

## 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.<sup>2</sup> 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.<sup>3</sup> 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

---

<sup>2</sup> 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.

<sup>3</sup> 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.<sup>4</sup> 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

---

<sup>4</sup> 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.<sup>5</sup> In 1986, the evacuations included 24,275 people in Belarus.<sup>6</sup>

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).<sup>7</sup> 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.<sup>8</sup> [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.]

---

<sup>5</sup> 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.

<sup>6</sup> *Ibid*, Table 20, p. 74.

<sup>7</sup> *Op. cit.*

<sup>8</sup> *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."<sup>9</sup>

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.<sup>10</sup> 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

---

<sup>9</sup> *Ibid*, p. 67

<sup>10</sup> 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.<sup>11</sup>

---

<sup>11</sup> 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."<sup>1</sup>

<sup>1</sup> 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.

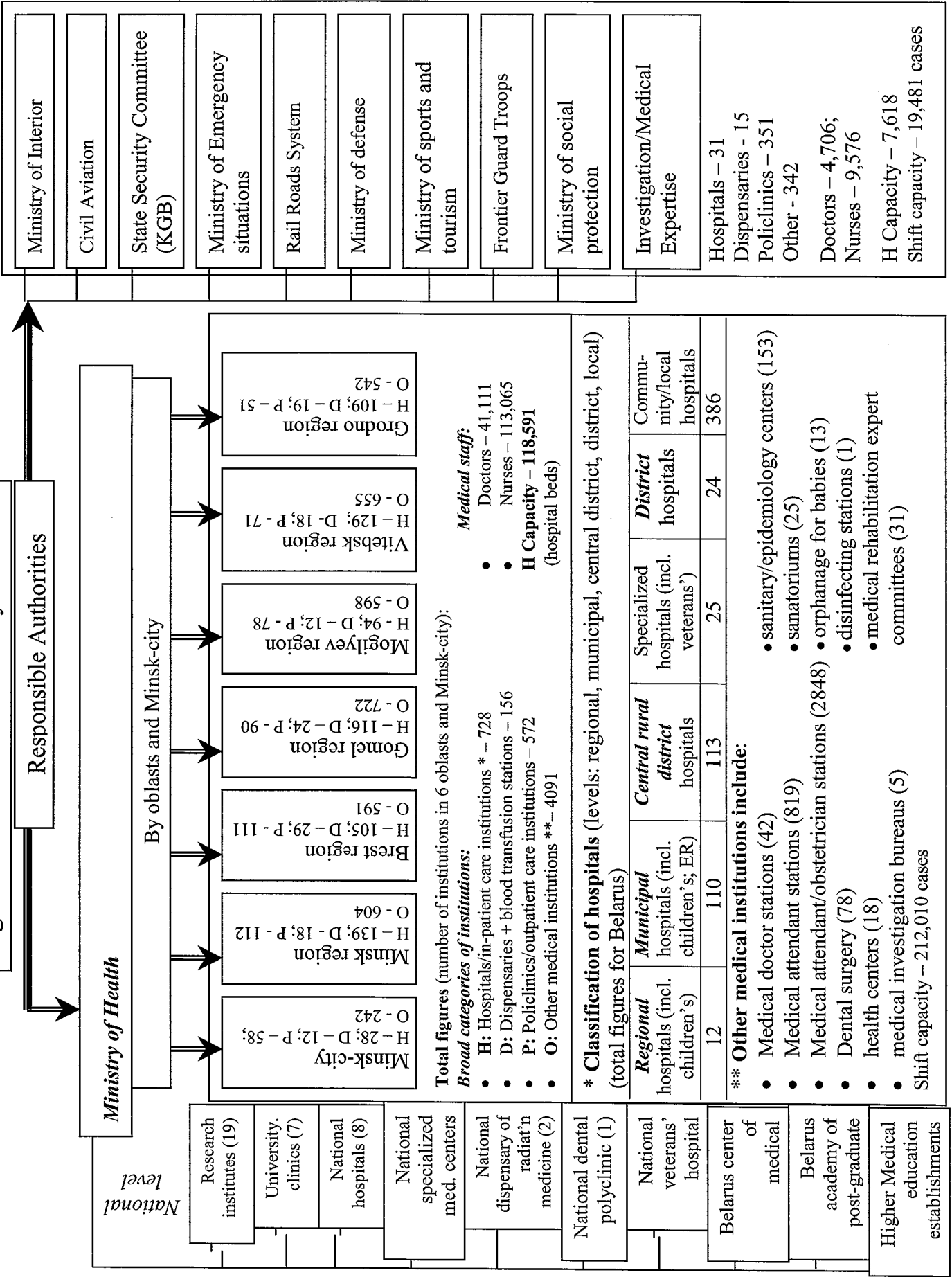
3.12 Hospitalization rates are high—28.2 hospitalized patients per 100 people in 1999. Average lengths of stay are also long. For example, typical stays are 10-11 days for an appendectomy, 4-5 days for laparoscopy, and 5-14 days for cataract surgery. There are 12.2 visits to doctors per person per year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