

interview guide. Next, focus groups are held to reach consensus on one methodology. Two independent researchers analyze the data including a member check. **Results:** Based on our preliminary findings, our advice is to use a management dashboard to visualize patient-relevant outcomes relative to their cost. This dashboard should be discussed during quarterly meetings with care and business operation managers. A multidisciplinary improvement team is crucial to support its implementation. Investments should be made into enhanced collaboration and education among staff. Building on existing initiatives such as ICHOM1 and the FAIR principles2 is recommended. Additionally, health insurers need to be aligned with potential changes within care pathways to ensure financial support and incentives. **Conclusions:** Our preliminary findings support the need and feasibility to develop a methodology to steer on patient-relevant outcomes relative to their costs. Further research is necessary to validate this methodology before evaluating its impact.

### HSD31

#### PATIENT AND TREATMENT CHARACTERISTICS OF NEW USERS OF SGLT-2I AND/OR ARNI IN HFrEF PATIENTS WITH AND WITHOUT T2DM: A REAL-WORLD DATA ANALYSIS BASED ON GERMAN CLAIMS DATA

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**Objectives:** This study aimed to assess patient and treatment characteristics of heart failure with reduced ejection fraction (HFrEF) patients initiating sodium glucose linked transporter-2 inhibitors (SGLT-2i) and/or angiotensin receptor-neprilysin inhibitors (ARNi) depending on previous type 2 diabetes mellitus (T2DM) status in Germany. **Methods:** This observational and non-interventional cohort study used anonymized, representative German healthcare claims data of various German sick funds from 01/2019 to 12/2022. Heart failure (HF) patients aged 18 years and older who initiated therapy during January 2021 and June 2022 were included. Patient and treatment characteristics (demographics, comorbidities, and medications) among those starting SGLT-2i, ARNi, or both (SGLT-2i+ARNi) for HFrEF were compared and analyzed separately for patients with and without prior T2DM. **Results:** In total, 8,132 new users of SGLT-2i, 3,087 of ARNi, and 1,777 of SGLT-2i+ARNi were included from the database. Comparing initiations with vs. without prior T2DM, there were 6,145 vs. 1,987 users of SGLT-2i, 1,105 vs. 1,982 users of ARNi, and 834 vs. 943 users of SGLT-2i+ARNi. Out of the patients initiating ARNi, more than one-third (36.5%) initiated SGLT-2i at the same time. Overall, 77.5% of the patients were previously treated with Renin-angiotensin-aldosterone system inhibitors (SGLT-2i users: 81.6%; ARNi: 74.4%; SGLT-2i+ARNi: 63.9%), 72.1% with betablockers (SGLT-2i users: 75.0%; ARNi: 72.7%; SGLT-2i+ARNi: 58.0%), 66.9% with diuretics (SGLT-2i users: 68.9%; ARNi: 69.6%; SGLT-2i+ARNi: 53.1%), and 27.8% with Mineralocorticoid receptor antagonists (SGLT-2i users: 26.6%; ARNi: 34.2%; SGLT-2i+ARNi: 22.2%). **Conclusions:** The study showed differences in patient and treatment characteristics of HFrEF patients that align with the different recommendations for the use of SGLT-2i and ARNi. Studies comparing the costs of the two treatments need to take these differences into account. The high proportion of patients starting SGLT-2i and ARNi simultaneously indicates that the efficacy results for SGLT-2i in treating HF have already been adopted in clinical practice before the 2023 guidelines update.

### HSD33

#### OVER A DECADE OF TRENDS IN GABAPENTINOID PRESCRIBING AND DAILY DOSES AMONG PATIENTS TAKING OPIOIDS FOR PAIN MANAGEMENT IN MALAYSIA (2010-2020)

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**Objectives:** Gabapentinoids ( gabapentin and pregabalin) are indicated as first-line therapies for neuropathic pain and have witnessed a significant increase in prescriptions, particularly in the UK and the United States. They raise safety concerns about central nervous system depression, including drowsiness, dizziness, and possibly cognitive impairment. Furthermore, combining gabapentinoids with opioids can increase the risk of adverse outcomes associated with opioid use. This study evaluated the prescribing trends for gabapentinoids among opioid patients and examined their daily dose. **Methods:** This cross-sectional study was conducted from 2010 to 2020 using the prescription databases of a tertiary hospital in Malaysia. All prescriptions for gabapentinoids ( gabapentin and pregabalin) that were prescribed for patients using opioids for their pain relief were included in this study. Annual

number of patients and prescriptions were measured in repeat cross-sectional estimates. Monthly individual patient daily doses were categorized according to low, moderate and high ( gabapentin: <600, 600 to <900, ≥900; pregabalin: <300, 300 to <450, ≥450 mg/day respectively). Descriptive statistics and linear trend analysis were performed using Stata version 15. **Results:** A total of 4.1% (n=1441) of opioid patients were prescribed with gabapentinoids. Of these 1441 patients, (93.9%, n=1374 gabapentin patients, 6.1%, n=88 pregabalin patients) received a total of 12132 gabapentinoid prescriptions (88.7% gabapentin and 11.3% pregabalin). Gabapentinoid prescriptions increased from 534 to 1585 annually, representing a 196.8% increase (P < 0.005). Pregabalin prescriptions increased by 2215% from 13 to 301 (P<0.005), whereas gabapentin prescriptions increased by 146.4% from 521 to 1284 (P<0.005). Patients were mostly prescribed low doses of gabapentin (<600 mg/day) or pregabalin (<300 mg/day). **Conclusions:** Over the 11-year study period, the usage of gabapentinoids among patients taking opioids for pain management increased significantly. Future study is needed to assess the clinical outcomes of this practice and determine the degree of co-prescribing.

### HSD35

#### EFFECTIVENESS OF A COMBINED APPROACH OF HOME-BASED RESPIRATORY REHABILITATION AND TELE-REHABILITATION FOR PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

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**Objectives:** Pulmonary rehabilitation is effective for patients with respiratory issues, enhancing exercise capacity, quality of life, and reducing symptoms of dyspnea. A French health experiment tested a new model of care combining home-based and tele-rehabilitation sessions for patient with COPD. This study evaluates the quantitative outcomes of this model. **Methods:** The evaluation involved analyzing quantitative data from longitudinal study and conducting interviews with healthcare professionals and patients as part of a realist evaluation of the new models of integrated care. Study participants where hospitalized due to acute exacerbations of COPD and then participated in an 8-week rehabilitation program, included four home-based sessions and four tele-rehabilitation sessions. **Results:** A total of 306 patients were oriented towards the program. Of these, 64% opted for the mixed program, 30% chose only home-based sessions, and 6% declined both. Significant improvements in dyspnea were observed, with physical dyspnea scores decreasing by an average of 2.7 points (±4.7) and emotional dyspnea scores by 1.6 points (±3.7) on the Dyspnea-12 scale. Patients showed improved performance in several physical tests : time for the 5-sit-to-stand test decreased by 1.6 seconds (±3), and numbers of steps in 6 minutes increased by 64 (±88). Significant enhancements were noted in quality of life indicators: the COPD Assessment Test (CAT) score improved by 3.3 points (±6.2), anxiety and depression scores (HAD) decreased by 1.5 (±3) and 2.2 points (±3.3), respectively, and fatigue (FAS) scores decreased by 3.4 points (±6.3). Patients reported better perceived health status, with EQ-5D-3L scores increasing by 9 points (±18). Comparative effectiveness indicated that patients in the mixed program showed superior clinical outcomes compared to those who only participated in home-based sessions, particularly in perceived health status, handgrip strength, and anxiety. **Conclusions:** The mixed approach of pulmonary home-based and tele-rehabilitation sessions proved to be effective for delivering pulmonary rehabilitation.

### HSD36

#### MEDICAL DEVICES INDEX 2023: ACCESS AND SOURCING IN PORTUGUESE HOSPITALS, CHALLENGES AND OPPORTUNITIES

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**Objectives:** The objectives of this study were to Map the circuit of medical devices (MDs) in Portuguese Health Service hospitals, characterize their selection and sourcing process, identify mechanisms for cost reduction, measure and monitor their value, and identify key barriers. **Methods:** Data was collected through an online quantitative questionnaire applied to 22 Portuguese hospitals. It was assessed 4 hospital services with high usage of MDs: cardiology, gastroenterology, ophthalmology, and orthopedics. Data collected referred to 2023 period. Statistical analysis included descriptive and comparative analyses. **Results:** Only 37% of hospitals have an official committee responsible for selecting and sourcing MDs. Only 28% of hospitals have systems that enable cost-effectiveness analysis. The primary criteria for MDs sourcing are clinical outcomes, direct and indirect costs, and MDs training/assistance. Most hospitals use consignment mechanisms (95%) and MDs are stored in the medical service. 41% mention stock-outs as a serious problem and 29% as a relevant problem. 38% have stock-outs monthly while only 25% have no stock-outs. Consumables are the area most affected. 63% borrow MDs from other hospitals to mitigate stock-outs or to overcome bureaucratic processes. Most hospitals (79%) reprocess reusable MDs in-house (93%). There are 16% that also reprocess single-use

MDs. Regarding cost reduction mechanisms, 26% of hospitals consistently implement these actions, while 53% have done so, although not frequently. Key initiatives include aggregate annual tenders and sourcing to multiple vendors. 47% state to have multiannual MDs agreements. The main barriers to access and sourcing are the significant administrative burden, lack of human resources and the sourcing process via central services (SPMS). Overall, hospitals' perception of access to innovative MDs is average at 57%. **Conclusions:** Access to MDs in Portuguese hospitals is average and still has room for improvement both in the selection and sourcing processes, to mitigate stock-outs and increase overall efficiency.

### HSD38 CONTINUITY OF MEDICATION CARE FOR CANCER PATIENTS THROUGH OUTPATIENT SERVICE PROVISION IN SPECIALIST PRACTICES IN GERMANY

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**Objectives:** Continuity and patient-centeredness are particularly important in the medication-based care of cancer patients. Routine process data is required to evaluate the services provided. Yet the analysis of drug prescriptions from health insurance data is dependent on data availability and prone to distortion. This raises the question of how physician reimbursement data can contribute to overcoming these limitations. **Methods:** Over a period of 20 years, physician reimbursement data was analyzed, to investigate the extent of oncological treatment continuity in Germany. These so-called EBM codes are transmitted quarterly to the associations of statutory health insurance physicians (KV). From 2005 to 2020, data from every 3rd remuneration quarter per year and, since Q1/2021, data from every remuneration quarter of office-based hematologist-oncologists from all KV regions in Germany were analyzed. All EBM codes (in brackets) applicable under the Oncology Agreement included in the analysis, with a focus on the reimbursement codes for intra-cavitory (86514, 96502), intravascular (86516, 96503) and oral (86520, 96505) drug-based tumor therapy. **Results:** A maximum of n=153 hematology-oncology practices in Germany provided data on the care of up to n=161,488 cancer patients per quarter. The newly introduced billability of drug-related cancer treatments under the Oncology Agreement in 2019 resulted in a tenfold increase in these billing codes in outpatient reimbursement records between 2018 and 2019. In 2020, a plateau was reached, which was maintained even during the SARS-CoV-2 pandemic in 2021 (average of 1,072-1,231 reimbursement codes per quarter per patient for drug-based tumor therapy) and has continued to increase since Q4/2021. **Conclusions:** Physician reimbursement data can be used to map the healthcare provision in hematology-oncology outpatient practices over time. This German-wide analysis shows a stable medication supply situation for cancer patients in the ambulatory setting over the 20-year-observation period, even during the SARS-CoV-2 pandemic.



### HSD39 BELIEFS AND BEHAVIORS OF HEALTHCARE WORKERS TOWARDS INFLUENZA VACCINATION: A SYSTEMATIC REVIEW

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**Objectives:** Influenza is a viral disease, responsible for nearly 1 billion infections and half a million deaths annually, worldwide. Annual vaccination is the most effective way to prevent infections caused by seasonal influenza. Given that healthcare workers (HCWs) play a key role in vaccine acceptance and advocacy, this study explored the beliefs and behaviors of HCWs towards influenza vaccination. **Methods:** A systematic literature review was conducted according to the guidelines of the PRISMA statement. The PubMed/Medline, Cochrane and Google Scholar databases were researched, by combining the keywords referenced hereafter: Beliefs, Attitudes, Behaviors, Influenza Vaccination and HCWs. Additionally, the following eligibility criteria were applied: a) text in the English language, b) year of publication from 2000 to June 2024. Initially, out of the 716 records found, twenty-six articles were used to analyze influenza vaccination acceptance and engagement with vaccination advocacy. Past vaccination behavior and HCWs' recommendation were also evaluated. **Results:** The preliminary results of this research indicated that strong positive attitudes towards influenza vaccination enhance HCWs' role in vaccination acceptance and advocacy (engaged sentiment: 66%). In particular, the vaccination acceptance and engagement to recommendation range broadly from 10% to 90% among HCWs, depending on the geographical region and profession, with specialist physicians being the most likely to belong to the confident sentiment cluster. Furthermore, the main reasons for flu vaccination recommendation by HCWs are presented, and issues related to denial or acceptance of it are also highlighted. **Conclusions:** The study showed that there is room for improvement as regards both vaccination acceptance and advocacy rates among HCWs, which would be expected to lead to higher rates of influenza vaccination in the



community, especially in the emerging countries. The expected benefits from such an outcome are improved vaccination rates and better control of morbidity and mortality related to seasonal influenza infection.

### HSD40 THERAPEUTIC DECISION-MAKING FOR PATIENTS WITH SICKLE CELL DISEASE (SCD) AND HOW RESEARCH FINDINGS INFLUENCE THE POTENTIAL USE OF MITAPIVAT

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**Objectives:** The phase III RISE UP trial evaluated the safety and efficacy of mitapivat in patients with SCD. Mitapivat was found to be well tolerated and improved clinical markers of SCD, however it is unclear how these findings will influence real-world use of mitapivat. This study investigated providers' perceptions of mitapivat for SCD, the RISE trial's findings, and prescribing behavior. **Methods:** US hematologists and oncologists attended an in-person forum in April 2024 where they responded to questions on their clinical practice. Not all participants answered every question. Data were analyzed using descriptive statistics. **Results:** Sixty-five physicians participated. Providers (n=59) reported that in the last 3 months, they had 1-3 (27%), 4-6 (14%), 7-9 (7%), 10 or more (3%) unique patients with SCD referred to their practice and 27% did not manage SCD. Sixty-three providers personally managed patients with SCD or β-thalassemia in longitudinal care in both outpatient and inpatient settings (41%), in the outpatient setting (11%), in the inpatient setting (10%), and in the emergency care setting (5%) while 21% reported other physicians manage those patients and 13% refer them elsewhere. Providers (n=63) reported that efficacy (38%), payer approval (37%), patient's quality of life (33%), and therapy availability (30%) were the factors most influential on their SCD prescribing behavior, when asked to select three factors. After reviewing the RISE UP data, providers (n=63) reported they were very likely (59%) or somewhat likely (17%) to prescribe mitapivat with 2% reporting they were not very likely to prescribe mitapivat if it was FDA approved. **Conclusions:** This study demonstrated that efficacy, payer approval, patient quality of life, and therapy availability influence providers' therapeutic decisions. Physicians exposed to mitapivat data were overwhelmingly likely to consider its incorporation into SCD treatment strategy.

### HSD41 HOSPITAL AI/ML ADOPTION BY NEIGHBORHOOD SOCIAL VULNERABILITY

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**Objectives:** AI/ML-assisted care coordination has the potential to reduce health disparities, but there is a lack of empirical evidence on AI's impact on health equity. The objective of the study is to understand the variation in AI/ML adoption across different hospital characteristics and explore how AI/ML is utilized, particularly in relation to neighborhood social vulnerability. **Methods:** We used the linked datasets from the 2022 American Hospital Association (AHA) Annual Survey and the 2023 AHA Information Technology Supplement. The data was further linked to the 2022 Area Deprivation Index (ADI) for each hospital's service area. State-fixed effect regressions were used. A decomposition model was also used to quantify predictors of AI/ML implementation, comparing hospitals in higher vs. lower ADI areas. **Results:** Approximately 73% of hospitals utilized AI/ML. Hospitals serving the most vulnerable areas (ADI Q4) were significantly less likely to use AI/ML (coef = -0.08, p<0.05) and provided fewer AI/ML-related workforce applications (coef=-0.37, p=0.01), compared to those in the least vulnerable areas. Decomposition results showed that our model specifications explained 81% of the variation in AI/ML adoption between hospitals in ADI Q4 versus ADI Q1 - Q3. Additionally, Accountable Care Organization affiliation accounted for 16% - 30% of differences in AI/ML utilization across various measures. **Conclusions:** The underuse of AI/ML in rural and economically disadvantaged areas, particularly in workforce management and EHR implementation, suggests that these communities may not fully benefit from advancements in AI-enabled healthcare. Our results further indicate that financial incentives could be strategically used to support AI integration.

### HSD42 UPTAKE OF GUIDELINE-DIRECTED MEDICAL THERAPY IN HEART FAILURE WITH REDUCED EJECTION FRACTION (HFrEF) AND DISPARITIES IN THE UNITED STATES: A MEDICARE DATABASE STUDY

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