overload in the RV. Surgical intervention of TR is associated with mortality rates of 10 percent. Transcatheter therapy interventions (TTI) can be an alternative for severe TR. The aim of this study is to assess effectiveness and safety of TTI.

**Methods.** A systematic review was carried out. The scientific literature search was performed in major medical databases. Studies analyzing the efficacy and safety of the devices were included. Outcomes related with mortality rates, TR volume reduction, echocardiographic findings and adverse events were analyzed. The methodological quality of the studies was analyzed with the Canadian Institute of Health Economics Quality Appraisal Checklist.

**Results.** Nine studies comprising 557 patients were included (two first-in-human studies, one retrospective, five single arm prospective studies and one international registry). The studies were small with short follow up. The outcome of procedural success ranged from 80 to 100 percent. Mortality rates at 30 days were lower than 5 percent. Improvements in reduction of TR, European System for Cardiac Operative Risk Evaluation (EuroSCORE), heart failure symptoms or quality of life scores were observed in all studies.

**Conclusions.** TTI for moderate-severe TR show significant reduction of annulus dimension, improvements in heart failure symptoms and quality of life, which are maintained in mid-term follow up. TTI present lower rates of major serious adverse events. No differences were observed between different TTI devices in terms of procedural success, mortality or safety. Randomized studies comparing TTI with optimal medical therapy are needed to confirm the preliminary clinical impact in patients with severe TR, and define aspects such as patient selection, risk factors associated with procedural success or mortality rates.

## PP445 Mapping The Trend Of The Da Vinci Surgical System Use In China

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**Introduction.** A robotically assisted surgical system, the da Vinci surgical system (DVSS), is a sophisticated surgical platform equipped with immersive 3D visualization and dexterous articulating endoscopic instruments. Surgeons can intuitively control the surgical system to perform delicate surgical tasks. Robotic surgery has gained popularity globally ever since its birth and was approved to market by the China Food and Drug Administration in 2006. This study aims to map the current use of DVSSs in mainland China and the trends from 2009 to 2019.

**Methods.** A full-sample survey of all hospitals equipped with DVSSs was conducted in mainland China, collecting data on hospitals and surgical departments using DVSSs, operation volume, and time of installation. Disease classification was standardized to obtain DVSS use in each department. EXCEL software was used for logging and cleaning the data. The analysis focused on descriptive analysis to map trends of DVSS use in China and present geographical and department distribution.

**Results.** The DVSSs installed have grown from seven in 2009 to 135 in 2019. By the end of 2019, twenty-eight provinces in China have been equipped with the DVSSs, among which eighty-seven in the eastern regions, twenty-seven in the central regions, and twenty-one in the western regions. The annual volume of operations grew from 339 in 2009 to 38,991 in 2019, at an annual rate of 60.7 percent. The average workload conducted by a single robot is much higher than that of their counterparts in other countries. The largest share of the volume is in department of urology (48%), followed by general surgery (25%) and thoracic surgery (13%).

**Conclusions.** The use of DVSSs in China has been growing rapidly and extensively, with certain differences between geographical regions and surgical departments. We need to further explore the factors affecting its use and operation efficiency and to evaluate the effectiveness as well as cost-effectiveness in real-world clinical practice to inform public policies on application of DVSS, for example, license and insurance.

## PP455 Cost-effectiveness Of Ixazomib-Based Regimen Compared With Bortezomib-Based Regimen In Chinese Patients With Relapsed/Refractory Multiple Myeloma: A Retrospective Study

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**Introduction.** The treatment of relapsed/refractory multiple myeloma (RRMM), a common hematological malignancy, remains a great challenge in China, partially due to the limited accessibility to novel agents and inadequate public health insurance coverage. Ixazomib, a novel oral proteasome inhibitor (PI), was approved by the China Food and Drug Administration (CFDA) for RRMM in 2018. While bortezomib, a traditional PI, is the recommended agent in the clinical guideline for MM. Here, we compared their costs and effectiveness.

**Methods.** RRMM patients who has received an ixazomib-based regimen (at least 2 cycles) were analyzed. Using a propensity score matching method, we generated a control group of RRMM patients who received the bortezomib-based regimen. The criteria included the number of treatment lines, age, and the revised international staging system stage (R-ISS) which representing the disease stage for myeloma, and paired at a ratio of 1:2 (allowing one control to match multiples). The difference in hospitalization stay, grade 3/4 adverse events rates, overall response rate (ORR), mortality during treatment, and treatment costs was then compared.

**Results.** Nineteen patients received ixazomib and twenty-seven that received bortezomib were included. The ixazomib-group demonstrated a shorter hospital stay (9 days versus 27 days, $p < 0.001$), lower grade 3–4 adverse events rates (42.1% versus 55.6%, $p < 0.001$), higher ORR (63.2% versus 48.1%, $p = 0.228$), and lower mortality rate during treatment (0% versus 7.4%, $p = 0.169$) than that of bortezomib-group. The ixazomib group had lower total costs (127,620CNY versus 156,424CNY [18,033USD versus 22,103USD], $p > 0.05$), lower drug costs (98,376CNY versus 103,307CNY [13,901USD versus 14,598USD], $p > 0.05$), and the lower costs of supportive treatment (5,507CNY versus

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14,701 CNY [778USD versus 2,077USD], $p < 0.001$). Only in terms of self-funded costs, the bortezomib-based regimen was significantly lower (37,127CNY versus 11,521CNY [5,246USD versus 1,628USD], $p < 0.001$).

**Conclusions.** Compared with the bortezomib-based regimen, the ixazomib-based regimen has better therapeutic effects on MM patients while saving costs. Hence, it may be preferable for use in the treatment of RRMM in China.

## PP459 Healthcare Resource Utilisation Of Anti-Neutrophil Cytoplasmic Antibody Associated Vasculitis Patients: Real-World Data From English Clinical Practice Research Datalink

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**Introduction.** Anti-neutrophil cytoplasmic antibody-associated vasculitis (AAV) is a rare, serious and often life-threatening disease. The use of available treatments options (immunosuppressants and glucocorticoids (GCs)) improves the prognosis of AAV greatly; however, GC use is associated with significant toxicity related morbidities and the management of AAV is costly. However, information of the costs associated with AAV in the United Kingdom is limited. This study aimed to quantify the burden of AAV using a large England and Wales source of real-world data, the Clinical Practice Research Datalink (CPRD) Hospital Episode Statistics (HES) linked database, to identify healthcare resource utilization and generate estimates of costs.

**Methods.** Incident patients ($n = 220$) were included if ≥ eighteen years, with diagnosis read codes G754.00/G75A.00; ICD codes M31.3/M31.7 from January 1997 to December 2017. Costs were taken from Unit Costs of Social and Health Care, National Health Service reference costs and electronic drug tariff. Distinction was made between type of consultations, outpatient visits and inpatient admission based on Healthcare Resource Grouping. Costs were summarised as mean per member per year (PMPY) in 2016 prices and presented before and after diagnosis.

**Results.** In the year preceding AAV diagnosis, mean costs PMPY were GBP12,012 [USD15,400], (GBP5,339 [USD6,845] inpatient, GBP766 [USD982] outpatient, GBP314 [USD403] GP, GBP5,594 [USD7,172] GP prescribing). In the year of AAV diagnosis (Y0) costs PMPY were GBP28,252 [USD36,220], GBP15,436 [USD19,790] inpatient, GBP1,863 [USD2,388] outpatient, GBP2,407 [USD3,086] GBP8,545 [USD10,956] GP prescribing). Costs in the years post-diagnosis remained higher than pre-diagnosis with a low of GBP22,839 [USD29,281] in Y4. The prescribing costs (GC, methotrexate and azathioprine) were the largest contributor in Y0-Y4 (GBP15,047 [USD19,291] Y1; GBP12,325 [USD15,801] Y4).

**Conclusions.** Diagnosis of AAV is associated with increased healthcare costs, including higher inpatients costs in the year of diagnosis and subsequently higher prescribing costs in the community. Given the incidence (17.2 cases per million) and considering only costs in the year of diagnosis, an additional GBP15.6 million [USD24.6 million] of healthcare resource utilization occurs every year from new diagnoses of AAV. However, this will likely be underestimated due to the lack of secondary care prescribing data in CPRD-HES and prescribing of immunosuppressant treatments in this setting.

## PP469 From Theory To Practice: Which Value Framework Is Applied For Onco-Hematology Therapies In Italy? A 5-year Retrospective Analysis

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**Introduction.** Different value frameworks (VFs) have been proposed in order to translate available evidence on risk-benefit profiles of new treatments into Pricing & Reimbursement (P&R) decisions. However limited evidence is available on the impact of their implementation. It's relevant to distinguish among VFs proposed by scientific societies and providers, which usually are applicable to all treatments, and VFs elaborated by regulatory agencies and health technology assessment (HTA), which focused on specific therapeutic areas. Such heterogeneity in VFs has significant implications in terms of value dimension considered and criteria adopted to define or support a price decision.

**Methods.** A literature research was conducted to identify already proposed or adopted VF for onco-hematology treatments. Both scientific and grey literature were investigated. Then, an ad hoc data collection was conducted for multiple myeloma; breast, prostate and urothelial cancer; and Non Small Cell Lung Cancer (NSCLC) therapies. Pharmaceutical products authorized by European Medicines Agency from January 2014 till December 2019 were identified. Primary sources of data were European Public Assessment Reports and P&R decision taken by the Italian Medicines Agency (AIFA) till September 2019.

**Results.** The analysis allowed to define a taxonomy to distinguish categories of VF relevant to onco-hematological treatments. We identified the "real-world" VF that emerged given past P&R decisions taken at the Italian level. Data was collected both for clinical and economical outcomes/indicators, as well as decisions taken on innovativeness of therapies. Relevant differences emerge between the real world value framework and the one that should be applied given the normative framework of the Italian Health System.

**Conclusions.** The value framework that emerged from the analysis addressed issues of specific aspects of onco-hematological treatments which emerged during an ad hoc analysis conducted on treatment authorized in the last 5 years. The perspective adopted to elaborate the VF was the one of an HTA agency responsible for P&R decisions at a national level. Furthermore, comparing a real-world value framework with the one based on the general criteria defined by the national legislation, our analysis allowed identification of the most critical point of the current national P&R process in terms ofsustainability of current and future therapies as advance therapies and agnostic-tumor therapies.

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