



Using Health Services Cost Review Commission (HSCRC) All-Payer Case Mix Data to Assess the Performance of Maryland's All-Payer and Total Cost of Care (TCOC) Models

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Outline of Presentation

- Overview
- Review of Maryland's All Payer and TCOC Models
- Data & Methods
- Analysis
- Questions

Overview

Overview

- In agreement with the Centers for Medicare & Medicaid Services (CMS), the state of Maryland (MD) operates the Total Cost of Care (TCOC) Model which encompasses a variety of care redesign programs that aim to contain costs while improving quality of care.
- This presentation will showcase how MD's Health Services Cost Review Commission (HSCRC) Inpatient and Outpatient All-Payer Case Mix data allow stakeholders to:
 - Monitor the performance of the model
 - Ensure the state meets financial and quality of care targets
 - Assess variation in performance across commercial and public payers
 - Inform policy development

Review of Maryland Healthcare Model

Overview of Maryland All-Payer Model

- Since 1977, MD has used an all-payer rate hospital payment model.
 - All patients are charged the same amount for a given hospital service regardless of payer
 - Standard cost per admission indexed to APR-DRG codes
- By 2007 Maryland per capita Medicare costs were among the highest in the nation and readmission rate was 170% of national average.
- In 2014, MD and CMS entered into the All-Payer Model contract (2014-2018).
- This model maintains the all-payer rate but imposes an all-payer global budget limit (revenue cap) on MD hospitals.
- Model is successful in containing growth in hospital costs but not PAC services.

Overview of Maryland TCOC Model

- Expands the MD All-Payer Model by focusing on coordinating care between hospital and post acute care settings.
- 8 year model (2019-2026) with possibility of expansion depending on State performance.
- TCOC Model is a Multi-Payer Advanced Alternative Payment Model.
- Encompasses 3 large programs: Hospital Payment Program (HPP), the MD Primary Care Program (MDPCP), and the Care Redesign Program (CRP).

Overview of Maryland TCOC Model

(continued)

- To maintain the TCOC Model waiver, CMS requires MD to meet several financial and quality of care targets, including:
 - All-Payer hospital revenue growth per capita must not exceed 3.58% per year.
 - MD needs to save at least 1 billion in cumulative annual Medicare savings (Parts A and B) by end of 2023.
 - Implement State's hospital quality and value-based payment programs that achieve or surpass the results in terms of patient outcomes and cost savings of CMS national VBP, HACRP and HRRP programs.

Data

HSCRC Inpatient and Outpatient Case Mix Files

- We use HSCRC All-Payer encounter-level data (“Case-Mix data”) from January 1, 2013 to December 31, 2019 to perform our analysis.
- These data are abstracted from medical records of the state’s over 600 K annual inpatient discharges and ~ 5.5 M outpatient visits.
- Data includes demographic (e.g., patient & physician IDs, gender, race, residence, etc.), financial (e.g., payer, charges, UB04 billing info) and clinical information (e.g., date of service, principal/secondary diagnosis, source of admission, types of services provided, discharge status of patient, etc.)

Methods

Methods

- We follow the methodology outlined in the MD TCOC State Agreement to estimate financial targets.
- We produce summary statistics, year over year (YoY) growth rates and trends of key spending and quality of care measures to monitor performance.

Analysis

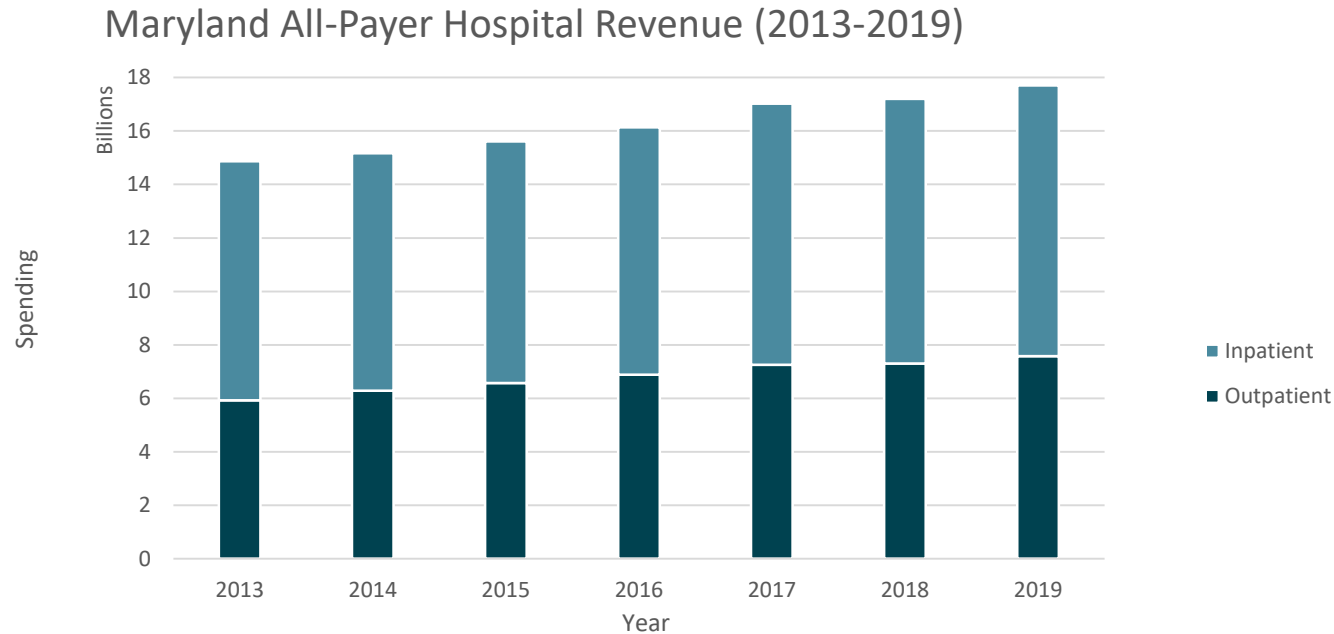
Annual All-Payer Hospital Revenue per Capita Growth Cannot Exceed 3.58%

Maryland All-Payer Hospital Total Spending and YoY Growth Rate (2013-2019)

| Year | Maryland Total Hospital Revenue | Maryland Population | Maryland Charges per Capita | Maryland YoY Growth Rate per Capita |
|------|---------------------------------|---------------------|-----------------------------|-------------------------------------|
| 2013 | \$ 14,862,002,557 | 5,923,188 | \$2,509 | - |
| 2014 | \$ 15,164,900,879 | 5,957,283 | \$2,546 | 1.45% |
| 2015 | \$ 15,607,390,920 | 5,985,562 | \$2,608 | 2.43% |
| 2016 | \$ 16,135,992,620 | 6,003,323 | \$2,688 | 3.08% |
| 2017 | \$ 17,022,473,630 | 6,023,868 | \$2,826 | 5.13% |
| 2018 | \$ 17,199,958,093 | 6,035,802 | \$2,850 | 0.84% |
| 2019 | \$ 17,702,211,230 | 6,045,680 | \$2,928 | 2.75% |

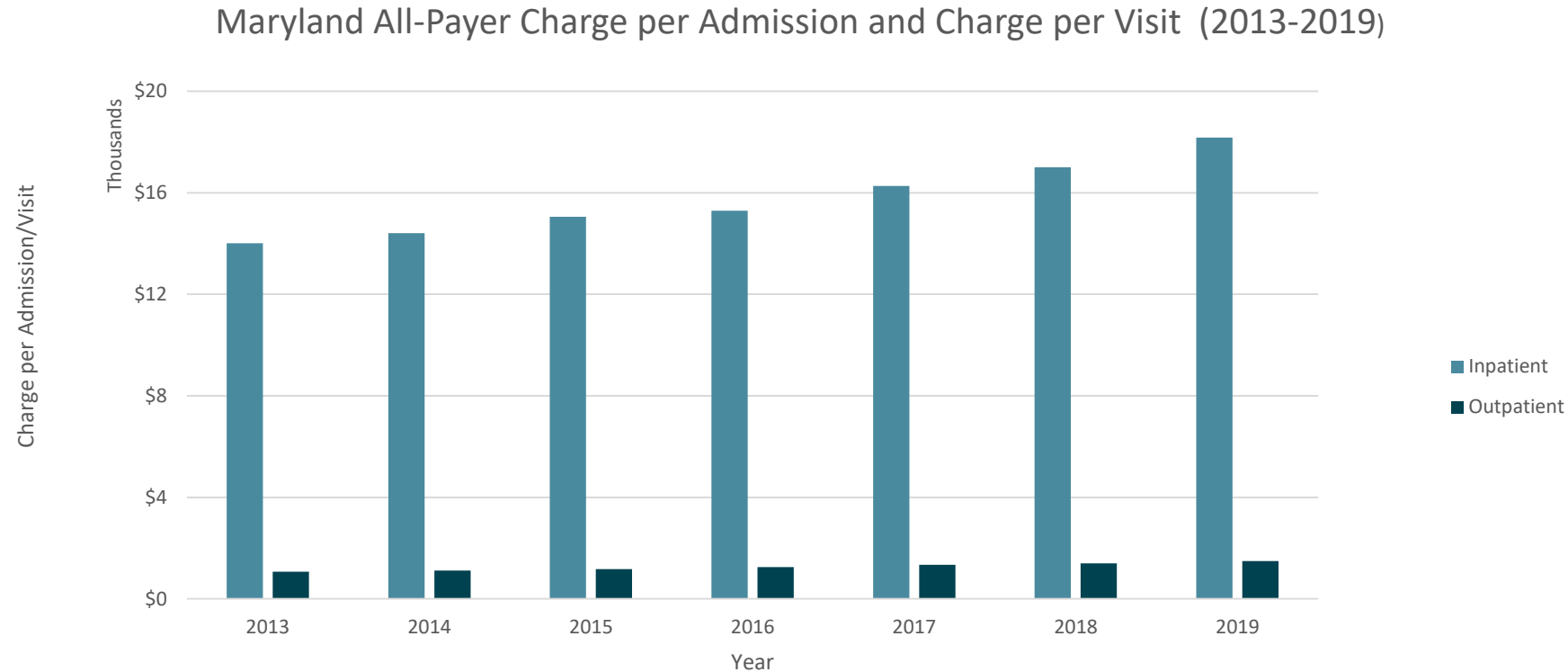
Except for CY 2017, Maryland hospitals did not exceed the 3.58% revenue per capita growth limit.

All-Payer Hospital Revenue by Type of Service



Total, and per encounter, inpatient and outpatient revenue have grown over time

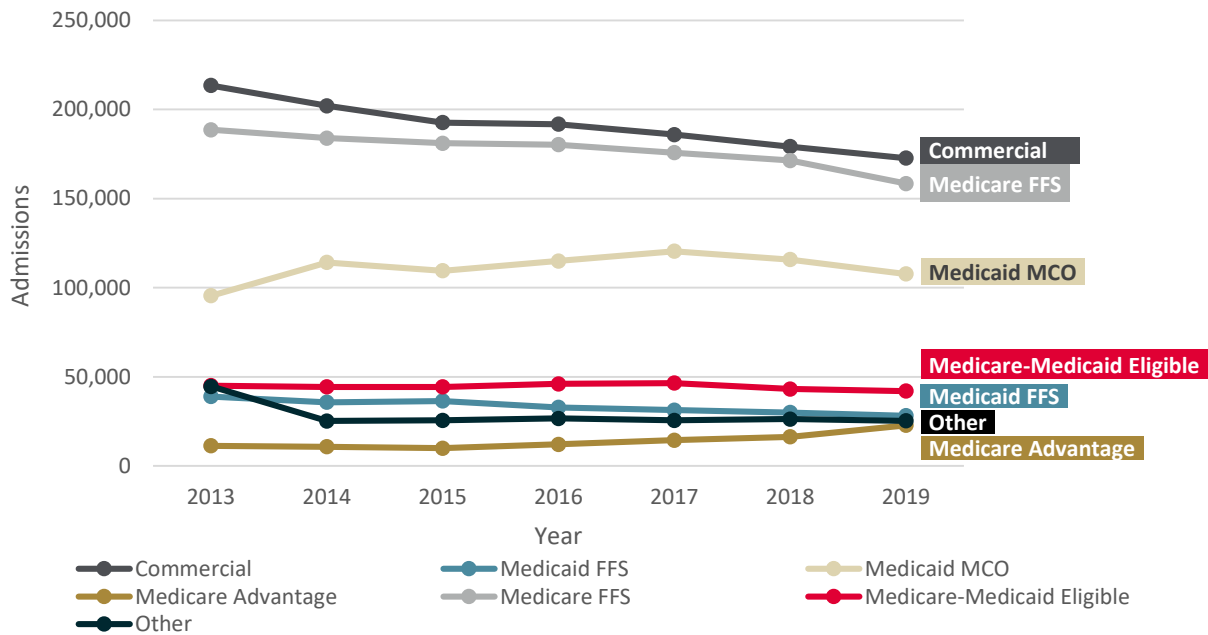
All-Payer Charge per Admission and per Visit



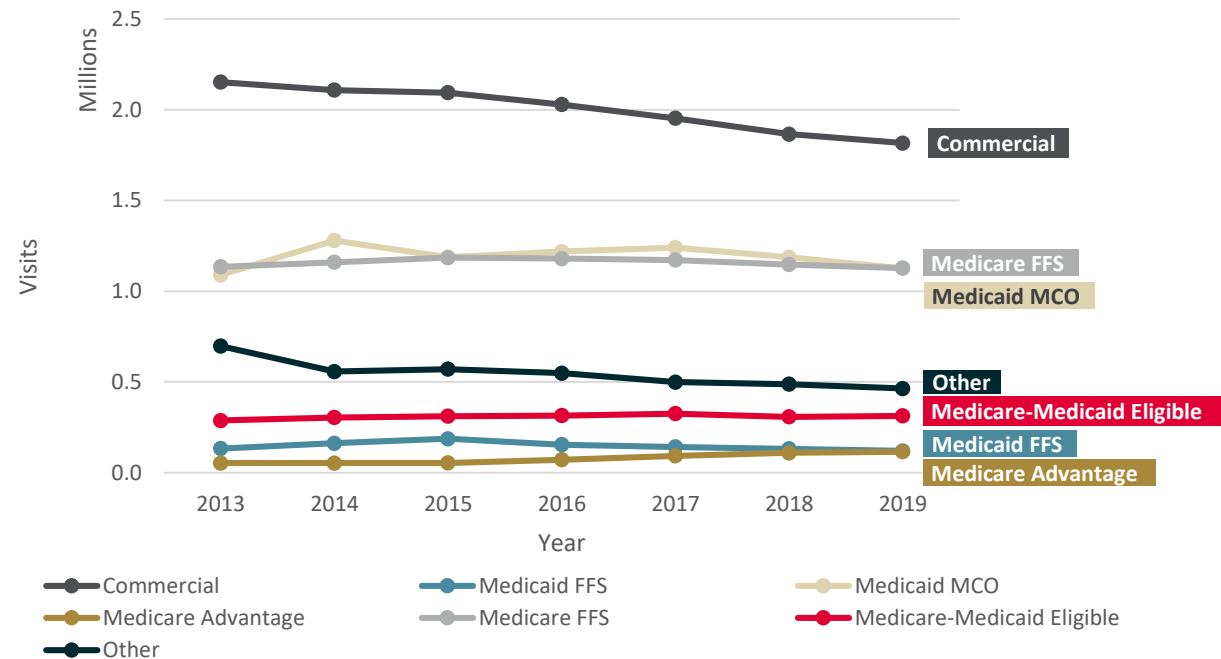
Although the total number of inpatient and outpatient encounters has decreased over time, the charge per encounter has increased.

Inpatient Admissions and Outpatient Visits by Payer Type

Inpatient Admissions by Payer Type



Outpatient Visits by Payer Type



While the share of commercially-covered inpatient and outpatient services is greater than that of other payers, it has decreased over time.

All-Payer Hospital Readmissions & Charges

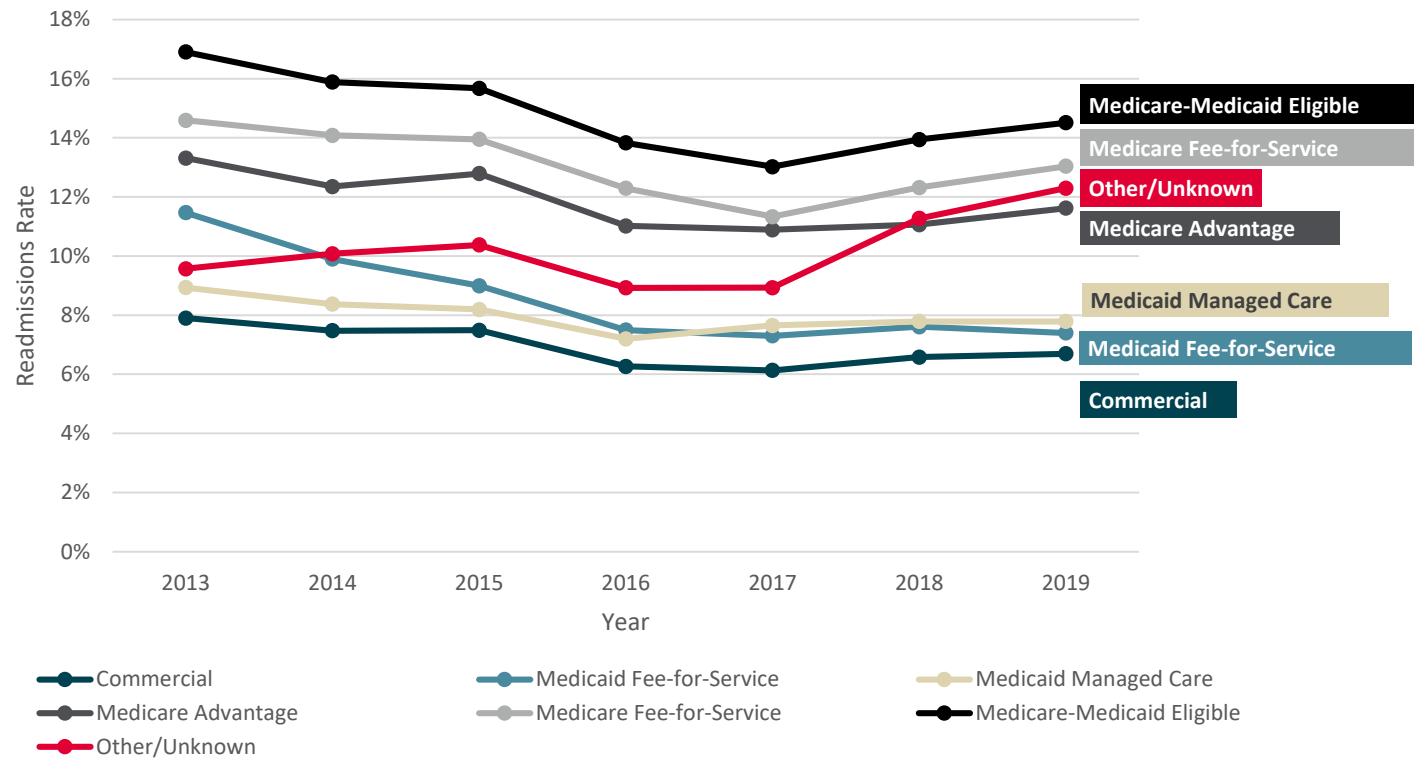
Maryland All-Payer Hospital Readmissions Rate (2013-2019)

| Year | Total Maryland All-Payer Readmissions | | | | |
|------|---------------------------------------|--------------|-------------------|------------------------|---------------------------------------|
| | Admissions | Readmissions | Readmissions Rate | Charge per Readmission | Charge per Readmission Percent Change |
| 2013 | 651,636 | 73,047 | 11.21% | \$19,057.45 | - |
| 2014 | 647,864 | 69,071 | 10.66% | \$20,451.37 | 7.31% |
| 2015 | 617,282 | 65,257 | 10.57% | \$20,753.62 | 1.48% |
| 2016 | 609,653 | 55,801 | 9.15% | \$21,355.09 | 2.90% |
| 2017 | 602,876 | 53,064 | 8.80% | \$23,497.51 | 10.03% |
| 2018 | 584,714 | 55,072 | 9.42% | \$25,177.55 | 7.15% |
| 2019 | 560,188 | 54,522 | 9.73% | \$27,572.51 | 9.51% |

The overall all-payer readmissions rate decreased from 2013 to 2017, but increased in subsequent years.

Hospital Readmissions Rate by Payer Type

Hospital Readmissions Rate by Payer Type (2013-2019)



Medicare-Medicaid Eligible beneficiaries had the highest readmissions rate relative to beneficiaries covered by other payer types.

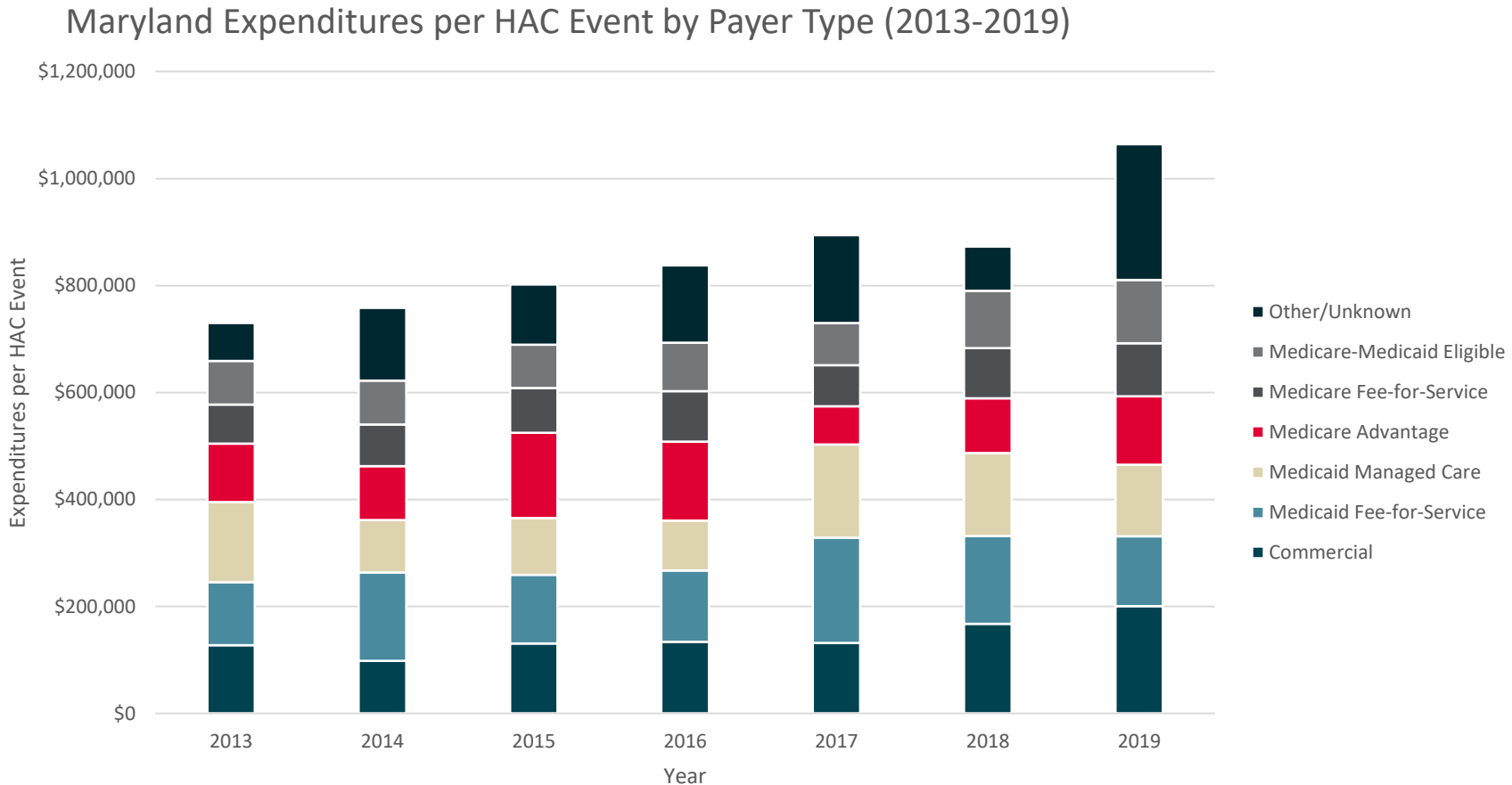
All-Payer Hospital Acquired Condition (HAC) Events & Expenditures

Maryland All-Payer HAC Events and Expenditures (2013-2019)

| Year | Total HAC Events | Percent of Admissions with HAC Events | Expenditures per HAC Event | Percent Change in Expenditures per HAC Event | Total HAC Expenditures |
|------|------------------|---------------------------------------|----------------------------|--|------------------------|
| 2013 | 962 | 0.15% | \$93,490 | - | \$89,937,530 |
| 2014 | 795 | 0.13% | \$94,697 | 1.29% | \$75,284,334 |
| 2015 | 668 | 0.11% | \$99,656 | 5.24% | \$66,570,462 |
| 2016 | 664 | 0.11% | \$107,678 | 8.05% | \$71,498,201 |
| 2017 | 799 | 0.13% | \$109,404 | 1.60% | \$87,413,989 |
| 2018 | 834 | 0.14% | \$117,863 | 7.73% | \$98,297,457 |
| 2019 | 798 | 0.14% | \$126,331 | 7.19% | \$100,812,525 |

The percent of admissions with HAC events decreased from 2013 to 2016, but increased thereafter.

Expenditures per HAC Event by Payer Type



Overall expenditures per HAC event have increased over time but fluctuated across payers.

Questions

Appendix

All-Payer Inpatient Admissions & Outpatient Visits

Maryland All-Payer Inpatient Admissions and Outpatient Visits (2013-2019)

| Year | Inpatient Charges | Inpatient Admissions | Inpatient Charge per Admission | Outpatient Charge | Outpatient Visits | Outpatient Charge per Visit |
|------|-------------------|----------------------|--------------------------------|-------------------|-------------------|-----------------------------|
| 2013 | \$ 8,929,886,766 | 637,406 | \$14,010 | \$ 5,932,115,790 | 5,550,203 | \$1,069 |
| 2014 | \$ 8,876,358,432 | 616,269 | \$14,403 | \$ 6,288,542,447 | 5,626,455 | \$1,118 |
| 2015 | \$ 9,027,689,749 | 599,570 | \$15,057 | \$ 6,579,701,171 | 5,591,618 | \$1,177 |
| 2016 | \$ 9,251,709,888 | 604,826 | \$15,296 | \$ 6,884,282,732 | 5,518,875 | \$1,247 |
| 2017 | \$ 9,761,865,311 | 600,090 | \$16,267 | \$ 7,260,608,319 | 5,426,821 | \$1,338 |
| 2018 | \$ 9,900,511,226 | 582,174 | \$17,006 | \$ 7,299,446,867 | 5,237,859 | \$1,394 |
| 2019 | \$ 10,128,280,930 | 557,302 | \$18,174 | \$ 7,573,930,300 | 5,084,548 | \$1,490 |

Although the total number of inpatient and outpatient encounters has decreased over time, the charge per encounter has increased.