

Reliability of OECD Health Statistics

Calcoen, P., Moens, D., Verlinden, P., van de Ven, W.P.M.M. and Pacolet, J. (2015). Improved estimates of Belgian private health expenditure can give important lessons to other OECD countries. *Health Policy*, **119**(3): 341–355. doi: 10.1016/j.healthpol.2014.07.008

ABSTRACT

OECD Health Data are a well-known source for detailed information about health expenditure. These data enable us to analyse health policy issues over time and in comparison with other countries. However, current official Belgian estimates of private expenditure (as published in the OECD Health Data) have proven not to be reliable. We distinguish four potential major sources of problems with estimating private health spending: interpretation of definitions, formulation of assumptions, missing or incomplete data and incorrect data. Using alternative sources of billing information, we have reached more accurate estimates of private and out-of-pocket expenditure. For Belgium, we found differences of more than 100% between our estimates and the official Belgian estimates of private health expenditure (as published in the OECD Health Data). For instance, according to OECD Health Data private expenditure on hospitals in Belgium amounts to €3.1 billion, while according to our alternative calculations these expenses represent only €1.1 billion. Total private expenditure differs only 1%, but this is a mere coincidence. This exercise may be of interest to other OECD countries looking to improve their estimates of private expenditure on health.

2.1. INTRODUCTION

Health data have a central role to play in supporting stewardship and decision-making by both policy makers and other stakeholders (Poullier *et al.*, 2002a; Forde *et al.*, 2013; Rosenthal and Smith, 2014). OECD Health Data are a well-known source for detailed information about health expenditure. Since all OECD member states have to adhere to OECD's 'System of Health Accounts', OECD Health Data are being produced within the same framework by every member state (Orosz and Morgan, 2004). OECD Health Data are used to analyse health policy issues over time and in comparison with other countries (Oderkirk *et al.*, 2013; Gerkens and Merkur, 2010; Keep, 2011). The results of these analyses can have far-reaching policy implications. OECD Health Data contain information, e.g. on health status, the number of health care providers and health care facilities, and on expenditure on health, both public and private. In this paper we focus on private expenditure on health including out-of-pocket expenses.

OECD Health Data on private and out-of-pocket expenditure on health are important for the different stakeholders in the health care system. For government and policy makers it is important to know how much and what kind of care is being financed privately, and for determining whether there might be problems with the accessibility of care. Data on private and out-of-pocket expenditure are also indispensable for health insurers, both basic and additional health insurers. Basic health insurers need to be able to measure the effects of their reimbursement policy, while insurers offering additional health insurance need as detailed information as possible about their potential market, constituted of privately paid care. Finally, practitioners and patients need comprehensive clarification of the costs to be borne by the patient, since treatment decisions may well be influenced by cost issues.

We distinguish four potential major sources of problems with estimating private health spending: interpretation of definitions, formulation of assumptions, missing or incomplete data and incorrect data.

The aim of this paper is to compare official Belgian estimates of private health expenditure (as published in the OECD Health Data) with alternative estimates. Current official Belgian estimates of private health expenditure (as published in the OECD Health Data) are not reliable mainly because hard data on private expenditure are not transparent. Using alternative sources of billing information, we have reached more accurate estimates of private and out-of-pocket expenditure. This approach may serve for some OECD countries to re-examine their sources and methodologies. For other countries, it may be irrelevant.

<p>Definitions</p> <ul style="list-style-type: none"> - Health insurance: <ul style="list-style-type: none"> o Basic health insurance: mandatory universal health insurance, organised by the National Institute for Health and Disability Insurance (NIHDI)¹⁵ and the sickness funds; o Additional health insurance: both private insurance companies and sickness funds offer voluntary additional health insurance; - Private expenditure on health: sum of co-payments and supplements (see Fig. 1); <ul style="list-style-type: none"> • Services covered by basic health insurance: <ul style="list-style-type: none"> • Co-payment¹⁶ = official tariff minus reimbursement by basic health insurance; • Supplement = total fee minus official tariff ('supplemental fee')¹⁷; o Services not covered by basic health insurance: <ul style="list-style-type: none"> • Supplement = total fee ('supplemental service'); o In this article, the three definitions are being used: 'supplemental fee', 'supplemental service' and 'supplement' (covering both supplemental fees and supplemental services). o Belgium 2010: €9316 million private expenditure on health¹⁸ = €1854 million co-payments¹⁹ + €7462 million supplements; - Out-of-pocket expenditure on health: private expenditure on health minus reimbursement by additional health insurance and minus reimbursement by non-profit institutions and corporations. Belgium 2010²⁰: €9316 million private expenditure on health = €1519 million additional health insurance + €51 million non-profit institutions + €18 million corporations + €7728 million out-of-pocket expenditure on health.
--

Total fee for service covered by basic health insurance		
Official tariff		Supplement (supplemental fee)
Reimbursement	Co-payment	
Total fee for service NOT covered by basic health insurance		
Supplement (supplemental service)		

Fig. 1. Definition of supplements (De Graeve *et al.*, 2007).

2.2. FOUR POTENTIAL MAJOR SOURCES OF PROBLEMS WITH ESTIMATING PRIVATE HEALTH SPENDING

We distinguish four potential major sources of problems with estimating private health spending: interpretation of definitions, formulation of assumptions, missing or incomplete data and incorrect data.

15 Rijksinstituut voor ziekte- en invaliditeitsverzekering (RIZIV) / Institut national d'assurance maladie-invalidité (INAMI).

16 We use the term 'co-payment' to refer to co-payments and co-insurance. Both are cost-sharing arrangements which require the individual covered to pay part of the cost of care. A co-payment is a fixed fee (flat rate) per item or service; in case of co-insurance the patient pays a fixed proportion of the total cost.

17 'Extra billing' and 'balance billing' are also being used for health care providers billing patients more than what the insurer pays for their services.

18 OECD Health Data 2013, figures for 2010.

19 Source: NIHDI.

20 OECD Health Data 2013, figures for 2010.



2.2.1. Interpretation of definitions

Since its publication in 2003, the OECD Manual 'A System of Health Accounts' (SHA) provides a common standard for data collection by the statistical offices (Schneider et al, 2010). SHA establishes a conceptual basis of statistical reporting rules and proposes a newly developed International Classification for Health Accounts (ICHA) which covers three dimensions: health care by functions of care (what kind of services and what types of goods are purchased?); providers of health care services (where does the money go to?); and sources of funding (where does the money come from?). The proposed accounts are designed to meet the needs of analysts of health care systems and policymakers. They provide a common framework for enhancing the comparability of data over time and across countries. OECD states that they are intended for use in international comparisons that include a broad range of countries with different ways of organising health care and its financing (OECD, 2000).

In 2011, an updated version of the OECD SHA Manual has been published (version 2.0). Version 2.0 has already been incorporated in the data submissions of some countries. So far, version 1.0 has been used for the Belgian submissions.

A narrow or broad interpretation of the definitions listed in SHA can give a totally different result in terms of private or out-of-pocket expenditure on health. This can lead to problems when comparing different countries. Private expenditure on homes for the elderly can illustrate this problem.

In Belgium, there are two types of homes for the elderly: homes for individuals requiring extended nursing care ('nursing homes')²¹ and homes for individuals requiring limited care ('rest homes')²². For the Belgian figures, the choice has been made to include private expenditure for the first type of homes but not for the second type. There are two problems with this approach. First, although the SHA category 'nursing care facilities'²³ indeed is limiting its scope to 'individuals requiring nursing care', private expenditure on rest homes could be allocated to the SHA category 'community care facilities for the elderly'²⁴. This category addresses 'persons unable to fully care for themselves and/or unwilling to live independently'. Second, in the OECD Health Data for Belgium, public expenditure on both types of homes for the elderly has been taken into account. However, so far as private expenditure is concerned, only nursing homes have been taken

21 'Maisons de repos et de soins' (MRS)/'Rust- en verzorgingstehuizen' (RVT).

22 'Maisons de repos pour personnes âgées' (MRPA)/'Rustoord voor bejaarden' (ROB).

23 HP2.1 : SHA classification of expenditure on health by provider ('Health Provider').

24 HP2.3.

into account.²⁵ The question can be raised whether including only public expenditure on rest homes and not private expenditure does not result in an inconsistency between public and private expenditure on health. This example illustrates a problem with the interpretation of the SHA boundaries.

2.2.2. Formulation of assumptions

Certain assumptions are being made for the calculation of private expenditure on health and for the allocation of total private expenditure to the different (sub)sectors. A proxy can be used if no exact information is available. Items can be deducted or added in order to produce a more coherent picture.

It is important for these assumptions and methods to be transparent. Only when assumptions are transparent can they be criticised and improved. In this respect, we have had an excellent working relationship with the Belgian Federal Public Service Social Security responsible for producing the Belgian figures for the OECD Health Data.

An example can clarify this point. According to Belgian National Accounts, household consumption on health amounted to €10397 million in 2010 (= private expenditure on health). This amount needs to be allocated to the different functions and providers of SHA. National Accounts' estimates need some adaptations in order to be fit for use within the SHA framework.

A first limitation of National Accounts' estimates of household consumption is their not taking into account specific transfers from government to households for financing health care. Therefore, in order to avoid double counting, several amounts have to be deducted from the €10.4 billion. Payments made by the Flemish long term care insurance²⁶ and by the federal state²⁷ are deducted since they constitute income transfers from government to households (together €737 million). It is assumed that households spend these transfers completely on the consumption of health care services.

Secondly, co-payments (€2035 million), reimbursement by additional health insurance (€1519 million) and the money granted by the social fund of the Belgian Railways (€18

25 It has been argued that medical care in rest homes being limited, private expenditure in rest homes -i.e. the 'lodging' component (bed and meals)- cannot be taken into account, according to the SHA manual.

26 Flemish long term care insurance (€280 million) ('Vlaamse zorgverzekering').

27 'Allocation pour l'aide aux personnes âgées/Tegemoetkoming voor hulp aan bejaarden' (€454 million); 'Hulp van derden/Aide d'une tierce personne' (€3 million).

million) are to be deducted for it is known how these payments have to be allocated to the different health care functions and providers (together €3572 million).²⁸

Finally, the remaining amount, €6088 million, is allocated to the different functions and providers using co-payments charged in basic health insurance as the distribution key.

An important problem with this methodology is that most of these deductions are made from the total figure, €10.4 billion, and not from the figure for the sector the deduction is pertaining to. The way private expenditure on homes for the elderly is calculated, can illustrate this point. Actually, only the money paid to institutionalised elderly by government, by the Flemish community²⁹ and by the federal state³⁰ should be deducted from the National Accounts' estimate for private expenditure on homes for the elderly (along with 9% deducted for 'general expenses' in elderly care). Although co-payments for nursing home services are almost non-existent and additional health insurance is not reimbursing homes for the elderly, a proportional part of total co-payments and of total reimbursement by additional health insurance has been deducted from the National Accounts' figure for private expenditure on homes for the elderly, resulting in an important underestimation -about one third- of private expenditure on homes for the elderly.

Another problem with using co-payments as the distribution code for supplements is that there is not always a proportional relationship between co-payments and supplements. Certain (sub)sectors have large co-payments but only small supplements while other (sub)sectors are characterised by large supplements and (almost) no co-payments.

In 2010, OECD published a Health Working Paper with best practices of calculation techniques and recommendations on how to estimate private expenditure on health (Rannan-Eliya and Lorenzoni, 2010). National Accounts' figures on household consumption can be a starting point for the calculation of private expenditure on health but adjustments need to be made because of sampling and non-sampling errors.

2.2.3. Missing or incomplete data

Detailed information about private expenditure on health is not always readily available since most sources of information are private and data are usually not collected at an aggregate level.

²⁸ Source: Belgian Federal Public Service Social Security.

²⁹ Flemish long term care insurance (€111 million) ('Vlaamse zorgverzekering').

³⁰ 'Allocation pour l'aide aux personnes âgées/tegenwoordiging voor hulp aan bejaarden' (€318 million).

Private expenditure refers to expenditure by private financing agents which consist of four types: corporations, households, private health insurance schemes, and non-profit institutions serving households (Rannan-Eliya, 2010). In Belgium, the role of non-profit institutions (€51 million) and corporations (€18 million) is very limited. As already stated, additional health insurance is financing €1.5 billion and €7.7 billion is being paid out-of-pocket by the households.³¹

Detailed information from additional health insurance sources is available but often not publicly accessible. Additional health insurance covers private expenses. With 74% of the Belgian population being covered by additional health insurance,³² extrapolation of data from additional health insurance can give a good estimate of private expenditure on health.

Question is if and how information from additional health insurance sources can be made publicly available? In many countries, a multitude of actors is active in the field of additional health insurance. Therefore, the collection of data at an aggregate level could be very useful. However, question is whether complete transparency might disturb fair competition amongst private insurers? This could especially be the case in a market with one large insurer and several smaller players. In such a market, detailed information from the large insurer might be very helpful for the smaller players. If data were collected at an aggregate level, the competition issue would be less important. Maybe, the professional associations of private insurers could collect all data and publish them at an aggregate level without revealing the contribution of the different insurers.

Detailed information on private and out-of-pocket expenditure can also be obtained from professional associations of providers and from the industry (e.g. industry market data on retail sales of pharmaceuticals, vision products and hearing aids). Problem with these sources is that the data often are not publicly available but only on demand. Here too, the competition issue is the main reason for the lack of transparency.

Examples of missing data in the Belgian market are the figures on private expenditure for psychologists and dietitians. No aggregate data are available. The professional associations have made an estimate based on the number of providers, the average number of sessions and the average fee charged. According to this methodology, we get a total

³¹ OECD Health Data 2013 (figures for 2010).

³² In 2010, out of a total of 11 million Belgians, 5,4 million carried a voluntary additional health insurance with a private insurance company and 2,7 million with a sickness fund (*sources*: 'Assuralia' [trade organization of insurance companies active in Belgium], Control Office for the Sickness Funds ['Controledienst voor de ziekenfondsen/Office de contrôle des mutualités']).

of €230 million private expenditure on self-employed, registered clinical psychologists and of €60 million on self-employed dietitians in Belgium.

Incomplete data can also be a source of error. An example from the Belgian market are vision products. The official OECD Health Data figures list €3 million as private expenditure on vision products. This figure pertains solely to co-payments for vision products that are reimbursed by basic health insurance (€23 million). Figures on total turnover in the market of vision products are not publicly available. Information from the industry learns that total turnover amounts to €475 million. This is a good example of how lack of information can result in distorted results.

The above mentioned 2010 OECD Health Working Paper No. 52 lists a number of issues where reporting may be difficult and proposes certain estimation techniques to fill data gaps.

2.2.4. Incorrect data

Incorrect data are the final type of problems. Normally, this type of problems will not be very common. Creating transparency can avoid this problem since people will notice mistakes and report them.

Sometimes, incorrect data can be a result of dated information. It is therefore important to update sources on a regular basis. For instance, for the production of the Belgian figures for private expenditure on homes for the elderly, a ratio of 40% nursing homes and 60% rest homes has been used. However, in 2010, there were 49.4% nursing homes. Since in the OECD Health Data only private expenditure on nursing homes has been taken into account, the ratio applied results in an underestimation of private expenditure on homes for the elderly.

As part of the routine data submissions to the OECD, countries are asked to submit a metadata file to identify data sources, breaks in series, data gaps and estimation techniques. The content of the metadata files is published in the OECD data base.

2.3. RELIABILITY OF ESTIMATES OF PRIVATE HEALTH SPENDING: BELGIUM AS A CASE STUDY

2.3.1. OECD Health Data

Health expenditure data are being collected, validated and published in a joint effort by OECD, WHO and Eurostat. These organisations do not produce any health expenditure

estimates themselves. Estimates are submitted under the responsibility of the national authorities. For Belgium, estimates on health expenditure are being produced by the Belgian Federal Public Service Social Security.³³ In this paper, we analyse the reliability of these estimates, which are being produced by the Belgian authorities and published by the OECD Health Data.

So far, there is no legal obligation for countries to produce health data. By 2016, it will be mandatory for European Union member states to submit a well-defined set of health expenditure aggregates.

2.3.2. SHA framework

In Belgium, as in most OECD countries, publicly available information about private expenditure on health is limited. Therefore, many countries need to turn to different kinds of sources, ranging from public administration data to surveys. Within the Belgian SHA framework, estimates of private expenditure on health are based on National Accounts' estimates on the one hand and public administration data on the other hand. National Accounts' estimates of household consumption of health care and long term care services are a central reference for the Belgian approach.

The Belgian figures for the OECD Health Data are not based on household budget surveys. It is a well-known problem that data from surveys on private and out-of-pocket expenditure on health are prone to measurement errors (Heijink *et al.*, 2011; Xu *et al.*, 2009).

National health accounts (NHA) are a powerful tool that can be used to improve the capacity of decision makers to identify health sector problems and opportunities for change and to develop and monitor reform strategies (Berman and Cooper, 1995).

The United States introduced the concept of Health Accounts formally in 1966, followed by France in 1972. The OECD began to use the concept in a few countries in 1976 (Poullier *et al.*, 2002b). The first table of expenditure on health for the member states of the World Health Organization (WHO) was reported in annex 8 of the World Health Report 2000 (figures for 1997) (World Health Organisation, 2000).

The framework for WHO's NHA reporting is based on the System of National Accounts (SNA) of the United Nations (Poullier *et al.*, 2002b). OECD too states that methodological

³³ Federale Overheidsdienst Sociale Zekerheid/Service Public Fédéral Sécurité Sociale. This study has been made in close collaboration with this agency.

compatibility with SNA accounting rule is a prerequisite for health accounts meeting the basic requirements of comparability over time, between countries and with overall economic statistics (OECD, 2000).

Schneider holds that from a macroeconomic perspective, the indicators presented by SHA are incomplete. Health Satellite Accounts (HSA), which are fully integrated into SNA, should be able to answer questions such as: What is the gross value added of the health economy? What is the productivity of the branches of the health economy? What are the import and export flows and as a result the trade surplus (Schneider *et al.*, 2010)? However, SHA version 2.0 (2011) enables countries to measure -among other things- total health workforce, value added of health providers and the export and import of medical goods and services.

In order to reduce the burden of data collection for the national authorities and to increase further harmonisation across national health accounting practices, as of 2006 there is a joint OECD-Eurostat-WHO SHA data collection based on a joint questionnaire. Advantages of this joint effort are the decrease of the burden of data reporting and the publication of consistent figures. It is important to note that WHO, Eurostat and OECD are aware that the estimates of private expenditure on health vary in their reliability across countries and categories, depending on the availability and quality of national information (Poullier *et al.*, 2002b). Estimating private expenditure, and specifically out-of-pocket spending, continues to present difficulties in many countries and is typically the largest source of error in estimates of national health spending (Mohanty and Srivastava, 2013; Chawla *et al.*, 1998). The estimation difficulties not only frequently undermine the credibility of the health accounts, with the result that policy-makers may doubt the validity of the resulting policy implications, but also make international comparisons extremely problematic (Rannan-Eliya, 2010).

2.3.3. Alternative calculations based on billing information

In order to review OECD Health Data's estimates for Belgium, we have been using publicly available information as well as information from professional associations and companies.

Every year, Christian and Socialist sickness funds publish a study about private expenditure on hospitals. 'Assuralia', the trade organisation of insurance companies active in Belgium, publishes data -not always publicly available but available for its members- on expenditure by additional health insurance. The same goes for the 'Office of control of the sickness funds' ('Office de contrôle des mutualités/Controledienst voor de ziekenfondsen'). Several professional associations and companies -mostly market leaders

within their sector- have provided us with figures about their sector (e.g. dietitians, dermatologists, ophthalmologists, psychologists, 'Pearle'³⁴ for optical glasses and other vision products; 'Lapperre'³⁵ for hearing aids). Finally, we have been able to use data from 'DKV Belgium'³⁶, the market leader for private additional health insurance.

Unfortunately, this information is not always readily available for the state agencies producing health accounts or household consumption estimates. This poses a problem. The methodological framework for the data collection for the OECD Health Data does not exclude alternative calculations. On the contrary, transparency of methodology should encourage data sources to be identified. However, methodologies must be robust such that data are consistently available to the authorities over time and meet the definitions and quality criteria.

For the alternative calculation of private expenditure on health, we have been using the same framework and definitions used by the Belgian Federal Public Service Social Security, producing the official Belgian figures for the OECD Health Data (SHA version 1.0). The important differences between the alternative calculation and the official Belgian figures can be explained by the different data sources and estimation techniques used.

2.3.3.1. Supplemental fees

Information about supplemental fees in hospitals is more easily available, as supplemental fees in hospitals are regulated and subject to limitations based on the type of room. Sickness funds have detailed billing information from hospitals (including information on the supplemental fees charged).

This is not the case for supplemental fees charged in an ambulatory setting. We have been able to search the databases of 'DKV Belgium' for information on these ambulatory supplemental fees.³⁷ About 20% of what 'DKV Belgium' reimburses, pertains to ambu-

34 Pearle is the Belgian market leader for vision products (www.pearle.be).

35 Lapperre is the Belgian market leader for hearing aids (www.lapperre.be).

36 Deutsche Krankenversicherung Belgium ('DKV Belgium'), a private insurance company, is the market leader in Belgium for additional health insurance (www.dkv.be). About 1.8 million Belgians have taken out an additional health insurance contract with 'DKV Belgium'.

37 For the alternative calculation of private expenditure for providers of ambulatory health care, we have been using figures about supplemental fees coming from 'DKV Belgium'. We are aware of the fact that there may be some bias as to these figures. People carrying additional health insurance may be less price-sensitive and health care providers knowing that a patient is additionally insured may charge higher prices. However, contrary to hospital care, additional coverage for ambulatory care is not widespread in Belgium. Providers of ambulatory health care generally do not take into account the possibility that a patient might be carrying additional coverage for ambulatory care. Anyway, there are no hard data available about higher prices being charged for ambulatory care for patients carrying additional health insurance. Additional health insurers try to reduce upward pressure on prices by certain measures such

latory care. Supplemental fees are charged by physicians, dentists and other health practitioners such as physiotherapists. A supplemental fee is a supplement for a service, charged by the practitioner on top of the official tariff set out by basic health insurance.

Sickness funds do not systematically have this information about supplemental fees at their disposal, since practitioners are not obliged to give information on supplemental fees to the sickness funds and are indeed reluctant to do so.

We have been using information from 1143257 services billed for ambulatory care and sent to 'DKV Belgium' for reimbursement in 2012 and 2013 (with among others 747,000 acts referring to physicians, 87000 to dentists and 142000 to physiotherapists).

We have used the available information on supplemental fees to calculate private expenditure on ambulatory care provided by physicians, dentists and other health practitioners. Supplemental fees are expressed as a percentage of reimbursement by basic health insurance. Therefore, we have multiplied these percentages with total reimbursement by basic health insurance.

Supplemental fee percentages represent a weighted average of a certain (sub)sector. Every (sub)specialism has a supplemental fee percentage. For calculating the average of a group of (sub)specialisms the weight of each (sub)specialism has been taken into account.

2.3.4. Official Belgian estimates (as published in the OECD Health Data) versus alternative calculations

We have made a comparison of current official Belgian estimates of private health expenditure (as published in the OECD Health Data) with estimates based on alternative sources and calculations.

In order to analyse private health expenditure estimates, we applied the methodology of the International Classification of Health Accounts: sources of funding (HF) and providers of health care services and goods (HP) giving an insight in where the money comes from (HF)³⁸ and where the money goes to (HP)³⁹.

as co-payments and price negotiations with providers. We assume that the upward pressure of additional health insurance on supplemental fees is limited (certainly so far as ambulatory care is concerned). Anyway, it might be recommended to consider these percentages of supplemental fees for ambulatory health care as 'ceiling' percentages, real supplemental fees possibly being lower.

38 HF: 'health financing', expenditure on health by source of funding.

39 HP: 'health provider', expenditure on health by provider.

We will be focusing on some of the most significant differences between the official estimates (as published in the OECD Health Data) and the alternative calculations based on billing data from the health care sectors: general hospitals (HP.1.1), nursing care facilities (homes for the elderly) (HP.2.1) and community care facilities for the elderly (HP.2.3), all other residential care facilities (residential care for the disabled) (HP.2.9), offices of other health practitioners (such as physiotherapists and psychologists) (HP.3.3) and vision products (HP.4.2).

Estimates for the other providers are listed in Table 1.

Unless otherwise specified, all figures pertain to the year 2010.

2.3.4.1. Hospitals: €1.1 billion versus €3.1 billion (Table 1)

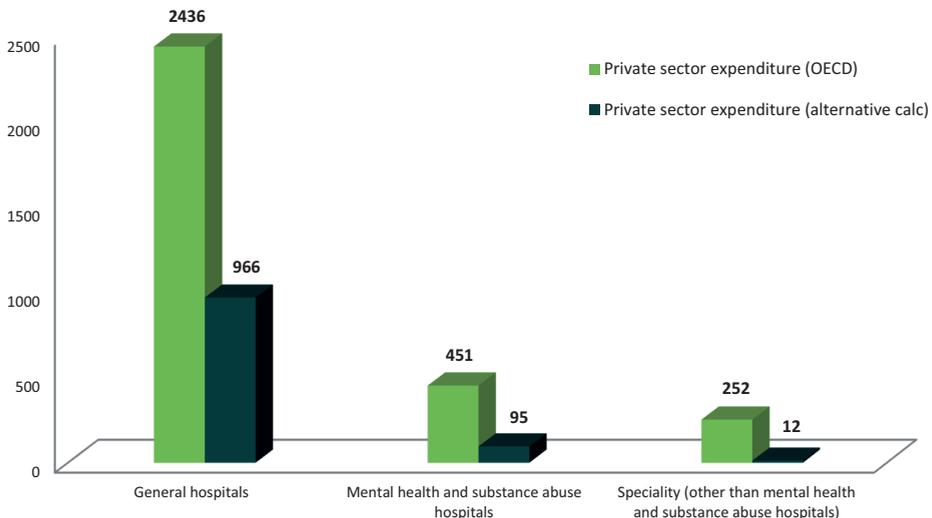


Fig. 2. Private expenditure in hospitals in Belgium 2010 (million €).

2.3.4.1.1. General hospitals⁴⁰

According to OECD Health Data private expenditure amounted to €2436 million in 2010 (Fig. 2).

However, a study of hospital bills is putting forward a figure of €966 million only (Fig. 2). Every year, Christian and Socialist sickness funds, together representing 71.3% of Belgian population, publish a study on private expenditure on inpatient care in general hospitals (Christelijke Mutualiteit, 2011; Socialistisch Ziekenfonds, 2011). An extrapolation

⁴⁰ HP.1.1.

of their findings to the entire population results in private expenditure on general hospitals totaling €946 million and €985 million respectively.⁴¹ The somewhat lower figure of the Socialist sickness fund might be explained by the socio-economic profile of the members of the Socialist sickness fund being lower than that of the Christian sickness fund, probably resulting in less supplemental fees being charged. Conclusion is that private expenditure on inpatient care in general hospitals amounted to an average of €966 million in 2010 (including €119 million for day care).

According to OECD Health Data, out-of-pocket expenditure in general hospitals represented €1611 million in 2010. This figure is in strong contradiction with the following calculus. Additional health insurance provided by private insurance companies reimbursed a total of €508 million⁴² of private expenditure in general hospitals. Additional health insurance provided by sickness funds reimbursed a total of €201 million.⁴³ Thus -in general hospitals- private expenditure (€966 million) minus reimbursement by additional health insurance (€709 million) equals €257 million out-of-pocket expenditure.

2.3.4.1.2. Mental health and substance abuse hospitals⁴⁴

In Belgium, psychiatric hospitals take care of mental health and substance abuse problems. In 2010, private expenditure for psychiatric hospitals totaled €95 million (alternative calculation)⁴⁵, compared to €451 million listed in the OECD Health Data (Fig. 2).

2.3.4.1.3. Specialty hospitals⁴⁶

OECD Health Data for 2010 reported €252 million private sector expenditure on specialty hospitals⁴⁷, and €92 million general government expenditure. The calculation of the private expenditure figure is based on the National Accounts' data for private household

41 In 2010, the Christian sickness fund covered 41.8% of the Belgian population and the Socialist sickness fund 29.5% (source: NIHDl).

42 In 2010, payments by additional health insurance provided by private insurance companies represented €635 million. With about 20% of this figure pertaining to ambulatory health care and psychiatric hospitals, €508 million is related to general hospitals. Source: 'Assuralia' (trade organisation of insurance companies active in Belgium).

43 Figure for 2009. We estimate that 80% of payments made by additional health insurance provided by sickness funds pertain to general hospitals (80% of €251 million). Source: Control Office for the Sickness Funds, annual report 2010.

44 HP.1.2.

45 In 2010 there were approximately 3.8 million hospital days in psychiatric hospitals (source: Belgian Federal Public Service for Public Health. FOD Volksgezondheid, veiligheid van de voedselketen en leefmilieu, directoraat-generaal organisatie van de gezondheidszorgvoorzieningen (2011). Organisatie en financiering van de geestelijke gezondheidszorg in België). Standard co-payment per hospital day amounted to approximately €20 in 2010 (source: NIHDl). Supplements for a private room varied from €5 to €50 per day in 2010 (source: 'DKV Belgium'). Since private rooms are not that common in psychiatric hospitals, we assume €25 private expenditure per hospital day to be a fair estimate.

46 HP.1.3.

47 E.g. the multiple sclerosis clinic in Melsbroek or the Belgian Sea Institute for Orthopedics in Ostend.

expenditure on hospitals and assimilated care. In our alternative calculations, private expenditure on revalidation taking place in general hospitals (= the bulk of revalidation) is comprised in the figure for general hospitals. Since no other data are available, we assume that private expenditure in specialty hospitals resembles private expenditure in general hospitals.⁴⁸ This benchmark gives us an estimate of €12 million private expenditure on specialty hospitals (compared to the €252 million listed in the OECD Health Data).

2.3.4.1.4. Conclusion

Based on effective billing practices in hospitals, we propose an estimate of €1073 million private expenditure instead of the €3139 million listed in the OECD Health Data. The high figure originates from National Accounts' overestimation of private expenditure in hospitals. Uncertainty remains, however, as to the reasons for this overestimation. Erroneous assumptions in the calculations based on National Accounts' data may be an important factor (e.g. possibly double counting of reimbursement by additional health insurance). The inclusion of non-health care related expenditure constitutes another potential source of error.

2.3.4.2. Nursing and residential care facilities: €2.0 billion versus €0.4 billion (Table 1)

When comparing OECD Health Data estimates with our own estimates, major differences come to light. These dissimilarities can be explained by the nature of available data on health-related household consumption, as well as by the methodological choices made. We will look at the differences more closely here.

2.3.4.2.1. Nursing care facilities (nursing homes for the elderly)⁴⁹

Data on public and private expenditure for 'nursing care facilities' listed in the OECD Health Data for Belgium refer to homes for the elderly only.

In Belgium, there are two types of homes for the elderly: homes for individuals requiring extended nursing care ('nursing homes')⁵⁰ and homes for individuals requiring limited care ('rest homes')⁵¹.

48 In general hospitals, the ratio of private expenditure to public expenditure is 13.17% (€966 million/€7332 million). When applying this ratio to specialty hospitals we get a total of €12 million private expenditure. Co-payments for specialty hospitals amounted to €4 million in 2010. In general hospitals, co-payments represent approximately 36% of total private expenditure. When applying this ratio to specialty hospitals, we get a total of €11 million private expenditure.

49 HP.2.1.

50 'Maisons de repos et de soins' (MRS)/'Rust- en verzorgingstehuizen' (RVT).

51 'Maisons de repos pour personnes âgées' (MRPA)/'Rustoord voor bejaarden' (ROB).

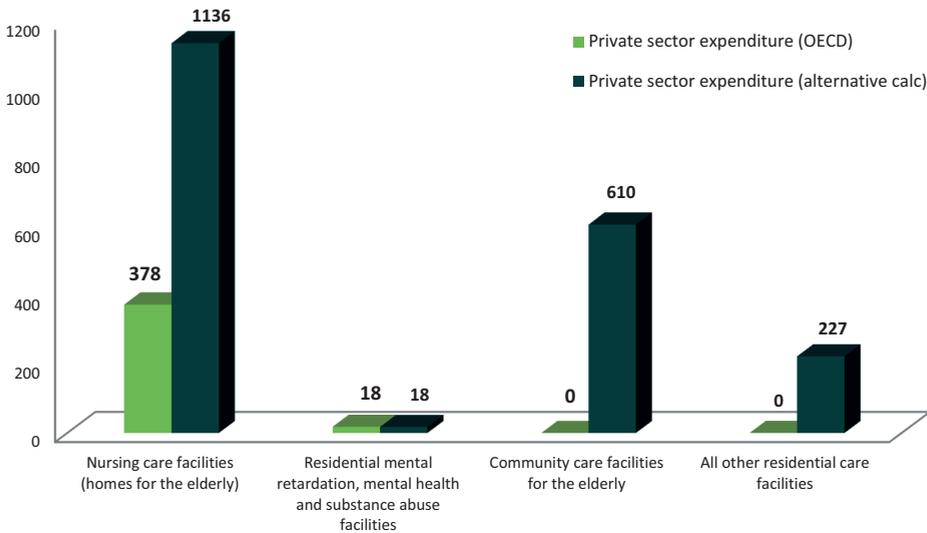


Fig. 3. Private expenditure in nursing and residential care facilities in Belgium 2010 (million €).

National Accounts' data indicate that, in 2010, private expenditure on homes for the elderly totaled €2391 million. 9% of this total is deducted for 'general expenses' in homes for the elderly (hairdresser, etc.). If we deduct this 9%, as well as the money transferred to institutionalised elderly by government⁵², we get a total of €1747 million private expenditure on inpatient long term care for the elderly.

However, OECD Health Data are listing only €378 million (Fig. 3).

The difference can be explained by the methodology applied for the production of the OECD Health Data for Belgium. Although co-payments are practically non-existent in homes for the elderly, a proportional part of total co-payments in Belgian health care has been deducted from the National Accounts' figure for private expenditure on homes for the elderly. This is the first reason why the OECD figure is an underestimation (when comparing with total private expenditure on homes for the elderly).

52 Transfer by the Flemish community (Flemish long term care insurance; 'Vlaamse zorgverzekering') (€111 million): in 2010, 71412 people got a monthly allowance of €130 for residential care (total: €111402720) (cf. <http://www.zorg-en-gezondheid.be/Cijfers/Vlaamse-zorgverzekering/Lopende-dossiers-tenlastenemingen/> [accessed 10.02.14]). Transfer by the federal state ('allocation pour l'aide aux personnes âgées / tegemoetkoming voor hulp aan bejaarden') (€318 million): OECD Health Data state that 70% of the allowance for aid to the elderly is going to residential care. In 2010, €317.8 million out of a total of €454.2 million can be allocated to residential care. (cf. <http://www.handicap.fgov.be/sites/handicap.fgov.be/files/explorer/nl/overzicht-cijfers-2010.pdf> [accessed 10.02.14]).

The second reason is that, for the OECD Health Data, only private expenditure on nursing homes for the elderly⁵³ is considered to be expenditure on health. Expenditure on rest homes for the elderly⁵⁴ is not being considered expenditure on health, based on the assumption that the medical component is limited since patients staying in rest homes require little or no nursing care. Private expenditure covers mainly the 'lodging' component of a stay in a home. SHA methodology states that, in contradiction to hospital stays, where the 'lodging' (bed and meals) is to be included in health expenditure figures, 'lodging' cost in homes only is to be considered as health expenditure in so far as the provision of health care exceeds the provision of so-called 'social' care. In Belgium, the choice has been made to only include private expenditure on nursing homes for the elderly in the OECD Health Data for Belgium, due to the relative importance of 'medical' care provided in nursing homes as opposed to rest homes.

The third reason concerns the number of nursing home beds. OECD Health Data apply a ratio of nursing home beds representing 40% of total beds in homes for the elderly, whereas this ratio is on the rise and attained 49.4% in 2010.⁵⁵

When we have a look at the degree of dependency of residents in nursing homes for the elderly, we find that 34% is moderately dependent (category B) and 66% is highly dependent (category C or Cd) (48% being demented residents) (Fig. 4, left column). In rest homes, 36% is completely independent (category O), but the other 64% is physically or mentally dependent (32% low dependent and 31% moderately and highly dependent) (Fig. 4, right column).⁵⁶ With 64% of the residents in rest homes being dependent, there is a strong argument against the view that only private expenditure in nursing homes should be included in OECD Health Data and not private expenditure in rest homes. Including private expenditure for the moderately and highly dependent in the OECD Health Data for Belgium might also be in line with using the (Instrumental) Activities of Daily Living criteria (IADL) to distinguish between 'health care' and 'social care' (OECD, 2000).

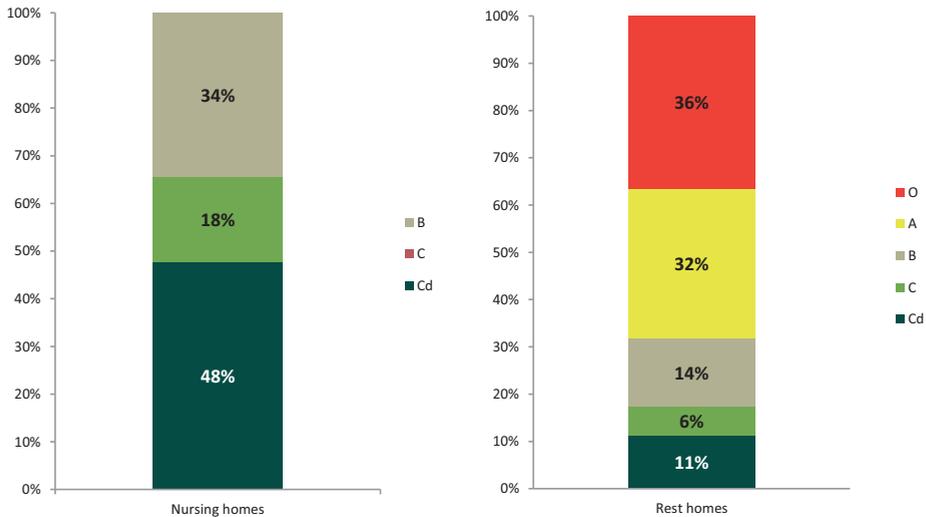
Contrary to the €378 million OECD Health Data figure, on this basis, we calculate €862 million for private expenditure on 'inpatient long term nursing care' for the elderly (when considering only nursing homes). When adding up the medium and high dependent staying in rest homes, we get €1136 million (Fig. 3).

53 'Maisons de repos et de soins' (MRS)/'Rust- en verzorgingstehuizen' (RVT).

54 'Maisons de repos pour personnes âgées' (MRPA)/'Rustoordn voor bejaarden' (ROB).

55 In 2010, 61966 patients stayed in a nursing home bed and 63596 in a rest home bed. Source: NIHDI.

56 Source: NIHDI, situation on May 31, 2010.



- O - Physically and mentally completely independent
- A - Physically dependent for bathing and/or dressing, or
- Mentally dependent (disoriented in time and space), but physically completely independent
- B - Physically dependent for bathing, dressing, transfers and/or toilet visits or,
- Mentally dependent (disoriented in time and space) and physically dependent for bathing and/or dressing
- C - Physically completely dependent (bathing, dressing, transfers, toilet visits, feeding and/or incontinence)
- Cd - Physically and mentally completely dependent (dementia)

Fig.4. Degree of dependency of residents in homes for the elderly in Belgium 2010 (NIHDI)

Since moderately and highly dependent residents are staying in nursing homes and as nursing homes are fully taken into account for producing the OECD Health Data figures for Belgium, we would suggest taking into account as well the moderately and highly dependent residents in rest homes.

Conclusion is that instead of the €378 million listed in the OECD Health Data, we put forward a figure of €1136 million for private expenditure on nursing care facilities for the elderly (Fig. 3). The discrepancy between the two figures is due to the interpretation of definitions, the formulation of assumptions and the use of incorrect data.

2.3.4.2.2. Community care facilities for the elderly (rest homes)⁵⁷

In 2010, independent or low dependent residents in rest homes for the elderly spent a total of €610 million on private expenditure.⁵⁸. Pursuant to the SHA definition, we

⁵⁷ HP2.3.

⁵⁸ €1.747 billion (total private expenditure on inpatient long term care for the elderly) minus €1.136 billion (private expenditure on nursing care facilities for the elderly).

believe that elderly staying in homes but needing only little assistance, could rightfully be categorised under 'community care facilities for the elderly'. Given the argumentation above, while OECD Health Data are listing €0 for this item, in our view, €610 million private expenditure should be added (Fig. 3).

2.3.4.2.3. Residential care for the disabled⁵⁹

In the OECD Health Data for Belgium, public expenditure on 'all other residential care facilities' comprises residential care for the disabled and medical care in prisons. Since data on private expenditure on health in prisons is lacking, we are left with no choice but to limit our 'alternative' calculations to private expenditure on residential care for the disabled. Aggregate figures on private expenditure on residential care for the disabled not being available, we have made an estimation, based on partial, publicly available figures.⁶⁰ Actually, we estimate that private expenditure totaled €227 million in 2010.⁶¹ As a matter of fact, this total is only taking into account the official co-payments⁶² born by the disabled. Expenditure for care not provided by government has not been taken into account. While OECD Health Data are listing €0.3 million for this item, we suggest €227 million to be listed in 2010 for private expenditure on residential care for the disabled (Fig. 3).

2.3.4.3. Offices of other health practitioners: €0.7 billion versus €0.2 billion (Table 1)

According to OECD Health Data, total expenditure on providers of ambulatory health care⁶³ amounted to €2991 million in 2010 while alternative calculations resulted in a total of €3420 million (Table 1). Fig. 5 provides us with a detailed overview. Alternative calculations show that private expenditure represented €1243 million for physicians, €592 million for dentists, €293 million for medical and diagnostic laboratories (medical imaging and clinical biology) and €82 million for providers of home health care (nursing). In this context, it is appropriate to focus on the 'offices of other health practitioners'⁶⁴, health practitioners other than physicians and dentists (e.g. physiotherapists, psychologists, dietitians).

59 HP.2.9: 'all other residential care facilities'. In the OECD Health Data for Belgium, public expenditure on 'all other residential care facilities' comprises residential care for the disabled and medical care in prisons.

60 Question nr. 114 in Flemish Parliament on 6 December 2012 (<http://www.vlaamsparlement.be/Proteus5/showSchriftelijkeVraag.action?id=761812> [accessed 10.02.14]); Zorgregierapport 31 december 2010 (<http://www.vaph.be/vlafo/view/nl/464335-Zorgvragen.html> [accessed 10.02.14]); Eigen financiële bijdrage VAPH 2010 (<http://www.vaph.be/vlafo/view/nl/3994560> [accessed 10.02.14]).

61 This estimation has been validated by the authorities (cf. e-mail dd. May 30, 2013, Ritje Pauwels, advisor Flemish Minister Jo Vandeurzen).

62 'Eigen financiële bijdrage'.

63 HP.3.

64 HP.3.3.

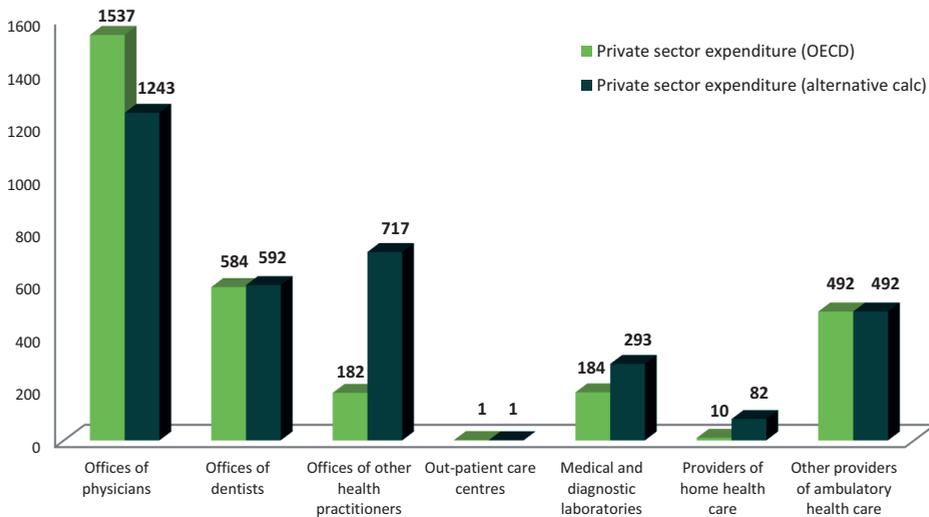


Fig. 5. Private expenditure for providers of ambulatory health care in Belgium 2010 (million €).

OECD Health Data give us a figure of €182 million for private expenditure on ambulatory health care provided by health practitioners, other than physicians and dentists, in 2010 (Fig. 5).

We performed a calculus based on data from basic health insurance (NIHDI) and from additional health insurance ('DKV Belgium'). It should be emphasised that -to a large extent- these 'other health practitioners' cover activities not reimbursed by basic health insurance. Publicly available information about these activities is therefore limited.

Public expenditure represented €987 million in 2010 (Fig. 6).⁶⁵

Private expenditure consists of co-payments and supplements. On the one hand, there are supplements linked to care that is covered by basic health insurance ('supplemental fees'). On the other hand, there are supplements for care that is not covered by basic health insurance ('supplemental services').

2.3.4.3.1. Co-payments

According to basic health insurance data, in 2010, the total sum of co-payments to be allocated to 'other health practitioners' amounted to €150 million (Fig. 6).

⁶⁵ For our estimates, we have transferred 'psychotherapy' from HP3,3 to HP3,1 ('Offices of physicians'), since this particular type of psychotherapy is being provided solely by psychiatrists. The result of this transfer is a decrease of €73 million public expenditure on HP3,3 together with a decrease of €13,5 million co-payments.

2.3.4.3.2. Supplemental fees

On average, other health practitioners charge 7.6% supplements (weighted average) for care covered by basic health insurance.⁶⁶ This results in a total amount of €75 million supplemental fees (Fig. 6).⁶⁷

2.3.4.3.3. Supplemental services

The estimates for private expenditure on traditional, complementary and alternative medicine ('TCAM'), provided by other health practitioners -mainly by physiotherapists-working in an ambulatory setting, amounted to about €146 million in 2010 (Fig. 6). This sum consists of €6.4 million for homeopathy, €22.2 million for acupuncture, €90.1 million for osteopathy and €27.6 million for chiropractic.⁶⁸

Consultations with self-employed, registered clinical psychologists are not reimbursed by basic health insurance in Belgium. According to the Belgian Federation of Psychologists⁶⁹, private expenditure for psychologists represented approximately €230 million in 2010 (Fig. 6).⁷⁰

Consultations with self-employed dietitians are only exceptionally reimbursed by basic health insurance.⁷¹ The Flemish Professional Association of Dietitians supports the figure of €58.9 million of private expenditure on dietary advice for the Belgian market (Fig. 6).⁷²

We assume other private expenditure for care not covered by basic health insurance could be estimated at 5% of public expenditure plus co-payments (Fig. 6) (e.g. TCAM other than homeopathy, acupuncture, osteopathy and chiropractic; services by podologists, physiotherapists, speech therapists not reimbursed by NIHDI). Five percent might indeed be a fair approximation, given the fact that private expenditure for psychologists, dietitians and homeopathy, acupuncture, osteopathy and chiropraxy has been calculated separately.

66 Source: 'DKV Belgium' (cf. '3.2. Alternative methodology').

67 $7.6\% \times \text{€}987 \text{ million}$.

68 Estimate based on reports nr. 148, 153 and 154 of the Belgian Health Care Knowledge Center (KCE) and on the Belgian Health Interview Survey 2008 ('Enquête de Santé/Gezondheidsenquête 2008').

69 'Fédération Belge des Psychologues/Belgische Federatie van Psychologen' (FBP/BFP).

70 Approximately 5000 self-employed, registered clinical psychologists are active in Belgium. Many self-employed psychologists have another, day time job (as an employee). With on average 20 sessions per week and an average cost for the patient of €50 per session, we have a turnover of approximately €230 million on ambulatory psychotherapy provided by self-employed, registered clinical psychologists (46 weeks activity per year).

71 A limited number of consultations is reimbursed by NIHDI in case of diabetes or chronic kidney failure.

72 Approximately 1000 self-employed dietitians are active in Belgium. Average cost per consultation: €50 for the first (and second) consultation, €25-€30 for follow-up consultations. $1000 \text{ FTE dietitians} \times 40 \text{ consultations per week} (8 \text{ consultations at } \text{€}50 \text{ and } 32 \text{ consultations at } \text{€}27,5) \times 46 \text{ weeks per year} = \text{€}58.9 \text{ million}$.

2.3.4.3.4. Conclusion

While OECD Health Data are listing €182 million private expenditure on ambulatory care provided by other health practitioners, we have calculated a total of €717 million (Fig. 5). The difference pertains mainly to care not covered by social security and for which publicly available information is rather scarce ('missing or incomplete data').

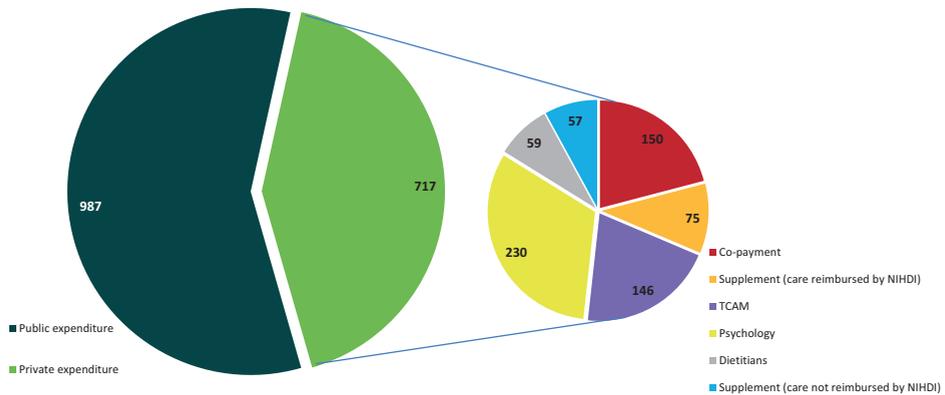


Fig. 6. Private expenditure for other health practitioners (e.g. physiotherapists, psychologists, dietitians) in Belgium 2010 (alternative calculations) (million €)

2.3.4.4. Medical goods: €2.6 billion versus €2.5 billion

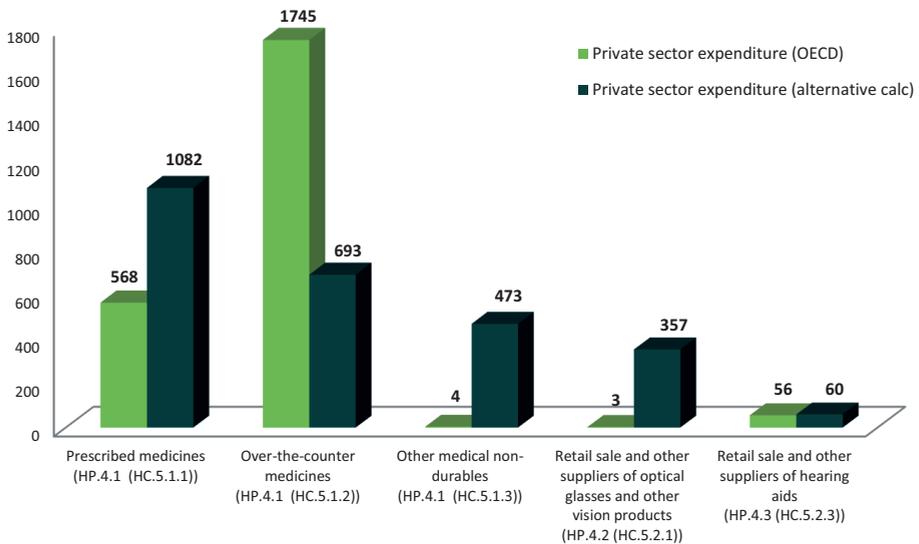


Fig. 7. Private expenditure on medical goods in Belgium 2010 (million €).

2.3.4.4.1. Pharmaceuticals⁷³

OECD Health Data give us a figure of €2434 million for private expenditure on health in pharmacies in 2010 (HP.4.1). Consumption of pharmaceutical products through other retail selling channels (e.g. bandages in supermarkets) is not included in this estimate, due to a lack of information.

According to the Belgian Association of Pharmacists⁷⁴, private expenditure on ambulatory medicines totaled €1775 million in 2010 (prescribed medicines 1082 million⁷⁵, over-the-counter medicines €693 million) (Fig. 7).

Private expenditure on para-pharmaceutical products ('other medical non-durables') amounted to €946 million.⁷⁶ Some of these para-pharmaceutical products are health care related and some are not. We assume 50% of them to be health care related (€473 million) (e.g. bandages, incontinence articles).

Due to missing data and interpretation of definition problems, OECD Health Data's allocation to the different categories of pharmaceuticals is not correct (Fig 7, first three columns).

2.3.4.4.2. Vision products⁷⁷

According to alternative billing information, private expenditure on glasses and other vision products represented €357 million in 2010,⁷⁸ where OECD Health Data are listing €2.6 million only (Fig. 7). The reasons for this discrepancy are missing data and the assumption that private expenditure for vision products can be adequately calculated using co-payments (amounting to merely €1 million for vision products).

73 So far as pharmaceuticals are concerned, we will also be using the ICHA-HC classification (expenditure on health by function) since this classification allows for a more detailed analysis (i.e. distinction between prescribed medicines, OTC medicines and other medical non-durables): HC.5.1.

74 'Association Pharmaceutique Belge/Algemene Pharmaceutische Bond (APB)'

75 Co-payments on prescribed medicines reimbursed by basic health insurance representing €499 million and not reimbursable prescribed medicines €583 million.

76 Source: 'Association Pharmaceutique Belge/Algemene Pharmaceutische Bond' (2011).

77 HP.4.2.

78 In 2010, total turnover in the market of vision products was €475 million. This market can be split up in glasses (50%), spectacle frames (30%), contact lenses (10%) and sunglasses and other vision products (10%) (source: 'Pearle'). When assuming one third of the expenditure for spectacle frames to be 'luxury expenditure' and deducting this 10% together with the 10% expenditure on sunglasses and other vision products, we get a turnover of €380 million. When deducting €23 million public expenditure we get a total of €357 million private expenditure on glasses and vision products.

2.4. DISCUSSION

OECD Health Data are a well-known source for detailed information about expenditure on health. These data are an important tool for analysing health policy issues over time and in comparison with other countries. This study has made clear that current official Belgian estimates of private health expenditure (as published in the OECD Health Data) are not reliable. We have distinguished four potential major sources of problems with estimating private health spending: interpretation of definitions, formulation of assumptions, missing or incomplete data and incorrect data.

As an alternative for the current OECD Health Data for Belgium, we have used reliable billing information to calculate private expenditure on health. Such billing information is not always publicly available. For Belgium we find differences of more than 100% between the OECD Health Data and our estimates, both underestimations and overestimations. For instance, according to OECD Health Data private expenditure on hospitals amounts to €3.1 billion, while according to our alternative calculations based on billing information these expenses are only €1.1 billion. An overview of our results is given in Table 1.

In 2010, total private expenditure on health in Belgium amounted to €9.3 billion according to OECD Health Data and €9.4 billion according to alternative calculation. The fact that the two figures for total private expenditure are almost identical, is a mere coincidence. When we look at the composition of total private expenditure, we notice important differences. However, these differences are not interdependent. E.g. private expenditure on hospitals (€3.3 billion versus €1.1 billion) does not affect private expenditure on homes for the elderly (€400 million versus €1.7 billion). Allocating €2 billion less to hospitals and €1.3 billion more to homes for the elderly cannot be considered communicating vessels.

Reliable figures about private expenditure on health are important for the different stakeholders in the health care system. In many countries, OECD Health Data on private expenditure provide stakeholders with relevant information about e.g. out-of-pocket expenses and access to care, and can have important policy implications. However, based on these data stakeholders may come to wrong conclusions and wrong policies. For example, policy makers in Belgium might overestimate the 'problem' of accessibility of hospital care; and additional health insurers might believe there still to be huge market opportunities, while additional health insurance covering hospital costs in fact is a saturated market. Another example is homes for the elderly. The OECD Health Data state that private expenditure on homes for the elderly in Belgium represents about

€400 million, with alternative calculations providing us with a figure of €1.7 billion. This kind of figures may be important for governments deciding upon investing or not in higher pensions for instance.

This raises the question how the reliability of data on private expenditure can be improved. So far as the interpretation of definitions and the formulation of assumptions is concerned, creating transparency and stimulating critical analyses can lead to more consistent data. In 2008 Pacolet published a study on the application of the System of Health Accounts in Belgium (Pacolet and Borghgraef, 2008). He suggested a methodology to be implemented, resulting -for 2003- in total expenditure on health amounting to 11.1% of GDP and private expenditure on health totaling 30,4%. For the same year 2003, the methodology applied for the OECD Health Data 2013 resulted in total expenditure on health amounting to 10.0% of GDP and private expenditure on health totaling 24,8%. Pacolet proposed to include additional health care costs into the OECD Health Data, especially relating to homes for the elderly. In the current OECD Health Data for Belgium, this large definition has not been followed. Similar interpretation problems exist in accounting. The Financial Accounting Standards Board (FASB), a seven member independent board, develops standards for accounting and reporting in the United States, the generally accepted accounting principles (GAAP). The FASB sets out to improve corporate accounting practices by enhancing guidelines set out for accounting reports, identifying and resolving issues in a timely manner and creating a uniform standard across the financial markets.

As for missing, incomplete or incorrect data, drilling new sources of information may help to find new, reliable data. Some sources are publicly available.⁷⁹ Unfortunately, several sources used in this study are not -readily- publicly available, making it hard for public agencies to adjust their estimates. Ideally, agreements about the recurrent delivery of crucial figures could be made between the owners of these sources and the national statistical authorities producing the health data (e.g. for medical goods such as vision products and pharmaceuticals). Additional health insurers have data on private expenditure and reimbursement by additional health insurance. It should be possible to create a certain level of transparency, at least for the national statistical authority that produces the health data. Within the context of this study, the collaboration between experts from public agencies and health insurers has proven fruitful and may lead to future improvements of the OECD Health Data estimates for Belgium. A major problem is the care that is not reimbursed, not by basic nor by additional health insurance. Here,

79 E.g. Christian and Socialist sickness funds' annual study on hospital costs.

Table 1. Expenditure on health by provider and source of funding: OECD Health Data versus alternative calculations (Belgium 2010) (million €).

	General government expenditure (OECD)	Private sector expenditure (OECD)	Private sector expenditure (alternative calculations)
Hospitals	8612	3139	1073
General hospitals	7332	2436	966
Mental health and substance abuse hospitals	1188	451	95
Specialty (other than mental health and substance abuse hospitals)	92	252	12
Nursing and residential care facilities	4238	397	1991
Nursing care facilities (<i>homes for the elderly</i>)	2344	378	1136
Residential mental retardation, mental health and substance abuse facilities	109	18	18*
Community care facilities for the elderly	0***	0	610
All other residential care facilities	1784	0	227
Providers of ambulatory health care	8766	2991	3420
Offices of physicians	3240	1537	1243
Offices of dentists	770	584	592
Offices of other health practitioners	987	182	717
Out-patient care centres	278	1	1*
Medical and diagnostic laboratories	1471	184	293
Providers of home health care	1242	10	82
Other providers of ambulatory health care	778	492	492*
Retail Sale and other providers of medical goods	3764	2459	2627
Dispensing chemists (pharmacies)	3731	2434	2248
(Pharmaceutical and other medical non-durables - HC.5.1)	(3735)**	(2317)**	(2248)**
Retail sale and other suppliers of optical glasses and other vision products	23	3	357
Retail sale and other suppliers of hearing aids	0	20	20*
(Hearing aids - HC.5.2.3)	(45)**	(56)**	(60)**
Retail sale and other suppliers of medical appliances (other than optical goods and hearing aids)	10	2	2*
All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods			
Provision and administration of public health programs	874		
General health administration and insurance	1501	331	331
Other industries (occupational health care / private households)	333	0	0
Total general government expenditure / Total private sector expenditure	28088	9316	9442
Total expenditure		37404	37530
Total private sector expenditure (% of total expenditure)		24.9%	25.2%

* When no alternative data are available, OECD figures for private expenditure are being used.

** Figures for HC.5.1 and HC.5.2.3 have not been used to calculate total expenditure.

*** General government expenditure on community care facilities for the elderly is comprised in general government expenditure on nursing care facilities (*homes for the elderly*).

it would be very helpful if professional associations would publish consistent, yearly updated data on utilisation and financing of the care provided by their members.

OECD, Eurostat and WHO are well aware of the issue of the (un)reliability of data on private and out-of-pocket expenditure on health. Eurostat might soon launch a survey with its member states to make an inventory of all sources of out-of-pocket expenditure.⁸⁰

2.5. CONCLUSION

Reliable information on private expenditure on health is important. Private expenditure and especially out-of-pocket expenditure can have a negative impact on the accessibility of health care. Figures on private and out-of-pocket expenditure are a crucial starting point when examining the accessibility of certain (sub)sectors of health care (Frenk *et al.*, 2006). However, current official Belgian estimates of private health expenditure (as published in the OECD Health Data) are not reliable mainly because hard data on private expenditure are not transparent. Using some alternative sources of billing information, we have reached more accurate estimates of private and out-of-pocket expenditure. This approach may serve for some OECD countries to re-examine their sources and methodologies. For other countries, it may be irrelevant. Rannan-Eliya holds that out-of-pocket expenditure on health has proved to be one of the components with least reliability in most health accounts (Rannan-Eliya, 2010). OECD, WHO and Eurostat have taken and are taking several initiatives to improve the reliability of private health expenditure data. In the next editions of the OECD Health Data, some of the Belgian figures for private expenditure on health will be adapted according to the findings of this study.

Disclosure statement

There are no conflicts of interest to report.

Acknowledgements

The authors gratefully acknowledge the comments made by the two anonymous reviewers.

REFERENCES

Berman PA, Cooper DM. User's manual. National Health Accounts; 1995. [Preface].

80 Source: Belgian Federal Public Service Social Security.

- Chawla M, Berman P, Kawiorska D. Financing health care in Poland: new evidence on private expenditure. *Health Economics* 1998;7(4):337–46.
- Christelijke Mutualiteit, Barometer van de ziekenhuisfactuur, 1 December 2011 (figures for 2010) (http://www.cm.be/binaries/Zevende%20CM-barometer%20van%20de%20ziekenhuisfactuur_tcm375-102230.pdf [accessed 10.02.14]).
- De Graeve D, Lecluyse A, Schokkaert E, Van Ourti T, Van de Voorde C. Personal contribution for health care in Belgium. Impact of supplements. Brussels: KCE Reports 50A; August 2007.
- Forde I, Morgan D, Klazinga NS. Resolving the challenges in the international comparison of health systems: the must do's and the trade-offs. *Health Policy* 2013;112:4–8.
- Gerkens S, Merkur S. Belgium: health system review. *Health Systems in Transition* 2010;12(5):1–266.
- Heijink R, Xu K, Saksena P, Evans D. Validity and comparability of out-of-pocket health expenditure from household surveys: a review of the literature and current survey instruments. Geneva: World Health Organisation; 2011.
- Keep M. Health expenditure: international comparisons. House of Commons United Kingdom 2011: standard note SN/SG/2584.
- Mohanty SK, Srivastava A. Out-of-pocket expenditure on institutional delivery in India. *Health Policy and Planning* 2013;28:249.
- Oderkirk J, Ronchi E, Klazinga NS. International comparisons of health system performance among OECD countries: Opportunities and data privacy protection challenges. *Health Policy* 2013;112:9–18.
- OECD, A system of health accounts (version 1.0); 2000.
- Orosz E, Morgan D. SHA-based national health accounts in thirteen OECD countries: a comparative analysis. *OECD Health Working Papers* No. 16. OECD; 2004.
- Pacolet J, Borghgraef M. Gezondheidszorgrekeningen in België; 2008 [HIVA, nr. 1223].
- Poullier JP, Hernandez P, Kawabata K (2002a). National health accounts: concepts, data sources and methodology. *WHO/EIP/02.47*; 2002.
- Poullier JP, Hernandez P, Kawabata K, Savedoff WD (2002b). Patterns of global health expenditures: results for 191 countries. World Health Organisation; November 2002.
- Rannan-Eliya RP. Estimating out-of-pocket spending for national health accounts. World Health Organisation; 2010.
- Rannan-Eliya RP, Lorenzoni L. Guidelines for improving the comparability and availability of private health expenditures under the system of health accounts framework. *OECD Health Working Papers* No. 52. OECD; 2010.
- Rosenthal MB, Smith LE. Health care spending by high-income countries, 1980–2011. *The New England Journal of Medicine* 2014;370(January (5)):e7. Interactive perspective: http://www.nejm.org/action/showMediaPlayer?doi=10.1056%2FNEJMp1310228&aid=NEJMp1310228_attach_1&area=&& [accessed 20.02.14].
- Schneider M, Krauss T, Hofmann U, Köse A. Foundations, methodology, and selected results of a satellite account for the German health economy, 2005. Augsburg, Germany: BASYS; June 2010.
- Socialistisch Ziekenfonds, Ziekenhuisbarometer, October 2011 (figures for 2010).
- World Health Organisation. World Health Report 2000. Health Systems. Geneva: World Health Organisation; 2000.
- Xu K, Ravndal F, Evans DB, Carrin G. Assessing the reliability of household expenditure data: results of the World Health Survey. *Health Policy* 2009;91(3):297–305.