Available online at www.sciencedirect.com
ScienceDirect
Health Policy xxx (2008) xxx–xxx
HEALTH POLICY
www.elsevier.com/locate/healthpol

Review

Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues

Amir Shmueli [a,*], Leah Achdut [b], Miri Sabag-Endeweld [b]

[a] *The Hebrew University, The Gertner Institute, Israel*
[b] *The National Insurance Institute, Israel*

Abstract

In 1995, a National Health Insurance Law (NHIL) was enacted in Israel. It specified a mandatory package of services to be provided by the four competing private non-profit sickness funds, and secured the financing of that provision. This review discusses the main issues associated with financing of – and the sickness funds' expenditure on – the package of services and analyzes the trends during the first decade of the implementation of the NHIL. The main findings indicate that between 1995 and 2005 the "real value" of the budget of the package of services has eroded by more than a third, most of it being due to the under-updating with regard to technological advances. The steep rise in the co-payment paid by users of health services and in voluntary supplementary health insurance ownership which is offered by the sickness funds partially financed that erosion. The growth of private spending on health, including on voluntary supplementary insurance, took place in all population groups and in the lowest income-quintile in particular. Indices of the progressivity of the financing of the package of services indicate that the burden of financing has been slightly regressive. In spite of the increase in the share of the regressive private expenditure between 1997 and 2003, overall, the finance became less regressive due to the health tax becoming less regressive. In conclusion, the introduction of the Israeli NHIL was a promising social achievement, but, during its first decade and facing tight national budgets and receiving lower national priority, subsequent regulation eroded the real value of its benefits, and its principles of solidarity and equity in finance. After 10 years of experience, the system might need refreshment and policy amendments that will correspond to its original aspirations.

Keywords: National health insurance; Israel; Package of services; Finance; Progressivity

Contents

* Corresponding author at: Department of Health Management, The Hebrew University, The Gertner Institute, POB 12272, Jerusalem 91120, Israel. Tel.: +972 2 6758514; fax: +972 2 6435083.
E-mail address: xxxxxxxx@xxx.xxxx.xx.x (A. Shmueli).

0168-8510/$ – see front matter © 2008 Elsevier Ireland Ltd. All rights reserved.
doi:10.1016/j.healthpol.2008.02.008

1. Introduction and overview

January 2005 marked the 10th anniversary of the Israeli National Health Insurance Law (NHIL). The law established the right of every inhabitant to health insurance and services, and determined a clinically updated, comprehensive and uniform package of health services which the four competing sickness funds are responsible to provide. The NHIL specified the sources of finance of the package, and the method by which the health services budget would be updated.

The guiding principle in drawing up the NHIL was that of solidarity and equity—financing in accordance with the insured person's ability to pay (progressive finance), and use of the health services in accordance with the individual's needs. Alongside this principle, however, the NHIL was also based on considerations of economic efficiency and cost-sharing: the sickness funds receive age-adjusted prospective capitated payments, and consumers pay co-payments (which were substantially raised in 1998) for the use of certain medical services.

The present study is concerned with one of the focal issues of the public debate of the NHIL: the way the health services budget is financed and the way it is updated over time. These two aspects determine not only the level of health services accorded to the population but also the trade-off between social justice embodied in the NHIL and economic efficiency. We will not discuss here the changes *introduced* by the NHIL in 1995, but will follow only its maturing during the first decade.

During 1995–1997 the employer's contribution to health insurance ("the parallel tax") was gradually abolished, as part of the government's policy to reduce labor costs. The premiums paid directly to the sickness funds before 1995 were replaced by a "health tax", earmarked for financing the health services package. Transfers from the general revenue replaced the employer's contribution, and completed the revenues from the health tax up to the budget set by the government within its national priorities. Opponents of this change feared that the growing dependence on the general revenue for the financing of the health package would further expose the health system to budgetary constraints, particularly at times of tight fiscal policy. The experience of the first decade indicates that this apprehension was indeed founded. In 1998 users of health services were required to make additional payments for medications, consultations with specialists, and diagnostic tests. The contention that the additional payments prevent 'excess use' of health services (moral hazard) was opposed by the claim that this policy undermined the principle of fairness even if co-payments were reduced for chronic patients and families on welfare benefits.

The changes in the mix of public–private financing, as well as in the composition of public financing, are likely to affect also the level of progressivity and fairness in the financing of the package of benefits. Previous research [1] showed that the replacement of (sickness fund) membership fees by health tax and, to a lesser extent, the replacement of the employer's contribution to health insurance by transfers from the general revenues, led to a slightly more progressive distribution of the burden of financing the national health expenditure.

The finance mix of the health budget is interrelated with its updating over time. The budget of the package of benefits is updated in accordance with the parameters set out in the legislation—prices, demography, and technological advances. Naturally, the dispute

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

regarding the policy of updating health services in the framework of the government's fiscal policy was exacerbated at a time when public expenditure was being slashed.

In Section 2 we explore the developments in updating the budget of the package of health services set in 1995 and in its financing. Section 3 examines the developments in the progressivity of the finance. Section 4 focuses on the changes in private health expenditure during the first decade of the NHIL. Section 5 concludes the analysis with several implications for health policy.

2. Developments in updating the budget of the package of services and its financing

2.1. General

As stated, the government's commitment to the health of the Israeli citizens under the NHIL was expressed in the definition of a uniform package of services to which everyone was entitled and which each sickness fund undertook to provide. The package included primary and secondary services, as well as general hospitalization services. Psychiatric, geriatric and mother–child preventive services are currently not included in the sickness funds' package, and are under the direct responsibility of the Ministry of Health. Dental care is financed privately.

When introduced on 1 January 1995, the NHIL's package of services was identical to that provided by the General Sickness Fund—the biggest and oldest sickness fund (1995 market share of 75%). The annual cost of providing the package to the population, "the budget of the package of services", was estimated at NIS 12,244 million (about 4.2 million 1995 USDPPP. Throughout we use the exchange rate of 1USDPPP = 3 NIS which remained approximately constant during the decade), or an average of NIS 2141 (about 750 USDPPP) per age-adjusted capita (the number of age-adjusted persons is calculated according to the capitation formula for allocating sources to the various sickness funds).

While at the time of the introduction of the NHIL, in 1995, the government's commitment to the health of Israel's inhabitants was translated into financial terms – the budget of the package stood at NIS 12,244 million – the question of how that commitment has been expressed in subsequent years is a subject of public debate. In particular, it has been suggested that in determining the budget of the package in 1995 the government in effect undertook not only to provide a specific sum of money for any given year, but also to ensure a specific '*level of health*' which would be purchased or produced by means of the budget of the package for that year. This interpretation of the government commitment is nothing new. For example, the updating of the social security benefits in accordance with changes in the average wage reflects the government's commitment to maintain the relative *standard of living* of benefit recipients. The other view claimed that the budget of the package was determined as a given sum in 1995, which would be set a new each year within the framework of the allocation of national resources to social priorities.

The following three factors play a part in the process of updating the budget of the health package over time: *prices of health inputs*. The health services included in the basket are intermediate outputs 'produced' by the sickness funds by means of inputs. With prices rising, the cost of producing a given level of health rises as well. The NHIL determines the updating mechanism with regard to the rise in the prices of health inputs by defining a 'Cost of Health Index,' which is calculated each year. This index is a weighted average of five indices: (a) the consumer price index, which accounts for 23% of the overall index, (b) the index of wholesale prices of medications (17%), (c) the index of construction inputs prices (2%), (d) the index of the public-sector wages (24%) and (e) the index of the health-sector wages (36%). The 'Cost of Health Index' has been repeatedly criticized for not reflecting the true changes in input prices. Therefore, in what follows, we use the implicit price index of the sickness funds' expenditure to evaluate the actual changes in the budget (the implicit index is the ratio of the expenditure in current and in constant prices, both are available from the Central Bureau of Statistics' health accounts, see Ref. [2]). It should be noted that the extent to which the budget of the package of services should be linked to changes in prices of health inputs is a separate issue. Since some of the input prices are controlled by the sickness funds through contracts and agreements with suppliers (organizations of physicians and nurses, phar-

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

maceutical companies, firms manufacturing medical equipment, etc.), the desired linkage might not be full in order to reduce cost-based reimbursement.

The needs of the population: a rise in the needs of the population should, on the face of it, lead to an increase in the budget of the package of services, in order to maintain the 1995 level of the population's health. The health needs of the population are defined alongside the risk-adjusters used in the capitation formula for adjusting the payments to the sickness funds to the level of risk of the insured population. Israel's capitation formula is defined according to the number of insured persons and their ages (translated into the age-weighted number of insured persons). The larger the age-weighted population, the greater its health needs, and in order to maintain the budget of the package at its real 1995 level (as regards demography), it should be increased. Full linkage, in demographic terms, would be expressed as a rise in the budget of the package equivalent to the growth rate of the age-weighted population (so that the budget per age-adjusted capita would be constant over time).

There is no general agreement as to the need to fully update the budget of the package with regard to demographic changes. It has been claimed that the provision of health services enjoys economies of scale, so that average cost decreases with increasing population. A recent study found that indeed some economies to scale do exist in the sickness funds' market [3]. There are also differences of opinion as to the need to update the budget of the package as a result of population aging [4,5].

Technological advances: the budget of the package was determined in 1995 on the basis of a given level of technology and medical practice in Israel and the world. This level included the extent and quality of medical equipment, the level of human capital, the various kinds of treatment in medical practice, the kinds of medications approved for use, etc. Over time there have been technological advances, new medications have come onto the market, new treatments have been developed and medical equipment has become obsolete, has been replaced, or has been added. The budget of the package in 1995 captured a given technological situation and in effect defined the level of health derived from the level of progress current at the time. In order to maintain the real value in health terms of the 1995 health budget, it is necessary to update it in accordance with the additional expenditure required in order to keep up with technological innovations. A recent study [2] has shown that the annual rate of growth of national expenditure on health in Israel due to technological advances was 3.2% during 1972–1996. Studies from other countries also speak of the need for an annual increase of 2–4% in the budget in order to maintain the up-to-date value of medical care [6].

2.2. The erosion of the real value of the budget of the package of services

In this subsection, we refer to the "real value" of the budget as resulted from a *full* linkage to the *actual* increases in the three parameters discussed above since 1995. We ignore, in these calculations, the unsettled issues of economies to scale, the effect of aging, risk sharing, etc., all of them might question the need in full indexation in order to maintain a given level of health.

As Tables 1 and 2 show, the budget of the package has been eroded in the last 10 years. Table 1 presents the actual growth rates of the three factors, which determine full indexation, alongside the rates of updating implemented in fact. With respect to all three components, updating lagged behind the actual changes. The greatest erosion in the budget of the package occurred with respect to updating for technology. Whereas the annual increase required is 3%, as claimed earlier, the average annual technological rise is only 0.71%. The yearly updates varied considerably, depending largely on political agreements. During 1996–1997 there was no increase whatsoever on account of technology, in 1998–1999 and 2001 this increase was 1%, in 2000 it was 1.5%, in 2002 it was 0.75%, in 2003 it was 0.1%, and in 2005 it was 1.53%.

Taking these three factors together, in 2005 the cumulative increase required in order to maintain the real 1995 value of the package of services as regards demography, input prices, and technology, was 185%, while the cumulative updating was only 86%. As Table 2 shows, in 2005, the budget of the package required in order to maintain its real 1995 value should have been NIS 35 billion (about 12 billion USDPPP), whereas in fact it was NIS 23 (about 7.5 USDPPP) billion. This represents an erosion of 35%. In other words, the budget available to meet the health needs of the population in Israel in 2005 was only about two thirds, in real terms, of what it was in 1995.

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

Table 1
Annual rates of change in the budget of the package of services and in its components: actual[a] vs. updated, 1996–2005 (%)

Year	Demography		Input prices		Technology		Total		Cumulative	
	Actual	Updated	Actual	Updated	Actual	Updated	Actual	Updated	Actual	Updated
1996	3.15	2.00	17.34	10.94	3.00	0.00	24.67	13.6	24.67	13.16
1997	3.15	2.00	14.38	8.67	3.00	0.00	21.52	10.84	51.50	25.43
1998	3.00	2.00	0.93	5.04	3.00	1.00	7.08	8.21	62.23	35.73
1999	3.07	2.00	7.96	5.65	3.00	1.00	14.62	8.84	85.94	47.73
2000	3.06	2.00	7.05	3.44	3.00	1.50	13.63	7.09	111.29	58.20
2001	2.55	2.00	0.30	2.13	3.00	1.00	5.95	5.21	123.85	66.45
2002	2.26	1.75	−0.90	0.68	3.00	0.75	4.38	3.21	133.65	71.80
2003	1.02	1.75	2.01	−1.93	3.00	0.10	6.14	−0.11	147.99	71.60
2004	1.90	1.75	2.83	2.15	3.00	0.2	7.93	4.14	167.71	78.72
2005	1.95	1.13	1.32	1.52	3.00	1.53	6.39	4.24	184.76	86.29

[a]Demography: the rate of increase in the age-adjusted population.
Prices: the rate of change in the implicit price index of the sickness funds expenditures; technology: 3% annually.

2.3. The sources of finance of the budget and the sickness funds' expenditure

The budget of the package has been an annual government control variable since the introduction of the NHIL in 1995. The most important variable from the standpoint of the population is, however, the sickness funds' expenditure on the package of services provided under the NHIL. The sickness funds' expenditures are financed by the risk-adjusted government transfers from the budget of the package; income from selling products not covered by the NHIL's package (such as sale of travelers' insurance and medical products, providing medical care to the Armed Forces and to work and road injuries); co-payments and deficits.

Table 2
The budget of the package of services—fully indexed[a] vs. updated, 1996–2005 (NIS million[b])

Year	Updated	1995 fully indexed	Erosion	Erosion (%)
1996	13,855	15,264	1,409	9.23
1997	15,358	18,549	3,192	17.21
1998	16,619	19,862	3,244	16.33
1999	18,008	22,766	4,758	20.90
2000	19,271	25,869	6,598	25.51
2001	20,268	27,407	7,139	26.05
2002	21,117	28,607	7,490	26.18
2003	21,135	30,362	9,227	30.39
2004	22,008	32,770	10,762	32.84
2005	22,768	34,864	12,096	34.69

[a] As required in order to maintain the 1995 budget in terms of demography, input prices, and technology.
[b] 1USDPPP = 3NIS.

The extra-budget income has accounted for about 1–2% of the sickness funds' expenditures throughout the decade. The government's direct contribution – through the budget of the package and the deficit – has been financed about 90% of the sickness funds' expenditures. During the decade, the share of the health tax in financing the sickness funds' expenditures rose from 40% in 1997 to 46% in 2003 and to 52% in 2005. Concurrently, the share of financing from the general revenue has declined from 51% in 1997 to 45% in 2003 and to 40% in 2005. Part of this drop was achieved through the reduction in the sickness funds' total deficit from 4.6% of their expenditure in 1995 and 8.5% in 1997 to 0–2% thereafter.

The financing source whose share has risen most sharply in the last 10 years is the enrollees' co-payments. This has increased continuously from 5% to 6% out of total sickness funds expenditure in 1995–1997, to almost 10% in 2003. In fact, this four percentage-point increase substituted for the lost revenues from the parallel (employers') tax which was abolished in 1997, reducing thus the government's share in the expenditures of the sickness funds. This increase in private expenditure on services included in the package has thus covered part of the erosion of the real value of the package's budget since 1995.

Fig. 1 shows the updated and the fully indexed path of the budget of the package on the one hand, and the path of the sickness funds' income and expenditure on the package of services, on the other. Expenditure appears to be higher than the updated value of the budget. In other words, a part of the erosion was financed by

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

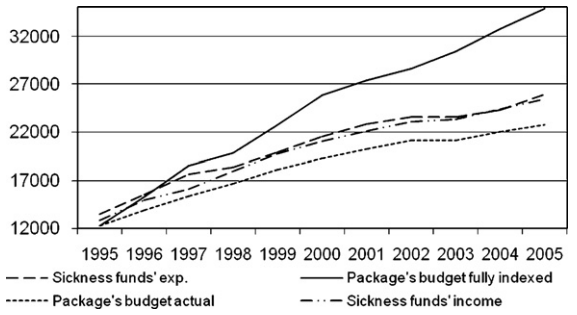

Fig. 1. The budget of the package of services and the sickness funds' expenditure and revenues (NIS thousands, in current prices), 1995–2005.

the co-payments paid by insured persons and, to some extent, through the sickness funds' deficits. In 2002, for example, the gap between the real value of the 1995 package and total funds' expenditure was NIS 5 billion (about 1.7 billion USDPPP), or 18% of the 1995 budget. Note that in 1995–1997 the sickness funds' expenditure was fairly close to the budget of the package in 1995 real terms. In and after 1998 the expenditure of the funds rose more slowly than the budget of the package in 1995 real terms.

With regard to the fairness of financing, there are well known problems in the use of co-payments. Since 1998, with some variations across sickness funds, co-payment for medical services (mainly specialists' services and diagnostic procedures) have been about 20 NIS (about 6 USDPPP) per quarter, and co-payment for prescribed medicines has been 10–15% of the cost (but above a minimal 12 NIS co-payment). Persons on disability allowance and patients with cancer, dialysis and several other "severe diseases" are exempted. Elderly on welfare allowances are exempted from co-payment on medical services. The familial quarterly maximal amount of co-payments for medical services is 100–150 NIS (30–50 USDPPP), with elderly over 65 paying half that ceiling. The maximal individual quarterly co-payment for medicines is 715–780 NIS (about 240–260 USDPPP), with elderly on welfare paying half that ceiling. While the lists of enrollees on disability or welfare allowances are received by the sickness funds from the National Insurance Institute, it is the families' responsibility to claim co-payments paid beyond the ceilings. Because of limited information, many families do not claim overpayments. As will be detailed in Section 4, in 2003 on average, co-payments constituted about a quarter of total private health spending, or 1.3% of total private consumption. Among poor families with chronically sick members these shares were much higher. The co-payments are paid by individuals at the point of service, so that they inevitably fall on those individuals who are sick. This contradicts the principle of solidarity on which the NHIL was based in 1995, namely, that in general, payments into the system are related to income and not to health state. Moreover, the co-payments are essentially regressive, and hence contradict the progressivity of the public financing of the health system, as will be shown below. According to findings from population studies undertaken at the Brookdale Institute [7] and by the Israel Medical Association (IMA), some 14% avoid using the services (specialists' consultations, diagnostic tests and medications) because of the co-payments, most of them of low-income, sick individuals, so that further damage is inflicted on the principles of universal access and need-dependent use of health care underlying the social insurance.

2.4. How is the erosion of the budget of the package of services reflected in the healthcare system?

In view of the erosion of the real value of the budget of the package of services provided by the sickness funds, we would expect deterioration in the population's health. However, an examination of the mortality or life expectancy statistics shows that, from both an historical and an international perspective, no such deterioration has occurred yet since 1995. Where, then, can expressions of this erosion be found? First, as was argued above, full indexation may not be necessary, so that the real (in terms of health) erosion may have been smaller than that specified above. We argue, however, that traces of deterioration can be found in three main areas.

Deterioration in the quality and availability of services: while it is difficult to measure changes in the state of the population's health over a short term, there are several indicators that there has indeed been a decline in the quality and quantity of the services provided by the funds. The longer queues of patients waiting to see specialists in the clinics is an immediate indication of a growing need to ration resources as their volume is relatively eroded, even though the rise in co-

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

payments increased the funds' income, and probably led to a reduction in uses. 55% of the adult population reported waiting more than a week to an appointment with a specialist in 2005, while in 2001 the rate was 47%. While 8% reported on giving up medical care in 1999 because of distance, the corresponding 2005 rate was 14% [7].

The satisfaction of the population is often taken as an index of the quality of the services and the functioning of the system. Recent population surveys [7] attest to a decline in satisfaction with the services provided by the sickness funds in particular, and the health system in general. They have shown that, controlling for demographic changes, the proportion of those who were very satisfied or satisfied with the funds' services fell moderately from 91% in 1998 to 86% in 2001, to 89% in 2003 and to 88% in 2005. The reports indicate that accessibility problems have intensified, waiting times became longer, in particular for chronic patients. Another survey [8] demonstrated that individuals' opinion of the health system in general declined between 1993, before the NHIL was introduced, and 2000, adjusting for socio-demographic structure. Whereas in 1993, 9% thought that the system should be restructured, in 2000 this proportion had risen to 14%.

Rise in out-of-pocket private expenditure on health services (*this issue will be further discussed in* Section 4): beyond their co-payments to the sickness funds, households purchase health services privately. Private expenditure on medical services and products such as visits to private physicians, purchase of medications and equipment not covered publicly, purchase of private hospitalization services, etc., might substitute for the package of services provided by the sickness funds or complement it, if it is found insufficient. From estimates based on the CBS's Family Expenditure Surveys, we find that private expenditure, excluding expenditure on dental or home-care services which are not covered by the public package of benefits, rose between 1997 and 2003 by a nominal increase of 35%, far beyond the 9% increase in incomes. This increase in households' expenditure financed medical services, directly or through voluntary insurance, which were not publicly financed but were considered necessary by the households. This increase in private spending has served to offset some of the erosion of the value of the package of services provided by the sickness funds since 1995.

Finance of the basic package by the voluntary supplementary insurance: most of the services covered by supplementary insurance constitute a supplement to the basic package's services prescribed to treat the illness (e.g., choice of a surgeon in case of an elective surgery, more sessions of physical therapy, special equipment, etc.). The sickness funds are able, from accounting point of view, to assign to the supplementary insurance scheme *all* the expenses incurred as a result of a medical episode, not only the addition that is covered by supplementary insurance. Thus, the sickness funds reduce the recorded profit from supplementary insurance scheme (and thereby are not under the public pressure to reduce premiums) and also reduce the recorded deficit regarding the basic package (and are hence eligible for efficiency bonuses). Consequently, some of the care provided within the package is not paid from the budget of the package. These "subsidies" finance part of the erosion described above. The social desirability of these transfers is open to public debate. On the one hand, they constitute subsidization of persons who do not have supplementary insurance (generally those who have low-incomes and/or are sick) by those who do have supplementary insurance (generally the better-off segment of the population). On the other hand, they create distortion in the allocation of resources in view of the "too high" premiums in the supplementary insurance market and the "too low" effort in reducing deficits.

We conclude that the continuous erosion of the package of health services introduced in 1995 was partially financed by other sources (out-of-pocket monies and transfers from the supplemental insurance activities), but nevertheless traces of drop in quality, quantity and accessibility of care as well as in the public satisfaction with the system can be identified.

3. The progressivity of the financing of the sickness funds' expenditure

3.1. Methodology and sources of data

A financing source is said to be progressive if low-income families pay less of it, while high-income families pay more, than they would have paid had the payment been relative to income. The Kakwani index of progressivity (PK) [9] and the Suits index

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

of progressivity (PS) [10] are the main indices based on this approach. The PS and PK indices are useful for measuring the progressivity of financing that derives from several sources (e.g., various taxes), as the index for total financing equals the weighted average of the source-specific indices, with the weights being the relative shares in total financing (for a review of applications to health care see Ref. [11]).

In calculating the progressivity of the sickness funds' expenditures, we assumed that the deficit is financed from the general revenue, so that the following sources of finance were taken into account: the health tax, private expenditure of households on health, and the general revenue (income tax on individuals and companies and VAT on goods and services. Since VAT is the largest component of the many indirect taxes, it was taken as representative of all indirect taxes). Private expenditure of households on health was further classified as expenditure on services covered by the package of services supplied by the sickness funds (co-payments for medications, visits to physicians in the sickness fund and for diagnostic tests)—henceforth termed 'private finance of the package of services', and expenditure on voluntary insurance premiums, dental, mental and nursing care, as well as on private medicine, which is not covered by the package of benefits (the latter, however, may substitute for services included in the package).

The indices of progressivity were calculated for 1997 and 2003 on the basis of the CBS's Family Expenditure Surveys for those 2 years (further technical details are presented in Ref. [1] and are available upon request). The year 1997 was chosen to represent the launching period, before the abolition of the parallel tax and the dramatic increase in co-payments and voluntary supplementary health insurance ownership. The year 2003 was the last year with all needed data being available.

3.2. Main findings

Table 3 presents the share of each income decile in total pre-tax income and in each source of financing used to finance the sickness funds' expenditure on the package of services, both in 1997 and 2003. Apart from income tax, the share of the lowest seven deciles in total taxation or sources of financing is higher than their share in total income, while the share of the two top deciles is less than their share in total income. On the other hand, the highest decile bears on its own more than half the share of income tax in both years. In addition, the share of the lower deciles in the burden of financing income tax and the health tax was lower in 2003 than in 1997, but their share in the burden of VAT and private expenditure on health expenditure in general, and on financing the budget of the package in particular, rose, even though the distribution of gross income remained virtually unchanged.

There have been several changes between 1997 and 2003 in the concentration and progressivity of the sources of finance (Table 4). The *health tax*: health tax payments are regressive according to both indices, although the values of the indices are very low. A comparison between 1997 and 2003 shows that regressivity was significantly (5%) lower in 2003 (−0.08 in 1997 and −0.02 in 2003), mainly because of a change in the ceiling on income which was liable for the health tax.

With regard to the financing from the *general revenue*, income tax is quite progressive, as the tax rate rises steadily with income, and most of the tax burden falls on the two highest deciles, which account for about two-thirds of all income tax payments (compared with their 45% share of total income). Accordingly, the indices of progressivity are positive, and even rose slightly between 1997 and 2003 (from 0.3 to 0.4). VAT, on the other hand, like other indirect taxes, is regressive. The indices of progressivity remained constant (−0.2) in both years. In general, the burden of finance from the general revenue is progressive.

The distribution of *private expenditure on health* is regressive. The share of the top seven deciles in total private expenditure is higher than their share in pre-tax income. The progressivity indices were −0.17 in 1997 and −0.18 in 2003. When the private finance of the package is considered, the situation is even worse. The share of the two lowest deciles is twice as high as their share of income. In 2003, after certain co-payments were introduced and others were raised in 1998, the share of this expenditure rose by threefold the share of income in total income. The progressivity indices attest to a relatively high rate of regressivity (−0.30 in 1997 and −0.33 in 2003).

Overall, the progressivity of the financing of the sickness funds' expenditure increased significantly between 1997 (KP = −0.038 and SP = −0.032) and 2003 (KP = −0.029 and SP = −0.018), in spite of the

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

Table 3
Distribution of income and sources of financing of the sickness funds' expenditures by deciles, 1997 and 2003 (%)[a]

Decile	Income	Health tax	Income tax	VAT	Private expenditure	Private finance of the package[b]
1997						
1	2.6	4.3	0.1	6.0	5.2	6.9
2	3.9	4.6	0.3	6.9	5.7	6.9
3	5.3	5.9	1.2	7.7	7.1	11.0
4	5.8	6.4	1.9	8.3	6.3	8.3
5	7.1	7.3	3.0	9.0	9.3	9.7
6	8.6	9.1	5.1	9.8	9.1	9.6
7	10.0	9.9	6.8	0.5	11.4	11.3
8	12.6	12.5	11.1	11.8	12.1	11.3
9	16.0	16.0	18.8	13.2	13.5	11.2
10	28.1	23.8	51.9	16.7	20.4	13.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
2003						
1	2.5	3.3	0.0	6.7	5.5	7.3
2	3.9	3.6	0.3	6.9	6.3	9.3
3	4.8	4.7	0.8	7.6	6.6	9.4
4	5.8	5.8	1.6	8.1	8.3	10.3
5	7.2	7.3	2.7	8.7	9.1	9.0
6	8.7	8.3	4.5	9.6	10.0	11.0
7	10.4	10.2	6.7	10.6	10.9	9.1
8	12.8	12.7	10.7	11.7	12.1	10.8
9	16.0	16.1	18.9	13.4	14.0	12.0
10	28.0	28.0	53.9	16.7	17.1	11.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

[a] The deciles were ranked by income per standardized adult. Each decile includes 10% of the population.
[b] Private expenditure on co-payments.

rise in the share of private finance. This was due to the slight increase in the progressivity of financing from the general revenue and the decline in regressivity of the health tax payments.

For comparison, the progressivity of the financing of national expenditure on health (Table 4) is lower than that of the sickness funds' expenditure, and changes over time are smaller (in 1997, KP = −0.055, SP = −0.051 and in 2003, KP = −0.049, SP = −0.043). This is mainly because of the large share (25% in 1997 and 31% in 2003) of private health expenditure in national health expenditure (recall that the cost of dental and nursing care and voluntary supplementary health insurance form part of the national health expenditure but not of the private expenditure on the package of benefits).

International comparative data from around 1990 indicate that the Israeli findings on the financing of the national health expenditure are somewhere in the mid-range of progressivity indices found in OECD countries [11]. Germany and Portugal had similar progressivity indices of about −0.05, Switzerland and the US had the most regressive finance (−0.13), and the UK, Italy and Finland had the most progressive finance (0.02–0.05), due to the high share of finance from the general revenue.

4. Trends in the composition of private out-of-pocket expenditure on health

As is clear from Sections 2 and 3, the main development in the finance of the package of benefits during the first decade of the Israeli NHIL occurred in the private expenditure on health. Below, we focus briefly on that expenditure.

According to the CBS surveys, the share of private spending on health out of total families' expenditure

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

Table 4
Progressivity of the financing of the sickness funds' expenditure and of the national expenditure on health, 1997 and 2003

Source	Weight	Kakwani index	Suits index
The sickness funds' expenditure			
1997			
General revenue	50.5	0.019	0.040
Health tax	39.9	−0.076	−0.084
Private spending	5.6	−0.290	−0.306
Parallel tax	4.0	−0.026	−0.038
Total	100.0	−0.038	−0.032
2003			
General revenue	44.6	0.022	0.049
Health tax	45.8	−0.019	−0.016
Private spending	9.6	−0.317	−0.335
Total	100.0	−0.029	−0.018
The national health expenditure			
1997			
General revenue	47.3	0.019	0.040
Health tax	27.7	−0.076	−0.084
Private spending	25.0	−0.171	−0.186
Total	100.0	−0.055	−0.051
2003			
General revenue	43.2	0.022	0.049
Health tax	26.1	−0.012	−0.017
Private spending	30.7	−0.175	−0.197
Total	100.0	−0.049	−0.043

grew from 3.7% in 1997 to 5% in 2003. For the lowest quintile, the increase was from 3.9% to 5.8% while in the top quintile—from 3.5% to 4.6%.

An examination of the composition of private expenditure on health services shows that over time, the main change was that package-related expenditures (supplementary insurance and co-payments) replaced the traditional dental and nursing care expenditures. We focused on the years 1997, 1998 (when the higher co-payments were introduced), and 2003.

While the share of private expenditure on voluntary health insurance out of total private health expenditure increased from 11% in 1997, to 14% in 1998 and 22% in 2003, and that on medicines increased from 18% in 1997, to 24% in 1998 and 22% in 2003, the shares of dental care (38% in 1997, 35% in 1998, and 31% in 2003), private medicine (16%, 14% and 12%, respectively) and other expenditures (16%, 12% and 12%, respectively) declined over time. The share of private expenditure on (the finance of) the package of services provided by the sickness funds out of total private health spending increased from 18% (excluding voluntary health insurance) and 29% (including health insurance) in 1997 to 23% and 45%, respectively in 2003.

Similar analysis by quintiles indicates that the share of private expenditure on the package of services excluding voluntary health insurance in the highest quintile increased from 14% in 1997 to 17% in 2003 and – including health insurance – from 26% to 40%. In the lowest quintile, this share increased from 22% in 1997 to 33% in 2003 and – including health insurance – from 28% to 52%. The data indicate that even though the upward trend between 1997 and 2003 is common to families in both quintiles, the increase was far steeper in the lower quintile than in the upper one, especially with regard to total expenditure on voluntary supplementary insurance. In the lowest quintile the share of this expenditure almost doubled between 1997 and 2003 (compared with an equivalent increase of about 50% in the highest quintile), with most of the rise occurring between 1997 and 1998.

5. Conclusions

In real terms (fully indexed to changes in demography, input prices and technology), the budget of the package of health benefits, which was set at NIS 12 billion in 1995, had reached NIS 35 billion in 2005. The 2005-updated budget of the package was NIS 23 billion, indicating that it had been eroded by 35%. Most of the erosion stemmed from the inadequacy of updating with regard to technological advances. Medical technological progress is widely known to improve population health and welfare [12]. Failing to update properly the package of benefits to the technological progress and other changes deprives the Israeli population from fully benefiting from a medically up-to-date NHIL system.

While this estimate of the erosion might prove somewhat exaggerated, because of possible economies to scale, cost-based reimbursement or overpayments for obsolete medical practices, it indicates substantial erosion nevertheless. The exact level of erosion – and ways to prevent it in the future – needs further examination, along with finding mechanisms for correctly measur-

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

ing the changes in the prices of inputs, the appropriate level of demographic indexation, and the way the technological factor should be taken into account. Such a research-based policy would inform the yearly political bargaining determining the size of the budget, and would render the justified debate, between those who claim for an automatic technological update and those who insist on financial and budgetary flexibility, to be more transparent and focused.

The consequences of the erosion in the "real value" of the package of benefits will be probably felt in the future. Apart from possible health deterioration and increased medical spending, the dramatic rise in the share of private financing in the expenditure of the sickness funds, as well as in financing national expenditure on health, has undermined the principles of solidarity and fairness on which the NHIL was based in 1995. While it is necessary to consider instituting new and more sophisticated mechanisms to ensure that insured persons do participate in the cost of their treatment and that waste is reduced, payments should remain progressive and fair. A possible policy direction is that the National Insurance Institute will manage means-tested "familial health co-payment accounts". Such an initiative will assure a centralized and efficient universal management of a fair co-payment system, reconciling the long-standing tension between cost-containment and equity.

The financing of the package of services was generally regressive, but with low level of regressivity. There was some decline in the level of regressivity between 1997 and 2003, in spite of the rise in the share of private expenditure in total financing. This was due in part to the increased progressivity in the financing from the general revenue as well as to the decline in regressivity in health tax payments. The NHIL is thus facing a dilemma concerning the governmental sources of finance: the earmarked health tax is too low and is not progressive, while the transfers from the general revenue are progressive, but are not-guaranteed and give the Ministry of Finance an increased control over the health system.

The financing source which had risen most sharply during the first decade was the private spending on health services. Co-payment on services included in the package of benefits rose from 6% in 1995 to 10% in 2004 of the sickness funds' expenditures. This rise reduced somewhat the actual erosion (to about 18%) of the health services budget by substituting for the government finance. Similarly, the share of private finance of the public package of services in total private out-of-pocket expenditure on health rose during the decade. Most of the increase in this expenditure occurred in the lowest income-quintile of families.

The issue of private spending on health beyond co-payments in a social health insurance system is complex. While it is part of the families' private consumption which is determined by income and preferences, it largely reflects needs unmet by the public system. The increased ownership of voluntary supplementary insurance signifies greater equality of access to services, but at the same time contributes to the regressivity of the finance. Ownership rate reaching 80% in recent years indicates the public's willingness to pay for these supplements. A policy which will expand the universal basic package to include these supplements together with a small increase in the health tax might provide social welfare beyond the burden of the increased taxation.

The Israeli NHIL was not enacted to increase insurance coverage, as the pre-NHIL coverage rate was more than 95%. Rather, the central messages of the NHIL were to increase solidarity, equality and equity in the delivery and finance of the services, to assure an appropriate level of funding, and to promote efficiency and quality in production. The findings of this review indicate that at the age of 10, the 1995 NHIL might have deviated somewhat from its original orbit. After a considerable learning-by-experience, it needs refreshment and courageous amendments in its finance in order to bring it back on track.

References

[1] Achdut L. Financing national expenditure on health in Israel: aspects of progressivity, Discussion Paper no. 3, Institute of Economic and Social Research: New General Federation of Labor; 1999 [in Hebrew].

[2] Shmueli A, Markovitz S. Price indices of national expenditure on health in Israel and updating of cost of the package of services. Social Security 2001;59:96–106 [in Hebrew].

[3] Messika D, Shmueli A. Economies to scale in the Israeli sickness funds market and their implications. Gertner Institute; 2007.

[4] Gerdtham UG, Jonsson B. In: Culyer AJ, Newhouse JP, editors. International comparisons of health expenditure. NH: Handbook of Health Economics; 2000.

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008

[5] Reinhardt UE. Does the aging of the population really drive the demand for health care? Health Affairs 2003;22:27–39.
[6] Wanless D. Securing our future health: taking a long-term view. London: HM Treasury; 2002.
[7] Gross R, Brammly-Greenberg S, Matzliach R, The public opinion on the level of service and performance of the Israeli health care system ten years after the introduction of the National health Insurance Law, JDC-Brookdale RR 487-07; 2007.
[8] Shmueli A. Israelis evaluate their health system before and after the introduction of the national health insurance law. Health Policy 2003;63:279–87.
[9] Kakwani NC. Measurement of tax progressivity: an international comparison. Economic Journal 1976;87:71–80.
[10] Suits D. Measurement of tax progressivity. American Economic Review 1997;76:747–52.
[11] Wagstaff A, van Doorslaer E. In: Culyer AJ, Newhouse JP, editors. Equity in Health care finance and delivery. NH: Handbook of Health Economics; 2000.
[12] Cutler DM. Your money, or your life. NY: Oxford University Press; 2004.

Please cite this article in press as: Shmueli A, et al., Financing the package of services during the first decade of the national health insurance law in Israel: Trends and issues, Health Policy (2008), doi:10.1016/j.healthpol.2008.02.008