

## **The Health Care Services**

Israel's universal health care system provides all residents with medical services on a relatively high level and, generally, to the public's satisfaction. The services are legislated by the National Health Insurance Law and are delivered at relatively low private cost. The achievements in respect of the population's health status and satisfaction with the health care services provided should be credited to the public nature of the system and the level and quality of its personnel. However, the system still has some residual problems that overshadow its achievements and are reflected in declining public satisfaction. They include, in particular, the problem of inequality in access to services and rising costs of the system.

This year as in the past, various aspects of developments in the health care system are reviewed with emphasis on issues that, if dealt with, may improve the functioning of the system and prevent harm to the population's health. The chapter is divided into two parts. Part A surveys the main developments in the health care system. Section 1 discusses the optimum level of expenditure for health care services, comparing Israel with the OECD countries. Section 2 examines the composition of funding for the system and its effect on equity, with emphasis on the upward trend in the share of private funding in recent years. Section 3 is devoted to manpower in the health care system, and the last section examines the health status in Israel in selected areas, including recent developments in infant mortality and life expectancy. The second part of the chapter (B) discusses the significance of inequities in health and health care services against the backdrop of the second war in Lebanon.

## **A. Main Developments in the Health Care System**

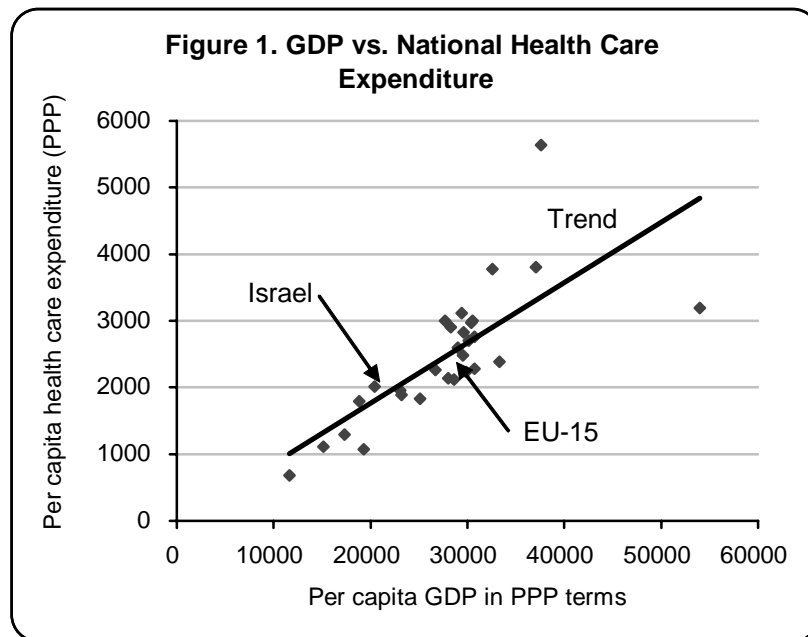
### **1. National Health Care Expenditure**

National health care expenditure is the share from all of its sources that a country chooses to spend on its health care system, whether from its state budget or directly from household budgets. The question of the optimum level of health care expenditure has concerned experts in the field and decision makers in developed countries, including Israel, for many years. The debate about the extent of resources that a society devotes to its health care system and the advisability of this “investment” is especially important because in a health care system one cannot (and should not) expect to find a correlation between quantities and prices as one would in a free-market mechanism, due to the many market failures that exist in this field. Furthermore, the test of “reasonability” of expenditure relative to the output generated – the public’s level of health – is quite complex, since accepted measures of health (e.g., life expectancy and infant mortality) are affected by many other factors.

In recent decades, the topic has taken on an additional dimension due to the rising trend of average per capita health care expenditure. Many studies that attempt to track developments find a correlation in developed countries between economic growth, as expressed in Gross Domestic Product, and national health care expenditure. Indeed, a simple comparison of health care expenditure with GDP in the OECD countries shows that “wealthy” countries spend more on health care than “less-wealthy” ones do.

Figure 1 shows that Israel’s per capita health care expenditure was \$1,953 in PPP terms (around NIS 6,300) in 2003, more than 20 percent below the European average. It

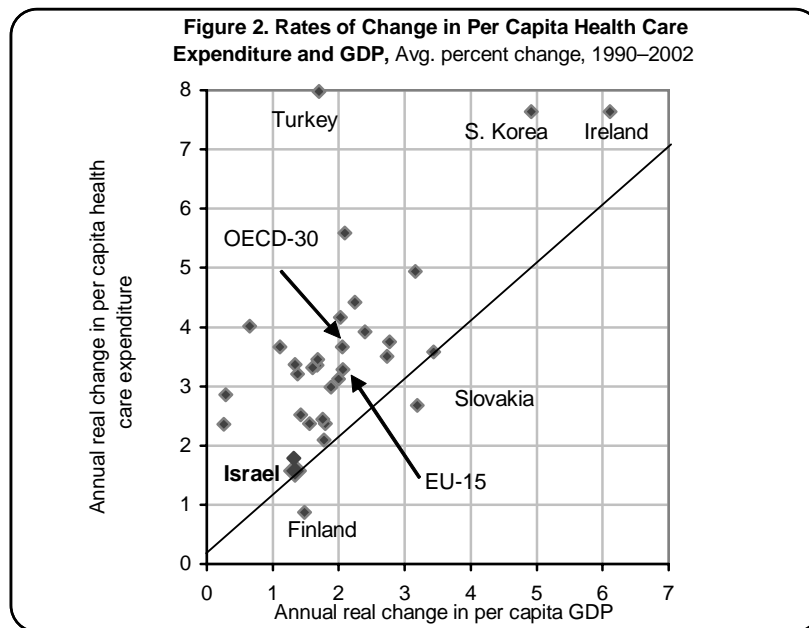
should be borne in mind, however, that Israel's level of GDP is also more than 20 percent below the European average. Furthermore, Israel is younger than any of the OECD countries in the figure; since the age composition of a country's population influences the resources that the country must allocate to its health care system, Israel's health care needs are less expensive. Indeed, in 2002 the Central Bureau of Statistics (CBS) calculated the average per capita health care expenditure in Israel and in the OECD countries on an age-standardized basis.<sup>1</sup> By this reckoning, Israel's per capita average resembles



the European average and actually exceeds it by several percent.

Source: CBS, 2004; CBS, 2006

<sup>1</sup> CBS, 2004.



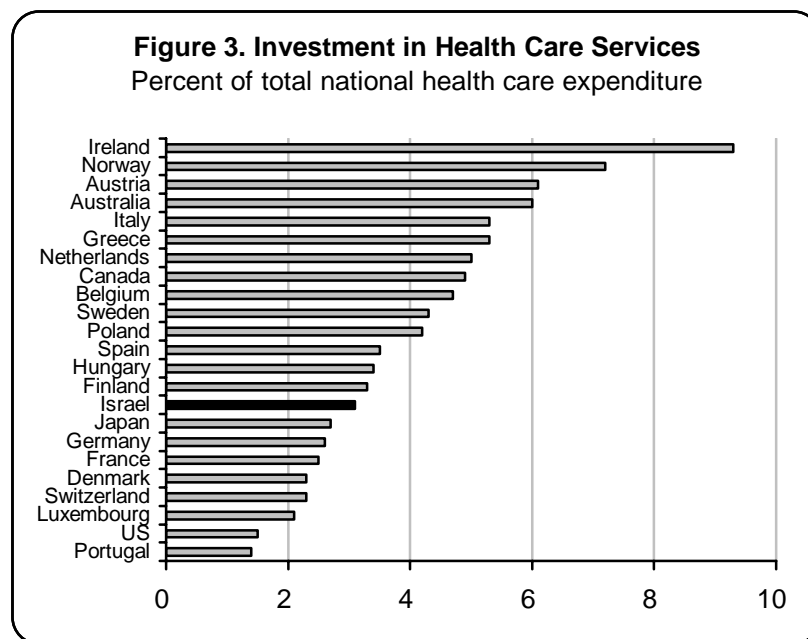
Source: CBS, 2004; OECD, *Factbook*, 2005; OECD, *Health data*, 2005.

Israel's share of health care expenditure in the GDP resembles the OECD average, around 8.5 percent. Figure 2 shows that during the 1990s health care expenditure increased more quickly than GDP in most OECD countries. The diagonal line that rises from the origin of the axes denotes a situation in which every 1 percent increase in product leads to a similar rise in health care expenditure. Israel, as we see, is very close to this line, i.e., the correlation is clear in Israel's case. Furthermore, quite a few countries have similar if not slower rates of GDP growth than Israel's but their health care expenditure increased more rapidly. Examples are Germany, Switzerland, and Japan.<sup>2</sup>

Even though Israel had a relatively modest rate of increase in health care expenditure over GDP growth relative to the OECD countries, its average per capita expenditure on health care

<sup>2</sup> Ministry of Health, 2006.

services rose by 19 percent between 1990 and 2005. The share of health care expenditure in GDP increased from 7.3 percent to 8.1 percent during this time and the sum today stands at NIS 44 billion (in 2000 prices). This total is divided between current expenditure on medicines, medical instruments and services, and fixed investment, such as construction of hospitals and purchase of equipment for medical institutions. In recent years, only 3 percent of total health care expenditure has been invested in the system – a lower share than in most developed countries. (The European average is 4 percent.)

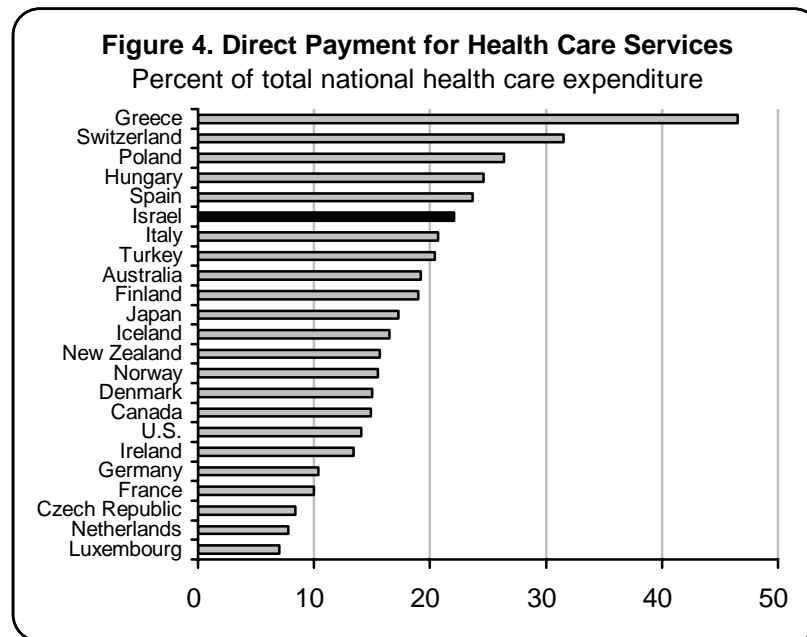


Source: Ministry of Health, 2006.

## **2. System Funding and Equity**

Equity in funding of and access to medical services is one of the basic goals of a public health care system. In Israel's case in recent years, these goals are being challenged by the increase in share of private (household) funding in total health care expenditure. In 2005, households financed in direct out of pocket payments nearly one-third of national health care expenditure. Another fourth of expenditure was covered by the health tax; the rest was financed from the state budget. The falling share of the state in recent years reflects a deliberate government policy. In 1998, public funding covered 73 percent of national expenditure and 25 percent was paid from a compulsory health tax that households paid to sick funds (HMOs) via the National Insurance Institute. Seven years later (2005), the share of public funding declined to 65 percent while the proportion covered by the health tax did not change. It should be emphasized that compared to other developed countries, Israel's share of public funding is relatively low; in most OECD countries, it ranges from 70 to 80 percent of national health care expenditure.

Much of the private funding goes for direct payments by households for medicines and services (not including supplemental insurance) – 22 percent of total health care expenditure, a rate that surpasses the overall OECD average. This situation definitely contributes to rising inequality in the consumption of medical services. The fact that income elasticity in the health care services is greater than one – meaning that an increase in income leads to a greater increase in health care expenditure – makes the inequality even worse. This factor, familiar in other developed countries, is causing the disparities in access to services in Israel to widen.



Source: Ministry of Health, 2006

A system that lays a large share of service expenditure at the user's door is typically regressive. Data from the CBS *Household Expenditure Survey* illustrate this: an average household today devotes 5 percent of its total consumption expenditure (not including health tax) to health care services as against 3.8 percent in 1997. Nearly one-third of the households' health care expenditure goes for dental care, one-fourth for supplemental health insurance, and the rest for medicines, private physicians, and private clinics. A household in the uppermost income quintile "consumes" health care at NIS 833 per month as against NIS 303 per month by a household in the lowest quintile – almost three times as much.<sup>3</sup> Taking into

<sup>3</sup> The calculations are based on the Household Expenditure Survey.

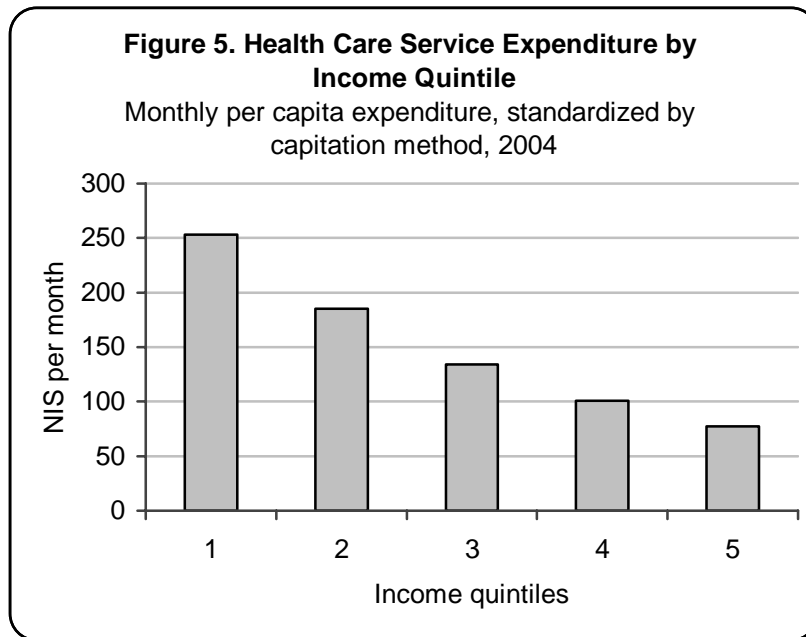
account the average household size by income quintiles in order to calculate monthly per capita averages,<sup>4</sup> it is found that households in the lowest quintile spend NIS 72 whereas those in the uppermost decile spend NIS 378. Obviously, one must also keep in mind the different age composition of each quintile when analyzing differential patterns of health care use. The uppermost quintile has roughly twice as many adults aged 65+ – the “heavy users” of health care services – as the lowest quintile. By the same token, households in the lowest quintile have more young children (0-5), who are also significant consumers of health care services.

The next comparison of size of health care expenditure by income quintiles standardizes the number of household members in each quintile by using the capitation method as set forth in the State Health Insurance Law. This indicator weights nine age groups by the intensity of their health care service use. Even after standardization, the uppermost quintile spends three times as much on health care as the lowest quintile. Generally speaking, the well-off make up for what the public system lacks by purchasing supplemental medical insurance, making greater use of private physicians (seven times as much in uppermost quintile as in the lowest), and buying medicines outside the health fund system.

---

<sup>4</sup> The calculation is per person and not per standard person because there is no reason to assume that household size creates an economy of scale advantage in the consumption of health care services.





Source: CBS, 2006

### 3. Indicators of Level of Health

In most countries, including Israel, the population's health has been improving significantly, as reflected in overall mortality rates, infant mortality, and life expectancy. It is true that one cannot always draw inferences from these changes about the extent of effectiveness of the health care services because the exact relationship is not clear. Many factors other than medical and preventive services contribute to the improvement in these indicators, e.g., genetic, environmental, and cultural factors reflected in lifestyle and nutrition habits. However, there is clear evidence that factors related to the health care system (e.g., a policy aimed at lowering infant mortality) are affecting these indicators.

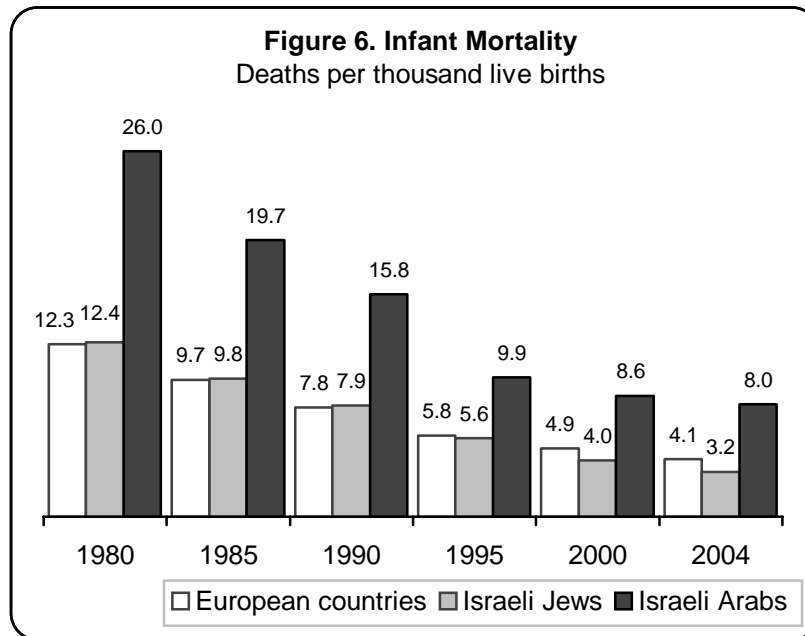
Despite great improvement in recent years, Israel's **infant mortality rate** per thousand live births still exceeds the European average, at 4.6 as against 4.0 in 2004. Israel's overall average is composed of different rates among different population groups – 8.0 among Arabs and 3.2 among Jews. Only a few countries match or have lower infant mortality rates than Israel's Jewish population; they include Iceland (2.8), Japan (2.8), Sweden (3.1), and Norway (3.2).

The Arab sector has always had higher infant mortality rates than the Jewish sector, but – notably – the absolute difference has been narrowing over the years, from more than one percentage point in the early 1980s to less than half a percent point today.

There are also significant discrepancies in infant mortality between geographic areas. Especially high rates occur in the Northern and Southern districts (6.0 and 7.1, respectively) as against below-average rates in the center of the country (around 3 per thousand live births).

Data on infant mortality by cause and stage of death show that most such deaths occur in the first week of life if not during or shortly after birth. The mortality rate in the first week after birth fell from 11.4 per thousand in the early 1970s to 3.2 per thousand by the end of the twentieth century. During these three decades, infant mortality due to infectious diseases and pulmonary infections was virtually eliminated; the frequency of such phenomena today is less than 0.1 per thousand. The main cause of infant mortality is complications at birth, in both the Jewish and the Arab sectors – at 2.1 per thousand live births in the Jewish sector and 3.3 in the Arab sector. The second most common cause is birth defects. Here there is a significant difference by population group – 0.9 per thousand live births among Jews and 2.0 among Arabs. The discrepancy is related to two main factors: the relatively high rate of intra-family marriage in the Arab sector and the more systematic monitoring

of pregnancy, including prenatal tests to rule out birth defects, among Jews.



Source: CBS, 2006; OECD, 2006

**Life expectancy** is another accepted indicator of a population's health. Israel ranks rather high on the scale of countries in terms of average lifespan. Its position is strongly affected by the high life expectancy of Israeli men relative to men in other countries. The life expectancy at birth of Israeli men, 78 years, is higher in only five countries – Iceland (79.2), Japan (78.6), Switzerland (78.6), Sweden (78.4), and Australia (78.1). Israeli women, in contrast, hold a “good place in the middle,” one in need of improvement – at 82.4 years, not far above the OECD average (81).

In the past two and a half decades (1980–2005), the life expectancy of Israeli seniors has been lengthening significantly:

by 3.1 years (from 14.6 to 17.7) among men at age 65 and by 3.9 years (from 16 to 19.9) among women of the same age. Although the improvement was more significant among women, Israeli women of this age rank in the middle of the international scale. The main reason for longer life expectancy at this age is a decline in the mortality rate from heart disease for two complementary or mutually compensatory reasons: (1) a decline in the incidence of morbidity from heart disease due to improvements in living conditions and greater awareness of the importance of a healthy lifestyle and (2) more effective treatment of heart disease and better achievements – both pharmaceutical and surgical – in death prevention.

**Mortality rates** are another indicator of the state of the population's health. Standardized mortality rates, which take into account differences in age distribution among various parts of the country, point to considerable differences between geographic regions. The national mortality rate is 6.0 on average per thousand persons, higher in the Southern and Northern districts (6.5 and 6.3, respectively), and lower in Jerusalem and the Central District (5.5 and 5.6, respectively).

The most frequent causes of death among the population at large are cancer and cardiovascular disease, accounting for one-fourth and some 30 percent of deaths in 2003, respectively. The rates of mortality from these diseases, as from diabetes, renal disease, Alzheimer's syndrome, and other illnesses, are much higher among Jews than among Arabs. Higher death rates were recorded among Arabs due to perinatal factors, birth defects, and traffic accidents. The differences apparently reflect not only disparities in the age composition of the two population groups but also differences in way of life and genetic factors.

## **4. Human Resources**

A health care system's most important resources are its people. The success of the Israeli health care system owes much to the high quality of its physicians and nurses, because they are the main sources of the services rendered. Their numbers relative to population have a significant impact on the costs, uses, and outputs of the system. Nurses and physicians (including dentists) account for more than 64 percent of employment in the health care professions. The system also employs practitioners of other medical occupations (pharmacists, veterinarians, and other academic professionals, who together account for 16 percent) and workers in paramedical fields (laboratory technicians, opticians, therapists, etc., accounting for the remaining 20 percent).

### ***a. Physicians***

Some 23,000 physicians, 90 percent of all licensed physicians up to age 65, are employed in Israel today.<sup>5</sup> Thus, there are 3.4 practicing physicians for every 1,000 residents. The ratio has been rising over time at an annual average rate of 1.8 percent (1970-2004). Most of the increase occurred during the 1970s; in the 1980s, a plateau was reached. The mass immigration from the former Soviet Union in the early 1990s caused a significant rise. Afterwards, however, the ratio began to decline gradually and in recent years has been relatively stable at around 3.5 per thousand.

Israel's supply of doctors is special in the sense that it is determined largely by immigration. Israel imposes no limit of any kind on the immigration of doctors, but since 1988 anyone who wishes to practice medicine in Israel must pass a licensing examination. Some 65 percent of doctors in Israel today

---

<sup>5</sup> Ministry of Health, 2005.

completed their medical studies abroad. Other developed countries also use “imported” medical labor, gathering up the “cream” of experts from poorer countries that cannot offer doctors attractive professional employment opportunities. The host countries find this “arrangement” convenient because it frees them from investment in educating their doctors. In only seven of thirty OECD member countries, however, does the proportion of immigrant doctors exceed 10 percent of the total doctor population (New Zealand 34.5 percent; U.K. 28.3 percent; Australia 26.5 percent; U.S. 25 percent; Canada 23.1 percent; Switzerland 17.8 percent; and Norway 12.7 percent).<sup>6</sup>

Although Israel and the OECD countries obtain their supply of physicians from different sources, the phenomenon of rising ratios of doctors to population is not unique to Israel. In most OECD countries, the physician population has been growing faster than the population even more than Israel's has. On average for the OECD countries, the ratio of doctors to 1,000 of population climbed between 1970 and 2004 by 2.6 percent on annual average, with a range of 1 percent in Canada to 4 percent in Portugal.<sup>7</sup> As in Israel's case, in most countries the doctor/population ratio increased significantly during the 1970s; today, thirty OECD countries average three doctors per 1,000 of population. Even though the doctor/population ratio is growing more slowly in Israel than in the OECD countries, the ratio in Israel remains one of the world's highest. The high ratio of physicians in Israel does not assure the availability of service in equal measure in all parts of the country. Data on the employment of doctors by district<sup>8</sup> show that the geographical dispersion of doctors (standardized by population age in the various districts) is uneven. There are plenty of doctors in the

---

<sup>6</sup> Mullan, F., 2005.

<sup>7</sup> To be more precise, the comparison pertains to countries for which data for 1970 exist.

<sup>8</sup> Ministry of Health, 2005.

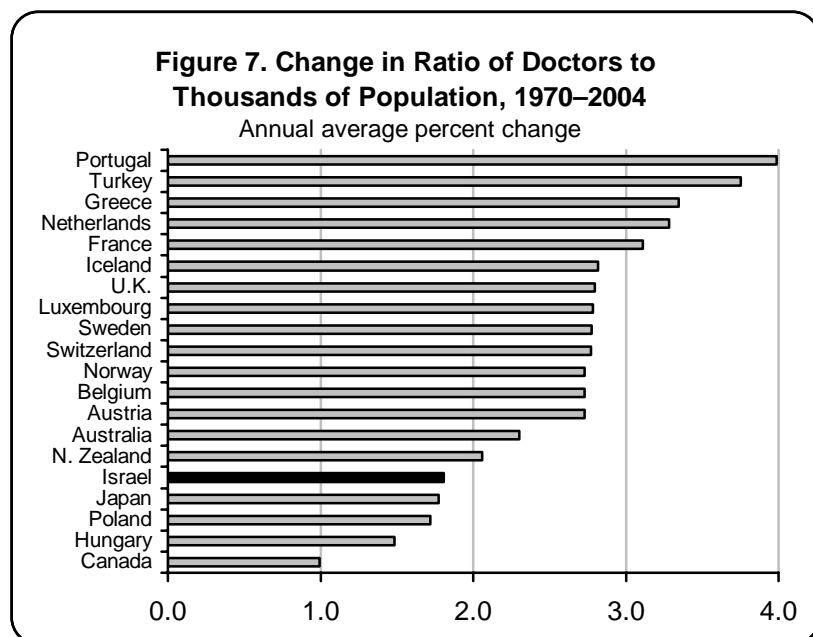
Jerusalem and Tel Aviv districts (4.2 and 3.9 per thousand of population, respectively) and few in peripheral areas, especially the Northern District, where the standardized ratio is only 2.3. Inequality between center and periphery in the availability of medical services is also reflected in the strong correlation between the geographical dispersion of doctors and that of other resources, such as hospital beds and medical infrastructure in general.<sup>9</sup>

In recent years, there has been an awakening of concern and numerous warnings, both in Europe and the United States, about a future shortage of doctors. The shortage is liable to come about due to factors of demography (an aging population), employment structure (a decline in the number of work hours of young doctors, who tend to prefer leisure time, and of female doctors, who work fewer hours than male doctors and are entering the profession at a rising rate), and economics (an increase in demand for health care services due to greater national and personal wealth). By the same token, there has been discussion of developments that are lowering the demand for doctors like delivery of medical service by medical professionals other than doctors.<sup>10</sup>

---

<sup>9</sup> Chernichovsky and Shirom, 1997.

<sup>10</sup> Cooper, R. A. and Getzen, T. E., 2004; Politzer, R. M., 1996.



Source: OECD, 2006; Ministry of Health, 2005.

In Israel, too, there is a growing awareness of the need to rethink the planning of medical personnel. The Ministry of Health's forecast of the doctor/population ratio foresees a decline in the years to come. Apart from the reasons noted above, the most relevant reason for this in Israel's case is the dwindling of potential sources of immigrant doctors.<sup>11</sup> The *Pazi Committee*, set up in 2000 to examine the country's future needs for doctors, recommended that Israel's medical schools graduate around 930 doctors per year starting in 2008 – an increase of 650 graduates or 230 percent relative to the 280 doctors who graduate each year today. The committee's report does not distinguish between doctors in the primary health care services

<sup>11</sup> Chernichovsky, D., and Doron, H., 2005.



and those in specialist clinics and hospitals, although this issue is especially important in view of the forecasts of fewer sources of immigrant doctors, most of whom are employed in the primary care sector.

In recent years, Israel has been increasingly mindful of the importance of primary medicine. The medical schools have revised their curricula to emphasize the delivery of enhanced primary medical service and have contributed to a significant improvement in this field. Since 1990, too, human resources in primary medicine have been expanding due to the massive intake of immigrant physicians. Indeed, only 27 percent of the 5,000 doctors who provide primary care earned their medical degrees in Israel.<sup>12</sup> Given the average age of doctors in primary care (48), the question is whether young Israel-trained doctors can make up the shortfall. The majority of primary care physicians will be approaching retirement age in another few years, precisely when the external sources of doctor supply that have provided most personnel in this field will no longer be available. Against this background, it is also difficult to predict the future of the supplemental medical services that have been developing recently (e.g., companies that provide around-the-clock medical service at home) since this industry relies heavily on immigrant physicians.

#### ***b. Nurses and Nursing Caregivers***

The rising demand for medical services in the OECD countries in recent years, and the costs related to it, have led to an increase in nursing personnel in many countries and an expansion of the powers of nursing staff in certain countries. The phenomenon of “skill mix” (the reapportionment of medical staff duties) has become widespread in countries such as the U.S., the U.K., and Australia. In recent years, much evidence has been accumulating

---

<sup>12</sup> A. Shemesh, D. Pilpel, E. Smetnikov, and M. Dor, 2000.

that nurses fulfill certain duties that have “belonged” traditionally to doctors, both in hospitals and in the community.<sup>13</sup>

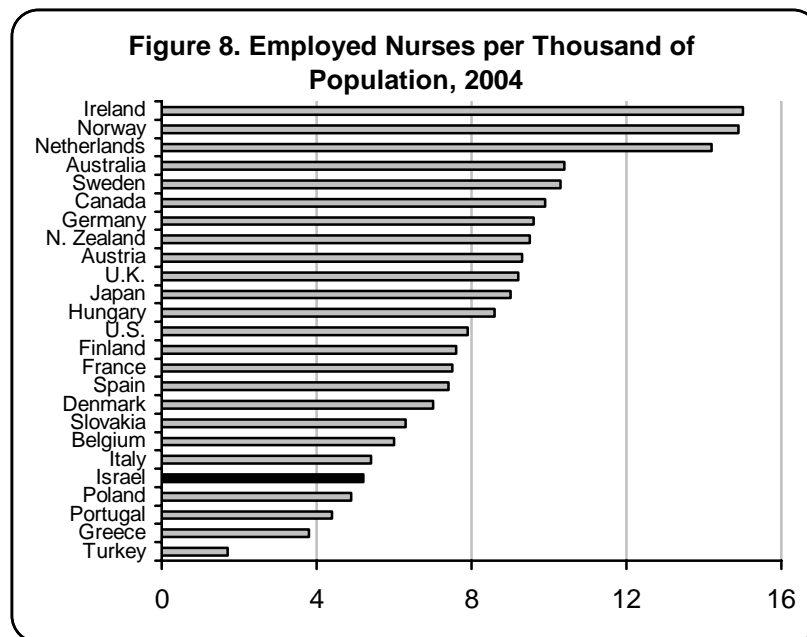
In most developed countries, the ratio of nurses to thousand of population has been increasing since the 1990s. (Many countries lack readily available data on this parameter for previous periods.) In Israel, the ratio of nurses – registered and practical – has remained constant since 1995 at around five. However, the balance of registered nurses versus practical nurses has changed: the proportion of registered nurses rose from 3.7 per thousand in 1995 to 4.2 per thousand in 2000, whereas the share of practical nurses declined from 2.1 to 1.5 per thousand. This increase in the share of registered nurses is immensely important. Studies in recent years on the share of registered nurses among all nurses and the composition of nursing staff by level of education (e.g., the proportion of registered nurses who hold undergraduate degrees) indicate that the larger the share of nurses with more advanced schooling, the lower the rate of accidents (such as falls and injuries, adverse reactions to drugs, and so on) and the lower the rate of patient mortality.<sup>14</sup>

By the standards of the developed world, Israel has a rather low total rate of nurses employed – 5.2 per thousand of population as against 7–10 in most developed countries. Basing the calculation on the Ministry of Health data, which take into account the total number of nurses who are licensed to practice the profession up to age sixty, boosts the ratio of nurses to 6.0 per thousand population but does not significantly change Israel's ranking on the international scale.

---

<sup>13</sup> Buchan, J., Ball, J., and O'May, F., 2000; Buchan, J., and Calman, L., 2005.

<sup>14</sup> Cho, S., Ketefian, S., Barkauskas, V. H., and Smith, D., 2003; Aiken, L. H., Clarke, S. P., Cheung, R. B., Sloane, D. M., and Silber, J. H., 2003.



Source: Ministry of Health, 2005; OECD, 2006.

This situation is bound to have a negative effect on the functioning of the system, and ultimately be reflected in poorer patient health and more signs of staff burnout and job dissatisfaction.<sup>15</sup> As the number of medical students is increased, it may also be appropriate to increase the number of trainees in nursing functions at a high professional level, with the awareness that these certified professionals will be wielding broader powers in their activities in the future than they do today.

<sup>15</sup> Aiken, L. H., Sean, P. C., Clarke, S. P., Douglas, M. S., Sochalski, J., and Silber, J. H., 2002.

## **B. Health, Health Care Services, and the Second War in Lebanon – Implications of Disparities**

The most recent conflict in the North had a clear impact on many areas of life in Israel. The country paid a heavy price in lives – civilian and military – and in damage to persons, property, and other. Today the public systems are learning the lessons and contending with troubling questions that arose during and after the war. One of these questions concerns the functioning of the health care system in the north of the country. This review does not purport to cover all the health care related aspects of the war/state interface; instead, it discusses the effect of the undeclared state of war on the health care services received by the population. It mainly examines services provided in the North, with special emphasis on their functioning at the community level. After a brief survey of relevant characteristics of the health care field during the war and the problems that arose, section 2 presents conclusions drawn from a large panel discussion at the Taub Center that addressed the planning of the future deployment of the health care system in emergencies.<sup>16</sup>

---

<sup>16</sup> This part of the chapter, prepared by Professor Leon Epstein, summarizes the main points of a discussion held by the Taub Center's Health Area Team on the implications of the war for the health care system. The participants were Dr. Michal Cohen-Dar, Northern District Physician of the Ministry of Health; Eli Cohen, Northern District Director of Clalit Health Services; and Dr. Hami Yaffe, Northern District Director of Maccabi Health Services. The discussion was chaired by Professor Shlomo Mor-Yosef and was attended by the director of Taub Center, Professor Yaakov Kop, the permanent members of the Center's Health Area Team, and members of other Center Area Teams.

In a document prepared by the Taub Center – “After the War: Social and Economic Implications”<sup>17</sup> – the six authors, each from a different social area, stressed the importance of the population’s social, economic, and cultural background for its ability to cope with crisis situations. The document presents one obvious conclusion: “Social cohesion is the key to Israel’s ability to recover from the damage caused by the war.” One of the arguments expressed in the document is that due to inadequate deployment during the war in the North, “the ability of the individual and his or her family to remove themselves from [the area under attack] was a function of their economic state and personal functioning. Among the threatened civilians, the healthy and the affluent were able to distance themselves from danger by virtue of their personal resources. Not all of them exercised this possibility but it was available to them. Persons with disabilities and others who also lacked appropriate resources, however, stayed behind for lack of choice until private and nonprofit entities – and, toward the end of the war, the state authorities, as well – helped them.”

Thus, the disparities that characterized Israel’s North in an inferior position relative to the rest of the country even before the war also affected the resilience of this population group during the war and during and after the period of rehabilitation. Social, economic, and cultural disparities become more significant and conspicuous when a population is exposed to a state of war. The overall low ranking of Israel’s north relative to its center is the product of various social and economic factors. The inequality between the periphery in the north (and south) and the central districts is reflected in Israel, as in all industrialized countries, in indicators of health and delivery of health care services – disparities in life expectancy, age-standardized mortality, infant mortality, discharge from hospitals, etc. Additionally, northern Israel has amongst the

---

<sup>17</sup> Taub Center for Social Policy Studies in Israel.

country's lowest number of hospital beds in relation to population size. The inequality is also reflected in the socio-economic profile of the northern localities and their populations and in the overall regional distribution of social services. The average income of men and women, for example, is lowest in the Northern region.<sup>18</sup>

Notably, no player of consequence in Israel today, including service providers and government ministries, defines disparities in health care as something worthy of priority in planning, funding, or action. Inequity in health care, like socio-economic inequity generally, is not a priority on the Israeli agenda.

The health care system, as a component of the social services, is generally responsible for the advancement of health care services in order to contribute to an improvement in the general level of health. Measuring the contribution of social services to an improvement in residents' welfare and quality of life, however, is problematic: not all successes of the system are reflected in clear quantitative values. The health care field is no exception; the economic utility to society of an individual's good health or an improvement in the public's overall health is difficult to determine. In contrast, the reality of long-term underinvestment in health care affairs is common. The results are more visible at a time of crisis such as a war.

Several lessons of the recent war are relevant today for discussion about how the health care system copes with emergencies and difficulties. First, the civilian home front was intensively involved in and exposed to the war as it absorbed thousands of Katyusha rockets on a daily basis for weeks on end. In fact, one-third of the country's population became a front – a magnitude much wider than the familiar definition of a

---

<sup>18</sup> The findings were taken from data recently published by the Central Bureau of Statistics and the Ministry of Health, 2006. The difference between the north and the center of the country is stressed because there is little difference between the north and south.

confrontation-line population. Second, the exodus of inhabitants of the North to safe and distant areas was highly selective, as stated. This carries special significance for the required distribution of health care services not only in the North but elsewhere as well.

### **1. Deployment of the Health Care System and Problems that Arose**

In 2000, before the Israel Defense Forces left Lebanon, the health care system drew up a protocol in the event of a military confrontation on the northern border. Although the plan was not updated, it established a functional framework that was ready for action as soon as the war broke out. The District Health Bureau, the hospitals, and the sick funds operated on its basis. However, since no state of emergency was declared, the civilian emergency systems were not activated.

The health care services in the North had to contend with the needs of inhabitants who remained in their localities. Importantly, the outflow of population was selective. Although the information about the extent of the exodus is incomplete, it is known that tens of thousands headed south. Those who could afford to stay in the south for the duration of the conflict did so at their own expense. Others were invited to stay with relatives or friends and the Jewish Agency for Israel sent children to summer camps for certain periods of time. Toward the end of the war, organized groups set out to a tent city that was established at the Tel Aviv Fairgrounds.

The health care services had to cater to a relatively small population of inhabitants who had shelters and safe rooms in their homes and families who elected to stay for various reasons. The chronically ill and the nursing patients also stayed behind – many of whom could not afford to leave their homes – as did

single-parent mothers with their children and almost all of the Arab population.

**Leadership by the District Health Office.** The District Health Office of the Ministry of Health ran the services in a centralized manner throughout this period, under the direction of the district physician. The bureau established full cooperation with everyone involved in health care and with the civilian systems, holding coordination meetings among all players as soon as the war broke out and as it continued. Those involved stayed in touch several times each day by means of conference calls in which officials from outside the district, e.g., the Haifa District physician, were included. Furthermore, daily consultations were held with the Supreme Hospitalization Authority to solve problems that could not be worked out on site and every local authority that sustained Katyusha strikes was contacted and asked about the assistance that it might need. The District Office, basing itself on information that it received from the sick funds, acted to evacuate nursing care patients to safe areas. There were problems in preparing summary reports for many of the patients.

**Hospitals** responded to several issues, for example, they supplied discharged patients with a three-day supply of medications and performed essential tests when needed instead of referring patients to their community care system.

**Information.** One of the most daunting problems that surfaced during the war had to do with the flow of information. In the modern world, especially during a crisis, available, up-to-date, and reliable information is a prerequisite for responsible activity. In this regard, there were several problems. Daily advisories to the local population regarding going to work were vague and inconsistent. Information about health clinic hours was not available to the entire population. As for the flow of information among institutions, in most municipal authorities the emergency hotline did not forward up-to-date information to



the population, even though the health care institutions had given it to them. Additional problems came up in other information-related domains. There was a lack of information regarding nursing care and bedridden patients, the existence and locations of bomb shelters and the people staying in them, and mothers who have just given birth who had been discharged from hospitals. Below, the main types of problems that arose are discussed albeit in brief survey form.

*a. Organization of Services and Infrastructure*

No system can operate efficiently without the availability of an appropriate infrastructure. Several problems arose in this regard, some related to infrastructure of buildings and shelters, and others with respect to medical personnel and equipment.

**Appropriate protection/reinforcement for buildings.** The clinics of all sick funds and Mother and Infant Care Centers were not reinforced. Consequently, by order of the Home Front Command, employees were not allowed to come to work there. In some locations, the lower floor was protected but the pharmacy was not, or in a certain clinic the upper storey and areas next to windows were off-limits, leaving insufficient room to run the clinic. Prior to the war, protection for community health care institutions was at the bottom of the scale of priorities.

**Armored vehicles.** The two armored vehicles in the district were not enough during the crisis. Another problem had to do with transporting employees without armored vehicles, e.g., to Kiryat Shemona. Furthermore, personal means of protection for those working out of doors was almost totally lacking.

**Supplies** for civilian and private entities was halted intermittently – not only in medicines and other medical equipment, diapers, and so on, but also in fresh food. (In this context, the conditions of transport of food by private entities,

e.g., without refrigeration, should be emphasized; only by chance were outbreaks of contagious disease avoided.)

As for **shelters**, there was a lack of up-to-date information about public shelters, their exact location, and their condition. This impeded the planning of services for inhabitants of the shelters, especially those who were chronically ill or in need of nursing care. Physical conditions in the shelters were inadequate. Shelters were often found to be filthy, with severe sanitation problems, poorly ventilated, and without air-conditioning in the hot summer days. Sometimes the elderly and ill were left in the shelters without caregivers.

The home front command and public and private organizations visited the shelters but did not coordinate their actions. Therefore, some shelters were visited repeatedly and others were not visited at all. Due to the shortage of protective measures for vehicles and persons, visits by medical teams were limited.

As for **medical staff**, the lack of a declaration of a state of emergency led to vagueness about the work of health care professionals, possibly the most important infrastructure of the health care system. Clear guidelines about compulsory reporting to work, travel to the workplace, and insurance for employees who reported to work under these circumstances were not provided. Activation of the civilian emergency system would have solved most of these problems. The question of employee transport was mentioned above. As for workers' children, arrangements for child care and armored vehicles to transport children to planned activities were not made. Since young mothers are heavily represented among health care workers, this became an important issue.

### ***b. Provision of Services in the Community***

Sick funds provided different levels of primary and secondary service during the war – in the North and also elsewhere in the

country for those who headed south. The two largest funds delivered primary service at 40-60 percent of the normal rate and counseling services at 10-40 percent. The differences almost certainly stem from the difference in the socio-economic makeup of those insured by the funds. The funds' directors claim that their institutions met all demand for clinic services, despite the limitations mentioned above.

It is important to emphasize that during the war the sick funds provided service to anyone in need and not only their own members.

Most patients who came for care had chronic illnesses. It was notably problematic to have large concentrations of people in unprotected areas, especially lining up at pharmacies. Furthermore, there were patients with special needs, such as drug addicts. The combination of long lines, problematic patients, and the absence of security personnel to maintain order frequently placed clinic staff in difficult situations.

**“Routine” preventive services** were given in the usual fashion except in places that were under fire. New mothers were discharged from hospitals 24 hours after giving birth and mishaps occurred in reporting their discharge to the community services. Because the hospitals discharged them so quickly, they did not perform tests for conditions such as PKU. Some mothers reportedly had difficulty in nursing due to stress and anxiety. Problems in supplying baby formula aggravated the situation.

### *c. Services for Special Groups*

**Nursing care and bedridden patients.** Until recently, such patients were served by public health nurses from the District Health Office under the Long-Term Care Insurance Law. About two years ago, the National Insurance Institute revised the arrangement and began to provide the service by itself. For reasons of confidentiality, the National Insurance Institute refused to provide information about service recipients. Nursing

patients cared for at home were often unable to go to the shelters or found it difficult to return to their homes from the shelters, especially if they lived alone or were left alone after their families departed.

**Nursing institutions on the front line** of fire offered adequate conditions in terms of shelters and related facilities. However, the farther one went south in the district, the less adequate the protective measures were.

The Health Office received information from sick funds and welfare services about the need to move nursing patients to safe areas. The office took responsibility for coordinating this service with the host institution and *Magen David Adom* (Israeli Red Cross) and things went well. However, obtaining an up-to-date patient summary report was sometimes problematic.

**Mental health.** This field may have exposed the greatest issue of inequality that surfaced during the war in regard to the population that did not leave. Thousands of people who were exposed to rocket fire experienced states of anxiety. The extent of Post Traumatic Stress Disorder (PTSD) is still not known. There were no centralized community services that could care for these patients. Hospitals told those in need to come to them but soon found they were overwhelmed by the demand.

**The Arab population.** The Arab population, which ranks low on the socio-economic scale, accounts for about half of the population of the Northern Region. Although many thought that Arab localities would not be attacked in the war, the reality was quite different: many Katyusha rockets fell in Arab localities, causing casualties. This population was largely uninterested in evacuating and the localities attacked were not interested in receiving assistance, e.g., for the elderly. However, the exposure to injury led to widespread anxiety, including some that beset entire families and necessitated appropriate group care. (Incidentally, two years before the war, discussions had been held with the district psychiatrist about preparing for rocket

attacks; a plan for such a situation was drawn up but was not tested.)

**Evacuees.** The population that moved southward also needed health care services. Most of the extra burden was absorbed by the services in the other localities, but toward the end of the war people who could not move by themselves were evacuated to special locations that were established for them. This was a difficult population in terms of health care: the elderly, many chronically ill patients, persons with various disabilities, and the mentally disabled, who needed crisis intervention. This matter should be viewed only as an example of the problems that arise in mass evacuation of population.

**In summation,** the confluence of several issues leads to the conclusion that social inequity generally, and disparities in health care particularly, placed large portions of the population of the North at extreme risk during the conflict. The population that remained behind in Northern localities during the war was sicker and socio-economically worse off than the others. Within this group, the Arab population stands out: its socio-economic status is relatively low and it accounts for half of the population of the Northern District. Against this background, it is worth emphasizing again that Israel has no policy in regard to disparities in health care, either for the North or for the country at large.

The health care problems that arose during the war descended on a population that was at greater risk to begin with. This is said in regard to the condition of the shelters, the lack of information and protective measures, patients in need of nursing care who remained in their homes, problems in bringing professionals to work and to local clinics so that they could provide services, shortages of basic necessities, and so forth. All these matters are immensely important in view of the underlying situation, and must be addressed to plan for the future.

## 2. Lessons for Future Planning

To encapsulate the lessons of the war in Lebanon in the field of health care, two possible scenarios must be addressed. The first relates to the need for district level deployment in each district that may face a situation similar to the one experienced by the North during the war. In the second scenario, the next war may not be limited to one district; it may include many districts. Then it would be difficult if not impossible to evacuate populations from one area to another. To cope with such a situation, the services must deploy in a way that will tackle the totality of issues in the district itself and in each and every locality.

**At the national level**, in view of this experience, it is urgent to formulate policy and take action against the current socio-economic disparity and its steady expansion countrywide. The problem is not limited to the North; it relates to all parts of the country including the major cities.

Another general aspect relates to the necessity and the importance of proclaiming a state of emergency, because this makes it possible to activate the army's emergency systems. Had a state of emergency been declared, the various services might have performed more smoothly and many officials might have been co-opted for the requisite actions.

As for the **health care system**, the existing inequality in health care and health care services among and within the various parts of the country is immensely significant for the citizens of Israel at any time, and especially in a war time crisis. Irrespective of the specific issues that arose during this particular crisis, priority should be assigned to policymaking and planning of actions that will narrow disparities in health care and the services.

Although this survey will not discuss the matter in detail, two main categories of lessons that came up in discussions will be

related to: one regarding the organization of services and the other concerns special groups of service recipients.

*a. Organizing the Services*

**Public shelters.** Health care services today are provided at community clinics or in physicians' offices. Reality demands a plan that will deliver services to the public shelters when necessary. This has implications for the maintenance of the shelters, arranging protected transport to them, protecting the workers, and a plan that will keep the shelters in working order.

A series of indicators has to be updated from time to time: the existence and exact location of each shelter, the level of maintenance and cleanliness, water, sanitation, ventilation, and air-conditioning. On this basis, planning is needed as to responsibility for visiting the shelters, the composition of the visiting team, frequency of visits, protected motor vehicles, personal protection of workers, and planning of the delivery of medicines and food.

**Health care service staff.** Intelligent use of restricted working orders, or arrangement for compulsory attendance at work; insurance in wartime for employees who do not receive orders not to work; planning of worker transportation when necessary; protected transport to and from work; places to sleep; and provision of food for workers. As for workers' families, child care and activities for other family members should be arranged.

**Protective measures.** Appropriate protection for community health care services, and transport were conspicuously absent during the war.

**Information and communication.** Solutions are needed at two levels – *vis-à-vis* the public and within and among the services. In regard to communication with the public, it is essential to establish overall responsibility for accurate and consistent dispersal of information to the public in matters of

health care, health habits, and use of community and inpatient health care services; provision of up-to-date information about clinic hours, readily available information about delivery of services to homes/shelters; the possibility of receiving up-to-date information online and communicating with doctors by e-mail; and generally speaking, providing up-to-date information around the clock by means of emergency hotlines.

As for **communication within and among services**. It is necessary to establish an emergency communication system linking all services inside and outside the health care system; to expand the health care services' computer systems so that health care information may be downloaded when necessary without compromising medical confidentiality; and to establish an efficient and standard interpersonal communication system for the use of the services and their staff.

**Cooperation with those outside the health care system.** Planning and holding exercises in cooperation between the health care services and military systems (home front) and civilian systems (municipal authorities, civilian emergency system); enhancing the efficiency of cooperation within the health care system-integrating clinics and staff, communication, etc.

**Evacuation.** Establishing personal and group criteria for evacuation; determining overall responsibility, especially in regard to patients in nursing care facilities and those with disabilities; establishing evacuation destinations for nursing care patients and methods of coordinating the evacuation with them; establishing responsibility for performing and coordinating the move.

**Volunteers.** Central coordination of needs, contents, and locations of volunteers, and transport of volunteers – in the health care system and at large – to where they need to be.



***b. Special Groups***

**Patients with disabilities.** It is essential to assure regular updates and sharing of information among the services and systems (including National Insurance Institute) about nursing care patients and their locations, persons with disabilities who are housebound or have difficulties taking care of themselves, the lone elderly, and the chronically ill. The information should be centralized with the District Health Office and should serve as a basis, in conjunction with the sick funds, for the planning of services for these people.

**Mental health.** A policy principle should be established for diagnosis and care of anxiety in a community setting; the establishment of community-based mental health centers for this purpose; the advertisement of their location; and their activation for the public. The service should address itself to variance among different cultural groups and should be planned accordingly, e.g., for the Arab population; detection, diagnosis, and treatment of PTSD.

**Post-natal care after discharge from hospital.** when early discharge takes place, the Health Office should be notified. There should be telephone follow-up to track mother and infant convalescence and to attend to post-natal issues.

**In sum,** the main lessons of the war should be kept in mind when planning for the future. Within this generality, the main thing, perhaps, is to bear in mind the different nature of the war that is foreseen in the region and the magnitude of the population that may be exposed to it. The resources that should be allocated for appropriate deployment and regular on-going maintenance of all components of the system should be planned accordingly.

## Sources

### *Hebrew Sources*

- Bennun, G., Berlowitz, Y., and Shani, M. (2005), *Israel's Health Care System*, Ministry of Defense.
- Central Bureau of Statistics (2004), *National Expenditure on Health 1962–2003*, Special Publication 1236
- (2006) *Household Expenditure Survey 2004*, Special Publication 1261, January.
  - (2006) *Statistical Abstract of Israel 2006*.
  - and Ministry of Health (2006), *Social and Health Profile of Localities in Israel 1998–2002*, Special Publication 1270, May.
- Chernichovsky, D., and Shirom, A. (1997), “Equity in the Israeli Health System,” in Y. Kop, ed., *Resource Allocation for the Social Services 1996*, Jerusalem: Taub Center for Social Policy Studies in Israel.
- Ministry of Health (2005), *Personnel in the Health Care Professions*, Jerusalem.
- (2006), *International Comparison of Health Care Systems: OECD and Israel, 1980–2003*, Jerusalem.
- Shemesh, A., Pilpel, D., Smetannikov, E., and Dor, M. (2000), *The Primary Physician in Israel: Demographic and Professional Characteristics, Comparison among Health Funds*, Ministry of Health and Ben-Gurion University of the Negev.
- Taub Center for Social Policy Studies in Israel (2006), *After the War: Social-economic Implications, Recommendations for Government Policy – Memoranda for Areas of Action*, Jerusalem, August.

### *English Sources*

- Aiken, L. H., Clarke, S. P., Cheung, R. B., Sloane, D. M., and Silber, J. H. (2003), “Educational Level of Hospital Nurses and Surgical Patient Mortality,” *Journal of American Medical Association*, 290(12), pp. 1617–1623.

- Aiken, L. H., Sean, P. C., Clarke, S. P., Douglas, M. S., Sochalski, J., and Silber, J. H. (2002), "Hospital Nurse Staffing, Patient Mortality, Nurse Burnout and Job Satisfaction," *Journal of American Medical Association*, 288(10), pp. 1987-2004.
- Anderson, G. F., Reinhardt, U. E., Hussey, P. S., Petrosyan, V. (2003), "It's the prices, stupid: why the United States is so different from other countries," *Health Affairs (Millwood)*, 22, pp. 89-105.
- Buchan, J., Calman, L. (2005), "Skill-mix and policy change in the health workforce: nurses in advanced roles," OECD Health Working Papers, Feb.
- Buchan, J., Ball, J., O'May, F. (2000), "Skill Mix in the Health Workforce: Determining Skill Mix in the Health Workforce: Guidelines for Managers and Health Professionals," WHO, Discussion Paper.
- Chernichovsky, D., and Doron, H. (2005), "Community Medicine in Israel: Reform of Primary Care and Renaissance of Family Medicine," in García C., Muñoz O., Durán L., and Vázquez F., eds., *Family Medicine at the Dawn of the 21st Century*, México City: Mexican Institute of Social Security, pp. 349-370.
- Cho, S., Ketefian, S., Barkauskas, V.H. and Smith, D.G. (2003), "The effects of nurse staffing on adverse events, morbidity and medical costs," *Nursing Research*, March, pp. 71-79.
- Cooper, R. A., Getzen, E., McKee, J., Laud., P. (2002), "Economic and demographic trends signal an impending physician shortage," *Health Affairs*, Vol. 21, Issue 1, pp. 140-154.
- Cooper, R. A. (2004), Weighing the evidence for expanding physician supply, *Annals of Internal Medicine*, Vol. 141, Issue 9, pp. 705-714.
- Cutler, D. M. (2001), "Declining Disability among the Elderly," *Health Affairs (Millwood)*, 20, pp. 11-27.

- Gerdtham, U.G., Jönsson, B. (2000), "International Comparisons of Health Expenditure," in Culyer, A. J., Newhouse, J., eds., *Handbook of Health Economics*, Vol. 1A, New-York: Elsevier, pp. 11–53.
- Getzen, T.E. (1992), "Population Aging and the Growth of Health Expenditures," *Journal of Gerontology*, 47, pp. 98–104.
- Getzen, T.E. (2000), "Forecasting Health Expenditures: Short, Medium, and Long Term," *J. Health Care Financing*, 263, pp. 56–72.
- Mullan, F. (2005), "The Metrics of the Physician Brain Drain," *The New England Journal of Medicine*, Vol. 353, pp. 1810–1818.
- Newhouse, J. P. (1977), "Medical-Care Expenditure: a Cross-National Survey," *The Journal of Human Resources*, Winter; 12(1), pp. 115–125.
- Politzer, R. M., Gamliel, S. R., Cultice, J. M., Bazell, C. M., Rivo, M. L., Mullan, F. (1996), "Matching Physician Supply and Requirements: Testing Policy Recommendations," *Inquiry*, 33, pp.181–194.
- Reinhardt, U. E. (2003), "Does the aging of the population really drive the demand for health care?" *Health Affairs (Millwood)*, 22, pp. 27–39.
- Reinhardt, U. E., Hussey, P.S., Anderson, G. F. (2004), "U.S. Health Care Spending in an International Context," *Health Affairs (Millwood)*, 23, pp. 10–25.
- Van Doorslaer, E., Masseria, C. (2004), "Income-Related Inequality in the Use of Medical Care in 21 OECD Countries," in *Towards High-Performing Health Systems*, OECD, pp. 87–109.
- Wilson, M. R. (1999), "Medical Care Expenditures and GDP Growth in OECD Nations," *American Association of Behavioral and Social Sciences Journal*, Vol. 2, Autumn.

