JDC-BROOKDALE INSTITUTE

Hospital Utilization and Expenditure by Israeli Health Plans in an Era of Health Care Reform

Second Year Report

Principal Investigator: Bruce Rosen
Co-Investigators: Ziona Haklai, Mia Mohilever, Yaakov Nevo
Research Assistants: Rachel Goldwag, Robert Schoenberg
Consultants: Stuart Altman, Jack Hadley, Avi Yisraeli

This project was funded in part by a grant from the Israel National Institute of Health Policy and Health Services Research.

This project was a cooperative effort of the JDC-Brookdale Institute, the Brandeis University Health Policy Institute, Georgetown University, the Israeli Ministry of Health, and Hadassah-Hebrew University.

RR-400-03

RESEARCH REPORT

WHAT IS THE JDC-BROOKDALE INSTITUTE?

A national center for research on aging, human development, and social welfare in Israel, established in 1974.

An independent not-for-profit organization, operating in partnership with the American Jewish Joint Distribution Committee (AJJDC) and the Government of Israel.

A team of professionals dedicated to applied research on high-priority social issues relevant to the national agenda.

A knowledge resource committed to assisting policymakers and service providers in the planning and implementation of effective social services.

A center for professional exchanges, collaborative research and special forums in the international arena.

The Institute's research involves an interdisciplinary approach. The Institute has five major divisions:

- **Aging**
- **Health Policy**
- **Immigrant Absorption**
- **Disability**
- **Center for Children and Youth**

Hospital Utilization and Expenditure by Israeli Health Plans in an Era of Health Care Reform

Second Year Report

Principal Investigator: Bruce Rosen[1]
Co-Investigators: Ziona Haklai,[4] Mia Mohilever, [4] Yaakov Nevo[4]
Research Assistants: Rachel Goldwag,[1] Robert Schoenberg[1]
Consultants: Stuart Altman,[2] Jack Hadley,[1,3] Avi Yisraeli[5]

This project was funded in part by a grant from the Israel National Institute of Health Policy and Health Services Research.

1 JDC-Brookdale Institute
2 Brandeis University Health Policy Institute
3 Georgetown University
4 Israeli Ministry of Health
5 Hadassah-Hebrew University

Jerusalem

April 2003

JDC-Brookdale Institute
P.O.B. 3886
Jerusalem 91037 Israel
Tel: 972-2-6557400
Fax: 972-2-5612391

website: www.jdc.org.il/brookdale

Related JDC-Brookdale Institute Publications

Rosen, B.; Altman, S.; Cohen, M.; Haklai, Z.; Ivancovsky, M.; Mohilever, M.; Nevo, Y.; and Yisraeli, A. 2002. ***Hospital Utilization and Expenditure by Israeli Health Plans in an Era of Health Care Reform: First Year Report***. RR-399-02.

Benbassat, J.; Haklai, Z.; Glick, S.; and Friedman, N. 2002. ***Determinants of Hospital Utilization***. RR-358-02.

Gross, R.; and Brammli-Greenberg, S. 2001. ***Israel's Health System as Perceived by the Public - 1995, 1997 and 1999***. RR-362-01.

Rosen, B.; Ivancovsky, M.; and Nevo, Y. 1998. ***Changes in the Sick Fund Economy: Sick Fund Revenues and Expenditures Before and After the Introduction of National Health Insurance***. RR-317-98.

Yuval, D.; and Berg, A. 1997. ***Hospitalization from the Patient's Perspective: Initial Findings from a 1995 Patient Survey with Comparisons to 1993***. RR-278-97.

Chinitz, D.; Berg, A.; Rosen, B.; and Yuval D. 1996. ***Hospital Choice in the Changing Israeli Health Care System***. RR-261-96.

Rosen, B.; and Nevo, Y. 1996. ***Sick Fund Revenues, Expenditures and Utilization Patterns: A Comparative Analysis***. RR-273-96.

To order, contact the JDC-Brookdale Institute, P.O. Box 3886, Jerusalem 91037 Israel;
Tel: (02)655-7400; Fax: (02)561-2391; E-mail: brook@jdc.org.il.

Executive Summary

The objective of this project was to investigate recent trends in the health plans' hospital utilization and expenditures, in light of government-initiated health care reforms and the health plans' efforts to contain their spending on hospital services. The first year report focused on developments through 1996, while this, the second-year report, focuses on changes since 1996.

Since 1996 there have been several structural and legal changes which, potentially, could have led to an increase in utilization and expenditure, particularly by enhancing the incentive for hospitals to increase the supply of services. Most prominent of these were an increase in the nation's bed complement, and the shift from a strict (100%) cap on hospital revenues to a "softer" (50%) cap.

On the other hand, several recent developments may have led to a decrease in utilization and expenditure, particularly by diminishing the demand of patients and the health plans for hospital services. Most prominent among these were the introduction of co-payments for visits to specialists, the continued shift in market share from Clalit Health Services to the other health plans (which use hospitals less intensively), enhanced pressure on the health plans from the Ministry of Finance to reduce spending and avoid deficits, and an internal reorganization that gave Clalit's regional managers a greater incentive to reduce hospital use. The shift from a "hard" to a "soft" cap also enhanced the incentive to health plans to constrain their hospital use.

Given these conflicting influences, *theory* could no means clarify whether hospital utilization and expenditures would increase or decrease. Accordingly, this study synthesized data from several sources in order to *empirically* track recent changes in hospital inpatient activity, hospital outpatient activity, health plan spending on hospital services, and hospital revenues. In addition to considering aggregate system-wide changes, the project team also sought to identify and explain differences across periods, hospitals, and health plans, as these can also provide insight into the impact of the legal and structural changes noted above.

1. Hospital Inpatient Activity

As indicated in the first year report, the 1993 Central Bureau of Statistics'(CBS)/Ministry of Health survey found that the 1993 hospital admission rate of Clalit Health Services was markedly higher than that of the other health plans. Member characteristics such as age and health status accounted for less than half of the 1993 inter-plan differential.

During second year of the project, the 1997 CBS survey was used to explore whether inter-plan differences shrank or expanded between the two surveys. The project team did not have a clear prior hypothesis on this matter. On one hand, the relative deterioration in the financial situation of the smaller health plans might have been expected to push them to take additional measures to restrict hospital use, thereby widening the inter-health plan gap in admissions. On the other hand, the institution of a purchaser-provider split in Clalit and its "catch-up" introduction of hospital

utilization controls (which had been instituted by the other plans prior to 1993) could have reduced Clalit's hospital use, thereby narrowing the gap.

This stage of the study found that between 1993 and 1997, hospital admission rates rose markedly in all the health plans except for Clalit, where it remained stable. Multivariate analysis suggested that the increase in admission rates was not due to changes in the socio-demographic composition of the smaller health plans' membership. At the same time, it should be noted that even according to the 1997 CBS/Ministry of Health survey, a major gap between Clalit and the other health plans remained. However, in 1997, the bulk of this difference did prove to be attributable to differences in the age and health status of each health plan's membership, although there was no statistically significant, independent "health plan effect".

In addition to examining differences across health plans, the project team explored differences among hospitals. The Ministry of Health report *Hospitals and Day Units in Israel* revealed that, in recent years, there has been substantial variation in admission growth rates across hospitals. The project team used information from a 1995 JDC-Brookdale Institute hospital survey to identify the regions served by individual hospitals, and then to explore whether the hospitals that grew most rapidly did so because they served regions that had experienced the most rapid population growth. Multivariate analysis revealed that differences in population growth across market areas accounted for less than half of the variation in hospital admission growth. Differences across hospitals in the extent of bed expansion proved to be another significant explanatory factor.

Data from *Hospitals and Day Units in Israel also* indicated that prior to the introduction of national health insurance, there was a major increase in both absolute and per capita hospital admissions; this growth began to decelerate in 1995, and decelerated further in 1997. It is tempting to attribute these changes (particularly that of 1995) to the introduction of the hospital revenue cap and/or of national health insurance. However, there is no conclusive proof that these were the cause of the deceleration. (It should be noted that the most recent growth rates are similar to those that prevailed in the 1980s, well before the introduction of the revenue caps.)

2. Hospital Outpatient Activity

According to the CBS health surveys, between 1993 and 1997 there was a major shift in the locus of outpatient specialty services from hospitals to community settings. The greatest shift took place in Clalit Health Services, and in the Jerusalem and southern regions.

The health surveys also indicated that visits to hospital-based specialists dropped dramatically between 1993 and 1997, but that this decline could not be accounted for by changes in the socio-demographic composition of the population. The 1993 and 1997 CBS health surveys also indicated a major drop in visits to hospital-based specialists in Clalit and Meuhedet, but not in the other health plans.

Despite the major decline in Clalit between 1993 and 1997, even in 1997 the rate of visits to hospital outpatient specialists was still far higher in Clalit than in the other health plans. A multivariate analysis was conducted to elicit several possible causes of this variance. In contrast to the situation regarding inpatient admissions, the variance among health plans in outpatient activity could not be attributed to differences in the plans' socio-demographic composition.

In contrast to the finding of the CBS that the rate of outpatient visits declined dramatically between 1993 and 1997, data from government hospitals present quite a different story. They indicate that between 1994 and 1996 (when the full cap was in effect), visits to government hospital outpatient departments grew by 6% per annum. While this source indicates that outpatient volume ceased to grow rapidly between 1996 and 1999 (when the 50% cap was in effect), it does not provide any evidence of the dramatic decline indicated by the CBS surveys. Rather, it shows that volume continued to grow slowly – by 1% per annum.

Just as the CBS data indicated variance in the trends across health plans, the government hospital data reveal substantial variation in the trends across hospitals. For example, the government hospital data indicate that between 1996 and 1999, several hospitals experienced a decline in outpatient visits, but one hospital experienced an increase of more than 10% per annum.

3. Health Plan Consumption of Hospital Services

In addition to examining trends in hospital utilization in terms of physical units, these trends can also be examined in terms of "age-adjusted per capita consumption" – that is, the amount of money a health plan would have paid a hospital for services consumed, were it not for cap-related discounts. The first year report revealed that in 1995, the age-adjusted per capita consumption levels of all four health plans declined. It also showed that, in 1996, the age-adjusted per capita consumption level remained unchanged in two of the health plans, while there were moderate increases in the other two health plans.

Following the shift from the full revenue cap to the 50% revenue cap in 1997, some analysts became concerned that consumption would begin to increase markedly, as hospitals would have a greater incentive to increase volume than they had prior to 1997. On the other hand, the shift to the 50% revenue cap had also increased the incentive to health plans to constrain their hospital utilization, such that it was not at all clear whether the net effect of this change would increase or decrease consumption levels.

The second year findings demonstrate that following the transition to the 50% cap, age-adjusted per capita hospital consumption declined. A decline was noted in the use of both inpatient and outpatient services, although the overall decline was greater in the outpatient sector. The patterns of change between 1996 and 1999 varied somewhat across health plans; most significantly, the per capita consumption of outpatient services increased markedly in Maccabi.

4. The Location of Hospital Service Consumption

The first year report found that between 1994 and 1996, the mix of sources of hospital care was very stable in Clalit and Leumit, while Meuhedet shifted toward government hospitals and Maccabi shifted slightly away from government hospitals in favor of Clalit and private hospitals (particularly those owned by Maccabi itself). The second year report reveals that between 1996 and 1999, the government sector's share of total (i.e. all four health plans') hospital activity grew substantially, while that of private and Clalit-owned hospitals declined. The decline in the use of Clalit-owned hospitals focused on inpatient services, while the decline in the use of private hospitals focused on outpatient services. At least among the smaller health plans, this decline was probably due in part to opportunities for cap-related savings and/or to the volume-discount contracts signed with certain hospitals.

5. The Direct Impact of the Cap on Health Plan Expenditure

The first year report revealed that in 1995, the cap yielded significant direct savings for Leumit and Meuhedet, while in 1996 it yielded significant direct savings for all three smaller health plans. As noted, it was not at all clear *a priori* whether the transition to a 50% cap would increase or decrease direct savings. On one hand, the discount on cap over-runs was cut from 100% to 50%. On the other hand, the size of these over-runs could be expected to grow, since the cap was not fully updated annually to reflect growth in health plan membership.

The second year study found that the cap over-runs of the three smaller health plans increased markedly between 1996 and 1999. However, their total saving on hospital expenditures was offset somewhat by the reduction in the cap. Ultimately, while direct savings (as a percentage of consumption) of Leumit and Maccabi increased due to the cap between 1996 and 1999, those of Meuhedet declined slightly.

6. Health Plans' Expenditures on Hospital Services

The first year report analyzed the health plans' financial statements using the Witkowsky-Nevo Report; it found that the age-adjusted per capita spending on hospital services of the health plans as a group increased by 3% between 1994 and 1996. There was substantial variation across health plans: an increase of 8% in Clalit, versus a decline of between 5% and 9% in the other health plans. The increase in Clalit was due largely to a significant increase in government-determined hospital per-diem rates. This was offset in the smaller health plans by substantial savings from the full hospital revenue cap. With the transition to a 50% cap, concern was raised that health plan expenditures on hospital services might increase markedly.

However, the second year report found that, to the contrary, the age-adjusted per capita expenditures on hospital services of the health plans as a group declined by 5% between 1996 and 1998. One notable cause of this was that, unlike the situation in 1994-1996, the per-diem rate grew at approximately the same rate as did the consumer price index. The greatest decline in expenditures was felt by Leumit, whose cap-related savings grew markedly.

7. Hospital Revenue from Health Plans

The first year report contained no financial information from the hospitals' perspective. For the second year report, the project team analyzed the financial data maintained by the Ministry of Health's budget division regarding government hospitals for 1996-1999, and for a larger compendium of non-profit hospitals for 1999.

In 1999, the ratio between cap over-runs and total activity averaged 9% in government hospitals including research accounts, 8% in government hospitals excluding research accounts, 7% in the public hospitals, and 23% in Clalit-owned hospitals (in their dealings with the smaller health plans). (The 8% cap over-runs in government hospitals excluding research accounts represented an increase from 1996, when cap over-runs constituted 4% of activity.) These averages belie the substantial variation among individual hospitals within each sector.

The findings from hospital financial data are consistent with the findings from health plan financial data (see Section 5 above), and constitute a cross-validation check for both sources.

Research accounts are a large and growing component of the government hospital system, and accounted for approximately 8% of the revenues of acute government hospitals in 1998. In some government hospitals, the figure was as high as 14%. Unfortunately, due to a lack of data on research accounts for 1996, the project team was unable to assess how these accounts grew between 1996 and 1998. It is possible that research accounts activity grew particularly rapidly in the smaller health plans.

The project team also found that between 1996 and 1999, activity in the main accounts of government hospitals increased by approximately 2%. Clalit's utilization decreased by 5%, compared to increases of between 12% and 24% in the other health plans. Differences in membership growth rates accounted for almost all of the difference among the health plans' activity in main hospital accounts.

Conclusions

This paper focused on changes in hospital utilization and expenditure between 1996 and 1999, when a 50% revenue cap was in effect. Its primary finding is that system-wide per-capita utilization and expenditure appear to have declined during this period. Some of the measures examined suggest that, during this period and that immediately preceding it, differences between Clalit (historically the most intensive user of hospital services) and the other health plans narrowed, but were not eliminated. This study also found that patterns of change over time have differed substantially across hospitals and hospital sectors.

The findings suggest that government policy, health plan actions, and hospital actions have all had an effect on recent changes in hospital utilization and expenditures in Israel. This contradicts the view sometimes expressed in Israel that some (or all) of these three actors have little or no ability to influence hospital use levels. Our conclusion, if correct, implies that future efforts to influence

hospital use can (and should) consider policy tools that are directed at both health plans and hospitals.

In addition, our findings had implications for the recent policy debate over whether or not to discontinue the hospital revenue cap. Almost all parties to the debate concurred that the current capping rules have elements that are problematic for both efficiency and equity. The debate was over whether to adjust the cap, or discard it. Consequently, our finding that one of the cap's major goals – constraint of hospital use rates – had been achieved, encouraged policymakers to reconsider completely abandoning this tool. At the very least, we hope our findings will encourage policymakers to evaluate the cap's effect not only on "over-runs", but also and more broadly on use rates, health plan expenditures, and hospital revenues.

Acknowledgments

Many thanks to Shulamit Gordon of the Ministry of Health for her assistance with analysis of the data from the National Hospital Data Base.

We thank all those of our colleagues at the JDC-Brookdale Institute who offered counsel and guidance during the course of our work. Previous drafts of this report benefited from the useful comments of Jack Habib, Director of the JDC-Brookdale Institute; Jack Hadley of the Urban Institute; Dani Michaeli of Clalit Health Services; and Francis Wood of Maccabi Healthcare Services.

Key findings from this study were presented at a National Institute Researchers' Forum. Important comments were received at that time from the discussants, Shlomo Mor Yosef and Gabi Bin Nun; from the moderator, Alek Aviram; and from the audience.

This report was edited by Marsha Weinstein.

Table of Contents

List of Tables

List of Figures

1. Introduction

The objective of this project is to investigate recent trends in the hospital utilization and expenditures of Israel's health plans. These will be analyzed in light of government-initiated health care reform and health plan efforts to contain their spending for hospital services.

This document reports the findings from the second year of the project, and is organized according to the project's specific aims. This is preceded by a brief review of the background to the study.

1.1 Background

In 1995, two major policy changes were introduced, which had significant implications for the hospital-health plan relationship. The passage of the National Health Insurance Law redistributed health care monies from Israel's smaller health plans to its largest one, Clalit Health Services. As such, it provided the smaller health plans with a strong budgetary incentive to reduce spending in all areas, including on hospital services. The imperative to reduce spending was further supported by the introduction of a revenue cap in government hospitals in 1995 (and in almost all public hospitals in 1996), which curtailed the hospitals' incentive to promote utilization (in excess of the cap).

This project sought to provide the government, health plans, and hospitals with up-to-date information about the rapidly changing hospital-health plan relationship. To this end, it sought information on changes in the hospital/health plan system and their impact on key actors in it. In order to make informed decisions about policy levers such as modifications of the cap and in the per-diem rate, government policymakers need information on how utilization and expenditure have changed since 1995. This report may also help the managers of health plans (roughly 50% of whose operating expenses may be ascribed to hospitals) and hospitals (roughly 80% of whose revenue comes from health plans) improve operating efficiency and organizational effectiveness. The project extended over three years; this document is a report of the information gleaned during the first year.

1.2 Study Goals and Design

The following were the specific aims of this project:

1. To review the history of capping, and determine how it changed incentives for the health plans and the hospitals.
2. To assess whether, when national health insurance and the cap were introduced, there were opportunities for reducing hospital utilization in Israel.
3. To document changes in the health plans' hospital utilization patterns in the wake of national health insurance, the capping initiative, the revised capping initiative, and health care reform.
4. To document and analyze changes in the pattern of health plan expenditures on hospital care in the wake of health care reform.
5. To document the nature and scope of specific measures taken by the health plans to contain hospital expenditures.

6. To place the Israeli experience in an international context regarding both trends in hospital expenditure and utilization levels and efforts by managed care organizations and other purchasers of care to control their hospital expenditures.

The study design distinguished among three key time periods:

1. The period immediately preceding national health insurance (1993-1994).
2. The period during which both national health insurance and strict hospital revenue caps were in effect (1995-1996).
3. The period during which the National Health Insurance Law was in effect, but revenue caps were modified so that health plans were charged marginal costs when exceeding the cap (1997-1998).

The first year report focused on the first two of these periods, while this report focuses on the third period.

The subsequent sections of this report are as follows: The second section summarizes key structural and legal changes that have taken place in the health system since 1996, which could affect the hospital-health plan relationship; special attention is paid to changes in the hospital revenue cap. The third section of this report summarizes the study's findings regarding hospital inpatient activity. The fourth section summarizes the study's findings regarding hospital outpatient activity, and the fifth section summarizes the study's findings from health plan financial data. Section six summarizes the study's findings from hospital revenue data, and section seven reviews recent developments in the hospital-health plan relationship in Jerusalem. Section eight presents concluding remarks.

2. Structural and Legal Changes in the Health System since 1996 and Their Implications for the Hospital-Health Plan Relationship

The following are the most important structural and legal changes that have taken place in the health system since 1996, which are relevant to the topic under study:

- The market share of Clalit Health Services, Israel's largest health plan, continued to decline: If in 1996, Clalit's market share was 61%, by 1999, its market share had dropped to 58%.
- The nation's hospital bed capacity has expanded, particularly due to the addition of a significant number of beds in some government hospitals.
- Co-payments for visits to specialists (about NIS 20 per visit in the hospital and NIS 15 per visit in the community) were introduced in late 1998. This may have reduced the number of visits to specialists after 1998, and it may also have had an impact on the locus of those visits.
- Clalit Health Services took initiative to constrain its hospital inpatient and outpatient use. This included introducing a commercial-style relationship between its regions and hospitals, and investing in monitoring and review.

- The overall financial situation of the health plans changed. In brief, the introduction of national health insurance in 1995 greatly improved the financial situation of Clalit, while it worsened that of the smaller Maccabi Healthcare Services and Meuhedet Sick Fund. In the years that followed, the per capita revenues of all of the health plans declined, while their per capita expenditures increased (especially in Clalit); this led to increasingly large deficits. In 1998 – a watershed year – significant new funds were allocated to the health system. At the same time, the health plans endeavored to reduce their per capita members. Thanks to these two factors, by 1999, the annual health system deficit had been considerably reduced.
- The decline in expenditures and in the deficit was also due in part to increased revenue from the "safety net" – that is, new/increased co-payments, and funding earmarked for new technologies (especially pharmaceuticals) – and in to Ministry of Finance insistence (and financial incentives) that the health plans reduce their deficits.[1]
- A new process was introduced for determining which new technologies should be added to the national health insurance benefits packages. A public commission composed in part of representatives of the health plans plays a significant role in this process.
- The prevalence of supplemental and commercial health insurance coverage has increased markedly.
- There has been much public debate over whether health plans are (or should be) allowed to constrain their members' choice of hospital. There has also been much debate over whether the health plans should be able to determine where their members should receive care – in an inpatient or an outpatient setting.

All of these changes have influenced the hospital-health plan relationship; many of them will receive detailed consideration in this report. First, however, we will examine in depth the development that may have been the most significant: changes in the system of hospital revenue caps.

2.1 The Hospital Revenue Cap

Israel's hospital revenue cap was first instituted in 1995, primarily due to concern that the health plans would be caught in an impossible financial trap. In the early 1990s, hospital activity levels and revenues from the health plans had increased rapidly. However, the 1994 signing of a financial rehabilitation agreement by Clalit Health Services implied that the nation's largest health plan

---

[1] There was an additional change in 2000, which we will not emphasize in the body of the paper, which focuses on 1996-1999. Here, we note that during 2000, the Ministry of Finance created a safety net for government hospitals, whereby:

- If activity in 2000 fell below that in 1999, the hospital could be compensated by the Ministry of Finance up to the difference between the years' activity, up to a ceiling of 2.5% of 1999 activity.
- If activity in 2000 fell between that in 1999 that in 1999 + 2.5%, the Ministry of Finance would not intervene.
- If activity in 2000 fell between that in 1999 + 2.5% and that in 1999 + 5.0%, the Ministry of Finance would take all revenue above 1999 + 2.5%.
- If activity in 2000 fell above that in 1999 + 5.0%, the Ministry of Finance would take 2.5%.

would not have the resources to fund rapid growth in hospital activity. Further, the adoption of the National Health Insurance Law in 1995 suggested that the ability of all of the health plans to increase their own revenue would be severely constrained, and that the per capita revenue of the smaller health plans would decline with the introduction of capitation financing.

The primary objective of the revenue cap was to limit the rate of growth of health plan spending on hospital services. It sought to do so through two mechanisms: a) direct effects – that is, reduction of the amount of money the health plans would have to pay hospitals for a given level of utilization (if their activity exceeded this level); and b) indirect effects – that is, changing the hospitals' incentives, thereby reducing utilization rates.

During the initial years of the cap's implementation, uncertainty prevailed regarding several key issues, such as whether the cap was being applied to individual hospitals or to hospital systems, whether the cap constituted a temporary measure only, whether research accounts were subject to the cap, and whether spending in excess of the cap during a given year would be reflected in the next year's cap (and if so, how).

In 1995 and 1996, the health plans were totally exempt from paying for services beyond the cap. The original cap produced the following incentives in the hospital services market:

1. If a health plan knew its use of hospital services would exceed the cap, it had an incentive to exceed it by a lot, as all activity above the cap was "free".
2. If a health plan knew its use of hospital services would be below the cap, it had an incentive to reduce hospital use – at least when this could be done at less than the full hospital rate.
3. If a health plan was unsure whether it would exceed the cap, it would need to engage in complex calculation to determine whether it would be profitable to increase or decrease its hospital use.
4. Hospitals had an incentive to increase volume up to – but not beyond – the cap.

It is important to note that the cap also affected the health plans' attitude toward market share. A 100% cap significantly reduced the marginal cost of adding members (that is, the addition of members who might use hospital services in excess of the cap no longer incurred additional costs for their health plan). Since approximately 50% of health plan expenditure is on hospital care, and the marginal cost of adding members had all but been eliminated (at least for rapidly-growing health plans), an incentive was created to expand market share.

In 1997, two important changes were made in the cap. First, services used in excess of the cap were no longer free: The health plans were required to pay 50% of the cost of services used in excess of the cap. Second, there was a change in how the cap itself was set: In 1995-1996, it was a uniform 2% for all of the health plans. In 1997, the cap was set to reflect each health plan's growth in membership, and the extent to which it had exceeded the cap the previous year. However, this was calculated (using national data) such that the national average cap would continue to be 2%. For example, in 1997, the caps were set as follows: Clalit – 0.8%; Leumit – 6.1%; Maccabi – 5.2%; Meuhedet – 9.0% (for an explanation of how the cap was set or each health plan, see Appendix I).

While this moderated the extent to which the cap "punished" Clalit for its slow membership growth, Clalit has remained at a slight disadvantage.

It should be noted that the cap calculated for each health plan was then applied to each hospital individually (and not as a group or system).[2]

The differential cap for each health plan, reflecting changes in membership and use of services in excess of the cap, was preserved through 2000, although the national average cap was reduced from 2% to 1%.

These changes had the following impact on the incentives noted above:

1. The benefits to the health plans of exceeding the cap were substantially reduced, for two reasons. First, services above the cap were no longer free. Second, cap over-runs one year would result in a larger cap the following year (albeit not on a one-to-one basis). This would increase the amount of services for which a health plan would have to pay the full rate during the subsequent year.
2. The benefits to hospitals of exceeding the cap were substantially increased. While hospitals may not have increased volume "across the board", they did increase the volume of those services for which 50% of the official rate exceeded the marginal costs.[3]

These changes also introduced a situation whereby each health plan's cap (and therefore its outlays for hospital services) would henceforth be influenced not only by its own actions, but also those of the competing health plans. The more all of the health plans exceeded the cap, the less the cap for any one of them would increase in the coming year. The smaller the health plan, the more it would be affected by utilization in excess of or below the cap by the other plans. The larger the health plan, the more its utilization, whether in excess of or below the cap, would affect the other health plans.

It should be noted that these changes also had implications for health plan members. The incentive to expand market share was reduced by the shift from a 100% discount to a 50% discount on services used in excess of the cap, and by the incorporation of membership growth into the calculation of the cap for each health plan.

---

[2] In 1996, the cap was set differentially across hospitals (for each health plan). Hospitals that experienced greater cap over-runs in 1995 had their cap increased by a relatively greater percentage in 1996. However, this practice was not continued thereafter; beginning in 1997, a cap overrun one year did not affect the extent to which the cap was increased the next year.

[3] Whether or not a particular service fell into this category depended on two factors: a) the extent to which the cost of the service were variable; b) the relationship between the full cost of the service and its official rate.

2.2 Summary

Since 1996, there have been several structural and legal changes – particularly those that enhanced incentives to hospitals to increase the supply of services – which could have led to increased utilization and expenditure. Most prominent among these were the increase in the nation's bed complement, and the shift from a strict (100%) to a reduced (50%) cap on hospital revenues.

On the other hand, there have also been developments – particularly steps to diminish the demand for hospital services – that could have decreased utilization and expenditure. Most prominent among these were the introduction of co-payments for visits to specialists, the continued shift in market share from Clalit to the other health plans (which use hospitals less intensively), increased pressure on the health plans by the Ministry of Finance to reduce spending and avoid deficits, and the reorganization within Clalit, which gave Clalit's regional managers a greater incentive to reduce hospital use. The shift from a strict to a reduced cap also increased the incentive for health plans to constrain hospital use.

Given these conflicting influences, theory alone could not clearly predict whether hospital utilization and expenditures would increase or decrease following changes in the cap. Accordingly, this study synthesized data from several sources to empirically track recent changes in each of the following: hospital inpatient activity; hospital outpatient activity; health plan spending for hospital services; and hospital revenues. In addition to considering aggregate system-wide changes, the research team also sought to identify and explain differences over time and among hospitals and health plans, all of which might also provide insight into the impact of the legal and structural changes noted above.

3. Hospital Inpatient Activity

This chapter summarizes the year findings from the second year of the study regarding developments in hospital inpatient activity. It is divided into four sections:

1. Section 3.1 provides an overview of trends in inpatient activity since 1980 (based on the Ministry of Health's report, *Hospitals and Day Units in Israel*).
2. Section 3.2 uses the National Hospitalization Data Base to explore changes in hospital activity since 1994, by health plan and age group.
3. Section 3.3 uses micro-level data to examine the determinants of hospital admissions in 1997, and to explore the reasons behind the increase in admission rates between 1993 and 1997 among the smaller health plans.
4. Section 3.4 examines whether the variation in hospital growth rates can be attributed to the variation in the growth rates of the health plans and changes in the national bed complement.

3.1 An Overview of Trends in Inpatient Activity

Table 1 presents an overview of the major trends in key dimensions of hospital inpatient activity. The figures relate to total inpatient activity in general hospitals, and were taken from the Ministry of

Health report *Hospitals and Day Units in Israel*. The figures indicate annual percentage changes so as to facilitate the comparison of periods of unequal duration. The Table presents information for one ten-year period – the decade of the 1980s – and four two-year periods – 1990-1992; 1992-1994;1994-1996; and 1996-1998. We took special interest in the latter two periods: During 1994-1996 the full cap prevailed, while during 1996-1998 the 50% cap prevailed.

Note that the Table also presents changes in activity levels from two perspectives: "the hospitals' perspective" (information on total activity), and "the population's perspective" (information on activity per thousand population).

Table 1: An Overview of Trends in Hospital Activity

	Annual Percentage Changes				
Activity	1980-1990	1990-1992	1992-1994	1994-1996	1996-1998
Discharges	2.9	5.1	6.5	4.0	3.1
Length of stay	-2.5	-2.9	-3.5	-3.0	-1.3
Days	0.3	2.5	3.3	0.7	1.8
Beds	0.5	2.2	1.2	0.9	1.5
Occupancy	-0.5	1.0	2.1	0.0	0.4
Population	2.1	3.9	2.7	2.4	2.4
	Rates per Thousand Population				
Discharges	0.8	1.2	3.7	1.6	0.7
Length of stay	NA	NA	NA	NA	NA
Days	-1.7	-1.3	0.6	-1.7	-0.6
Beds	-1.5	-1.6	-1.4	-1.5	-0.9

We can break down the information provided in the Table as follows:

- ***Discharges:*** Discharges increased by approximately 3% per year during the 1980s. This trend accelerated in the early 1990s, apparently due in part to mass immigration from the former Soviet Union. It should be noted that discharges increased particularly dramatically in 1992-1994, with per-capita discharges increasing by almost 4% annually. (Clearly, this cannot be ascribed to immigration alone.) In part, this may have been due to expectations that government hospitals would soon become independent legal entities, responsible for generating their own revenue. Interestingly, the rate of per-capita discharge declined thereafter, and by 1996-1998 had decelerated to the rate that had prevailed during the 1980s.
- ***Length of stay:*** Annual declines in length of stay ranged from 2.5% to 3.5% throughout the period in question, with the exception of 1996-1998, when there was an annual decline of 1.3%. It is unclear whether this trend is a response to a particular policy intervention, or simply reflects the fact that, after decades of rapidly declining lengths of stay, we are approaching a natural asymptote.
- ***Days:*** Per capita, patient days have declined at annual rate of between 0.6% and 1.7% during most of the periods in question. Here, too, 1994-1996 was anomalous: During that period, days per capita increased by 0.6% per year.

- ***Beds:*** Beds per capita declined steadily at a rate of roughly one percent to two percent per year during all of the periods in question.
- ***Occupancy rates:*** Occupancy rates changed by one percent or less each year, aside from 1992-1994 period, when they grew by 2.1% per year.

In short, the years preceding national health insurance were characterized by significant growth in discharges, due in part to immigration and in part to other factors. Since then, growth has slowed, but has certainly not dipped below the levels that prevailed in the 1980s. Since national health insurance, the decline in average length of stay has decelerated, and this has somewhat offset the impact on patient days of the deceleration in admissions.

Table 2 presents data on the percentage of total admissions accounted for by each major hospital division. It reveals that, at the division level, there has been remarkable stability in the mix of hospital admissions. It should be noted, however, that this belies substantial changes within divisions at the departmental level. A thorough presentation of departmental-level changes can be found in 1999 edition of *Hospitals and Day Units in Israel* (Ministry of Health, 2000).

Table 2: Distribution of Admissions across Hospital Divisions (in %)

Division	1994	1996	1998
General internal medicine	25	26	26
Complex internal medicine	7	7	8
General surgery	15	15	15
Complex surgery	17	17	17
General pediatric medicine	8	8	8
Complex pediatric medicine	4	4	4
Maternity and gynecology	22	22	21
Recovery	1	1	1
Total	100	100	100

Table 3 examines changes in the mix of admissions across hospitals, by region. The picture it presents is also one of stability, with only minor changes in distribution by region over a four-year period.

Table 3: Distribution of Admissions, by Region (in %)

Region	1994	1996	1998
Jerusalem	13	13	14
North	13	12	12
Haifa	17	17	16
Center	27	27	26
Tel Aviv	21	21	22
South	10	10	10
Total	100	100	100

3.2 The National Hospitalization Data Base: Changes by Health Plan and Age

The National Hospitalization Data Base (NHDB) was developed and maintained by the Ministry of Health's Information Division. It contains detailed patient-level demographic and clinical information on hospital admissions. The analysis presented here for 1994-1998 is based on data from 18 hospitals, which together account for 87% of hospital admissions. All government and Clalit hospitals and most large public hospitals are included; data for these years were unavailable for private hospitals and some of the smaller public hospitals.

The NHDB enables us to track hospital use by health plan and certain demographic characteristics, such as age, on a yearly basis. Our key objectives in using this data base were to identify how utilization patterns changed between 1994-1996 (when the full cap prevailed) and 1996-1998 (when the partial cap prevailed). Our analyses address utilization first by health plan, and then by age.

It should be noted that the NHDB indicates a slight decline in the total admission rate, and that this is at variance with other sources.

Table 4: Admissions per Thousand Age-adjusted Health Plan Members, by Health Plan and Year

	Health Plan				
Year	Clalit	Leumit	Maccabi	Meuhedet	Total
1994	123	85	75	72	110
1995	125	87	76	72	110
1996	125	88	77	74	109
1997	123	84	74	73	107
1998	124	86	73	73	107
Percentage change	1	2	-3	1	-3

As can be seen in Table 4, in all four health plans, admission rates per thousand age-adjusted members increased slightly in 1994-1996, and declined slightly thereafter (with the rates for Clalit remaining well above those of the other three health plans). Table 5 documents the steady decline in length of stay during both periods among all of the health plans. As a result, hospitalization days per thousand age-adjusted members declined in all the plans.

Table 5: Age-adjusted Average Lengths of Stay, by Health Plan and Year

	Length of Stay in Days by Health Plan				
Year	Clalit	Leumit	Maccabi	Meuhedet	Total
1994	5.1	5.4	5.2	5.3	5.1
1995	5.0	5.2	5.1	5.1	5.0
1996	4.9	5.1	4.9	5.1	4.9
1997	4.7	5.0	4.7	4.9	4.8
1998	4.7	4.9	4.7	4.9	4.7
Percentage change	-8	-9	-10	-8	-8

Analysis by age group revealed more variance. As can be seen in Table 6, between 1994 and 1998, the youngest age group experienced the greatest decline in admission rates (this was predominantly the result of the decline during 1996-1998), while the oldest age group experienced the greatest increase in admission rates (again, predominantly as a result of changes during 1996-1998). At this stage, we do not have a clear understanding of why admission rates grew differentially by age group or in the two time periods.

Table 6: Hospital Admissions, by Age Group, 1994-1998 (in %)

Age Group	1994-1998	1994-1996	1996-1998
0-4	-12	-3	-9
5-14	-3	3	-6
15-24	2	7	-4
25-34	-6	2	-8
35-44	-6	-2	-5
45-54	-7	-3	-4
55-64	-6	-5	-2
65-74	1	0	1
75 and over	4	0	4
Total	-2	0	-3

The analysis of changes in length of stay by age group is even more puzzling (Table 7). Most of the age groups showed declines in ALOS during both periods, with the decline somewhat more rapid during the first (1994-96) period. In contrast, for the 0-4 age group there was a major increase in length of stay for 1994-96 and a major drop in length of stay for 1996-98.

Table 7: Percentage Change in Average Lengths of Stay, by Age Group

Age Group	1994-1998	1994-1996	1996-1998
0-4	-5	17	-19
5-14	-6	-3	-3
15-24	-11	-8	-3
25-34	-6	-6	0
35-44	-8	-5	-3
45-54	-6	-4	-2
55-64	-11	-5	-6
65-74	-10	-6	-3
75 and over	-9	-6	-3
Total	-8	-4	-4

3.3 The *Use of Health Services Survey:* Modeling 1997 Admissions

This section is based on data from the *Use of Health Services Survey* (UHSS) carried out by the Central Bureau of Statistics in conjunction with the Ministry of Health. The survey is based on a national representative sample, and encompassed approximately 20,000 individuals in 1993 and approximately 30,000 individuals in 1997. The resulting data base contains data on health plan

affiliation, number of hospital admissions, number of visits to hospital-based specialists, number of visits to various community-based providers, and selected demographic parameters (Central Bureau of Statistics, 1995b).

In our study, our use of UHSS data had two key objectives:

1. Understanding the determinants of the use of hospital services in 1997, with special attention to assessing whether the differences among health plans could be attributed to differences in member characteristics. (For this analysis, we used the full year's data for 1997.)
2. Assessing whether there were changes in the use of hospital services between 1993 and 1997, and understanding the reasons for those changes that were found. (For this analysis, we limited ourselves to data from the first quarter of both 1993 and 1997, as the 1993 data set included data for that quarter only.)

The following section focuses on the first of these two objectives. We first examine admissions, and then visits to hospital-based specialists.

3.3.1 Modeling 1997 Admissions

As can be seen in Table 8, in 1997 the admission rate for the population as a whole was 145 per thousand population. There were statistically significant differences among health plans: the admission rate was highest in Clalit (163), and lowest in Meuhedet (112).

The variable "admissions" was far from normally distributed. Consequently, ordinary least squares was not an appropriate tool for modeling the factors that influence admissions. In keeping with the professional literature, we focused our analysis on a related dichotomous variable, which indicated whether a respondent was admitted at least once during the six-month study period.[4]

Table 8: Inpatient Hospital Use, by Health Plan, 1997

Health Plan	Admission Rate	Percentage Ever Admitted	Admissions per Person Ever Admitted
Clalit	163	6.1	2.7
Leumit	120	4.9	2.4
Maccabi	113	4.6	2.5
Meuhedet	112	4.7	2.4
Total	145	5.6	2.6

[4] We would note that the admission rate is essentially the product of that percentage of the sample that was admitted at least once during the study period, times the average number of admissions among those people who were admitted at least once. As can be seen in Table 1, almost all of the variation in admission rates among health plans can be attributed to variance in the variable "ever admitted"; variance in the variable "admissions per person admitted" played a lesser role. We would also note that, as with the admission rate, the variable "ever admitted" was highest in Clalit and fairly similar in the other three health plans.

This variable lent itself to logistic regression analysis, which we conducted to explore the extent to which differences among the health plans could be attributed to differences in the socio-demographic mix of their members. An overview of these socio-demographic differences is presented in Table 8a.

Table 8a: Inpatient Hospital Use, by Health Plan and Selected Socio-demographic Characteristics, 1997 (in %)

	Health Plan				
Variable	Clalit	Leumit	Maccabi	Meuhedet	Total
Age group					
0-4	9	11	12	12	10
5-14	20	24	19	22	21
15-24	14	14	14	18	15
25-34	12	15	21	16	15
35-44	13	15	14	14	13
45-54	11	9	10	10	11
55-64	8	6	6	5	7
65-74	8	5	3	3	6
75 and over	5	3	2	2	4
Chronic illness					
Hypertension	9	7	5	5	8
Heart disease	3	2	1	1	3
Diabetes	4	2	2	2	3
Asthma	3	3	3	3	3
Stroke	1	0	0	1	1
Back pain	4	3	2	4	3
Cataract	4	2	2	4	3
Glaucoma	1	1	0	1	1
Cancer	1	1	1	1	1
Region					
Jerusalem	9	15	4	30	10
North	23	19	7	10	18
Haifa	15	9	13	10	14
Center	21	18	23	25	22
Tel Aviv	16	22	39	13	21
South	14	13	13	10	13
Judea and Samaria	2	5	2	4	2
New immigrants	7	17	16	13	10
Jews	76	82	94	85	81

The logistic regression analysis was carried out in stages; the results are presented in Table 9. The first model included only the health plan dummy variables among the independent variables. Clalit was used as the reference group, the odds ratios for all three of the other plans were less than 1.0, and all of these differences were statistically significant at a level of .05.

A set of age group dummy variables (using the age group 25-34 as the reference group) were included in the second model. The coefficients for most of these age dummy variables were significant, and the odds ratios were in the expected directions (e.g., less than one for youth, and greater than one for the elderly).

Table 9: A Logistic Regression of Inpatient Hospital Use, by Selected Socio-demographic Characteristics (Dependent Variable: "Ever Admitted to the Hospital")*

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 5a	Model 6
Health plan							
Meuhedet	**0.76****	0.91	0.93	0.95	0.98	1,04	1.04
Leumit	**0.79**	0.88	0.89	0.89	0.93	0.90	0.90
Maccabi	**0.75**	**0.83**	**0.87**	0.92	0.96	1.03	1.03
Age group							
0-4		**0.79**	**0.79**	**0.78**	**0.75**	0.78	0.78
5-14		**0.29**	**0.29**	**0.29**	**0.28**	**0.31**	**0.31**
15-24		**0.41**	**0.42**	**0.42**	**0.42**	**0.52**	**0.52**
35-44		**0.68**	**0.65**	**0.65**	**0.66**	0.79	0.79
45-54		**0.68**	**0.59**	**0.59**	**0.60**	**0.61**	**0.61**
55-64		1.17	**0.79**	**0.81**	0.84	1.05	1.06
65-74		**2.01**	1.13	1.18	1.22	**1.54**	1.05
75 and over		**3.32**	**1.54**	**1.61**	**1.67**	**2.13**	**2.13**
Chronic illness							
Hypertension			**4.01**	**3.98**	**3.99**	**4.02**	**3.98**
Diabetes			**1.69**	**1.68**	**1.67**	**1.39**	**1.39**
Asthma			**1.93**	**1.94**	**1.93**	**1.91**	**1.90**
Stroke			**2.26**	**2.25**	**2.22**	**2.41**	**2.42**
Back pain			1.09	1.08	1.06	0.90	0.90
Cataract			**1.64**	**1.63**	**1.63**	**1.61**	**1.61**
Glaucoma			0.86	0.86	0.87	0.85	0.85
Cancer			**3.73**	**3.82**	**3.82**	**3.43**	**3.44**
Region							
Jerusalem				1.11	1.12	1.16	1.01
North				**1.36**	**1.37**	**2.18**	**2.05**
Haifa				0.97	0.98	1.04	1.04
Center				1.03	1.04	1.01	1.00
South				0.97	1.02	1.17	1.18
Judea and Samaria				1.21	1.22		
New immigrants					**0.73**	**0.73**	**0.73**
Jews					0.98	1.08	1.09
Distance to a hospital							
Any hospital							0.88
Clalit-owned hospital							1.07

*Source: Central Bureau of Statistics' *Use of Hospital Services Survey*, 1997.

**Odds ratios are bold if significant at .05.

Note that as a result of the addition of age variables, the odds ratios for the health plan dummy variables remain less than one, but – with the exception of Maccabi – do not become significant. For example, the odds ratio for Meuhedet increased from .76 (significant) to .91 (not significant). This can be interpreted to mean that this data set cannot be used to support the hypothesis that there were differences in hospital use rates among Clalit, Leumit, and Meuhedet in 1997, beyond those that may be attributed to differences in age mix. (Note that the 1993 data set did reveal inter-health plan differences beyond those attributable to age.)

In subsequent runs we added, in stepwise fashion, chronic illness variables (model 3), region variables (model 4), and variables indicating religion and immigration status (model 5).

The odds ratios for all of the health plans became closer to one with each step in the regression. A particularly large step in that direction was noted in the move from model 4 to model 5, during which the variables regarding immigration status and religion were added. Note that with the addition of variables in models 3 through 5, the odds ratios for Meuhedet and Leumit continue to be not significant. The coefficient for Maccabi becomes not significant in the move from model 3 to model 4 – that is, with the addition of region variables.

In model 5, several of the age variables, most of the chronic illness variables, the "northern region" dummy variable (OR 2.0), and the "new immigrant" dummy variable (OR = .7) proved to be statistically significant.

Model 6 explored the effect of the distance to the nearest hospital (irrespective of ownership) and the distance to the nearest Clalit-owned hospital on the likelihood of being admitted to a hospital. Distances were computed using the geographic coordinates of the locality in which the respondent resided and the geographic coordinates of the hospital(s). "Distance to the nearest hospital" was dichotomous, taking on the value 0 if a hospital existed in the same locality as a respondent's place of residence, and a value 1 if it did not. "Distance to the nearest Clalit-owned hospital" had three values: 1 if the distance from the respondent's place of residence was less than 10 kilometers, 2 if the distance was 10-20 kilometers, and 3 if the distance was over 20 kilometers.

Note that the distance variables had missing values in half of the observations, as the data set included the settlement's name only if it had a population of over 50,000. (The figures in Table 3 should therefore be considered with some skepticism.)

We also explored the effect of adding these variables to the final model (model 5) by running regressions twice: once for the full sample, and a second time for respondents who were members of Clalit. We did this as we hypothesized that "distance to the nearest Clalit-owned hospital" might have more of an impact on members of Clalit than on members of other health plans. As can be seen, in both runs the distance variables did not emerge as statistically significant, nor did their addition have any marked impact on the odds ratios for the other variables.

To further explore the relationship between the likelihood of admission to a hospital and the distance variables, we also ran a series of stepwise models where the first set of variables to be entered were the distance variables. Here we found that when the distance variables were the only independent variables, the "distance to the nearest hospital" variable was significant in the hypothesized direction (i.e. the further a person lives from a hospital, the smaller his likelihood of being hospitalized). However, the addition of region variables rendered the distance variables not significant (still in the hypothesized direction).

3.3.2 Modeling the 1993-1997 Change in Admissions

The UHSS data were also used to explore whether there were changes in the use of hospital services between 1993 and 1997, and to gain insight into the reasons for any such changes. As noted, we limited ourselves to analyzing data from the first quarter of these two years, as the 1993 data set includes data for that quarter only.

Table 10 indicates that the annual rate of admissions per thousand population increased only slightly from 1993 to 1997 – from 140 to 147. As can be seen in the Table, the admission rate increased markedly in the smaller health plans, but remained stable in Clalit. In 1993 and 1997 Clalit had the highest rate of admissions, but the increase in admission rates in the other health plans significantly narrowed the gap between them and Clalit. Differences in admission rates by health plan were statistically significant in 1993, but not in 1997. It should also be noted that the change between these two years was statistically significant within Meuhedet, but not within Leumit and Meuhedet (perhaps due to sample size limitations).

Table 10: Rates of Admission to the Hospital, by Health Plan

Year	Total	Clalit	Leumit	Maccabi	Meuhedet
1993	0.14	0.16	0.12	0.09	0.07
1997	0.15	0.16	0.16	0.13	0.12
Percentage change	0.01	0.00	0.04	0.04	0.05

*Source: Central Bureau of Statistics' *Use of Hospital Services Surveys,* 1993 and 1997.

We next sought to explore whether the changes that occurred in the smaller health plans were attributable to changes in member demographics. To try to overcome sample size limitations, we grouped the three smaller health plans together. Also, as indicated in the previous section, our multivariate analysis could not use "admissions" as the dependent variable, as this variable is far from normally distributed. Instead, we ran a series of logistic models using "ever admitted to the hospital" as the dependent variable. The values taken by this variable in the two quarters under consideration are presented in Table 11. Note that, as in the case of admission rates, this variable also increased significantly between 1993 and 1997 in each of the smaller health plans.

Table 11: Percentage of People Ever Admitted to the Hospital, by Health Plan

Year	Total	Clalit	Leumit	Maccabi	Meuhedet
1993	4.7	3.0	5.4	3.7	3.3
1997	6.0	5.2	6.2	7.1	5.5
Percentage change	1.3	2.2	0.8	3.4	2.2

*Source: Central Bureau of Statistics' *Use of Hospital Services Surveys,* 1993 and 1997.

We used logistic regression analysis to explore whether the change between 1993 and 1997 in the rate of admission to hospitals in the smaller health plans was due to changes in the socio-demographic mix of respondents and/or the to the distribution of respondents across health plans. Data from both years were pooled, and a dummy variable was created to indicate the year 1997. Using a stepwise procedure, we explored the effect of adding additional variables to the model on the coefficient for that dummy variable (and its level of significance).

Table 12: A Logistic Regression Explaining the Dummy Variable, "Ever Admitted to the Hospital*

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Data for 1997	**1.31**	**1.36**	**1.33**	**1.39**	**1.38**	**1.39**
Health plan						
Meuhedet		**0.65**	0.79	0.80	0.79	0.81
Leumit		**0.80**	0.88	0.90	0.90	0.93
Maccabi		**0.73**	**0.83**	0.86	0.90	0.92
Age group						
0-4			**1.33**	**1.32**	**1.30**	**1.27**
5-14			**0.37**	**0.37**	**0.37**	**0.36**
15-24			**0.42**	**0.42**	**0.42**	**0.42**
35-44			1.01	0.98	0.99	0.99
45-54			1.13	0.98	0.98	0.99
55-64			**2.16**	**1.52**	**1.54**	**1.58**
65-74			**2.99**	**1.76**	**1.80**	**1.85**
75 and over			**4.33**	**2.61**	**2.68**	**2.76**
Chronic illness						
Heart disease				**3.78**	**3.79**	**3.80**
Diabetes				**1.91**	**1.91**	**1.89**
Asthma				**2.46**	**2.45**	**2.42**
Region						
Jerusalem					1.25	1.25
North					1.19	1.16
Haifa					0.97	0.97
Center					1.12	1.13
South					1.18	1.22
Judea and Samaria					0.93	0.94
New immigrants						**0.80**
Jews						0.92

*Odds ratios are bold if significant at .05.

As can be seen in model 5 in Table 12, several of the variables representing immigration status, age, and chronic illness had an independent, statistically significant impact on the dependent variable. However, the coefficient of the dummy variable representing the year of the survey was hardly affected by the addition of these other variables to the model.

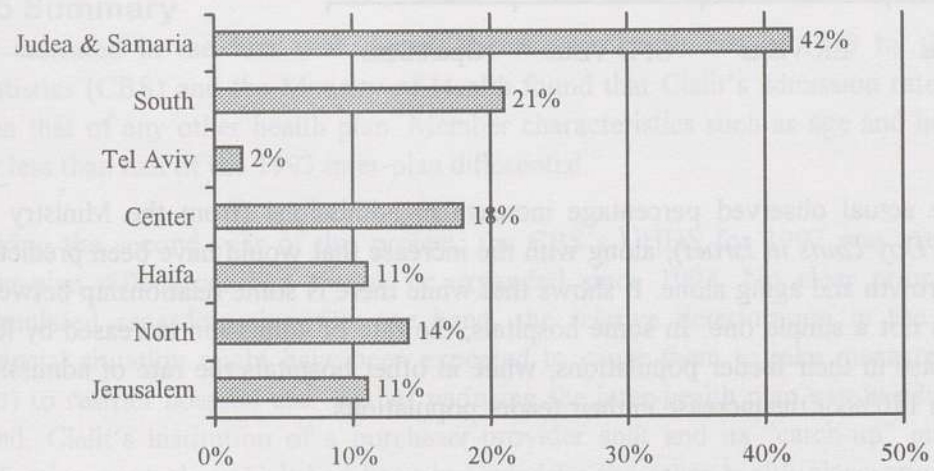
We also explored whether the change between 1993 and 1997 was significantly different across health plans by introducing year-health plan dummy variables. None of these proved to be statistically significant. This implies that the changes between 1993 and 1997, which were noted above, affected all of the health plans to roughly the same extent.

3.4 Admission Growth and Feeder Populations

There was significant variance among hospitals in the percentage increase in admissions between 1993 and 1997. Of the 26 general hospitals with over 150 beds, six experienced an increase in admissions of over 30%, while five experienced an increase in admissions of less than 10%.

We conducted a small exercise to explore the extent to which this variance could be attributed to differences in population growth rates across regions – which varied markedly during this period (see Figure 1). In other words, we wondered whether some hospitals grew more than others simply because they served regions that experienced above-average population growth. For example, the age-adjusted[5] population in the south grew by over 20%, while that in the Tel Aviv region grew by less than 3%.

Figure 1: The Growth in the Age-adjusted Population, by Region, 1994-1998



[5] Note that we used age-adjusted rather than simple population figures, as shifts in age composition can have a significant effect on resource consumption.

In order to conduct this exercise, we needed the distribution of places of residence of the patients in every hospital. We originally hoped to use the NHDB, which contains such information for almost all of the hospitals in Israel. Unfortunately, the NHDB did not authorize the use of patient residence information on a hospital-specific basis.

Our second choice was to utilize residence information from a 1995 JDC-Brookdale Institute multi-hospital patient survey, which involved over 200 patients in each of 18 general hospitals in Israel.[6] As can be seen in Figure 2, we found substantial variability – between 5% and 37% – in the percentage increase in admissions between 1994 and 1998 even within this subset of Israeli hospitals.

Figure 2: Trends in Activity: Annual Percentage Change for an Aggregate of Nine Government Hospitals

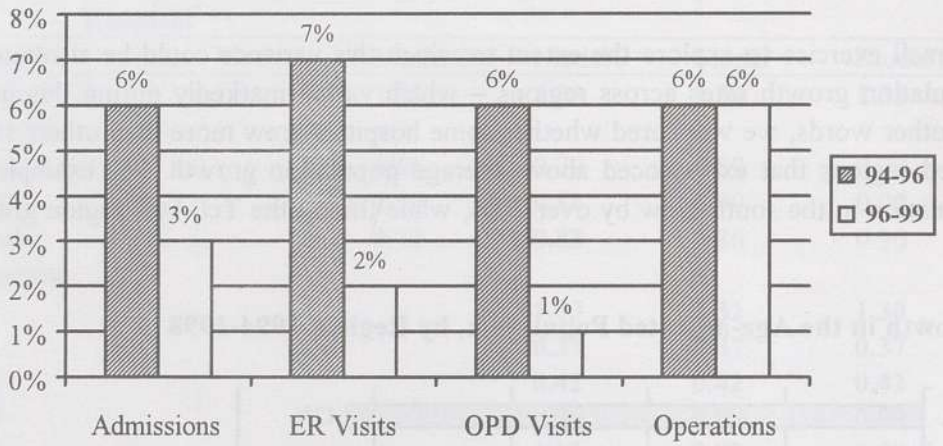


Table 13 displays the actual observed percentage increase in admissions (from the Ministry of Health's *Hospital and Day Units in Israel*), along with the increase that would have been predicted based on population growth and aging alone. It shows that while there is some relationship between the two variables, it is not a simple one. In some hospitals, the rate of admission increased by less than 70% of the increase in their feeder populations, while in other hospitals the rate of admission increased by more than 170% of the increase in their feeder populations.

This picture was confirmed by a regression analysis in which the percentage increase in admissions served as the dependent variable, and the percentage increase in feeder population served as the independent variable. The coefficient for "feeder population growth" was positive, but not

[6] This data source is inferior to the NHDB in two respects: it does not include all hospitals, and the analysis is based on only a sample of patients.

statistically significant, and the model explained only 16% of the variance in admission growth. Interestingly, the addition of the variable "growth in beds" increased the R-squared from 16% to 30%, although neither of the coefficients was significant at the .10 level. The subsequent addition of a dummy variable representing hospital ownership further increased the R-squared to 41%; nevertheless, none of the coefficients was significant at the .10 level.

Table 13: The Growth in Rates of Admission and Feeder Populations, by Hospital, 1994-1998

Hospital	Percentage Increase in Admissions	Feeder Population	Ratio
A	5	14	0.3
B	8	12	0.7
C	9	9	1.0
D	13	21	0.6
E	13	14	1.0
F	14	13	1.1
G	16	17	1.0
H	18	17	1.1
I	18	12	1.6
J	21	19	1.1
K	22	12	1.9
L	24	14	1.7
M	34	14	2.4
N	37	21	1.8

3.5 Summary

As indicated in the first year report, the surveys conducted in 1993 by the Central Bureau of Statistics (CBS) and the Ministry of Health found that Clalit's admission rate was markedly higher than that of any other health plan. Member characteristics such as age and health status accounted for less than half of the 1993 inter-plan differential.

During the second year of this project, the CBS's UHHS for 1997 was used to explore whether inter-plan differences had shrunk or expanded since 1993. No clear prior hypothesis had been formulated regarding this. On one hand, the relative deterioration in the smaller health plans' financial situation might have been expected to cause them to take measures (independent of the cap) to restrict hospital use, further widening the inter-health plan gap in admissions. On the other hand, Clalit's institution of a purchaser-provider split and its "catch-up" introduction of hospital utilization controls (which had been instituted by the other health plans prior to 1993) could have led to reduced hospital use in Clalit, thereby narrowing the gap.

This study found that between 1993 and 1997, rate of admission rose markedly in all of the health plans except for Clalit, where it remained stable.[7] Multivariate analysis suggests that the increase in admission rates cannot be attributed to changes in the socio-demographic composition of the memberships of the smaller health plans. At the same time, it should be noted that also according to the 1997 survey, a large gap remained in the rate of admission in Clalit and the other health plans.[8] However, this gap was largely due to differences in the age and health status mixes in each health plans.

The Ministry of Health's *Hospitals and Day Units in Israel* revealed substantial variation in admission growth rates across hospitals in recent years. The project team used information from a JDC-Brookdale Institute survey of hospital use to identify the service areas of individual hospitals, and then explore whether the hospitals that grew most rapidly did so because they served those regions that experienced the most rapid growth in population. The team found that differences in population growth across market areas accounted for less than half of the variation in hospital admission growth. Other significant explanatory factors included differences across hospitals in the extent of bed expansion.

Data from *Hospitals and Day Units in Israel* also revealed a major increase in both absolute and per capita hospital admissions prior to the introduction of national health insurance; this growth began to decelerate in 1995, and decelerated further in 1997. It is tempting to attribute these changes (particularly the former) to the introduction of the hospital revenue cap and/or of national health insurance. However, there is no conclusive proof that these policy changes were the cause of the deceleration. In particular, it should be noted that the most recent growth rates are similar to those that prevailed in the 1980s, well before the introduction of the revenue cap.

4. Hospital Outpatient Activity

This chapter reports the second year's findings regarding hospital-based outpatient care. It is divided into three sections:

1. Section 4.1 employs a variety of data sources to explore the extent and nature of changes in the locus of outpatient specialty care in Israel.
2. Section 4.2 provides a summary of changes in the locus of outpatient care in selected countries (see also Appendix III).
3. Section 4.3 uses micro-level data to examine the determinants of visits to hospital-based outpatient specialists in 1999, and to explore the reasons behind the rapid decline in the frequency of those visits in the smaller health plans between 1996 and 1999.

---

[7] This finding is somewhat at variance with data from the NHDB, which indicates that between 1994 and 1998 the health plans hardly differed in *patterns of change* in both average lengths of stay and admissions per member. However, it should be noted that this finding is limited by incomplete coverage in 1994.

[8] Health plan financial data for 1996-1999 also indicate far higher spending on inpatient care by Clalit than by the other health plans.

4.1 The Changing Locus of Outpatient Specialty Care

4.1.1 Background

In recent years, the prevailing perception in Israel has been of a significant shift in outpatient specialty services from hospitals to the community. This purported shift has been attributed primarily to a desire on the part of health plans to reduce their expenditures for specialty services and, to a lesser extent, to health plans' desire to increase their competitiveness by improving the level of specialty care services.

Many health plan managers believe that community-based specialty care is less expensive than hospital-based care. In part, this is because reimbursement rates for hospital-based care are determined by a government-mandated fee schedule, which is universally acknowledged as being "overpriced". That is to say, the official rates for hospital outpatient visits and procedures are believed to be in excess of the full resource costs to hospitals, and well in excess of the marginal costs to hospitals. Moreover, not only are the rates considered to be in excess of true costs across the board, they are considered to be particularly excessive for certain procedures. It is therefore not surprising that health plans have sought less expensive, community-based alternatives, either providing the services on their own or purchasing them from community-based vendors.

The hospitals realize that excessive outpatient rates are detrimental to their interests. Accordingly, they have asked the government to lower outpatient rates, while contemporaneously increasing the rates for intensive care units (which the hospitals have argued are well below true costs). These changes have been blocked by the Ministry of Finance, which opposes increasing the rates for intensive care units – an area in which hospitals face no competition from the community.

Health plan managers also prefer community-based provision of services, because this gives them more control over the health services delivered to their patients. According to the current rules of the game, once a health plan has given a member a referral to a hospital outpatient department, the hospital has *carte blanche* to conduct whatever consultations and procedures it deems necessary, and to bill the health plan accordingly.

In an effort to stem the feared exodus of outpatients from hospitals, the government and the hospitals undertook a number of measures. Most significantly, in 1995, the government imposed a hospital revenue cap. This cap stipulated that health plans would not have to pay – at all – for increases in activity levels above a pre-determined ceiling. This arrangement was modified in 1997: Instead of receiving all services above the cap for free, the health plans would now get a 50% discount on services above the cap. Clearly, the original cap gave health plans a significant incentive to shift services from the community back to the hospital or, at the very least, to stop shifting services from the hospital to the community.[9] Although not eliminated in 1997, these incentives were weakened by the shift to a 50% cap. The effect of the altered cap would appear to

[9] At the least, this was true of health plans that expected their activity levels to exceed the cap. It was not true of Clalit, whose cap was high relative to expected changes in its membership size (Rosen et al., 1999).

depend in part on the extent to which community-based providers could offer an alternative to hospital outpatient services at rates at or below half of the official hospital outpatient rates.

Hospitals did not rely on the cap alone to stem the flight of patients from their outpatient departments. Rather, they developed and marketed new outpatient services that did not have substitutes in the community. In addition, they attempted to make contractual agreements with the health plans to provide certain outpatient services at a discount, in return for the health plans' commitment to purchase a set volume of services from the hospital. Most of these agreements dealt with specific services (e.g., CT scans), but some agreements were broader (e.g., Hadassah Hospital's agreement with the Jerusalem region of Maccabi Healthcare Services).

Additional developments in Israel's health system may also have had implications for the hospital-community split in specialty services. These included the following:

- ***The introduction of a buyer-seller relationship (to some extent) between regions and hospitals within Clalit Health Services.*** While such arrangements existed even when Clalit purchased services from government hospitals, it did not exist with regard to Clalit's use of care in its own hospitals. This change may have increased the incentive to and ability of Clalit's regional managers to shift specialty care from the hospital to the community.
- ***The introduction of a new reimbursement scheme for ambulatory specialty care between Clalit-owned hospitals and Clalit's regions.***[10] This scheme increased the incentive to hospitals to take costs into account when prescribing treatments and making referrals for Clalit's (out)patients. Consequently, it probably reduced the incentive for Clalit's regional managers to shift care from to the community. As such, the new reimbursement scheme may have offset somewhat the effects of buyer-seller relationship within this health plan.
- ***The overall financial situation of the health plans.*** In brief, the introduction of national health insurance in 1995 greatly improved the financial situation at Clalit, and worsened the situation of Maccabi and Meuhedet. In the years that followed, per capita revenues to the health plans declined, while per capita expenditures increased (particularly in Clalit), leading to large and growing deficits. The year 1998 was a watershed year, as major new funds were allocated to the health system while the health plans used a variety of measures to reduce their per capita membership. Through these means, by 1999 the annual deficit had been considerably reduced.
- ***The introduction of co-payments for visits to specialists in 1998.*** The co-payment was typically NIS 15 for a visit to a community-based specialist, and NIS 20 for a visit to a hospital-based specialist. This may have induced some patients to visit primary care practitioners rather than specialists and, to a lesser extent, induced those who did seek a specialist to prefer one in the community.

[10] At the time, only Jerusalem's voluntary hospitals operated private medical services ("SHARAP"), whose legality was not in dispute. Some government hospitals offered similar arrangements, whose legality was hotly contested.

- ***The growth of supplemental and commercial health insurance coverage.*** This may have increased the visits to "private" specialists, both in the community and in hospitals (e.g., the SHARAP arrangements).
- ***The growing preference of specialists to work in the community.*** This appears to be due in part to the greater number of jobs offered by the health plans and their improved compensation packages.

Despite the widespread perception of an exodus of specialty services from the hospitals to the community and the significant efforts of both government and hospitals to stem it, little has been done at the national level to document and study the current locus of outpatient specialty care.[11] This study constitutes the first attempt to summarize the magnitude and nature of the shift from hospital to community settings, using a variety of sources.[12]

Specifically, we wished to answer the following questions:

1. How has the rate of visits to specialists in general, and hospital-based specialists in particular, changed over time?
2. What changes have taken place in the extent to which specialists are visited in hospitals? Have these changes been uniform across age groups, regions, and health plans?
3. Have hospitals experienced drastic changes in the number of visits to their specialty clinics?
4. What changes have taken place in the health plans' expenditures for hospital-based specialty care?
5. Has there been a change in how health plans divide their spending for hospital versus community services?

We were particularly interested in whether there were important differences between 1995-1996 (when the full cap was instituted) and the period after 1996 (when the partial cap was instituted).

4.1.2 Overview of the Data Sources

Our analysis draws on three data sources:

a. The health surveys of the Central Bureau of Statistics.
b. The activity reports of government hospitals.
c. The health plans' financial records and audited financial statements.

Technical information on these data sources will be presented below. This section presents an overview of how each data source was used to answer the above questions, and describes how these data sources relate to one another.

---

[11] In their excellent article, Shalmon et al., (1997) conduct a conceptual discussion of probable advantages and disadvantages of hospital versus community settings for outpatient specialty services.

[12] In a related study, Nirel and Shirom (forthcoming) explore the implications of the shift in the locus of delivery of specialty services for the work life and organizational loyalties of specialists.

The health surveys of the Central Bureau of Statistics (CBS) provides a population-based perspective, including information about changes in visitation rates per thousand population. It was also our best source of direct information on changes in the hospitals' share of ambulatory specialty care (questions 1 and 2 above).

The activity reports of government hospitals address the issue from an entirely different perspective. As they are not population-based, they cannot yield information on visitation rates, but rather report only on what transpires in the hospitals. Consequently, they also cannot provide definitive information on the balance between hospital and community provision of outpatient specialty care. However, they are an excellent source of information on whether outpatient department volume has declined, at least as in government hospitals (question 3 above).

The picture was rounded out by data from a "third party" – the health plans. Health plan financial data were used to explore changes in health plan expenditures for hospital-based specialty care (question 4 above), as well as in the division of health plan spending for specialty services between hospitals and the community (question 5 above).

a. The Central Bureau of Statistics' health surveys: physician visits per thousand population

The most recent Central Bureau of Statistics (CBS) health survey for which data are available was carried out in 1997. It involved a national representative sample of approximately 30,000 persons, with interviews spread evenly throughout the calendar year. The previous survey was carried out in 1993, involved a sample of approximately 20,000, and was restricted to the first quarter of that calendar year. In this analysis, we were primarily interested in identifying the changes that had taken place between 1993 and 1997; consequently, our analysis of 1997 data focused on the first quarter of that year. This improved the comparability of the data, but significantly reduced the effective sample size for 1997 – from roughly 30,000 to roughly 7,500. To ensure comparability, the analysis for both years excludes residents of kibbutzim and East Jerusalem, who were not included in the 1993 survey.

As can be seen in Table 14, between 1993 and 1997, the rate of visits to hospital-based specialists declined dramatically – by 69%. Apparently, this was due in part to a 39% decline in the rate of visits to all specialists, and in part to a decline – from 23% to 12% – in the proportion of specialty visits that took place in hospitals. It should be noted that the rate of visits to community-based specialists also declined during this period, by 29%.

We shared these findings with health plan managers. It was their impression that there had been a significant downward trend in visits to hospital-based specialists, but suggested that this decline had been less dramatic than implied by the CBS data. Interestingly, one manager suggested that when a patient visits a hospital-operated clinic in the community, the health plan and the hospital view it as a visit to the hospital, but the patient may view it as a visit to a community-based provider.

Table 14: Quarterly Specialist Visits per Thousand Population

	1993		1997		
	Visits	Standard Error	Visits	Standard Error	Percentage Change
All specialists	580	19	352	25	-39
Community-based specialists	435	16	310	23	-29
Hospital-based specialists	134	11	41	10	-69
Specialist visits in hospitals (in %)	23		12		

A multivariate analysis was conducted to explore whether the decline in the likelihood of visiting a hospital-based specialist between 1993 and 1997 could be attributed to changes in the distribution of respondents across health plans, regions, and age categories. It was found that only a very small proportion of the decline could be attributed to these changes in the composition of the population.

Table 15 places the findings on specialist visits in the broader context of all physician visits (i.e. to both primary care physicians and specialists). Total visits to physicians per thousand population declined by 24% – less than the 39% decline in specialist visits. Visits to primary care physicians dropped by 19%. The share of visits to specialists among visits to all physicians decreased from 23% to 18%.

In other words:

- There was a large drop in total visits to physicians between 1993 and 1997.
- The share of specialist visits in total physician visits decreased only slightly.
- The share of visits to hospital-based specialists among visits to all specialists declined significantly.

Table 15: Quarterly Physician Visits per Thousand Population

	1993		1997		
	Visits	Standard Error	Visits	Standard Error	Percentage Change
All physician visits	2,510	45	1,910	53	-24
All primary care physician visits	1,934	37	1,576	46	-19
All specialist visits	580	19	352	25	-39
Specialist visits as a percentage of all physician visits	23		18		

As can be seen in Table 16, we found some interesting differences among health plans in their reliance on specialists as a source of medical care. Clalit relied least on specialists in 1993. Between 1993 and 1997, the reliance on specialists decreased in all of the health plans.

Table 16: The Share of Specialists in All Physician Visits in 1993 and 1997, by Health Plan

Health Plan	1993	1997	N
Clalit	21	17	16,163
Leumit	25	19	2,102
Maccabi	28	22	4,481
Meuhedet	29	20	2,033
Total	23	18	24,778

We also found the following key differences among population sub-groups in 1997:

- ***Gender:*** Women relied more heavily on specialists than did men (27% versus 19%).
- ***Religion:*** Jews relied more heavily on specialists than did non-Jews (26% versus 13%).
- ***Immigration status:*** Recent immigrants relied more heavily on specialists than did non-immigrant Israelis and less recent immigrants (29% versus 23%).
- ***Age group:*** People ages 25-34 age group had the highest percentage of specialist visits (42%), while those ages 0-4 had the lowest percentage of specialist visits (6%).
- ***Region:*** Tel Aviv had the highest percentage of specialist visits (28%), followed by Haifa (26%), while the northern region had the lowest percentage of specialist visits (18%).
- ***Education:*** People with higher education (that is, post-secondary) had a higher percentage of specialist visits (28%) than did people with less education (20%).

Changes in the locus of specialty care by age group, region, and health plan

Table 17 presents health plan-specific data from the CBS health surveys regarding the percentage of visits to specialists that took place in hospitals. The figures for 1993 are consistent with our finding that Clalit relied most on hospital-based specialty care at that time, and Maccabi the least. The figures for 1997 indicate a decline in three of the health plans' reliance on hospitals for specialty services, the exception being Maccabi, whose reliance on hospital-based specialty care remained unchanged.

When we shared these findings with health plan managers, they in turn shared important observations. Maccabi managers indicated that they, too, had shifted their reliance from the hospital to the community, but prior to 1993. Clalit managers noted that they had the highest rate of visits to hospital-based specialist, primarily because they have the lowest rate of visits to community specialists. They conceded that their ownership of hospitals may have contributed to this, as well.

Table 17: The Share of Visits to Hospital-based Specialists among All Visits to Specialists in 1993 and 1997, by Health Plan

Health Plan	1993	1997	N
Clalit	30	14	16,151
Leumit	17	14	2,102
Maccabi	8	8	4,479
Meuhedet	15	6	2,037
Total	23	12	24,769

We also found the following key differences among population sub-groups in 1997:

- ***Gender:*** The percentage of visits to hospital-based specialists was higher among men than among women (17% versus 14%).
- ***Religion:*** Non-Jews were more likely than Jews (25% versus 14%) to receive specialty care in a hospital (perhaps due to a shortage of community-based specialists in the Arab sector).
- ***Immigration status:*** The percentage of visits to hospital-based specialists was almost identical for recent immigrants and less recent immigrants and Israelis (14% versus 15%).
- ***Age:*** People age 75 and over relied most heavily on hospitals for specialty care (30%), while children newborn to age four relied least on hospitals for specialty care (9%). It has been suggested that the shift to community-based specialists has been least marked among the elderly in part because their general medical condition often requires hospital-based care, and in part because they are less willing to disrupt long-standing relationships with hospital-based physicians who are familiar with them and their chronic illnesses.
- ***Region:*** Reliance on hospital-based specialists was greatest in the northern region (20%), followed by Jerusalem (19%), while Haifa (13%), Tel Aviv (12%), and Judea and Samaria (11%) had lower reliance on hospital-based specialists. The southern region experienced the largest drop in hospital-based specialist visits, which may be attributed to the opening of specialty clinics in the Bedouin sector, as well as the shift of many residents of the south from membership in Clalit to membership in Maccabi. Jerusalem's reliance on hospital-based specialists, though relatively high, was less than it had been in the past – primarily due to Clalit's efforts to develop community-based alternatives to hospital services.
- ***Education:*** People with less education (up to elementary school) were more likely to rely on hospitals for specialty care (17%) than were people with higher education (14%).

Tables 18 and 19 illustrate the reliance on hospital-based specialists by age group and region.

Table 18: The Share of Visits to Hospital-based Specialists of All Visits to Specialists in 1993 and 1997, by Age Group

Age Group	1993	1997	Percentage Change	N
0-4	20	0	-20	2,199
5-14	18	8	-10	5,298
15-24	26	8	-18	4,224
25-34	23	16	-7	3,671
35-44	21	0	-21	3,460
45-54	24	12	-12	2,490
55-64	25	11	-14	1,866
65-74	22	18	-4	1,564
75+	31	25	-6	962
Total	23	12	-9	25,734

Table 19: The Share of Visits to Hospital-based Specialists of All Visits to Specialists in 1993 and 1997, by Region

Region	1993	1997	Percentage Change	N
Jerusalem	32	16	-16	2,108
Tel Aviv	21	14	-7	5,901
Center	21	9	-12	6,014
North	27	17	-10	4,447
South	42	14	-28	2,887
Haifa	16	15	-1	3,660
Judea and Samaria	18	21	3	707
Total	23	12	-11	26,124

Note that the shift to community-based specialists was particularly pronounced among people ages 35-54, and in the Jerusalem and southern regions.

b. Government hospital activity reports: outpatient department visits

The second data source we examined was government hospital activity reports. Unlike the CBS data, these data only cover what happened in government hospitals; information about community-based services is lacking, as is information about the activity in hospitals not owned by the government. While government hospitals account for roughly half of the nation's hospital capacity, they do not constitute a representative sample. On the other hand, the government hospital's activity reports are not based on samples or estimates. Furthermore, unlike the CBS surveys, which do not distinguish among hospitals, these activity reports reflect the variability among hospitals.

Figure 3 summarizes the annual percentage change in volume in key areas of activity during two periods 1995-1996 (when the full cap was in effect), and 1997-1999 (when a partial cap was in effect).

By presenting data on the **annual** percentage change, the data for these two periods become comparable, even though that the former is a two-year period and the latter a three-year period. It should also be noted that annual rate of population growth – roughly 2.5% – was very similar during both periods.

As can be seen in Figure 3, during the latter period, activity levels for admissions, emergency room visits, and outpatient department visits increased much more slowly than they had during the first period. Only in the case of surgery did the rate of increase in activity levels remain the same during both periods.

As we were especially interested in the annual change in the number of outpatient department visits, we explored the variation in this parameter across hospitals. Figure 3 presents the findings for 1994-1996, and indicates that while all of the hospitals experienced an increase in outpatient visits, the annualized rate of increase ranged from 1% to 10%. Figure 4, which covers 1996-1999, depicts an even more interesting picture: While one hospital experienced annual increases of over 12%, all of

the other hospitals ranged from a decline of 4% to an increase of 3%. As yet, we have no explanation for the unusually large increase in the one hospital.

The government hospital activity reports reveal significant variation in outpatient department growth rates among hospitals during both periods (1995-1996, and 1007-1999). Moreover, they indicate that there has not been a wholesale abandonment of hospital outpatient departments, at least in the government hospital sector.

Figure 3: The Annual Percentage Change in Visits to Outpatient Departments, by (Unidentified) Hospital, 1994-1996

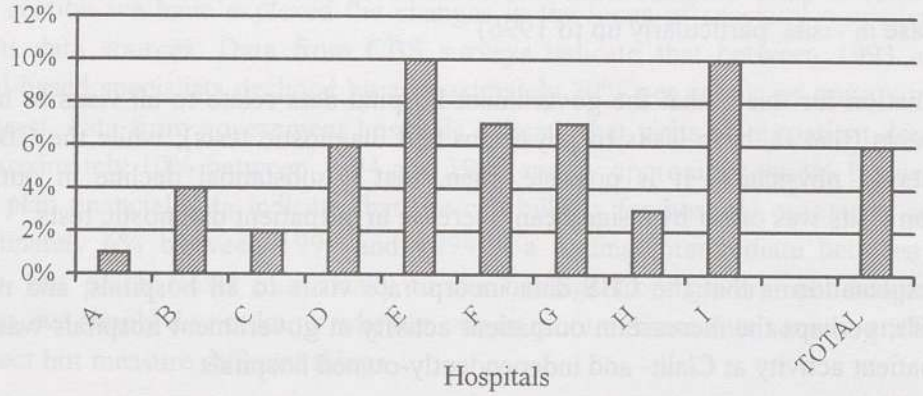
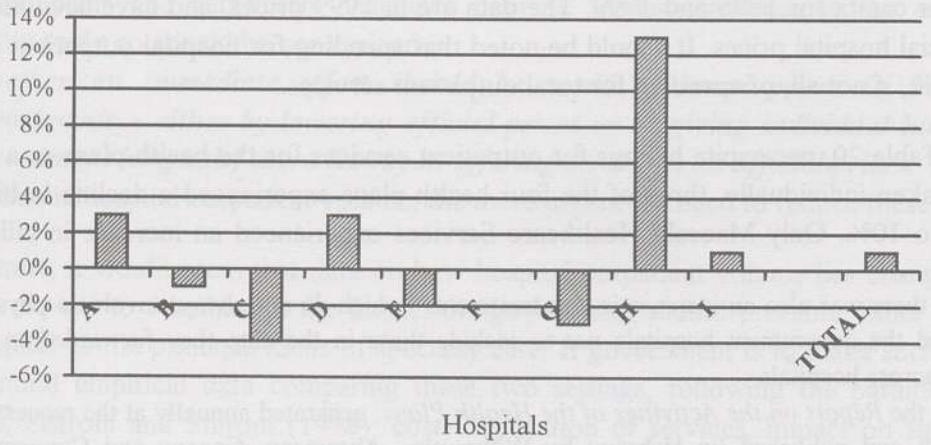


Figure 4: The Annual Percentage Change in Visits to Outpatient Departments, by (Unidentified) Hospital, 1996-1999



What is the relationship between these data and the CBS data cited above? As noted, the CBS data indicated a 69% drop in the number of visits to hospital-based specialists per thousand population between 1993 and 1997. During this period, Israel's population grew by approximately 10%, such that the implication of the CBS data is a 63% decline in total visits to hospital specialists for the overall population.

In contrast, the government hospital data indicate annual *increases* of 6% between 1994 and 1996 – that is, an increase of just over 12% during that two-year period – and annual *increases* of 1% between 1997 and 1999 – that is, an increase of just over 3% during that three-year period. Unfortunately, we do not have comparable data for 1993. Nevertheless, unless there was a very significant decline in visits between 1993 and 1994, the picture revealed by the CBS data (of a major decline in visits) is quite different from that revealed by the government hospital activity reports (of an increase in visits, particularly up to 1996).

One possible explanation for this is that the government hospital data relate to all visits to hospital outpatient departments (that is, both visits to physicians and diagnostic tests), while the CBS data relate only to visits to physicians. It is possible, then, that a substantial decline in outpatient department physician visits was offset by a significant increase in outpatient diagnostic tests.[13]

Another possible explanation is that the CBS data incorporate visits to all hospitals, and not just government hospitals; perhaps the increase in outpatient activity at government hospitals was offset by a decline in outpatient activity at Clalit- and independently-owned hospitals.

c. Health plan financial data: outpatient department "consumption"

Our third data source was the Witkowsky-Nevo Report,[14] which is based on the health plans' audited financial statements. The report includes information on health plan expenditure by type of service. These data (particularly for Clalit) have certain limitations (For a detailed discussion of the report and its limitations, see Section 5 and Appendix IV.) Table 20 presents the health plan billings for outpatient services (including emergency room services, outpatient clinics, and day hospitalizations) per capita for 1996 and 1999. The data are in 1999 prices, and have been adjusted for changes in official hospital prices. It should be noted that spending for hospital outpatient clinics accounts for the bulk, if not all, of spending for total outpatient services.

As can be seen in Table 20, per-capita billings for outpatient services for the health plans as a group declined by 6%. Taken individually, three of the four health plans experienced a decline in billings, ranging from 6% to 10%. Only Maccabi Healthcare Services experienced an increase in billings –

---

[13] It is probable that there was also an increase in day treatments (which do not always involve a physician); however, we asked the government hospitals *not* to include these in the data they forwarded to us, as definitions varied across hospitals.

[14] The reference is to the *Report on the Activities of the Health Plans*, generated annually at the request of the Ministry of Health and published (in Hebrew) by Witkowsky, Abramson, Cnaany and Company, Tel Aviv. For the purposes of this study, we used the report for 1998-1999. For the sake of brevity, we refer to the report by the names of its principal authors.

of 12%. This may have been due to a deliberate shift in the locus of specialty care from the community to hospitals in some areas of the country, such as Jerusalem.

Table 20: Per Capita Billings for Outpatient Services in 1996 and 1999, by Health Plan

Health Plan	1996	1999	Percentage Change
Clalit	454	419	-8
Leumit	405	366	-10
Maccabi	266	301	13
Meuhedet	339	318	-6
Total	409	383	-6

4.1.3 Synthesis and Policy Implications

In this section we have explored the changes in the locus of specialty outpatient care using three different data sources. Data from CBS surveys indicate that between 1993 and 1997, visits to hospital-based specialists declined by approximately 70% per capita, or approximately 60% overall. In contrast, data from government hospitals indicate that visits to outpatient departments increased by approximately 10% between 1994 and 1996 and by approximately 3% between 1996 and 1999. Health plan financial data indicate that pre-cap billings for hospital outpatient services declined by approximately 6% between 1996 and 1999 – a finding intermediate between the previous two sources, but much closer numerically to the findings from government hospitals. At this stage, however, we simply do not know whether one or more of these data sources are faulty, or if they are all correct but measure different things.

The apparent inconsistencies among the data sources again raises the question, "Why is it important to know how the volume of outpatient specialty visits has changed in recent years?" In short, this information is relevant to at least two policy decisions currently facing the Israel health system:

- ***Whether to allow the health plans to continue determining when their members will receive specialty care in a community setting rather than in a hospital setting.*** If there had been a rapid emptying of hospital outpatient departments, this would have raised concern that the health plans had improperly channeled patients, lending credence to the argument that their ability to do so should be constrained
- ***Whether an immediate effort should be made to lower prices in hospital outpatient departments – either by lowering official prices or by giving individual hospitals (especially government hospitals) more leeway in offering discounts on official prices.*** The more rapid the decline in hospital outpatient volume, the more urgent the need to reduce these prices.

In contrast, it would seem that data on how hospital outpatient volume has changed in recent years is less relevant to whether, in the future, the government should promote either the community or the hospital as the principal locus of specialty care. If government is to make such a decision, it will need sound empirical data comparing these two settings, following the parameters identified by Salmon, Zafroni and Shirom (1998): cost, duplication of services, impact on supply and demand; availability; accessibility; experience, and physician level; follow-up; continuity of care; coordination; development of power centers; medical education; and research.

On the other hand, the government may not need to take a stand on the substantive merits of these alternatives. Instead, it may be sufficient for it to set the rules of the game, the most important of which are determining whether patients or health plans should decide the locus of care; and eliminating the current distortion in prices (either by correcting official prices or by doing away with them altogether). Once reasonable ground rules have been determined, the government could "get out of the way" and leave the competition between hospital and outpatient settings to the marketplace.

4.2 The Situation in Other Countries

This section (prepared primarily by Robert Schoenberg) provides an overview of recent trends in the locus of outpatient specialty services in four countries: the United States, the United Kingdom, Sweden, and Canada. All four countries have reported a shift of services from hospitals to the community. The reasons for this, and the nature of the shift, vary from country to country.

In the **United States**, the growth of managed care has resulted in the transfer of specialty care from hospitals and independent private practices to multi-physician, community-based practices. This has raised questions about its implications for redundant purchasing of expensive technologies.

In the **United Kingdom**, fundholding and the purchaser-provider split have led to the movement of specialists out of district general hospitals to community-based clinics in the offices of general practitioners, and to smaller and less expensive community hospitals. The community-based specialists are also playing an increasing role as gatekeepers for tertiary services.

In **Sweden** the movement of specialty care from the hospital to the community has been prompted by changes in the financing of country councils (from a contact-based to a capitation-based system). It has also been aided by the development of home and social services for the elderly.

In **Canada**, general practitioners control referral to specialists and hospital admissions. During the past two decades, Canada has undertaken a multi-pronged effort to move care, particularly care for the elderly, from hospitals to the community.

Unfortunately, we were unable to locate hard data on the split between visits to a hospital versus a community-based service specifically for specialty care. For all ambulatory physician contacts (including primary, emergency, and specialty care), the latest figures we found on the percentage of contacts taking place in the hospital were as follows:

Country	Percentage
United States (1998)	18
Sweden (1990)	38
Israel (1993)	8
Israel (1997)	5
Canada	NA
United Kingdom	NA

Israel's low percentage relative to the US and Sweden is probably due in part to the high rate of primary care visits in Israel, the overwhelming share of which take place in the community (in other countries, as well). In addition, in contrast to the situation in the US, where hospitals constitute a major source of primary and secondary care for the over 15% of the population that is uninsured, in Israel every resident is insured and has free access to a community-based primary care physician. Sweden's high figure is probably due to its long-standing orientation toward hospital care, its reliance on hospital emergency rooms to provide much of primary care, and its relatively low rate of visits to primary care clinics, by international standards (for more information, see Appendix III).

4.3 Modeling Hospital Outpatient Visits

In this section, the framework developed in Section 3 for the study of inpatient admissions is applied to the study of hospital outpatient specialty visits. We begin with an analysis of the determinants of visits to hospital-based specialists in 1997, and in particular try to determine whether differences among health plans can be attributed to differences in member characteristics. For this analysis we used the full year's data for 1997. We then assess whether the decline in visits to hospital-based specialists between 1993 and 1997 can be attributed to changes in social and demographic characteristics. For that analysis we limited ourselves to data from the first quarter of both 1993 and 1997, as only data for that quarter were available for 1993.

4.3.1 Modeling 1997 Visits to Hospital-based Specialists

As can be seen in Table 21, in 1997, the visitation rate for the population as a whole was 62 per thousand population. There were statistically significant differences among health plans, with the visitation rate highest in Clalit (88) and lowest in Meuhedet (12).

The variable "visits to hospital-based specialists" was far from normally distributed; consequently, ordinary least squares was not an appropriate tool for modeling the factors that influence it. In keeping with the professional literature, we focused our analysis on a related dichotomous variable, which indicated whether a respondent had visited a hospital-based specialist at least once during the two-week study period. This variable lent itself to logistic regression analysis.

The visitation rate was essentially the product of the percentage of the sample that visited a hospital-based specialist at least once during the study period, multiplied by the average number of visits among people who were admitted to the hospital at least once. As can be seen in Table 21, almost all of the variation in visitation rates among health plans can be attributed to the variation in the variable "ever visited a hospital-based specialist", with the variation in "visits to hospital-based specialists per visitor" playing a lesser role. Like the visitation rate, the variable "ever visited a hospital-based specialist" was highest in Clalit, but fairly similar in the other three plans.

Table 21: Visits to Hospital-based Specialists in 1997, by Health Plan (in %)

Health Plan	Quarterly Visitation Rate	Two-week Visitation Rate	Ever Visited during Study Period	Visits per Visitor (N)
Clalit	88	14	0.81	1.7
Leumit	19	3	0.15	2.0
Maccabi	25	4	0.21	1.8
Meuhedet	12	2	0.15	1.2
Total	62	10	0.57	1.7

The logistic regression analysis was carried out in stages, and the results are presented in Table 22. The first model included only the health plan dummy variables among the independent variables. Clalit was used as the reference group, and the odds ratios for all three of the other plans were far less than 1.0; all of these differences were statistically significant at the .05 level.

A set of age group dummy variables (using the age group 25-34 as the reference group) were included in model 2. The coefficients for most of these age dummy variables were significant, and the odds ratios were in the expected directions (e.g., less than 1 for youths, and greater than 1 for the elderly).

Note that as a result of the addition of these age variables, the odds ratios for the health plan dummy variables increased slightly, although they remained both well below 1.0 and statistically significant. For example, the odds ratio for Meuhedet increased from .18 to .22. This can be interpreted to mean that this data set may be used to support the hypothesis that, in 1997, there were major differences among health plans in hospital-based specialist visit rates, beyond those attributable to differences in age mix.

In subsequent runs of the model, we added, in turn, chronic disease variables (model 3); regional variables (model 4); and variables indicating religion and immigration status (model 5). Note that despite the addition of all of these variables (models 3-5), the health plan variables continued to be significant and well below 1.0. Interestingly, the coefficients for the elderly age group variables ceased to be significant once the chronic disease variables had been added to the model.

In model 5, the variables that were statistically significant were the health plan variables, several of the age variables, and several of the chronic disease variables. Note that the list of chronic diseases that were significant for hospital-outpatient visits was quite different from the comparable list for admissions. For example, back pain and glaucoma were seen to have a significant impact on the likelihood of visiting a hospital-based specialist, but not on the likelihood of being admitted to a hospital.

We also explored the effect of both the distance to the nearest Clalit-owned hospital and the distance to the nearest hospital (irrespective of ownership) on the likelihood of visiting a hospital-based specialist. These distances were computed using the geographic coordinates of the respondent's place of residence and of the various hospitals. "Distance to the nearest hospital" was dichotomous, equaling 0 if a hospital existed in the respondent's place of residents, and 1 in every

other situation. "Distance to the nearest Clalit-owned hospital" had three values: 1 if the distance from the respondent's place of residence was less than 10 kilometers; 2 if the distance was 10-20 kilometers; and 3 if the distance was over 20 kilometers. It should be noted that the distance variables had missing values in half of the observations, as the CBS data only include the names of towns with a population of over 50,000. Consequently, the figures presented in Table 24 should be considered with some skepticism.

Table 22: A Logistic Regression of Visits to Hospital-based Specialists, by Selected Socio-demographic Characteristics (Dependent Variable: "Ever Visited a Hospital-based Specialist")*

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 5a	Model 6
Health plan							
Meuhedet	**0.18****	**0.22**	**0.22**	**0.20**	**0.20**	**0.12**	**0.12**
Leumit	**0.18**	**0.21**	**0.21**	**0.20**	**0.20**	**0.25**	**0.25**
Maccabi	**0.26**	**0.30**	**0.31**	**0.31**	**0.30**	**0.24**	**0.24**
Age group							
0-4		**0.22**	**0.23**	**0.23**	**0.23**	**0.17**	**0.17**
5-14		**0.39**	**0.40**	**0.41**	**0.40**	0.76	0.76
15-24		**0.50**	**0.52**	0.52	0.53	0.69	0.70
35-44		0.73	0.68	0.69	0.68	0.81	0.81
45-54		1.11	0.93	0/93	0/90	1.41	1.41
55-64		1.68	1.12	1.12	1.08	1.21	.1.21
65-74		**1.78**	0.97	0.97	0.92	1.52	1.52
75 and over		**2.54**	1.08	1.08	1.02		
Chronic illness							
Hypertension			**2.40**	**2.47**	**2.51**	**2.59**	**2.59**
Diabetes			1.63	1.64	1.65	1.57	1.56
Asthma			0.94	0.94	0.94	0.76	0.76
Stroke			0.82	0.80	0.79	**0.34**	**0.34**
Back pain			**2.02**	**1.99**	**2.01**	2.14	2.14
Cataract			1.38	1.37	1.36	0.85	0.85
Glaucoma			**2.98**	**2.90**	**2.91**	**5.04**	**5.03**
Cancer			**4.84**	**4.95**	**4.84**	**6.23**	**6.24**
Region							
Jerusalem				1.34	1.45	1.43	1.32
North				0.85	0.99	1.66	1.62
Haifa				0.61	0.65	0.80	0.82
Center				0.84	0.86	0.96	0.97
South				0.92	1.01	1.16	1.17
New immigrants					0.85	0.60	0.60
Jews					1.49	1.35	1.35
Distance to a hospital							
Any hospital							0.97
Clalit-owned hospital							1.05

*Source: Central Bureau of Statistics' *Use of Hospital Services Survey*, 1997 (full year).
**Odds ratios are bold if significant at .05.

We explored the effect of adding these variables to the final model (model 6), running the regressions once for the full sample, and a second time for those respondents who were members of Clalit. We did this because we hypothesized that the "distance to a Clalit-owned hospital" might have more of an impact on the members of Clalit than on the members of the other health plans. As can be seen, in neither case were the distance variables statistically significant, and neither did their addition have any marked impact on the odds ratios of the other variables.

To further explore the relationship between the likelihood of visiting a hospital-based specialist and distance from a hospital, we ran a series of step-wise models, the first of which involved the addition of the distance variables. When these were the only independent variable, the "distance to the hospital" was significant, in the hypothesized direction: that is, the farther a person lives from a hospital, the less likely it is that he will visit a hospital-based specialist. However, when we added the region variables, the distance variables were rendered not significant (in the hypothesized direction).

4.3.2 Modeling the 1993-1997 Change in Visits to Hospital Outpatient Specialists

The UHSS data were also used to explore whether there were changes in the use of hospital services between 1993 and 1997, and to gain insights into the reasons for any such changes. As noted above, for this analysis we limited ourselves to data on the first quarter of these two years, as the 1993 dataset includes data for that quarter only.

As indicated in Table 23, the rate of visits to a hospital-based specialist declined dramatically in the system as a whole – from 23 visits per thousand population per quarter in 1993, to 12 visits per thousand populations per quarter in 1997. Declines took place in all of the health plans, with the largest absolute decline noted in Clalit and the smallest absolute decline noted in Maccabi.

Table 23: Rates of Visit to Hospital-based Specialists, by Health Plan (in %)

Health Plan	1993	1997	Percentage Change
Clalit	0.31	0.15	-0.16
Leumit	0.15	0.11	-0.04
Maccabi	0.07	0.09	0.02
Meuhedet	0.15	0.07	-0.08
Total	0.23	0.12	-0.11

Source: Central Bureau of Statistics' *Use of Hospital Services Survey*, 1993 and 1997.

As indicated in Table 24, the percentage of respondents reporting at least one visit to a hospital-based specialist during the two weeks prior to the interview declined from 1.5% in 1993 to 0.4% in 1997. Moreover, there were marked declines in all the health plans.

Table 24: Percentage of Persons Who Visited a Hospital-based Specialist at Least Once during the Two Weeks Preceding the Survey

	Health Plan				
	Clalit	Leumit	Maccabi	Meuhedet	Total
1993	1.7	1.4	0.7	1.1	1.5
1997	0.5	0.2	0.3	0.2	0.4
Percentage Change	**-1.2****	**-1.2**	-0.4	**-0.9**	-1.1

*Source: Central Bureau of Statistics' *Use of Hospital Services Survey*, 1993 and 1997.
**Odds ratios are bold if significant at .05.

We used logistic regression analysis to explore the extent to which the decline was due to changes in the socio-demographic mix of respondents, and/or to the distribution of respondents across health plans. As can be seen in model 5 in Table 25, the variables representing religion, age, chronic illness, and health plan had an independent, statistically significant impact on the dependent variable. However, the coefficient of the dummy variable representing the year of the survey was hardly affected by the addition of these other variables to the model.

Table 25: A Logistic Regression of Visits to Hospital-based Specialists, by Selected Socio-demographic Characteristics (Dummy Variable: "Ever Visited a Hospital-based Specialist")*

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
1997 survey	**0.27****	**0.29**	**0.28**	**0.28**	**0.28**	**0.29**
Health plan						
Meuhedet		0.65	0.78	0.80	0.70	0.70
Leumit		0.80	0.90	0.90	0.84	0.86
Maccabi		**0.46**	**0.52**	**0.54**	**0.52**	**0.51**
Age group						
0-4			0.56	0.56	0.55	**0.53**
5-14			**0.35**	**0.35**	**0.35**	**0.33**
15-24			**0.49**	**0.49**	**0.50**	**0.50**
35-44			0.89	0.87	0.86	0.83
45-54			1.33	1.20	1.19	1.15
55-64			**2.15**	**1.68**	**1.66**	**1.60**
65-74			**2.09**	1.41	1.41	1.34
75 and over			**2.77**	**1.88**	**1.89**	**1.78**
Chronic illness						
Heart disease				**2.54**	**2.58**	**2.57**
Diabetes				**1.57**	**1.57**	**1.58**
Asthma				**1.89**	**1.93**	**1.99**
Region						
Jerusalem					1.34	1.36
North					0.75	1.03
Haifa					**0.52**	**0.58**
Center					0.89	0.92
South					1.28	1.33
Judea and Samaria					1.36	1.35
New immigrants						0.70
Jews						**2.21**

*Source: Central Bureau of Statistics' *Use of Hospital Services Survey*, 1993 and 1997 (first quarters only).
**Odds ratios are bold if significant at .05.

4.4 Summary

According to the CBS and Ministry of Health Surveys, between 1993 and 1997 there was a major shift in the locus of outpatient specialty services from hospitals to community settings. The greatest shifts took place in Clalit Health Services, and in the Jerusalem and Negev regions.

The CBS surveys also indicate that visits to hospital-based specialists dropped dramatically between 1993 and 1997 period, and that this decline cannot be accounted for by changes in the socio-demographic composition of the population. These surveys also indicate a major drop in visits to hospital-based specialists in Clalit Health Services and Meuhedet Health Services, but not in the other health plans.

Despite this decline, even in 1997, the rate of visits to hospital-based specialists was far higher in Clalit than in the other health plans.[15] Unlike inpatient admissions, the variation among health plans in the rates of use of hospital-based specialists cannot be ascribed to differences in the health plans' socio-demographic composition.

In contrast to the CBS finding that the rate of visits to hospital outpatient services declined dramatically between 1993 and 1997, data from government hospitals present a quite different story. They indicate that between 1994 and 1996 (when the 100% cap prevailed), government hospital outpatient departments experienced rapid growth. This same data source does indicate that outpatient volume ceased to grow rapidly between 1996 and 1999 (when the 50% cap prevailed), yet even during that period there is no evidence of the dramatic decline indicated by the CBS surveys. Rather, there is an indication that volume continued to grow slowly.[16]

Just as the CBS data indicated variation in the trend across health plans, the government hospital data reveal substantial variation in the trend across hospitals. For example, government hospital activity data indicate that between 1996 and 1999, several hospitals experienced declines in outpatient visits, while one hospital experienced an increase of more than 10% per year.

The study team also explored trends in the locus of outpatient care in four countries that generate much interest in Israel: the United States, the United Kingdom, Sweden, and Canada. The team found that all of these countries had seen a shift in outpatient specialty care from hospitals to community settings, but that the reasons for this shift varied by country (see Appendix III).

---

[15] Health plan financial data for 1996-1999 also indicate far higher spending on hospital ambulatory care by Clalit than by the other health plans.

[16] This finding is supported by data from health plan financial statements, which indicate a small increase in hospital-based outpatient activity overall, and a larger increase in such activity in government hospitals.

5. Analysis of Health Plan Financial Data

Health plan financial data were used to address several major issues:

A. How has the health plans' consumption of hospital services changed since 1996? Have the patterns of change since 1996 been similar for inpatient and outpatient hospital services?
B. Have health plans shifted their activity across hospital types (e.g., from government hospitals to Clalit-owned hospitals) since 1996? Have the patterns of change since 1996 been similar for inpatient and outpatient hospital services?
C. What was the impact of the cap on health plan payments for hospital services between 1996 and 1999?
D. How have age-adjusted expenditures for both hospital services and total operating expenditures changed since 1996?

We consider each of these issues in turn.

5.1 Changes in the Consumption of Hospital Services, 1996-1999

In addition to examining the trends in hospital utilization in physical units, it is possible to examine these trends in of "age-adjusted per capita consumption" – that is, the amount of money a health plan would have paid a hospital for services consumed, were it not for cap-related discounts. The first year report revealed that in 1995, age-adjusted per capita activity levels declined in all four health plans. It also showed that in 1996, the age-adjusted per capita activity did not change in two of the health plans, but increased moderately in the other two health plans.

The shift in 1997 from a 100% revenue cap to a 50% revenue cap raised concern that consumption would begin to increase markedly. This grew out of the concern that the 50% cap would give hospitals a greater incentive to increase volume than they had had prior to 1997. On the other hand, the move to the 50% revenue cap would also give the health plans a greater incentive to constrain hospital utilization. Consequently, it was not at all clear whether the net effect of the changes in health plan and hospital incentives would cause an increase or a decrease in consumption levels.

The first year analysis of health plan consumption of hospital services was based on data collected by the project team directly from the health plans. The analysis presented in this year's report has benefited from the publication of the series of so-called Witkowsky-Nevo reports, which began in 1997. These reports are based on the health plans' audited financial statements. Table V7 of the Witkowsky-Nevo reports provides detail on consumption of hospital services by health plan and type of service, and it always includes information on the prior year as well. Accordingly, there are currently publicly available data for all years in the 1996-1999 period. (See Appendix IV further detail on Table V7 and its limitations.)

Although the data presented in this section were culled "prior to cap discounts", they nevertheless do incorporate the effect of the 4% volume discount given by the government hospitals to all of the health plans, as well as other official and unofficial volume discounts not related to the cap. Table

V7 of the Witkowsky-Nevo report also includes "adjustments for the cap, set-asides, and other adjustments", but does not indicate how different services contributed to these adjustments (these data are presented and discussed below).

Table 26 presents data on total consumption of hospital services by age-adjusted member, for the years 1996 and 1999, with the figures for both years presented in terms of 1999 prices. For the system as a whole, consumption was down by 8%. There was a decline in all health plans except Maccabi, where consumption increased by 1%. Note that part of the decline in the figure for the system as a whole can be attributed to the shift of members from Clalit (where consumption was highest) to the other health plans.

Table 26: Per Capita Consumption of Hospital Services, by Health Plan, 1996 and 1999

Health Plan	1996	1999	Percentage Change
Clalit	1,710	1,574	-8
Leumit	1,360	1,289	-5
Maccabi	1,073	1,086	1
Meuhedet	1,184	1,111	-6
Total	1,530	1,412	-8

Table V7 of the Witkowsky-Nevo report distinguishes among numerous hospital services. We grouped these services into three categories: inpatient, outpatient, and other.[17] Inpatient services accounted for approximately two-thirds of the consumption of hospital services of all of the health plans, while ambulatory services accounted for approximately 25%-35% of consumption, and "other" services accounted for between 0% and 7% of consumption.

Tables 27 and 28 present information on the per capita consumption of ambulatory and inpatient services, respectively. Overall, the 6% decline in the consumption of ambulatory services is similar to the 8% figure cited above for all services. Note, however, that in the case of ambulatory services, Maccabi's age-adjusted consumption increased by 13% – far greater than its 1% increase for all services. Note also the wide gap in growth rates between Maccabi and the other health plans.

Table 27: Per Capita Consumption of Ambulatory Hospital Services, by Health Plan, 1996 and 1999

Health Plan	1996	1999	Percentage Change
Clalit	454	419	-8
Leumit	405	366	-10
Maccabi	266	301	13
Meuhedet	339	318	-6
Total	409	383	-6

[17] A major component of the category "other" is spending on hospital care of chronic illnesses.

The system-wide decline in the consumption of inpatient services was lower than that for ambulatory services – 3%, compared to 6%. While Maccabi's per capita consumption did increase for inpatient services, the increase was far smaller than it was for outpatient services. Moreover, in the case of inpatient services, the differences in growth rates between Maccabi and the other health plans was relatively small.

Table 28: Per Capita Consumption of Inpatient Hospital Services, by Health Plan, 1996 and 1999

Health Plan	1996	1999	Percentage Change
Clalit	1,065	1,039	-2
Leumit	909	908	0
Maccabi	726	730	1
Meuhedet	793	761	-4
Total	972	942	-3

Table 29 summarizes the data on age-adjusted per capita consumption by health plan for 1999, the most recent year for which data were available. Note that in the second half of the Table, we standardized the data so that Clalit would equal 100 for each expenditure category. This revealed that Clalit was the biggest spender in each category, with similar gaps among plans for inpatient and ambulatory services. The gaps were particularly large for "other" services, but this may be an artifact related to differences across health plans in how certain types of consumption are categorized.

Table 29: Age-adjusted Per Capita Consumption of Hospital Services, by Health Plan, 1999

	Inpatient	Outpatient	Other	Total
Clalit	1,039	419	116	1,574
Leumit	908	366	15	1,289
Maccabi	730	301	56	1,086
Meuhedet	761	318	31	1,111
Total	942	383	87	1,412
	Standardized for Clalit = 100			
Clalit	100	100	100	100
Leumit	87	87	13	82
Maccabi	70	72	48	69
Meuhedet	73	76	27	71
Total	91	91	76	90

5.1.1 Summary

The findings presented in this section demonstrate that after the transition from a 100% to a 50% cap, per capita consumption of hospital services declined. The consumption of both inpatient and the ambulatory services was characterized by a per capita decline, with a greater overall decline in the use of ambulatory services. The patterns of change between 1996 and 1999 varied somewhat across health plans; most significantly, per capita consumption of outpatient services increased

markedly in Maccabi. Nonetheless, Clalit remained by far the most intensive consumer of both inpatient and ambulatory hospital services on an age-adjusted per capita basis.

5.2 Shifts in Activity in Different Types of Hospital

In the first year report, we presented data on the extent to which each health plan relied on each of the different types of hospital (government, Clalit-owned, public, and private) between 1994 and 1996. We found, for example, that Meuhedet was particularly reliant on public hospitals, while Clalit drew far more heavily than the other health plans on its own hospitals. We also found that during that period, the mix of sources of hospital care was very stable in Clalit and Leumit, but that Meuhedet shifted its utilization to government hospitals, and Maccabi slightly shifted its shift away from government hospitals in favor of Clalit-owned and private hospitals (particularly those owned by Maccabi itself).

Below we examine the changes between 1996 and 1999 in consumption of hospital services, by type of hospital ownership. We begin with data per capita, aggregated across health plans, looking first at the total consumption of hospital services, and then at inpatient and ambulatory services, individually. We then consider how the mix of sources of hospital care has changed for each health plan.

Table 30 presents data on per capita consumption by hospital ownership in 1996 and 1999. It reveals that while there was a drop in utilization of only 8% overall, there was a drop in the utilization of services at Clalit-owned hospitals of 14%, and a drop in the in the utilization of services at private hospitals of 27%! Specific data from the health plans, not shown here, reveal that while the consumption of private hospital services declined in all of the health plans, this decline was greatest in Clalit and Leumit.

Table 30: Per Capita Consumption of Total Hospital Services, by Type of Ownership, 1996 and 1999

Type of Ownership	1996	1999	Percentage Change
Government	647	646	0
Clalit	535	453	-15
Public	219	218	0
Private	130	95	-27
Total	1,530	1,412	-8

The decline in utilization of services at Clalit-owned hospitals may in part reflect changes in that health plan's internal pricing scheme. Indeed, a more detailed analysis reveals that it was only Clalit Health Services that significantly decreased its consumption of services at Clalit-owned hospitals. From the data available to us, it is impossible to discern to what extent this was due to a decline in volume, as opposed to pricing changes. Whatever the cause, the major drop in revenue was no doubt a significant change for these hospitals.

Tables 31 and 32, which examine the consumption of inpatient and of ambulatory services, respectively, reveal that the decline in the purchase of services from private hospitals was due to a massive drop in the use of inpatient services, as the consumption of ambulatory services at those hospitals actually increased. However, these Tables reveal a general, and sharp, decline in the use of ambulatory services overall. More detailed data, also not shown here, indicate that this decline can be attributed primarily to a decline in consumption by Clalit Health Services. As noted, it is not clear to what extent this decline was due to changes in Clalit's internal pricing system, or to a real decline in the use of hospital ambulatory services by that health plan.

Table 31: The Health Plans' Consumption of Inpatient Hospital Services Per Age-adjusted Member, by Type of Hospital Ownership

Type of Hospital Ownership	1996	1999	Percentage Change
Government	469	473	1
Clalit	317	297	-6
Public	148	150	2
Private	58	40	-31
Total	992	961	-3

Table 32: The Health Plans' Consumption of Ambulatory Hospital Services Per Age-adjusted Member, by Type of Hospital Ownership

Type of Hospital Ownership	1996	1999	Percentage Change
Government	143	161	12
Clalit	169	130	-23
Public	65	59	-10
Private	29	33	14
Total	407	382	-6

Another way to examine these data is by asking how reliant each health was plan on each type of hospital for its consumption of hospital services. Table 33 displays the situation in 1999, based on Table V7 of the Witkowsky-Nevo report. It reveals that, in that year, for the aggregate of the four health plans, government hospitals accounted for 42% of consumption, Clalit-owned hospitals accounted for 35% of consumption, public hospitals accounted for 14% of consumption, and the remaining 8% of consumption was accounted for by private hospitals. There were significant differences among health plans, with Clalit particularly dependent on its own hospitals, and Meuhedet particularly dependent on public hospitals. Clalit made strikingly little use of private hospitals – less than 3% of the total consumption of services at those hospitals.

Table 33: Where Did the Health Plans Purchase Hospital Services in 1999? (in %)

	Type of Hospital Ownership				
	Government	Clalit	Public	Private	Total
Clalit	44	39	14	3	100
Leumit	51	15	21	12	100
Maccabi	54	16	12	18	100
Meuhedet	38	16	29	17	100
Total	46	32	15	7	100

As Table 33 indicates, by 1999, reliance on the government system had increased somewhat, while reliance on Clalit-owned hospitals had decreased somewhat. Interestingly, an increase in the government hospitals' share of the market took place in all four health plans. In contrast, the health plans varied in the degree to which their use of the different types of hospital declined.

Table 34 is devoted to the use of ambulatory hospital services, in particular, and considers where the health plans purchased them in 1999. The picture is fairly similar to that presented in Table 33, with the exception that Clalit was somewhat more reliant on its own hospitals for ambulatory services, that it was for all services.

Table 34: Where Did the Health Plans Purchase Ambulatory Services in 1999? (in %)

	Type of Hospital Ownership				
	Government	Clalit	Public	Private	Total
Clalit	39	43	13	5	100
Leumit	46	15	22	17	100
Maccabi	55	15	13	17	100
Meuhedet	40	11	34	15	100
Total	42	34	15	9	100

5.2.1 Summary

The first year report found that between 1994 and 1996, the mix of sources of hospital care was very stable in Clalit and Leumit, while Meuhedet shifted its consumption to government hospitals and Maccabi slightly shifted its consumption away from government hospitals and toward Clalit-owned and private hospitals (particularly those owned by Maccabi itself). This report found that between 1996 and 1999, government hospitals' share of total (i.e., all four health plans') activity grew substantially, while the shares of private and Clalit-owned hospitals declined. The decline in the use of Clalit-owned hospitals was felt mostly in inpatient services, while the decline in the use of private hospitals was felt mostly in ambulatory services. The government hospitals' share of the hospital market was increased by all four health plans. At least among the smaller health plans, this was probably due, in part, to the opportunities for cap-related savings in the government sector

5.3 The Impact of the Cap on Health Plan Spending

In the first year report, we indicated that in 1995 and particularly in 1996, the smaller health plans realized substantial direct savings from the cap. (By "direct savings" we mean discounts provided for a given level of consumption; these are to be distinguished from "indirect savings", by which we mean the impact of the cap on the level of consumption, following changes in the behavior of both the hospitals and the health plans.) It was not at all clear *a priori* whether direct savings would increase or decrease following the transition to the 50% cap. On one hand, the discount on cap over-runs was cut from 100% to 50%. On the other hand, the size of the over-runs could be expected to grow, as the cap was not fully updated annually to reflect the growth in health plan membership.

Table 35 presents information on direct savings from the cap as a percentage of each health plan's consumption of hospital services; it is based on Table V7 of the Witkowsky-Nevo reports. As can be seen, for the system as a whole, savings increased from approximately 2% to 4%. In particular, Maccabi and Leumit benefited from large increases in direct savings.

Table 35: The Health Plans' Direct Savings from the Cap as a Percentage of Consumption of Services in All Hospitals, 1996 and 1999

Health Plan	1996	1999
Clalit	-1	-2
Maccabi	-4	-8
Leumit	0	-7
Meuhedet	-9	-7
Total	-2	-4

Table 36 presents analogous information for government hospitals only. There, the overall direct savings increased from 3% to 6%, with Maccabi and Leumit again realizing a major increase in direct savings. However, Meuhedet's direct savings in the government sector declined markedly, and at a much greater magnitude than its decline in direct savings in the hospital system as a whole.

Table 36: The Health Plans' Direct Savings from the Cap as a Percentage of Consumption of Services in Government Hospitals, 1996 and 1999

Health Plan	1996	1999
Clalit	-2	-4
Maccabi	-5	-10
Leumit	0	-7
Meuhedet	-18	-10
Total	-3	-6

5.3.1 Summary

It is apparent that in all of health plans other than Clalit, cap over-runs increased markedly between 1996 and 1999. However, the implications of that change for the smaller health plans' savings on hospital expenditures was offset somewhat by the transition from a 100% cap to a 50% cap.

5.4 Health Plan Expenditures

In our previous report, we indicated that between 1994 and 1996 period, age-adjusted expenditures for hospital care (for all four health plans) increased slightly more rapidly than did total operating expenditures (3%, versus 1%).

Table 37 updates this analysis, using information from the 1997-1999 Witkowsky-Nevo reports. It should be noted that, unlike data presented in previous sections of this chapter, the data presented in Table 37 are drawn from official statements of revenue and expenditure, and not from Table V7. These two sources are linked, but not hermetically. Changes in expenditure are definitely influenced by changes in consumption, as well as by changes in the extent of cap-related savings. However,

retroactive financial adjustments are treated differently by each source, such that it is not always possible to fully reconcile them.

Table 37: The Percentage Change in Real Per Capita Expenditure, by Health Plan, 1994-1999

	Percentage Change		
Health Plan Expenditures	1996 v. 1994	1999 v. 1996	1999 v. 1994
A. Total Operating Expenditure			
Clalit	5	-1	4
Leumit	-9	-5	-13
Maccabi	-8	-4	-12
Meuhedet	-5	-8	-13
Total	-	-2	-1
B. Hospital Expenditure			
Clalit	8	-2	6
Leumit	-9	-9	-17
Maccabi	-5	-2	-7
Meuhedet	-5	-3	-8
Total	3	-5	-2

Table 37 indicates that, over time, both age-adjusted hospital expenditures and age-adjusted total expenditures dropped, though the drop in hospital expenditures was particularly marked (from -5% to -2%). Interestingly, however, the net percentage change between 1994 and 1999 in both parameters of expenditure was less than 2%.

Behind these aggregate figures lie some important differences among the health plans. As noted, between 1994 and 1996, age-adjusted expenditures for hospital care increased dramatically in Clalit, but declined markedly in the three other health plans. Between 1996 and 1999, Leumit experienced a major decrease in age-adjusted hospital expenditures, while the other three plans experienced moderate declines.[18] The large decrease in Leumit is due in large part to its having realized substantial cap-related discounts in 1999, compared to almost none in 1996.

With regard to total age-adjusted operating expenditures, all four health plans realized savings between 1996 and 1999, although Clalit's savings were smaller than those of the other plans. This contrasts with the marked increase in Clalit's age-adjusted operating expenditures between 1994 and 1996, during which time the other three health plans posted marked declines in age-adjusted operating expenditures.

[18] The 2% decline in Clalit is somewhat surprising, as per capita consumption did not decline between 1996 and 1999, and in neither year did Clalit realize cap-related savings. We believe this discrepancy is due to the difference in how retroactive adjustments are treated by the two sources.

As can be seen in Table 38, the share of total health plan operating expenditures devoted to expenditures for hospital services remained remarkably stable during the period in question. Although minor changes were noted annually, no definite trends can be delineated over time.

Table 38: The Ratio of Expenditures for Hospital Services to Total Expenditures, 1994-1999

Health Plan	1994	1995	1996	1997	1998	1999
Clalit	55	58	56	58	56	56
Leumit	42	44	41	42	41	40
Maccabi	31	34	32	35	33	33
Meuhedet	34	35	34	37	36	36
Total	48	51	49	51	48	48

Table 39 presents data on per capita spending in 1998, by health plan. It reveals that while the total per capita operating expenditures of the health plans were very similar, their expenditures for hospital services continued to vary.

Table 39: The Health Plans' Hospital and Total Per Capita Expenditures, 1999

	Actual Expenditures (in NIS)		
	Hospital	Total Operating	Percent of Total Expenditures Devoted to Hospital Services
Clalit	1,730	3,124	56
Leumit	1,189	3,001	40
Maccabi	1,012	3,091	33
Meuhedet	1,054	2,921	36
Total	1,482	3,089	48

5.4.1 Summary

In the first year report, we analyzed health plan financial data, and found that between 1994 and 1996, age-adjusted per capita spending on hospital services for the health plans as a group increased by 3%, with substantial variation among the health plans.

The second year report found that, for the health plans as a group, age-adjusted per capita expenditure on hospital services declined by 4% between 1996 and 1999. The greatest decline was noted in Leumit, and can be attributed to that health plan's substantial increase in cap-related savings. A major difference between 1994-1996 and 1996-1998,]was that during the first period, the per diem rate increased by approximately 10% more than the consumer price index, while during the latter period, the per diem rate increased at approximately the same rate as the consumer price index.

5.5 Summary

In this chapter, we analyzed the trends in age-adjusted per capita consumption, the sources of hospital services, direct savings from the revenue cap, and expenditures. The key findings are reviewed below.

5.5.1 Consumption

The first year report revealed that in 1995, age-adjusted per capita consumption declined in all four health plans. It also revealed that in 1996, age-adjusted per capita consumption remained unchanged in two of the health plans, but showed a moderate increase in the other two health plans.

The shift from a 100% to a 50% revenue cap in 1997 aroused concern among some analysts that consumption would begin to increase markedly, due to the greater incentive this would give hospitals to increase volume. On the other hand, it was hoped this would be balanced by the incentive it would give health plans to constrain hospital utilization. Consequently, it was not at all clear *a priori* if the net effect of the changes in health plan and hospital incentives would be an increase or a decrease in consumption.

The second year findings demonstrate that after the transition to the 50% cap, per capita hospital consumption declined. Both inpatient and ambulatory services were characterized by per capita declines, with a greater overall decline in the consumption of ambulatory services. The patterns of change between 1996 and 1999 varied somewhat among the health plans; most significantly, per capita consumption of outpatient services increased markedly in Maccabi.

5.5.2 Sources of Care

The first year report found that between 1994 and 1996, the mix of sources of hospital care was very stable in Clalit and Leumit, but Meuhedet shifted its consumption toward government hospitals and Maccabi slightly shifted its consumption away from government hospitals, in favor of Clalit-owned and private hospitals (particularly those owned by Maccabi itself). The second year report found that between 1996 and 1999, government hospitals' share of total (i.e. all four health plans') activity grew substantially, while the shares of private and Clalit-owned hospitals declined. The increase in the government hospitals' share among the smaller health plans was probably due, at least in part, to the opportunities for cap-related savings in government hospitals. The decline in Clalit-owned hospitals' market share focused on inpatient services, while the decline in private hospitals' market share focused on ambulatory services.

5.5.3 Direct Savings from the Cap

The first year report revealed that in 1995, the cap yielded significant direct savings for Leumit and Meuhedet, and in 1996, it yielded significant direct savings for all three smaller health plans. As noted, it was not at all clear *a priori* whether the transition to a 50% cap would produce an increase or a decrease in direct savings. Although this transition reduced the discount on cap over-runs (from 100% to 50%), it could have been expected that the size of the over-runs would grow, as the cap was not updated annually to reflect the growth in health plan membership.

The second year study found that the cap over-runs of the three smaller health plans increased markedly between 1996 and 1999. However, the implications of this for savings on hospital expenditures in these plans was offset somewhat by the transition to a 50% cap.

5.5.4 Expenditures

The first year report analyzed health plan financial data, and found that between 1994 and 1996, the age-adjusted per capita spending on hospital services of the health plans as a group increased by 3%. There was substantial variation among the health plans: Clalit experienced an increased of 8%, while the other health plans experienced a decline of between 5% and 9%. The increase in Clalit was due largely to a major increase in the government-determined hospital per diem rate. This was offset for the smaller health plans by substantial savings from the 100% hospital revenue cap. With the transition to a 50% cap, concern arose that health plan expenditures for hospital services might increase markedly.

However, the second year report found that, to the contrary, age-adjusted per capita expenditures for hospital services declined by 4% for the health plans as a group between 1996 and 1999. The greatest decline in expenditures took place in Leumit, whose cap-related savings grew markedly. A significant factor in the decline in per capita hospital expenditures overall was the increase during this period in the per diem rate, at approximately the same rate as the increase in the consumer price index.

6. Analysis of Hospital Revenue Data

This chapter summarizes the findings from the second year of the study regarding hospital revenues, based primarily on a database maintained by the Ministry of Health's budget division. It is divided into three sections:

1. Section 6.1 analyzes trends in government hospital revenues between 1996 and 1999, and explores how activity levels and cap over-runs increased during that period.
2. Section 6.2 analyzes available 1999 revenue data for government, Clalit-owned, and public hospitals. It is both an important cross-check of the accuracy of the health plan activity data presented in Chapter 5, and a source of useful information on the extent of cap over-runs in non-government hospitals.
3. Section 6.3 provides information on the role of "research accounts" as a source of government hospital revenue.

6.1 Changes in Government Hospital Revenue, 1996-1999

Since 1996, the budget division of the Ministry of Health has been compiling information regarding the activity levels and cap over-runs in each of the government hospitals. Since 1997, these data

have included the activity in both the main hospital account and the so-called "research accounts"[19] (the 1996 data refer to the main hospital account only).

The project team used this database to analyze changes in main hospital activity levels and activity levels per age-adjusted member, by health plan, between 1996 and 1999. The key findings are summarized in Tables 40 and 41; all data are in 1999 prices. Table 40 indicates that in 1996, total hospital activity stood at NIS 3.63 billion, and that by 1999 it had increased to NIS 3.70 billion – that is, an increase of 2%. As can be seen in Table 40, the activity level decreased in Clalit, but rose substantially in each of the smaller health plans. The range across general hospitals[20] (not shown in the Table) was -1% to +28%.

Table 40: The Activity Levels of Government Hospitals in 1996 and 1999, by Health Plan (in Millions of NIS, in 1999 Prices)*

	Health Plan				
	Clalit	Leumit	Maccabi	Meuhedet	Total
1996	2,659	301	512	157	3,628
1999	2,519	338	635	194	3,697
Percentage change	-5	12	24	24	2

*Not including research accounts.

Table 41 presents analogous findings for the age-adjusted population.[21] Overall, government hospital activity decreased by 7% per age-adjusted person. Here, too, we found significant differences among the health plans.

Table 41: Percentage Changes in Government Hospital Activity between 1996 and 1999: Total Activity versus Activity Per Age-adjusted Person*

	Health Plan				
	Clalit	Leumit	Maccabi	Meuhedet	Total
Total activity	-5	12	24	24	2
Age-adjusted persons	3	16	24	25	9
Activity per age-adjusted person	-8	-3	0	-1	-7

*Not including research accounts.

Table 42 summarizes the data on the cap over-runs in the main hospital accounts of government hospitals in 1996, the main hospital accounts of government hospitals in 1999, and both the main

[19] While originally established for the management of funds from research grants and contracts, over the past decade these accounts have become vehicles for managing revenues and expenses related to services provided after regular hours of operation.

[20] Geriatric hospitals experienced an 18% decline in activity.

[21] We acknowledge the limitation of this analysis as, strictly speaking, government hospitals as a group do not have a specific "service population". Nevertheless, it is interesting to try and understand how government hospital activity has changed, relative to changes in the overall population.

hospital and research accounts of government hospitals in 1999.[22] It presents data on both the "total over-run" and the "effective over-run". The total over-run is the difference between the sum of activity in all four health plans and the sum of the cap in all four health plans. It indicates the extent to which a hospital's total volume increased beyond what was considered normative when the cap was set. The effective over-run first calculates the difference between activity in and the cap for each health plan, and then adds only those differences that are greater than zero. The logic behind this is that a hospital is penalized whenever an individual health plan's activity exceeds the cap, but receives no compensatory bonuses when an individual health plan's activity falls below the cap.

Table 42: Cap Over-runs in Government Hospitals in 1996 and 1999 (in Millions of NIS, in 1999 Prices)

Year	Cap	Total Over-run	Percent	Effective Over-run	Percent
1996*	3,231	135	4.2	155	4.8
1999*	3,466	221	6.4	266	7.7
1999**	3,732	317	8.5	352	9.4

*Main account only.

**Main and research accounts.

As can be seen in the Table, the total over-run increased from NIS 135 million (4.2% above the cap) in 1996 to NIS 221 million (6.4% above the cap) in the main hospital account and NIS 317 million (8.5% above the cap) in the main hospital and research accounts together in 1999. The effective over-runs were higher, of course; they increased from NIS 155 million (4.8% above the cap) in 1996 to NIS 266 million (7.7% above the cap) in the main hospital account and NIS 352 million (9.4% above the cap) in the main hospital and research accounts together in 1999.

Note that, given the alpha 50% rule (i.e. the rule that services beyond the cap will be paid with a 50% discount), the figure for 1999, based on data from the hospitals, translates into a direct savings of 4.7% from the cap; this is somewhat higher than the 6% derived from health plan data (see Table 36). The project team is currently exploring the reason for this discrepancy.

As noted, Table 42 presents average figures. However, it is important to note that there were substantial differences among the hospitals in the ratio between over-runs and activity. For example, in 1996, the effective over-run was less than 5% in six government general hospitals, between 5% and 10% in four general hospitals, and 17% in one general hospital. In 1999 the range was even greater: In one hospital, the ratio between the effective over-run and activity was 30%!

We were also interested in learning whether cap over-runs caused deficits either in an individual hospital, or a hospital system. We discovered that did not necessarily cause them. Between 1996 and 1999, the health plans paid 50% of the charges for utilization that exceeded the cap. In those situations when marginal costs were less than 50% of average costs, the hospitals improved their

[22] In 1996, the cap applied only to the main hospital account, but as of 1999, it applied to research accounts, as well.

"bottom line" through the cap over-runs. In those situations when marginal costs were greater than 50% of average costs, the hospitals' bottom line suffered because of cap over-runs. Several observers noted that the extent to which costs are marginal probably varies among hospitals and services. For example, if a volume increase can be concentrated in internal medicine departments, whose marginal costs are relatively low, then cap over-runs will be profitable.

On the other hand, it should be kept in mind that some of the health plans exceeded the cap substantially in some of the hospitals, even while overall volume was declining in those hospitals. This means that cap-related discounts were realized by some of the health plans, even though the hospital was suffering from the *loss* of economies of scale at the same time!

6.2 Hospital Revenue in 1999

Since 1999, the budget division of the Ministry of Health has been collecting partial information regarding activity levels and cap over-runs from both Clalit-owned and public hospitals, while continuing to collect such data from government hospitals. A major limitation of this database is that it does not include information on services provided by Clalit-owned hospitals to Clalit members.

The aggregate data are summarized in Table 43. Note that in this Table (and all subsequent Tables in this section), the data from government hospitals *do* include information on research accounts. Table 43 indicates that in 1999, government hospitals generated NIS 4.2 billion in activity, while public hospitals generated NIS 1.2 billion in activity. Clalit-owned hospitals generated NIS 0.4 billion in activity in the three smaller health plans; we know from other sources that this constituted approximately 15% of their total activity. Consequently, the total activity of Clalit-owned hospitals was approximately NIS 2.5 billion.

Table 43 also indicates how the activity in each type of hospital was distributed among the health plans, according to the Ministry of Health database, which in turn is based on financial data from the hospitals. The distribution that emerges is remarkably similar to that indicated by health plan financial data (see Chapter 5, and Table 44 below). This corroboration increased our confidence in the figures in both data sets.

Table 43: Distribution of Hospital Activity among Health Plans, Based on Hospital Data*

	Type of Hospital Ownership							
	Government		Public		Clalit		Total	
	Millions of NIS**	%	Millions of NIS**	%	Millions of NIS**	%	Millions of NIS**	%
Clalit	2,793	67	754	62	NA	NA	NA	100
Leumit	399	10	136	11	118	27	653	100
Maccabi	758	18	129	11	215	50	1,102	100
Meuhedet	240	6	189	16	96	22	525	100
Total	4,191	100	1,209	100	428	100	5,828	100

*Includes research accounts.
**In 1999 prices.

Table 44: Distribution of Hospital Activity among Health Plans, Based on Health Plan Data (in %)*

	Type of Hospital Ownership					
Health Plan	Government	Public	Clalit	Private	Total	Clalit w/o Clalit Health Services
Clalit	67	64	85	28	70	NA
Leumit	9	12	4	15	8	27
Maccabi	18	12	7	40	15	50
Meuhedet	6	13	3	17	7	23
Total	100	100	100	100	100	100

*Includes research accounts.

Table 45: Revenue Cap Over-runs in Individual Hospitals and Hospital Systems (as a Percentage of Hospital Activity)

	Over-runs	
Hospital	With Offsets	Without Offsets
Government hospitals		
A	30	30
B	29	29
C	10	10
D	8	8
E	8	8
F	8	8
G	7	7
H	6	11
I	5	5
J	2	4
K	-1	7
Total	**8**	**9**
Clalit-owned hospitals		
A	20	9
B	20	20
C	-5	6
D	-19	0
Total	**-3**	**7**
Public hospitals		
A	41	41
B	29	29
C	22	22
D	21	21
E	18	18
F	17	17
G	17	17
H	2	8
Total	**22**	**23**
Grand total	**6**	**10**

Table 45 summarizes the findings on the extent of cap over-runs, by individual hospital, as well as for the type of hospital system. In the government system, the over-runs (without offsets – i.e. cases in which utilization of some health plans was below the cap) ranged from 4% to 30%, and had a (weighted) average of 9%. The over-runs among Clalit-owned hospitals (in their dealings with the smaller health plans) ranged from 8% to 41%, with an average of 23%. The over-runs in public hospitals ranged from 0% to 20%, with an average of 7%. The relatively high figures for Clalit-owned hospitals reflect their being based on the activity of the smaller health plans only, which tended to have much greater over-runs than did the larger Clalit Health Services.

Table 46 presents information on the cap over-runs by health plan and type of hospital ownership. It indicates, for example, that in the government hospital system, the cap over-runs were 2% for Clalit, 17% for Leumit, 22% for Maccabi, and 27% for Meuhedet. These figures, too, corroborate the data from the health plans reported in Chapter 5.

Table 46: Revenue Cap Over-runs, by Health Plan and Type of Hospital Ownership, 1999

	Health Plan				
	Clalit	Leumit	Maccabi	Meuhedet	Total
Government hospitals					
Revenue cap	2,732	342	623	189	3,886
Consumption	2,793	399	758	239	4,189
Over-run	61	57	135	50	303
Percentage over-run	2	17	22	26	8
Effective percentage					9
Public hospitals					
Revenue cap	856	115	104	167	1,242
Consumption	754	136	129	189	1,208
Over-run	-102	21	25	22	-34
Percentage over-run	-12	18	24	13	-3
Effective percentage					7
Clalit-owned hospitals					
Revenue cap		102	165	85	352
Consumption		118	215	96	429
Over-run		16	50	11	77
Percentage over-run		16	30	13	22
Effective percentage					23
Total					
Revenue cap	3,588	559	892	441	5,480
Consumption	3,547	653	1,102	524	5,826
Over-run	-41	94	210	83	346
Percentage over-run	-1	17	24	19	6
Effective percentage					10

6.3 Further Details on the Role of Research Accounts in Government Hospital Revenue in 1999

This section seeks to provide further details on the role of research accounts in government general hospital revenues from the health plans in 1999. As can be seen in Table 47, total operating revenues for government general hospitals from the sale of services to the health plans was NIS 4.6 billion in 1999. Of this, approximately 8% could be ascribed to research accounts.

Table 47: Government Hospital Revenues, 1999: Main versus Research Accounts

Type of Account	Millions of NIS	Percentage of Total
Main	4,191	92
Research	362	8
Total	4,553	100

As indicated in Table 48, Clalit accounted for 68% of main account revenues from the health plans, but only 42% of research account revenues from the health plans. In other words, Clalit's contribution to main account revenues was much greater than its contribution to research account revenues. In contrast, Maccabi accounted for only 17% of main account revenues from the health plans, but for as much as 32% of research account revenues from the health plans.

Table 48: Government Hospital Revenue Sources in Main versus Research Accounts, 1999

	Main Account		Research Account		Total Revenue	
	In Millions of NIS	Percent of Total Revenue	In Millions of NIS	Percent of Total Revenue	In Millions of NIS	In %
Clalit	2,519	68	153	42	2,672	66
Leumit	338	9	54	15	392	10
Maccabi	635	17	114	32	749	18
Meuhedet	195	5	41	11	236	6
All health plans	3,687	100	362	100	4,049	100

In interpreting these numbers, it should be borne in mind that, in comparison with the main account, the research account also sells a much larger share of its services to buyers *other than* the health plans. Unofficial data from nine out of the 11 government-owned general hospitals indicate that in 1998, buyers other than health plans accounted for approximately 10% of main account revenues and approximately 20% of research account revenues.

6.4 Summary

The first year report contained no financial information from the hospitals' perspective. During the second year of study, the project team analyzed financial data maintained by the Ministry of Health's budget division regarding government hospitals for 1996-1999, and for a broader set of non-profit hospitals for 1999.

In 1999, the ratio between the effective cap over-run and total activity averaged 9% in government hospitals including research accounts, 8% in government hospitals excluding research accounts (up from 4% in 1996), 7% in public hospitals, and 23% in Clalit-owned hospitals (in their dealings with the smaller health plans).[23] These averages belie the substantial variation that we found among individual hospitals in each sector. The findings from hospital financial data are reasonably consistent with the findings from the health plans' financial data, and thereby validate both sources.

Research accounts are a large and growing component of the government hospital system, accounting for approximately 8% of revenues in government-owned general hospitals in 1999; in some hospitals, the figure was as high as 14%. As noted, in the government hospital system as a whole, Clalit accounted for 68% of main account revenues from the health plans, but only 42% of research account revenues from the health plans.

The project team found that between 1996 and 1999, the health plans' activity increased by approximately 2% in the main accounts of government hospitals. This average is the result of a 5% decrease in Clalit's activity, coupled with an increase of between 12% and 24% in the activity of the other health plans. Differences in membership growth rates accounted for almost all of differences in the health plans' growth in activity in main hospital accounts. Unfortunately, due to a lack of data on research accounts for 1996, the project team was unable to assess how research accounts had grown between 1996 and 1999; it is possible that research account activity grew particularly rapidly in the smaller health plans.

7. The Jerusalem Market

This section reviews recent developments in the hospital – health plan relationship in the Jerusalem region. We chose to examine this region in depth, because we sensed that it had undergone important changes, which were not fully documented in the first year report. This chapter begins with an overview of the changes in health plan membership and market shares in Jerusalem, then reviews changes in hospital inpatient volume in Jerusalem and, finally, summarizes the key points that arose in interviews with hospital and regional health plan managers.

7.1 Statistical Overview

As Table 49 indicates, between 1996 and 1999, the population of Jerusalem grew from 616,000 to 653,000 (a 6% increase). All of the health plans grew in membership, with Leumit experiencing the largest percentage of growth (13%), and Clalit experiencing the smallest percentage of growth (2%). Accordingly, Clalit's market share declined by two percentage points – from 50.5% in 1996 to 48.4% in 1999. At the same time, the market shares of the other health plans grew by between 0.5% and 1.0%.

---

[23] Bear in mind that, for example, a cap over-run of 9% translated into a 4.5% discount under the 50% cap regime.

Table 49: Health Plans' Membership and Market Share in Jerusalem, 1996 and 1999

	1996	1999	Percentage Change
Membership			
Clalit	311,054	316,190	2
Leumit	80,689	90,807	13
Maccabi	54,203	60,102	11
Meuhedet	170,002	186,840	10
Total	615,948	653,285	6
Market share			
Clalit	50.5	48.4	
Leumit	13.1	13.9	
Maccabi	8.8	9.2	
Meuhedet	27.6	28.6	
Total	100.0	100.1	

Table 50 displays information on discharges from Jerusalem hospitals between 1994 and 1998, with a focus on the major hospitals, which are located in West Jerusalem. As indicated, total discharges increased by 11% during this period, with the greatest percentage increases taking place at the Hadassah Hospitals (32%) and "other hospitals in West Jerusalem" (35%). It is interesting to note that admissions to hospitals in East Jerusalem declined by 26%.

Table 50: Discharges from Hospitals in Jerusalem, 1994-1998

	Hospital Discharges			
Hospital	1994	1996	1998	Percentage Change, 1994-1998
Hadassah	53,068	62,034	70,146	32
Shaare Zedek	26,252	28,652	29,878	14
Bikur Holim	15,552	15,979	16,535	6
Misgav Ladach	6,259	7,081	7,103	13
Other hospitals in West Jerusalem	3,029	3,468	4,094	35
Hospitals in East Jerusalem	33,376	24,505	24,630	-26
Total	137,536	141,719	152,386	11

Accordingly, there was a major shift in market shares, with East Jerusalem hospitals dropping from a 24% to a 16% share of the hospital market in Jerusalem, and the Hadassah Hospitals increasing their share of the market from 39% to 46% (see Table 51).

Table 51: Hospitals' Market Shares in Jerusalem, 1994-1998

Hospital	Market Share		
	1994	1996	1998
Hadassah	39	44	46
Shaare Zedek	19	20	20
Bikur Holim	11	11	11
Misgav Ladach	5	5	5
Other hospitals in West Jerusalem	2	2	3
Hospitals in East Jerusalem	24	17	16
Total	100	100	100

It should also be noted (Table 52) that the average length of hospital stay declined markedly in the Jerusalem: by 15% during the same four-year period! The largest percentage decline was in Hadassah (21%) and in the East Jerusalem hospitals (16%).

Table 52: The Average Length of Hospital Stay in Jerusalem, 1994-1998

Hospital	Average Length of Stay			Percentage Change
	1994	1996	1998	1994-1998
Hadassah	5.3	4.7	4.2	-21
Shaare Zedek	5.6	5.4	5.2	-7
Bikur Holim	4.2	4.1	3.9	-8
Misgav Ladach	3.3	3.3	3.4	2
Other hospitals in West Jerusalem	2.8	2.6	2.6	-9
Hospitals in East Jerusalem	5.2	4.6	4.4	-16
Total	5.1	4.6	4.3	-15

For the Jerusalem hospitals as a group, the decline in average length of stay (15%) was greater than the increase in admissions (11%), such that hospital days decreased (6%). The hospitals in East Jerusalem experienced a very significant decline in hospital days: 38% (see Table 53).

Table 53: Hospital Days in Jerusalem, 1994-1998

Hospital	Hospital Days			Percentage Change,
	1994	1996	1998	1994-1998
Hadassah	283,118	289,927	296,737	5
Shaare Zedek	147,422	154,833	155,334	5
Bikur Holim	65,774	65,749	64,375	-2
Misgav Ladach	20,653	23,650	23,850	15
Other hospitals in West Jerusalem	8,552	9,014	10,549	23
Hospitals in East Jerusalem	172,314	112,657	107,385	-38
Total	697,833	655,830	658,230	-6

Unfortunately, at present we do not have administrative data regarding changes in the volume of use of outpatient services at Jerusalem hospitals. As noted in Chapter 4, the CBS survey data indicated a major drop in visits to hospital-based specialists among residents of the Jerusalem region.

7.2 Interviews with Hospital and Health Plan Managers

In an effort to understand the data presented above, interviews were carried out with the senior managers of several hospitals in Jerusalem, as well as with the regional managers of the health plans. We posed the following main questions:

1. How have hospital-health plan interactions in Jerusalem changed since 1995?
2. At present, what are the major differences in how each health plan interacts with the hospitals in Jerusalem?
3. To what extent have there been contractual agreements between the hospitals and the health plans, and what has been their impact?

The following were the key findings from these interviews:

- Clalit has significantly reduced its consumption of services in Jerusalem hospitals, through a variety of measures. First, Clalit has developed its own network of community-based services in Jerusalem, including both specialists and diagnostic centers. Some of these services are provided by Clalit itself, while others are purchased from independent providers.

- Clalit has made it much more difficult than it was in the past for its members living outside the Jerusalem region (primarily in the central and southern parts of the country) to receive care at Jerusalem's hospitals. While this has affected the volume of activity at all Jerusalem hospitals, it has affected the Hadassah Hospitals most acutely, as historically they have been the greatest "draw" for patients from outside the region. Clalit has adopted this tactic, because it wishes to make better use of under-utilized facilities in other regions, before purchasing the more expensive care offered by the Hadassah Hospitals.

- An important exception to this general effort is the special agreement – the so-called "Modi'in initiative" – that Clalit Health Services' central region has reached with the Hadassah Medical Organization regarding its members living in and around the new city of Modi'in (roughly midway between Jerusalem and Tel Aviv). Clalit has contracted with the Hadassah Hospitals (on a per capita basis) to provide all medical services for its members living in that area. In February 1998, Clalit and Hadassah signed a three-year contract covering primary care staff, some of whom previously worked for Clalit, and others of whom previously worked for Hadassah. All are now paid by Hadassah, but those who previously worked for Clalit have retained their job tenure and employee rights in that organization. Hadassah, with Clalit's concurrence, is attempting to restrict the collaboration to board-certified primary care providers. Specialty care is provided primarily at a consultant clinic in Modi'in, which is staffed mostly by Hadassah physicians. Patients whose needs cannot be met there are sent either to one of the Hadassah Hospitals in Jerusalem, or to a Clalit-owned hospital in the center of the country. Those patients requiring (inpatient or outpatient) hospital care are usually referred to one of the

Hadassah Hospitals. Some patients, who previously lived on Israel's coast, resist this tendency, preferring to receive care at hospitals with which they are familiar, and in proximity to relatives who still live on the coast.

- Apparently, Clalit sought this arrangement primarily to increase its marketability in this rapidly developing area (which is populated by many young families – a market segment in which Clalit is still relatively weak). In addition, it represents an effort to overcome the limitations on its financial exposure imposed by the capitation system, and to offer its members an integrated, high-quality system of care.

- The other partner in this initiative – the Hadassah Hospitals – also had an interest in developing an efficient, well-integrated system of care. Hadassah also wished to broaden its population base to the center of the country, so as to offset the transfer of activity from its hospitals to community settings in Jerusalem. Moreover, Hadassah was reportedly concerned that the development of health facilities in the Palestinian Authority would reduce the demand for services at its Mt. Scopus facility by residents of East Jerusalem – particularly if all or part of East Jerusalem is placed under the jurisdiction of the Palestinian Authority, and its residents cease to be covered by Israel's National Health Insurance system.

- The Modi'in initiative notwithstanding, Clalit has generally pursued a strategy of reducing its reliance on Jerusalem hospitals, particularly for specialty outpatient care. It is interesting to note that Maccabi has pursued a very different strategy: It has signed a contract with Hadassah enabling all of its members to receive specialty care at Hadassah Hospitals, without a referral from its administration or physicians. Under this contract, it appears that Maccabi reimburses the Hadassah Hospitals using a mixture of "active capitation" and discounted fees-for-service; however, the details of the contract have not been made public. Maccabi benefits from the arrangement in two ways: a) its association with the prestigious Hadassah Hospitals improves its competitiveness in the health plan market; and b) the contract enables Maccabi to expand without having to invest in developing a network of community-based specialists or diagnostic centers. For Hadassah, the principal benefit is guaranteed patient volume.

- At least officially, this contract does not guarantee exclusivity in either direction. That is, Hadassah is free to develop similar agreements with other health plans, and Maccabi is free to sign similar contracts with other Jerusalem hospitals. As of this date, no other agreements of this sort have been signed in Jerusalem. Shaare Zedek Hospital sought such an arrangement with Maccabi, but reportedly this was blocked by Maccabi's independent physicians, who feared further competition, particularly as Shaare Zedek is centrally located.

- All of Jerusalem's hospitals are under serious financial pressure. This is due in part to Clalit's having successfully and significantly decreased its consumption of services at all of the city's hospitals. In addition, even though the other health plans have significantly increased their

consumption of services at Shaare Zedek and the Hadassah Hospitals, the revenues of these hospitals have not increased due to the health plans' major cap over-runs.

- The figures presented above reveal only part of the picture of consumption of inpatient hospital services in Jerusalem. For example, while admissions at Shaare Zedek Hospital increased by 14% between 1994-1998, outpatient visits declined significantly (by approximately 10%) between 1996 and 1999. Recognizing that the health plans would be moving outpatient activity to the community, the management of Shaare Zedek made the strategic decision that, "if you can't beat them, join them". Accordingly, it permitted its senior physicians to work for the health plans in the community. In this way, it sought to develop its community feeder network in order to secure as large a portion as possible of inpatient business.

7.3 Summary

We based our analysis of recent developments in the Jerusalem hospital market primarily on interviews with health plan and hospital managers. The interviews revealed that between 1996 and 1999, Clalit made a major effort to shift its use of ambulatory services from the hospital to the community; this was consistent with the quantitative findings of the CBS' *Use of Health Services Surveys* and other sources. The interviews also revealed a trend toward hospital-health plan contracting in Jerusalem, and provided insights into the motivations behind it, the substance of the contracts, and their perceived outcomes to date.

8. Concluding Remarks

This stage of the study focused on changes in hospital utilization and expenditure between 1996 and 1999, during which the 50% cap prevailed. Its primary finding was that per capita utilization and expenditure had declined throughout the system during the period. In addition, some of the measures examined revealed that certain differences between Clalit (historically the most intensive user of hospital services) and the other health plans have narrowed, although they have not been eliminated. The study also found that patterns of change over time have differed substantially among hospitals and hospital sectors.

Our findings suggest that government policy and the actions of both health plans and hospitals have influenced recent changes in hospital utilization and expenditures in Israel. This challenges views sometimes head in Israel that some (or all) of these actors have little or no ability to influence hospital use levels. Our conclusion, if correct, implies that future efforts to influence hospital use can (and should) consider policy tools directed at both the health plans and at hospitals.

In addition, our findings have implications for the current policy debate over whether or not to discontinue the hospital revenue cap. Almost all parties to the debate concur that the current capping rules have elements that are problematic for efficiency and equity. Nevertheless, they continue to debate whether to try and "fix" the cap, or to discard it. Our finding that one of the cap's major goals – constraint of hospital use rates – has been achieved, may encourage policymakers to

think twice before completely abandoning this tool. At the very least, we hope our findings will encourage policymakers to evaluate the cap's effect not only on the narrow parameter of "over-runs", but also on broader parameters such as use rates, health plan expenditures, and hospital revenues.

Bibliography

Burns, L.R.; Bazzoli, G.J.; et al. 1997. "Managed Care, Market Stages, and Integrated Delivery Systems: Is There a Relationship?" Health Affairs 16(6): 204-218.

Corrigan, J.M.; Eden, J.S.; and Gold, M.R. 1997. "Trends toward a National Health Care Marketplace". Inquiry 34(1):11-28.

Escarce, J.J.; Shea, J.A.; and Chen, W. 1997. "Segmentation of Hospital Markets: Where Do HMO Enrollees Get Care?" Health Affairs 16(6):181-192.

European Observatory on Health Care Systems. 1999. Health Care Systems in Transition: United Kingdom. European Observatory on Health Care Systems, London. (p. 29); www.observatory.uk.

Gabel, J. 1997. "Ten Ways HMOs Have Changed during the 1990s". Health Affairs 16(3): 134-145.

Gaskin, D.J.; and Hadley, J. 1997. "The Impact of HMO Penetration on the Rate of Hospital Cost Inflation, 1985-1993". Inquiry 34(3):205-216.

Gray, B.H. 1997. "Public Policy Issues in Nonprofit Conversions: An Overview". Health Affairs 16(2):29-47.

Ham, C. 1997. "Chapter 3: The United Kingdom". In: Health Care Reform: Learning from International Experience, Ham, C. (ed.), p. 50. Open University Press, Buckingham.

Kirkman-Liff, B. 1997. "Chapter 2: The United States". In: Health Care Reform: Learning from International Experience, Ham, C. (ed.), p. 42. Open University Press, Buckingham, UK.

Lake, T. 2000. "Do HMOs Make a Difference? Consumer Assessments of Health Care". Inquiry 36(4):411-418.

Morrisey, M.A. 1999. "Competition in Hospital and Health Insurance Markets: A Review and Research Agenda" presented at the conference "Data Needs for Studies of Competition in Market Areas". The Alpha Center, Washington, DC, June 21-22.

Melnick, G.A.; and Zwanziger, J. 1988. "Hospital Behavior Under Competition and Cost-Containment Policies". Journal of the American Medical Association 260(18):2669-2675

Melnick, G.A.; Zwanziger, J.; Bamezai, A.; and Pattison, R. 1992. "The Effects of Market Structure and Bargaining position on Hospital Prices". Journal of Health Economics 11(3):217-233.

National Center for Health Statistics. 2000. Health, United States, 2000. United States Center for Disease Control and Prevention, Washington, DC. (pp.273-274).

OECD. 1994 The Reform of Health Care Systems: A Review of Seventeen OECD Countries. OECD, Paris. (p. 323).

Selby, J.V.; Fireman, B.H.; et al. 1996. "The effect of a Co-payment on the Use of the Emergency Department in a Health Maintenance Organization". New England Journal of Medicine 334(10):635-641.

Shalmon, B.; Zifroni, A.; and Shirom, A. 1997. "Specialty Medicine – Where? Hospital versus Community". Harefuah 133(3-4):115-121. (Hebrew)

Tu H.T.; Kemper, P.; and Wong, H. 2000. "Do HMOs Make a Difference? Use of Health Services". Inquiry 36(4): 400-410.

Volpp, K.G.; and Bundorf, M.K. 1999. "Consumer Protection and the HMO Backlash: Are HMOs to Blame for Drive-through Deliveries?" Inquiry 36(1):101-109.

Weinick, R.M.; and Cohen, J.W. 2000. "Leveling the Playing Field: Managed Care Enrollment and Hospital Use, 1987-1996". Health Affairs 19(3):178-184.

Appendix I: How the Cap Was Set for Each Health Plan in 1997

Let xi = the percentage growth in membership for health plan I during the preceding year.
Let yi = the percentage cap overrun for health plan I during the preceding year.

Then compute Pi, an intermediate parameter for each health plan, as follows:

$Pi = [(x+y) / 2] + .5$

(In other words, compute the average of? the health plan's growth in membership and its? cap over-run, and then add a constant (.5%) to reduce the variation among health plans.)

The cap Ci for that health plan is then set at:

$Ci = Pi * (2 / \Sigma Pi*Mi)$

This standardizes the parameters, so that the overall national (weighted average) cap remains 2%.

A similar procedure was used between 1998 and 2000, with one exception:

$Pi = [(x+y) / 2]$ (the constant was eliminated)

$Ci = Pi * (1 / \Sigma Pi*Mi)$ (the overall national cap was reduced from 2% to 1%)

Appendix II: Recent Trends in the Relationship between HMOs and Hospitals in the United States[24]

Following the growth of health maintenance organization (HMO) enrollment in the United States in the 1990s, the relationship between HMOs and hospitals has received increasing attention from both legislators and health care policy researchers. As increasingly powerful HMOs have engaged in cost containment efforts – including selective contracting, capitation, and utilization management techniques such as pre-admission approvals – numerous studies have focused on the effects that these strategies have had on hospital utilization, hospital costs, the quality of hospital care, and the financial viability of hospitals. The following section will provide an overview of a few marked trends, which reflect the dynamic effect that the growth of HMOs has had on the changing landscape of American hospitals.

Competition, Cost, and Managed Care

Prior to the proliferation of managed health care organizations in the U.S., it was generally believed that the health sector constituted an exception to the general rule that competition lowers costs. Indeed, competition among hospitals was believed to increase costs. Insurance coverage protected both patients and physicians from cost considerations when choosing a hospital, so that the key considerations in their choice of hospital could be amenities and technological sophistication.

This situation changed dramatically with the advent of managed care. Managed care organizations had an incentive to seek out lower prices, the administrative wherewithal to collect and compare price information, and the market power to push for discounts. Numerous studies have shown that, in the managed care era, greater competition among hospitals has led to both lower costs and lower prices.

Cost Containment by HMOs and the Trend toward Consolidation of Health Care Services

Several studies have indicated that HMOs are effective at containing hospital costs. Gaskin and Hadley (1997), for example, bring evidence that between 1985 and 1993, hospitals in areas with high HMO penetration had a 25.9% lower rate of growth than hospitals in areas with low HMO penetration. Other studies, however, have called into question how extensive and continuous this effect was during the latter part of the decade. Tu, Kemper, and Wong (2000), for example, found no statistically significant difference in hospital usage between persons enrolled in HMOs and other insured persons.

The HMOs' practice of negotiating price and other terms with providers in return for market access has engendered several trends, which may have reduced the HMOs' competitive advantage in cutting costs during the late 1990s. One factor that may have hindered the HMOs' continued ability to contain costs is the trend toward consolidation among hospitals, which may strengthen the

[24] This Appendix was prepared primarily by Robert Schoenberg.

hospitals' bargaining position in negotiating reimbursement levels with HMOs. A study by Escarce, Shea, and Chen (1997), for example, found that HMO price pressures did not help to reduce operating costs among hospitals that were in strategic alliances with one another. Both HMOs and strategic hospital alliances have been associated with lower hospital revenues, but only strategic hospital alliances (and not HMOs) have been associated with lower expenses. Escarce, Shea, and Chen (1997) conclude that HMO price pressures have not helped reduce operating costs among strategic hospital alliances, but that well-managed strategic hospital alliances have been successful in reducing expenses. However, this finding has been questioned by other studies and observers.

Another factor that may have reduced the HMOs' competitive advantage during the late 1990s was the horizontal ripple effect that HMOs had among other, local insurers, which have had to respond to HMOs in order to remain competitive. One study points out that in 1987, managed care plan enrollees had a significantly lower probability of hospital admission and a significantly lower average length-of-stay than did enrollees in other insurance plans. By 1996, however, neither of these differences were significant. This change was primarily attributed to a reduction in hospital utilization among non-managed care enrollees, which suggests that non-managed care providers had joined the HMO cost-containment revolution. The marginal advantage of HMOs over other insurers in effectively containing costs was therefore reduced by the success and consequent spread of the techniques that the HMOs were the first to employ.

The broad transformation that the HMOs have caused in the provision of medical services is affecting the consolidation of health care services far more extensively than in local markets with a high HMO penetration. The effect of HMOs beyond local markets can be seen in the increased prevalence of integrated delivery systems – organizations that paralleled the proliferation of HMOs in the 1990s. Integrated delivery systems, which may involve either horizontal consolidation of hospitals (like strategic hospital alliances) or vertical arrangements between hospitals and other providers, have proliferated in health care markets, largely independent of HMO penetration in those markets. That integrated delivery systems have expanded irrespective of HMO penetration in a given market contributes to the impression that managed care's efforts at cost containment have had a consolidating effect on the health care market in America, which is national in scope. However, some observers are skeptical of the ability of integrated delivery systems to control costs.

The Trend toward For-profit HMOs, and Suspicions about Quality of Care

As the managed care market in America has matured, there has been a marked increase in for-profit HMOs. In 1981, 82% of HMOs were non-profit, compared with only 29% in 1995. This trend has been particularly strong among HMOs that have grown into national organizations. The growth trend in HMOs has been accompanied by growing public concern about consumer protection under managed care. Some of the negative public perception of HMOs can be understood independent of specific concerns about quality of care, and seen instead as simply a natural reaction to the HMOs' unpopular cost-containment strategies. For example, one cost-containment strategy used by HMOs has been the institution of co-payments for some medical services. While these co-payments have in some cases discouraged the use of emergency department health services and have most likely

increased public dissatisfaction with HMOs, it is not clear whether they have had a detrimental effect on the health of patients. Instead, they may have encouraged patients to be more circumspect about where they seek care. Nevertheless, whatever the actual differences in quality of care may be, patient assessments of HMOs are significantly less favorable than their assessments of other types of insurance.

Although measurements of quality of care are hard to quantify, studies have suggested that public concerns about the quality of care under managed care, and particularly under HMOs, may be justified. Volpp and Bundorf (1999) found that pregnant HMO patients who underwent normal vaginal deliveries were 72% more likely to stay in the hospital for only one day, than were patients insured by other commercial plans. Similarly, Escarce, Shea, and Chen (1997) found that HMOs disproportionately sent patients to hospitals with lower average lengths of stay. When these data are understood in the context of the HMOs' decreasing ability to cut costs, concern arises that the HMOs may no longer be able to contain costs without more intensively managing or rationing health care, to the possible detriment of their members' health and their own public image.

Regarding the issue of whether managed care organizations channel members to hospitals of low or high quality, Mukamel[25] notes:

> One way in which managed care organizations influence the quality of care that their enrollees receive is through the choice of providers to be included in their panels. Studies to date have primarily investigated the role of hospital quality in managed care organizations' contracting and referral patterns. They have found no evidence of systematic bias toward contracting with poor quality hospitals. Some have found evidence of a bias toward higher-than-average quality, and some have found no association with quality at all, suggesting that the role of quality in managed care organizations' contracting decisions may vary.

Regarding these and related matters, Morrisey (1999) notes:

> Travel distances to hospitals of admission have not increased as a result of managed care. Evidence of the diffusion of technology in hospitals, and the extent to which hospitals have specialized as a result of managed care, is mixed. Little research has been performed on the effects on quality, but preliminary evidence suggests that hospital quality has not declined and may have improved.

The Nature of Contracting between Hospitals and Managed Care Organizations in the U.S.

The project team was unable to find published information on the nature of health plan-hospital contracting in the U.S., so it sought relevant information via Health-Israel, an e-mail discussion group involving leading health experts from Israel, the U.S., and other countries. The following picture emerged from the responses to our query by Professors Martin Gaynor, Dana Mukamel, Jack Zwanziger, and by Mr. Jed Linfield and Ms. Rona Bach.

---

[25] Mukamel, D 1.11.00 Personal communication.

In the U.S., most managed care organizations engage in selective contracting, i.e. they sign contracts with some, but not all, of the hospitals in their service area(s). In general, the government does not regulate contracting between hospitals and managed care organizations. Typically, the contracts do not include volume guarantees. The dominant payment mechanism is discounted fees-for-service, although other models, such as capitation arrangements, also exist. The focus of a typical contract is price, rather than quality; however, quality is getting increased attention. Many managed care organizations will contract only with hospitals that have quality approval from the Joint Committee on the Accreditation of Hospitals and Other Healthcare Organizations (JCAHO). For more sophisticated services, they often seek recognized centers of excellence. Some contracts stipulate the administrative mechanisms to be employed to both control utilization and ensure quality.

A Point of Comparison: The Nature of Contracting between Hospitals and Regions in the United Kingdom

As part of reform of the health care system in the United Kingdom carried out in 1991, a purchaser-provider split was instituted. Regions began to sign one of three types of contract with hospitals:

1. Block agreements, which assigned global budgets for the unlimited access of a defined population to all hospital services.
2. Cost-and-volume agreements, according to which the provider supplies a specified number of treatments at an agreed price.
3. Cost-per-case agreements, according to which contracts are negotiated for each individual patient.

Initially, the majority of contracts were block agreements, in part because of a lack of the cost information needed to develop the other types of agreement. It was expected that, over time, cost-and-volume and cost-per-case agreements would be preferred. Instead, a new type of contract emerged – the "sophisticated block" contract – and it now dominates the market, accounting for approximately two-thirds of all contracts (with cost-and-volume agreements accounting for 25% of all contracts, and cost-per-case agreements accounting for 5% of all contracts). A "sophisticated block agreement" is similar to the original block contract in that it provides for a global payment to be made in return for access to a defined range of services or facilities. However, it also sets "floors" and "ceilings" for activity levels; if either of these thresholds are reached, the contract must be renegotiated, or more detailed data collected.

The British government has voiced concern that too much administrative time and energy are being invested in the current contracting process. Interest has been expressed in making longer-term contracts (i.e. three- rather than one-year contracts), and paying greater attention to quality issues in the contracts.

Issues Relevant to Israel

The following issues, raised by this review, are relevant to the situation in Israel:

1. The situation in the U.S. indicates that the ability of health plans to selectively channel patients to certain hospitals can have a significant impact on cost, without incurring inconvenience, such as longer travel distances, or (apparently) reducing quality. This is relevant to the current policy debate in Israel over whether to allow health plans to contract selectively with particular hospitals.
2. The situation in the U.S. demonstrates that, given time, hospitals can respond strategically to the cost and volume pressures arising from selective contracting. *Inter alia*, they can develop their own vertically-integrated systems, as well as hospital alliances and even mergers.
3. In the U.S. the move to for-profit managed care organizations has increased concern about quality of care. Even if Israel continues to restrict its health plans to operating not for profit, concern about quality could intensify if the health plans feel increasing cost pressures or become increasingly corporate and financially focused in their organizational cultures.
4. The U.S. and the U.K. have evolved very different models of hospital-purchaser contracting. One key difference is whether the purchaser guarantees volume (either the number of admissions or a defined service population). Israel has yet to choose between these two approaches.

Appendix III: Recent Changes in the Provision of Outpatient Specialty Care in Four Countries[26]

This Appendix provides an overview of recent trends in the locus of outpatient specialty services in four countries: the United States, the United Kingdom, Sweden, and Canada. All four countries report a shift of service provision from hospitals to the community. The reasons for the shift and the nature of the shift vary from country to country.

The United States

With the growth of managed care in the US, the provision of specialty care has shifted away from a fee-for-service system toward managed care arrangements, which put a high priority on efficiency and cost control. One result of this shift has been an increased effort to transfer care from hospitals to community settings. Under the fee-for-service system, individuals could receive specialty care directly, at either a hospital or a community-based clinic. Specialists such as radiologists, anesthesiologists, and pathologists usually practiced in hospitals under contracts that often combined salaries with fee-for-service billing arrangements. Other specialists often worked in independent, community-based private practices. Now that managed care systems have become the norm, referrals to a specialist are generally controlled by primary care "gatekeepers". This has required specialists to make a variety of arrangements with networks of other physicians, hospitals, and managed care organizations, according to which they agree to reduce costs in return for market access. Two ways in which physicians have been encouraged to reduce costs are to move visits from expensive hospitals to community-based clinics, and to combine formerly independent practices into larger, multi-physician care groups. Specialty care in the U.S. has therefore undergone processes of decentralization and centralization at one and the same time.

Another result of the shift to community settings has been a decrease in the provision of hospital-based outpatient care as a percentage of total outpatient care.

Appendix Table 1: Changes in Rates of Hospital- and Community-based Outpatient Care, 1995-1998

Year	1995	1997	1998
Average, age-adjusted outpatient physician visits per person	3.34	3.65	3.78
Average number of outpatient physician visits occurring in physician offices	2.71	3	3.12
Average number of such visits in hospitals	0.63	0.65	0.66
Percentage of outpatient visits in hospitals	18.9	17.8	17.5

Despite the successful transition to community-based care, debate continues over whether this transition has really brought about desired cost containment. While there is little doubt that use of community-based *primary* and *preventive* services saves more money than does use of hospital

[26] This Appendix was prepared by Rob Schoenberg.

emergency room services, skeptics often focus on community-based *specialty* care when arguing that efforts to reduce hospital-based care will not bring about the desired savings in cost. These skeptics point out that one expensive consequence of fostering community-based specialty care can be seen in increased high-technology expenditure. The purchase of high-technology equipment, formerly the province of hospitals, has increasingly spread to community-based physician groups. Some policy analysts have argued that the growing need of community-based specialists to purchase expensive equipment has led to the rapid spread of current technologies, leading to an increased demand for and utilization of high-technology and further exacerbating health cost inflation. Whether such technology expenditures have increased the quality of care or simply led to redundant purchasing of expensive equipment is a matter of ongoing debate.

Some analysts have argued that the controversy about access to specialty care, concerning how and where it should be available as well as who should pay for it, is one of the most central to health care reform debate in the U.S.. Some have suggested that concern about the provision of specialty care has reduced the possibility of meaningful health care reform in the U.S. in the foreseeable future. They note that America's multi-tiered health system includes a sizable tier of wealthy (and sometimes politically influential) people who are not covered by a managed care organization and who purchase their care either directly from specialists or from an insurance policy that allows direct access to specialists. They express concern that these people may resist any change that affects their direct access to care. Efforts to maintain the status quo within this group could further reduce trust in and support and financing for a public system of health care in the U.S.. If resistance to reform persists, the American health care system will be characterized by a lack of systemization, with physicians continuing to balance market forces and individual preferences for hospital- or community-based care, independence and consolidation. Patients will face a similar economic and personal calculus when deciding which, if any, health insurance to acquire.

The United Kingdom

The National Health Service (NHS), which provides universal health coverage to residents of the U.K., underwent major reform in the 1990s, which involved the creation of an internal health care market that introduced competition as an impetus to improve service. This reform has had a powerful effect on specialists in the health care system. One of the reform's primary mechanisms for reaching its objective of encouraging competition was to separate the roles of purchaser and provider. The reform reduced the power of providers by creating purchasing organizations, which induced competition for funding among providers. Providers were rewarded providers for effectiveness and efficiency by having their services purchased by health authorities.

In addition, the reform introduced competition among purchasers by creating general practitioner fundholding, alongside traditional health authorities. Fundholders are groups of general practitioners who are given a budget with which to purchase a specified range of services for their patients. As a result of this initiative, each type of purchaser organization seeks to maximize health care services through effective negotiation with providers. This has in turn generated competition

among health authorities and fundholders, each of which try to maximize the benefits they offer their patients.

The effect of the reform has been significant, particularly for specialists and other providers in acute care hospitals. Beginning in the 1960s, district general hospitals were the primary providers of comprehensive specialty care in the U.K.. Providers at these acute care centers, who formerly were in a position of great strength, have found their power challenged by an alliance of purchasers and fundholders, which is an outgrowth of the recent reform. Although district general hospitals remain the primary providers of hospital care in the U.K., the formerly stark division between primary and secondary care has increasingly been challenged. Due to competition and the consequent drive toward cost control and better service, specialists have increasingly opened outpatient clinics within the offices of general practitioners. In addition, general practitioners are playing an increasingly important role in providing hospital emergency services.

In addition, some fundholders have expanded the services offered at small, community hospitals to include advanced specialty care. This further blurs the lines among primary, secondary, and tertiary care, while also generating more economical alternatives to expensive acute hospital care. Specialists are therefore increasingly working out of outpatient clinics and smaller, less expensive hospitals, such that specialty care that in these hospitals may be said to have moved into the community. Moreover, when a patient requires a specialized procedure that proves too complex for a local hospital, the local specialist may act as gatekeeper, referring the patient to a specialist at a more advanced regional or supra-regional acute care hospital. As a consequence, community-based specialists are playing an increasingly large role in the provision of specialty care in the U.K..

In conclusion, although the consequences of the recent reform remain to be seen, its effects already have been felt both in the locus of specialty care and the relationship of specialists to the health system. Although specialists in district general hospitals are still the primary providers of specialty care, there has been a significant shift toward community-based care at both small community hospitals and outpatient clinics located within the offices of some general practitioners. That specialty care which is provided solely at centralized acute-care hospitals increasingly requires a referral from a community-based specialist.

Sweden

In order to understand how and where specialty care is provided place in Sweden, it is first helpful to summarize the structure of the Swedish health care system. Universal coverage has long been a value for the Swedish polity. Within the Swedish national health system, responsibility for provision of health services rests with 23 county councils and three large municipalities. In addition, a small, though sizable and growing, private sector exists. For example, in 1994, 8% of physicians were in full-time private practice.

Outpatient, community-based care is organized in health care districts within the 23 counties. These districts offer care through general practitioners and "common" specialists such as pediatricians,

gynecologists, and psychiatrists. Other, more esoteric specialty care is usually provided at county or regional hospitals. County hospitals are subdivided into central and district county hospitals. Central county hospitals may provide care in from 15 to 20 specialty departments, while smaller district county hospitals may have as few as four specialty departments (usually internal medicine, surgery, radiology, and anesthesiology). Regional hospitals provide a range of advanced and highly specialized care, and are often affiliated with medical schools.

Over the past 20 years, several cost-containment initiatives have attempted to encourage more efficient patient care. One focus of these has been to remove specialty care from hospitals. For example, the Dagmar Reform of the 1980s changed the model of reimbursement to county councils for outpatient care from a system based on the number of patient contacts with health personnel to a modified capitation arrangement. This pressured the health care system to reduce its utilization of hospitals in favor of less expensive, community-based care. Providers were thus encouraged both to limit total visits to specialists, and to move many of the remaining visits to specialists out of hospitals.

Data indicate that the move away from hospital care has been significant. In 1990, the annual average total number of outpatient visits to a physician was 3.2 per person. This represents an increase of 14.3% from the national average of 2.8 visits per person in 1973. In contrast to the significant growth in total physician outpatient visits per person, outpatient visits in hospitals had fallen from an average of 1.33 per person in 1980 to 1.2 per person in 1990.

This reduction in per capita hospital use has been realized despite the aging of Sweden's population and an increase in overall use of physician services. This may have been accomplished in part by the increased provision of home and social services to elderly patients by municipalities. This is reflected in the number of staff hours in such services: Between 1973 and 1990, the number of staff hours in home and social services for the elderly provided by municipalities increased by an average of 66% per elderly person. It thus appears that Sweden has successfully reduced its hospital outpatient utilization by increasing its funding of preventive and continuing care, particularly for the elderly, in the community and the home. However, this change may also account for Sweden's limited success in reducing its public expenditure on health care – from 8.7% of GDP in 1980 to 7.8% in 1990.

Given limited success containing health costs and the aging of the population, public debate in Sweden continues to concern the need further to reduce public expenditures. It seems this concern is warranted, as Sweden's public health care expenditure as a percent of GDP remains well above the OECD average (5.8% of GDP in 1990). It has been suggested that primary care gatekeeping be increased, in order to restrict access to specialists, thereby reducing health care expenditures.

In another effort to increase cost containment, the Stockholm county council attempted to create an internal market for hospital services in 1992. Part of this reform included the introduction of payments based on diagnostic-related groups. This ongoing experiment has led to debate over the

effect that it and other cost containment efforts may have on the quality of hospital and specialty care.

Canada

Canada's public health system funds universal coverage for its citizens through a combination of taxes and health care premiums, with the latter never having accounted for more than one-third of health care revenue. In most cases, this publicly-funded system uses general practitioners as gatekeepers. General practitioners usually constitute a patient's initial contact within the health care system, and control both referrals to specialists and hospital admissions. While the Canadian system used to focus on institutions and disease treatment, since the 1970s it has focused on health promotion, preventive care, and community-based care. Accordingly, hospital expenditures, which peaked in the 1970s at about 55% of total health care expenditures, decreased in the 1990s to 50%.

The focus on community-based care has led to initiatives in individual provinces and at federally to move care out of the hospital. Across the nation, increased public funding has been allocated for at-home nursing and other home-based, low-level care. In addition, in 1981, New Brunswick attempted to provide advanced services in the home, which were previously accessible only to hospital inpatients. Created by the Public Hospitals Act of 1981, the "Extra-Mural Hospital" of New Brunswick provides participating patients with medical, nursing, and rehabilitation services in their own homes. The program has reduced costs by eliminating the infrastructure expenditures associated with traditional hospitals. New Brunswick's model was emulated by Quebec and Ontario later in the 1980s.

Another provincial initiative was attempted on the island of Victoria in British Columbia. The Victoria Health Project has created a community-based system for care of the elderly, which operates by means of quick response teams. These teams offer limited basic health services in the homes of elderly patients; they have succeeded in averting the costly admission to the hospital of some patients.

Other efforts toward community-based care have included the controversial de-institutionalization of the mentally ill, as well as the expansion of privately-owned medical clinics that provide a variety of general and specialty care. The latter have precipitated calls in some provinces for additional statutes regulating the care provided in private clinics.

It thus appears that Canada has been the site of numerous, innovative attempts at cost-effective delivery of community-based care, thanks in part to the support of Canada's National Health Research and Development Program. This federal program, along with several provincial funds, have earmarked monies for the development of programs and pilot projects that attempt the cost-effective delivery of health care services.

Such innovations will be increasingly needed in the future, as Canada struggles to limit health care costs: As early as 1987, Canada had the highest per capita health expenditure of any country with a national health system. This fact, combined with the fact that Canada's population is aging,

suggests that Canada may need to introduce competition or other substantial reforms into its health system in the near future. This will require a change in Canada's long-standing attitude of mistrust toward allowing competition and other market forces to shape health care.

Appendix IV: Table V7 of the Witkowsky-Nevo Report, and Its Limitations

In the first year report, we were limited by a lack of data distinguishing between inpatient and outpatient activity. Thanks to the so-called Witkowsky-Nevo reports,[27] which began to be published in 1997, we are now in a position to analyze hospital consumption by health plans, by type of service (in this paper, our analysis covers the period of 1996-1999). By "type of service" we refer to the distinction between inpatient care and hospital-based ambulatory care (primarily outpatient clinics, diagnostic centers, laboratories, emergency departments, and day hospitalizations). Our analysis is based on information published as "Table V7" in the annual Witkowsky-Nevo reports. These data contain significant limitations, particularly as far as Clalit Health Services is concerned. Nevertheless, we have chosen to present key findings from these data, as they are the only officially available national data on hospital charges by health plan and type of service. Despite their limitations, the data are informative on a number of key questions. We will highlight where the data are lacking, in the hope that efforts will be made to improve them in the future.

We first present the questions which, ideally, we would have liked to answer with the help of this dataset. We then discuss the key limitations of the data, and their implications for our analysis. Lastly we present the data and review their implications, addressing each question in turn.

The Questions

Ideally, we would have liked to use the Witkowsky-Nevo data to address the following questions:

A. Questions related to 1999 (the year for which data were most recently available at the time of writing):

1. What share of hospital consumption was accounted for by the different services: inpatient care, ambulatory care, and "other services"?
2. How did the consumption of hospital services, in NIS per age-adjusted person, differ among the health plans? Did the pattern differ by type of service?
3. How reliant were the health plans on each of the various types of hospital (by ownership)?

B. Questions related to changes between 1996 and 1999 (the period for which service-specific data were available):

4. How did the consumption of hospital services, overall, change between 1996 and 1999 in each of the four health plans?
5. How did the consumption of hospital services, by type of service, change between 1996 and 1999 in each of the four health plans?
6. Have the health plans undergone shifts in the source of hospital services by ownership type? Has this varied by type of service?

---

[27] The Witkowsky-Nevo reports integrate audited financial data from all of the health plans.

Description of the Data Set and Overview of Key Limitations

The service-specific data in Table V7 of the Witkowsky-Nevo reports relate to hospital charges prior to the inauguration of cap-related discounts.

The key limitations of the dataset were as follows:

1. The categorization of consumption into different types of service was not uniform across health plans. For example, Meuhedet uses the categories: "regular admissions", "procedures" (i.e. admissions paid for on a diagnostic-related group basis), "outpatient clinics", "emergency departments", "services outside Israel", and "refunds to members". Clalit, in contrast, uses the categories "regular admissions", "births", "procedures", "outpatient clinics", "diagnostic centers and labs", "emergency departments and day hospitalizations", "research funds", and "chronic diseases/other". Accordingly, together with the financial staff of the health plans, we re-grouped the data into three major categories: "inpatient", "ambulatory", and "other". To the extent that there were problems with this regrouping, they did not impair our ability to monitor changes over time within health plans. However, they may have created minor problems for comparing the health plans.
2. When Clalit Health Services purchases ambulatory services from its own hospitals, it faces a different set of prices (and indeed a different reimbursement regime) than that which prevails in the rest of the health system. Specifically, instead of paying for services on a straight fee-for-service basis, Clalit-owned hospitals charge Clalit's regions a one-time annual fee for each member who visits a specific outpatient clinic – irrespective of how many times the member visits that clinic during the course of a year. To make matters even more complicated, this internal Clalit "subscription system" has itself undergone several changes since the period studied.

As a result, in analyzing changes in the data on Clalit over time, we needed to keep in mind that "changes in consumption" may indeed have captured changes in the amount of money paid by the regions to the hospitals, but may not have accurately reflected changes in the use of services, *per se*.

Another result is that in comparing the health plans – particularly with regard to ambulatory services – the data on Clalit understate actual resource use. Clalit's financial managers estimated this understatement as small.

3. The data in Table V7 reflect non-cap volume discounts. The primary discount is the 4% discount afforded all health plans by government hospitals. If this were the only discount reflected in the raw data, we would simply have made an adjustment to the data to offset its effect. However, apparently there are additional discounts embedded in the data which we were unable to identify. Accordingly, we present the data in their raw form and, as such, must keep in mind that they slightly understate (by about 4%) the role of government hospitals in total resource provision.

ג'וינט-מכון ברוקדייל

הוצאותיהן של קופות-החולים ודפוסי השימוש שלהן בשירותי בתי-החולים - לאור הרפורמה בשירותי הבריאות

דוח שנת הפעילות השנייה

חוקר ראשי: ברוך רוזן
חוקרים נלווים: ציונה חקלאי, מיה מוהליבר, יעקב נבו
עוזרי מחקר: רחל גולדווג, רוברט שונברג
יועצים: סטיוארט אלטמן, ג'ק הדלי, אבי ישראלי

המחקר מומן בחלקו בסיוע מענק מחקר מן
המכון הלאומי לחקר שירותי הבריאות ומדיניות הבריאות

הפרויקט משותף לג'וינט-מכון ברוקדייל, המכון למדיניות בריאות
באוניברסיטת ברנדייס, אוניברסיטת ג'ורג'טאון,
משרד הבריאות והדסה-האוניברסיטה העברית

דמ-03-400

ד ו ח מ ח ק ר

ג'וינט–מכון ברוקדייל מהו?

מרכז ארצי למחקר בתחומי הזיקנה, התפתחות האדם ורווחה חברתית בישראל, שהוקם ב–1974.

ארגון עצמאי ללא כוונת רווח, הפועל בשיתוף עם הג'וינט העולמי (AJJDC) וממשלת ישראל.

צוות של אנשי מקצוע המקדישים עצמם למחקר יישומי בסוגיות חברתיות בעלות קדימות עליונה בסדר היום הלאומי.

קבוצת חשיבה שנטלה על עצמה מחויבות לסייע לקובעי המדיניות ולספקי השירותים בתכנון וביישום תכניות רווחה.

המחקר במכון מתבסס על גישה בין–תחומית. במכון חמש יחידות עיקריות:

- **זיקנה**
- **מדיניות בריאות**
- **קליטת עלייה**
- **מוגבלות**
- **המרכז לילדים ולנוער**

הוצאותיהן של קופות-החולים ודפוסי השימוש שלהן בשירותי בתי-החולים - לאור הרפורמה בשירותי הבריאות

דוח שנת הפעילות השנייה

חוקר ראשי: ברוך רוזן[1]

חוקרים נלווים: ציונה חקלאי[4], מיה מוהליבר[4], יעקב נבו[4]

עוזרי מחקר: רחל גולדווג[1], רוברט שונברג[1]

יועצים: סטיוארט אלטמן[2], ג'ק הדלי[3,1], אבי ישראלי[5]

המחקר מומן בחלקו בסיוע מענק מחקר מן
המכון הלאומי לחקר שירותי הבריאות ומדיניות הבריאות

1 ג'וינט-מכון ברוקדייל
2 המכון למדיניות בריאות באוניברסיטת ברנדייס
3 אוניברסיטת ג'ורג'טאון
4 משרד הבריאות
5 הדסה-האוניברסיטה העברית

ניסן תשס"ג ירושלים אפריל 2003

ג'וינט-מכון ברוקדייל
ת"ד 3886
ירושלים 91037

טלפון: 02-6557400
פקס: 02-5612391

אתר אינטרנט: www.jdc.org.il/brookdale

פרסומים נוספים של מכון ברוקדייל בנושא זה

רוזן, ב.; אלטמן, ס.; כהן, מ.; חקלאי, צ.; איבנקובסקי, מ.; מוהליבר, מ.; נבו, י.; ישראלי, א. 2002. **הוצאותיהן של קופות-החולים ודפוסי השימוש שלהן בשירותי בתי-החולים - לאור הרפורמה בשירותי הבריאות: דוח שנת הפעילות הראשונה.** דמ-399-02.

בן-בסט, י.; חקלאי, צ.; גליק, ש.; פרידמן, נ. 2002. **השימוש בשירותי אשפוז בישראל.** דמ-358-02.

גרוס, ר.; ברמלי-גרינברג, ש. 2001. **דעת הציבור על רמת השירות ותפקוד מערכת הבריאות בשנים 1995, 1997, 1999.** דמ-362-01.

רוזן, ב.; איבנקובסקי, מ.; נבו, י. 1998. **תמורות במשק הקופות: 1995 לעומת 1994.** דמ-317-98.

יובל, ד.; ברג, א. 1997. **השהות בבית-החולים מנקודת ראותו של המאושפז: ממצאים ראשוניים מסקר מאושפזים 1995.** דמ-278-97.

חיניץ, ד.; ברג, א.; רוזן, ב.; יובל, ד. 1996. **בחירת בתי-חולים במערכת הבריאות המשתנה בישראל.** דמ-261-96.

רוזן, ב.; נבו, י. 1996. **הכנסות, הוצאות ודפוסי שימוש של קופות-החולים: ניתוח השוואתי.** דמ-273-96.

להזמנת פרסומים נוספים ניתן לפנות לג'וינט-מכון ברוקדייל, ת"ד 3886, גבעת הג'וינט, ירושלים 91037, טל' 02-6557400, פקס: 02-5612391, דואר אלקטרוני: brook@jdc.org.il.

תקציר

מטרתו של פרויקט זה הייתה לחקור את המגמות האחרונות בהוצאות של קופות-החולים ובשימוש שהן עושות בשירותי בתי-החולים - על רקע הרפורמות שהממשלה הכניסה במערכת הבריאות, ועל רקע ניסיונותיהן של קופות-החולים לרסן את הוצאותיהן על שירותי בתי-החולים. דוח השנה הראשונה התמקד בהתפתחויות עד 1996, בעוד שדוח זה, דוח השנה השנייה, מתמקד בתמורות שחלו מאז 1996.

מאז 1996, חלו מספר שינויים מבניים ותחיקתיים, שהיה בהם כדי להוביל לגידול בשיעורי השימוש ובהוצאות, במיוחד על-ידי הגברת התמריץ לבתי-החולים להגדיל את היצע השירותים. הבולט ביותר בהם היה הגידול בתקינה הארצית של מיטות, ובמעבר מתקרה קשיחה (100%) על הכנסות בתי-החולים, לתקרה "רכה" יותר (50%).

עם זאת, לאחרונה אירעו מספר התפתחויות, שהיו עשויות להביא לירידה בשיעורי השימוש ובהוצאות, במיוחד על-ידי צמצום הביקוש על-ידי המטופלים וקופות-החולים לשירותי האשפוז. הבולטות מביניהן היו הנהגת השתתפות עצמית בתשלום על ביקורים אצל מומחים, המשך צמצום פלח השוק של שירותי בריאות כללית ומעבר מבוטחים לקופות-החולים האחרות (המשתמשות בשירותי אשפוז באופן אינטנסיבי פחות), הגברת הלחץ של משרד הבריאות על קופות-החולים לצמצם בהוצאותיהן ולהימנע מגירעונות, וארגון מחדש בתוך שירותי בריאות כללית שהגביר את התמריץ למנהלים המחוזיים לצמצם את השימוש בשירותי אשפוז. המעבר מתקרה "קשיחה" ל"רכה" הגביר אף הוא את התמריץ של קופות-החולים לצמצם את השימוש שלהן בשירותי האשפוז.

בהתחשב בהשפעות מנוגדות אלה, התיאוריה לבדה לא תוכל להביהר בשום אופן האם השימוש בשירותי האשפוז וההוצאות עליהם יגדלו או יפחתו. לפיכך, המחקר הנוכחי משלב נתונים ממספר מקורות כדי לעקוב באופן אמפירי אחר השינויים האחרונים בפעילות האשפוז בבתי-החולים, פעילות חולי חוץ בבתי-החולים, הוצאות קופות-החולים על שירותי אשפוז, והכנסות בתי-החולים. בנוסף לבחינת השינויים המצטברים ברחבי המערכת, צוות הפרויקט ביקש גם לאתר ולהסביר הבדלים בין תקופות, בין בתי-חולים ובין קופות-חולים, משום שגם אלה יוכלו לספק תובנות לגבי ההשפעה של השינויים המבניים והחוקיים עליהם הצבענו לעיל.

1. אשפוז בבתי-החולים

כפי שהוזכר בדוח הראשון, בסקר של הלשכה המרכזית לסטטיסטיקה (למ"ס)/משרד הבריאות משנת 1993, נמצא ששיעורי הקבלה לאשפוז של שירותי בריאות כללית בשנת 1993 היו גבוהים באופן בולט מאלה של קופות-החולים האחרות. מאפיינים של מבוטחים, כגון גיל ומצב בריאות, הסבירו פחות ממחצית השונות בין קופות-החולים בשנת 1993.

במהלך השנה השנייה של הפרויקט, נעשה שימוש בסקר הלמ"ס מ-1997 כדי לבחון האם ההבדלים בין קופות-החולים הצטמקו או התרחבו בין שני הסקרים. לצוות הפרויקט לא הייתה השערה קודמת ברורה בנושא זה. מחד, ההידרדרות היחסית במצבן הפיננסי של קופות-החולים הקטנות הייתה צפויה לדחוף אותן לנקוט צעדים נוספים כדי להגביל את השימוש בשירותי אשפוז, ובכך להרחיב את פער הקבלות בין קופות-החולים. מאידך, הנהגת הפיצול של קונה/ספק בשירותי בריאות כללית, והנהגת פיקוח על השימוש בשירותי אשפוז (שהונהג על-ידי קופות-החולים האחרות עוד לפני 1993), יכלו לצמצם את שיעורי השימוש של כללית בבתי-החולים, ובכך לצמצם את הפער.

בשלב זה של המחקר נמצא, שבין 1993 ל-1997 שיעורי הקבלה לאשפוז עלו באופן בולט בכל קופות-החולים, פרט לכללית, בה הם נשארו יציבים. ניתוח רב-משתני מעלה שהגידול בשיעורי הקבלה לא נבע משינויים בהרכב הסוציו-דמוגרפי של מבוטחי קופות-החולים הקטנות. באותו זמן, יש לשים לב שאפילו לפי סקר למ"ס/משרד הבריאות משנת 1997, נותר פער ניכר בין כללית לבין קופות-החולים האחרות. עם זאת, בשנת 1997 הוכח שניתן ליחס את חלק הארי של הבדל זה להבדלים בגיל ובמצב הבריאות של המבוטחים בכל אחת מקופות-החולים, למרות שלא התקיימה "השפעת קופת-חולים" עצמאית מובהקת.

בנוסף לבדיקת ההבדלים בין קופות-החולים, צוות הפרויקט בחן הבדלים בין בתי-חולים. הדוח של משרד הבריאות על "בתי-חולים ובתי-חולים יום בישראל", מעלה כי בשנים האחרונות הייתה שונות משמעותית בין בתי-החולים בשיעורי הגידול בקבלות. צוות הפרויקט השתמש בנתונים מסקר בתי-חולים של ג'וינט-מכון ברוקדייל משנת 1995 כדי לאתר את המחוזות שבתי-החולים משרתים, ולאחר מכן לבחון האם בתי-החולים שגדלו במהירות הרבה ביותר, עשו זאת מפני שהם שירתו אזורים שהתנסו בגידול האוכלוסין המהיר ביותר. ניתוח רב-משתני העלה שהבדלים בגידול באוכלוסייה על פני אזורי שיווק הסבירו פחות ממחצית השונות בגידול בקבלות בבתי-החולים. הבדלים בין בתי-החולים במידת הרחבת מספר המיטות נמצאו גורם מסביר משמעותי נוסף.

נתונים מתוך "בתי-חולים ובתי-חולים יום בישראל", מעלים גם שלפני הנהגת חוק ביטוח בריאות ממלכתי, התרחש גידול ניכר הן בקבלות במספרים מוחלטים והן בקבלות לנפש לבתי-החולים; גידול זה החל להאט ב-1995, והואט עוד יותר ב-1997. מפתה לייחס שינויים אלה (במיוחד אלה מ-1995) להנהגת התקרה על הכנסות בתי-החולים, ו/או לחוק ביטוח בריאות ממלכתי, אולם, אין הוכחה חותכת שאלה הם אכן הגורם להאטה. (יש לציין ששיעורי הגידול האחרונים דומים לאלה שהתקיימו בשנות השמונים, הרבה לפני הכנסת התקרות על הכנסות).

2. פעילויות במרפאות חוץ בבתי-החולים

לפי סקרי הבריאות של הלמ"ס, בין 1993 ל-1997, הייתה תזוזה משמעותית במיקומם של שירותי מומחים לחולי חוץ - מבתי-החולים אל הקהילה. התזוזה הגדולה ביותר חלה בשירותי בריאות כללית, ובירושלים ובמחוזות הדרומיים.

סקרי הבריאות הצביעו גם על כך שביקורים אצל מומחים בבתי-החולים הצטמצמו באופן דרמתי בין 1993 ל-1997, אבל שלא ניתן היה להסביר ירידה זו על-ידי שינויים בהרכב הסוציו-דמוגרפי של האוכלוסייה. סקרי הבריאות של הלמ"ס מ-1993 ו-1997 הצביעו גם על ירידה משמעותית בביקורים אצל מומחים בבתי-חולים בשירותי בריאות כללית ובקופת-חולים מאוחדת, אבל לא בקופות-החולים האחרות.

למרות הירידה המשמעותית בשירותי בריאות כללית בין 1993 ל-1997, גם ב-1997 שיעור הביקורים אצל מומחים מחוץ לבתי-החולים היה עדיין גבוה בהרבה בכללית מאשר בשאר קופות-החולים. נערך ניתוח רב-משתני כדי להעלות כמה גורמים אפשריים לשונות זו. בניגוד למצב באשר לקבלות לאשפוז, לא ניתן היה לייחס את השונות בין קופות-החולים בגין חולי חוץ להבדלים בהרכב הסוציו-דמוגרפי של מבוטחי הקופות.

בניגוד לממצאים של הלמ"ס ששיעור הביקורים של חולי חוץ ירד באופן דרמתי בין 1993 ל-1997, נתונים מבתי-החולים הממשלתיים מעלים סיפור שונה בתכלית. הם מצביעים על כך שבין 1994 ל-1996 (כאשר התקרה המלאה פעלה), הביקורים במרפאות חוץ בבתי-החולים הממשלתיים גדלו ב-6% בשנה. אף שמקור זה מצביע על כך שהמחזור של חולי חוץ הפסיק לגדול במהירות בין 1996 ל-1999 (כאשר הופעלה התקרה של 50%), אין הוא מספק עדות כלשהי לירידה הדרמתית עליה מצביעים הסקרים של הלמ"ס. להפך, הוא מצביע על כך שהמחזור המשיך לגדול לאט - ב-1% בשנה.

בה במידה שנתוני הלמ"ס הצביעו על שונות במגמות בין קופות-החולים, הנתונים של בתי-החולים הממשלתיים חשפו שונות ניכרת במגמות בין בתי-חולים. למשל, הנתונים על בתי-החולים הממשלתיים מצביעים על כך שבין 1996 ל-1999 כמה בתי-חולים חוו ירידה בביקורים של חולי חוץ, אבל בית-חולים אחד התנסה בגידול של יותר מ-10% בשנה.

3. צריכת שירותי אשפוז על-ידי קופות-החולים

בנוסף לבדיקת מגמות בשימוש בשירותי אשפוז במונחים של יחידות פיזיות, ניתן לבחון את המגמות האלה גם במונחים של "צריכה לנפש מתוקננת לפי גיל" - דהיינו, סכום הכסף שקופת-החולים הייתה משלמת לבית-החולים בעבור שירותים שנצרכו, אלמלא ההנחות הקשורות בתקרה. מדוח השנה הראשונה עולה כי ב-1995 רמות הצריכה לנפש מתוקננת לפי גיל ירדו בכל ארבע קופות-החולים. הדוח הראה גם שב-1996 רמת הצריכה לנפש מתוקננת לפי גיל נשארה ללא שינוי בשתיים מקופות-החולים, בעוד שבשתי קופות-החולים האחרות היה גידול מתון.

בעקבות המעבר ב-1997 מתקרה מלאה על ההכנסות לתקרה של 50%, היו שחששו שהצריכה תתחיל לגדול באופן בולט, משום שלבתי-החולים יהיה תמריץ גדול יותר להגדיל את המחזור מעבר לגודלו לפני 1997. עם זאת, המעבר לתקרה של 50% על ההכנסות הגדיל גם את התמריץ לקופות-החולים לחסוך בשימוש שהן עושות בשירותי האשפוז, עד כדי כך שלא לגמרי היה ברור האם ההשפעה נטו של שינוי זה תגדיל או תפחית את רמות הצריכה.

הממצאים של השנה השנייה מראים שבעקבות המעבר לתקרה של 50%, ירדה הצריכה לנפש מתוקננת על פי גיל של שירותי אשפוז. ניתן היה לראות ירידה בשימוש הן בשירותי אשפוז והן בשירותים לחולי חוץ, למרות שבסך-הכל הירידה במגזר של חולי החוץ הייתה גדולה יותר. דפוסי השינוי בין 1996 ל-1999 היו שונים במידת-מה בין קופות-החולים; ובאופן המשמעותי ביותר, הצריכה לנפש של שירותים לחולי חוץ גדלה באופן ניכר במכבי.

4. מיקום הצריכה של שירותי אשפוז

דוח השנה הראשונה מצא שבין 1994 ל-1996, הרכב סוגי בתי-החולים היה יציב ביותר בכללית ובלאומית, בעוד שמאוחדת עברה לבתי-חולים ממשלתיים ומכבי עברה במידה מסוימת מבתי-חולים ממשלתיים לטובת בתי-חולים של כללית ופרטיים (במיוחד אלה שבבעלותה של מכבי עצמה). דוח השנה השנייה מעלה שבין 1996 ל-1999, חלקו של המגזר הממשלתי בסך-כל פעילות האשפוז (דהיינו כל ארבע קופות-החולים) עלה באופן משמעותי, בעוד שחלקם של בתי-החולים הפרטיים ואלה שבבעלותה של כללית ירד. הירידה בשימוש בבתי-חולים בבעלות כללית התמקדה בשירותי אשפוז, בעוד שהירידה בשימוש בבתי-חולים פרטיים התמקדה בשירותים לחולי חוץ. לפחות בקרב קופות-החולים הקטנות, ירידה זו נבעה, קרוב לוודאי, בחלק, מההזדמנויות לחיסכון הקשורות לתקרה ו/או לחוזי הנחות-מחזור שנחתמו עם כמה מבתי-חולים.

5. ההשפעה הישירה של התקרה על הוצאותיהן של קופות-החולים

דוח השנה הראשונה העלה שב-1995 התקרה הניבה חסכונות ישירים משמעותיים בקופות-החולים לאומית ומאוחדת, בעוד שב-1996 היא הניבה חסכונות ישירים משמעותיים לכל שלוש קופות-החולים הקטנות. כפי שצוין, לא היה ברור כלל, מלכתחילה, האם המעבר לתקרה של 50% יגדיל או יפחית את החסכונות הישירים. מחד, ההנחות על ההפרשים שמעל לתקרה צומצמו מ-100% ל-50%. מאידך, צפוי היה שהפרשים אלה יגדלו, מכיוון שהתקרה לא עודכנה במלואה מדי שנה, כדי לשקף את הגידול במספר מבוטחי קופות-החולים.

במחקר של השנה השנייה נמצא, שההפרשים מעל לתקרה של שלוש קופות-החולים הקטנות גדלו באופן בולט בין 1996 ל-1999. עם זאת, סך-כל חסכונותיהן מההוצאות על אשפוז קוזזו במידה מסוימת על-ידי הורדת התקרה. בסופו של דבר, בעוד שהחסכונות הישירים (כאחוז של הצריכה) של לאומית ומכבי גדלו בשל התקרה בין 1996 ו-1999, הרי החסכונות של מאוחדת ירדו במידת-מה.

6. ההוצאות של קופות-החולים על שירותי אשפוז

בדוח השנה הראשונה ניתחנו את ההצהרות הפיננסיות של קופות-החולים ונעזרנו בדוחות ויטקובסקי-נבו; בדוח נמצא שההוצאות לנפש מתוקננת לפי גיל על שירותי אשפוז של קופות-החולים כקבוצה גדלו ב-3% בין 1994 ל-1996. בין קופות-החולים הייתה שונות משמעותית: גידול של 8% בכללית, לעומת ירידה של 5% עד 9% בשאר קופות-החולים. הגידול בכללית נבע במידה רבה מגידול משמעותי בתעריפי האשפוז ליום המוכתבים על-ידי הממשלה. אלה קוזזו בקופות-החולים הקטנות על-ידי חסכונות משמעותיים מהתקרה המלאה על הכנסות בתי-החולים. עם המעבר לתקרה של 50%, בוטאה דאגה שהוצאותיהן של קופות-החולים על שירותי אשפוז עלולות לגדול באופן בולט.

ואולם, בדוח של השנה השנייה נמצא, בניגוד לכך, שההוצאות לנפש מתוקננת לפי גיל על שירותי אשפוז של קופות-החולים כקבוצה, ירדו ב-5% בין 1996 ל-1998. סיבה ראויה לציון אחת לכך הייתה שבניגוד למצב ב-1994-1996, התעריף ליום גדל בערך באותו יחס כפי שגדל מדד המחירים לצרכן. הירידה הגדולה ביותר בהוצאות הורגשה על-ידי קופת-חולים לאומית, שחסכונותיה כתוצאה מהתקרה גדלו באופן בולט.

7. הכנסות בתי-החולים מקופות-החולים

בדוח השנה הראשונה לא נכלל מידע פיננסי לגבי בתי-החולים. בדוח השנה השנייה, צוות הפרויקט ניתח את הנתונים הפיננסיים הנאספים באגף התקציבים במשרד הבריאות, לגבי בתי-החולים הממשלתיים ב-1996-1999, ולגבי מספר גדול של בתי-חולים ציבוריים ב-1999.

היחס בין ההפרשים מעל לתקרה לבין סך-כל הפעילות ב-1999 היה בממוצע 9% בבתי-החולים הממשלתיים כולל קרנות מחקר, 8% בבתי-חולים ממשלתיים ללא קרנות מחקר, 7% בבתי-החולים הציבוריים, ו-23% בבתי-החולים בבעלות שירותי בריאות כללית (בהתקשרויות שלה עם קופות-החולים הקטנות יותר). (ההפרשים מעל לתקרה בגובה 8% בבתי-חולים ממשלתיים למעט קרנות מחקר, ייצגו גידול מ-1996, כאשר ההפרשים מעל לתקרה היוו 4% מהפעילות). ממוצעים אלה אינם משקפים את השונות המשמעותית בין בתי-החולים הבודדים בתוך כל מגזר.

הממצאים מהנתונים הפיננסיים של בתי-החולים עקביים עם הממצאים מהנתונים הפיננסיים של קופות-החולים (ראו סעיף 5 לעיל), ומהווים תיקוף צולב לשני המקורות.

קרנות המחקר מהוות רכיב גדול וצומח של מערכת האשפוז הממשלתית, והן מסבירות כ-8% מההכנסות של בתי-חולים כלליים-ממשלתיים ב-1998. בכמה מבתי-החולים הממשלתיים, השיעור הגיע עד ל-14%. אולם, בגלל מחסור בנתונים על קרנות המחקר ל-1996, צוות הפרויקט לא יכול היה להעריך עד כמה קרנות אלה גדלו בין 1996 ל-1998. ייתכן שהפעילות של קרנות המחקר גדלה במהירות במיוחד בקופות-החולים הקטנות.

צוות המחקר מצא גם שבין 1996 ל-1999, הפעילות בקרנות העיקריות של בתי-החולים הממשלתיים גדלה בערך ב-2%. דפוסי השימוש של כללית הצטמצמו ב-5%, בהשוואה לגידול של בין 12% ל-24% בקופות-החולים האחרות. הבדלים בשיעורי הגידול של המבוטחים מסבירים כמעט את כל ההבדל בפעילותן של קופות-החולים בקרנות העיקריות בבתי-החולים.

מסקנות

דוח מחקר זה התמקד בשינויים שחלו בדפוסי השימוש ובהוצאות על שירותי אשפוז בין 1996 לבין 1999, כאשר הופעלה תקרה על ההכנסות בגובה של 50%. הממצא העיקרי הוא שדפוסי השימוש וההוצאות לנפש ברחבי המערכת הצטמצמו, כנראה, במהלך תקופה זו. כמה מהצעדים שנבדקו מרמזים על כך שבמהלך תקופה זו והתקופה שקדמה לה, ההבדלים בין כללית (שמבחינה היסטורית הייתה המשתמשת האינטנסיבית ביותר בשירותי אשפוז) לבין שאר קופות-החולים הצטמצמו, אבל לא נעלמו. מחקר זה

מצא גם שדפוסי השינוי לאורך זמן היו שונים באופן משמעותי בין בתי-החולים לבין עצמם, ובין מגזרים שונים של בתי-החולים.

הממצאים מצביעים על כך שמדיניות הממשלה, פעולותיהן של קופות-החולים והפעילויות של בתי-החולים - לכולם הייתה השפעה על השינויים האחרונים בדפוסי השימוש ובהוצאות על שירותי אשפוז בישראל. דבר זה מנוגד לדעה שמושמעת לעתים בישראל שלכמה משלושת השחקנים האלה (או לכולם) הייתה יכולת קטנה, או לא הייתה יכולת כלל, להשפיע על רמות השימוש בשירותי האשפוז. המסקנות שלנו, אם הן נכונות, מרמזות על כך שמאמצים עתידיים להשפיע על דפוסי השימוש בשירותי האשפוז יכולים (וחייבים) לשקול כלי מדיניות שיהיו מכוונים הן לקופות-החולים והן לבתי-החולים.

בנוסף, לממצאים שלנו יש משמעויות לגבי הדיון בענייני מדיניות שהתקיים לאחרונה ועסק בשאלה האם יש לבטל את התקרה על הכנסות בתי-החולים, אם לאו. כמעט כל הצדדים בדיון הסכימו שבחוקים הנוכחיים שקובעים את התקרה יש יסודות בעייתיים הן לגבי היעילות והן לגבי השוויון. הדיון ניטש על האם יש לשנות את התקרה, או לבטל אותה. כתוצאה מכך, הממצא שלנו, שהושג אחד היעדים העיקריים של התקרה - הגבלת שיעורי השימוש בשירותי האשפוז, עודד את קובעי המדיניות לשקול מחדש את ביטולה המוחלט. אנו מקווים, לכל הפחות, שממצאינו יעודדו את קובעי המדיניות להעריך את השפעתה של התקרה לא רק על "ההפרשים", אלא גם ובהרחבה רבה יותר, על שיעורי השימוש, על הוצאותיהן של קופות-החולים, ועל הכנסותיהם של בתי-החולים.

תודות

תודות רבות לשולמית גורדון ממשרד הבריאות על הסיוע בניתוח הנתונים ממאגר הנתונים הארצי על אשפוז.

אנו מודים לכל עמיתינו בג׳וינט-מכון-ברוקדייל על עצותיהם והדרכתם במהלך עבודתנו. טיוטות קודמות של הדוח זכו להערות מועילות מאת ג׳ק חביב, מנהל ג׳וינט-מכון ברוקדייל; ג׳ק הדלי ממכון אורבן; דני מיכאלי משירותי בריאות כללית; ופרנסיס וד ממכבי שירותי בריאות.

ממצאים עיקריים ממחקר זה הוצגו בפני פורום החוקרים של המכון הלאומי. הערות חשובות התקבלו מהמתדיינים - שלמה מור יוסף וגבי בן נון, ומהמנחה אלק אבירם; ומהקהל.

הדוח נערך בידי מרשה ויינשטיין.

תוכן עניינים

נספחים

רשימת לוחות

רשימת תרשימים