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ISRAEL'S HEALTHCARE SYSTEM

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Israel's Healthcare System

Dov Chernichovsky*

Abstract

Israel's national healthcare system suffers from structural flaws to which the State has contributed. These include a lack of both the resources and the administrative flexibility to cope with rising demand for care as supply has declined. Rather than aiding the public part of the system to cope with the challenge, the State has exacerbated the situation by reducing the share of public funding and by encouraging the private insurance funds to provide these services. The result is an uncontrolled rise in service demand in the private part of the system that is largely met by personnel who are also employed in the public part.

Thus, not only has the healthcare system declined in efficiency, reflected in a relative inflation of healthcare prices due to double pay and waste, but the situation has also worsened in terms of income distribution and access to medical services. This deterioration also manifests in growing disparities between poor and rich, between central Israel and its periphery, and between incomes of interns, who cannot do privately paid work and those of specialists who can. Worst of all, early indications of these systemic flaws are becoming apparent at the public health level, as seen in a rise in infant mortality among the Bedouin of the Negev and other weaker groups in society.

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This chapter was written in the shadow of a physician's strike, the first in a decade, organized for the declared purpose of "rescuing the Israeli public health system." The strike reveals the depth of the structural crisis that has emerged within the healthcare system – a crisis unlikely to be resolved by the strike.

The Israeli healthcare system has been at a crossroads for several years. Israel now has the option, on the one hand, of rejoining the family of countries characterized by well-developed healthcare systems. On the other hand, the option exists of completing the "Americanization" process – a process that the US itself is trying to reverse – and joining the cluster of countries whose healthcare systems are less well organized (these countries include the US and various other economies in transitional states). Unless something changes, there will be an erosion – early indications of which are already visible – of the Israeli healthcare system's impressive achievements, including those relating to public health.

This crisis and some of its ramifications form the background against which the chapter was composed. The first section begins with a survey of, and update on, the healthcare system from two perspectives. The first of these is the health of the Israeli population, as reflected in life expectancy and infant mortality, compared with the 22 more highly-developed OECD member countries (OECD-22¹); the second is the Israeli population's degree of satisfaction with the system. Within the context of these two indices, the chapter discusses equity, expenditure

¹ OECD-22 includes the following countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, South Korea, Luxembourg, the Netherlands, New Zealand, Norway, Spain, Sweden, the United Kingdom. Countries excluded from the comparison: Turkey, Mexico, the Czech Republic, Slovakia, Hungary, and Poland. Thus, the comparison is with the most highly-developed countries, those whose income levels and, most importantly, medical technologies are on a par with those of Israel.

control, and efficiency, as well as scope of choice. The second section addresses (against the background of the system's achievements as well as the physician's strike) the structural problems of a system facing rising demand for health services at a time when the supply of medical manpower in the population is continually declining – problems that have actually been aggravated by the State. The remainder of the chapter, sections 3 and 4, deals with two main issues that stem from the current situation: the effect of rising private expenditure on income distribution and poverty; and the ramifications of the crisis for Israel's geographic and social periphery.

1. The System's Achievements and Performance

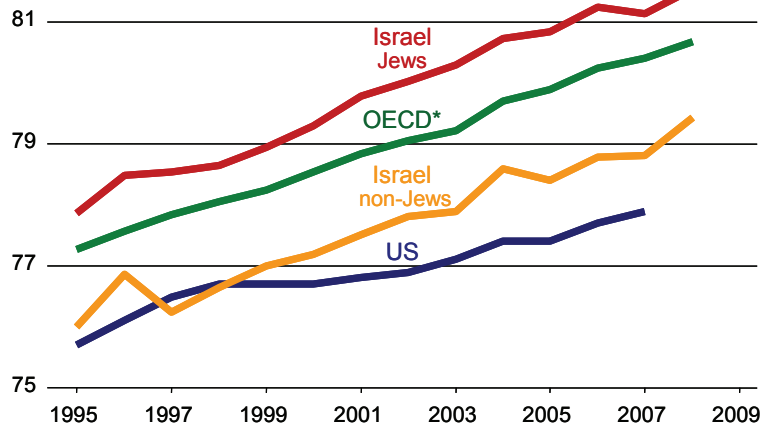
The achievements of Israel's healthcare system are measured in terms of two main parameters: the population's health, and its satisfaction with health services. These parameters are complemented by a number of "secondary" factors that may be defined as intermediate objectives: equity, cost containment, economic efficiency, and freedom of choice. These objectives have a socioeconomic dimension which both serves the system and enhances its performance.

1.A. Health Status of the Population

The population's health status is measured in this chapter by two basic indices: life expectancy and infant mortality. Life expectancy in Israel, for both Jews and non-Jews, is continuing its upward trend of past years (Figure 1). The high level of health that characterizes Israel's Jewish population compared with the OECD-22 countries is striking; at the same time, the health status of Israel's non-Jewish population is continuing to improve as well. The life expectancy of non-Jewish Israelis is high compared with that of Arab and Muslim countries, at least those in Israel's vicinity (Figure 2).

However, considerable potential still exists for closing the gaps between Israel's Jewish and non-Jewish populations, by improving the non-Jewish population's health status.

Figure 1
Life expectancy at birth
 1995-2008

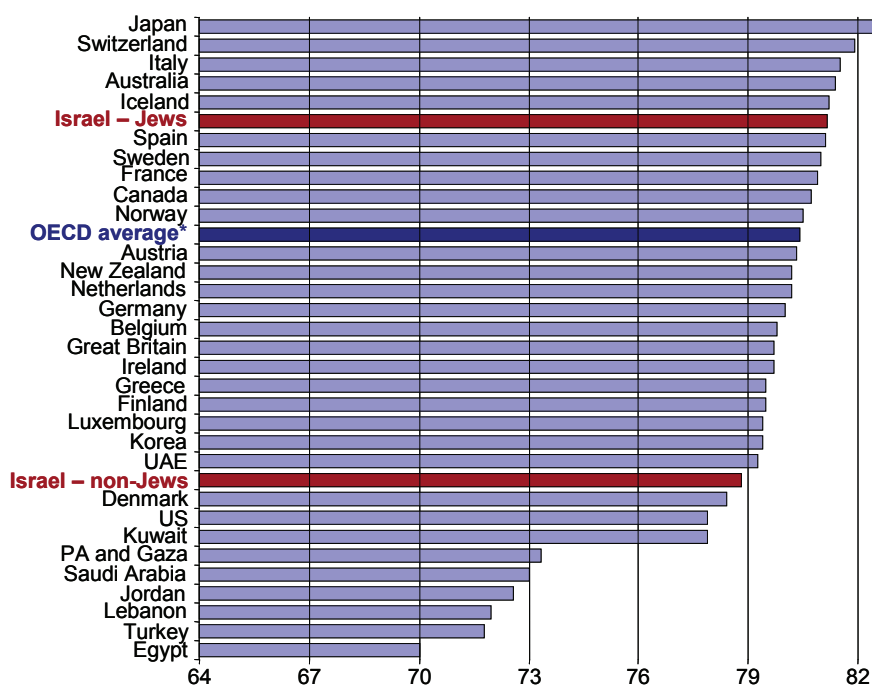


* average of the 22 most developed OECD countries excluding the US.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics; OECD Statistics Portal.

Figure 2
Life expectancy at birth
 2007



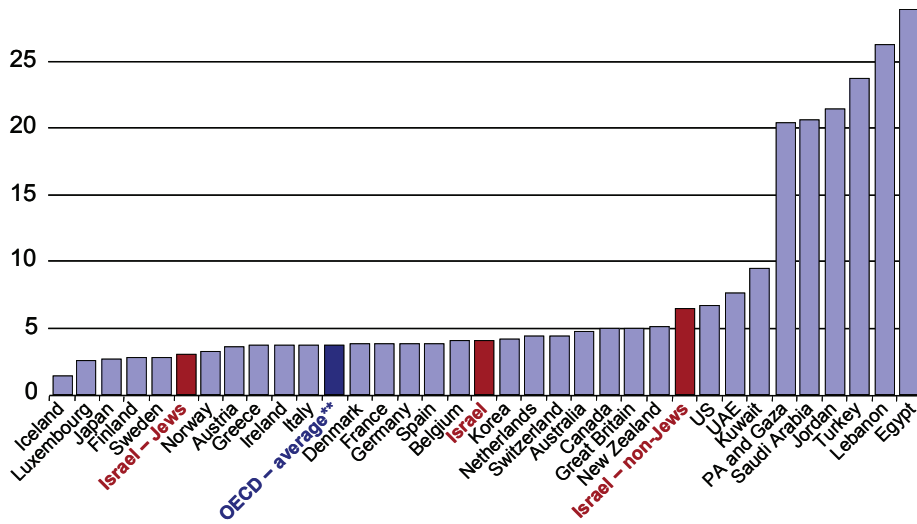
* average of the 22 most developed OECD countries excluding the US.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics; OECD Statistics Portal.

The improvement in, and relative status of, Israeli life expectancy indicators, reflects changes in infant mortality levels – an index that has steadily improved but which, again, is still characterized by disparities between Jews and non-Jews, whose infant mortality levels are higher (Figures 3 and 4). These infant mortality disparities pose a major challenge for Israel’s healthcare system.

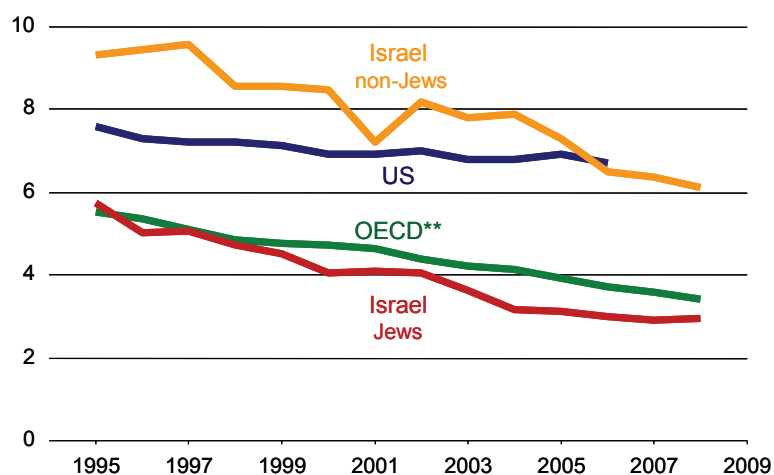
Figure 3
Infant mortality*
 2007



* infant deaths up to age 1 per thousand live births.
 ** average of the 22 most developed OECD countries excluding the US.

Source: Taub Center for Social Policy Studies in Israel.
Data: Central Bureau of Statistics; OECD Statistics Portal and the World Bank.

Figure 4
Infant mortality*
 1995-2008



* infant deaths up to age 1 per thousand live births.

** average of the 22 most developed OECD countries excluding the US.

Source: Taub Center for Social Policy Studies in Israel.

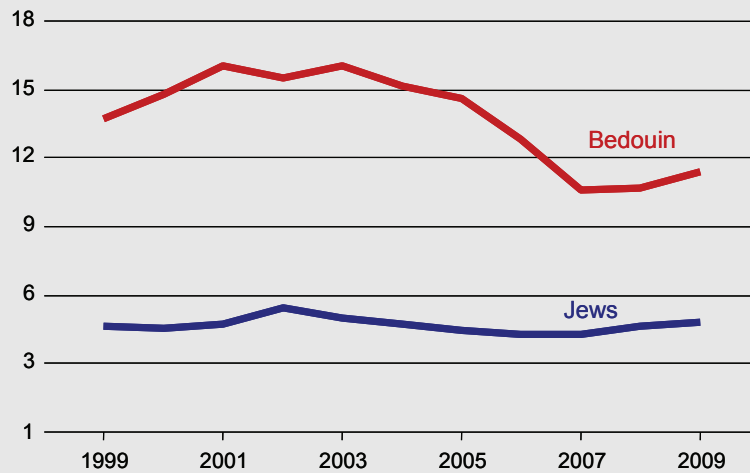
Data: Central Bureau of Statistics; OECD Statistics Portal.

However, as will be shown, the challenge of narrowing disparities is growing within all population groups, both Jewish and non-Jewish, particularly along socioeconomic lines that also reflect place of residence. The ability to meet this challenge has recently been called into question in light of a worrisome rise in infant mortality, particularly among the Negev Bedouin (Spotlight A). It should be noted that this development has emerged after years of impressive gains, particularly in this area (Chernichovsky, 2010b), and it may signal an unwelcome trend toward erosion of the healthcare system's achievements, discernible early on in Israeli society's weaker segments.

Spotlight A: Infant Mortality of Bedouin and Jews in the Negev*

The infant mortality rate for Bedouin in the Negev was 13.6 per thousand live births in 2010, compared with 4.1 per thousand for Jews. Both population groups have been experiencing a rise in infant mortality since 2008, following a period (starting in 2003) characterized by a significant decline in infant mortality, particularly among the Bedouin (Figure 5). In 2010, the leading cause of death for Bedouin infants was congenital defects and hereditary diseases; for Jews, it was premature birth and related complications.

Figure 5
Infant mortality for Jews and Negev Bedouin*
1999-2009



* infant deaths up to age 1 per thousand live births; three-year moving averages.

Source: Taub Center for Social Policy Studies in Israel.

Data: The Health Sciences Faculty, Ben-Gurion University of the Negev; District Health Division, Southern District.

Although there is no unequivocal explanation for the phenomenon, one cannot ignore the severe crisis of maternal-child preventive-service delivery to the Bedouin population, a crisis spawned by the Negev's manpower shortage relative to the rest of the country. Data on rising percentages of Bedouin women who come to give birth at Soroka Medical Center without having received any prenatal care support this hypothesis.

* Thanks to Prof. Ilana Shoham Vardi, Dr. Ilana Belmaker, Dr. Hagit Peretz, Dr. Natalya Bilenko, Dr. Daniela Landau, Dr. Farhan Alesana, and Liora Shahr-Rothberg, who provided updated figures and enabled this spotlight to be presented in the current report.

1.B. Satisfaction Level with the Healthcare System

Assessing the population's satisfaction with healthcare – and, in particular, presenting satisfaction levels in a context of international comparison – is a complex task. It is, nonetheless, important to look at satisfaction levels over time within each individual country.

The Taub Center's Social Survey 2010 reports a high degree of satisfaction with healthcare, both generally and with regard to the health services available to families (this is taken up in depth in the section on Health in the Social Survey 2010, in this report). The Survey, which has been conducted continuously since 1999 and monitors public satisfaction levels on a regular basis, points to a very high level of public satisfaction with healthcare – 41 percent of Israelis feel that the level of service that they receive has improved, while 84 percent are happy to varying degrees with the services available to themselves and to their families. Interestingly, higher-than-average satisfaction levels were found among the ultra-Orthodox and the Arab Israelis, a phenomenon that was noted in earlier surveys as well.

The Myers-JDC-Brookdale Institute Health Services Utilization Survey conducted in Israel in late 2009, which compared its findings with an earlier survey from 2007, also points to high levels of public satisfaction with the services provided by Israel's health funds (Gross, Brammli-Greenberg, Weizberg, 2009). However, the survey's overall satisfaction picture is disturbed when one looks at the level of difficulty experienced in obtaining medical services in times of need. The overall percentage of respondents who said it was "difficult" or "very difficult" to "obtain medical care when I needed it" was 14 percent in 2009. However, when population groups are divided up, one finds a rise in the percentage of those answering "difficult" or "very difficult" among low-income respondents (18 percent in 2009 versus 13 percent in 2007), Arabic speakers (12 percent in 2009 versus only four percent in 2007), and the elderly (17 percent in 2009 compared with 22 percent in 2007). These findings are of special importance in the context of increased private expenditure on healthcare, an issue that will be discussed along with additional relevant findings at a later point.

1.C. The Healthcare System's Medium-Term Socioeconomic Objectives

As noted above, the system's medium-term goals relate to socioeconomic issues that both serve the system and contribute to its performance: equity, cost containment, efficiency of operations, and scope of choice. These issues also have value in and of themselves.

Equity. Equity in the healthcare system refers to progressive nature of service funding or to the degree to which funding reduces the relative burden of expenditure on poor families. Equity also relates to the issue of a positive association between level of income and access to medical care.

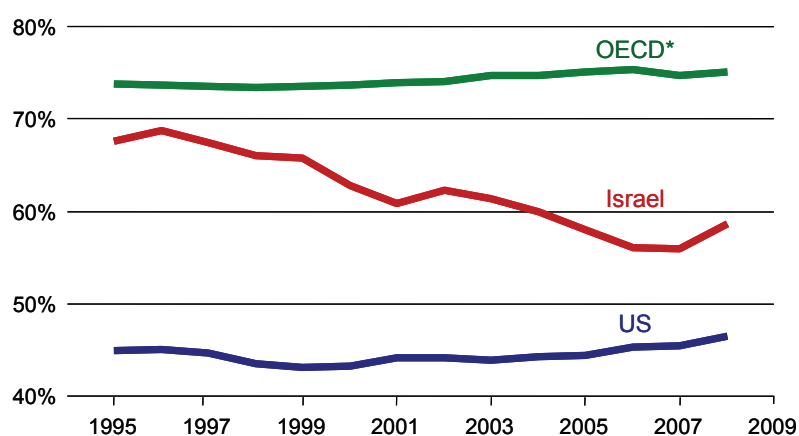
Despite the macro-level rise indicated by the 2008 data, the decline in the share of public funding of the system is particularly evident over time, at least in international comparison (Figure 6). Moreover, within the

realm of public funding itself, there has been a decline in the share of general taxation as a component of total public funding, which also includes the earmarked "Health Tax." As will be discussed, particularly in Section 3, these trends are being reflected in household budgets: the need to fund the system translates into a worsening income-distribution situation and deeper poverty among sectors that were poor to begin with. It also results in less accessibility to services among these groups.

Figure 6

Public expenditure for healthcare services

as a percent of national expenditure on healthcare services, 1995-2008



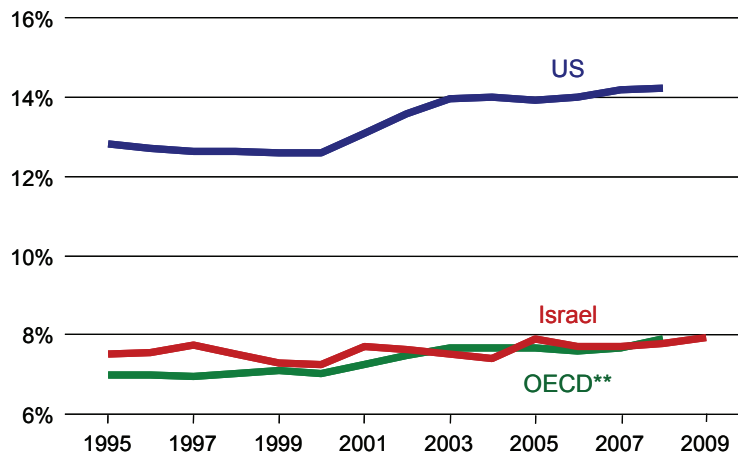
* average of the 22 most developed OECD countries excluding the US.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics; OECD Statistics Portal.

Expenditure control. Israel's national expenditure on healthcare in 2009 was NIS 60 billion, accounting for 7.9 percent of the GDP. This figure is, as in previous years, similar to the mean for the 22 most highly-developed OECD countries, except the US which deviates from this picture with a high rate of health expenditure as a percentage of GDP (Figure 7). The figure shows stability for Israel in health expenditure as a percentage of GDP, both over time and in comparison with other developed countries, since the National Health Insurance Law was enacted in 1995.

Figure 7
National expenditure on healthcare services
 as a percent of GDP*, 1995-2009



* standardized per capita expenditure (using the old capitation formula) as a percent of per capita GDP.

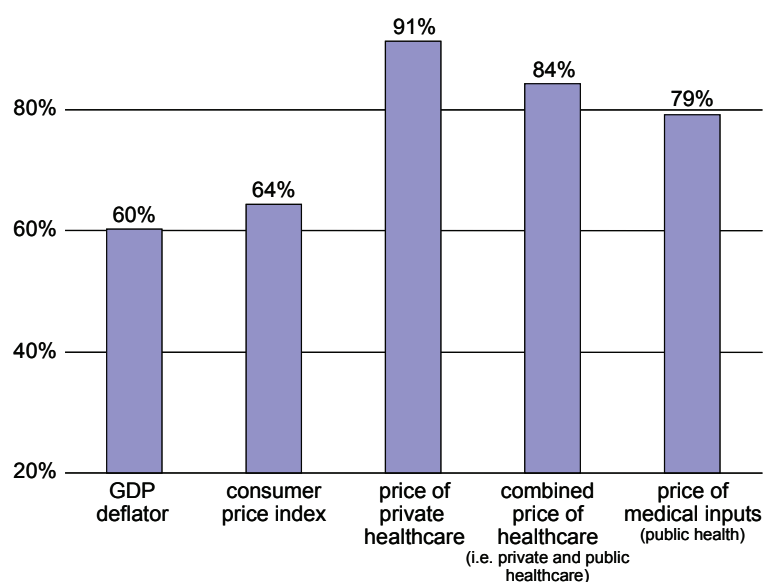
** average of the 22 most developed OECD countries excluding the US.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics; OECD Statistics Portal.

However, due to Israel's changing funding structure, the system has paid a heavy price in all respects in order to maintain this expenditure level, as will be discussed in depth in the next section that is devoted to structural changes undergone by the system. One price that can be discerned, even at this stage, is that of a relative increase in the price of healthcare – a growing inflation of the price of medical services in Israel, driven by inflation of the prices in the private healthcare sector (Figure 8). This points to a continued loss of expenditure control within the system, and to a loss of efficiency.

Figure 8
Changes in various price indexes
1995-2009



Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics, Ministry of Health.

Scope of choice. Data are not available regarding the degree to which the Israeli healthcare system is characterized by choice. However, in the context of the discussion of structural changes undergone by the system, and of major issues on the Israeli public agenda – particularly that of privately paid medical services (“*SHARAP*”) – it is important to emphasize that, in contrast to normal practice in the various healthcare services available in the community, Israelis have no freedom of choice with regard to physicians in publicly-funded hospital settings (hereinafter: “public hospitals”), except for the Hadassah and Shaarei Zedek medical centers in Jerusalem, where choice is possible via *SHARAP*. This is despite the fact that hospitalization is frequently essential to ensure survival and well-being.

2. Structural Issues

The discussion of the system’s structural issues will be based on several fundamental facts related to the Israeli economic and social conditions, as well as to the development of resources available to the healthcare system and the way in which they are funded. These facts affect both supply and demand for healthcare. The crisis in the system can be attributed to the rising tension between the two.

2.A. Rise in Demand

Rise in per capita income and income distribution. During the period 1995-2010 per capita income rose by 1.7 percent on average. A rise in standard of living itself leads to increased demand for healthcare, usually translating into a slightly higher percentage than the percentage by which income rose. For similar reasons, a rise in income distribution that takes place during the period of economic growth will intensify an increase in demand for care. That is, one may anticipate that a rise in income and changes in income distribution will have increased the demand for

healthcare by at least 7.1 percent per year, or to a level 30 percent higher than that of 1995.

Population aging. Israel's population is aging. The wave of immigration from the former Soviet Union (FSU) having ended, and fertility rates being relatively high, this process has slowed somewhat. However, the overall trend remains one of population aging. This clearly intensifies the demand for care.

To conclude, Israel should have been expected to experience a per capita rise in demand for healthcare, at least through the middle of the last decade, of two to three percent, per year. This was the anticipated result of processes – desirable in themselves – that contribute to a rise in demand for healthcare, not in terms merely of quantity but also of technological quality and consumer quality: a growing desire on the part of the public for freedom to choose physicians and treatment modalities.

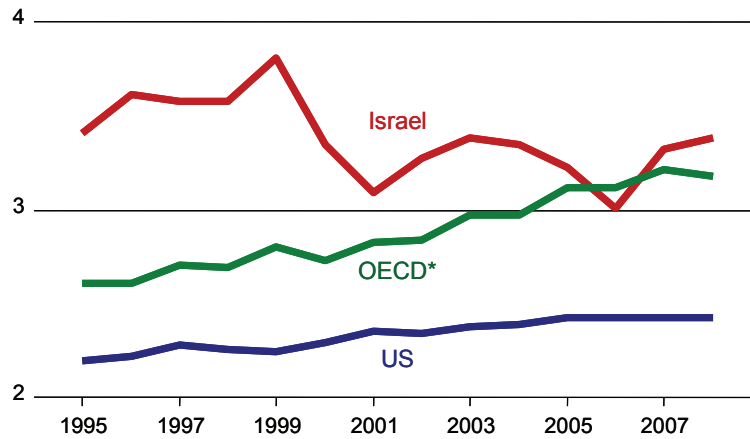
2.B. Reduced Growth in Supply

Physicians. Israel has traditionally enjoyed a high physician-to-population ratio compared with other developed countries, and compared with the US (Figure 9). Since the late 1990s – once the great wave of immigration from the FSU dwindled – there has been a clear trend downward in the Israeli physician-population ratio, in the direction of the OECD average.² Obviously, the average does not reflect more precipitous declines in certain specialties, e.g., anesthesiology, or in specific geographic regions, such as the periphery. It should be noted that Israel's physician-population ratio is still relatively high in comparison with other countries, particularly the US.³

² The annual fluctuation in physician numbers is related to the waves of immigration and to physician licensing and registration.

³ Countries differ in how they define their physician numbers. In Israel physicians are defined as those holding medical licenses, while in other countries they are defined as those practicing medicine. However, these differences are not enough to contradict the trend with regard to disparities.

Figure 9
Physicians per 1,000 population
 1995-2008



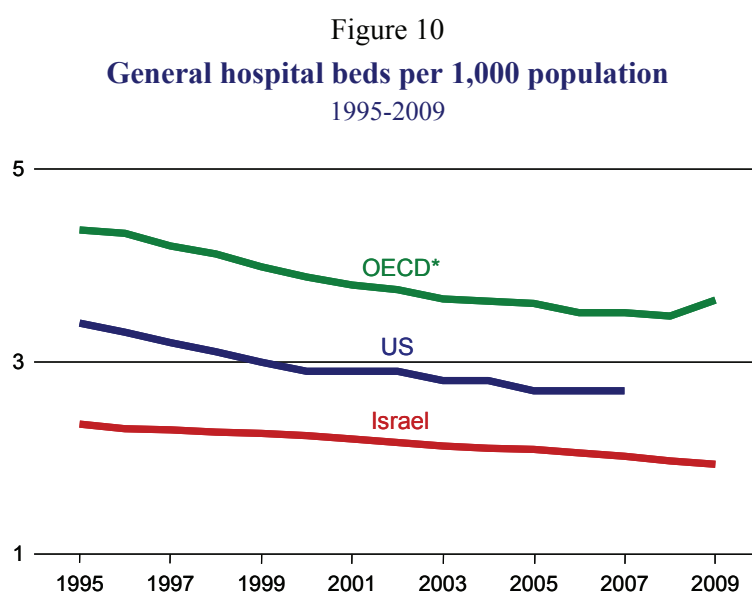
* average of the 22 most developed OECD countries excluding the US.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics; OECD Statistics Portal.

The decline in physician-population ratio has emerged concurrently with a decline in nursing and related personnel, and has called attention to the relative shortage of auxiliary health manpower. The impact of such a decline in manpower supply in the population on the availability of services is particularly harsh in so labor-intensive a sector as health care.

Hospital beds. It is difficult to conduct an international comparison of hospital bed-population ratios due to differences in how “hospital bed” is defined. Figure 10 presents data published recently by the OECD on general inpatient beds. The comparison shows that Israel’s standardized ratio is lower than that of the developed countries included in the study, as well as the US. This disparity is obscured when one looks at Israel’s total inpatient-bed data, which include emergency room, long-term care and psychiatric beds. It should be noted that recently published data strongly confirm the prevalent feeling that Israel is suffering from an overall inpatient bed shortage.



* the average of 15 countries: Austria, Belgium, Canada, Denmark, Finland, Germany, Greece, Ireland, Italy, Japan, South Korea, Netherlands, Norway, Spain, and Sweden.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics; OECD Statistics Portal.

As in the discussion of the physician-population ratio, it is important to focus on the hospital-bed situation trends, rather than on numbers that refer to a specific point in time. The overall downward trend in inpatient bed numbers that has emerged over the past two decades, in both the OECD and the US, indicates a lowered hospital bed-population ratio which, in turn, appears to reflect technological developments resulting in fewer hospitalizations overall. Nevertheless, Israel's downward trend has been more precipitous, and has reached a lower point.

To conclude, it is only natural that in a healthcare system featuring national health insurance where the main funding is public – any excess demand will find expression in a demand for privately-funded services. This is due to the difficulty of publicly-funded systems, compared with privately-funded systems, to make the necessary adjustments.

2.C. Exacerbation of Excess Demand by Government Policy

Rather than plan and prepare for what was inevitable (and readily-anticipated), and help the system, particularly its publicly-funded part, to adapt to changing conditions and to “wean” itself from the medical manpower supply levels of the 1990s (which were unprecedented in modern history), successive Israeli governments have worsened the supply situation. They have done this by steadily reducing, since 1998, the State's share in healthcare system funding, to a degree unparalleled among those developed countries that provide their populations with universal health coverage – the OECD countries, excluding the US (Figure 6).

Governmental support for the Israeli healthcare system has declined from 67 percent at the time of the enactment of the National Health Insurance Law (1995) to 60 percent of overall system funding in 2010; the difference has been made up by co-payments and by private insurance premiums, particularly the “supplemental health insurance” currently held by 80 percent of Israeli households. Even worse, this latter form of insurance has been organized to fund healthcare in private facilities. This

is in contrast to other potential options, such as those found in the Hadassah and Shaarei Zedek Medical Centers which, for historical reasons, are able under the *SHARAP* arrangement to receive both public funding and organized private funding (semi-public). That is, the Israeli government, over the past decade and a half, has contributed to increased excess demand for privately-funded medical services in a manner unparalleled by any other country, developed or not.

What are the results of this state of affairs? Due to a lack of publicly accessible information, the anticipated outcomes, theoretically at least, are available in the form of popular anecdotes. In light of the fact that most of Israel's healthcare manpower is employed in publicly-funded clinics and hospitals, the excess demand for privately-funded health services is being met largely by healthcare workers employed in these facilities – some of which are actually government-owned. Medical specialists, even State employed ones, are providing privately-funded services, frequently during their publicly funded work hours. This privately-funded activity is being carried out in private facilities and by “corporations” even on the premises of government hospitals. These specialists care for patients whom in many cases they themselves have referred from publicly-funded facilities to facilities where the services provided are privately-funded. Patients, for their part, are demanding private healthcare, particularly as a means of avoiding the ever-lengthening lines and waiting periods that characterize a public health sector that is shrinking in relative terms. Moreover, but the more the government reduces its healthcare investment relative to rising demand, the more the private system develops its infrastructures and offers patients state-of-the-art services and technologies – ones that, in some cases, are adopted without having been properly assessed beforehand.

As a result, there is a growing burden on those medical personnel who remain employed in the public hospitals – i.e., residents, and specialists in areas less relevant to private medicine. Moreover, the income disparities between physicians working in the private sector and those who remain solely in the public sector are widening. The younger generation of

doctors, those who are bearing most of the burden, are being left far behind. Not only that, but high-income specialists tend to reduce their work hours, thereby exacerbating the situation even farther.

Although the relevant data have not been made public in their entirety, the economic symptoms of these developments are not invisible. They can be seen against the background of a stable national expenditure on healthcare, on the order of eight percent of the GDP over the last decade. Essentially, the fact that Israel has maintained a steady level of expenditure as a position of its product despite growing excess demand, means that Israelis are increasing spending for services, on average, at a level comparable to rises in their income. This is despite the fact that their demand for healthcare is increasing at a rate that exceeds their income growth. The Ministry of Finance views this stability as an “achievement,” despite the fact that it is not consistent with the basic economic laws relating to excess demand just described.

That is, the economic and social costs of the present situation are being ignored by the Ministry of Finance. Firstly, Israel has experienced price rises or relative inflation in the area of healthcare. During the period 1995-2009 the price index for private healthcare rose by 90 percent, while the consumer price index rose by 64 percent. The medical inputs price index, which reflects costs in the public health system, rose by 79 percent (Figure 8) (Chernichovsky, Gamzu, Navon, 2010). The widening gap between the private-healthcare price index and the public healthcare (inputs) price index points to, among other things, a growing disparity between wages in the public sector and those in the private sector, as well as the pressure exerted by income from private funding on public-sector wages.

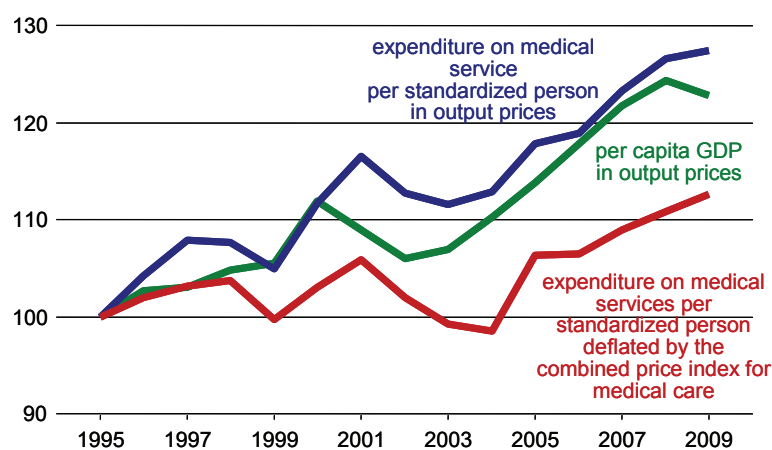
The relative rise in healthcare prices, particularly in the private sector, reflects the higher degree to which specialists receiving “double pay” from both private and public sources are compensated – in a context of duplicate infrastructures, uncontrolled adoption of technologies, and exposure of Israelis to basic market exclusion – to the potential exploitation by service providers of those seeking medical care.

In light of Israel's stable national medical expenditure as a percentage of GDP, the relative rise in the price of medical services means that, although the average healthcare expenditure per capita is rising at a rate consistent with overall rising income levels, nevertheless, in product terms, Israelis are actually receiving, on average, a smaller and smaller amount of healthcare in proportion to their incomes. Additionally, when adjustments for changing demographics and needs are made, the consumption-standardized per capita expenditure has actually risen by just 13 percent (Figure 11).

Figure 11

Expenditure on medical services per standardized person*

1995-2009, base year 1995=100



* adjusted for standardized person in Israeli risk adjustment (capitation) terms through 2010.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics.

The decline in growth of real health services compared with income is, first and foremost, a true reflection of the relative decline in health manpower supply relative to increasing demand, which translates into a rise in prices. Worse, not only has efficiency been compromised – in terms of relative inflation – but the decline has been, in a number of respects, unevenly distributed, in the following ways:

- Through a transfer of income from the general public to the medical establishment, particularly in the private sector.
- Through a relative decline in the supply of services in the public sector compared with the private sector.
- Through a decline in real hourly wages in the public sector relative to the private sector.
- Through an increase in the burden of healthcare expenditure as a percentage of disposable income borne by the lower income quintiles as compared with the upper quintiles – resulting in a more regressive healthcare system. Healthcare expenditure contributes to growing inequity in the consumption of non-medical treatments, products and services.
- Through compromised efficiency of healthcare. Evidence is growing that low-income Israelis, most of them aged 65 and over – a significant proportion of whom suffer from chronic ailments – are foregoing needed services, including prescribed medications, due to an inability to pay for them (Gross, Brammli-Greenberg and Weisberg, 2009). Hence, there is a growing inequality in the consumption of medical products and services.
- Through a widening of disparities between central Israel and its periphery. Low-income areas such as the Negev and the Galilee are at a particular disadvantage: in addition to an infrastructure shortage that is worsening in the face of growing needs, specialists are unwilling to work in those areas which are less profitable than Tel-Aviv and central Israel (Section 4 addresses this issue in depth). A change in the Israeli allocation formula that went into effect last January was

intended to narrow the gaps – and to distribute the burden more evenly – between the center and the periphery (Chernichovsky, 2011).

2.D. *Conclusion*

Israel's healthcare system needs more than wage adjustments and additional job posts in its public sector. It is faced with the task of maintaining the current health personnel-to-population ratio (one comparable to that of the more developed OECD countries), while adapting healthcare practices to a changing technological environment, which in some instances results in manpower downsizing. The system also needs to create conditions in which the public sector will be able to cope with changes in healthcare supply and demand and, in particular, to address local needs and public aspirations. In order for these things to occur, a systemwide reform must be carried out by the end of the decade, based on the following principles:

- A budgetary framework should be established for the reform, featuring two main criteria:
 - The national healthcare expenditure as a percentage of GDP should rise to nine to ten percent by 2020;
 - The government's share in funding the system should be restored to the 1995 level and comparable to that of the OECD-22 countries – i.e., to 70 percent of total system funding. A major portion of this share can be obtained by turning supplemental insurance into mandatory insurance, or, even better, by making it part of the progressive Health Tax, with the state paying for those “eligible.”
- Physician supply should be improved. The following potential means of achieving this should be considered:
 - Shortening the period of medical training and residency, while maintaining current quality levels;
 - Limiting or canceling training programs for foreign students and residents, in order to maximize the number of places available for

- training Israeli students and residents. The loss of the funding received through the training of foreign students will be offset by eliminating the need to establish new Israeli medical schools, in addition to the one just opened in the Galilee;
- Israelis studying abroad should be given incentives to complete their studies in Israel;
 - Ways of ensuring needs-based residency allocation should be considered;
 - Physician responsibilities should be delegated, where possible, to paramedical staff;
 - Developing telemedicine programs and technologies, as well as other manpower-economizing medical technologies.
- Competitiveness and freedom of choice within the public health system should be enhanced by:
 - Instituting, as universal rights, physician choice in hospital settings and the right to obtain a second opinion – rights exercised *de facto* when patients choose specialist physicians in the community;
 - Employing full-time specialists (“full-timers”) to work solely in publicly-funded institutions, with a commitment not to engage in private practice;
 - Hiring physicians on a personal-contract basis that reflects demand for their specialties around the country. That is, hospital administrators should have more freedom in managing the public funds entrusted to them, and should be able to offer, based on the budgets available to them, salaries commensurate with local needs, with the labor supply, and with the prevailing technological environment. Such a situation would, moreover, enable administrators to manage their staff more efficiently (Spotlights B and C expand on this issue);
 - Improving the wage and work conditions of specialists and other medical staff, while making a renewed investment in healthcare infrastructures that have been neglected.

- In addition, a number of public committees have recommended that the State cease to provide the following health services:
 - Government-owned hospitals, which account for 40 percent of all general hospital beds, and health-fund-owned hospitals, should be transformed into competitive corporations, operating on a not-for-profit or independent-trust basis and subject to public reporting requirements. Alternatively, a hospitalization authority may be created to operate these institutions;
 - Other services provided by the government, such as mother and child centers and mental health services, should be transferred to the health plans. Various committees appointed by past governments have long recommended instituting reforms within the healthcare system;
 - The State should address these issues in a framework similar to that employed in other areas of the economy. That is, it should reach agreements with workers, particularly State employees, designed to ensure that their conditions will, at the very least, not erode because of the change in this status.

***Spotlight B: Flexibility in Wage-Setting –
Linking Authority and Responsibility****

In Israel the authority to set wage levels lies with the Supervisor of Wage Agreements, while responsibility for the outcomes of the Supervisor's decisions lies with other bodies: government ministries, public corporations, government companies and other state-supported institutions.

Concentrating the authority to engage in collective bargaining on the employer's side in the hands of a single body (the Ministry of Finance, the Supervisor of Wage Agreements) strengthens the trend toward centralization on the part of labor representation as well. The dynamic that this generates often leads to the employment of organizational measures that cause the government to capitulate to irregular labor

demands, which naturally snowball into higher wage hikes than would have been granted had these measures not been resorted to. That is, concentrating authority inevitably leads to the creation of equivalencies and linkages between entities that otherwise have no organizational or sectoral affinity; these equivalencies and linkages make it hard to come up with situation-specific solutions when the need arises.

The degree to which the Supervisor of Wage Agreements is able to address the unique needs of the various existing public bodies within the framework of labor agreement renewal negotiations is limited, particularly due to the fact that the negotiations are usually conducted under heavy pressure and in an atmosphere of constraints that are not necessarily relevant to the special issues in need of resolution. In order to avoid “broader ramifications,” the Supervisor of Wage Agreements is frequently forced to come up with creative solutions to specific situations – solutions that complicate the wage structure and foster distortions that enlarge over time.

One example of this is when constraints are addressed by ignoring the fact that wage increases and other hidden benefits are being provided outside of the regular “paycheck” framework by entities “external” to the organization in which the workers are employed – such as an additional salary payment, made via a separate paycheck, from a “health organization” operated under the auspices of a government hospital. This is a negative phenomenon. Payments of this kind are not under the control of the Supervisor of Wage Agreements, nor are they included in the Supervisor’s comparative analysis of worker wage levels in different types of public organizations.

The foregoing is not meant to constitute a recommendation that wage-setting for state-supported entities should be completely decentralized, but rather to generate new thinking on the topic.

* This spotlight was prepared following a lecture delivered by Dr. Avigdor Kaplan before the members of the Taub Center’s Health Policy Program.

Spotlight C: Physician Salaries and Israeli Standards*

Changes in physician wage levels and in existing standards for healthcare personnel should be based on the following principles:

- **Differential improvement.** Many physicians receive inappropriately low wages and work in unreasonable conditions; they deserve immediate and substantial salary increases and improved conditions. However, many other doctors earn several salaries simultaneously, all paid from public funds, e.g. salaries from the State as hospital physicians and additional salaries from the health funds and/or hospital-affiliated health corporations. These doctors are not eligible for sharp wage hikes, so long as their current labor agreements are in effect.
- **Preference to the periphery.** When wage increases are under consideration, strong preference should be given to doctors in the periphery, and there is justification for setting their wages at levels high enough to attract physicians to hospitals located in the periphery.
- **Preference to specializations.** As with the concept of affirmative action for physicians in the periphery, exceptional wage increases should be given to doctors in certain high-demand specialties, or to physicians working under special conditions.
- **Additional job posts in areas where need exists.** Additional job posts should be created for hospital-based medical personnel, particularly in places where there is a clear shortage, as in the periphery. There is no justification for a blanket policy of job post additions, as such additions in and of themselves cannot solve the physician-shortage crisis: some hospital departments and units have positions available but no doctors interested in filling them.

* This spotlight was prepared following a lecture by Dr. Avigdor Kaplan before the members of the Taub Center's Health Policy Program.

*3. Private Healthcare Expenditure and Its Impact on Income Distribution and Poverty**

The level and distribution of private expenditure on healthcare in Israel, and the changes that have taken place in them, are obvious manifestations of the structural problems as described, problems stemming from a relative decline in public funding and a concomitant rise in private funding. This section summarizes a number of findings regarding private expenditure, obtained through the *2009 Household Expenditure Survey*, that relate to income distribution and to poverty (for a more in-depth discussion, see Navon and Chernichovsky, 2011).

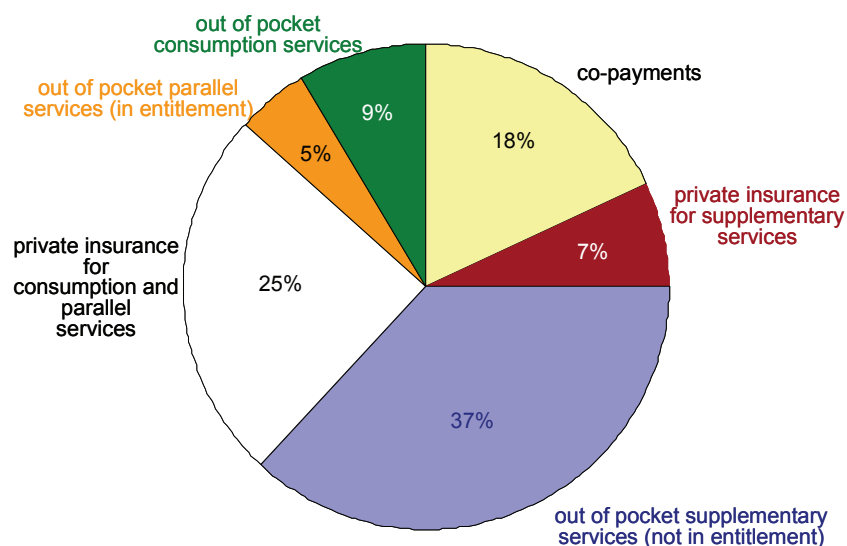
3.A. Private Healthcare Expenditure

Israeli households' private expenditure on healthcare accounted for 5.1 percent of household consumption expenditure in 2009, compared with 4.1 percent in 1997. The breakdown of this expenditure across its various items, and by income quintile, is presented in Figure 12 (the complete table is available in Navon and Chernichovsky, 2011). Nearly all Israeli households – 93 percent – report private healthcare expenditure; those reporting such expenditure spend NIS 695 per month.

The main expenditure item in terms of relative size and the number of households that report spending on it is that of **“supplemental” products and services** – either out of pocket or on insurance – not included in the publicly-funded “basket.” This item also includes expenditure on dental services, reported by 26 percent of all households at an average level of NIS 620 per month.

* I wish to thank Dr. Guy Navon, a Policy Fellow at the Taub Center, researcher at the Bank of Israel, and my partner in a study on private healthcare expenditure and its impact on income distribution and poverty (Navon and Chernichovsky, 2011). It should, however, be noted that this section of the present chapter is the sole responsibility of the chapter author.

Figure 12
Distribution of private expenditure for medical services
 2009



Source: Navon (Taub Center and Bank of Israel) and Chernichovsky (Taub Center and Ben-Gurion University), 2011.

Data: Central Bureau of Statistics.

“Supplemental” insurance, defined here as insurance not included in the basket, are paid for by 80 percent of Israeli households, for an average expenditure of NIS 56 per month by those reporting such expenditure.⁴ **Co-payments**, accounting for 18 percent of private expenditure – another substantial item, both in terms of the percentage of households reporting

⁴ This definition of “insurance” refers solely to insurance for medical products and services that are not included in the basic health basket and that are not defined as “consumption” (Navon and Chernichovsky, 2011).

them (35 percent), and in terms of the average level of expenditure (NIS 289 per month) reported – refer to expenditures for prescription medications.⁵

It is noteworthy that five percent of expenditure is on “parallel” care included in the entitlement.

In general, the three items that excite “public interest” due to their “quasi-tax” character – co-payments, insurance and expenditure on supplemental services – account for 62 percent of private spending and affect between 44 percent and 80 percent of Israeli households.

It is worth noting that these data point to a relatively widespread desire to insure various kinds of surgeries and medical opinions (as well as to the potential feasibility of doing so). These expenditure items are relevant to a very small percentage of the population compared with dental insurance, which is relevant to a quarter of the population and is quite costly.

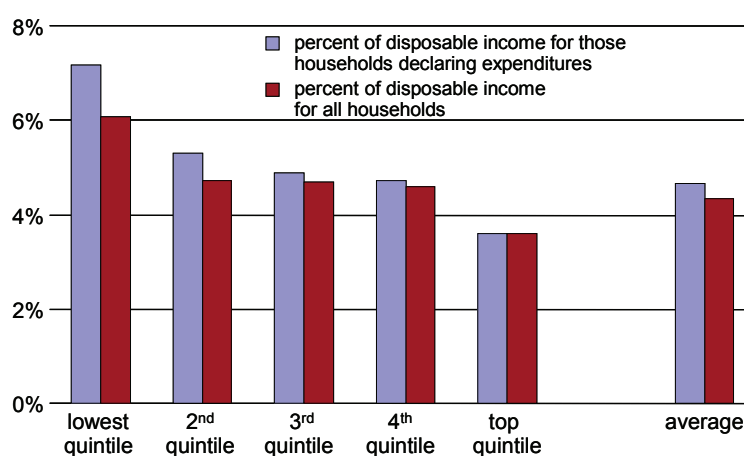
3.B. *Private Expenditure and Equity*

The distribution of private expenditure by expenditure area and by income quintile is presented in greater detail in the complete study (Navon and Chernichovsky, 2011). All items of private healthcare expenditure are income-sensitive: expenditure rises along with income, including expenditure on co-payments, despite their ostensible need-based character. The data on inter-quintile expenditure ratios, as well the mean-adjusted expenditure-difference summaries, indicate exceedingly small disparities between the quintiles with regard to co-payments and supplemental insurance. That is, these latter expenditure areas are need-based to a greater degree than other items, in the sense that poor people and rich people spend similar amounts of money on them.

⁵ Since the period in which the survey on which this discussion is based was conducted, co-payments for the *Tipat Halav* Mother-Infant Care Centers have been eliminated. However, the repeal (itself a significant instance of an absurdity being corrected) affects just one percent of Israeli households.

Hence, private healthcare expenditure is obviously regressive (Figure 13). Poor households spend a higher percentage of their disposable income on healthcare: 7.2 percent for the lowest quintile versus 3.6 percent for the highest quintile.

Figure 13
Percent of medical services expenditure from disposable income and total consumption expenditure
by income quintiles, 2009

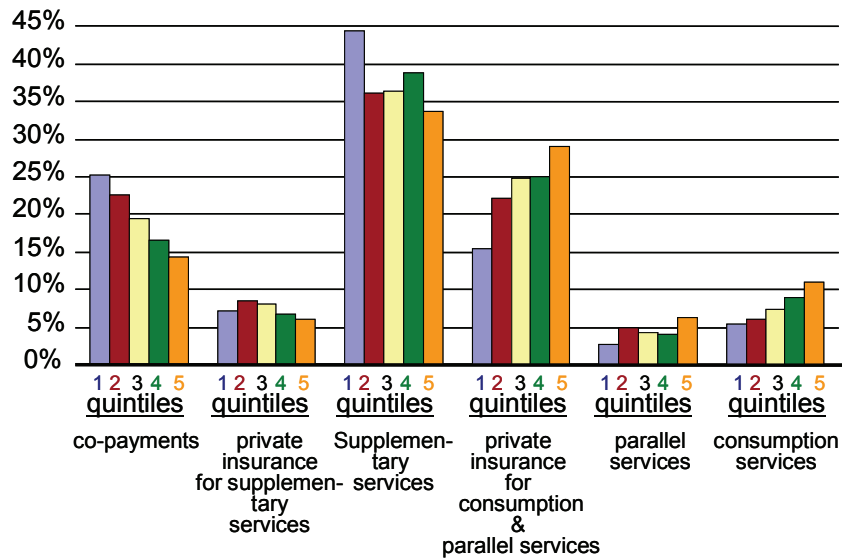


Source: Navon (Taub Center and Bank of Israel) and Chernichovsky (Taub Center and Ben-Gurion University), 2011.

Data: Central Bureau of Statistics.

These households devote larger portions of their total healthcare expenditure on co-payments and on “supplemental” services, including dental care (Figure 14). That is, these latter – and essential – expenditure areas are the ones that contribute most greatly to expenditure regressivity and that account for private healthcare expenditure’s contribution to income distribution.

Figure 14
Distribution of medical services expenditures
 out of all medical services expenditures, by income quintiles*, 2009



* the first quintile is the lowest fifth and the fifth quintile is the highest fifth.

Source: Navon (Taub Center and Bank of Israel) and Chernichovsky (Taub Center and Ben-Gurion University), 2011.

Data: Central Bureau of Statistics.

The differences in expenditure figures for the various items, by income quintile, also indicate the existence of disparities in access to healthcare. Differences among quintiles, in favor of higher quintiles, are greatest in the area of private insurance for “supplemental services” – services for which there is no public entitlement – and for services that fall under the category of “parallel” and “consumption.” Thus, in cases where private expenditure – especially on insurance – for services included in the public healthcare basket ensures greater access to these services, the data testify to the role played by insurance in widening disparities in access to services, even those included in the basket, in favor of those with high incomes.

This conclusion is supported by the findings of the Myers-JDC-Brookdale Institute health survey, pointing to a rise in the percentage of those reporting that healthcare payments are highly burdensome – 24 percent in 2009 versus 22 percent in 2007. There has also been a decline in the percentage of those reporting that healthcare expenditure does not burden them at all – 21 percent in 2009 compared with 30 percent in 2007. These findings reveal that a high percentage of those reporting a more burdensome family health expenditure are low-income or chronically ill. A significant increase was also found in the percentage of Arabic-speakers reporting more burdensome family expenditure, 24 percent in 2009 versus 12 percent in 2007. Despite the fact that there was no change between 2007 and 2009 in the percentage of those failing to use services due to their cost, it was found that 14 percent of respondents in 2009 (versus 12 percent in 2007) had foregone medical treatments, medications or both. The survey also revealed that the percentage of those foregoing services is higher in the low-income brackets (22 percent) and among the chronically ill (18 percent). Another finding was that 28 percent of those interviewed reported that they had foregone dental care at least once over the last year, due to its price. The percentage of those reporting that they had foregone dental care is much higher among those with low incomes (38 percent) and young people (30 percent) (Gross, Brammli-Greenberg, Weisberg, 2009).

3.C. *The Impact of Private Healthcare Expenditure on Poverty*

Approximately 3,500 households headed by adults aged 65 and over and/or without wage earners are being driven into poverty due to healthcare expenditures, particularly in the form of co-payments.

Expenditure on parallel services that are included in the public health basket contributes to poverty among families with children and families with two or more wage earners. These findings indicate a certain degree of dissatisfaction with the health system among working couples with children.

3.D. *Conclusion*

Israeli private expenditure on healthcare is regressive – that is, it constitutes a higher percentage of the income of the poor than of the affluent. It also reflects a relative absence of the option of insurance for supplemental products and services, e.g. dental insurance, compared with insurance for products and services included in the national health basket, e.g. surgical procedures, as well as treatments that fall into the category of “consumption.” This situation translates into widening gaps in access to services, even those covered by the health basket.

4. The Meaning of "Periphery" in Israel's Healthcare System: How Has the Modified Health Fund Allocation Formula Affected the Periphery? *

On 13 October 2010, the Knesset's Labor, Welfare and Health Committee approved the National Health Insurance regulations ("Allocation to Health Funds"), according to which the new allocation formula – the capitation formula – compensates these funds not only by member age but also by gender, by distribution of health fund branches, and by the level of service provided in the "periphery" (Israel Knesset, 2010). The regulations went into effect in early 2011.

The Israeli risk adjusted or capitation mechanism – of which the formula is a major component – was intended to promote equal opportunity in healthcare, primarily by ensuring equal access to medical services across a range of health situations. The mechanism thus promotes both equity and efficiency, and is composed of the formula, administrative arrangements, reimbursement for severe illnesses, and a security network. The economic-financial meaning of this lies in the way in which 80 percent of the public resources available in Israel for healthcare – those services provided by the health funds – are distributed.⁶

In the context of our preceding discussion of the healthcare system's structural defects, the modified formula is an important step toward upgrading Israel's capitation mechanism so as to advance the objectives of the National Health Insurance Law, 1994 (hereinafter: "the Law") and its initial objective to improve allocation to the periphery. The adjustment

* I wish to thank Chen Israeli of Ben-Gurion University of the Negev for collecting and analyzing the data used in the complete study of the health fund allocation formula change (Chernichovsky, 2011 – in preparation)

⁶ Discussed at length in Chernichovsky, 2005; 2010a; Shmueli, Chernichovsky and Zmora, 2003.

ensures that age and gender are taken into account when calculating the weighted numbers of insureds belonging to each of the health funds. In addition, a separate weight will also be assigned for residence in local authorities belonging to one of the four lower clusters in the *Peripherality Index of Local Authorities 2004*, and as listed by the Central Bureau of Statistics in 2008 (hereinafter: “resident of the periphery”) (expanded discussion in Chernichovsky, 2011).

The formula adjustment is meant to result in an average six percent addition to the entire periphery health budget. According to a Ministry of Health calculation presented to the Knesset Labor, Welfare and Health Committee, the new formula will bring about the following changes: *Clalit* Health Services will receive an additional NIS 150 million; *Maccabi* Healthcare Services – NIS 15 million; *Leumit* Health fund – NIS 8 million; while *Meuhedet* Health fund will lose NIS 22 million (Ministry of Health, 2010a).

This section of the chapter looks at the ramifications of the adjusted allocation formula against the background of a brief overview and analysis of what is meant by “periphery” in Israel with regard to healthcare.

4.A. Geographic Periphery and Social Periphery in Israel

The concept of “periphery” has always existed, everywhere and in the context of every conceivable definition of “space” – geographic, cultural, economic, etc. It usually denotes the marginality of a “lower” class as defined by some specific criterion or in terms of the distribution of a particular relevant variable. Thus, in the context of a specific policy, periphery has to be defined in functional terms relative to the policy’s objectives and the means available for implementing it.

The criteria by which variables are classified – particularly for policy purposes – are generally geographic; that is why this study’s conclusions are presented in terms of Israeli administrative districts. Clearly, the greater the correlation between variables relevant to how periphery is

defined, including the geographic variable, the easier it will be, politically and practically, to implement policy in a suitable manner.

In a context of social services, including medical services, it is conceptually important, when defining “periphery” to distinguish between “need” variables, i.e., potential demand for services, and service-availability variables, i.e., the potential service supply. The policy mechanisms to be employed are dictated by both.

There are three main defining criteria for “periphery” that are relevant to capitation-based allocation in the healthcare system: (A) health status; (B) risk factors related to income level and distribution, education and environment, as well as ethnic characteristics; and (C) the availability and quality of medical services.

In this general context it is important to emphasize several things: firstly, the healthcare system's role is to promote health by means of medical services, not through other health determinants – however important – by which “periphery” may be defined, such as education. Secondly, once economic barriers to service access are removed – as envisioned by the law – service availability is an essential condition for access. Thus, ensuring service availability is a basic mechanism available to the healthcare system for promoting health; which is to say, that if the desire is to remove socio-cultural barriers to service access, ensuring healthcare supply is a prerequisite.

This last point is also related to the issues of social justice and democracy. Even if services are liable to be considered inefficient due to lack of demand on the part of a given population, these services have to be provided equally to all so long as the public financing the services regards them as suitable for universal eligibility. Moreover, in this context affirmative action is necessary not only with regard to service availability, but also with regard to health status and risk factors that dictate access as well.

4.B. *The Geographic-Economic Periphery and Israel's Administrative Districts*

The centrality (“peripherality”) index⁷ employed by the new capitation formula is based on the traditional economic premise that central areas have, if nothing else, economic advantages over the periphery. These advantages increase the more centrally located an area is. The index characterizes and classifies local authorities according to their geographic location in spatial terms, that is, their proximity to the economic activity of central Israel. The index is calculated as a combination of two equally weighted components: the local authority potential accessibility index, which ranks local authorities in terms of their proximity to all other local authorities in Israel relative to their population size; and local authority proximity to the Tel-Aviv District boundary.

Proximity between geographic units is measured in terms of the shortest distance in the road network, taking into account road barriers due to construction or security considerations. The local authorities are divided into ten clusters, Cluster 1 denoting the highest degree of peripherality and Cluster 10 the highest degree of centrality (Central Bureau of Statistics, 2010a).⁸ A summary of the centrality index by district is presented in Figure 15.

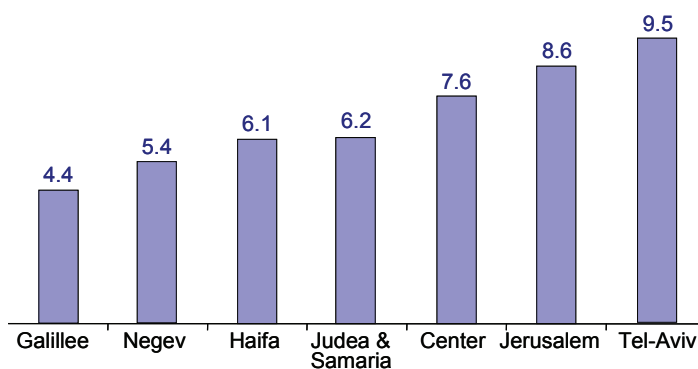
The northern and southern districts have, by definition, a low centrality index, due to the country’s longitudinal geographic structure and the location of Tel-Aviv, Jerusalem and their environs. The northern district is the most peripheral of all, with a ranking of 4.43, followed by

⁷ In contrast to the commonly-used term “peripherality,” we have chosen the term “centrality,” which more faithfully represents the meaning of what is being measured. The term centrality also facilitates interpretation of the interactions between this and other variables.

⁸ See also the summary of a Central Bureau of Statistics’ seminar, *Between Center and Periphery: The Face of Israeli Society*. 5 January 2011: http://www1.cbs.gov.il/reader/kenes/kns_kenes_sug.html?kod_sug=2&number=12 (Hebrew)

the Southern district at 5.37. The Tel-Aviv and Jerusalem districts are the most central (9.45 and 8.56, respectively).

Figure 15
Average periphery index*
 adjusted for population size, 2004



* all numbers are weighted by the size of the population.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics.

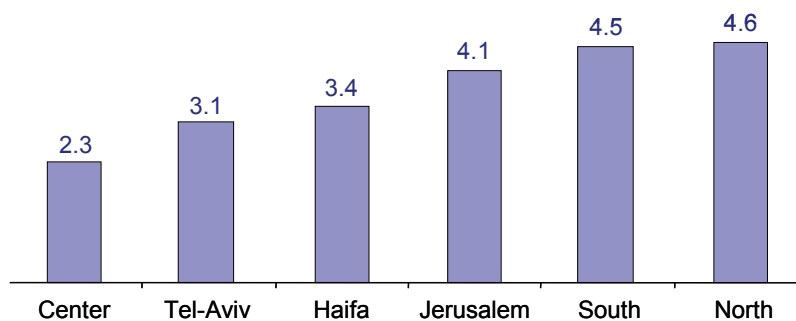
4.C. *Israel's Health Periphery, According to Population Health Indices*

The health periphery is defined in terms of infant mortality and life expectancy (as discussed in Section 1 of this chapter).⁹

- **Infant mortality.** The commonly-used health index, the one for which data are available regarding Israeli localities (based on 110 localities), is presented in Figure 16.

⁹ There are other, less objective variables, such as self-assessment of health. As a rule, the disparities shown here are consistent with what has been reported by the Ministry of Health (2010d).

Figure 16
Infant mortality rate*
2004-2008



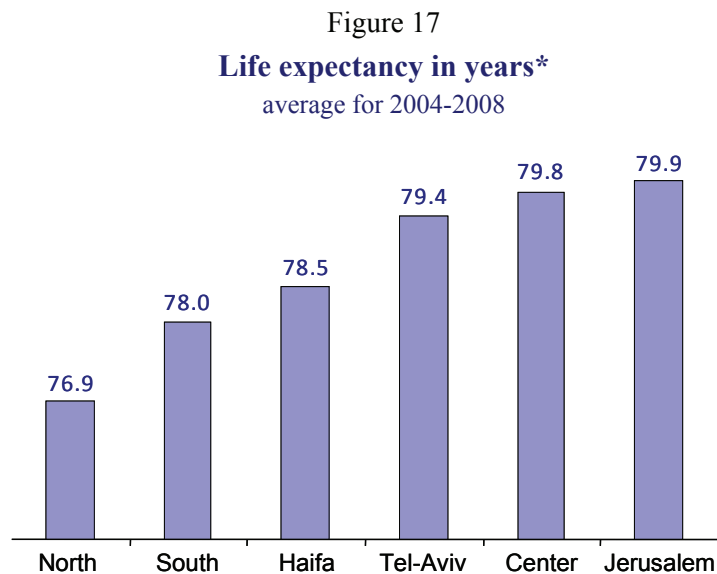
* infant mortality up to age 1 per 1,000 live births weighted by population size; in Judea and Samaria there is insufficient data to calculate the rate.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics.

The data indicate that infant mortality is higher in northern and southern Israel than in the central and Tel-Aviv districts. The infant mortality rate is especially high in the Northern District (4.6 per 1,000 live births) and the Southern District (4.6 per 1,000 live births). The Jerusalem District also has a relatively high mortality rate (4.1 per 1,000 live births). By contrast, infant mortality is particularly low in the Central District (2.3 per 1,000 live births) and the Tel-Aviv District (3.1 per 1,000 live births). According to Central Bureau of Statistics data summarized by the Ministry of Health (2010d), relative decline in infant mortality was low in the Northern and Southern Districts (Ministry of Health, 2010d).

- **Life expectancy.** The life expectancy reported here (Figure 17) is based on figures for just 29 key localities. The lowest life expectancy in Israel is found in the Northern and Southern Districts (a more detailed distribution for subdistricts and single localities shows even wider gaps (Ministry of Health 2010d, p. 35)).



* Judea and Samaria do not appear because of a lack of data.

Source: Taub Center for Social Policy Studies in Israel.

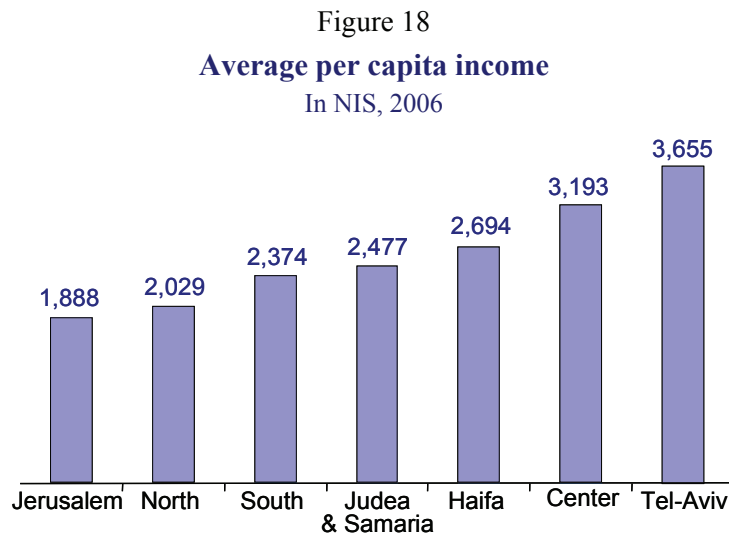
Data: Central Bureau of Statistics.

4.D. *The Periphery as a Function of Socioeconomic Risk Factors*

Low income and socioeconomic status in relative and absolute terms are risk factors (for a more detailed discussion: Horev, 2008). In Israel, as elsewhere, there is a high degree of correlation between socioeconomic status and health status (Ministry of Health, 2010d, p. 36). Accordingly,

three indices are assessed: per capita income, the socioeconomic index, and the Gini coefficient used to measure income distribution:

- **Per capita income** is composed of total locality income based on the total gross wages paid to wage earners over the course of a year; the gross income of self-employed locality residents; the total pensions/benefits paid by the National Insurance Institute; and, income support from the Ministry of Religious Services. The total income was divided by 12 work months and by the number of locality residents (Central Bureau of Statistics, 2009). Per capita income in Israel by district is presented in Figure 18.



Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics.

The district with the lowest per capita income is the Jerusalem District (NIS 1,888). Figures for the Northern District (NIS 2,029) and the Southern District (NIS 2,374) are also relatively low, particularly compared with the Tel-Aviv District (NIS 3,655) and the Central District (NIS 3,193), where per capita income is the highest.

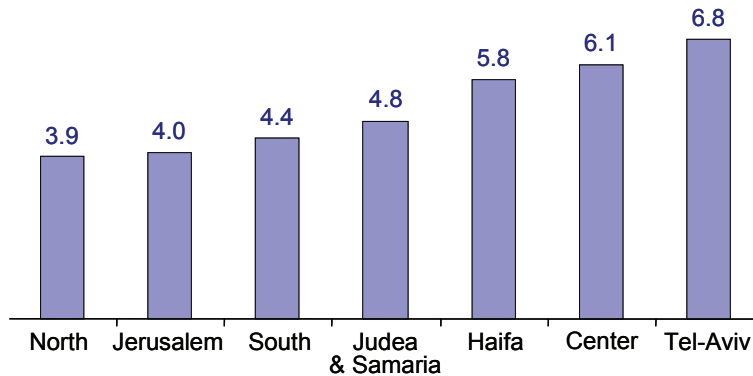
- **The socioeconomic index** is based on the premise that income constitutes a key index but is not the sole means by which a population's socioeconomic level may be assessed. Additional dimensions exist that partly correlate with financial income, e.g. employment, but which are not identical to it. The index is composed of variables that were chosen to reflect most socioeconomic indicators: resident income sources, housing (density, quality and other features), content of homes, mobility level (car ownership), schools and education, employment and unemployment characteristics, socioeconomic problems of various kinds, and demographic characteristics. It is important to note, particularly in the context of this discussion, that the index does not include health or medical variables.

The local authorities were divided into ten clusters, Cluster 1 featuring the lowest socioeconomic level and Cluster 10 the highest (Central Bureau of Statistics, 2010a). The socioeconomic index is presented by district in Figure 19. One can see that the ratings for the Tel-Aviv (6.77) and Central (6.14) districts are significantly higher than for the other districts. In the Northern (3.95), Jerusalem (4.01) and Southern (4.39) districts, the socioeconomic index is relatively low.

- **Income distribution** is based on the concept of socioeconomic periphery.¹⁰ This refers to the fact that there is always a periphery, even in "central" areas – a socioeconomic periphery.

¹⁰ The term was coined by Maccabi Healthcare Services and published in Chernichovsky, 2010a.

Figure 19
Socioeconomic index*
2006



* the index is based on the classification of the Central Bureau of Statistics by 10 clusters, from 1 which is the lowest to 10 which is the highest.

Source: Taub Center for Social Policy Studies in Israel.

Data: Central Bureau of Statistics.

Jerusalem's socioeconomic periphery rating is Israel's highest (0.25) (Chernichovsky, 2011), followed by the northern and southern geographic peripheries. From this point of view, the Tel-Aviv and Central districts enjoy the highest status.

In the context of this discussion of socioeconomic periphery and capitation, it is important to emphasize that, when the status of "two identical poor people" is examined, one from the "periphery" and one from the "center," the status of the latter is higher due to the greater availability of services in the central region. From this perspective alone, the status of a poor person in central Israel is likely to be better than that of a "wealthy" person in the periphery.

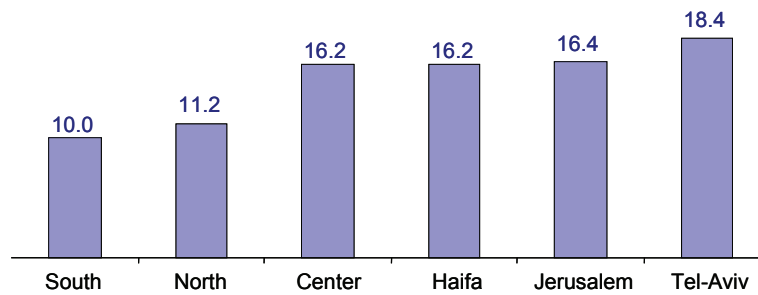
4.E. *The Periphery - Healthcare Availability*

Healthcare availability in the periphery is defined in terms of the availability of manpower (primarily physicians), general beds in hospitals, and the local population's distance from places of hospitalization, as reflections of both healthcare availability and healthcare quality.

- **Medical manpower.** The distribution of medical manpower by district is presented in Figure 20. The lowest number of healthcare employees per 1,000 standard persons, per the “need” definition implicit in the new capitation formula, are found in the southern (ten per 1,000) and northern (eleven per 1,000) districts. The Tel-Aviv District enjoys the highest percentage of healthcare employees per 1,000 standard persons (18 per 1,000). The Haifa, central and Jerusalem districts also enjoy much higher healthcare employee rates than do the peripheral districts. The personnel shortage is especially pronounced with regard to specialists, as reflected in specialist-population ratios, and in the ratio of specialists to other physicians. These indices point to an exceptionally dire situation in northern and southern Israel, as detailed in Figure 21.

Figure 20

Healthcare professionals
per 1,000 population*, 2006-2008



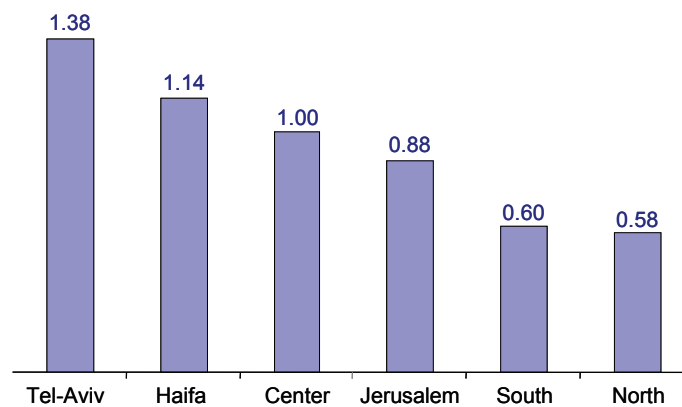
* per standardized person according to the new capitation formula without the adjustment for the periphery.

Source: Taub Center for Social Policy Studies in Israel.

Data: Ministry of Health.

Figure 21

Ratio of specialists to generalist physicians
2006-2007



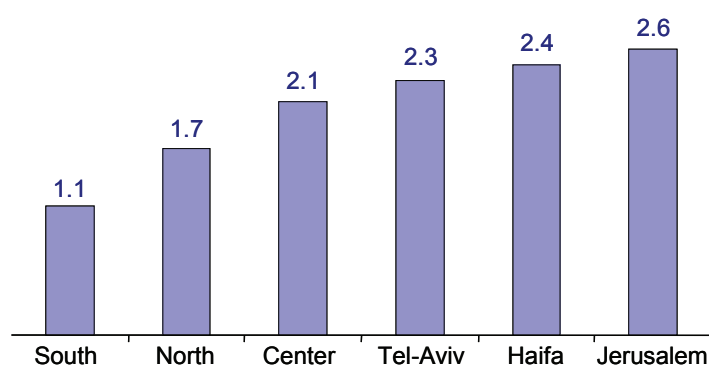
Source: Taub Center for Social Policy Studies in Israel.

Data: Ministry of Health.

- **General hospital bed-population ratio.** The geographic distribution of general hospital beds in Israel is presented in Figure 22. The Jerusalem, Haifa and Tel-Aviv districts enjoy hospital bed-population ratios that are higher than the national average (2.0). By contrast, the bed-population ratio in the north and the south is lower than that of the other districts, and compared with the national average.

Figure 22

General hospital beds per adjusted 1,000 population
adjusted for population size, 2008



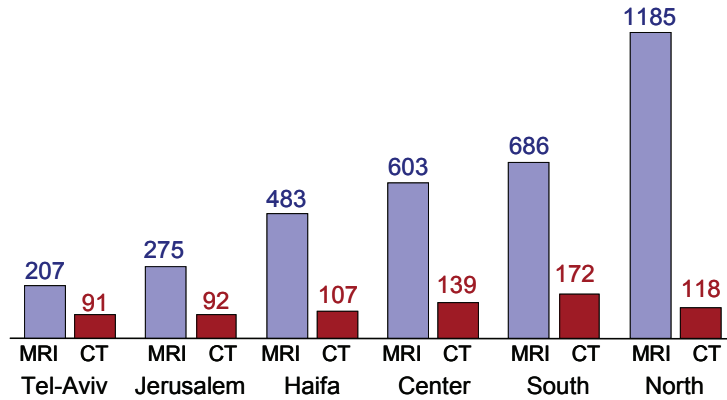
Source: Taub Center for Social Policy Studies in Israel.

Data: Ministry of Health.

- **Availability of sophisticated equipment.** Sophisticated equipment and advanced technologies are represented by MRI and CT machines. Figure 23 presents standardized person to CT/MRI machine ratios, revealing threefold to fivefold disparities in the numbers of MRI machines available in Jerusalem and Tel-Aviv versus the northern and southern districts. The gaps are smaller with regard to CT machines, an area in which the south, however, is particularly disadvantaged. More

than anything else, these disparities point to gaps in the quality of medical care between central Israel and the periphery.

Figure 23
Thousand standardized population per unit of MRI and CT
 2008



Source: Taub Center for Social Policy Studies in Israel.

Data: Doctors for Human Rights; Ministry of Health.

- Distance from hospitalization.** In order to assess both the availability and quality of medical services, locality distances from general institutions of hospitalization were measured via several parameters: distance in kilometers to the nearest hospital; distance in kilometers to a regional medical center: Rambam Medical Center from Hadera northward; Soroka from Ashkelon southward; and the national medical centers for the other parts of the country. The distance in kilometers that a health fund member would have to travel to each of the national centers – Ichilov, Beilinson, Sheba, and Hadassah – was also examined.

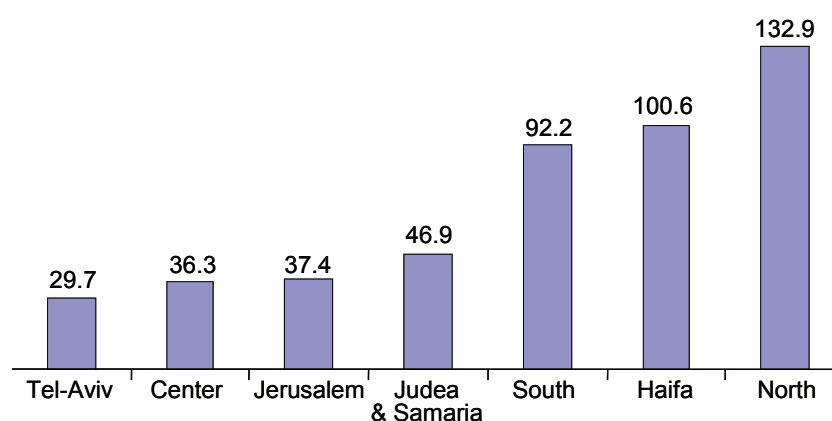
The premise that guided the formulation of these parameters was that in relatively minor instances patients are referred to the nearest hospital.

In more serious instances they will be referred to the regional medical centers serving the north and the south, respectively; while in special cases they will be referred to the national centers. The data presented here refer to distances from the national medical centers, which are positively correlated with the other distance variables (expanded discussion in Chernichovsky, 2011).

Figure 24 presents the average distance of each district from a national medical center. Here as well one finds that the peripheral districts are those most distant from any national center. Residents of the north (132.9 km), south (92.2 km) and Haifa (100.6 km) districts (Haifa District is semi-peripheral) have to travel the longest distances in order to reach a national medical center. This is in contrast to the Tel-Aviv District (29.7 km), whose residents enjoy the shortest distance to a national hospital.

Figure 24

Average distance in kilometers from a national medical center*
2008



* Israel has several national medical centers: Ichilov, Beilinson, Sheba, and Hadassah.

Source: Taub Center for Social Policy Studies in Israel.

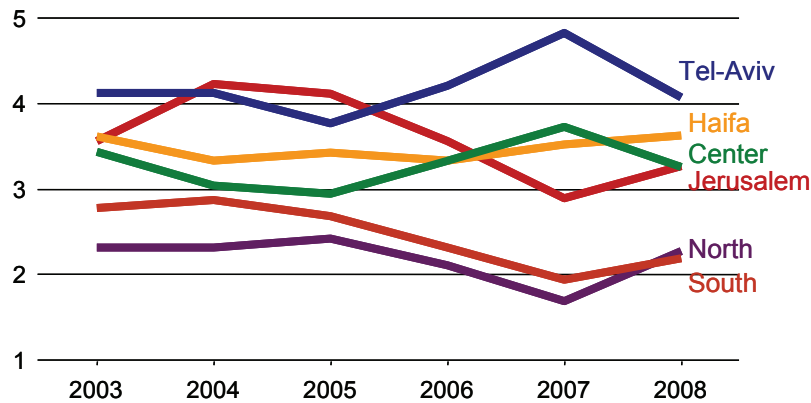
Data: Chernichovsky and Engelchin-Nissan, 2008.

4.F. Disparities Widening at an Accelerated Rate

The state of affairs in Israel's northern and southern peripheries is worsening in relative terms. Manpower data (Figure 25) and general hospital bed-population ratio data (Figure 26) indicate a trend toward widening gaps. In the manpower context, it is important to note that manpower data are based on place of residence. That is, it is more likely that physicians living in the south will travel to work in the center than vice versa. With regard to manpower, an area where professional qualifications are key, the picture appears to be even grimmer than that presented in Figures 9 and 10.

The data presented in this document are just the partial reflection of an overall deterioration in various aspects of healthcare provision (Ministry of Health, 2010).

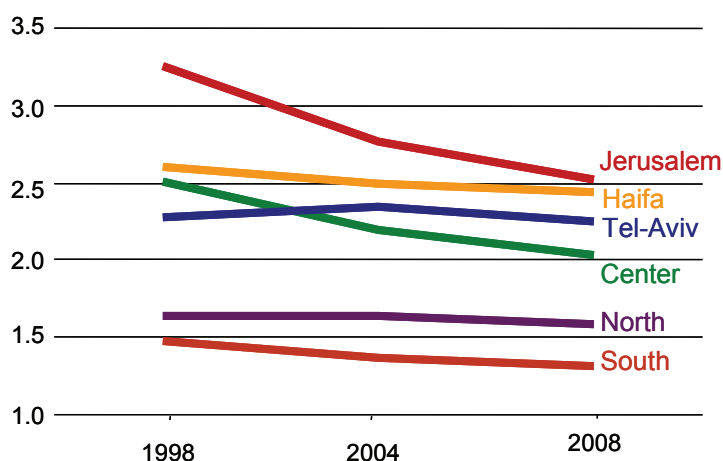
Figure 25
Physicians per 1,000 standardized population
2003-2008



Source: Taub Center for Social Policy Studies in Israel.

Data: Ministry of Health.

Figure 26
General beds per 1,000 standardized population
1998-2008



Source: Taub Center for Social Policy Studies in Israel.
Data: Ministry of Health.

4.G. Improved Regional Allocation

In order to assess the implications of how health resources are allocated to the districts, alternate scenarios for “defining” Jerusalem as a peripheral area, with the north and the south recognized in all scenarios as peripheral were examined. The data are presented in detail in Table 1, which is based on the premise that the Jerusalem District is “peripheral” at a level of 50 percent – enjoying, on the one hand, a high degree of healthcare availability, but characterized by low socioeconomic status that translates into relative social peripherality. Accordingly, the “allocation” scenario, in which Jerusalem is 50 percent peripheral, was adopted.

Table 1. **Distribution of population and risk-adjusted population** by age, gender, region and periphery (North, South, and in part Jerusalem*)

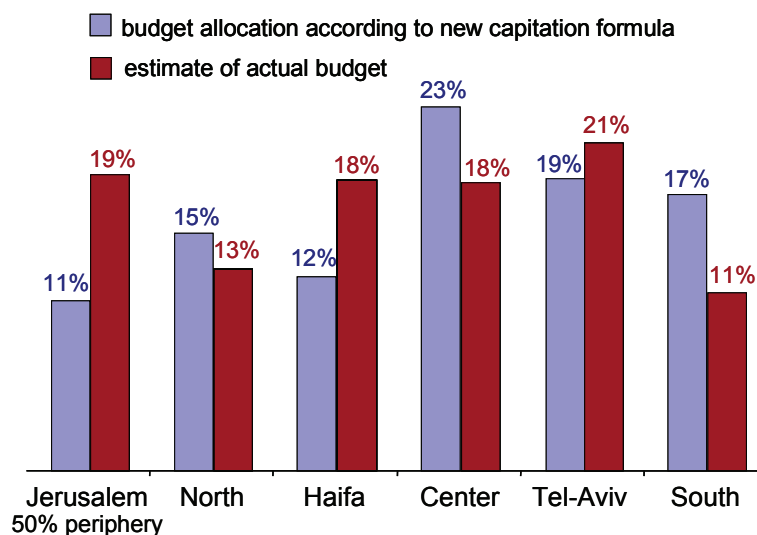
District	Population	Risk-adjusted population
Jerusalem	10.5	10.8
North	15.1	15.1
Haifa	12.3	12.3
Center	23.1	23.0
Tel-Aviv	18.5	18.5
Judea and Samaria	2.8	2.8
South	17.5	17.5
Israel	100.0	100.0

* Jerusalem is calculated as 50 percent periphery, even though it is not included in the measurement of periphery in the new formula. This is due to the low socioeconomic condition of its residents.

The method by which allocation to the country's various districts is arrived at is based on a crude but basic calculation in terms of the actual allocation of manpower (Figure 20) and of general hospital beds (Figure 22) to the different areas. The calculation is based on the current situation in which personnel costs account for 70 percent of total healthcare production, while the remaining 30 percent are capital costs. These ratios were applied to the actual allocation rates for personnel and hospital beds, which represent costs. It should be noted that this constitutes an underestimation for the periphery, which does not adjust for the "quality" of manpower or hospital beds, in terms of specialists and sophisticated equipment which are relatively rare in the north and the south.

Figure 27 presents the actual allocation distribution versus that called for by the new allocation formula (with the Jerusalem District defined as 50 percent periphery), in terms of a total 2010 health fund allocation of NIS 30 billion.

Figure 27
Actual budget versus the new budget allocation*
 1998-2008



* due to the non-inclusion of Judea & Samaria the numbers do not add up to 100.

Source: Taub Center for Social Policy Studies in Israel.

Data: Ministry of Health.

In light of these data, the Central Bureau of Statistics data on changes in allocation to the health funds in the wake of the new capitation formula, presented in Table 2, indicate that these inter-fund allocation adjustments are minimal despite their differing representations in the periphery, and despite existing disparities between the center and the periphery.

Table 2. **The distribution of the allocation between health funds**
before and after the change in the capitation formula

Health Fund	New allocation from 1.1.2011	Old allocation from 1.12.2010 to 31.12.2010	Addition in percentage points
Total	100.00	100.00	0.000
<i>Clalit</i>	56.69	56.71	-0.018
<i>Leumit</i>	8.56	8.57	-0.014
<i>Maccabi</i>	23.16	23.14	+0.022
<i>Meuhedet</i>	11.59	11.58	+0.010

Source: Bandelak, 2010.

4.H. *Conclusion*

The disparities that this section illuminates between the center and the periphery in terms of health status, risk factors and medical resources, and the discussion of the new capitation formula's impact, lead to the following conclusions:

- The basis on which a figure of six percent compensation on average to the periphery was reached appears to have been arbitrary.
- In light of the disparities between center and periphery according to all relevant indices, the compensation – if, indeed, it even reaches the periphery – is unlikely to be effective.
- The centrality index as a measure of peripherality in a healthcare context is inadequate. The socioeconomic index, or a combined index which also includes distance from place of hospitalization, would be superior from both a conceptual and a practical point of view.
- There is no mechanism to ensure that the resources allocated to the periphery actually get there. In this regard no change has been effected – the periphery did not receive its intended allocation even before the

capitation formula change, and the modified formula itself is not a solution.

- Central Bureau of Statistics data indicating that allocation to the health funds has changed to only an inconsequential degree, leads one to expect that the future holds nothing new – that the health funds have very little, if any, incentive to alter their allocations to the periphery.

In the absence of any geographically based allocation, no mechanism exists to prevent the continual drift of financial resources toward the center, particularly in a healthcare system such as Israel's which is publicly budgeted but whose physicians and equipment are exposed to privately funded demand. This kind of system perpetuates itself. Budgets flow to the places where physicians and equipment already are, while the latter, for their part, are drawn by privately funded demand to central areas, where higher incomes drive such demand, in a vicious cycle – all at the expense of the periphery.

What this means is that, in the current Israeli situation of demand for private services through voluntary insurance characterized by a high degree of income flexibility, there is no alternative to the erection of an impenetrable wall around the allocation intended for the periphery (see also: Ben-Elia, 2006). That is why the State Commission to Investigate the Functioning and Efficiency of the Israeli Healthcare System – the Netanyahu Commission (State of Israel, 1990) which laid the groundwork for the National Health Insurance Law – made the following recommendation: "... to divide Israel into districts and to distribute resources to district authorities based on a district index. Only at the next stage should the health funds, functioning as regional cost centers, receive funding..." (State of Israel, 1990).

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