PD09 Comparing Long-term Costs Associated With Intraocular Lens Selection And Nd:YAG Laser Capsulotomy In The UK: A Cost-Consequence Analysis

Derek O'Boyle (derek.oboyle@alcon.com), James North and Emily Payton

Introduction. Cataract surgery is the most frequently performed surgical procedure in the UK and posterior capsule opacification (PCO) is the most common complication post-surgery. Nd:YAG capsulotomy is the standard of care for treating PCO, although it bears a cost and is also associated with complications. The objective of this research was to estimate costs from a budget holders perspective associated with PCO related, post-cataract surgery resource use, comparing different single-piece intraocular lenses (IOLs) and utilizing results from a recently published audit of PCO incidence in the UK (n=601,084).
Methods. This research adapts the findings of the aforementioned audit to develop a cost-consequence analysis. The model is underpinned by the Nd:YAG rates of the included single-piece acrylic IOLs at 5 years. Nd:YAG related additional consultations and reported complications of the procedure were also included as variables of efficiency in the model. Estimates are presented from the perspective of a hospital setting in the UK, performing 3,000 cataract surgeries annually and extrapolated out to the broader cataract population (n=472,000). Costs were sourced from NHS Tariff documentation.
Results. AcrySof IQ was associated with lower Nd:YAG procedures and additional consultations at 5 years post-cataract surgery compared to all other single-piece monofocal acrylic lenses included in UK Audit Report. Assuming 3,000 cataract surgeries carried out annually, this translated into potential cost savings for the AcrySof IQ lens ranging from GBP 7,993 (EUR 9,379) (versus Eyecee One) to GBP 194,502 (EUR 228,243) (versus Akreos Adapt). Extrapolating to the broader population cataract patients in the UK would provide for a cost-saving estimates in the region of GBP 1.25 to GBP 30.6 million (EUR 1.47 to EUR 35.91 million).
Conclusions. This economic analysis highlights that the appropriate choice of IOL for cataract surgery, as a direct consequence of lower ND:YAG capsulotomy rates may translate into significant savings both for UK hospitals and the national healthcare system.

PD10 Quality Of Economic Evaluation Of Coronary Stents Based On CHEERS: A Scoping Review

Yan Feng Ren, Fu Ming Li and Yingyao Chen (yychen@shmu.edu.cn)

Introduction. The study aims to systematically review all articles on the economic evaluation (EE) of coronary stenting, to critically assess the reporting quality, and to summarize the results.
Methods. A systematic search was undertaken through seven databases (PubMed, Web of Science, Embase, CNKI, Wanfang data, Vip data and SinoMed.) from inception until March 2021, to identify economic evaluation articles comparing coronary stenting with other therapies, or among different stenting procedures. After screening articles and extracting data independently, we summarized methods, contents, and outcomes of the included articles and appraised their methodological quality using the CHEERS (Consolidated Health Economic Evaluation Reporting Standards) checklists. Then, the literature scores were standardized as a proportion of the total score, and stepwise multiple regression was constructed to verify the factors that might influence the quality of literature.
Results. Of the 3,622 publications identified, 59 articles were included in this review. There were 33 cost-effectiveness studies and 26 were cost-utility studies. The quality of the reports varied between studies, with a standardized mean score of 0.76 (0.40-0.98). According to the Cheers checklist, "Introduction" had the lowest overall score (0.53), with many articles deficient in the description of the study's perspective; "Discussion" had the highest overall score (0.86), with nearly three-quarters of the articles reporting the full content; "Title and abstract", "Methods", "Results", and "Other" scored 0.71, 0.78, 0.74 and 0.66, respectively. According to the results of the stepwise multiple regression model, "Published year", "National type", and "Type of economic analysis" research were significantly associated with the quality of literature.
Conclusion. The quality of current research reports on the economics of coronary stenting is generally satisfactory, but there is potential for improvement and high quality reports can provide evidence to support decision making for policy makers.

PD12 Quality Assessment Of Health Economic Evaluation On Screening Programs From China

Yu Xia, Dai Lian and Yingyao Chen (yychen@shmu.edu.cn)

Introduction. With the increasing use of health economic evaluation (HEE) in decision-making and health resource allocation and management policy design has seen an increase in HEE studies on screening programs in China l. In addition to the quantity of HEE, the quality may be of particular concern as it influences the reliability of HEE evidence adopted in policy formulation. This study sought to assess the reporting quality of HEE on screening programs over the last 20 years in China and identify potential predictors and relevant recommendations to improve the quality of study reporting.
Methods. A search of HEE studies published in PubMed, Embase, CNKI and WANFANG from 2000 to 2021 was performed. Two reviewers independently extracted data and assessed the quality if reporting using the 24 item Consolidated Health Economic Evaluation Reporting *Standards (*CHEERS) checklist. The CHEERS score for each study was converted into standardized 0-1 point scale. General liner regression was used to identify predictors associated with the reporting quality.

https://doi.org/10.1017/S0266462322002744 Published online by Cambridge University Press

Results. One hundred and thirty-three studies met the inclusion criteria. The mean standardized score for the included studies was 0.56 (title), 0.64 (abstract), 0.74 (introduction), 0.58 (methods), 0.40 (results), 0.70 (discussion), and 0.54 (other section). The number and reporting quality of articles published each year showed an overall upward trend. A greater proportion of studies were published in Chinese journal (69.2%), modelling-based (54.9%), conducted by universities/research institutions (45.9%), focused on non-infectious disease (84.2%), using cost-effectiveness analysis method (50.4%), published in non-specialty journal (60.2%), and declaring the funding support (76.7%). Items related to study perspective, discount rate, measurement of effectiveness, currency and price, analytical methods, uncertainty, heterogeneity and conflicts were under-reported. Published year, journal type, first author affiliation and economic evaluation type predicted higher score in regression analyses ($p<0.05$).
Conclusions. Overall, the quantity and quality of HEE on screening programs in China is improving, although there is a need to improve the use of on specific reporting items in the CHEERS criteria. The use of suitable evaluation guidelines will make the decision-making process more scientific.

PD13 Methodologies In Economic Evaluations Of Biomarkers – A Systematic Review

Kurt Neeser (kurt.neeser@certara.com),
Linnea Koller and Elvira Mueller

Introduction. Diagnostic testing and patient monitoring are important to diagnose potential diseases and to evaluate treatment regimens. Since diagnosis and treatment monitoring have no intrinsic effects, an economic evaluation of biomarkers is inevitably linked to the resulting therapeutic interventions, which depend on both physicians' decisions and diagnostic accuracy of the test (i.e., sensitivity, specificity). In this review we analyzed the methodology of economic studies evaluating the management of the five most relevant non-communicable diseases, that is, obesity, cancer, diabetes, cardiovascular and chronic respiratory diseases.
Methods. A systematic search in Medline and the National Health Service Economic Evaluation Database (NHS EED) covering the last ten years served to identify health economic analyses of biomarkers used in diagnosing / monitoring. Findings were reviewed with respect to analytical method, reported outcomes and comparability.
Results. The search yielded 680 abstracts in total out of which 280 full texts were reviewed and 77 sources included following predefined criteria. Most economic analyses (94%) evaluated the clinical outcome and costs of testing / monitoring in correlation to a corresponding intervention, 6 percent of the sources focused on the accuracy of the test or monitoring methods only. There were 61 studies that included an economic model; overall, 15 sources presented the outcome as cost per life year gained (CEA), 37 sources as cost per QALY gained (CUA), and 12 provided the outcome as both a CEA and CUA. In 16 analyses the outcome was presented in other economic terms as, for example, cost per additional case detected.
Conclusions. Determining the value of biomarkers requires consideration of the clinical consequences of a test result (incorrect treatment decisions, impact on morbidity, mortality, or quality of life) as well as the corresponding economic outcomes. Most of the identified studies considered at least one of these aspects. Results are presented in manifold ways but do not necessarily address decision makers' needs. Thus, clear guidelines on economic evaluations of biomarkers are needed and should include broader health system views like affordability or the number of unnecessary interventions avoided.

PD14 A New Equitable Biomedical Research And Development Model: Preliminary Findings From A Pilot Study Applying VALIDATE Value Methods

Marina Espriu (marina.espriu@isglobal.org),
Joan Bigorra, Pedro Gallo and Laura Sampietro-Colom

Introduction. The public health areas without commercial value continue to be underserved, while those of high profit for industry will not be sustainable for much longer. We hypothesize that the lack of equity and efficiency in the biomedical research and development system is mainly due to a pharma-led short-term profit orientation that ignores the values of other relevant stakeholders.
This pilot study reached some consensus on the principles of a co-created biomedical research and development process based on the preferred supplier (PS) model, which proposes a public health procurement system prioritizing business with companies fulfilling the "4 Share" criteria of priorities, risks and rewards, results, and outcomes to ensure that health needs are met.
Methods. A constructive health technology assessment, which included VALues In Doing Assessments of health TEchnologies (VALIDATE) methodology, was used to analyze the values and dissent of a pilot sample of ten global key informants. The methodology comprised qualitative techniques such as an online preliminary survey, in-depth semi-structured interviews, and a Delphi survey to reach a joint construction by reconstructing the stakeholders' interpretive frames and applying an adaptation of the Richardson model to contested values.
Results. There was consensus on combining efficiency and social justice norms by incentivizing diseases affected by market failure due to small subpopulations (e.g., rare diseases), low availability to pay, restricted use (e.g., antibiotics), and difficulty demonstrating results (e.g., Alzheimer's disease). Stakeholders mainly agreed on the PS 4 Share principles, highlighting the need for price to be linked to impact modulated by tracked research and development costs and investments, as proposed by the PS model. More market incentives such as push, and especially pull incentives (market access), should be included. The PS model should be cause-solution oriented, promote open-disruptive innovation, and guarantee fast patient access.

https://doi.org/10.1017/S0266462322002744 Published online by Cambridge University Press