Background

- The Oncology Care Model (OCM) is a voluntary five-year bundled payment program developed by the Center for Medicare & Medicaid Innovation (CMI). Starting in 2016, the OCM is one of the first physician-led specialty care models created by CMS with the aim to improve quality and reduce the cost of cancer care. There are 170 oncology practices, representing more than 6,300 practitioners, and 13 payers across the US participating in the model.

- The episode payment approach in the OCM introduces performance-based payments (PBPs) alongside traditional fee-for-service reimbursement. This is not yet a clear understanding of the impact of the OCM's implementation in terms of the number of practitioners receiving performance-based payments and their impact on treatment patterns.

Objective

To assess costs of care and the implications for OCM performance-based payments for each of the 21 OCM cancer types.

Methods

- OCM episodes were constructed and analyzed using Medicare Part A/B/FFS claims and Part D prescription drug event (PDE) data under a CMS research data use agreement. We analyzed a cohort of patients including all cancer patients receiving cancer treatment that represented less than 20% of total Medicare beneficiaries.

- Average Medicare costs and predicted costs, as determined by the OCM Prediction Model, were compared for each of the 21 types of cancers included in OCM benchmarks during the baseline period from January 2012 through June 2015.

- Cost performance is measured in the OCM by comparing actual Medicare costs for a participant's patients with their benchmark amount of Medicare costs. Benchmarks are designed to represent what Medicare costs would have been for a participant's patients' without the presence of OCM participation. Benchmarks are not the result of predicted costs alone but are also factoring in the use of novel therapies.

- OCM methodology developed by CMS was repurposed for calculating actual and predicted episode costs to determine ‘average cost performance’ (average actual costs relative to predicted costs) for some types of cancers would contribute positively or negatively toward a participant’s ability to earn performance-based payments.

- OCM methodology was also repurposed for calculating aggregate quality scores for the claims-based quality measures to determine ‘average performance’ (for some types of cancers would contribute positively or negatively toward a participant’s ability to earn performance-based payments).

- Episodes were not attributed to OCM participants—itself, episodes were constructed for eligible Medicare FFS beneficiaries. The most recent data at the end of June 2018 was used to identify episodes in the Parts A/B/D Medicare data.

- To identify actual episode costs, baseline trend and intervention adaptations published in the OCM payment methodology document were applied to the Medicare payment amounts estimated using the Parts A/B/D Medicare data. For Part D, Medicare costs are included in both the federal share of gross drug costs above the out-of-pocket (OOP) maximum co-payment threshold (results presented in additional tables). Claims-based costs are used to identify what expenses might be considered as cost sharing.

- To estimate predicted episode costs, the cost coefficient's updated version for Performance Period 3 and forward/published by CMS were used. Parts A/B/D Medicare data were used to identify the presence or absence of covariates for each episode. We estimated the cost of an episode, the OCM Prediction Model uses a generalized linear regression approach to compute expected costs. The OCM Prediction Model, developed by CMS, uses generalized linear regression models to estimate cost coefficients for covariates that include cancer type, patient age, medical procedures (e.g., surgeries, radiation therapy, bone marrow transplant) performed during episode, patient history of chemotherapy, non-cancer comorbidities, etc.

- To estimate average aggregate quality scores for each type of cancer, average aggregate quality scores were estimated for each of the three claims-based OCM quality measures (OCM 1). Proportion of patients with all-cause hospital admissions, OCM 2. Proportion of patients with all-cause emergency department visits not resulting in a hospital admission, OCM 3. Proportion of patients who died or were admitted to hospital for 3 or more. Average quality scores were calculated with OCM quality measure performance thresholds published by CMS Solutions in Healthcare Communities.

Conclusion

- This analysis attempts to identify the type of cancer treated by the participant that can impact an individual's potential to earn performance-based payments.

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Figure 1: Composition of Cancer Types During the OCM Baseline Period (Jan 2012 – Jun 2015) Across All Eligible Medicare FFS Beneficiaries

Figure 2: Comparing Current Actual Medicare Costs vs Predicted Costs By Cancer Types, During the OCM Baseline Period 2012-2015

Figure 3: Comparing Average Actual-to-Predicted Medicare Cost Ratios By Cancer Types, During the OCM Baseline Period 2012-2015

Figure 4: Aggregate Quality Scores for Claims-Based Quality Measures By Cancer Type During the OCM Baseline Period (Jan 2012 – Jun 2015) Across All Eligible Medicare FFS Beneficiaries

- Based on the OCM's claims-based quality measures, performance on aggregate quality scores was lower for some types of cancers than others. For acute leukemias and head-and-neck cancers, on average, none of the possible quality points were achieved. For bladder cancers, 52 percent of the possible quality points were achieved, on average (Figure 4).

- Eleven cancer types achieved, on average, less than 50 percent of the possible quality points. These eleven cancer scores account for 20 percent of all OCM episodes.

- Ten cancer types achieved, on average, greater than 50 percent of the possible quality points. These eight cancer types account for 80 percent of all OCM episodes.

- Of five cancer types having actual costs that exceeded predicted costs by 3 percent or more, six achieved less than 50 percent of the possible quality points.

- Of the five cancer types having actual costs that fell below predicted costs by 3 percent or more, four achieved greater than 50 percent of the possible quality points.

- The aggregate quality score for all OCM cancers is 62% because the total number of cancers is heavily weighted toward breast and prostate cancers, which have high quality scores.

Results

- All 1,921,600 episodes were identified in baseline period.

- More than half (62%) of cancer episodes occurring during the OCM baseline period fell within 2 cancer types: breast and prostate (Figure 1).

- Across all OCM episode types, an OCM episode’s average actual and predicted cost for the baseline period was $20,900. For individual cancer type, average actual and predicted cost differences varied (Figure 2).

- Actual costs differed from predicted costs more for some types of cancer than others (Figure 3). For lung and liver cancer episodes, actual costs were, on average, 8 percent higher than predicted costs.

- For bladder and female GU cancers other than ovarian, actual costs were, on average, 5 percent lower than predicted costs.

- Eight cancer types have actual costs that, on average, exceeded predicted costs by 3 percent or more. These eight cancers account for 10 percent of OCM episodes.

- Five cancer types have actual costs that, on average, fell below predicted costs by 3 percent or more. These five cancers account for almost 50 percent of OCM episodes—however, excluding breast cancer, the other four cancer account for 11 percent of OCM episodes.

- Eight cancer types have actual costs that, on average, are within +/- 3 percent of predicted costs. These eight average costs account for 41 percent of OCM episodes.