

Methods. We manually searched the webpages of HTA organizations and included HTA-reports published since 2015. Prerequisites for inclusion were the conduct of a systematic review of economic evaluations in at least one electronic database and the use of the English, German, French, or Spanish language. Methodological features were extracted in standardized tables. We prepared descriptive statistical (e.g., median, range) measures to describe the applied methods. Data were synthesized in a structured narrative way.

Results. Eighty-three reports were included in the analysis. We identified inexplicable heterogeneity, particularly concerning literature search strategy, data extraction, assessment of quality, and applicability. Furthermore, process steps were often missing or reported in a nontransparent way. The use of a standardized data extraction form was indicated in one-third of reports (32 percent). Fifty-four percent of authors systematically appraised included studies. In 10 percent of reports, the applicability of included studies was assessed. Involvement of two reviewers was rarely reported for the study selection (43 percent), data extraction (28 percent), and quality assessment (39 percent).

Conclusions. The methods applied for systematic reviews of economic evaluations in HTA and their reporting quality are very heterogeneous. Efforts toward a detailed, standardized guidance for the preparation of systematic reviews of economic evaluations definitely seem necessary. A general harmonization and improvement of the applied methodology would increase their value for decision makers.

PP66 Increasing Burden Of Out-Of-Pocket Healthcare Expense On Patients

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Introduction. We conducted an analysis of the key factors triggering cost-sharing mechanisms to understand the status of out-of-pocket (OOP) healthcare expense in the United States (US), Europe, and emerging markets and better appreciate the implications of OOP healthcare expense on patients' health management.

Methods. A review of literature and databases including The Organisation for Economic Co-operation and Development (OECD) and World Bank was performed to understand different cost-sharing mechanisms, factors triggering OOP expenditure and the country-wise trends of OOP expenditure. Additionally, the impact of OOP expenditure on healthcare budget and on patients in terms of medication adherence, uptake of newer therapies and generic substitution was explored.

Results. The findings reveal that patients are concerned about rising healthcare OOP costs, and we observed an increase of 134 percent in the number of articles published on OOP from 2005 to 2017. The percentage of household spending that goes OOP as healthcare expense is higher in Brazil, Russia, India, and China (BRIC countries; ~11 percent) compared to France, Germany, Italy, United Kingdom, US, Japan, and Canada (G7 countries; ~2 percent). In addition, OOP expenditure increased with age (1.9 percent of take home income in 55-64 age group versus 1.2 percent in 18-25 age group) and is higher in the low-income population (2.8 percent of take home income versus 1

percent in high-income group). Whereas, increasing OOP expenditure reduces the overall healthcare expenditure due to generic substitution (28 percent reduction) and reduction in excessive consumption of supplementary medicines, it also reduces patient adherence (~20 percent decline in dispensed prescriptions) and may foster a reluctance to adopt newer therapies.

Conclusions. The population groups most impacted by increasing OOP expense are the older population, those in the low-income bracket and in poorer countries. While OOP expense may help in the effective and judicious utilization of healthcare system resources and medicines usage, its implementation requires a cautious and considered approach.

PP68 Indicators From The Real World Data To Improve Opioid Use

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Introduction. Opioids are being used increasingly to treat chronic noncancer pain despite the uncertainty regarding its long-term benefits. This study served to determine if problems are associated with opioid use in Québec for new users from 2006 to 2013 without history of cancer.

Methods. A retrospective longitudinal cohort study was conducted using administrative databases stored at the Régie de l'assurance maladie du Québec (RAMQ) to describe the annual proportion of new users to whom at least one of the five indicators of potentially inappropriate opioid use applied was estimated. These indicators are (i) overlapping opioid prescriptions, (ii) overlapping opioid and benzodiazepine prescriptions, (iii) the use of long-acting opioids at the start of treatment, (iv) a high mean daily dose, and (v) a rapid increase in the opioid dose.

Results. The annual proportion of new users to whom at least one of the five indicators of potentially inappropriate opioid use applied decreased from 15.4 percent in 2006 to 12.3 percent in 2013. It was mainly the following three indicators that contributed the most to these proportions in 2013: (i) overlapping opioid prescriptions (5.8 percent), (ii) overlapping opioid and benzodiazepine prescriptions (8.2 percent), and (iii) the use of long-acting opioids at the start of treatment (1.8 percent).

Conclusions. The vast majority of new users with no history of diagnosed cancer used opioids adequately according to the five indicators of potentially inappropriate opioid use applied. Improvement could still be made to decrease mainly overlapping opioid prescriptions and overlapping opioid and benzodiazepine prescriptions.

PP69 Potential Gains In Health-Adjusted Life Expectancy From Reducing Four Non-Communicable Diseases Among Chinese Elderly

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Introduction. With the fast speed of aging, burden from non-communicable diseases (NCDs) is increasing in China, and will continue to increase to 2020 and beyond. This study aims to estimate the potential gains in health-adjusted life expectancy (HALE) after hypothetical elimination of four NCDs among Chinese elderly from 1990 to 2016, including cardiovascular diseases (CVD), cancers, chronic respiratory diseases (CRD) and diabetes mellitus (DM).

Methods. Based on data from Global Burden of Disease 2016, we generated life table by gender using Sullivan method to calculate HALE. Disease-deleted method was used to calculate cause-elimination HALE, after hypothetical elimination of specific diseases. This method could combine the impact of mortality and morbidity, which are particularly useful for estimating the impact of the disease and setting priorities for health planning to get ready for the new challenges in upcoming decade.

Results. From 1990 to 2016, HALE increased for all age groups. After hypothetically eliminating the four main NCDs, potential gain in HALE by CVD, DM and cancers increased, while CRD decreased from 1990 to 2016 for both genders. Among four main NCDs, potential gain in HALE after eliminating CVD was largest and increased most for both genders. Although elimination of DM led to the smallest gain in HALE, the increasing speed of gain in HALE by DM was faster than that by CVD and cancers from 1990 to 2016.

Conclusions. This study highlights the potential gains in HALE of NCDs among Chinese elderly from 1990 to 2016. HALE of Chinese elderly could further increase from the reduction of NCDs. Control measures and targeted prevention should be carried out to get ready for the new decade.

PP70 Identification Of Prostheses With Worse Than Expected Outcomes

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Introduction. Monitoring the effectiveness of knee and hip arthroplasties could be useful at the clinical, economic, and patient levels. In Catalonia, there is currently no systematic monitoring of the different prostheses available. The aims of this study were to propose an approach for the systematic identification of knee and hip prostheses with the highest revision rates, and to identify those with the poorest outcomes.

Methods. Data recorded from January 2005 to December 2016 were considered from 53 out of the 61 public hospitals in Catalonia included in the Catalan Arthroplasty Register (RACat). Specific prostheses were classified by joint, type, fixation, and, in total hip prostheses, the bearing surface. Prostheses with the worst outcomes were identified using a three-step approach, based on previous literature: (i) screening using Poisson models; (ii) comparison of prostheses using adjusted Cox models; and (iii) consensus-based

review by a panel of orthopedic surgeons to detect possible sources of bias. After this process, selected prostheses were provisionally labeled as having the poorest outcomes. This process will be repeated periodically within the RACat to definitively classify the prostheses.

Results. After first two steps, ten knee prostheses and eight hip prostheses were identified. After the panel discussion (third step), one knee and one hip prosthesis were excluded from the final list. The knee prosthesis was excluded because it was a uni-compartmental implant, while the hip prosthesis was excluded because it was a monoblock implant. Finally, nine knee prostheses and seven hip prostheses were provisionally identified as having the worst results relative to other available prostheses. These results await confirmation in subsequent analyses.

Conclusions. This study contributed to the current need to identify hip and knee prostheses whose outcomes might be worse than expected. This identification could have an impact at the patient, surgeon, industry, and stakeholder levels.

PP72 Using INTEGRATE-HTA On The Example Of Rasterstereography For Scoliosis

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Introduction. Full health technology assessment (HTA) reports discuss not only the safety and efficacy of a technology, but also the economic, ethical, legal, socio-cultural, and organizational aspects. INTEGRATE-HTA is a completed European Union project that developed concepts and methods for a patient-centered, integrated assessment of complex technologies. Technologies can be considered complex if they are characterized by a large number of interacting components, a wide variability of outcomes, or a high degree of flexibility. In contrast to the usual linear approach of addressing individual HTA domains separately, the INTEGRATE-HTA methodology is based on the assumption that different aspects of the domains interact. From the very beginning, these interactions are captured systematically using various tools. Continuous reflection and compaction of these relations can lead to an extended perspective on a technology. As a result, complexity and mechanisms of action open up, helping to channel public discussion and implementation. We investigated whether using the INTEGRATE-HTA methodology improves the understanding of individual domains and their interactions.

Methods. According to the methodology, an initial logic model for rasterstereography in patients with scoliosis was developed and successively expanded. A synoptic table, showing multiple maps of individual aspects to domains, and a complexity checklist were used. In addition, harvest plots were created and the socio-cultural impact of the disease was highlighted as a semantic complex. A final logic model and an interaction figure were established to initiate discussion.

Results. Having been classified as slightly complex in the beginning, rasterstereography turned out to be highly complex after using a variety of tools and a final graphical representation; the multiple mapping of individual aspects to domains resulted in a high density of interactions.