing financial barriers to access to the kinds of health care that higher-income households are able to enjoy. Further analysis is warranted.

4.36 One further observation is relevant to this discussion. Suppose it is the case that the anecdotal reports are correct in suggesting that there are significant informal payments for health care within the Belarusian health care system. Suppose also that these informal payments are not reflected in the HIES data. In that case, the patterns documented above about income-related differences in access to care might be considerably less important than the differences associated with access to care for which informal payments are a prerequisite.

4E EFFICIENCY AND EFFECTIVENESS OF HEALTH DELIVERY SYSTEM AND HEALTH EXPENDITURES

4.37 Belarus has always placed a high social value on its provision of medical care of good quality by people who had high levels of technical training. Moreover, the health system that Belarus inherited from the Soviet era had consistently achieved health outcome indicators that exceeded those of most other countries with comparable levels of per capita income. Nevertheless, satisfaction with quality of care has fallen during the last decade.

4.38 A Case Study: Tuberculosis (TB). Consider, as one example, recent experience with the treatment of TB in Belarus (Box 2). Despite the existence of an extensive and costly treatment system, TB patients in Belarus are currently not being reliably diagnosed, effectively treated, or systematically monitored and reported in compliance with the standard international definitions. The scope and quality of current diagnostic activities are limited by the lack of inclusion of primary health care facilities in the TB program, and over-reliance on X-ray screening and diagnosis. Treatment is hampered by shortages of drugs and the use of non-standard regimens. However the Belarus TB system has already initiated the shift from the Soviet TB model to the

¹⁵ This might be examined by further disaggregating the data to distinguish between households that are eligible and ineligible for medical care free or with reduced copayments

WHO "directly-observed therapy, short-course" approach (DOTS). The National TB Control Program for 2000-2002 was approved in 1999, and reviewed by WHO in September 2000, and five pilot DOTS programs have been launched throughout the country with WHO support. The TB case notification system is strong, an aggregate database is in place, and computerization has started. Laboratories for sputum smear microscopy culture and drug susceptibility tests are available throughout the country, but the equipment is in general old, and binocular microscopes are scarce. A centralized system has been set up to supply TB clinics with supplies of first-line drugs but, during the last year and a half, lack of funding has led to universal shortages of drugs. The Belarusian pharmaceutical industry produces a limited number of drugs, mainly antibiotics, but first-line and second-line TB drugs are imported, with the exception of rifampycin. Overall, however, the cure rate among new cases has fallen.

4.39 TB can in some ways serve as an illustrative case study for the quality of health care in Belarus. Many highly trained staff have worked, often with sophisticated equipment, to implement traditional approaches to care. Shortages of funding and materials have hindered effective outcomes, while shortcomings in clinical protocols and delivery systems have been recognized by policy makers and are gradually being addressed. Currently, however, the overall outcome of care falls well short of the desired goal. In short, the quality of care is in a transitional phase, where appropriate reforms have been introduced in the face of significant difficulties but have not yet overcome the growing challenge that TB presents for Belarus.

4.40 Nevertheless, some health indicators have improved or at least reversed earlier patterns of deterioration during the decade. A temporary decline in the effectiveness of important aspects of the health care system is evident from several indicators. For example, between 1990 and 1997, there were first a sharp increase and then a decline in the incidence of several vaccine-preventable diseases, including measles, diphtheria and rubella (noted earlier). This pattern appears to have resulted from a deterioration in immunization systems which was subsequently corrected (Figure 4.20) and/or a deterioration in living conditions.

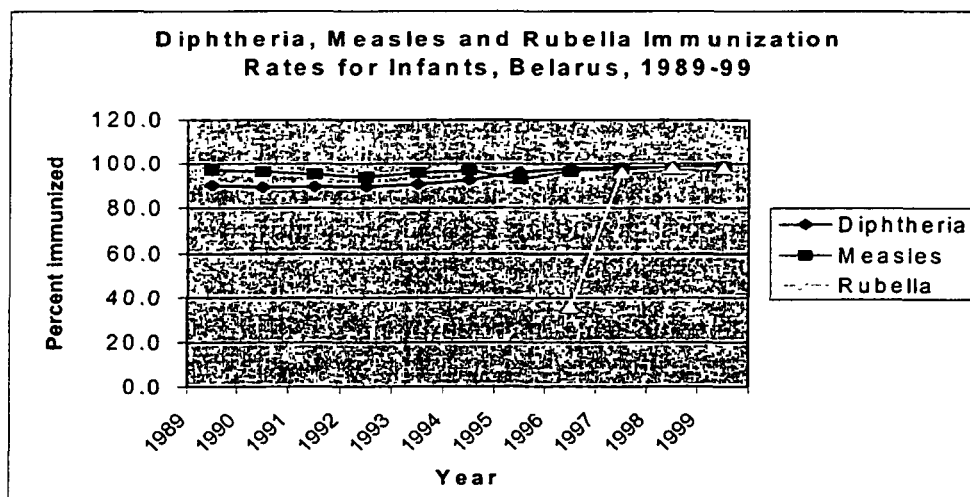
4.41 Another important aspect of health care concerns reproductive health. Where most western countries are seeking to manage rates of conception as the preferred method of fertility control, most FSU countries have focused on controlling births, with abortion the principal method of doing so. However, it can be argued that, both medically and financially, the very high abortion rate in Belarus is a clearly inferior approach to contraception and should give way to preventive approaches to assuring reproductive choice. Abortion not only involves the costs associated with surgical interventions, but also carries risks of related infections or subsequent infertility.

Box 2 Recent Experience in the Treatment of Tuberculosis

Traditionally, diagnosis of TB in Belarus was based on X-ray examination of the chest, complemented by bacteriological examination. Sputum smear examination had not become the primary diagnosis and monitoring tool. In particular, sputum microscopy was not available at the primary care level. In addition, massive X-ray screening of the adult population and PPD testing of children were mandatory. The entire population of the country was examined in the course of annual photoroentgenography screenings performed at stationary facilities or mobile laboratories. However, the scope of these screenings has been significantly reduced, and currently is limited to TB risk groups. Children and adolescents are annually subjected to tuberculin testing. Prior to 1999, all newly born infants received BCG vaccine, with subsequent re-vaccinations at the age of 6-7 and 14-15, but the second re-vaccination was recently canceled. The difficult economic situation has prompted the health authorities to revise guidelines for finding cases, to abandon massive X-ray screening, to target risk groups, and to expand the scope of sputum examinations, while maintaining PPD testing of children. Since 1997, Belarus health care facilities have been introducing Ziehl-Neelsen staining sputum smear microscopy as part of the WHO-promoted DOTS program. However, there is no quality control for laboratories.

As a result of introduction of DOTS, TB chemotherapy duration is being reduced from 12-18 months to 6-9 months, with a greatly shortened hospital stay. People with less infectious TB forms are not hospitalized, being provided with outpatient treatment instead. A centralized system has been set up to supply TB clinics with 4 chemotherapy drugs. However, treatment regimens envisaged by the National TB Control Program differ from those recommended by WHO. In addition, adjunct therapy and surgery have been applied extensively. Furthermore, during the last year and a half, the lack of funding has led to universal shortages of basic anti-TB drugs. This results in the use of sub-optimal drug combinations, making it impossible to impose standard regimens with respect to all patients. Apart from the sputum conversion, the definition of cure applied in the Belarus system includes clinical and X-ray improvement. In the past, this system was able to contain the spread of the disease, as most TB patients were isolated for extended periods in inpatient facilities (TB hospitals and sanatoria). The worsening of the financial situation over the last four years has resulted in a decrease in the cure rate among newly notified patients, which currently stands at 70 percent. The reasons for that are a lack of basic anti-TB drugs, use of low quality drugs, prescription of sub-optimal combinations of chemotherapy drugs, self-administration of drugs, and poor training of TB specialists and primary health care professionals working at the local level.

Figure 4.20



Source: WHO Health For All database

4.42 The Working Group on Health Sector Restructuring devoted considerable effort to generating a basic set of revenue and expenditure accounts for the health sector that would show, on a consistent basis, the levels of revenues and expenditures over time, the distribution of revenues by source, and distributions of expenditures (a) by allocating agency, (b) by economic classification (that is, type of input such as salaries, material inputs, depreciation), (c) by functional purpose (that is, broad type of health service and service provider), and (d) between capital and recurrent purposes. The objective was to prepare estimates of these accounts that incorporated adjustments for inflation and therefore gave an indication of trends in real revenue and expenditure flows and their composition. After several attempts, and an analysis of draft versions of such accounts, the Working Group concluded that accounts of this kind could not be produced from available data within the constraints imposed by a reasonable level of effort. One particular difficulty was adjusting for price changes relevant to health care, for reasons that included multiple exchange rates as well as lack of data on sectoral and sub-sectoral changes in relative prices. Another major difficulty was categorizing and aggregating expenditures by criteria other than line item. Lying behind these difficulties was a decision-making process that consciously sought to separate decisions about the allocation of resources from decisions about sectoral funding flows. As a result, the Working Group was not able to undertake useful analyses of financial flows within the sector. Instead, it addressed issues of efficiency and effectiveness of resource use by examining patterns of care and patterns in the use of physical resources. Clearly, an improved capacity to record, classify, adjust, and analyze financial data for the sector is an urgent need.

4F APPROPRIATENESS OF PROVIDERS' CURRENT SKILLS

4.43 Assessing the appropriateness of providers' skills involves examining both the substantive nature of the skills possessed and the mix of skills across the sector. For physicians, it has been noted earlier that clinical practices and protocols do not always reflect the most recent medical evidence available internationally. It has also been noted that the heavy focus on specialized areas of care can sometimes interfere with the provision of integrated and coordinated care that treats the person in a holistic way rather than treating the specialized problem that interests an individual specialist. In many western health care systems, the desirable ratio of specialists to general practitioners is seen as being between 1:1 and 2:1. In Belarus, that ratio is almost certainly far higher.

4.44 By the standards of western medicine, the role of nurses is sharply limited and also undervalued within the Belarusian health care system. This is despite the large and growing number of nurses in the system. During the development of the Minsk City Center for Cardiovascular Disease Prevention, polyclinic staff worked with health specialists from the highly respected Robert Wood Johnson Health Network in the United States. From this collaboration, there emerged the following comparative perspective on nursing in the two countries.

"The role of nurses in Minsk is very different from that of the registered nurse in the United States. The nurses rarely exercise autonomy in decisions about the patient's care or need for medical intervention. They practice in a large part much as the equivalent of a health assistant or medical technician in the US. In general, nurses are largely underutilized and with appropriate training and a major change in the perception of the nurse's role they can be used more effectively. Nurses can play a significant role in a health promotion and disease prevention model for patient education and instruction and case management. Utilizing nursing skills is the most cost-effective way to implement the desired model. This intervention, however, has to be carefully implemented in order to preserve the organizational structure and culture that exist and that will make this an acceptable alternative to the health care stakeholders in the country. The role of the physician in this model has to be reinforced."¹⁶

Within the pilot Center, nursing was given a larger role in such areas as the physical layout of caregiving and other activities, patient flow, patient education, computer tracking, and clinical pathways. Sensitivities remained, however, over the division of responsibilities between physicians and nurses.

4.45 Beginning in 2001-2002, MoH envisages introducing a new course on nursing for training mid-level medical personnel.

¹⁶ Andrew Greene, Anna Petrova, Stephen Jones, Julane Miller and David S. Kountz. "Efforts to Effect Change in the Health Delivery System in Minsk, Belarus: A Case Study." *Proceedings of the 6th Annual International Symposium and Workshop 2000 of The International Society for Research in Healthcare Financial Management*, pp. 58-60

4G PERCEPTIONS OF HEALTH SYSTEM AMONG USERS AND PROVIDERS

4.46 There appears to be little organized evidence about the perceptions of users and providers concerning the Belarusian health care system, although the Ministry of Health indicated that some unpublished evidence of this kind exists. Anecdotal accounts suggest that many providers feel demoralized and underpaid, while many users are highly dissatisfied with what they perceive to be inadequate access to needed care, poor quality of care, the unavailability of pharmaceuticals from public providers, and the need to make private informal payments to achieve access to services--particularly services that offer the amenities of responsive, convenient and appropriate care at the time it is needed.

Chapter 5

CHALLENGES FACING HEALTH POLICY MAKERS AND OPTIONS FOR RESPONDING

5.1 This chapter addresses the core challenges facing health policy-makers in Belarus as they continue the process of restructuring the health system. It also outlines options that are available for responding to these challenges. To facilitate discussion, the challenges are grouped into nine areas:

- ◆ Defining health system objectives;
- ◆ Setting the overall level and sources for health funding;
- ◆ Improving the allocation of available health funding;
- ◆ Keeping people healthy;
- ◆ Improving access to affordable health services;
- ◆ Developing systems to enhance quality and efficiency;
- ◆ Optimizing the structure of the network of health facilities;
- ◆ Developing a strategy for sectoral restructuring and development; and
- ◆ Holding providers and managers accountable for performance.

5A DEFINING HEALTH-SYSTEM OBJECTIVES

5.2 Health policy and health systems have multiple objectives. Among these are keeping people healthy and free of disease or disability and, when needed, providing people with affordable access to appropriate, high-quality medical care that meets curative, chronic or palliative health needs in an effective and efficient way.

5.3 Within Belarus, inefficiencies in the health sector offer considerable scope for improving health status or the quality of care without increasing expenditures. Beyond some point, however, policy makers will come face to face with two constraints: trade-offs among objectives, and the frequent need to make initial investments in order to achieve worthwhile ongoing improvements in quality of care or the effectiveness of resource use.

5.4 The multiple objectives of health systems partly conflict. This gives rise to trade-offs among objectives, which health policy-makers must choose how to balance. As policy-makers pursue their overall goal of improved health outcomes and reductions in avoidable illness or

disability, one major issue facing them is how best to balance the trade-offs among four intermediate objectives. These are: (i) incentives for effective and efficient behavior by consumers and providers; (ii) equity, in the form of universal access to needed care at affordable prices; (iii) consistent attainment of high quality care; and (iv) containment of health care costs within limits judged politically to be socially appropriate. Highlighting the trade-offs are competing, alternative uses for scarce resources. Identifying the trade-offs, setting appropriate priorities, and directing resources accordingly therefore lie at the heart of policy making.

5.5 Moreover, policy makers must take into account that the origins of good health extend well beyond the “health sector,” as it is traditionally defined. It is grounded in good nutrition, education to facilitate healthy lifestyle choices and productive adult lives, satisfactory housing, and a level and distribution of incomes that undergird these fundamentals. It is reinforced by policies to prevent avoidable disease throughout the life span. Regulating the most lethal long-term threat to ECA’s health—tobacco—is an essential accompaniment. So are policies influencing safety on the roads, in the work place, in the market place, and in people’s own homes. From this, two things are clear. First, although a generally accessible system for delivering effective health care is necessary for good health outcomes, it is not sufficient. Second, effective policies to achieve good health involve most sectors of government and the economy and therefore require an inter-sectoral approach to health policy.

5.6 As Belarus begins to restructure a sector with wide-ranging problems, establishing clear priorities and developing a phased program will be particularly important. Consider, for example, the many difficult questions raised simply by trying to use health-sector resources effectively -- that is, by using resources “to do the right things.” Which are the most potent policy levers for improving health status in Belarus?¹⁷ What allocation of funds among health promotion, disease prevention, and curative health care services would contribute most to maximizing health status? Within the health care delivery system, what mix of primary, secondary and tertiary services (and what mix of inpatient and outpatient services) would maximize health status? For which of the medical protocols used in Belarus is there evidence internationally that other therapeutic approaches are more clinically effective or more cost-effective? To what extent have interviews or surveys of health service users been used to determine consumers’ satisfaction with care received or to solicit suggestions for improvements?

5.7 Similarly, deciding how best to use resources to improve the quality of care could involve balancing several approaches. One is to upgrade providers’ clinical skills to reflect evidence-based medical practices.¹⁸ Others include: making health care more efficient; promoting professional management of health-care facilities; developing management

¹⁷ Would the greatest improvements in health status result from investments in better health care delivery systems, improved nutrition, tobacco regulation, sanitation, water supply systems, or reductions in air or water pollution? Would such investments be less cost-effective than raising the excise taxes on tobacco or alcohol products, banning tobacco advertising, removing subsidies for meat and dairy products, regulating motor traffic or work safety more strictly, or requiring nutritionally more informative labels on packaged food products? How much would a more secure safety net for family incomes improve health?

¹⁸ This could be done, for example, through evidence-based practice guidelines and clinical protocols, twinning arrangements between local and international health institutions, and continuing professional education for providers

information systems to track provider performance (including relative to protocols); developing formal standards for facilities and guidelines for care; minimizing pharmaceutical errors from production through consumption; and improving medical education systems.

5.8 Consequently, as MoH officials recognize, the initiatives launched recently represent only a first step towards restructuring. Much additional work will be needed to foster a more appropriate and balanced mix of services that are encouraged through redesigned financing systems embodying improved incentives for health care providers and supported through better analytic and administrative processes. The issues involved include incentive structures, payment modalities, clinical improvements, quality enhancement, performance measurement, monitoring and evaluation (both of the system as a whole and of the Government's pilot initiatives), personnel retraining and restructuring, system rationalization, and the data systems required to support these activities. There are associated needs to reorient health policy and to strengthen the sector's capacity to develop, implement and manage an ongoing review of health policy, regulation and financing.

5.9 Because competing objectives are central to policy making and because clear objectives are required to restructure the health sector, it is important to examine not only the substance of policy but also the processes by which goals are set, activities to achieve those goals are managed, and interested parties can hold the system accountable for its performance in pursuing the goals. Box 3 explores the nature and importance of systems of governance (goal-setting), management, and accountability in the closely parallel field of education and notes their general failure in that field. It concludes that improving sectoral governance seems to be a prerequisite for straightening out other problems. In part, this will require strengthening the distinct functions of policy making, health financing, service delivery, regulation, health promotion, disease prevention, information management, and performance evaluation within a coordinated framework that – given Belarus's fundamental preferences – is predominantly government-managed and budget-financed.

5.10 As it undertakes the complex task of planning sectoral restructuring, MoH could significantly benefit from various forms of support that relate to the processes of governance, management, and accountability. For example, a review could be undertaken to suggest the best ways to strengthen policy-making processes and capabilities within the health sector as a whole and the Ministry of Health in particular. Particular aspects of this review might focus on:

- ◆ Defining more clearly the objectives of restructuring and the changes required to achieve them;
- ◆ Reviewing current institutional capacity to plan and manage an ongoing process of health-sector restructuring;
- ◆ Evaluating existing capacity to train health policy experts and health economists and assessing the need to establish and fund related fellowships and study tours;
- ◆ Designing the optimal structure for, and relationships among, units that report to the Minister of Health and that are responsible for the functions of policy making, health financing, quality assurance, regulation, management information systems, and monitoring and evaluation;

- ◆ Synthesizing overseas experience in numerous related policy issues;
- ◆ Planning the most strategic phasing of subsectoral restructuring activities;¹⁹ and
- ◆ Examining options for the relative roles of the Ministry, local governments, professional bodies, and other relevant organizations in relation to such activities as:
 - Decision-making about capital investments within the health sector;
 - Managing activities relating to accreditation and standards;
 - Managing MIS processes for the health sector and access to the resulting databases;
 - Developing a systematic program to analyze health outcomes and processes; and
 - Advising the Minister of Health on related matters of health policy.

5.11 As complementary activities, MoH could also benefit from support in reviewing the substance of policy in many crucial areas. For example, consider three options.

- ◆ To improve the overall effectiveness and efficiency with which pharmaceuticals are used in Belarus, a study could be conducted that examines, and makes recommendations concerning, pharmaceuticals: policy, inpatient and outpatient utilization, supply, pricing, financing (including links to new provider payment systems), regulation, management, procurement, and production.
- ◆ A review could formulate and propose a systematic policy on the use of high-cost technology in health care that addresses:
 - Appropriate future processes, institutional roles, and organizational structures for reviewing health technology issues on a continuing basis;
 - The cost-effectiveness of particular technologies;
 - Their recurrent costs as well as their capital costs;
 - The technical requirements and cost of related maintenance; and
 - Criteria for when Belarus should adopt particular technologies, the scale on which they should be made available, and the rate at which they should be introduced into the health care system.
- ◆ A study team could review the framework of laws, decrees, and regulations relating to the health sector and prepare legal documents to amend, rescind or augment parts of the current legal framework, as required.

¹⁹ Concerning phasing, for example, should the Government focus on restructuring the composition and effectiveness of the health-care delivery system, its clinical methods, and the incentives that payment arrangements and other policies creates for institutions and their staff before it turns to creating new administrative arrangements for managing health financing or to efforts to reduce aggregate funding for the health sector?

5.12 Both the Bank and the Government are considering inclusion of a modest health sector development component within the Belarus TB/AIDS Health Project.²⁰

5B SETTING THE OVERALL LEVEL AND SOURCES FOR HEALTH FUNDING

5.13 Like all transition countries, Belarus faces the challenge of restructuring its health sector in ways that will move it closer to achieving the best health outcomes that are attainable with the resources Belarus can afford for health. The fundamental challenge facing the health sector is that demands for more and better health care services are virtually unlimited, but the resources available to meet those demands are severely limited. Consumers want access to care comparable with that available in advanced economies and providers wish to offer such care. But this is not feasible when per capita income is well below its level in those countries. An additional challenge is that the sector still has an inefficient and costly structure for providing health services. Accordingly, Belarus must make a social judgment through its political processes concerning the share of its total resources that it wishes to devote to the health sector. It must then design a system that functions within that resource ceiling to prevent illness where possible and, when necessary, to provide clinically appropriate, technically proficient and cost-effective curative care. This system must ensure that every ruble spent makes the maximum possible contribution to good health status among the population and good health outcomes from care provided.

5.14 Belarus currently has an explicit and simple process, through the Republic's budget, for setting the level of national public funding for health. It has consistently allocated about five percent of its GDP for public spending on health in the last few years. It is considering raising that share gradually to seven percent. Within limits, oblast governments have the option of using oblast revenues to augment total public health spending within their regions.

5.15 Public spending on health is augmented by private spending through several channels, although total documented spending from these private sources is not large. First, voluntary medical insurance exists, but its scope is insignificant. Next, although the Constitution requires essential medical care to be fully financed by the public sector, private copayments (or official user charges) are permitted and levied for a range of other health care services. These copayments are small. Third, there exists a small network of private providers of health services (mainly pharmacies, but also health care service providers). These providers are paid privately through direct payments (for example, on a fee-for-service basis) and they are not permitted to be paid from public or insurance sources. In addition, there are pervasive anecdotal reports of informal payments made to health workers for services delivered inside or outside publicly owned health facilities.

²⁰ This component could provide TA to support the thrust of current and future Government initiatives (a) to improve the effectiveness and efficiency of health services, and (b) to begin shifting the balance of service provision away from inpatient secondary care and towards primary health care, outpatient secondary care, health promotion, and disease prevention activities. The assistance could also identify and develop a broader program of options for building on these initiatives, including in the areas of health financing and primary health care development. Those options could also draw on the findings of this Health Policy Note.

Box 3. Sectoral Governance, Management, And Accountability: The Parallel Case of Education

A World Bank paper that proposes an education strategy for countries in Europe and Central Asia (ECA) identifies five shared problems in ECA education systems: alignment (the system's fit with open market economies and open political systems); equity; financing; efficiency; and governance, management, and accountability.¹ The extracts below explore the nature and importance of governance, management and accountability within education systems. The health sector faces parallel issues.

"The state is intimately involved with education systems. It provides educational services, finances and regulates them, and collects and publishes information on them. The private sector, both profit- and nonprofit-making, also provides services, and private financing plays a greater or lesser role in paying for education, depending on the country and the level of education. However, in most countries, and certainly in ECA, the state is the dominant player.

'Since the state takes these actions on behalf of its citizens and taxpayers, questions about how well it represents their interests immediately arise. Is the education sector doing the right things? Is it doing the right things right? What mechanisms do stakeholders have to monitor the state's performance and to hold it accountable for its actions?

"The sector's governance, management, and accountability arrangements determine the answers to these questions. "Governance" refers to how the goals for the sector are set; "management", to how the implementation of those goals is organized. "Accountability" refers to the mechanisms that stakeholders can use to assess the sector's performance and to bring the state to honor their interests. These three dimensions are interrelated. For example, the vigor of the accountability mechanisms in a country affects the transparency and inclusiveness of goal setting. The nature of the goals determines whether managers of the system have clear signals or directives, an issue of some import since too many or confusing goals undermine the efficiency of management and the basis for accountability.

Why this Development Goal?

"If the sector has good governance and management and vigorous accountability, the players will find ways to solve other problems that the sector may have, such as alignment or financing difficulties. The reverse is also true. Distortions in these functions make the achievement of other objectives problematic. Improving the sector's governance, management, and accountability seems to be a *sine qua non* for straightening out other problems.

"Given this reality, it is unfortunate that ECA education systems tend to fail spectacularly on these three key dimensions."

¹ Sue Berryman. *The Hidden Challenges To ECA's Education Systems*. World Bank: Washington D.C. 2000

5.16 The component of health spending that is least well documented is out-of-pocket spending by users of health care. As noted earlier, there are strict constitutional limits on out-of-pocket payments for care provided in publicly owned facilities. Revenues from these charges appear to represent no more than 2 percent of public spending on health. Similarly, data from official surveys of consumer expenditure show relatively modest spending on health services (paragraphs 5.32-5.36 and Annex 2B). Moreover, the Ministry of Health does not agree with the view that informal payments for health care services are quite common in Belarus. Yet anecdotal accounts and discussions with people outside government suggest that unofficial (or "envelope") payments to health care providers – particularly those providing patient care in hospitals – are not unusual, can be large, and seem to be more frequent than is officially recognized. These payments are discussed below.

5.17 Role of Public Sector in Health. An important priority should be to make much more effective use of the public resources allocated to health, which in 1999 represented (z) percent of total government spending. The competing pressures on available public funds in Belarus suggest that public expenditures should be allocated so as to achieve the best health outcomes possible. Many households appear willing to bear part of the cost of supplying health services. The state could view its role as being to ensure that this private willingness to pay is combined effectively with public expenditures. Therefore, the state's roles in these circumstances could be viewed as being, first, to ensure that the needs of those who cannot afford to pay are met as fully as possible, and, second, to ensure that needs that cannot be addressed successfully by individuals acting alone are being addressed. The need for public sector intervention is especially great in areas of public health in which community intervention is required (control of communicable and vector borne diseases for example) or in which the costs of supplying a service outstrip the financial resources of most households (medical care for major illnesses). The appropriate test of the success of public spending is the improvement in the well-being of the collective community that the spending brings about. Applying this test requires comparing the outcome with and without government intervention, rather than an assessment of the importance of a need for particular health services. The comparison of with and without situations requires the development of the "counterfactual:" projections of what would have happened without government intervention.

5.18 Policies specifying which health services to fund publicly are still adjusting to the collapse in Belarusian economic output and its only partial subsequent recovery. The reduced revenue base and new expenditure pressures imply that the public sector alone might no longer be able to fund in a sustainable way all health services that are considered necessary. A corollary is that the private sector might need to fund a larger share of these services, if they are still to be provided. However, it already appears that many private citizens in Belarus show considerable willingness to pay for numerous health services if they would otherwise not be provided. In these circumstances, an important question for policy makers is how best to structure public funding of health so as to take account of how private consumers will respond to that structure.

5.19 Belarus might therefore wish to examine what options it should consider for the policy governing coinsurance payments by individuals who receive health care services. In doing so, it could take into account the possibilities of making these payments contingent on a family's

economic circumstances, an individual's health or social (e.g., pensioner) status, and the nature and degree of medical necessity of the health services involved. This process could form part of a broader review of policies concerning the limits on publicly financed services.

5C IMPROVING THE ALLOCATION OF AVAILABLE HEALTH FUNDING

5.20 As the creation of the Vitebsk pilot clearly shows, the government already recognizes that Belarus must change the way it allocates the recurrent funds available for health. Moreover, it understands that changing the allocation of these funds has at least three distinct facets, which are mutually reinforcing. One is to change the distribution of funds across levels of care and among services at each level. Another is to change the process through which funds are allocated. The third is to change the basis on which institutional and individual providers are paid.

5.21 Allocation by Level of Care and Type of Service. Most countries strive for a health system organized like a pyramid, with primary care comprising the broad base, outpatient specialty and diagnostic services in the middle, and inpatient services at the narrow top of the pyramid. The base of the pyramid is characterized by the greatest frequency of treatable conditions and lowest unit cost of services, whereas the top is characterized by the rarest, most complex and costly services. In a cost-effective system, most conditions are treated at the pyramid's base, with relatively few needing referral for high-cost care. However, this pyramidal model does not function in Belarus, which inherited at independence an inefficient health system with too much infrastructure. Because primary care is weak and ineffective, many medical conditions flow through the system and are treated, inappropriately, in hospitals.

5.22 Chapter 4 noted the remarkably high level of use of hospitals in Belarus and the equally remarkable absence of a well-developed primary health care sector. This reflects a pattern of resource allocation in which Belarus spends much too large a proportion of its budget paying hospitals – the medical institutions that generate the highest level of treatment costs – to care inefficiently for patients who in many cases do not need acute inpatient care and who in many other cases have medical problems that have reached an unnecessarily advanced stage. A medically and economically preferable health strategy would be to allocate significantly more resources: (a) to encouraging healthy lifestyles that promote and maintain good health; (b) to preventive measures that forestall disease and disability; and (c) to primary health care services. Primary health care providers can support health promotion and disease prevention by vaccinating children and by educating people with chronic conditions like diabetes and hypertension in how to manage these conditions so as to avoid acute flare-ups requiring hospitalization. They can provide screening, early intervention, and cost-effective care that can solve the health problems with which most patients present. For those patients who require these, they can also coordinate appropriate referrals to diagnostic and secondary health care services.

5.23 Many factors contribute to the substantial infrastructure in the health care sector and the specialized, hospital-centered nature of the system. Certainly, when a budgeting system is based on the existing level of infrastructure and on treatment norms, it creates financial incentives that

encourage an expansion of capacity. In addition, the way that health professionals have been trained to practice medicine, combined with existing clinical norms and protocols, together encourage (or require) an emphasis on the use of specialized inpatient care. Changing this, therefore, will require a concerted and coordinated effort on all of these fronts.

5.24 Process for Allocating Funds. Except in the Vitebsk pilot, the five percent of GDP earmarked for public funding for health are allocated among health care institutions and programs on the basis of budgeted costs. The budgeted costs, in turn, are classified into 13 line-items corresponding to different kinds of inputs: [salaries, payroll taxes, energy, pharmaceuticals, and so on]. The allocated amounts are based on norms that reflect the number of registered beds in inpatient institutions and the average patient flow through polyclinics during the previous year. Individual medical staff within the institutions are paid as salaried civil servants. The base salary for doctors is 70 percent of the average official wage, although some categories of physicians are paid a multiple of this base salary. Institutions are rewarded in the budget process if they spend all of their budgeted funds, but not more, for the purposes implied by the line items. As noted in paragraph 9 of the Overview paper, to the extent that facilities can retain beds from year to year by keeping them full, and can minimize their costs by having patients who require little care, the managers of facilities already face inappropriate incentives. Those incentives are to retain unnecessary beds, to admit patients with little or no need for hospital care, to keep these patients hospitalized for as long as possible, and to invest little effort in improving the quality, appropriateness or efficiency of their care. Such incentives also discourage larger roles for public health, health promotion, primary health care, and outpatient secondary care within the sector.

5.25 The Vitebsk pilot explores a significant departure from this model. Overall funding for the Vitebsk pilot region is being set on a per capita basis. Line-item budget requirements are suspended or significantly reduced. Facility managers have been given substantially increased autonomy in how they use resources and manage health care delivery within their facilities. Insofar as they achieve demonstrable savings through more effective or efficient use of resources, they can reallocate the savings for equipment, materials, salary bonuses, or development of new services.

5.26 These changes have greatly altered the incentives facing health providers in Vitebsk. The changes were expected to result in: (i) diversion of potential hospital patients, who would previously have been admitted inappropriately, to treatment in primary health care or outpatient specialist (polyclinic) settings that are more appropriate; (ii) large reductions in average lengths of inpatient hospital stays; (iii) adoption of new treatment protocols for conditions currently treated through inpatient care; and (iv) the release of funds to support the expansion of primary health care services. Preliminary indications are that these responses are emerging quite quickly.

5.27 Processes for managing and allocating the global budget for the experimental region, however, had not been developed fully and systematically before the pilot began. Accordingly, staff within MoH and at the pilot site are engaged in an ongoing process to develop suitable methods for:

- ◆ Holding and managing health funds for the region;

- ◆ Allocating available resources across levels and types of care (health promotion; disease prevention; primary, secondary and tertiary care; chronic or long-term care; and palliative care);
- ◆ Allocating resources among different providers within each level or type of care;
- ◆ Paying institutional and individual providers within the region, as well as those outside the region to whom patients from Vitebsk are referred for care;
- ◆ Establishing effective budgeting systems within institutions providing health services;
- ◆ Monitoring and evaluating the performance of the health system in Vitebsk;
- ◆ Satisfying ongoing reporting requirements of the Ministry of Finance, the Ministry of Health, and other relevant agencies; and
- ◆ Identifying financial and other data that would be required to undertake the tasks above and that should be included in an integrated management information system (MIS) for Vitebsk.

5.28 These tasks largely define the ongoing agenda for the development of new approaches to allocating funding within the health sector as a whole. Some questions, however, become broader when viewed from a national perspective. For example, which organization(s) should hold and manage health funds for which purposes, recognizing that some capital and recurrent expenditures are best planned at a national or regional level and others at a local level? What health financing data are required within a national health-sector MIS?

5.29 Each task above raises complex issues. For example:

- ◆ Should oblast or raion levels of government serve as fund-holders and managers of funding for health care within their geographic areas? If so, how would the national health system resolve issues relating to inter-regional coordination of care and rational geographic sharing of sophisticated medical facilities and services? If not, would it be feasible to have health providers at one level of care (such as general practitioners or polyclinics) serve as fund-holders and managers for care provided at other levels of care as well? (As discussed below, this approach would require managing, and limiting to acceptable levels, the financial risks to which the fund-holding providers were exposed.) Alternatively, should a new unit that is answerable to the Minister of Health be established to manage health financing flows and to serve as an active, intelligent purchaser of care that contracts with facilities and individuals that provide health services?
- ◆ On what basis could available funds be allocated across levels and types of care? Should this involve a transition period in which the proportion of funds for acute inpatient care is progressively lowered while the proportions for health promotion, disease prevention, primary care, and new alternatives to acute inpatient care are gradually increased?
- ◆ How could funds allocated for a particular level of care be shared fairly among different providers of that level of care? How might approaches to payment vary for acute inpatient care, outpatient specialist care, and primary health care? How might different

payment systems for each of these levels of care nevertheless be coordinated so that they created a coherent overall system of payment that would imply desirable incentives for health care providers?

5.30 Location of Responsibility for Allocating Funds. Paragraph 1.27 of the Overview paper outlined several reasons why national governments should seriously consider retaining a significant national role in the process for allocating funds for health. One reason is that the geographic location of large secondary and tertiary inpatient facilities largely determines the geographic distribution of recurrent costs for inpatient care. The Belarusian health system is characterized by excess infrastructure capacity and a need to rebalance the health care delivery system. In this situation, the keys to successful change are (i) to create new incentives for providers that alter their patterns of care-giving in appropriate directions and (ii) to respond to these new patterns of care-giving by restructuring the existing network of facilities and services in supportive, complementary ways. The Vitebsk pilot is demonstrating that new provider payment arrangements, implemented at the regional level, can successfully create new incentives for providers and alter their behavior. In this way, it is pioneering the first key to successful change. However, to promote supportive restructuring of the network of providers—and thereby deliver the second key—the voice of national health policy makers is likely to be essential. That is because a national perspective will be a prerequisite for achieving optimal decisions about the most efficient structure for a coordinated national network of health facilities and services, many of which have national significance. Related decisions about major capital investments in facilities or services could then be made so as to minimize the total ongoing recurrent costs incurred to operate an efficient and effective national health system.

5.31 The overview paper noted two other reasons for retaining a national role in the allocation of health funds. One is that making regions responsible for holding and allocating all health funds might not offer a large enough population base for satisfactory pooling of the financial risks associated with care for people who have complex medical conditions or a need for expensive treatment. The other is that this approach, coupled with funding on a capitation basis, could disadvantage regions with lower average incomes or a more limited base for economic activity.

5.32 Yet another factor argues for retaining a national role in the allocation of funds. This is that Belarus is likely to move towards new systems for paying providers and for monitoring quality of care and the performance of providers that require sophisticated information systems to support them (see discussion below). These systems are expensive and involve significant economies of scale. Accordingly, managing provider payment and related health information systems from the national level is likely to prove an attractive option in the medium term.

5.33 Accordingly, policy makers might wish to consider developing an alternative to fund-holding that is organized solely on a regional basis. This alternative could be designed, however, so as to retain the new incentives for providers and the new flexibility in approaches to delivering care that are currently being achieved through regionally managed financing arrangements for the Vitebsk pilot.

5.34 Basis for Paying Providers. The quest to structure payment of providers so that they face desirable incentives when providing care quickly becomes complicated. For example, for inpatient care, should payment be made in respect of each admission (which could encourage unnecessary admissions and low-quality care), each day of care (which could encourage unnecessarily long lengths of stay and low-quality care), each separate service provided within the hospital (which could encourage unnecessary services, or the fragmentation of services for billing purposes), or each completed case (which would require a method to quantify the differences in costs likely to be associated with treating different diagnoses)? Should such payments be adjusted for the severity of illness of the patient concerned and, if so, should that adjustment be based on secondary diagnoses and co-morbidities that the patient displays? Would it be preferable to base payments on a retrospective assessment of the costs that the facility actually incurred when providing care or, instead, on a prospective assessment of the costs that an efficient facility could expect to incur on average when treating patients with the specified diagnosis (assuming that the expected costs are adjusted for severity of illness and that the estimate of expected costs is based on actual cost data for efficient providers faced with Belarusian input costs)? How could the quality of care provided be assured?

5.35 In general, the payment methods that create the best incentives tend to require more sophisticated information for their implementation. So the choice of payment systems will depend partly on the sophistication of the information systems that the health sector can sustain. Over time, improving information systems might allow a move to more complex payment systems that create better incentives.

5.36 One example of the prospective approach to payment for inpatient care that adjusts for patient diagnosis and severity of illness is known as diagnosis-related groups (DRGs). The DRG system was first developed in the USA and was later adopted within the US government's Medicare program. It has been adapted for other countries. An Australian variant has just been adopted by Germany as part of its current reforms. The Kyrgyz Republic has also developed a simplified DRG system and re-estimated the relative costs using Kyrgyz cost data. Moreover, it has been suggested that a relatively small number of DRG categories could cover the bulk of the inpatient care that a hospital system provides. Consequently, countries constrained by available information systems could begin initially by covering the diagnoses that are either the most common, the most expensive, or those that involve the most management of medical risks. The method of clinical statistical groups, with which Belarus has experimented, appears to have some elements in common with the DRG method, although it has not always been based on actual cost data – a most important feature.

5.37 DRGs and some other analogous systems are essentially "points" systems for measuring the amount and cost of medical work performed. Accordingly, they can be used in one of two ways within payment systems. One way involves specifying in advance an absolute monetary value for each point and paying the provider accordingly, based on the number of points earned. The other is to treat each provider's number of points as an indicator of the relative amount of work done by that provider relative to all others at the same level of care. The total funding available for care at the inpatient level could then be allocated among inpatient providers according to their shares of the total number of points generated. (Annex 1A provides a more detailed discussion of issues relating to the design and use of DRGs.)

5.38 Payment mechanisms for providers of primary health care and outpatient specialist care also raise complex issues. Many countries have adopted a "capitation" approach to paying for primary health care provided by general practitioners. Under this approach, a GP receives a fixed amount for each patient who selects the GP as the provider of all primary health care for the coming year. Typically, a case load of around 2000-2200 patients is viewed as providing the appropriate balance between an adequate work load and sufficient time to provide quality care to those requiring it. The GP would typically be the first point of contact with the health system, the provider of care for most common conditions, and the manager of coordinated care and source of referrals to secondary providers for patients who need more specialized care or diagnostic services.

5.39 Numerous variations in GPs' practice arrangements and their financing are possible. Some countries vary the capitation amount according to the age and gender of patients to reflect the higher average levels of costs for older individuals and women in their child-bearing years. Others differentiate certain kinds of preventive services, such as vaccination or management of potentially serious conditions like diabetes and hypertension. They then pay an additional amount for provision of these forms of care. Where local population density allows, two or more GPs may combine to form a group practice.

5.40 Some countries have experimented with allowing GPs or group practices to act as fund-holders for outpatient specialist care and/or inpatient hospital care. Fund-holding GPs then not only determine when patients need these more specialized forms of care but also are liable for paying the providers for this care. Experience suggests that, unless GPs are part of large group practices that pool the financial risks they face and have several thousand patients, fund-holding GPs are at significant financial risk from the possibility of having multiple patients who generate very high costs. Accordingly, any consideration of GP fund-holding needs to be coupled with a careful analysis of the financial risks GPs would face and of ways to limit the extent of these risks. Methods for limiting risk include reinsurance arrangements, or contractual provisions covering catastrophic illness costs within the capitation agreement between GPs and the Ministry or health care financing body. Systems to protect patients from under-provision of appropriate care are also needed when capitation arrangements and/or fund-holding are in place. Annex 1B discusses related options and issues in greater depth.

5.41 The Ministry of Health could benefit from technical assistance in addressing each of the questions raised above and many others like them. It would also be much better equipped to manage the development of health financing policies if it developed two new management tools.

- ◆ One is an ongoing system of national health accounts. These could improve systematic understanding of the overall levels and composition of all flows of expenditure and services within the health sector by documenting the relationship between sources of funds, expenditures, inputs of labor and materials, and outputs of different kinds of health services. Belarus is currently unable to produce such estimates for a series of recent years and on a consistent basis that adjusts for price changes.

- ◆ The other is a methodology to project the baseline level of health expenditures as a tool for improved budgetary planning and monitoring. The expenditure baseline and projections would be based on past estimates of health spending, by type of service, and projections of future spending based on demographic trends, economic growth and inflation assumptions, expected changes in service use patterns, and other factors. These baseline expenditure projections, if developed using consistent and clearly stated assumptions, would provide a valuable tool for assessing future changes in health spending that require policy management. As revenue sources for the sector diversify, a revenue baseline and projection methodology could be added to complement those for expenditures.

5D KEEPING PEOPLE HEALTHY

5.42 The Government is expanding its disease prevention and health promotion activities. It has taken initial steps to address cardiovascular diseases (CVDs) through recent measures to decrease smoking in Belarus.²¹ In addition, with support from the Bank, a project focusing on TB and HIV/AIDS is under preparation to address the frightening growth in multi-drug-resistant TB and the potentially explosive epidemic of HIV infection.

5.43 Tuberculosis. The TB situation in Belarus has deteriorated rapidly since the early 1990s because of the worsening economic situation, plummeting living standards, emergence of underprivileged population groups, and other factors. The shrinking health budget has resulted in an erratic supply of diagnostic and anti-TB drugs, which in turn has resulted in inadequate treatment and drug resistance. As a result, Belarus may have one of the highest rates of multi-drug resistant cases in the world. Almost 70 percent of deaths from TB occur among adults in their most productive years. The current increase in TB and drug resistance could become explosively worse if HIV becomes more prevalent in society.

5.44 In 1998, the Government approved the Health Care Law, which formulates general measures aimed at prevention and control of the so-called “socially significant diseases.” It has issued a Decree on Compulsory Treatment of People Suffering from Tuberculosis. The TB surveillance system includes mandatory notification of new cases and relapses, notification of deaths from tuberculosis, monitoring of treatment outcomes, and collection of other information. All oblasts report their data to the Ministry of Health. In 1999, the medical services of penitentiary facilities and the Ministry of Defense also began to submit their data to the Ministry of Health to compute aggregated TB statistics for the country. The major challenges with TB lie in the areas of diagnosis and treatment. They are discussed in Chapter 4 above in relation to quality of care.

5.45 HIV/AIDS. In 1996, the Government established an inter-departmental council to coordinate anti-HIV and STI activities. It also set up coordinating councils in each town and raion. Among registered people living with HIV/AIDS, almost 80 percent became infected from

²¹ In January 2001, Belarus announced a ban on smoking in all medical establishments, and a presidential decree was issued in February 2001, banning tobacco advertising and smoking in all public places and offices.

injecting drugs and about 20 percent through unprotected heterosexual intercourse. Young people are specifically regarded as a high-risk group and the Government expects the epidemic to spread rapidly among the relatively low-risk general population. To prevent this, it has established a system of information dissemination. This involves local coordinators as well as traditional mass-media channels. Harm reduction activities among IDUs have been carried out on a pilot basis by Government and non-governmental bodies. Since 1998, Shklov prison has run a successful HIV/AIDS prevention project, including anonymous HIV testing, needle exchange, and condom provision. NGOs have established other harm reduction projects in Minsk, Vitebsk, Svetlogorsk, and other cities.

5.46 Although Belarus has carried out much innovative preventive work with vulnerable groups and the general community, this work has not yet slowed the HIV epidemic. The main reason for this is scale. UNAIDS estimates that preventing the spread of HIV among injecting drug users (IDUs) would require about 60 percent of them to be regular clients of needle exchange programs and other harm reduction interventions. The current level of needle exchange is far below this figure. The actual number of drug users is estimated to be five to ten times the number of registered IDUs (6,600). IDUs are hard to reach with appropriate services because they are unlikely to be in frequent contact with the formal sector (public health facilities, governmental offices). In 1999-2000, nine small needle exchange projects run by NGOs distributed twenty times more needles than the 34 needle exchange projects run by local governments. So active participation of NGOs will be essential in any effective HIV prevention strategy for IDUs.

5.47 Sexually Transmitted Infections (STIs). The current system of STI prevention is based mainly on secondary prevention, i.e., diagnosis and treatment. However, the old system of repressive measures against patients and people suspected of having STIs is being phased out. An article of the criminal code allowing for the criminal prosecution of those evading examination for venereal disease has been removed and secure hospitals have been closed. However, law enforcement agencies continue to play an important role in the detection of STI patients, assisting in the compulsory testing of 44,000 people in the prison system, juvenile offenders, IDUs, commercial sex workers, and homosexuals.

5.48 UNICEF is currently assisting the Government to establish a primary STI prevention program, mainly aimed at young people and involving all sectors of the medical and educational system, together with parents, the mass media and NGOs. There is a perceived imbalance in the existing system of sanitary education in the field of HIV/STI prevention. In the 1990s, the Belarusian State University and Belarusian Teachers' Training University began to train specialists who conduct lessons on healthy life styles, including HIV/STI prevention, for students of general education and vocational schools. However, all issues of youth sexual education, including HIV/AIDS and other STIs prevention, are currently excluded from the framework of educational programs in general education and vocational schools. Instead, these issues are considered as voluntary extracurricular training. In advertisements that are widely shown on national TELEVISION, the use of condoms is encouraged, but STIs are never mentioned. At the same time, almost no use is made of TELEVISION to inform people of the changes in prevention and treatment of STIs, its gradual democratization, and its higher efficiency. Sexual education programs in schools and a lack of other primary prevention and education are also

absent, although teaching HIV prevention to students in the upper grades of high school is mandatory.

5.49 Additional Options. Five additional illustrative activities could contribute to the development of a strategy for improved health promotion and disease prevention.

5.50 *Health surveys* are essential to track secular changes in health and its determinants. A comprehensive health survey of the population could be designed that includes measuring lipids, blood pressure, and anthropometry and that gathers data on behavior relevant to health risks. The model for this survey could be the U.S. Health and Nutrition Survey. A key to policy change is analysis of data, use of data to develop health policy, and reporting of health data to the public and to policy makers.

5.51 *A health promotion program* could be designed that:

- ◆ Develops a strategy for public education concerning healthy lifestyles and disease prevention;
- ◆ Clearly links educational health promotion activities with related efforts by the clinical medical community;
- ◆ Ensures that health information systems can track the appropriate clinical treatment of CVD and precursor conditions;
- ◆ Links financing incentives to appropriate preventive care and treatment; and
- ◆ Monitors clinical interventions for effectiveness and efficiency.

For example, information on assessment and treatment of CVD precursors and risk factors (such as hypertension and tobacco use) could be included in a primary care database; training of general practitioners and other primary health care doctors could emphasize appropriate management of these risk factors; and studies could examine professional compliance with related clinical guidelines. Other cost-effective interventions to decrease smoking and excessive alcohol consumption include increases in prices and taxes, coupled with information for the population about risks, costs and benefits of different interventions.

5.52 *A national health care program for cardiovascular disease (CVD)* could be designed that includes new standards, improved protocols, and initiatives for primary and secondary prevention of CVD. The program could contribute to long-term reductions in mortality and morbidity from CVD in Belarus through primary and secondary prevention and through improved primary and secondary medical care. Primary prevention activities could include public education and media advocacy campaigns to improve awareness of CVD risk factors, health education activities, and treatments for CVD risk factors. Secondary prevention activities could improve the treatment of people who are already in high risk groups (elevated cholesterol, smokers, high users of alcohol, obese, diabetic, or hypertensive), including through developing protocols for treatment of CVD precursors among patients enrolled in primary care practices. Improved care could be achieved through training physicians in approaches to primary and secondary prevention of CVD (such as appropriate treatment of hypertension, use of nicotine replacement and bupropion for smoking cessation, screening and management for high

cholesterol levels, and management of diabetes) and through developing ancillary treatment sources for control of CVD risk factors and for rehabilitation after myocardial infarct (such as cardiac rehabilitation programs, diabetic education programs, and nutritional counseling programs outside the physician practices). These initiatives could build on the Government's pilot initiative that established a wellness center for prevention of cardiovascular disease at Minsk City Polyclinic #36. The center offers screening, early detection, education, and counseling.

5.53 A report could be prepared for the Ministry of Health that presents options for who should have *responsibility for initiating and/or supporting health promotion activities* at the national and local levels. Among these activities could be communications, related professional education for PHC doctors, related work on analysis and evaluation, and support for the development of associated professional skills and of local community partnerships.

5.54 A review could be undertaken of the functions and activities of the *sanitary and epidemiological surveillance system* and of what changes in its role, responsibilities, activities, or structure might be appropriate as other aspects of the health care system are restructured.

5E IMPROVING ACCESS TO AFFORDABLE HEALTH SERVICES

5.55 The health system in Belarus has remained functional throughout the country. Anecdotal accounts support the official view that most medical services and pharmaceutical products can potentially be obtained by the country's citizens. Moreover, where there are official charges for the use of services, they are small. However, as noted above, anecdotal accounts and discussions with people outside government indicate that unofficial (or "envelope") payments to health care providers – especially those giving care in hospitals – do not seem to be uncommon and can be quite large. These accounts suggest that such payments serve the purposes of getting: (i) priority access to needed services, including surgery; (ii) access to pharmaceutical products (particularly if they are imported or expensive); (iii) access to personal health care services that are provided at convenient times and locations or in emergencies; and (iv) access to care for non-standard medical conditions. Moreover, the accounts suggest, there are also widely recognized levels for the private payments expected in connection with medical services of various kinds. Thus, informal payments could represent the main potential financial barrier to access to services. To understand or to improve access to affordable health services will therefore require further investigation of the scale of these payments and their incidence across various income levels, vulnerable social groups, and regions.

5.56 It would be remarkable if private payments of this kind were not found in Belarus, as there is a growing body of evidence that they play a large but variable role in financing health care throughout the transition countries of eastern Europe and central Asia. Lewis (2000) concluded that informal payments in these countries' health sectors

"are emerging as a fundamental aspect of health care financing, and a major impediment to health care reform. Informal payments can be defined as payments to individual and institutional providers in-kind or cash that are outside official payment channels, or are purchases that are meant to be covered

by the health care system. This encompasses “envelope” payments to physicians and “contributions” to hospitals as well as the value of medical supplies purchased by patients and drugs obtained from private pharmacies, but intended to be part of government-financed health care services. Voluntary purchases from private providers are not considered informal payments, but a market transaction at the discretion of the consumer....

"Informal health payments have been reported in virtually all countries in Eastern Europe and Central Asia (ECA) with the possible exception of Slovenia and Czech Republic... While this issue has raised considerable concern in a number of countries, its relative importance and implications are only beginning to be understood. Part of the difficulty has been measuring its extent, the nature of the process, and burdens on households"²² (See Figures 5.1 and 5.2.)

5.57 Lewis argued that informal payments for services have had a variety of undesirable effects on the region's health systems and on standards of governance more generally. Informal private payments to medical staff, for example, imply an informal market for health care within an ostensibly public system of health services using public facilities. The payments circumvent the countries' normal financial controls, policy rubric and audits. They are usually unreported and constitute a form of corruption that exploits monopoly power, provider discretion and lack of accountability. They undermine government efforts to improve accountability and public sector management and they have adverse implications for equity and access, governance, government priorities, and incentives faced by both health providers and managers. Poor families are disadvantaged because they are unable to pay; the role of public policy in resource allocation decisions is diminished; and government objectives become marginalized. Exploitation of public positions for private gain, which anecdotal accounts suggest is common in many areas of government within eastern Europe and central Asia, has even broader ramifications. It undermines public trust in government and it discourages not only job-creating private investments but also potential international partners through fear that official decision-making and regulatory action will not be transparent, impartial, consistent with stated policies, or fair.²³

5F OPTIMIZING THE STRUCTURE OF THE NETWORK OF HEALTH FACILITIES

5.58 One key to more effective resource use will be balancing the mix, number and scale of medical facilities, their clinical programs, and other health services so that these are better matched to the pattern of health care services needed to treat the population using the most clinically appropriate and cost-effective methods that are economically sustainable. It would be reasonable to expect that, when this process has been completed, it will have significantly affected all major parts of the health care system. Health-sector rationalization is a lengthy process and is likely to involve a 15-year period of progressive restructuring of primary,

²² Maureen S. Lewis. *Governance and Health in Eastern Europe and Central Asia: Paying for Health Care*. World Bank, June 2000.

²³ See Maureen S. Lewis, June 2000, op.cit.

secondary and tertiary care that improves the quality of care while lowering its cost structure. Currently, health care is seriously skewed towards hospitals and away from primary health care. A substantial share of health-sector resources are absorbed by the fixed costs of running the hospital system—mainly salaries, buildings and heat. Rationalization of facilities could reduce fixed costs and release resources to help cover the incremental costs of expanded care elsewhere in the health system. A change in the mix of providers and skills should accompany changes in the structure of care. This would involve not only raising substantially the ratio of general practitioners to specialists among physicians, but also increasing the number and

Figure 5.1 Estimated Frequency of Informal payments in Transition Countries

Source: Maureen S. Lewis. Governance and Health in Eastern Europe and Central Asia: Paying for Health Care. World Bank, June 2000.

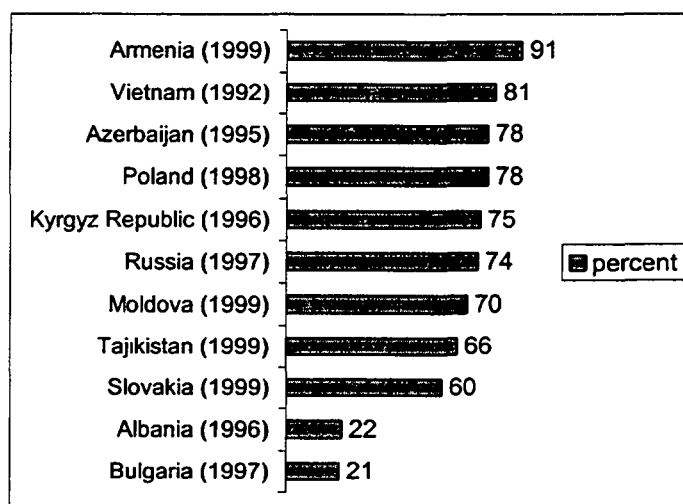
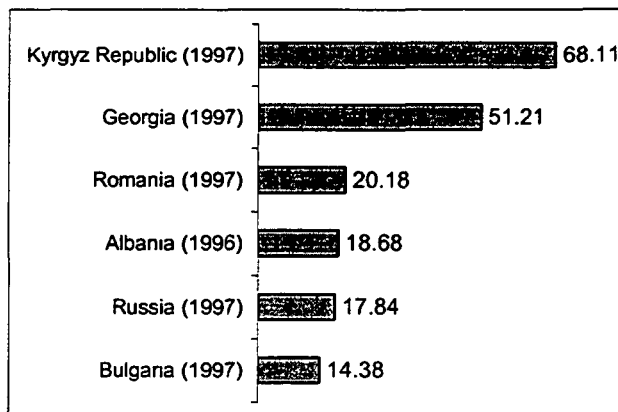


Figure 5.2. Average total expenditures per capita for selected ECA countries (1995 US Dollars)

Source: Maureen S. Lewis. Governance and Health in Eastern Europe and Central Asia: Paying for Health Care.



World Bank, June 2000.

skill levels of nurses and other skilled health support staff to match the upgraded roles that nurses and health paraprofessionals play in modern medical systems.

5.59 Initial steps in the restructuring process could include, among other things:

- (i) Effective implementation and careful evaluation of the Vitebsk pilot for more cost-effective approaches to many aspects of inpatient and outpatient care;
- (ii) Development of new approaches to primary health care based on general practitioners trained in family medicine;
- (iii) Education of health-sector personnel in skills required for more effective approaches to policy making, health financing, and management of health care delivery systems;
- (iv) Development of new management information systems that would integrate clinical, financial, managerial, administrative, and policy-oriented data so as to give providers more powerful tools for managing care cost-effectively and to give policy makers organized information for evaluating the health system's performance and designing further improvement;
- (v) Development of new systems for quality assurance, categorization of facilities and services, and accreditation of providers; and
- (vi) Preparation of a flexible but systematic overall strategy for the progressive restructuring and development of the health care sector.

These elements of a restructuring plan are discussed below.

Implementing and Evaluating the Vitebsk Pilot

5.60 The Vitebsk pilot represents an important and constructive initiative in health-sector development that tests new approaches in four key areas where change is needed. It introduces a process for allocating health funding that is oriented towards performance instead of inputs. It improves incentives for providers to deliver effective, appropriate and efficient care. It gives providers increased managerial autonomy and control over resource use. Finally, it adopts a performance-oriented system of accountability that complements, and makes possible, the new funding process. Initial results suggest that providers are altering their behavior considerably in response to these changes.

5.61 Nevertheless, the processes of implementing and evaluating the pilot both require strengthening in a variety of important ways. The discussion above (on improving the allocation of available health funding) highlighted areas where the management and allocation of the global budget for the Vitebsk pilot region require further refinement. In addition, further work and related technical support would also be desirable in four other areas.

5.62 Establishing the Baseline. Because of the Government's desire to start the reform process urgently, it introduced two sets of changes simultaneously, in January 2001: the changes in financing arrangements (the effects of which it wants to test); and the new and improved data

collection systems for measuring the variables that are of interest for evaluation purposes. Consequently, the pilot failed to collect a year's worth of clean baseline data prior to the start of the "experimental" period of the project. It will therefore need, to some degree, to estimate missing elements of the baseline using alternative statistical methods. Otherwise, the estimates of the pilot's impact will understate its true impact to the extent that changes in things such as inpatient admissions policies and average lengths of stay began to occur quickly -- which seems to have been the case. Related work could explore how to maximize the accuracy and credibility of measurements of these impacts and it could also identify what processes or data systems would be required to achieve this.

5.63 Managing Health Care Delivery. Processes for managing health care delivery within institutions in Vitebsk and for coordinating care across providers had not been fully decided by January, 2001. This implied the need to continue to develop suitable approaches to the tasks of:

- ◆ Managing relationships between the organization that holds and allocates health care funding (typically, the local government) and the various kinds of institutions providing health services;
- ◆ Managing the structure and organization of clinical health care services within the various kinds of institutions providing health services;
- ◆ Managing staffing and employment issues in those institutions;
- ◆ Managing the selection, procurement and management of materials, supplies and equipment required by the institutions;
- ◆ Managing professional, institutional, and business relationships with other organizations or individuals providing health care services;
- ◆ Managing other administrative functions;
- ◆ Organizing the introduction within the Vitebsk health care system of family medicine that would be provided by general practitioners and other health personnel and integrating this new approach to primary health care into the overall health care system within Vitebsk; and
- ◆ Identifying data that would be required to undertake the tasks above and that should be included in an integrated MIS for Vitebsk.

5.64 Information Systems. Further work remains to be done to design and implement an appropriate MIS model for Vitebsk, building on the considerable clinical and other databases already established using manual systems. The lack of available funding for modern information technology hampered this effort, just as it had hampered the tasks discussed above. The MIS model required will need to have open architecture, so that it will be capable of ongoing expansion and development. It will also need to integrate the data required to undertake all of the financial, management, and administrative functions mentioned in previous paragraphs as well as additional clinical, policy-oriented, and monitoring functions, namely:

- ◆ Recording all of the medical and treatment information for each patient in a single, consolidated record for the patient to which all authorized clinical providers and

administrators would have access on a "need-to-know" basis, subject to explicit privacy criteria and guidelines;

- ◆ Providing policy makers, administrators, and health services researchers with statistical tabulations, analyses, and data that are relevant to the formulation or review of policies, the efficient administration of health services, or the analysis of health system processes, costs, outcomes, and performance; and
- ◆ Monitoring, and permitting the evaluation, of both the effects of the pilot and the performance of the health system in Vitebsk.

5.65 Measuring and Evaluating Performance. Additional work would be desirable to review and refine proposed processes for monitoring the Vitebsk pilot and measuring its impact on: patterns of care; the mix of services provided overall and at different levels of care; the severity of illness of patients treated through different levels of care; the efficiency and effectiveness of resource use overall and at each level of care; the quality and appropriateness of care; health status and outcomes; costs; expenditures; incomes of providers; the level and mix of human and material inputs used; and other indicators of health system performance, including those within the Ministry of Health's current "final results" model of 25 quarterly indicators and 50 annual indicators. That same work could usefully extend to a review of current methods for monitoring and evaluating performance in the Belarusian health system more generally, including the final results model used by the MoH. It could consider whether additional, alternative or improved indicators should be developed or adopted as well as how this might best be done and what data systems might be required to accomplish that.

Strengthening Primary Health Care

5.66 Training GPs. In parallel with the Vitebsk initiatives, the Ministry of Health is seeking to build a more adequate network of primary health care providers, especially in rural areas. As one aspect of this, it has created an institute within the Belarusian Academy of Post Graduate Training and a program to retrain physicians (mainly pediatricians, internal medicine specialists, obstetrician/ gynecologists and surgeons) as family medicine specialists so that they could take on new roles as general practitioners within primary health care. This initiative is supported by WHO and intergovernmental programs of the Netherlands and the USA. Netherlands experts have advised on the content of the GP training program and have worked with Belarusian counterparts to develop clinical guidelines for a series of common conditions that GPs encounter in general practice.

5.67 The Ministry wants the course to summarize:

- ◆ International experience in organizing primary care (including its structure, financing, and interaction with other parts of the medical and social structures, as well as the sequencing of medical care);
- ◆ GP work organization (including individual and group practice, holding and managing of funds at the GP level, payment of PHC staff, equipment, interaction with other medical and social services, regional associations of GPs, licensing and certification of GP

practices, the application of clinical standards, and the evaluation of GPs' work performance);

- ◆ The organization of nurses' work in the system of GP practice; and
- ◆ The incorporation of prevention, social care, and support for healthy lifestyles into the primary care system.

5.68 **Other Options.** An additional option that the Ministry could consider is to develop and implement a new training program for general practice managers. The program could train a new cadre of experts in the skills needed to provide administrative and managerial support for primary health care doctors running individual or group practices. This would allow physicians to practice medicine, not manage businesses.

5.69 Within the primary health care (PHC) subsector, reforms could enhance coordination of care at the patient level, increase integration of care with community-based services, and focus more on early intervention and ambulatory disease management. PHC pilots could establish group practices of differing size and composition, supported by appropriate technology. These group practices could have medical and financial responsibility for managing an expanded set of services, potentially including referrals, diagnostic and lab services, prescriptions, case (disease) management and later on, for some large group practices, discretionary hospital care. They could be paid through capitation arrangements that are modified to reflect (and reward) the greater responsibilities. Options could be developed about risk and the use of any savings achieved. Together, these changes could create new incentives and opportunities for better care and more effective use of resources (see Annex 1B).

Strengthening Economic Skills for Policy Making, Health Financing, and Health System Management

5.70 To augment existing courses on the administration of health care and health financing under the present health system, the Ministry of Health is also planning the development of one or more new training programs that would teach Ministry staff, health-sector personnel, and other relevant individuals about (i) health financing, (ii) managing health systems, services, and institutions, and (iii) policy-making related to both areas. The courses are expected to cover principles, trade-offs among objectives, problems, issues, the relative merits of alternative approaches to health financing and of alternative management techniques, instructive examples of approaches followed in other countries, and the practical application of the general conceptual models in health financing and the alternative management techniques to current Belarusian circumstances and, in particular, to solving related issues in the Vitebsk pilot.

5.71 Other complementary initiatives to build institutional capacity for the analysis of health financing, policy and management could include: support for a variety of forms of short-term training; scholarships for study abroad; and establishing "twinning arrangements" between Belarusian health or medical education institutions and partner institutions abroad that would foster the sharing and enhancement of professional and administrative skills through staff exchanges and other forms of professional collaboration.

Developing New Management Information Systems.

5.72 **Rationale.** Better management of information will be a key to success in moving to a more effective health system. The carefully planned acquisition and deployment of modern information technology will be an essential element if this process is to exploit its full potential. In many cases, the challenge is to build on information that the health system already collects. For example, more strategic use of data on secondary diagnosis (complications and comorbidities), which many providers already collect and store on paper records, is central to a number of reforms related to quality and efficiency.

5.73 More generally, however, new management information systems (MIS) that could integrate clinical, financial, managerial, administrative, and policy-oriented data could give providers more powerful tools for managing care cost-effectively and improving its quality. They could give policy makers organized information for evaluating the health system's performance and designing further improvements. MIS systems of these kinds could be developed by building on work being initiated for the Vitebsk pilot.

5.74 In other countries, MIS systems have been developed that include modules for: information on health statistics; preventive health care services; curative services; equipment; budgeting and budget control; accounting; costing and pricing; personnel records and assignment; preparation of payroll, salary, and benefits; procurement; transportation; and pharmacy and pharmaceutical products; and control over access to data. This list is not exhaustive.

5.75 **Process of MIS Development.** The process of developing a new national health information system will inevitably begin with efforts to address the operational MIS requirements of the Vitebsk pilot. However, this should be linked from the outset, both conceptually and in implementation, with analytic and planning work for the national healthcare information system. The second step will be testing the designs through the Vitebsk pilot. This step could include operationalizing the plans and design for the pilot region, upgrading the hospital information system and the primary care information system, and setting up a wide-area information technology network that connects the local providers, the local government, and MoH. The third step will be to monitor and later evaluate MIS experience during the operation of the pilot regional system. Depending on the overall design adopted for the national information system, the fourth step is likely to be to establish a national center or clearing house for data as the central nervous system of the national MIS. The fifth step would then be to create peripheral connections in other care-providing or regulatory institutions and to link them into the national MIS system. This last step would probably be phased over time, both because of resource constraints and to match the gradual geographic extension of the new approaches to health care delivery, financing, and management. The whole process would take several years and significant investments in information technology.

5.76 **Related Issues.** As the Belarus health sector transforms itself into a more efficient and performance-based sector, it will need to address a number of issues related to development and coordination of data and information flows if it is to achieve an adequate national health information system. These issues include:

- ◆ an updated and improved hospital and outpatient data system that provides a richer depth of clinical information on individual patient encounters, some routine administrative data, and much-improved cost data;
- ◆ an improved public health data system that moves away from inputs and toward outcomes;
- ◆ agreement upon a national minimum data set that covers all settings and regions, as well as implementation of this data set;
- ◆ unique patient and provider identifiers;
- ◆ national communication standards;
- ◆ an agreed structure for data transmission utilizing national information standards;
- ◆ an agreed strategy for storing and retrieving information from central data repositories; and
- ◆ a coordination mechanism for sending and sharing information among MoH, providers and settings (public and private), and local governments (if they play a fund-holding role) as patients move through an episode of care.

5.77 Other Options. Information systems could be strengthened in four additional ways.

- ◆ Measures to quantify severity of illness could be developed using patient-level data on secondary diagnoses and co-morbidities, which many providers already collect. Severity measures are a prerequisite for two other steps in restructuring: (i) adjusting provider payments for “case-mix” (average severity), as in the method of “clinical statistical groups” with which Belarus has already experimented; and (ii) categorizing inpatient facilities partly according to case-mix among their patients. Categorization, in turn, is a prerequisite for developing systems to accredit facilities and groups providing health care.
- ◆ A national inventory of all hospital facilities could be established. It could record physical plant features, major capital equipment, diagnostic services and capabilities, clinical services, human resources, management information systems, information on patient encounters, patient characteristics, and annual activity profiles. When compared with estimates of facility requirements derived from existing data on the incidence of disease, the inventory could make possible the development of options for reorganizing facilities and their use.
- ◆ To explore the effectiveness of current care patterns (such as how well they avoid uncontrolled diabetes or hypertension), new measures of health outcomes and processes could be constructed and analyzed.
- ◆ Much-improved information is needed about levels and trends in the costs of clinical and administrative processes within the health system. This information is fundamental to the analysis of the efficiency and effectiveness of resource use within the system, including any analyses that require information on the relative costs of

alternative approaches to care. A prototype cost-accounting system could be developed that shows how current expenditures and levels of capacity relate to the cost of treating patients. It should be possible to introduce these cost accounting procedures using simple computer or paper-based calculations.

5G DEVELOPING SYSTEMS TO ENHANCE QUALITY AND EFFICIENCY

5.78 Options for Improving Quality. Chapter 4 outlined problems with the current quality of care. Nevertheless, the quality of medical care in Belarus, overall, could be significantly improved. Clinical methods frequently do not reflect international best practice, as in the case of the traditional approach to TB. Abortion is the dominant method of family planning and abortion rates are among the highest in the world. Clinical protocols and some guidelines for care have been developed and published for the country. However, they warrant further review to improve their consistency with evidence-based approaches to medicine and to assess how well providers are trained in their use, the degree of compliance with protocols by health professionals, and the extent to which needed equipment and medical consumables are available. Protocols could be reviewed first for a relatively small number of diagnoses that are the most common, or the principal generators of health-sector costs, or that involve management of high levels of patient risk. Ideally, clinical protocols would incorporate pharmaceutical protocols.

5.79 Several other approaches to pursuing improved quality of care are available. They include: making health care more efficient; promoting professional management of health-care facilities; developing management information systems to track provider performance (including relative to protocols); establishing twinning arrangements between local and international health institutions; minimizing pharmaceutical errors from production through consumption; and improving medical education systems, including those for continuing professional education of providers. Allowing a greater role for consumer choice by patients in selecting their care-givers could also be expected to stimulate improved quality and to help achieve more effective use of resources.

5.80 To be sustainable, effective use of facilities and new approaches to care must be based on clear professional standards and relevant evidence. Accordingly, Belarus could also develop new systems for quality assurance, categorization of facilities and services, and formal accreditation of facilities and providers. The initial categorization of facilities could be based on data from a national inventory of facilities (paragraph 5.76) and on preliminary comparisons across facilities of patients' severity-of-illness. The new process of accreditation could flow from the initial categorization of facilities, the development of clinical protocols (starting with the most common or expensive diagnoses), and subsequent development of formal standards for facilities and guidelines for care that could be derived from the clinical protocols.

5H DEVELOPING A STRATEGY FOR SECTORAL RESTRUCTURING AND DEVELOPMENT

5.81 Yet another facet of restructuring will involve extending and adapting the approaches and lessons from the Vitebsk pilot to the rest of the country. It is envisaged that this process will be embedded within a broader process that involves: (i) evaluating the pilot; (ii) developing the key elements of a medium-term restructuring program for the health sector through a range of activities that are consistent with overall sectoral goals and objectives and that build on, but go beyond, the lessons and experience of the Vitebsk pilot; and (iii) synthesizing the results of work undertaken through those activities into a phased and sequenced 5-year program for further restructuring of the Belarusian health sector. The last step would include the gradual extension to other parts of the country of approaches piloted in Vitebsk (with suitable modifications to reflect experience there and lessons learned). The overall restructuring program would be organized into sub-programs consisting of discrete but coordinated activities. Priorities among those activities would be established.

5I HOLDING PROVIDERS AND MANAGERS ACCOUNTABLE FOR PERFORMANCE

5.82 An important issue that the MoH is already addressing concerns the inflexible, input-oriented systems of resource management, expenditure control, and performance assessment that Belarus inherited. This issue - input management - can also be interpreted as finding improved ways to balance financial flexibility with accountability in governance. At a general level, the implied action agenda for policy-makers is to develop new approaches to accountability. These should allow institutions more flexibility in resource use, but simultaneously use budget practices that link budget allocations to past performance outcomes. In this way, institutions can be made accountable for using resources effectively to promote good health and educational outcomes. In practice, this will entail:

- ◆ Relaxing restrictions that prevent managers of health facilities from shifting funds between line items in their budgets;
- ◆ Developing suitable measures of good performance and outcomes for hospitals and other facilities; and
- ◆ Developing an accountability system that uses these measures to evaluate performance by looking at performance and outcomes achieved, not inputs used.

To achieve the desired relaxation of restrictions imposed through the current policy of line-item budgeting, policy-makers are currently experimenting within the Vitebsk pilot with increasing autonomy and giving managers and service providers full, or at least greater, control over the use of resources and the organization of service delivery.

5.83 The Vitebsk reforms can be compared in some respects with attempts that have been introduced in other countries to improve the performance of publicly run health services. One recent review of these examined approaches that use changes in the organizational arrangements under which publicly provided health services are delivered as a way to improve the incentives for efficient performance. The review sees this approach as a valuable complement to other approaches that focus on changes in management practices, funding arrangements, and payment

arrangements for providers. Box 4 reproduces brief extracts from this study that outline two such kinds of organizational change.

Box 4. Alternatives for Improving Performance of Publicly Run Health Services*

“With increasing frequency, autonomization and corporatization are being considered and applied to improve performance of publicly run health services, similar to recent innovations in organizational reform elsewhere in the public sector....

“Autonomized Organizations. Dissatisfaction with budgetary organizations’ weak performance has led to various approaches to reform. Many of the most serious efficiency and quality problems have been tracked to management’s pervasive lack of control over resources (especially labor) and production (service delivery). Autonomization focuses on “making managers manage”—by shifting much of the day-to-day decisionmaking control from the hierarchy to management.

“Increased scope for generating revenue tied to service delivery often accompanies these changes. This may be achieved by moving toward funding via performance-related payments, by allowing paying patients to be served, or by allowing copayments to be charged. Only if revenue can be retained do additional revenue opportunities motivate. Therefore, autonomization reforms increase an organization’s scope for retaining revenue. Often, this is partially achieved by moving from a line-item to a global budget, whereby savings in one service or budget area can be shifted to another. In this sense, the hospital or clinic becomes a partial residual claimant on certain savings from cost cutting or other improvements.

“Accountability arrangements still generally come from hierarchical supervision but with more clearly specified and narrowed objectives focused on economic and financial performance. An agreement between the government and hospital management may specify monitorable performance targets and responsibilities for performing social functions. A board may be created to exercise supervisory control, thus mimicking private sector governance structures....

“Corporatized Organizations. Corporatization reforms have evolved, based on efforts to mimic the structure and efficiency of private corporations while assuring continued emphasis on social objectives through public ownership.

“Under corporatization, provisions for managerial autonomy are stronger than under autonomization, giving managers virtually complete control over all inputs and issues related to service delivery. The organization is often legally established as an independent entity, making the transfer of control more durable than under autonomization. A corporatized entity’s status includes a hard budget constraint or financial “bottom-line”—which makes the organization fully accountable for its financial performance. In case of insolvency, liquidation is at least theoretically possible. Management’s greater latitude is complemented by market pressures as an important source of incentives, crucially including some element of competition or contestability.”

* From April Harding and Alexander S. Preker (eds). *Innovations in Health Service Delivery: Corporatization in the Hospital Sector*. World Bank (forthcoming) pp. 1, 15-16

Annex 1 TECHNICAL ISSUES IN PAYING HOSPITALS AND GENERAL PRACTITIONERS *

A1.1 This annex addresses technical issues involved in the design of payment systems for hospitals and for general practitioners.

1A. CONSTRUCTING AND USING DRGs WITHIN HOSPITAL PAYMENT REFORM

A1.2 The focal point of Belarus's health system is the hospital. Payment methodologies for hospitals and other providers can have incentive effects that significantly affect the amount and type of services provided, as well as the total cost of the health care system. They can also provide incentives for new styles of medical practice and new market structures. However, the existing payment system in Belarus has few incentives for efficient management of hospital resources.

A1.3 Retrospective or Prospective Payment. Payment systems are intended to allocate scarce resources to their best use within the health system. Some systems pay separately for each individual service on a retrospective basis--in other words, after the service is rendered. Retrospective payment systems typically try to estimate the costs actually incurred in providing care to the patient concerned and they then relate payment to these. Such systems often create an incentive for providers to do more than is necessary so as to increase the payments they receive. The alternative is to make a single prospectively-determined payment for an efficient set of services necessary to treat a particular diagnosis. Prospective payment relies on the fact that necessary services are reasonably predictable. (For example, a patient needing surgery to remove a nonmalignant tumor might receive an overnight stay in the hospital, sutures, dressings, and antibiotics as integral parts of the treatment.) "Bundling" services into a single comprehensive payment discourages the provision of additional unnecessary services, since they would not increase the payment.

A1.4 "Case-Mix Adjustments. The use of a system that adjusts payments to hospitals for "case-mix" (the average severity of illness of the patients treated) could improve incentives for efficient resource allocation and provide information to improve the management of hospitals. Case-mix systems have been developed to classify patients according to the resource costs of their treatment. Diagnosis-related groups (DRGs) are perhaps the most widely-known case-mix system. They are the basis for prospective payment of hospital care in the U.S. Medicare program, are also used in Portugal and Brazil, and are used to adjust global budgets in the UK, Germany and Denmark. Other systems have been developed for application to the outpatient setting as well.

* This Annex adapts unpublished material prepared by Joseph Antos in another context

A1.5 Diagnosis-Related Groups. DRGs could potentially provide Belarus with a rational basis for setting hospital budgets. Because a full DRG system could be difficult and time-consuming to develop, however, initial efforts could focus on a small number of DRGs that account for the greatest number of hospital admissions, or a simplified system of 20-30 categories by department.

A1.6 Case-mix systems like DRGs depend on the complete and consistent coding of patient-level information from the medical record, but it is relatively simple to do this, usually requiring 10-20 data items per discharge. For that reason, such systems can be used for both the equitable budgeting of funds across institutions and to improve hospital management. DRGs can be used to assess and improve the efficiency of hospital operations and they can be an important tool in assuring the quality of hospital services.

A1.7 Thus, the combination of clinical and financial data within a DRG framework could be very valuable to the Ministry of Health for planning and overall resource management of the hospital system. That information could also be used by the hospital director to manage resources more effectively and identify specific areas of operation that need improvement.

A1.8 DRGs and Global Payment Limits. DRGs may be used either in the context of an unconstrained per admission payment system or a system subject to global payment limits for each level of care within a region. Both approaches could allocate resources to hospitals in a more coherent way than the approach currently used in Belarus. Use of DRGs in a setting where the rate per admission is unconstrained, however, could lead to substantial increases in payments to hospitals that might not be affordable. Indeed, annual payment adjustments to reflect higher operating costs for hospitals paid by the U.S. Medicare program are, in many years, lowered through legislation to keep federal costs under control.

A1.9 Global budgets do not automatically eliminate the incentives for inefficiency but they do control costs. Hospitals would have an incentive to provide services more efficiently and perhaps to patients with complex conditions, if they knew that the allocation of the country or region's total budget for hospitals depends on the relative level of hospital performance. Similarly, physicians could have an incentive to treat patients rather than to pass them upward in the health system if their salaries depend on their performance. Properly administered global budgets that use data from the DRG system to judge hospital and physician performance can provide a strong incentive for efficient delivery of high-quality care.

A1.10 Data Needs and System Development. DRGs, as well as other case-mix systems, require certain detailed information for each patient. Specific data elements for DRGs include the principal diagnosis at the time the patient is admitted and then discharged; up to 8 secondary diagnoses; up to 6 procedures performed during the hospital stay; and the age, gender, and discharge status of the patient. In the DRG system, diagnosis and procedure information is reported by the hospital using the *International Classification of Diseases, 10th Edition (ICD-10)*. Cases are classified to only one DRG, regardless of the number of conditions treated or services provided. Payments based on DRGs represent the average cost of treating cases having similar clinical patterns and costs. So cost information is needed along with clinical information. Additional investigation might be necessary to determine whether Belarus already has available the cost data needed for different kinds of cases.

A1.11 Developing a functioning payment system based on DRGs depends on having a baseline data set that includes all the necessary clinical and financial data. That baseline data set must provide enough information to accurately characterize the hospital system — at least 6 months of data, and preferably more.

A1.12 Developing a complete DRG system would be a time-consuming process. The top 20 DRGs, accounting for perhaps 80 to 90 percent of admissions, could be sufficient for payment and management purposes. Even without secondary diagnosis data, it should be possible to identify the DRGs that account for the greatest number of hospital admissions and use of hospital resources. Perhaps 2 or 3 of the most significant DRGs could be the focal point for initial development of a DRG system. That would reduce the risk of undertaking a very large project before there is a good understanding of the technical issues that may arise.

A1.13 Decisions would also be needed regarding payments for hospital services that would not be paid according to DRGs. Those services might only account for 10 to 20 percent of hospital costs, but it would be necessary to have a method for paying for them.

A1.14 Any new DRG-based system should first be tested by simulating DRG-based payments so that errors in the payment system can be identified and corrected. Actual implementation of the new payment system might be phased to give hospitals a chance to adjust to the change.

A1.15 Other major policy changes would be needed if a DRG-based payment system is to effectively promote efficient use of resources and a higher standard of care. In particular, hospital managers need the flexibility and tools to actively manage all of their resources, including their labor force. Unless individual physicians are given financial incentives for good performance, the payment reform is likely to have disappointing results. Those incentives do not automatically lead to an uncontrolled surge of spending if global budgets are used.

1B. OPTIONS FOR ORGANIZATION, PAYMENT AND INCENTIVES FOR PRIMARY HEALTH CARE BY GENERAL PRACTITIONERS

A1.16 One central objective of health system reform is to increase the effectiveness of health services by moving from an over-reliance on curative and secondary clinical care to primary and preventive care. MOH has expressed strong interest in information about alternative models for organizing and paying for primary health care services provided by general practitioners (GPs). Although MoH envisages that, initially, GPs will engage in family medicine mainly in rural areas with lower population densities, it is also interested in how family medicine could evolve over time to play a more central, fundamental role within the primary health care system. Accordingly, it has requested information about alternative options for the organization and funding of general practice and about their advantages and disadvantages. The adoption of a model of general practice funded through capitation payments for at least some primary health care (PHC), with its implicit shift to self-employment for primary care physicians who work as GPs, is intended to create incentives for more efficient and effective care.

A1.17 Primary care physicians working as GPs are usually paid on a capitated basis, which means a fixed payment each month for each patient who selects the GP as the provider of all primary health care for the coming year. A patient is free to enroll with a different physician if (s)he is dissatisfied, although usually such changes are limited to a re-enrollment period, which typically is offered annually. GPs can increase their incomes by attracting additional patients to enroll with them. Typically, a case load of around 2000-2200 patients is viewed as providing the appropriate balance between an adequate work load and sufficient time to provide quality care to those requiring it. Because many patients within a practice will use little or no care during any given year, capitation arrangements typically function like an insurance premium. They generate enough income for the GP to cover the costs of providing care to the particular subset of individuals in the practice who are sick during any single year. GPs who are more (or less) efficient than average at providing care, or who have larger (or smaller) practices than average can expect to have higher (or lower) net incomes than average as a result. Furthermore, the average level of illness among a GP's enrolled patients will also affect the total costs of providing care to them and will thus affect the GP's net income as well.

A1.18 International experience with GP arrangements displays many variations. The basic model is for an individual GP to work as a private doctor running a solo practice. This was the traditional model in the United Kingdom, for example. Alternatively, where legally permitted, some GPs form groups and the capitation payments are made to the group rather than the individual GP. Also, in Croatia, during a transition process to the solo practice model, some primary care physicians were employees of health centers, which received the capitation payment and paid the physician a salary. Other primary care models that might be considered according to geographic areas could include:

- Rural Practice: One or two GPs practicing in a finite (isolated) geographic area, who may be sharing working space, support staff, on-call responsibilities, and patient records;
- Group Medical Practice: At least three GPs in a rural setting, and at least four GPs in an urban setting, who may be sharing working space, support staff, on-call responsibilities, patient records, and responsibility for the health of the population served; and
- Multidisciplinary Team Practice: GPs and other health care professionals working in a coordinated team environment. At least one non-primary care specialist would be included; and at least two non-physician professionals would be employed within the group. The list of these providers include nurses, midwives, physical therapists, occupational therapists, pharmacists, and other allied workers.

A1.19 The capitation payment level can be uniform across all patients, but more commonly varies with the age and/or gender of the patient to roughly account for differences in the typical use of services. Some countries have higher rates for GPs working in rural areas with lower population densities, where travel times can be higher for the GP and fewer patients can be seen in a day. Others differentiate certain kinds of preventive services, such as vaccination or active management that avoids acute flare-ups of potentially serious conditions like diabetes and hypertension, and pay an additional amount for provision of these forms of care.

A1.20 GPs in private practice typically rent office space, or may work from their home. They require access to adequate diagnostic and laboratory facilities. Primary care physicians generate significant costs for the health system by prescribing drugs and referring patients for specialist or hospital care. Consequently, in some countries, the health financing body may impose limits on the average number of prescriptions and referrals per patient for the physician's practice or may introduce financial penalties for exceeding threshold levels. Typically, patients enroll with a primary care physician once a year.

A1.21 In some circumstances, allowing additional options for organizing the delivery and financing of care can strengthen the primary health care (PHC) system. General practice fund-holding and some types of group practice can shift part of the responsibility for managing health resources from the hospital and specialist to the primary care physician. Properly designed, such innovations could reverse the bias of the current system, based on salaried PHC doctors, toward the most expensive forms of health care.

Creating Incentives for Efficiency

A1.22 It is clear that primary care physicians are likely to err on the side of over-prescribing and over-referring. Patients demand such services even when the appropriate treatment could be handled by the primary care physician. A physician who refers patients to higher levels of care reduces his work load with no financial penalty. Structural changes are needed to correct this situation. Primary care physicians should have a financial incentive to provide treatment in the most cost-effective way possible, not just for the care they provide directly to the patient but also for care provided as a result of referrals to specialists and hospitals.

A1.23 Two approaches that could be instituted in the medium term to give physicians new opportunities to manage health resources better are group practices and GP fund-holding. A much more ambitious option is the prepaid comprehensive health care organization, which integrates, into one business structure, patient care at all levels from the general practitioner to the hospital. Such organizations can be viewed as large group practices that act as fund-holders for all health-care services.

Group Practice

A1.24 Group practice brings together the clinical and financial interests of a number of physicians who provide primary care and perhaps more specialized services to their patients. Existing health centers could develop into true group practices with changes in payment methods and wider authority to manage their resources.

A1.25 Group practice has a number of clear advantages over solo practice.

- ◆ Group practices can develop more effective ways of managing patient care by taking advantage of the differing clinical interests and expertise of physicians in the group. More effective care management can mean better quality care and lower costs, and could attract more people to enroll with the group.

- ◆ Group practice reduces the financial risks faced by solo practitioners, who could experience income losses under the solo-practice capitation arrangement if some of their patients need much more care than usual in some year. Moreover, physicians could pool their resources to finance expansions in the services that they can offer.
- ◆ Group practices can reduce their administrative costs by sharing support services (such as managing appointments and billing). Depending on other changes in the health system, large groups may also be able to negotiate lower prices for services for which they contract through other providers.

A1.26 Important issues must be faced in creating effective group practices.

- ◆ Payment. Capitation payments should be made to the group rather than to individual physicians. Physicians should be paid by the group on the basis of their performance, rewarding conservative practice styles and good patient outcomes. Information on patient case mix (average severity of illness) is necessary to assure that physicians with more difficult patients are not inappropriately penalized when they use more medical services than physicians with more routine caseloads.
- ◆ Staff and services. The group practice needs autonomy in deciding how to organize its staff and the services offered by the group. Physicians should participate in the group on a voluntary basis for fixed periods of time, perhaps on the basis of an annual contract with the group. The group should also have the right to reject a physician's application for membership in the group, or to terminate its contract with a physician based on objective staffing requirements and performance records. To be efficient, group practices should also have the right to hire the nursing and support staff they need without regard to political pressures to maintain high levels of employment.
- ◆ Management tools. Increased management capability is needed to exploit fully the potential of group practice for efficient use of resources. In addition to information on the case mix of patients, information is also needed that tracks the medical services provided to each patient, the cost of those services, and the outcome of the patient. Training in management information and management techniques should also be made available to clinic directors.
- ◆ Competition. If there is only one group practice that includes all of the primary care physicians in an area, that practice is unlikely to feel much pressure to find treatment efficiencies or to innovate in other ways. All of the patients in that area would have no choice but to enroll with the group practice. With patients unable to move to another primary care provider, the group could simply act as it had before the advent of group practice. Group practice would be most effective in cities large enough to support at least 2 groups who would compete for patients.

A1.27 Group practice alone is not sufficient to improve the efficiency of the health system as a whole. Group practices, as described here, would have incentives to provide primary care services as cheaply as possible. Groups might accomplish that through more efficient use of

resources. But without additional changes in the financial system, groups would continue to have the incentive to refer patients for specialist and hospital care – in essence, moving some of the necessary patient care outside the group, but retaining the entire capitation payment.

Fund-holding

A1.28 GP fund-holding could reverse the incentive primary care physicians now have to shift the responsibility for care to others. GP fund-holders are primary care physicians whose capitation rates would be raised so as to cover the budget for their referrals to specialist physicians and possibly other services. By controlling the payment for specialists, fund-holders have an incentive to limit their referrals and to directly provide as much of a patient's care as they can. Any savings caused by lower use of services than provided for in the augmented capitation rate could be retained by the fund-holder.

A1.29 Fund-holding offers other significant advantages. It provides a good base for disease prevention and health promotion, since those activities can financially benefit the fund-holder in the long term. Placing the control of financing in the hands of primary care physicians could begin to erode the current system's bias toward specialist care, and it places the management of the patient in the hands of those physicians most likely to pursue a conservative clinical course. Primary care physicians would also have greater incentives to perform minor operations, specialty procedures, and tests whenever practical, which would reduce health system costs given the high overhead of specialist and hospital care.

A1.30 This innovation would make the outpatient specialist system more responsive to the primary health-care system and would give the primary care physician greater capacity to manage the overall care of their patients. But it would also expose physicians to new financial risks. An important principle is to pass along enough risk to motivate fund-holders to manage their patients, but not so much risk that they can make or lose large sums. But the system must allow the most capable physicians to prosper, and the least capable physicians to fail.

A1.31 Financial risk can be controlled through the design of the fund-holding system. One important factor is minimum practice size. Other things being equal, a physician practice with a larger number of patients is more capable of accepting financial risk than one with fewer patients. Physicians with a modest number of patients would be poor candidates for fund-holding, since a single very ill patient could require much more specialist care than expected. Physician group practices would be less likely to encounter financial problems due to unexpectedly high use of services by some patients. The United Kingdom, for example, limits GP fund-holding to larger practices. When it introduced the innovation in 1990, it required a minimum of 11,000 registered patients. That limit has declined over time as more familiarity was gained with the system, but the minimum remains at about 5,000 patients per practice.

A1.32 Altering the incentive structure for individual physicians is as important as doing so for group practices, however. Fund-holding could be offered to individual physicians with the proper design elements. In particular, the risk-sharing methods discussed below would be necessary to assure the stability of the primary care system.

- ◆ Payment rates. The capitation rate would be increased to reflect the costs of specialist care that might be required by the average patient. The current method of adjusting payments by the age of the patient may be inadequate for fund-holding. Case-mix adjustment, reflecting more specifically the medical needs of a physician's patients and the costs of meeting those needs, should be developed. More accurate capitation payments would also reduce the incentive under fund-holding to avoid patients who are more likely to need expensive specialist care.
- ◆ Scope of services. There is a trade-off between the scope of services covered under a fund-holder arrangement and the degree of financial risk. Defining the services more broadly increases the risk to the fund-holder – but it also increases the effectiveness with which the overall costs of patient care can be controlled. If, for example, fund-holders were responsible only for specialist services but not prescription drugs or hospital care, there would be a financial incentive to over-prescribe or to refer patients to the hospital. Limits on the use of services not covered by fund-holding might be necessary to avoid abuses.
- ◆ Risk-sharing arrangements. Special risk-sharing arrangements are essential if individual physicians are to be offered fund-holder status. Even with a minimum practice size, precise calculation of average payment rates, and other measures to reduce financial risk, other methods of spreading the financial risk would be useful. But risk-sharing arrangements should not attempt to eliminate every financial risk faced by fund-holders, lest the elimination of risk also eliminates the incentive to manage care.
- ◆ Reinsurance. Fund-holders might be required to contribute to a reinsurance pool, for example, which could compensate those practices that experience exceptionally high losses. Alternatively, the health financing body might develop an outlier payment that would be made when losses on either an individual case or for the practice as a whole exceeded some threshold. Another possibility might be to exclude certain kinds of high-cost conditions from the fund-holder's capitation and pay for necessary services on a fee-for-service basis. That approach, called "carving out," can be effective if a case manager (either a physician or a specially-trained nurse) is brought in to manage the treatment plan for high-cost cases.

A1.33 In addition to financial risks, there are other important issues to consider. Those issues include the following.

- ◆ Information requirements. Although capitation payments for fund-holders would be fixed regardless of the actual use of services, information on both diagnoses and treatments collected at the patient level would be needed to manage the system and set payment rates in subsequent years.
- ◆ Quality assurance. Oversight of patient care is critical in a fund-holder system, in which the financial incentive is to reduce care. Quality assurance activities should be geared to identifying when patients receive inadequate care, or are not referred to specialist care

when necessary. The physician's conflict of interest might be reduced if a significant portion of any net gain realized from controlling practice costs had to be reinvested in the practice.

- ◆ Contracting for specialist services. New forms of business relationships would develop between fund-holders and specialists. Fund-holders would be in a position to direct their patients to particular specialists in exchange for discounts in payment rates that might be negotiated. Large fund-holding group practices might consider including some specialists as part of their group, which could give the group more direct control over specialist costs.
- ◆ Managerial expertise. Fund-holders must be able to manage both their clinical practices and their businesses. The development of management courses and other assistance for fund-holders would be useful.

A1.34 In the medium term, a fund-holder system has the potential to alter significantly the adverse incentives currently plaguing the Belarus health system. The current allocation of funds to primary care physicians, specialists, and hospitals and the lack of financial accountability combine to encourage overuse of services, especially hospital services. Fund-holding is based on the principle that money should follow the patient. Rather than pushing the patient up to the next higher level of care, fund-holders would be rewarded for providing care at the lowest feasible level in the system.

A1.35 The broadest application of fund-holding is a prepaid comprehensive care-providing organization, which receives a fixed payment to provide all of the health services needed by a patient. With artificial payment barriers between different levels of care removed, such an organization has the potential to provide high quality care more efficiently than a fund-holder system that does not include hospital care in the capitated payment. Successful development of group practice and fund-holding are necessary steps in the development of the more comprehensive model.

A1.36 Conclusion. Additional options for reforms are available in the medium term to meet the objective of strengthening the primary health-care system. Those reforms could proceed in two phases, starting with the development of group practice and building toward business structures that incorporate the principles of fund-holding.

Annex 2 DATA ON THE BELARUSIAN HEALTH SYSTEM

A2.1 This annex reports, in tabular form:

- (i) Information on the structure of the “final results” model used by the Ministry of Health for evaluating the performance of medical institutions within Belarus; and
- (ii) Analyses of tabulations from the Household Income and Expenditure Survey, as discussed in paragraphs 4.31 – 4.36 of Chapter 4.

Annex 2A
"Final Results" Model for Performance of Medical Institutions
in the Administrative Territories of the Republic of Belarus in 2000

Indicators	Measuring unit	Standard	Evaluation in points		
			Weight of the standard	Deviation	
				+	Measuring unit
				or -	
1	2	3	4	5	6
HEALTH INDICATORS					
1. Total mortality standardized (by age) index (with European population standard taken as the standard)	Cases per 1,000 persons	12.5	3	-	0.5
2. Infant mortality (excluding babies of 500-999 grams)	Cases per 1,000 born alive	11.3	8	-	0.5
3. Perinatal mortality (excluding babies of 500-999 grams)	Cases per 1,000 born alive and dead	8.0	8	-	0.4
4. Temporary invalidity (Social protection fund data)	Working days per 100 workers	845.0	2	-	0.01
5. Temporary invalidity (16-TI format data)	Cases per 100 workers	88.3	2	-	0.01
6. Temporary invalidity average duration per case (16-TI format data)	Days	10.2	2	-	0.01
7. Temporary invalidity in public health bodies and institutions	Calendar days per 100 workers	790.0	3	-	0.01
8. Acute gastric/intestinal prevalence	First- diagnosed cases per 100,000 persons	200.0	2	-	0.02
9. Active TB prevalence	First- diagnosed cases per 100,000 persons	50.0	3	-	0.05
10. Chronic alcoholism and alcoholic psychosis prevalence	First- diagnosed cases per 100,000 persons	190.0	2	-	0.02
11. Syphilis prevalence	First- diagnosed cases per 100,000 persons	120.0	2	-	0.02
12. Gonorrhoea prevalence	First- diagnosed cases per 100,000 persons	100.0	2	-	0.02
13. Primary invalidity while of working age	Cases per 10,000 labor active persons	44.5	8	-	0.02
14. Primary invalidity at up to 18 years of age	Cases per 10,000 persons aged 0-17	16.8	4	-	0.2
15. Readiness for military service	Cases per 100 conscripts	75.0	8	+	0.2

PERFORMANCE INDICATORS					
1. Return to labor of working-age persons after myocard heart attack	% to total heart attacks in labor active age	77.0	5	+	0.05
2. Prevention examination of women (with cytological research)	Cases per 100 women subject for examination	95.0	3	+	0.05
3. Abortions (including vacuum regulations)	Cases per 100 women of fertile age	50.0	3	-	0.02
4. Morphological confirmation of new malicious generations	Cases per 100 first-detected diseases	85.0	6	+	0.1
5. Periodical examination of patients registered with the state register	Cases per 100 subject for examination	98.0	3	+	0.05
6. Teenagers' prevention examination coverage	Cases per 100 subject for examination	99.8	3	+	0.2
7. Disabled and World War two combatants' professional examination coverage	Cases per 100 subject for examination	99.9	3	+	0.2
8. Overall rehabilitation of the disabled	Cases per 100 of those with disability	4.7	5	+	0.1
9. Partial rehabilitation of the disabled	Cases per 100 of those with disability	12.0	5	+	0.1
10. Adults' immunization status indices	% of total adults subject to regular immunization	98.0	5	+	0.2
11. Children's immunization status indices	% of total children subject to regular immunization	98.8	5	+	0.2
12. TB examination (X-ray examination)	% of total population subject to regular examination	93.0	8	+	0.1
13. Daytime hospitals in medical institutions (% of beds in daytime hospitals)	% of total beds	15.0	4	+	0.25
14. % of out-patient clinics /polyclinic institutions with daytime hospitals	% of total institutions	35.0	3	+	0.05
15. Average length of inpatient stays	Days	12.0	6	+	0.1
16. % of doctors with qualification category	% of total with qualification category to total working doctors	48.0	5	+	0.1
17. % of medium-level medical workers with qualification category	% of total with qualification category to total employees	40.0	5	+	0.1
18. Total general practice out-patient clinics with necessary equipment and qualified doctors	Total general practice out-patient clinics per 100,000 persons	1	5	+	0.5

NEGATIVE INDICATORS					
1. Detection of patients with acute stages of oncological diseases	% of total detected patients	0	0	-	0.05
2. Detection of patients with TB acute stages	% of total detected patients	0	0	-	0.25
3. Detection of patients with acute stages of breast cancer	Cases per 100 first-detected	0	0	-	0.05
4. Maternal mortality	Cases	0	0	-	2.0
5. Post-surgical mortality from acute diseases of abdominal organs'	Cases per 100 undergone surgery	0	0	-	1.0
6. In-hospital mortality from acute myocard heart attack	Cases per 100 left patients with established diagnosis	0	0	-	0.1
7. Mortality from acute pneumonia (adults and teenagers)	Cases per 100 left patients with established diagnosis	0	0	-	0.5
8. Up-to-daily mortality of children under 1 in hospitals	% to total children under 1 who died in hospitals	0	0	-	0.1
9. Diphtheria prevalence	Cases per 100,000 persons	0	0	-	1.0
10. Inter-hospital infections	Cases	0	0	-	0.1
11. % of discrepancies (for main diseases) between pathological/ anatomic and clinical diagnoses	% of discrepancy cases per 100 post-mortem examinations	0	0	-	0.1
12. Occupational trauma among public health officers and employees	Cases per 100 workers	0	0	-	10.0
13. Lethal accidents among public health officers and employees	Cases	0	0	-	5.0
14. Justified complaints	Cases per 10,000 persons	0	0	-	10.0
15. Justified complaints and other defects considered by Treatment/Control Council of the Ministry of Health	Cases	0	0	-	5.0
16. Defects revealed during inspections of public health performance at administrative territories by superior bodies	Cases	0	0	-	5.0

Notes:

1. Total mortality standardized (by age) index is calculated for 1999.
2. Captured data have been used in summarizing annual results of the National review of provinces, City of Minsk and country districts as to higher quality and culture of medical services to the population.
3. Data for Points 12 and 13 of defects indices are provided by trade union bodies.
4. Administrative territories' public health performance reflected in Points 2-14 as to health indicators, Points 2,3 and 5 as to performance and points 1, 2, 8 and 14 as to defects has been analyzed quarterly while other indicators have been analyzed annually.

Source: Ministry of Health of the Republic of Belarus, Order No. 110, 5 May, 2000

Final Results of Medical Institutions Performance at Administrative Territories of the Republic of Belarus in 2000.

**Implementation Information
(in evaluation indicators)**

Indicators	Standard evaluation	Evaluation by Provinces (Oblast)						
		Brest obl.	Vitebsk obl.	Grodno obl.	Gomel obl.	Mogilev obl.	Minsk City	Minsk obl.
1	2	3	4	5	6	7	8	9
HEALTH INDICATORS								
1. Infant mortality (excluding babies of 500-999 grams)	8	8.95	7.43	9.15	8.15	8.30	10.30	9.75
2. Perinatal mortality (excluding babies of 500-999 grams)	8	7.92	8.56	8.80	7.88	9.08	7.68	8.72
4. Temporary invalidity (16-TI format data)	2	2.44	2.27	2.48	2.22	2.24	1.96	2.34
5. Temporary invalidity average duration per case (16-TI format data)	2	1.98	2.01	1.99	2.00	2.00	2.00	2.00
6. Temporary invalidity in public health bodies and institutions	3	5.12	5.75	6.28	5.28	5.29	3.88	6.19
7. . Acute gastric/intestinal prevalence	2	3.32	2.86	3.72	1.90	1.80	2.90	3.83
8. Active TB prevalence	3	3.78	3.68	4.03	3.18	3.35	3.91	3.92
9. Chronic alcoholism and alcoholic psychosis prevalence	2	3.31	2.73	2.18	3.24	2.91	2.48	3.50
10. Syphilis prevalence	2	3.10	2.80	3.33	2.49	2.50	3.01	2.58
11. Gonorrhoea prevalence	2	2.16	2.08	2.73	2.46	2.47	2.51	3.04
12. Primary invalidity & aged 18-64	8	10.36	10.25	10.52	8.94	10.08	10.72	11.25
PERFORMANCE INDICATORS								
1. Prevention examination of women (with cytological research)	3	2.20	1.86	1.90	1.90	1.74	1.92	1.90
2. Abortions (including vacuum	3	3.25	3.41	3.49	3.28	3.37	3.44	3.49

regulations)								
3. Periodical examination of patients registered with the state register	3	1.76	2.52	2.11	2.19	2.02	1.93	2.86
NEGATIVE INDICATORS								
1. Detection of patients with acute stages of oncological diseases	0	-0.94	-0.78	-0.68	-1.08	-0.94	-0.98	-0.92
2. Detection of patients with TB acute stages	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Up-to-daily mortality of children under 1 in hospitals	0	-1.43	-0.46	-0.51	-0.88	-0.78	-0.65	-0.51
4. Justified complaints	0	-0.27	-0.52	-0.51	-0.45	-1.60	-1.40	-1.30
TOTAL		61.67	61.89	66.69	67.46	58.75	60.73	67.87

Source: Ministry of Health, January 2001

Annex 2B Summary of Belarus Out of Pocket Health Spending, 1999 and 2000, from Household Survey Data

Percentage Distribution of Families Within Decile, by Spending Level (in Belarusian Roubles per Month)

	1999											Subtotal
	0	1-300	301-600	601-900	901-1200	1201-1500	1501-1800	1801-2100	2101-2400	2401-2700	> 2701	
Decile 1	20.8	58.2	11.8	4.6	2.7	0.6	0.6	0.2	0.2	0.2	0.2	100
Decile 2	10.2	59.2	15.5	9.1	2.8	1.0	0.8	0.4	0.6	0.4	0	100
Decile 3	9.1	52.2	18.4	9.3	4.4	1.9	1.1	1.5	0.6	0.7	0.9	100
Decile 4	6.9	48.4	26.1	7.3	2.5	2.8	1.1	2.4	1.4	0.6	0.4	100
Decile 5	6.7	45.6	21.3	13	4.5	2.9	2.2	0.7	1.0	0.7	1.3	100
Decile 6	8.1	44.3	23.8	9.8	5.0	2.4	1.5	1.4	1.0	1.0	1.7	100
Decile 7	8.7	40.7	20.0	11.1	7.3	3.6	2.5	1.4	1.1	0.5	3.3	100
Decile 8	8.0	37.2	22.2	12	7.6	4.9	1.9	1.4	0.7	1.4	2.6	100
Decile 9	7.5	31.8	22.1	12.5	8.1	5.4	3.3	2.3	1.9	2.2	2.8	100
Decile 10	7.4	25.6	20.9	13.3	10	4.3	5.0	2.0	2.6	1.5	7.4	100
All Families	9.3	44.3	20.2	10.2	5.5	3.0	2.0	1.4	1.1	0.9	2.1	100

	2000											Subtotal
	0	1 - 1000	1001 - 2000	2001 - 3000	3001 - 4000	4001 - 5000	5001 - 6000	6001 - 7000	7001 - 8000	8001 - 9000	9001 +	
Decile 1	14.6	63.6	15.3	3.7	1.6	0.4	0.2	0.2	0	0.5	0	100
Decile 2	14.4	56.4	16.3	7.5	3.2	0.4	0.8	0.4	0.4	0	0.2	100
Decile 3	9.9	58.0	14.3	8.1	4	2.1	1.3	1	0.6	0	0.6	100
Decile 4	10.4	49.5	20.4	11.9	4.4	1.6	0.5	0.2	0.7	0.2	0.2	100
Decile 5	6.3	52.1	16.8	11.9	4.9	3.2	2.2	0.6	0.7	0	1.2	100
Decile 6	7.6	48.4	21.7	9.8	5.2	3.6	1.1	0.7	0.2	0.5	1.3	100
Decile 7	6.7	42.6	23.8	10.1	7.3	3.6	2.0	1.6	0.6	0.8	0.7	100
Decile 8	8.9	40.5	22.1	9.4	6.9	4.1	3.2	2.1	0.2	0.6	2	100
Decile 9	8.9	36.2	21.1	10.0	8.8	4.0	3.1	1.1	1.0	0.7	4.9	100
Decile 10	7.1	29.2	17.9	15.4	5.6	5.3	2.9	2.1	1.6	1.7	11.1	100
All Families	9.5	47.7	19.0	9.8	5.2	2.8	1.7	1.0	0.6	0.5	2.2	100

Families' Average Spending (in Roubles), by Decile and Spending Level of Group

	1999											Subtotal
	0	1-300	301-600	601-900	901-1200	1201-1500	1501-1800	1801-2100	2101-2400	2401-2700	> 2701	
Decile 1	0	108.0	429.1	731.5	1012	1363	1635	1986	2230	2680	2863	15037
Decile 2	0	115.6	415.8	736.8	1010	1328	1622	1875	2242	2493	0	11837
Decile 3	0	132.3	428.8	752.4	1031	1343	1675	1955	2256	2589	2994	15157
Decile 4	0	132.9	435.7	717.8	995	1294	1615	1937	2300	2525	2770	14724
Decile 5	0	130.3	423.9	736.7	1023	1320	1623	1965	2316	2498	4255	16291
Decile 6	0	129.8	433.3	712.1	1008	1327	1622	1912	2207	2541	4153	16046
Decile 7	0	129.0	434.0	737.6	1043	1324	1632	1914	2306	2580	5024	17125
Decile 8	0	135.2	439.8	739.7	1059	1309	1652	1945	2189	2490	6066	18026
Decile 9	0	141.2	416.8	748.8	1055	1363	1607	1947	2223	2532	5767	17801
Decile 10	0	124.8	446.9	752.2	1044	1335	1643	2000	2248	2594	4898	17086
All Families	0	126.7	431.0	738.1	1036	1330	1632	1946	2255	2542	4934	16970

159129

	2000											Subtotal
	0	1 - 1000	1001 - 2000	2001 - 3000	3001 - 4000	4001 - 5000	5001 - 6000	6001 - 7000	7001 - 8000	8001 - 9000	> 9001	
Decile 1	0	351	1442	2365	3439	4278	5257	6867	0	8699	0	32697
Decile 2	0	386	1396	2429	3487	4287	5404	6546	7257	0	14153	45344
Decile 3	0	401	1386	2475	3426	4386	5340	6523	7584	0	11095	42615
Decile 4	0	422	1450	2473	3401	4384	5281	6212	7631	8715	14347	54318
Decile 5	0	469	1462	2424	3537	4300	5513	6351	7245	0	12654	43954
Decile 6	0	428	1441	2436	3449	4481	5537	6513	7366	8153	22841	62645
Decile 7	0	451	1443	2383	3437	4468	5429	6391	7693	8712	20460	60868
Decile 8	0	436	1459	2486	3480	4554	5527	6425	7562	8432	20471	60833
Decile 9	0	485	1448	2454	3518	4433	5393	6260	7506	8661	19851	60008
Decile 10	0	478	1435	2491	3565	4538	5529	6345	7330	8490	19409	59611
All Families	0	423	1439	2449	3480	4455	5462	6404	7451	8539	19145	59247

Estimated Percentage Distribution of Families' Total Out-of-Pocket Spending, by Decile and Spending Level of Group

	1999											Subtotal
	0	1-300	301-600	601-900	901-1200	1201-1500	1501-1800	1801-2100	2101-2400	2401-2700	> 2701	
Decile 1	0.0	1.2	1.0	0.6	0.5	0.2	0.2	0.1	0.1	0.1	0.1	4.0
Decile 2	0.0	1.3	1.2	1.3	0.5	0.3	0.2	0.1	0.3	0.2	0.0	5.4
Decile 3	0.0	1.3	1.5	1.3	0.9	0.5	0.4	0.6	0.3	0.3	0.5	7.5
Decile 4	0.0	1.2	2.2	1.0	0.5	0.7	0.3	0.9	0.6	0.3	0.2	7.9
Decile 5	0.0	1.1	1.7	1.8	0.9	0.7	0.7	0.3	0.4	0.3	1.1	9.1
Decile 6	0.0	1.1	2.0	1.3	1.0	0.6	0.5	0.5	0.4	0.5	1.3	9.2
Decile 7	0.0	1.0	1.7	1.6	1.5	0.9	0.8	0.5	0.5	0.2	3.2	11.8
Decile 8	0.0	1.0	1.9	1.7	1.5	1.2	0.6	0.5	0.3	0.7	3.0	12.4
Decile 9	0.0	0.9	1.8	1.8	1.6	1.4	1.0	0.9	0.8	1.1	3.1	14.2
Decile 10	0.0	0.6	1.8	1.9	2.0	1.1	1.6	0.8	1.1	0.7	6.9	18.5
All Families	0.0	1.1	1.7	1.4	1.1	0.8	0.6	0.5	0.5	0.4	2.0	10.0

	2000.0											Subtotal
	0	1 - 1000	1001 - 2000	2001 - 3000	3001 - 4000	4001 - 5000	5001 - 6000	6001 - 7000	7001 - 8000	8001 - 9000	> 9001	
Decile 1	0.0	1.3	1.3	0.5	0.3	0.1	0.1	0.1	0.0	0.3	0.0	4.0
Decile 2	0.0	1.3	1.3	1.1	0.7	0.1	0.3	0.2	0.2	0.0	0.2	5.2
Decile 3	0.0	1.4	1.2	1.2	0.8	0.5	0.4	0.4	0.3	0.0	0.4	6.5
Decile 4	0.0	1.2	1.7	1.7	0.9	0.4	0.2	0.1	0.3	0.1	0.2	6.8
Decile 5	0.0	1.4	1.5	1.7	1.0	0.8	0.7	0.2	0.3	0.0	0.9	8.6
Decile 6	0.0	1.2	1.8	1.4	1.1	1.0	0.4	0.3	0.1	0.2	1.8	9.2
Decile 7	0.0	1.1	2.0	1.4	1.5	1.0	0.6	0.6	0.3	0.4	0.8	9.8
Decile 8	0.0	1.0	1.9	1.4	1.4	1.1	1.0	0.8	0.1	0.3	2.4	11.5
Decile 9	0.0	1.0	1.8	1.5	1.8	1.0	1.0	0.4	0.4	0.4	5.7	15.1
Decile 10	0.0	0.8	1.5	2.3	1.2	1.4	0.9	0.8	0.7	0.9	12.7	23.2
All Families	0.0	1.2	1.6	1.4	1.1	0.7	0.5	0.4	0.3	0.3	2.5	10.0

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