The Health Care System

According to many indicators, such as infant mortality, life expectancy, and public satisfaction with health care services, Israel's health care system may take credit for impressive achievements. Life expectancy in Israel is among the highest in the world (especially among men) and infant mortality is below the OECD average, even though the percentage of underweight births, ordinarily a proxy for high infant mortality, is much higher than in European countries. Many factors other than the curative and preventive services affect life expectancy and mortality, including some related to culture, education, and lifestyle. However, the health care system is central in preventing and coping with states of morbidity and contributes to the achievements described above.

The public nature of the health care system, as well as the high quality of its health care staff, should, at least in principle, guarantee the delivery of health care services that meet high professional standards and are theoretically accessible to the entire population. In recent years, however, disparities between population groups have widened in many aspects of health status and accessibility to health care services. This has taken place against a backdrop of reduced state participation in funding of the system – often overshadowing the system's previous achievements.

One reflection of these processes is the erosion that has occurred in the public's assessment of equality in the health care system.[1] The Taub Center's Annual Social Survey illuminates the public's perception of the level of services that they receive and,

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[1] On this topic, see findings of the Taub Center Social Survey, various years.

among other things, the survey sheds light on differences between groups. More than half of the survey respondents (53 percent) believe that the level of services is especially unequal while another one-third (31 percent) feel that there are slight disparities. Public satisfaction with the services has also fallen somewhat over the years. The most serious negative phenomenon, however, is reflected in the high proportion of respondents (more than one-fifth of the public at large and one-third of those of low income) who said that they had refrained from seeking an essential medical service at least once during the past year due to its cost.

The data on national expenditure on health care seemingly reflect efficient control of the system's budget – a goal which is important in itself. The controlling of expenditure, however, was achieved by cutting back on the share of government funding and increasing the proportion of private (household) funding, failing to invest in essential infrastructures, and eroding the ratio of inpatient beds per capita in some hospital departments and certain parts of the country. Furthermore, forecasts about an expected future shortage of health care personnel suggest that the system is not being given enough funding to maintain the existing public infrastructures and adapt them to future needs.

As in past years, this chapter reviews indicators of developments in the health care system. Part A surveys national expenditure on health care services, and changes in the composition of its funding relative to the OECD countries. The main developments in the inpatient system and in health care system personnel are reviewed. Part B focuses on the consequences of the inequality in health and health care services as reflected in indicators of the public's health, access to health care services and differences in infrastructure in different parts of the country.

A. Main Developments in the Health Care System

1. National Health Care Expenditure and Its Composition

National health care expenditure in 2006 is estimated at 7.8 percent of GDP, roughly NIS 49 billion.[2] The upward trend in the GDP share of health care expenditure was ended in 2001 and a downward trend began that may have also tapered off in 2006, when expenditure remained at the 2005 level (Figure 1). The fluctuations around the trend line (the line in boldface in Figure 1) originate in adjustments between changes in national expenditure on medical services and changes in GDP. Such adjustments alone, however, cannot explain the consistent trend since the beginning of this decade.[3]

Israel's trend is opposite to that observed in most OECD countries, where the share of national health care spending in GDP is gradually rising. The calculated median among OECD countries increased from 7.5 percent to 9.1 percent in the past decade (1995-2005). By and large, the annual average growth rate of real per capita health care expenditure in these countries during this decade exceeded the growth rate of per capita GDP, at 4 percent as against 2.6 percent, respectively. Israel, in contrast, belongs to a small group of countries in which the growth rate of per capita average health care expenditure has not been keeping up with GDP (3 percent as against 4 percent, respectively, during the decade at issue).

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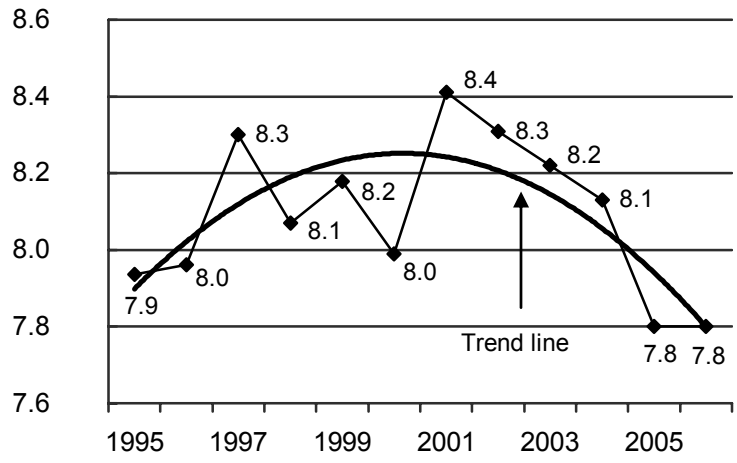
[2] Central Bureau of Statistics, press release, August 7, 2007.

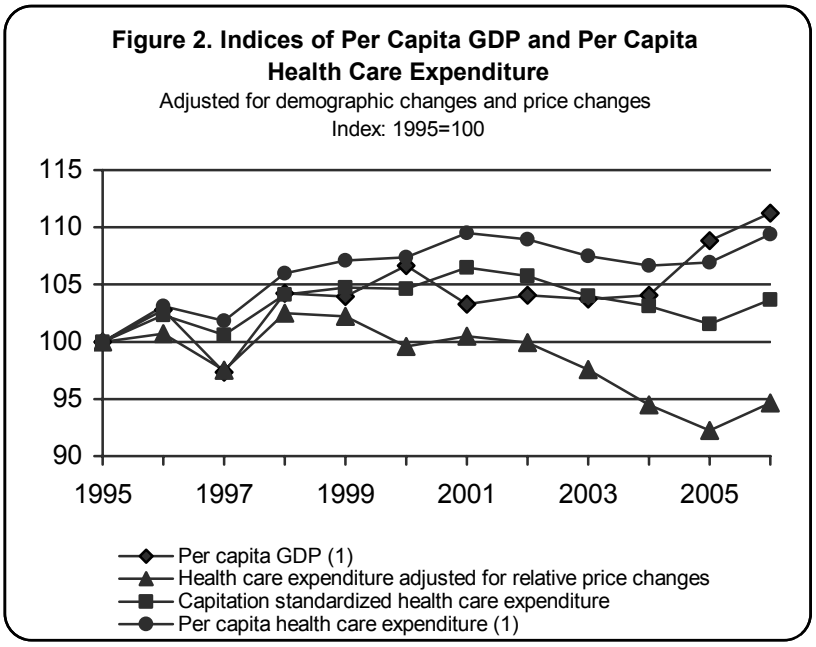
[3] For a broader discussion of health care system funding, see Chernichovsky, 2007.

Figure 1. National Health Care Expenditure as Percent of GDP



Source: CBS, 2007.

Figure 2 presents the decline in Israel's per capita expenditure on health care services relative to its increase in per capita GDP, with adjustments for demographic changes that reflect changes in needs and for changes in the relative prices of medical services as indicators of variations in purchasing power. Thus, while *per capita* expenditure decreased during most of this time (as of 2001), expenditure *per standard person* fell even faster. The decrease becomes even larger after an adjustment for the relative prices of medical services, which rose more quickly than GDP prices and consumer prices during the entire period. Thus, the "adjusted" real expenditure on health care per standard person decreased by some 5 percent relative to the base year 1995. Again, the trend may have changed in 2006.



(1) In constant GDP prices

Underlying these changes is the steady reduction in the share of government funding in total national health care expenditure: from 74 percent at the beginning of the period (1996) to 64 percent in 2006. The resulting share of government funding is low by the standards of developed countries; in most OECD countries, it ranges from 70 to 80 percent of total national health care expenditure[4] (OECD, 2007; CBS, 2007). At the same time, private (non-tax) expenditure for medical services has been rising. Thus, the share of health care spending in the household budget has increased from 3.7 percent of total consumption to 5.1 percent.

[4] Notably, the average among the OECD countries includes the United States and Mexico which have rates of public expenditure under 50 percent.

The proportional increase in private funding has accelerated the rise of medical service costs, at least in the private sector. The relative decline in public funding has decreased the bargaining power of the state and the sick funds vis-à-vis the service providers whom individual consumers face. This, however, is not all. According to the 2005 Household Expenditure Survey, 2.4 percent of households – 48,000 households or 161,000 people – had an expenditure on medical services that may be described as "catastrophic," i.e., equal to or greater than 20 percent of their total expenditure. Furthermore, 1.4 percent of households – 28,000 households or 93,000 people – fell below the poverty line, as defined by the National Insurance Institute, as a result of private expenditure on medical necessities, including co-payments, dental care, and supplemental insurance. This expenditure is tantamount to a 7 percent tax on households that are defined as poor. All this without taking into account insured who went without medical services all together due to co-payments.

In sum, the health care system funding has become less and less progressive in the past ten years.[5] Two factors contributed to this development: a decline in the progressivity of the public funding itself, due to the proportional increase in the share of the health tax in this funding; and, the proportional decline of public funding in total expenditure and a concomitant increase in private funding. These changes were not offset by an increase in the potential progressivity of private funding via the expansion of private (voluntary) supplemental insurance. This insurance, instead of replacing out-of-pocket expenditure by households, amounted to an added expenditure that replaced public funding. Private funding has become a non-progressive quasi-tax that has replaced public funding, which is based on progressive taxation.

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[5] In this matter, see Achdut, Shmueli, Endweld, 2007.

2. Inpatient Care

The inpatient care system provides service in 373 hospitals that may be classified by ownership and by specialization. There are five types of ownership which are, to a large extent, outgrowths of random historical developments: government, public-municipal, *Clalit* Health Services (formerly *Clalit*/General Sick Fund), other sick funds, and private entities. In retrospect, there is no real justification for the differences in hospital ownership that have developed in various parts of the country. The question of ownership, however, is not a mere formality; it brings with it several problems that the system has yet to surmount.

First, the historical development of different health care systems in Israel (many of which predate the establishment of the State), like the distribution of hospitals around the country, was often random and without the planning and direction that government policy could provide. Consequently, the countrywide dispersion of hospitals is less than optimal. (For example, greater Tel-Aviv has three large general hospitals while Ashdod, the country's fifth-largest city, has none.)

Second, the hospitals operate without across system cooperation, resulting in immense waste of resources and intense competition (Weiss, Birnbaum, Mor-Yosef, 2006).

Third, for years now the Ministry of Health has declared its intention to get out of the hospital business and stop managing dozens of state-owned hospitals. The conflict of interest between the Ministry of Health's two roles – service provider and regulator – has been on the agenda of Israel's policy makers since the mid-1970s. The Natanyahu Commission pointed to the problem of the Ministry's multiple roles in its 1990 report (State Judicial Commission on the Functioning and Efficiency of the Health System). The matter was further discussed by the Amorai Commission in 2002 (Commission for Examination of Public

Medicine and Physicians' Status Therein) and the Leon Committee in 2004 (Committee for Examination of the Operation, Management, Budgeting, and Ownership of Government Hospitals). The Taub Center also took up the matter in several reports and studies (e.g., an analysis of developments and changes in regard to the duality of functions of the Ministry of Health in view of the implicit original intentions of the legislation).[6]

The conventional division of hospitals by specialization includes four categories: general hospitals, psychiatric hospitals, hospitals for the chronically ill (long-term illnesses), and rehabilitation hospitals. (The last two categories are put together in most statistics.) In 2006, Israel had 46 general hospitals, 14 psychiatric hospitals, 311 hospitals for long-term care (mainly geriatric facilities), and two rehabilitation facilities.

a. Inpatient Beds

An important indicator in the analysis of inpatient facility infrastructure is the number of inpatient beds for various types of care. In 2006, Israel's hospitals had some 42,000 inpatient beds – more than half for long-term care and rehabilitation, about one-third (35 percent) for general care, and around 10 percent for psychiatric inpatient care.

From the time Israel was established until several years ago, the Ministry of Health was the main proprietor of inpatient beds. Over the years, however, its share has been declining – from 45 percent in the 1980s to 28 percent in 2006 – and the share of private institutions has been rising, from 23 percent in 1984 to around one-third in 2006, exceeding the share of the State.

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[6] See: Horev, T., *Health Policy and Legislation: Changing the Rules of the Game*, Taub Center, 2004.

Most of the shift in the ownership of inpatient beds occurred with respect to long-term and rehabilitation care. This is the result of rapid growth within the private sector, which has affected the composition of ownership. Most such beds, as stated, are meant for various kinds of inpatient nursing care. The Ministry of Health owns only about one-tenth of beds for long-term care (as against one-fifth in the 1980s) and more than half (as against 40 percent in 1984) are privately owned. Importantly, the number of government-owned beds for long-term care has not been declining and has actually increased slightly (from 1,955 in 1986 to 2,083 in 2006). It is the significant increase in private beds in this field that has changed the composition. The composition of beds in psychiatric hospitals has moved in the opposite direction: the state's share has been rising over the years and that of private ownership declining. The composition of ownership of general hospital beds has remained largely unchanged.

Examining changes in the number of inpatient beds relative to population growth, there has been a downward trend in general care and psychiatric beds per thousand population, and a proportional increase in beds for long-term care and rehabilitation per thousand population and per thousand persons aged 65+.

The different trends in the bed/population ratios, by type of hospitalization reflect changes in each of these inpatient fields (Table 2). In geriatric care (long-term care), the steep increase was intended to compensate for the shortage that had been prevalent in this field since the 1970s; it also reflects the upturn in private sector activity in this domain. It is important to note, however, that the proportion in 2006, 33.4 per thousand persons aged 65+, is less than the rate in most developed countries (the OECD average is 41 beds for long-term care per thousand persons aged 65+).

Table 1. Hospital Beds, by Type and Ownership (Percent)

	Total	Government	Sick funds	Other public	Private
General inpatient care					
1984	100	48	30	19	3
1996	100	45	30	20	5
2006	100	46	30	20	4
Psychiatric care					
1984	100	49	7	3	41
1996	100	57	5	2	36
2006	100	66	7	3	24
Long-term care (including rehabilitation)					
1984	100	21	12	28	39
1996	100	14	10	38	38
2006	100	9	6	32	53

Source: CBS, *Statistical Abstract of Israel,* various years.

Table 2. Inpatient Beds, by Type

	Total	General care	Psychiatric care	Long-term/ rehabilitation
	Rates per thousand population			*Rates per thousand aged 65+*
1980	6.7	3.0	2.2	18.4
1985	6.5	2.8	1.8	20.3
1990	6.0	2.6	1.5	22.0
1995	5.9	2.4	1.2	24.8
2000	6.1	2.2	0.9	30.2
2006	5.9	2.1	0.6	33.4

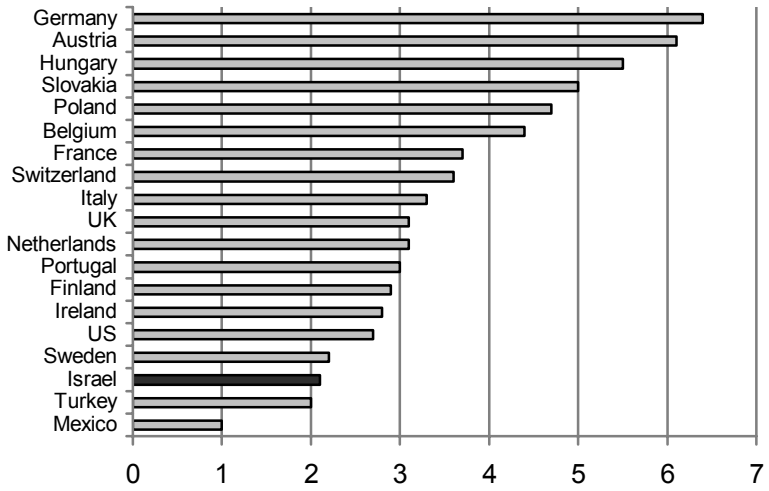
Source: CBS, *Statistical Abstract of Israel*, various years.

In psychiatric care, a drastic decline occurred during the review period, from 2.2 per thousand of population in the early 1980s to 0.6 in 2002. This development reflects a deliberate policy of cutting back on psychiatric beds and the extent of service provided by psychiatric hospitals. In recent decades, the Western medical attitude toward the institutionalization of the mentally ill has changed: the tendency today is to serve such patients in community-based care centers as opposed to psychiatric hospitals. Israel has been influenced by these global trends. At the same time, there has been immense progress in pharmaceutical care allowing more of the mentally ill to live in the community and with their families. These trends were reflected in a structural reform of Israel's psychiatric services that aimed to shift the focus of service from hospitals to the community.

Regarding general care, the decrease in the bed-population ratio is especially notable in large departments – internal medicine (down 25 percent since the early 1980s), general surgery (40 percent), maternity (37 percent), and pediatric care (50 percent).

Israel's rate of general care beds per thousand of population ranks poorly by OECD standards. However, in addition to differences in classifications and morbidity, it is important to take account of differences in the population's age composition. "Older" countries obviously need a larger inpatient system to meet the health care needs of their aging populations.

Figure 3. General Care Beds Per Thousand Population, 2005



Given the decline in the average bed/population ratio in recent years, the **bed occupancy rate** in inpatient general care has been rising steadily in recent years, from 83 percent in 1988 to 95 percent in 2006. Israel's rate is one of the highest in the world and compares poorly with the 75 percent average in the OECD countries. The shortage of beds is especially noticeable in several departments, e.g., internal medicine (102 percent occupancy in 2006), venereal and dermatology departments (123 percent), oncology (105 percent), and acute geriatrics and gynecology (100 percent).

Occupancy rates in observation wards were especially high in 2006 (283 percent). These departments, which have been growing rapidly in recent years, allow hospitals to admit patients who enter through the emergency department (and to charge sick funds for their inpatient days) without taking up beds in specialized

departments. However, the shortage of beds in such departments is acute and worsening with each passing year.

The growing shortage of hospital beds is increasingly hard on the inpatient system, which has to cope with a more difficult and complex caseload than in the past. In recent years, there has been a growing tendency to transfer less seriously ill patients to day-hospital care and even to ambulatory care. For this reason, those admitted to inpatient care are the more difficult and complex cases, in which the treatment has characteristics of intensive care.[7]

The two trends noted above – the declining number of general care beds and the increase in occupancy rates – have been accompanied by a steady downward trend in **average length of hospital stay** during the past two decades. The average stay in Israel's general hospital departments reached 4.1 days in 2006, much shorter than the OECD average (6.9 days in 2005). The cutback in inpatient stay is partly explained by medical developments and partly by budget constraints. Improvements in medical technology and quality of care undoubtedly made a contribution to discharging patients earlier than in the past. At the same time, the community medical services have become more efficient, as reflected in early diagnosis (which makes inpatient care more efficient). More alternatives to hospitalization are available allowing relatively early discharge of inpatients, and the day-hospital departments have expanded markedly.

From the economic standpoint, the sick funds have been applying tougher controls for the purpose of shortening average stay. Furthermore, the method of compensating hospitals for some admissions is now based on treatment groups (DRGs) on the basis of a pre-set rate per surgical procedure. In this case, the

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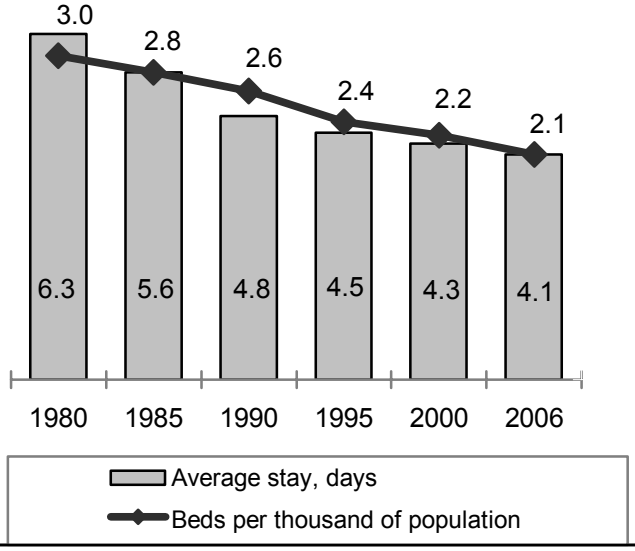
[7] Based on a recent interview with Gabi Bin Nun, 2007, the former Deputy Director-General of the Ministry of Health.

compensation does not take into account the actual duration of patient stay and, therefore, provides an incentive for the hospital to reduce the inpatient stay. Another recent change in the method of reimbursing hospitals is the introduction of differential payment for inpatient days, i.e., differential rates of per diem compensation by department, for example, internal medicine vs. intensive care. It is as yet too early to analyze the impact of this change on the behavior of hospitals and sick funds.

Another possible factor in the shortening of hospital stay is the shortage of beds in some departments. This factor in itself may induce hospitals to discharge patients more quickly in order to free-up beds for new patients.

Figure 4. Bed Rate and Average Length of Stay in General Care Departments



In sum, the main indicators in relation to general care departments point to a downward tendency in bed rates per thousand population, earlier discharge, and a rise in bed occupancy. The combination of shorter inpatient stay and rising occupancy rates is expressed in a very intensive level of activity in hospitals. Unless the system is given proper maintenance and adjusted to the new situation, erosion of service standards and quality of medical care is likely to occur.

3. Manpower

The health care system's most important resources are its personnel. The high quality and caliber of physicians and nurses in Israel are the guarantees of the system's success. The ratio of physicians and nurses to population affects the costs, uses, and outputs of the system. Some 62 percent of all persons employed in the health care professions are physicians (including dentists) and nurses (physicians – 22 percent; dentists – 5 percent; nurses – 35 percent). The system also employs other medical professionals (pharmacists and other academic professions) who account for 18 percent of the total. The remaining 20 percent are paramedical staff (lab technicians, opticians, therapists).

a. Physicians

Some 22,500 physicians are employed in Israel today, 90 percent of all licensed physicians up to age 65.[8] Thus, there are 3.2 employed physicians (or 3.5 registered physicians up to age 65) per thousand residents. The ratio of physicians to population in Israel

[8] The data on employed physicians are sample data from the Central Bureau of Statistics; the data on licensed physicians up to age 65 were taken from the Ministry of Health database.

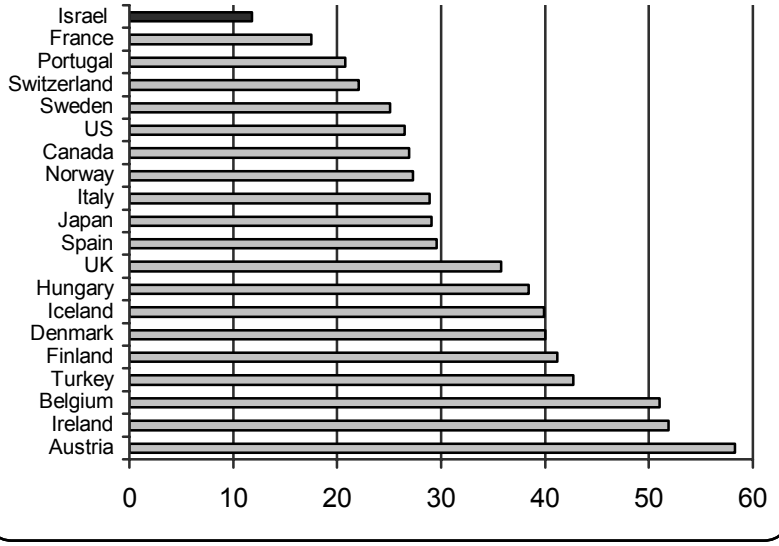
rose at an annual average rate of 1.6 percent from 1970 to 2006. Most of the increase occurred during the 1970s. The rate held steady in the 1980s but rose steeply in the early 1990s due to mass immigration from the former Soviet Union. The ratio leveled off in the late 1990s and has been declining since then. Today, Israel's physician-population ratio resembles the OECD average (3.0 per thousand) whereas only a few years ago it was significantly higher than the standard in developed countries. Even though the situation is still good, the data on the rate of physician training and retirement indicate that a shortage of physicians may be imminent.

Since 2002, when the Pazi Committee Report (Committee for Examination of the Future Need for Physicians) warned that physicians would eventually be in short supply, there has been an increase in awareness of the need to rethink the planning of medical personnel. The committee recommended an increase in the size of graduating classes in Israel's medical schools by some 650 to 930 physicians per year, starting in 2008 – an increase of more than 200 percent relative to the existing graduating classes of around 300. Two additional committees (Halevi and Bin Nun) looked into the matter and presented their recommendations in 2007; they reached similar conclusions about the need to increase the number of physicians being trained. The Halevi Committee, established by the Council for Higher Education, even recommended the establishment of another medical school along with increases in enrollment at the existing schools (Halevi Committee, 2007). The Bin Nun Committee, established by the Ministry of Health, concluded that the intake capacity of the existing medical schools should be doubled (Bin Nun Committee, 2007). The main reason for the expected shortage of medical personnel is the decrease in immigration as a potential source of physicians. As immigration is a major determining factor in the supply of physicians in Israel, the ups and downs of immigration affect the number of medical licenses issued, making the planning

of personnel training in this field especially complicated. The number of medical licenses issued to physicians who studied abroad has been falling in recent years, from a peak of 2,500 in 1992 to 595 in 2000 and 269 in 2006. At the same time, the number of licenses issued to medical school graduates in Israel has been steady since the mid-1970s at 250-300 per year; today they account for about half of licenses issued as against one-third in 2000.

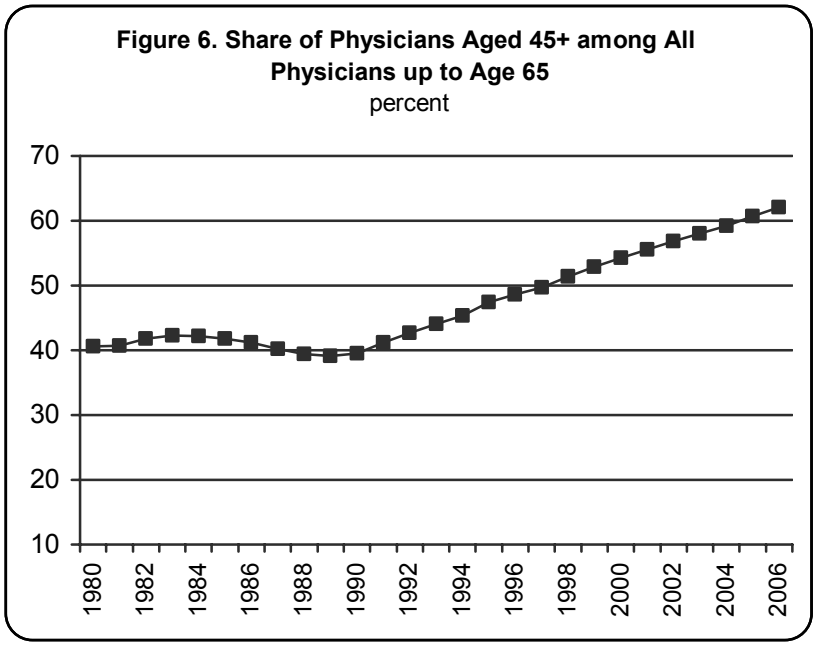
The annual graduates from Israeli medical schools who receive medical licenses provide only a small increase to the total population of employed physicians: 11.8 graduates per thousand physicians in the system, far below the average rate of 34.6 per thousand in the OECD countries. The annual increment of licensees who studied abroad is also rather small. It does raise the total rate of new licensees to 22.9 per thousand practicing physicians, but this is still low by international standards.

Figure 5. Medical School Graduates Per Thousand Employed Physicians, 2005



While the sources of immigrant physicians contract, the existing medical labor force in the health care system is aging. A majority of physicians in the health care services is aged 45+ (62 percent). Only 38 percent are under the age of 45, as against 60 percent in the 1980s and the early 1990s. In a few more years, the share of physicians approaching retirement age will be more significant and the external sources that used to provide most personnel in the field will not be available. The question of whether by then Israel's medical schools will be training enough young physicians to make up the difference – given that it takes thirteen years to train a specialist physician – remains open.

Figure 6. Share of Physicians Aged 45+ among All Physicians up to Age 65



Importantly, although Israel is unique in the effect of immigration on its supply of physicians, European countries and the United States are also concerned about a future shortage of physicians. The shortage is liable to come about due to factors related to demography (population aging), employment structure (a decline in hours worked by young physicians, who tend to prefer leisure, and by women physicians, who are entering the field more quickly than before and who work fewer hours on average than males), and economics (a rise in demand for health care services due to growing national and personal wealth). There are also opposite developments that may lessen the demand for physicians, like the wider provision of medical services by practitioners of other medical occupations (Cooper et al., 2002; Politzer, 1996).

To solve the physician shortage problem in the short term, developed countries are using "imported" medical personnel (like Israel has done only in a more planned fashion), i.e., snapping up the "cream" of experts from poorer countries that cannot offer their physicians professionally and/or economically attractive employment opportunities. This solution is convenient for the countries on the receiving end because it does not involve investment in training the physicians. However, the ratio of immigrant physicians to all physicians is greater than 10 percent in only seven of the thirty OECD member countries: 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) (Mullan, 2005). In Israel, by contrast, 63 percent of physicians completed their medical studies abroad.

b. Nursing Manpower

The growing demand for medical services in the OECD countries in recent years, coupled with the attendant costs, has brought about an increase in the population of nurses and a broadening of their responsibilities in many countries. The "skill-mix" phenomenon

(re-division of roles among members of medical teams) has become far-reaching in nature in North America, the U.K., and Australia. In recent years, there is a great deal of evidence showing that nurses are performing duties that were traditionally performed by physicians, both in hospitals and in the community (Buchan, Ball, O'May, 2000; Buchan, Calman, 2005).

At a time when medicine is fragmented among many specializations, patients' needs are liable to be overlooked. Therefore, it is more crucial than ever, especially in regard to the chronically ill, to monitor patients' responses to pharmaceutical care and the results of imaging and lab tests, i.e., "disease-management." In many countries, such responsibility has been assigned to nurses. Israel has done the same, appointing nurses to disease-management roles in chronic illnesses such as diabetes, asthma, ischemia, and hypertension. Even in acute care, nurses have more responsibilities today than before (Ministry of Health, 2007).

In most developed countries, the ratio of nurses per thousand of population has been rising rapidly since the 1990s. (Many countries lack available data on the nurse-population ratio in previous periods.) In Israel, the share of nurses – registered and practical – has hardly changed since 1995 (at around 5 per thousand of population). However, the internal balance of registered and practical nurses has changed: the share of registered nurses up to age 60 rose from 3.5 per thousand population in 1995 to 4.3 in 2006, while that of practical nurses fell from 2.5 per thousand to 1.5 in the respective years. Today, 74 percent of all nurses up to age 60 are registered nurses. This development – the rising proportion of registered nurses among all nurses – is immensely important. Studies in recent years show that an increase in the share of registered nurses, and in the composition of the nursing staff in terms of education have an important effect on the quality of care. Thus, the higher the proportion of better-educated

nurses, the lower the percentage of medical errors (e.g., falling, bad reactions to medicines, etc.) and patient mortality rates (Cho, Ketefian, Barkauskas, and Smith, 2003).

Israel's overall ratio of employed nurses to population is rather low by the standards of other developed countries: 5.2 per thousand as against 7-10 per thousand in most countries. An alternative calculation based on Ministry of Health data that takes account of all licensed nurses up to age 60, raises the rate of nurses to 5.8 but has no significant effect on Israel's standing on the international ranking. The aforementioned differences in the population's age composition between Israel and most European countries should, of course, be borne in mind when examining these statistics. Furthermore, Israel's ratio of nurses to physicians is very low by OECD standards at 1.6 as against 3.

This situation may affect system performance and may be reflected in burnout and job dissatisfaction on the part of the nursing staff. It limits the possibility of using nurses as case managers and may impair the quality of medical service. In recent years, there is a growing realization that more people should be trained to hold nursing positions at a high occupational level and that registered nurses should be given broader responsibilities than current practice allows them. The Koren Committee, appointed by the Budget and Planning Committee of the Council for Higher Education, recommended a significant expansion of training in nursing schools (Koren Committee, 2004). A Ministry of Health committee that was asked to estimate the health care system's future personnel needs reached a similar conclusion, stating that to hold the proportion of nurses at its present level nursing schools will have to turn out 850 additional graduates each year until 2020 (Bin Nun Committee, 2007).

B. Inequality in Health and Health Care Services*

Israel has been enjoying high rates of economic growth in recent years, but the fruits of the growth are not reaching all population groups, especially the weaker segments of society. In this sense, the health care system is a microcosm of the country's socioeconomic inequality; even though the system has accomplished a great deal in many respects, there are disparities among various population groups that, in certain cases, are actually widening.

States of health and illness are not affected solely by the actions of the health care system. To narrow the country's health disparities, cooperation among government offices and the active involvement of several ministries – health, finance, education, social affairs, and others – are needed. However, the health care system has a definite role to play in preventing and coping with these situations.

In a separate Taub Center publication that included a comprehensive examination of inequalities and their development in health care, the main areas in which these phenomena have been shown to exist were examined and a concrete action plan was recommended for narrowing the gaps. The plan includes several levels of action. First and foremost, it is important for the government to declare the tackling of health care inequalities as a national goal. At the practical level, action should be taken regarding infrastructure investment in peripheral areas. Along with this, existing barriers to access to health care services must be lowered. A reorganization of the system of co-payments for health care services is recommended as well as far-reaching changes to

* This part of the chapter presents a concise summary of the topic based on a separate Taub Center publication (Epstein, Horev, 2007).

tailor health care information to the diverse cultural background of consumers at each level of the system, i.e., in health education, health care and communication with the consumers.

Inequality in the health care system is reflected in several ways: an infrastructure gap between periphery and center, differences in health-promoting lifestyles among population groups, and differences with respect to preventive health behavior. These factors exacerbate disparities in chronic morbidity, life expectancy, and mortality as the following brief survey of health indicators shows.

1. Inequality in Main Indicators of the Population's Health

a. Disparities in Health Behavior and Prevention

The response rates for *mammograms* in the last two years reveal rather large disparities among women aged 50-74 on several measures. The response rate of Jewish women far exceeded that of Arab women, at 70 percent versus only 48 percent, respectively. When the data was broken down by income, it was found that those in low income groups were less likely to respond than the average rate for women in the other income groups, at 54 percent versus 61 percent. When the data on the share of women who requested mammograms in 2004 were broken down by localities, the differences were significant: 20 percent in the Arab city of Tira as against 70 percent in Herzliya and Rishon LeZion (Ministry of Health, National Institute for Research on Health Care Services and Policies, 2007).

Lack of *physical activity* among the elderly is a risk factor for heart disease and diabetes. A study performed in Israel showed a statistically significant correlation between education and income level, on the one hand, and physical activity by persons aged 60+

on the other. For example, the proportion of those who engage in regular physical activity was found to be 11 percent among those with little or no education as opposed to 49 percent of those with 13+ years of education. Some 21 percent of those who earned less than NIS 1,400 per month were physically active, as against 55 percent of those earning more than NIS 7,000 per month (Shemesh, Rasouli, 2003).

The rate of *smoking* (age-standardized) is around 30 percent among Jewish men as against 41 percent among Arab men; among women, the rates are reversed – 21 percent among Jewish women and 8 percent among Arab women (Ministry of Health, National Center for Disease Monitoring, 2006). Disparities also exist in *eating habits*. The findings of a survey on this topic showed that people under the poverty line eat more bread and cereals and less beef, poultry, fish, fruit, and vegetables than the population over the poverty line. The connection between these findings and obesity and diabetes is self-evident; indeed, *obesity* was found to correlate with level of education and ethnic origin (Ministry of Health and CBS, 2004).

Disparities in preventive health behaviors were also observed in rates of response for flu inoculation among residents aged 65+: 44 percent among weak population groups as against 54 percent among other groups. Although inoculation services are given at no charge, they demand an allocation of time as well as effective access. Thus, the finding of differences in inoculation response rates cannot be explained solely in terms of an economic barrier as reflected in direct costs; covert costs and differences in awareness and cultural outlook also figure in the equation.

b. Chronic Illness

The general rate of *diabetes* in the population (according to patients' self-report) is 8.1 per hundred residents. Here, very large disparities were found. First, the rate of diabetes among those of

low or no education is 19.6 per 100 members of the population as against 5.7 per hundred among those with a matriculation certificate or academic degree. Similar gaps were found in regard to other chronic illnesses (Ministry of Health and CBS, 2004). In 2005, the frequency of diabetes in the 35-44 age cohort was 5 percent among economically weak population groups, as against 1 percent among others. In the 55-64 cohort, rates of 10 percent and 20 percent, respectively, were found (Ministry of Health, National Institute for Research on Health Care Services and Policies, 2007). Furthermore, the correlation with education and income pertains not only to the frequency of illness but also to success in coping with it after diagnosis. For example, diabetes was not under control among 31 percent of diabetes patients aged 45-54 who belong to the economically weak population group, as against 23 percent of patients in higher income groups.

Discrepancies among income groups also occur with regard to other diseases. Chronic *asthma*, for example, is 2.4 times more frequent among weak population groups than among stronger socioeconomic groups (Ministry of Health, National Institute for Research on Health Care Services and Policies, 2007).

Birth defects are another example of a disparity that originates in a combination of cultural and geographical factors. For example, the frequency of birth defects is very high among Muslims in various parts of the country, especially Bedouin in the south, due to the prevalence of marriages within the family. The rate of infant mortality due to birth defects was more than twice as high among Arabs in the southern district (6.0 percent per thousand live births) than among Arabs in the other districts.

Disparities also exist in *mental health*. The connection between socioeconomic status and mental health has been known in the literature for many years, and recently published data (Levinson et al., 2004) indicate that in Israel, too, there is a relationship between anxiety and depression and monthly income, and between anxiety

and education. The likelihood of depression and anxiety rises in inverse proportion to the level of income and/or education.

Dental health is something of a national testing ground for the outcomes of a health system that is totally funded by households with only minor state involvement. No other country in the Western world has a situation like Israel's: all other countries with publicly funded national health insurance include a meaningful component of oral and dental health service. In Israel, dental care expenditure is very high and households cover more than 95 percent of it. Israel's investment in oral and dental medicine is rather high in terms of national expenditure and extent of personnel, but the results are poor compared to other developed countries (Horev, Mann, 2007). The findings of a clinical survey on dental health among a national sample of twelve-year-olds (Zusman et. al., 2005) point to the existence of a relationship between socioeconomic level of locality of residence (based on the CBS socioeconomic classification of localities – CBS and Ministry of Health, 2006) and the number of teeth affected by decay. The survey reported that in localities classified as relatively poor (Levels 3 and 4), the average number of affected teeth was 2.3-3.8 per child as against 1-1.6 among children in localities that ranked relatively high on the socioeconomic scale (Levels 7-9). In regard to missing teeth among those aged 65+, too, significant differences were found among income groups and between seniors in the Arab and Jewish sectors (Berg, Horev, Zusman, 2001; Adut et al., 2004).

c. Life Expectancy and Mortality

In *life expectancy*, there were significant disparities by area of residence. The lowest life expectancy was found in the Beersheba sub-district (which includes Ashdod, Ashkelon, and Beersheba). An examination of countrywide data found an eight-year discrepancy between the locality with the longest life expectancy and that with the shortest (CBS and Ministry of Health, 2006).

As for the Jewish-Arab divide, the life expectancy of both population groups has been rising but the **rate** of gain is different and the gaps are widening. The disparity in life expectancy at birth between Jewish men and Arab men was 1.5 years in 1996 and 3.8 years a decade later (78.8 versus 75.0, respectively). At the same time, the gap between Jewish and Arab women widened from 3.1 years to 4.0 years (82.7 versus 78.7, respectively). Although the gap between women in the two groups grew, it did so at a lower rate than that between men.

In mortality from *heart disease***,** there is also a significant difference between Jewish men (246.8 deaths per 100,000 persons, with a declining trend), and Arab men (208, with an upward trend) (CBS, 2006). Consistently and in all age groups, mortality rates rise in inverse proportion to level of education and the disparities by education have been growing over time (Manor et al., 2004). The same trend was found among women (ibid.).

The countrywide *infant mortality rate* is around 5 deaths per thousand live births. However different rates were found according to geographic locale and among different ethnic groups. Average infant mortality is 7.6 per thousand in the south and 6.3 in the north, as against 3.3 in the central district and 3.1 in the Tel-Aviv district. Several towns stand out for their above-average rates of infant mortality, including Beersheba, Hadera, Acre, and Safed, as against below-average rates in Tel-Aviv and Jerusalem.

Infant mortality has also been found to correlate with mother's education. In 2000-2002, infant mortality was 4.6 times higher among women with fewer than four years of education than among women with 16+ years of education (Ministry of Health, 2005a). The disparity has widened over the years (it was 3.5 times in 1993-1996) (Ministry of Health, 2001). The gap between the Jewish and Arab sectors in total infant mortality stands today at 4.7 per thousand live births. The problem originates mainly in the relatively high share of marriages within families in the Arab sector

and the low willingness to terminate pregnancy in cases of detection of a severe birth defect. Importantly, there are significant differences in infant-mortality rates within the Arab population as well – from 15.5 per thousand live births in the south to 5.4 in Jerusalem and 6.6 in the other districts. (Ministry of Health, 2005b).

2. Disparities in Health Care System Investment

To this day, there is no compulsory minimum standard for health care system infrastructure in different localities. The effect of this is especially significant in services in small localities, peripheral areas, and socioeconomically "weak" areas in central Israel. For certain population groups, difficulties in accessing health care services exacerbate the gaps in health outcomes as well. The examples that follow substantiate the scope and severity of the problem especially in inpatient and hospital services and the physician-population ratio.

Sizable disparities between periphery and center are typical of Israel's inpatient system. The rate of general care beds per capita is especially low in southern Israel, at 1.5 per thousand of population. It is low in the north, too – 1.6 per thousand – and higher in Tel-Aviv and Haifa (2.7). Similar disparities were found in beds per capita in specialized fields. For example, the proportion of pediatric intensive care beds varies widely among districts, from 2.3 per 100,000 in Jerusalem and 2.0 in Tel-Aviv to 0.9 in the south and 0.7 in the north. There are also disparities in the rate of geriatric nursing inpatient beds: 33.3 per thousand persons aged 75+ in the south as against 65.7 in the center and 71 (the highest rate) in the north. The rate of beds for the mentally frail is 7.1 per thousand aged 75+ in the south as against 16.7 in the central area.

Disparities also exist in other basic hospital infrastructures. In surgical stations, for example, the lowest rates are in peripheral

areas: 3.2 per thousand of population in the south and 3.5 in the north as against 7.0 per thousand in Haifa, 7.8 in Tel-Aviv, and 8.9 in Jerusalem. The rate of emergency medicine stations is very low in the south – 6.4 per 100,000 of population – as against 15.2 in Tel-Aviv, 25.6 in Jerusalem, and 20.4 in Haifa. An especially large disparity was found in the rate of pediatric emergency medicine stations – 34 per 100,000 of the population in the Jerusalem and central areas as against 11 in the south. The rate of maternity beds was 10.6 per 100,000 women aged 15-44 in the south and 14.2 in the north, as against 23.1 in Jerusalem and 17.2 in Haifa.

The nationwide ratio of physicians to population, 3.2 per thousand in 2005, resembles the average among the developed countries today, as noted above. However, there are large differences between districts: 2.2 per thousand of population in the north (the lowest rate) as against 4.7 in Tel-Aviv (the highest). The gap persists when the comparison is based on rates per age-standardized adults – 2.3 per thousand in the north as against 3.9 in Tel-Aviv.

3. Barriers to Accessing Health Care Services

Apart from the issue of deficiencies in the infrastructure, there are economic and cultural barriers that prevent access to adequate health care services.

a. Cultural Barriers

Different cultural perceptions of health and illness affect a group's understanding of and attitudes towards health care, states of illness, and ways of coping with them. Additional problems relate to language, the lack of advertising that is culturally tailored and translated into various languages, and a shortage of professionals who originate in these population groups and can help members of the group surmount the cultural barriers.

The waves of immigration that Israel has received from various countries over the decades are differentiated in the extent of their prior familiarity with advanced health care services. The encounter between immigrant population groups and the Israeli way of life and health care services has had problematic outcomes in terms of immigrant health. Specifically, the health of these population groups has often declined after they reached Israel, especially with respect to chronic illnesses. The health related reasons for this trend were obvious in most cases, but the path to corrective action was less clear and has always presented society in general, and the health care system in particular, with a serious challenge. Against this background, Taub Center experts have cited the need for the cultural adjustment of information materials and for the availability of interpreters at medical service facilities. Appropriate training directed to understanding better different cultural frameworks would allow health care professionals to interface more effectively with population groups that have special characteristics and needs.

b. Economic Barriers

1) Payment of health tax. The health tax, collected by the National Insurance Institute, is seemingly a proportional tax because it is calculated as a constant rate of the insured's income. However, the tax also has a regressive element because beyond a certain income ceiling the total amount paid remains constant. Consequently, it gives preferential treatment to those of higher income. The 2008 Economic Arrangements Bill proposes to extend the health tax to homemaker who have been exempt until now. The State Health Insurance Law establishes the right to health care services irrespective of the requirement of the health tax payment. Therefore, failure to pay the tax to the National Insurance Institute does not negate the individual's entitlement to medical services. Practically speaking, then, there is no economic barrier to health care services. Nevertheless, this method of taxation creates a

disparity that acts in favor of those of high income (Chernichovsky, 2007).

In addition to the health tax payments, most households incur additional health insurance expenses: premiums for private (commercial) health insurance policies and the sick funds' supplemental insurance plans. In 2005, 79 percent of the population held supplemental insurance policies but only 59 percent of those in the lowest income quintile and 47 percent in the Arab sector did so (Gross, Brammli-Greenberg, Matzliah, 2007). Examination of the trends in household expenditure on health care over a period of years, shows that monthly household expenditure for health insurance has risen steadily, from 0.4 percent of total average household consumption expenditure in 1997 to 1.3 percent in 2005. In the latter year, households in the uppermost income quintile spent 5.1 times more on health insurance, on average, than households in the lowest quintile.

2) Co-payments. The economic barriers in this domain are arrayed in three circles. The first relates to the co-payment that applies to some of the services covered by National Health Insurance. Examples are Mother-Infant Care centers, visits to specialist physicians, co-payments for medicines that are included in the insured basket of medicines, visits to the emergency room, child-development services, and complex in-patient nursing care. It is important to note that protective mechanisms for weak population groups, such as co-payment exemptions or discounts, were included in the law only since 1998 and do not cover all services that require co-payments (Horev, 2004). Furthermore, weak population groups are not aware of all the co-payment discounts and exemptions (Gross, Brammli-Greenberg, Matzliah, 2005). For example, only 19 percent of those surveyed in the lowest income group knew about the existence of payment ceilings for persons of low income. Among Arabs, the rate was even lower – only 5 percent.

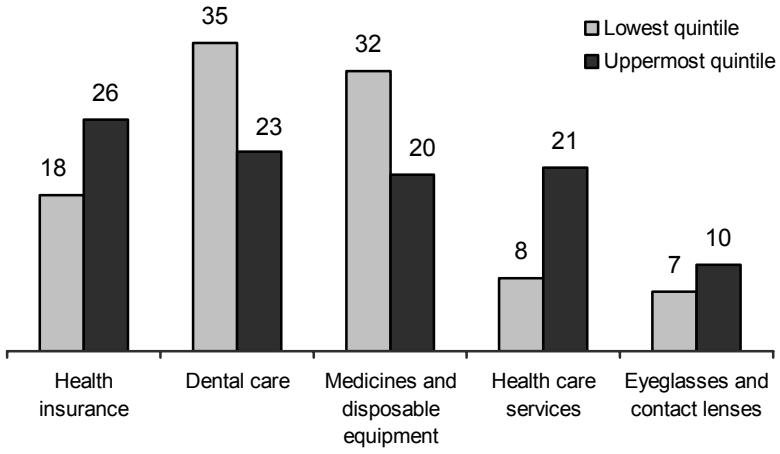
The package of services covered by national health insurance is limited in scope due to constraints in public funding. Therefore, many insured persons increase the services to which they are entitled by buying supplemental insurance. This creates the second circle of the economic barrier: the monthly premiums for the supplemental coverage and the co-payments that pertain to it.

The third circle of the economic barrier relates to medical services that the basic package does not offer and that supplemental insurance policies rarely cover, including some that are relatively essential and very expensive, such as dental care (Horev, Mann, 2007) and certain medicines and technologies. The high cost of these services is borne solely by the patient. Thus, for example, the price of dental care is perceived as an economic barrier that inhibits access by weaker population groups to regular service. Some 57 percent of those surveyed in the lowest quintile reported that the main reason for refraining from dental care, even when it was necessary, was its cost (as against only 19 percent of interviewees in the upper quintiles).

The overall average monthly household expenditure on health care (in all of the above described expenditure categories) was NIS 556 in 2005, 5 percent of the total household consumption basket. Expenditure on dental care was 1.4 percent of this total (unchanged from 1997) and expenditure on health insurance was 1.3 percent (with an upward trend). Expenditure on health care services such as private physician/nurse, specialist physician at the sick fund, Mother-Infant Care Center, child development center, laboratories, alternative medicine, ambulances, and emergency room services added up to 0.7 percent (unchanged from previous years). Finally, other outlays for health care services (of which medicines are an important component, as are eyeglasses and contact lenses) amounted to 1.7 percent of total household consumption expenditure (with a slight rise over the years).

Income groups differ in their patterns of consumption of health care services. There are major differences in expenditure on health services and health insurance. For example, the total household health care expenditure is 3.5 times higher in the uppermost income quintile than in the lowest (NIS 980 versus NIS 285). As for the components of expenditure, the main item in the health care expenditure of households in the uppermost quintile is health insurance (26.4 percent of household health care expenditure) whereas in the lowest quintile the main expenditure goes for dental care (35 percent).

Figure 7. Household Health Care Expenditure
By types of expenditure and income quintiles, 2005



Households finance a relatively large share of national health care expenditure (31 percent). The payments that they have to make for health care services sometimes create an economic barrier that prevents the purchase of an essential service. The Taub Center Social Survey, which polls a representative sample of the population of Israel, found that roughly one-fifth of respondents had refrained from seeking an essential medical service during the pre-survey year due to its cost. This finding, grave in itself, was even more severe among the weaker population groups – in which roughly **one-third** of respondents had refrained from an essential medical service due to its costs. Other studies have elicited similar findings (Gross, Brammli-Greenberg, Matzliah, 2007).

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