(HTA) study is to compare the performances of PFBD devices with the standard venipuncture to evaluate the potential benefits of introducing PFBD devices into clinical practice.
Methods. PFBD devices use microneedles that breach the stratum corneum, significantly reducing the pain perception due to the superficial skin penetration. Decision-oriented HTA method, was applied to conduct the HTA process. It is an analytical instrument that integrates the EunetHTA CoreModel with the analytic hierarchy process, to choose the best technology solution by identifying the main evaluation criteria and defining the weightsof system and performance values. Eight professionals have been involved to define the evaluation criteria and to measure the two technologies' performance. As the method requires, a literature review was conducted to define the evaluation scheme represented by a multilevel decision tree composed of evaluation areas (domains) and key performance indicators (KPI).
Results. Five evaluation domains were included in the analysis (clinical effectiveness, safety, costs, organizational aspects, and technical characteristics), described by 35 KPIs. Preliminary clinical effectiveness results showed diagnostic concordance between blood samples obtained with PFBD and venipuncture. Even if the additional costs of PFBD, these devices seem to improve the safety by reducing the biological risks for operators. Moreover, considering pediatric patients, organizational aspects would benefit by the use of PFBD in terms of ease of use, compliance of patients, and time reduction for blood collection.
Conclusions. Results showed that PFBD not only have great repercussions in terms of clinical benefits, especially for pediatric patients, but also a significant impact in terms of organizational aspects.

OP54 The Early Detection And Warning System 'SINTESIS-New Technologies': A Horizon Scanning Experience In Spain

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Introduction. SINTESIS-new technologies is the early warning system for new and emerging technologies of the Agencia de Evaluación de Tecnologías Sanitarias, Instituto de Salud Carlos III. SINTESIS is part of the Action Plan for the Early Detection of New and Emerging Technologies of the Spanish Network of Health Technology Assessment Agencies (RedETS). In RedETS, four agencies are responsible for the identification of innovative technologies. These agencies have been collaborating since 2016 according to the early awareness methods contained in the EuroScan Methods Toolkit. SINTESIS focuses on secondary information sources (i.e., experts and literature). This study describes the experience of SINTESIS in identifying and filtering new technologies in recent years.
Methods. Retrospective analysis of all new and emerging technologies notified by SINTESIS to RedETS since 2018. Technologies were analyzed on a year-by-year basis for their source of information, the clinical specialties involved, and whether technologies found in the identification phase were selected for further assessment.
Results. Between 2018–2020, SINTESIS identified 69 emerging and new technologies. Most of the information came from medical press news (35%), and medical web news (22%); other sources included experts (15%), licensing news search (12%), general press (12%), and scientific websites (6%). Almost 37 technologies (54%) were selected for further analysis. Reasons for exclusion included too early identification of technologies/prototypes without enough evidence (52%), technologies already implemented (28%), overlapping technologies between agencies (17%), and not being medical technologies (3%).
Conclusions. Experience suggests that news sections of general and medical journals, websites, and expert consultation are useful sources to identify new and emerging health technologies. The main limitation is that the technologies identified are often at too early a stage of development for further assessment. SINTESIS contributes, within a national horizon scanning system with other agencies, to broaden the information sources and provide useful data on early awareness of innovative technologies. Further studies are needed to assess the impact of emerging technologies detection on healthcare delivery.

OP55 Classification System For Innovative Medicines In The Pipeline: New Or Repurposed?

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Introduction. While various criteria exist to define or categorize innovative medicines as new or repurposed, to our knowledge there are no standardized systems that sufficiently capture the range of pipeline products. The National Institute for Health and Care Research Innovation Observatory (NIHR IO) undertakes routine horizon scanning to support health technology assessment (HTA) in England and maintains a comprehensive Medicines Innovation Database (MInD). The aim of this project is to develop a 'technology type' (new versus repurposed) classification system for application within the MInD and to provide a high-level analysis of the emergent data.
Methods. We reviewed gray literature, regulatory websites, and drug repositories to identify existing 'technology type' classification criteria. Preliminary definitions and classifications for use on the MInD were discussed, refined, and agreed by consensus. Innovative medicines on the MInD were classified as either new or repurposed based on their regulatory approval status (Marketing Authorization) using data from the electronic medicines compendium. For repurposed medicines, further classification was undertaken using abbreviated new drug application (ANDA) data from the FDA Orange Book to identify generic medicines (patency and exclusivity status). We combined a range of semi-automated and manually derived data during this process.

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Results. Six technology types were identified and applied to the MInD: (i) new technology; (ii) repurposed technology (on-patent/branded); (iii) repurposed drug (off-patent/generic); (iv) repurposed technology (never commercialized); (v) new and repurposed technology (combinations); and (vi) repurposed technology (combinations). Preliminary analysis of a subset of MInD records identified in July 2021 (n = 113) found mainly 52 percent new technologies, 27 percent new and repurposed technologies (combinations) and 14 percent repurposed technology (never commercialized). Further analysis of approximately 7000 MInD records are ongoing and will report temporal trends, regulatory status, and key challenges.
Conclusions. Our novel evidence-based approach to developing classifications for technology types of innovative medicines resulted in six mutually exclusive states that can be applied to a larger dataset. We believe this offers HTA stakeholders a mechanism to gain valuable insights into the innovation trends, gaps, and areas of unmet need.

OP56 A Life Cycle Approach To Horizon Scanning Outputs - From Signals To Guidelines

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Introduction. The National Institute for Health and Care Research Innovation Observatory (IO) is a horizon scanning centre based at Newcastle University, United Kingdom. The IO provides horizon scanning intelligence on new and innovative medicinal products to the National Institute for Health and Care Excellence (NICE) as technology briefing notifications (TBNs). We present an analysis of how TBNs produced between April 2017 and October 2021 feed into the NICE HTA process and used to inform their Technology Appraisal (TA) programme.
Methods. TBNs were mapped to relevant published NICE TA guidance and time from horizon scanning identification to NICE recommendation was studied. For mapping technologies undergoing appraisal, provisional guidance-in-development (GID) identification numbers (IDs) were used. For technologies that had not reached the NICE scoping stage yet, the NICE Topic Selection decision and ID was used.
Results. Six hundred and ninety-three TBNs were submitted to NICE between April 2017 and October 2021; 653 were prioritised for TA. Of those, eleven percent mapped to a published NICE TA guidance; forty-three percent to a GID, twenty-two percent were undergoing consultation, and three percent were not traced. Further twenty-one percent mapped to a suspended or terminated TA. Reasons for this included HTA timeliness, regulatory issues or companies unwilling to submit evidence to NICE. Time from technology identification to TA guidance publication ranged from twenty-two to 115 months. The average time from TBN submission to NICE recommendation was thirty months.
Conclusions. Timely notification is key in achieving TA recommendation aligned with market authorization but not the only influencing factor. After issuing a TBN, the NICE appraisal process might be terminated, suspended or withdrawn due to unforeseen factors. Horizon scanning plays a key role triggering the NICE TA process; understanding factors that influence the successful TA completion would streamline processes and find efficiencies.

OP57 The Identification Of Technological Innovations To Address The Challenge Of Antimicrobial Resistance Using Horizon Scanning Approaches

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Introduction. Inappropriate prescribing of antibiotics is a significant driver of antimicrobial resistance (AMR) which is a global health challenge. Technological innovations present an opportunity to reduce demand for antimicrobials through infection prevention, detection, and management. The National Institute for Health and Care Research (NIHR) Innovation Observatory (IO) has developed horizon scanning methods to identify promising innovations (devices/diagnostics/digital) and anticipate technological trends. Together these insights build a comprehensive landscape and presents a significant opportunity for decision-makers and HTAs to consider the clinical, financial, infrastructural, and logistical provisions to improve preparedness for the potential adoption of these future innovations.
Methods. The IO developed a detailed dataset of technologies by formulating search strategies for AMR, based on a comprehensive list of terms and input from expert panels. Primary and secondary sources were systematically scanned using a combination of traditional scanning methods, automated and novel artificial intelligence (AI)/machine learning techniques. Sources included clinical trial registries, MedTech news, academic sources, funding agencies, commercial sites, and regulatory authorities.
Results. Our global dataset identified over 3000 innovative preventative, detection, and monitoring technologies mapped across AMR clinical pathways (including sepsis, respiratory tract infections). Development activity largely concentrated in the United States of America and United Kingdom. Emerging trends included the application of novel materials to prevent infections (e.g., catheter coatings) and novel analytical techniques (e.g., biosensors, microfluidics, breath analysis) to support optimal patient treatment. Data analysis revealed a high proportion of technologies were diagnostic innovations addressing unmet needs such as rapid and accurate detection (including drug-resistant infections).
Conclusions. The rapid development and application of technological interventions presents an opportunity to strengthen national AMR strategies worldwide, through the adoption of new innovations. Improvements in exiting technologies, along with technological advancements have the potential to support appropriate prescribing of antimicrobials and thus address the rise in AMR.

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