OP279 Monitoring The Effectiveness Of Implementing And Using New Health Technologies In Hospital Practice

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Introduction. According to international experience in the field of hospital-based health technology assessment (HB-HTA), most of the implemented new health technologies must undergo a clinical and economic assessment (CEA) of their viability by creating a mini-health technology assessment report. However, HB-HTA should not be limited only to the initial CEA; further monitoring of the effectiveness of implemented new health technologies is necessary.

Methods. We developed a special reporting form for creating a CEA of implemented new health technologies and integrated it into the hospital information system. Indicators of clinical effectiveness are determined individually for each implemented technology. The main indicators of economic effectiveness are financial results (or net profit) and profitability—high-cost and high-tech health technologies have priority for monitoring.

Results. In order to ensure a more detailed and complete CEA of implemented health technologies, the following measures were proposed: (i) before implementing the technology, determine the key clinical effectiveness criteria for further monitoring for each implemented health technology; (ii) if possible, determine comparative technologies (alternatives or analogs) for conducting comparative CEA of the implemented health technologies; and (iii) carry out a prospective CEA of the implemented health technologies with a view to publishing the results.

Conclusions. The organization of a continuous monitoring process that analyzes the effectiveness and usage of new health technologies in hospital practice will allow assessment of the following: the clinical effectiveness and safety of the implemented technologies in comparison with world data; the economic effectiveness of the technology, including an accurate calculation of the payback period for investments; and the "real" data on the effectiveness of implemented health technologies in comparison with the initial request for implementation.

OP283 A Pipeline Analysis Of Advanced Therapy Medicinal Products (ATMPs) In Late-Stage Clinical Development

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Introduction. Advanced Therapy Medicinal Products (ATMPs) are innovative biologics (gene, cells and tissue-based products) with the potential to treat diseases with significant unmet clinical need. ATMPs pose distinct regulatory, health technology assessment (HTA) and patient access challenges, hence early identification and prioritization of ATMPs is now recognized as a key concern in England. The National Institute for Health Research Innovation Observatory (NIHRIO) uses a robust methodology to identify and monitor health technologies, including ATMPs that meet the remit of key HTA stakeholders in England. This analysis provides a global overview of the current ATMPs pipeline to administer useful insights for policymakers, funders and innovators.

Methods. NIHRIO's database tracks pharmaceuticals from phase I/II onwards, but this analysis focuses on late-stage development. The database (N > 12,000 records) was filtered to identify potential ATMPs using a predefined criteria based on the European Medicine's Agency's classification. Each record is categorized by stage: 'Active', (with an estimated three years to European licence); 'Monitoring' (in development with no licence date); and 'Finished', (output produced/discontinued and no longer tracked). Subsequently, records in 'Active' and 'Monitoring' were examined further.

Results. Analysis identified 636 ATMPs: five percent 'Active', 40 percent 'Monitoring' and 55 percent 'Finished'. ATMPs in the Active/Monitoring stages included: gene therapies (52%), somatic cells (43%) and tissue-engineered products (5%). Of these, 40 percent were oncological with the majority targeting hematological cancers (lymphomas). Prevalent non-oncology areas included musculoskeletal (10%) and ophthalmology (8%). Over one-third of trials were phase IIs, with almost half of all trials were based in the US.

Conclusions. The overarching findings here indicate increasing development of the ATMP pipeline towards indications with significant unmet clinical need. In oncology, the high prevalence of hematological ATMPs is largely due to recent chimeric antigen receptor T cells (CAR-T) innovation. In non-oncology areas, ATMP development is increasing due to advances in regenerative medicine. With a significant number of ATMPs projected to be licenced within three years, and many more in active late-stage trials, HTA bodies and health systems are challenged to prepare for the entry of these innovative therapies.

OP315 An Artificial Intelligence Approach To Improve Medical Diagnosis Of Ischemic Cardiopathy In Patients With Non-Traumatic Chest Pain

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Introduction. Current clinical practice is based on guidelines and local protocols that are informed by clinical evidence. This means that clinical variability is reduced, but can lead to inefficient clinical decision-making and can increase medical errors, decreasing patient's safety. The aim of the EXCON project is to investigate the innovative concept of Intelligent Clinical History (ICH), and to develop functional prototypes of high added-value in healthcare services.

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Methods. The innovative EXCON project will take advantage of recent advances in technologies for coding, structuring and semantizing medical information. Thanks to this new structuring, the EXCON platform will be developed. The final users will be health professionals and other decision-makers. Doctors, nurses, epidemiologists and information specialists will be involved in the development and subsequent validation of the platform.

Results. The EXCON platform identifies profiles of patients with a high probability of ischemic heart disease. In the sample analyzed (n = 4,700), 17 percent of patients were admitted to a cardiology unit with suspected coronary heart disease. Of the patients admitted, 53.7 percent did not have ischemic heart disease at discharge. If we apply the algorithm developed by the EXCON project, 24.8 percent of patients would not have been admitted and did not have ischemic heart disease.

Conclusions. In coming decades, patient management will be impacted by the application of new advanced data analytics tools. This will allow for safer and more efficient clinical management, decrease variability in clinical practice, and improve equity. That is why the development and assessment of these technologies is necessary.

OP340 Adverse Clinical Events And Associated Risk Factors In Patients With Very-High-Risk Atherosclerotic Cardiovascular Disease

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Introduction. Clinical atherosclerotic cardiovascular disease (ASCVD) patients are judged to be very-high-risk if they had a history of multiple major ASCVD events, or one major ASCVD event with multiple high-risk conditions. Very-high-risk ASCVD patients are under high risk of adverse clinical events and need more attention in the management of secondary prevention. This real-world study aimed at estimating the prevalence of very-high-risk ASCVD and investigating the occurrence of adverse clinical events and associated risk factors among patients with very-high-risk ASCVD in China.

Methods. Data were obtained from the Urban Employee Basic Medical Insurance database in Tianjin, China. Very-high-risk ASCVD patients were identified from 2014 to 2015 through the history of ASCVD events and evidence of high-risk conditions, and followed for 24 months. Adverse clinical events were measured by major adverse cardiovascular events (MACE), a composite endpoint of stroke, myocardial infarction (MI) and death. A Cox regression model was used to identify risk factors of MACE, adjusting for potential confounders.

Results. The percentage of clinical ASCVD patients identified as very-high-risk was 35.2 (N = 41,181), while 34,740 patients with continuous enrollment were included (mean age: 67.1 years; 42.5% female). The percentage of patients who had MACE in the 24-month follow-up period was 27.7, with stroke (22.3%) as the most prevalent event followed by death (6.9%) and MI (1.3%). Male gender, older age, and having MI or ischemic stroke (versus unstable angina) as the index major ASCVD event were risk predictors of MACE.

Conclusions. More than one-third of patients with clinical ASCVD are under very-high-risk in China, and among them 27.7 percent experience MACE during a 24-month follow-up period. Male patients, older patients, and patients who had MI or ischemic stroke are under higher risk of experiencing MACE. Future studies are warranted for comparing the differences in characteristics, pattern of drug use, occurrence of adverse clinical events and medical burden between very-high-risk ASCVD patients and ASCVD patients not at very-high-risk.

OP354 Cost-Effectiveness Analysis Of Different Prenatal Screening Strategies For Down Syndrome In China: Data From Shandong Province

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Introduction. There are large differences between the prenatal screening strategies for Down Syndrome (DS) in different provinces in China. In Henan province there is a serological triple screening in the second trimester (STS) strategy, while in Shandong province contingent non-invasive prenatal testing (NIPT) screening strategy (NIPT delivered to older pregnant women) is used, and there is a universal NIPT screening strategy in Anhui province. Moreover, many factors varied widely in different regions, such as the proportion of older pregnant woman and the ability of people to pay. This study aimed to determine the cost-effectiveness of current strategy in Shandong compared with strategies in other provinces.

Methods. A decision tree model was developed according to the screening strategies in different provinces. Four screening strategies were involved, universal STS strategy, contingent STS strategy, contingent NIPT strategy, and universal NIPT strategy. Cost-effectiveness analysis was conducted from a societal perspective in a simulated cohort of 100,000 pregnant women. The data of costs and epidemiologic parameters were collected from field surveys in Shangdong and a literature review.

Results. The universal STS strategy, contingent STS strategy, contingent NIPT strategy, and universal NIPT strategy could prevent 17.0, 40.0, 46.2, and 53.6 DS births, respectively. There was no strategy dominated by others. The universal NIPT strategy and contingent NIPT strategy would decrease invasive procedures for prenatal diagnosis, resulting in fewer procedure-related miscarriages. The sensitivity analysis showed that the effectiveness of the screening strategy is significantly influenced by the resident's acceptance of NIPT.

Conclusions. From the perspective of maximizing the effect, the universal NIPT strategy is the optimal strategy. But taking into account the resident's and government's ability to pay, contingent NIPT Strategy may be appropriate for the current situation in Shandong. To ensure a better cost-effective advantage in the universal NIPT strategy, the government should provide health

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