Description of Day Case Costs and Tariffs of Cataract Surgery From a Sample of Nine European Countries

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Abstract

Background

The lack of transparency in the methodology of unit cost estimation and the usage of confidential or undisclosed information prevents cost comparison and makes the transferability of the results across countries difficult. The objective of this article is to compare the methodologies used in the estimation of the cost of a day case cataract extirpation that are described in the official sources.

Methods

A semi-structured questionnaire regarding information on costing methodologies was developed and sent to consortium partners. Additionally, publicly available sources of unit cost of cataract surgery of nine European countries were searched and analysed.

Results

The findings showed a considerable diversity across countries on unit costs varying from 432.35€ in Poland (minor degree of severity) to 3,411.96€ in Portugal (major degree of severity). In addition, differences were found in the frequency of updating the costs and on the level of detail of different types of cataract surgery. The unit of activity were Diagnosis-Related Groups in all countries except Slovenia. All unit costs include direct costs and variable overheads (except Germany where nursing costs are financed separately). Differences in unit costs across countries may be driven by fixed overheads. Methodological documents explaining the identification, measurement and evaluation of resources included in the unit costs with exception of England are not publicly available.

Conclusions

We can conclude that while unit costs of cataract extirpation are publicly available, the information on methodological aspects is very scarce. This appears to pose a significant problem for cross-country comparisons of costs and transferability of results from one country to another.

Background

Cataract is the leading cause of blindness worldwide and the second leading cause of visual impairment. It causes the opacity of the eye lens leading to blurred or reduced vision. It can lead to blindness if leaved untreated. The only effective intervention is a surgical operation that involves the removal of the blurred lenses and subsequent implantation of a lens(1). All of this means that the cataract operation represents a significant health and economic impact, both in direct and indirect costs(2).

Regarding evaluation of health technologies, the economic evaluation is one of the major tools for evaluation and reimbursement of technologies where outcomes and costs are considered. The lack of transparency in the methodology of unit cost estimation and the usage of confidential or undisclosed information prevents cost comparison, which, in turn, makes the transferability of the results across countries difficult. Therefore, for several years there is growing concern about the methodological aspects of the evaluation of health technologies, especially those related with the estimation of costs. As a result, the European Commission (Horizon 2020) funded the project IMPACT-HTA, which pursued the aim of understanding the variation of costs across European countries. The objective of this article is to compare the different methodologies used in the estimation of the cost of cataract extirpation that are described in the official sources.

Methods

In order to enable a response to the goal set, the combination of two approaches was proposed. In the first stage, a literature review was carried out by consulting databases such as PubMed and Scopus in order to identify articles estimating the cost of cataract extirpation and that was published after 2005 (being economic evaluations or methodological articles) and written in English, Spanish and French. We used the following search strategy: (cataract AND Cost and cost analysis"[MeSH] AND Europe). It is worth mentioning that the literature search was verified by a librarian with an extensive experience in the field of public health.

In the second stage, a semi-structured questionnaire was sent to key people from study countries, all of them participating on different work packages of the IMPACT-HTA project. The questionnaire was approached by the iterative process, based on the literature and the European project HealthBASKET(3). The questionnaire was tested by piloting among and revised several times after receiving feedback from different cost experts. It has 17 items grouped in 8 dimensions (Appendix), all of them were especially designed for obtaining information on cost-accounting methodologies used in the estimation of costs of healthcare services. The time of completion was 30 minutes approximately. It should be noted that the questionnaire had a glossary of terminology and examples previously published(4) in order to clarify all the concepts used and to avoid errors. Finally, after integrating all the information obtained both from the questionnaires and through the literature search, it was returned to the project partners for its validation.

All possible project partners were contacted via email that included a brief explanation of the questionnaire. The confidentiality was ensured. According to the technical proposal of the project, no ethical approval was required, since we were not dealing with patient information data.

Results

The literature review retrieved 54 articles; five of them utilized the publicly available official databases. From these, one article used the English national tariff database, the French national cost database (ENC), the German national Diagnosis-Related Group (DRG) tariffs and the Italian national DRG tariffs, three articles used the English Reference cost database and the remaining article used the French national cost database (ENC) (Table 1).

Table 1
Results of the literature search. Analyzed articles

Author (year)	Country	Source of cost data
Qatameh (2012)	UK	The indicative costs of attendances and the various additional procedures were obtained from the Department of Health reference cost guidance using NHS Health Resource Group (HRG) version 4 and 2009 data
Lafuma (2008)	France, Germany and Italy	- Publication de <i>L'échelle Nationale des Coûts (données 2003–2004)</i> . Agence Technique de l'Information sur l'Hospitalisation. [http://www.atih.sante.fr/?id=000370000DFF] - DRG on Line. [http://www.drg.it] - <i>Medizincontrolling/DRG Research Group. Universitätsklinikum Münster Westfälische Wilhelms-Universität Münster</i> . 2007, [http://drg.uni-muenster.de/de/webgroup/m.brdrgr.php?baserate=2900&showgrafik=0&version=GDRG2005&mdc=02]
Pezzullo (2018)	UK	Reference Cost data collected by the Department of Health. For the rest of UK: Scotland's Health Service Costs, Wales' Health Statistics Wales, and Northern Ireland's Reference Costs
Cooper (2015)	UK	The costs of procedures for treating post-surgical complications and consequences were estimated using 2011–12 UK NHS reference costs. Department of Health. NHS Reference Costs 2011/2012. https://www.gov.uk/government/publications/reference-costs-guidance-for-2011-12 .
Cornut (2013)	France	These costs were compared to each other and to the target costs of the Diagnosis Related Groups for public hospitals (<i>Groupes Homogènes de Séjours</i> [GHS]) concerned, extracted from the analytic accounting data of the French National Cost Study (<i>Étude Nationale des Coûts</i> [ENC]) for 2009.

Table 1 about here

Table 2 shows information on costs, methodology, scope and resources included in unit cost collected from the IMPACT-HTA project countries: England, France, Germany, Italy, Poland, Portugal, Slovenia, Spain and Sweden. The range of unit costs varied from 432.35€ in Poland (minor degree of severity) to 3,411.96 € in Portugal (major degree of severity). Year of cost publication varied from 2012 (Italy) to 2021 (France and Sweden). In Portugal, the tariff of inpatient and day case cataract surgery remains the same.

Table 2
Description of costs and tariffs of day case cataract surgery

Country	Unit of activity	Unit value	Description of costing item, Monetary value (€)	Year of cost publication	Source and resources included	Costing methodology, description and conditions
England	DRG	Cost	Complex, Cataract or Lens Procedures, with CC Score 0–1 (1,374£), Very Major, Cataract or Lens Procedures, with CC Score 0–1 (1,064£), Intermediate, Cataract or Lens Procedures, with CC Score 0–1 (957£)(8)	2018	Reference costs come from hospital accounting. They include all direct costs, variable overheads and fixed overheads (except teaching cost and research cost).	Top-down micro-costing. The production costs refer to a day case cataract surgery. In order to produce 2016/2017 reference costs, all costs and resources are collected from 2017/2018 and are analysed in 2018/2019.
		Tariff	Complex, Cataract or Lens Procedures, with CC Score 0–1 (1,393£), Very Major, Cataract or Lens Procedures, with CC Score 0–1 (903£), Intermediate, Cataract or Lens Procedures, with CC Score 0–1 (720£)(9)	2021	Tariffs are calculated from the reference cost; therefore, they include direct costs, variable overheads and fixed overheads (except teaching cost and research cost). They are used for reimbursement.	The tariffs are calculated as the combination of day case and ordinary elective spell. National tariffs for 2020/21 are modelled with costs taken from 2017/18 reference costs and activity data taken from 2017/18 Hospital Episode Statistics (HES) and 2017/18 reference costs.
France	DRG	Tariff	Interventions on the lens with or without vitrectomy (1,355.87€)(10)	2021	Agence Technique de l'Information sur l'Hospitalization (ATIH).	Tariffs are based on DRG from the Social Health Insurance payer's point of view. These are not reimbursement prices; one part of the cost is covered by patient or by an additional insurance.

Source: Own elaboration

Country	Unit of activity	Unit value	Description of costing item, Monetary value (€)	Year of cost publication	Source and resources included	Costing methodology, description and conditions
	DRG	Cost	Interventions on the lens with or without vitrectomy (1,668€)(6)	2017	ScanSanté (ATIH database). Resources included in the final unit cost: [clinical activities (caregivers, medical and clinical staff), medico-technical activities (operating room, anaesthesia)], fixed overheads (119€) [(logistics and general management (general administrative services, hotel services, management information system, maintenance, restoration)) and variable overheads. Fixed overheads excludes research costs, teaching costs and financial costs.	Top-down micro-costing. These costs are based on costs provided by a sample of public and private hospitals on an annual basis.
Germany	DRG	Cost	Bilateral extracapsular extraction of the lens with congenital malformation of the lens (2,263€); Bilateral extracapsular extraction of the lens without congenital malformation of the lens (1,634€)	2020	<i>Institut für das Entgeltsystem im Krankenhaus; InEK</i> (11). The cost includes all direct costs, variable overheads (except nursing) and fixed overheads (except teaching cost, research cost, depreciation of building and financial cost).	Top-down micro-costing. Inpatient cataract surgery. The unit cost is the result of multiplying a corresponding weight by 'base cost'.
Italy	DRG	Tariff	994€(12)	2012	Tariffs are published by the Italian Ministry of Health and are calculated from costs. The tariff includes all direct costs, variable overheads and fixed overheads (except teaching cost, research cost and financial cost).	Top-down micro-costing. This tariff refers to the cataract surgery with or without vitrectomy.
Poland	DRG	Tariff	Severity 1 (432.45€), severity 2 (504.99€)(13)	2018	Tariffs are published by the National Health Fund and are calculated from costs. They include all direct costs, variable overheads and fixed overheads (except teaching cost, research cost and financial cost).	Top-down gross-costing. This tariff refers to day-case surgery.
Portugal	DRG	Tariff	Severity 1 (1,313.65€), severity 2 (1,771.19€) and severity 3 (3,411.96€)(14)	2018	Tariffs are published by National Health Service and are calculated from costs. They do not vary between inpatient and day case surgery and includes all direct costs, variable overheads and fixed overheads.	Top-down micro-costing. DRGs make use of production costs taken from the Portuguese hospital cost database – which considers annual public hospitals cost information – and of Maryland weights.

Country	Unit of activity	Unit value	Description of costing item, Monetary value (€)	Year of cost publication	Source and resources included	Costing methodology, description and conditions
Slovenia		Cost	593.55€(15)	2019	Health Insurance Institute of Slovenia. The final unit cost includes personnel costs (1.1 specialist, who, in turn, includes 0.1 anaesthesiologist, 1 nurse, 1 health care technician and 0.47 administrative technical worker), variable overheads, premium for additional pension insurance, material, depreciation and additional funding for computerization. Two outpatient examinations (one before and the other after surgery) are also included. The cost excludes depreciation of building and financial cost.	Top-down gross-costing. The cost refers to outpatient surgery.
Spain	DRG	Cost	951€(16)	2017	Costs are published by the Spanish National Health System. They include all direct cost, variable overheads and fixed overheads (except teaching cost, research cost, depreciation of building and financial cost). Additionally, each Autonomous Region has its own list of tariffs or public prices(17–20).	Top-down micro/gross costing (depends on hospital). The costs refer to day case without specifying the type of surgery.
Sweden	DRG	Tariff	Unilateral lens surgery (6,674 kr, regions: Blekinge, Halland and Kronoberg; 7,281 kr, region Skåne; 7,321 kr, regions: Jönköpings län, Kalmar län y Östergötland) and Bilateral lens surgery (13,777 kr, regions: Blekinge, Halland and Kronoberg; 15,029 kr, region Skåne; 15,059 kr, regions: Jönköpings län, Kalmar län y Östergötland)(21,22)	2020	Tariffs are published by corresponding healthcare regions. They include all direct cost, variable overhead and fixed overhead (except research cost and teaching cost).	In case the patients are treated in the University Hospital of Skåne, but they do not belong to the Southern Healthcare Region, a surcharge of 3.85% is charged. In case they are treated in Blekinge, Halland and Kronoberg, a surcharge of 2.85% is applied in case they do not belong to the Southern Healthcare Region.
Source: Own elaboration						

A great variability in the level of detail of different types of cataract surgery was observed. Thus, there are countries that show up to 9 different costs depending on type of the procedure or degree of complexity (England), while other countries publish a single cost of the procedure (Germany, Italy, Poland, Slovenia). The unit of activity is DRG in all countries except in Slovenia, where the estimation of cost is based on the breakdown of various cost items (materials and its depreciation, fixed overheads, personnel and extra pays) included in the procedure(5). DRG cost is available in Germany, Slovenia and Spain, while Italy, Poland, Portugal and Sweden publish DRG tariff. England and France publish both DRG tariff and cost. Additionally, in France, both total unit cost of DRG and cost of different DRG subheadings (cost of structure, personnel cost, logistics and general management, medico-

technical activities such as operating room, etc.) are published(6). In England, a methodological document that classifies each cost element (resource) in direct cost, variable overhead or fixed overhead, as well as specifies a cost driver used to allocate each cost element to the final cost object was identified(7). However, the number of units of each resource included in the total cost of the cataract surgery is not specified in the document.

Table 2 about here

Another important finding relates to the lack of transparency in the methodology used in the estimation of tariffs. In England, each cataract surgery subtype has associated both production cost (referred in England as reference costs) and tariff. They are published by NHS England and NHS Improvement. Tariffs and costs are different because tariffs contain incentives for providers to prioritize certain types of activity or to increase efficiency, inflation, as well as other adjustments, therefore, tariffs are calculated on a basis of and are higher than the production costs(23). In France, a tariff associated to the cataract surgery is published by the Technical Agency on Information about Hospitalization (*Agence Technique de l'Information sur l'Hospitalization*; ATIH) from the social health insurance point of view. The cost of cataract surgery is published by the ATIH database ScanSanté from the hospital production point of view and are lower than tariffs. However, no document explaining these differences was found.

Discussion

The findings of this study suggest that there is a lack of transparency in the costing methodology used in estimating costs and setting public prices and/or tariffs for different procedures carried out by health systems. This result is more striking considering that all the economic evaluation guidelines of the different countries mention the need for an adequate identification of all resources included in the final unit costs.

Fattore and Torbica (2008) compared costs and reimbursement of cataract surgery in nine European countries; six of them were included in this study. The average total cost of the procedure was 714€ (sd: 311€), the average cost of lent was 157€ (sd: 57€), the average cost of personnel was 221€ (sd: 151€), the average cost of structure was 178€ (sd: 158€) and the average other costs were 175€ (sd: 149€)(24).

The results of this study demonstrate the need for the authorities of the European countries to include detailed information on the estimation of the costs/tariffs in the official sources, which can ensure the transferability of the results across countries. Geissler et al. (2015) mentions the idea of 'a common European DRG system to define homogeneous groups of patients across different countries'(25). This would enable a reliable comparison of costs across countries in that if the resources that compound a cataract surgery are the same in all the countries, the differences in total costs are due to differences in unit costs of the resources. However, the need of the hour entails providing detailed information on total costs of the procedure. It should be highlighted that by having detailed information on costs is meant that the type and the number of units of each resource included in the final cost object as well as the description of the method used in resource identification, measurement and valuation should be described.

The result of an economic evaluation is transferable from country A to the country B without repeating the same economic model from scratch in country B when a given costing item is exactly the same in the amount of resources included (e.g., if cost of cataract surgery includes 1 physician, 1 surgeon and 1 nurse in both countries). However, the methodological documents describing what resources were included in the cataract extirpation are scarce, which pose a significant limitation to the objective of this study.

This paper is part of work package 3 of IMPACT-HTA that was developed as part of project. Its objective was to develop a minimum common dataset of international costs (including primary resources, composite goods and services and complex processes and interventions), which can feed into health-economic evaluations carried out by transferring economic evaluation analyses and models across countries. As the result of this work package, the European Healthcare and Social Cost Database (EU HCSCD) was developed[22]. All costs included in the EU HCSCD come from official sources of nine European countries. A User's guide describing methodological aspects of cost items included in and usage of the EU HCSCD is available on the EU HCSCD webpage. Van Lier et al. (2018) states that identification, measurement and valuation of costs are one of the main problems when undertaking economic evaluations[23]. Authors of this article believe that the EU HCSCD shows itself as a cost database with great potential to

deal with this. Based on the results of this study, the authors suggest the necessity of further technical and training support that might translate into a major cost standardization and improved transferability of economic evaluations across countries.

Conclusions

This study highlighted the need of methodological documents describing the resources included in DRGs to be publicly available. Enhancing transparency in and accessibility of methodological costing documents may improve the transferability of economic evaluations across countries.

Abbreviations

DRG, Diagnosis-Related Groups; NHS, National Health Service; ATIH, Agence Technique de l'Information sur l'Hospitalization; EU HCSCD, European Healthcare and Social Cost Database

Declarations

Ethics approval and consent to participate: Not applicable.

Consent for publication: Not applicable.

Availability of data and materials: All unit costs and costing documents mentioned in the manuscript are available at <https://www.easp.es/Impact-Hta/Default>.

Competing interests: Authors have no competing interests to declare.

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Authors' contributions: ZS and OL analysed the data and wrote the manuscript. JE critically revised the manuscript. All authors gave the final approval for the publication of the manuscript.

References

1. Drinkwater JJ, Davis WA, Davis TME. A Systematic Review of Risk Factors for Cataract in Type 2 Diabetes. *Diabetes Metab Res Rev*. 2019;35(1):e3073.
2. Moran DJ. Cataract, Cost: Curious Question. *Aust N Z J Ophthalmol*. 1999;27(1):3–7.
3. Busse R, Schreyögg J, Smith PC. Variability in healthcare treatment costs amongst nine EU countries – results from theHealthBASKET project. *Health Econ*. 2008;17(S1):S1–8.
4. Špacírová Z, Epstein D, García-Mochón L, Rovira J, Olry de Labry Lima A, Espín J. A general framework for classifying costing methods for economic evaluation of health care. *Eur J Heal Econ*. 2020 Jun 1;21(4):529–42.
5. Zavod za zdravstveno zavarovanje Slovenije. Priloga I. Kalkulacije za planiranje in financiranje programov zdravstvenih storitev. In: Splošni dogovor za pogodbeno leto 2019. 2019. <https://www.zzzs.si/Zzzs/info/egradiva.nsf/o/37D1B2F27B0EC343C12583B7002DAF04?OpenDocument>. Accessed 20 Nov 2020.
6. ScanSanté. Guide de l'étude nationale des coûts (ENC). In: ENC MCO. 2019. <https://www.scansante.fr/applications/enc-mco>. Accessed 9 Sep 2020.
7. Payment by results. NHS Costing Manual. In: Department of Health. 2012. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/216427/dh_132398.pdf. Accessed 20 Sep 2020.

8. NHS. National Schedule of Reference Costs: Year 2018-2019. In: National Cost Collection for the NHS. 2020. <https://www.england.nhs.uk/national-cost-collection/>. Accessed 12 Feb 2021.
9. NHS. 2020/2021 Annex A: The national tariff workbook. In: National tariff payment system documents, annexes and supporting documents. 2021. <https://www.england.nhs.uk/publication/national-tariff-payment-system-documents-annexes-and-supporting-documents/>. Accessed 12 Feb 2021.
10. Tarifs MCO et HAD. Agence technique de l'information sur l'hospitalisation. 2021. <https://www.atih.sante.fr/tarifs-mco-et-had>. Accessed 6 Feb 2021.
11. Deutsche Krankenhaus Gesellschaft. Fallpauschalen-Katalog. 2019. https://www.dkgev.de/fileadmin/default/Fallpauschalenkatalog_2019_180928.pdf. Accessed 31 May 2020.
12. Ministero della Salute. Relazione tecnica. In: Quotidiano online di informazione sanitaria. 2008 <http://www.quotidianosanita.it/allegati/allegato5477154.pdf>. Accessed 9 Mar 2020.
13. Narodowy Fundusz Zdrowia. Zarządzenie Nr 22/2018/DSOZ z załącznikami - tekst ujednolicony. In: Załącznik nr 1 część b. 2018. <https://www.nfz.gov.pl/zarzadzenia-prezesa/zarzadzenia-prezesa-nfz/zarzadzenie-nr-222018dsoz-tekst-ujednolicony,6924.html>. Accessed 21 Jul 2020.
14. Serviço Nacional de Saúde. Portaria nº 254/2018, de 7 de setembro. In: Tabela de preços do SNS 2018. 2018. http://www.acss.min-saude.pt/category/acss_pt/tabelas-e-impressos/. Accessed 24 Feb 2020.
15. Zavod za zdravstveno zavarovanje Slovenije. Priloga I, la 19-kfi. In: Splošni dogovor za pogodbeno leto 2019. 2019. <https://www.zzs.si/?id=126&detail=37D1B2F27B0EC343C12583B7002DAF04>. Accessed 25 Jun 2020.
16. Ministerio de Sanidad, Consumo y Bienestar Social. Estimación Pesos y Costes Ambulatorios. In: Resultados según la versión 32 de los APR-GRD. 2017. <https://www.mscbs.gob.es/estadEstudios/estadisticas/inforRecopilaciones/anaDesarrolloGDR.htm>. Accessed 20 Apr 2020.
17. Departamento de Sanidad. ORDEN SAN/1221/2017, de 21 de julio, por la que se establecen los precios y tarifas máximas aplicables en la prestación de servicios sanitarios con medios ajenos al Sistema de Salud de Aragón. In: Boletín Oficial de Aragón. 2017 <http://www.boa.aragon.es/cgi-bin/EBOA/BRSCGI?CMD=VEROBJ&MLKOB=977342223030>. Accessed 27 Nov 2020.
18. Comunidad de Madrid. ORDEN 727/2017, de 7 de agosto, del Consejero de Sanidad, por la que se fijan los precios públicos por la prestación de los servicios y actividades de naturaleza sanitaria de la red de centros de la Comunidad de Madrid. 2017. http://www.madrid.org/wleg_pub/secure/normativas/contenidoNormativa.jsf?opcion=VerHtml&nmnorma=9930&cdestado=P#no-back-button. Accessed 26 Feb 2020.
19. Osakidetza. Tarifas para facturación de servicios sanitarios y docentes de Osakidetza para el año 2019. https://www.osakidetza.euskadi.eus/contenidos/informacion/osk_servic_para_empresas/es_def/adjuntos/tarifas_2019.pdf. Accessed 26 Feb 2020.
20. Xunta de Galicia. DECRETO 56/2014, de 30 de abril, por el que se establecen las tarifas de los servicios sanitarios prestados en los centros dependientes del Servicio Gallego de Salud y en las fundaciones públicas sanitarias. In: DOG Núm. 134. 2014. https://www.xunta.gal/dog/Publicados/2017/20170714/AnuncioG0164-100717-0001_es.html. Accessed 26 Feb 2020.
21. Södra sjukvårdsregionen. Regionala priser och ersättningar för södra sjukvårdsregionen. 2020. <https://sodrasjukvardsregionen.se/download/regionala-priser-och-ersattningar-for-sodra-sjukvardsregionen-2020/>. Accessed 14 Apr 2020.
22. Sydöstra sjukvårdsregionen. Priser och ersättningar 2020. <https://sydostrasjukvardsregionen.se/samverkansnamnden/priser-och-ersattningar/>. Accessed 14 Apr 2020.
23. NHS Improvement. 2019/20 National Tariff Payment System. <https://improvement.nhs.uk/resources/national-tariff/#h2-201920-national-tariff-payment-system>. Accessed 5 Sep 2020.
24. Fattore G, Torbica A. Cost and reimbursement of cataract surgery in Europe: A cross-country comparison. *Health Econ.* 2008;17:S71–82.
25. Geissler A, Quentin W, Busse R. Heterogeneity of European DRG systems and potentials for a common EuroDRG system: Comment on "Cholecystectomy and diagnosis-related groups (DRGs): Patient classification and hospital reimbursement in 11 European countries." *Int J Health Pol Manag.* 2015. doi: 10.15171/IJHPM.2015.53

26. European healthcare and social cost database. Escuela Andaluza de Salud Pública, Granada. 2020.
<https://www.easp.es/Impact-Hta/>. Accessed 16 Sep 2020.
27. van Lier LI, Bosmans JE, van Hout HPJ, Mokink LB, van den Hout WB, de Wit GA, et al. Consensus-based cross-European recommendations for the identification, measurement and valuation of costs in health economic evaluations: a European Delphi study. *Eur J Heal Econ*. 2018;19:993–1008.