

**Results:** There were 9,217 new patients with depression in 2023. Our closed cohort model projected that the cumulative cost of all-cause and psychiatric care for these patients would reach USD309 million and USD58 million by 2032, respectively. In our open cohort model, 55,849 to 57,896 active prevalent cases would cost more than USD322 million and USD61 million annually in all-cause and psychiatric care, respectively. Although less than 20 percent of patients would develop TRD or its associated comorbidities, they contribute 31 to 54 percent of the costs. The key cost drivers were the number of annual incident cases and the probability of developing TRD and associated comorbidities and of becoming a low-intensity service user. These factors are relevant to early disease stages.

**Conclusions:** A small proportion of patients with depression develop TRD, but they contribute to a high proportion of the care costs. Our projection also demonstrates the application of RWE to model the long-term costs of care, which can aid policymakers in anticipating foreseeable burden and undertaking budget planning to prepare for future care needs.

## PD135 Real-World Evidence On The Effects Of Robotic Prostatectomy In Poland

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**Introduction:** Robot-assisted radical prostatectomy (RARP) was incorporated into the public healthcare system in Poland in April 2022. RARP quickly gained popularity among healthcare providers, constituting nearly 25 percent of all publicly financed prostatectomies by the end of 2022. The aim of this study was to evaluate the effects of RARP using early real-world data from the public reporting system.

**Methods:** The sample included 7,177 patients who had either RARP or conventional prostatectomy (CRP) between 27 March and 31 December 2022. CRP was performed as either an open or a laparoscopic procedure. Due to reporting limitations, a comparison with laparoscopic radical prostatectomy (LRP) only was carried out on a subset of 2,306 patients who had prostatectomy after 20 September 2022. Data analyzed included length of hospitalization, the percentage of patients who received transfusions of blood products or who were hospitalized within 30 days of discharge, and number of deaths.

**Results:** In total 2,190 patients had RARP. Compared with both CRP and LRP, RARP was associated with a reduction in hospital stay by 1.13 days (95% confidence interval [CI]: -1.27, -0.99;  $p < 0.0001$ ) and 0.83 days (95% CI: -1.02, -0.64;  $p < 0.0001$ ), respectively, and a lower risk of needing a transfusion of blood products, with odds ratios of 0.39 (95% CI: 0.31, 0.49;  $p < 0.0001$ ) and 0.53 (95% CI: 0.39, 0.77;

$p = 0.0008$ ), respectively. There were no statistically significant differences in rates of rehospitalization. Only three hospitalizations ended due to death. By 31 December 2022 only seven patients in the RARP group and 19 in the CRP group had died.

**Conclusions:** The findings of this study suggest that there is a marginal, though statistically significant, benefit with RARP, compared with CRP and LRP, that may be factored into economic evaluations of RARP.

## PD136 Re-evaluation Of Chest X-Ray Screening For Lung Cancer With Consideration Of Study Context

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**Introduction:** Lung cancer causes a heavy burden worldwide and an efficient screening program is needed. Although low dose computed tomography screening has become mainstream for lung cancer screening, chest X-ray (CXR) screening has continued in Japan. We re-evaluated the efficacy and effectiveness of CXR screening and reconsidered the context of the studies.

**Methods:** We performed a systematic review and meta-analysis of CXR screening for lung cancer. The study design included randomized controlled trials (RCTs), cohort studies, and case-control studies (CCSs) that evaluated the efficacy or effectiveness of CXR screening. Searches were conducted in the PubMed, Cochrane Library, Web of Science, and Ichushi-Web databases for literature published up to April 2022. We examined the settings of the selected studies.

**Results:** From about 4,000 candidate articles, six RCTs, one cohort study, and six CCSs were selected. Five RCTs were conducted in the 1960s and 1970s, except for the Prostate, Lung, Colorectal, and Ovarian Cancer (PLCO) Screening Trial. Six CCSs conducted in Japan reported reductions in mortality from lung cancer. A meta-analysis of the six CCS showed a 47 percent reduction in mortality from lung cancer (adjusted odds ratio 0.53, 95% confidence interval: 0.50, 0.63). In the PLCO trial, mortality was reduced by nine percent at the six-year follow up, but this result was not statistically significant. The histological distribution of lung cancer was similar between the PLCO trial and the Japanese CCSs.

**Conclusions:** The dilution effect might affect the PLCO trial results because of extended follow up beyond the lead time of CXR screening. Although evidence on CXR screening for lung cancer is limited, CXR screening might be adopted in Japan considering the histological changes in lung cancer that have occurred due to the decline in smoking rate.