

What does a GP consultation cost?

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SUMMARY

Background. Demand for information regarding the cost-effectiveness of health care treatment options is growing. It is necessary to derive unit costs for services, such as general practice (GP) consultations, in order to inform the economic evaluation.

Aim. To review the literature, provide a description of the three key steps that should be followed in the costing process and to provide a method for updating costs calculated in previous years.

Method. A literature search was carried out to identify references that specifically describe the cost of a consultation in general practice. A total of 20 references were extracted, categorized and reviewed. A cost-price index for health care goods was obtained from the British Medical Association and used to construct a table to allow rapid reference and updating of cost results. The costs reported in the literature were updated and compared.

Results. Twenty published studies referring to the unit cost of a GP consultation were located in the searches. Half of these did not describe the methodology used to derive the costs; of those that did, less than half covered the necessary steps to derive unit costs. The cost of an average 10-minute consultation in 1995/96 figures was estimated to be £6.90 ± 2.73.

Conclusion. Great variation exists regarding the methodology for costing a GP consultation. If the methods used are stated explicitly and incorporate the three steps described, then results obtained in previous years may be updated using the cost-price index as shown (Table 1). Interpretation in this area must be made with caution.

Keywords: cost-effectiveness; consultations.

Introduction

THE past decade has witnessed an increased demand for information about the cost and cost-effectiveness of treatment options, whether they be in the hospital or community care setting. A large literature has grown describing the nature and methodology of undertaking such evaluation.¹⁻⁴ An essential part of any cost-effectiveness study is to apply unit costs to the services used in the provision of treatment options, e.g. inpatient hospital days, laboratory tests, consultations with health professionals, etc. In the search for such information, however, many researchers have found that there is a lack of standardized methodology. We look at one area, the costing of general medical practitioner (GP) consultations in the United Kingdom, and highlight the variability of the methods used. For the purpose of this review, the term 'consultation' refers to the one-to-one interview held by a general medical practitioner with a patient within

the UK National Health Service at surgery premises during dedicated hours.

For the economist, the true cost of a service is the value of the best alternative forgone in order to provide it, i.e. the notion of opportunity cost. Using resources to provide one service will mean giving up the chance to use them in other areas as well as forgoing the benefits that alternative uses could have provided. In practice, existing market prices are used to reflect opportunity costs unless there is a strong suggestion that such prices are distorted or where there is no market at all, e.g. housewives' services, volunteers and leisure time. In some cases, an imputed value is attached to such items. Before critically reviewing the literature on GP consultations, it is important to distinguish between the different type of costs relevant to health care and to identify the three steps involved in calculating costs.

Two types of costs stem from the concept of opportunity cost: direct costs and indirect costs. Direct costs are defined as the costs of prevention, diagnosis, treatment, rehabilitation and terminal care. Indirect costs relate to lost productivity and earnings.

Three steps should be followed when estimating the total cost of a GP consultation. First, all the relevant inputs associated with GP activities should be identified, i.e. the consultation itself, administration, buildings, materials, etc. Secondly, the volume of resources should be measured, e.g. length of consultations in minutes, square metres of building space, etc. It is worth noting that not every single last item that contributes to the overall cost need be measured accurately; it is considered to be good practice to measure accurately those items that contribute most significantly to the total cost and to estimate the value of other, less important items. Finally, resources should be valued using, where possible, prevailing market prices, e.g. staff wages.

Methods

An extensive search of the literature from 1984 to 1995, using both MEDLINE and BIDS EMBASE, was carried out, coupled with a general enquiry sent out via the Internet to all members of the UK Health Economics Study Group, and personal enquiries. MEDLINE was searched using full text searching for the terms 'general practice' near 'cost'; BIDS EMBASE was searched for words in the title abstract or keywords that included 'consultation+cost+general practice'. The searches yielded links to 20 references that specifically described the cost of a consultation in general practice.

Categorization of references. All papers located in the search were categorized according to whether or not they reported methodology associated with the derivation of the cost of a consultation.

Overview of methodological content. The papers with methodological content were assessed to see whether the relevant inputs were appropriately identified, measured and valued.

Derivation of a conversion table for the updating of results of costs from previous years. A health care cost-price index was provided by the British Medical Association's Economic Research Unit.⁵ This information is based on monthly averages of the movement of prices in the health sector and is designed to reflect the retail price index for each financial year. A UK health care cost-price index table was produced which facilitated the quick conversion of figures from one year to another to bring previously published figures up to date and to aid comparisons

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between studies (Table 1).

Updating and comparison of results. Estimates of GP consultation costs were entered into a table (Table 2) and updated to 1995/96 figures using the health care cost-price index described above (Table 1).

Results

Categorization of references

Of the 20 papers located, nine did not specifically address the methodology involved in the calculation of cost per consultation,⁶⁻¹⁴ while 11 included methodological content (Table 3).¹⁵⁻²⁵ Six of these 11 studies did not satisfy the three steps necessary for calculating unit costs described earlier.

Overview of methodological content

Three of the studies included indirect costs in their estimate. In five cases, the authors used the annual report of the Review Body on Doctors' and Dentists' Remuneration (DRBB)²⁶ as a source.

Nine of the 11 studies stated the year of calculation that was used.

In total, the 11 studies provided 14 separate estimates for a 10-minute GP consultation. The mean cost per 10-minute consultation expressed in terms of 1995/96 figures = £6.90 ± 2.73 (i.e. a standard deviation of 40%) using the results of all 11 studies; using the figures from the studies that clearly incorporated the three steps described earlier,^{15-17,22} this value equals £7.78 ± 2.45.

Discussion

This paper, based on a review of the literature, demonstrates that there is a substantial variability in the methodology regarding the cost of a GP consultation. Furthermore, a number of studies that included GP costs did not describe how they calculated their estimates. Hughes¹⁵ arrived at similar findings in a review paper published 5 years ago. It would appear, therefore, that since then remarkably little progress has been made. Indeed, a recent source⁷ quoted the cost of a GP consultation based on fees for

Table 1. Health care cost-price index.

From Financial year	Cost – price index	Percentage change to financial year									
		1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96
86/87	97.4	0.00	5.24	9.45	15.20	23.51	31.52	37.68	39.84	40.86	45.38
87/88	102.5	-4.98	0.00	4.00	9.46	17.37	24.98	30.83	32.88	33.85	38.15
88/89	106.6	-8.63	-3.85	0.00	5.25	12.85	20.17	25.80	27.77	28.71	32.83
89/90	112.2	-13.19	-8.65	-4.99	0.00	7.22	14.17	19.52	21.39	22.28	26.20
90/91	120.3	-19.04	-14.80	-11.39	-6.73	0.00	6.48	11.47	13.22	14.05	17.71
91/92	128.1	-23.97	-19.98	-16.78	-12.41	-6.09	0.00	4.68	6.32	7.10	10.54
92/93	134.1	-27.37	-23.56	-20.51	-16.33	-10.29	-4.47	0.00	1.57	2.31	5.59
93/94	136.2	-28.49	-24.74	-21.73	-17.62	-11.67	-5.95	-1.54	0.00	0.73	3.96
94/95	137.2	-29.01	-25.29	-22.30	-18.22	-12.32	-6.63	-2.26	-0.73	0.00	3.21
95/96	141.6	-31.21	-27.61	-24.72	-20.76	-15.04	-9.53	-5.30	-3.81	-3.11	0.00

Table 2. Estimates of cost per consultation.

Ref. no.	Year of calculation ^a	Quoted cost ^b (£)	Cost (pence/min) (x)	Percentage correlation (y)	1995/96 cost (£) per average 10-minute consultation ^c
15	1991	4.30/10 min	43	17.71	5.06
		7.56/10 min	75.6	17.71	8.90
		6.11/10 min	61.1	17.71	7.19
16	1985	44.84/h	74.7	> 45.38	>10.86
17	90/91	2.97/10 min	29.7	17.71	3.49
		7.26/10 min	72.6	17.71	8.55
		8.31/10 min	83.1	17.71	9.78
18	1992	NA	NA	NA	NA
19	1989/90	17.78/20 min	88.9	26.20	11.22
		1.07 follow up	10.7	26.20	1.35
20	1989/90	0.597/min	59.7	26.20	7.53
21	1991/92	0.597/min	59.7	10.54	6.60
		5.55/9.3 min			
22	1995	0.84/min	84	0.00	8.40
		16.00/9.3 min			
23	1988	6.07/10 min	60.7	38.15	8.38
24	1988	2.20/10 min	22	38.15	3.04
25	1987	1.60/5 min	32	45.38	4.65

^aIf converting from a single year, e.g. 1989, the factor from 1988/89 was used. ^bWhere the cost of an average consultation was quoted, it was assumed to be of 10 minutes duration, unless otherwise stated. ^cEquals [(10x x y/100) + 10x]/100.

Table 3. Summary of studies reviewed.

Reference	Publication year	Type of costs*	Source of information	Year of calculation
15	1991	a b c d e f	Not stated	N
16	1989	a b c d e f g	HPSS ^{27†}	Y
17	1991	a b c d e f g	Practice records	Y
18	1992	a b c d e f	DDRB ^{26‡}	Y
19	1992	a b c d e f	Not stated	Y
20	1989	a b c d e f	DDRB	Y
21	1992	a b c d e f	DDRB	Y
22	1995	a b c d e f	DDRB	Y
23	1990	Not stated	Not stated	Y
24	1988	Not stated	Not stated	N
25	1990	a	DDRB for 1987	Y

*Types: (a) GP income; (b) heating; (c) lighting; (d) admin; (e) buildings; (f) materials; (g) indirect costs. †Health and Personal Social Services Statistics (HPSS). ‡Review Body on Doctors' and Dentists' Remuneration (DDRB).

GPs engaged in non-National Health Service activities that had been obtained from the British Medical Association.

Approximately half of the studies reviewed used fees taken from the report published annually by the Review Body on Doctors' and Dentists' Remuneration²⁶ to estimate cost per consultation. Although this information is easily obtained, it can be misleading.

The fees outlined in the report include additional payments over and above the basic allowances received by GPs and, as Hughes¹⁵ points out, they do not accurately reflect the resources used in the provision of GP services. As was stated earlier in the paper, three steps should be followed when calculating the cost of a GP consultation to give the most accurate estimate, i.e. all the relevant resources should be identified, measured and valued.

Given that, as yet, there is no established methodology for estimating the cost of a GP consultation, the results of studies including such information should be interpreted with caution. It is important to look below the surface and to assess the degree to which estimates reflect the actual resources used in the provision of GP services.

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