

2024

Urologic Diseases in America

ANNUAL DATA REPORT

**Healthcare Expenditures of Urologic
Diseases**

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Note

This document is one of the seven that collectively comprise the 2024 *Urologic Diseases in America: Annual Data Report (ADR)*. This document reports and discusses findings on Healthcare Expenditures of Urologic Diseases. Other topics in the 2024 ADR are Introduction and Methods; Benign Prostatic Hyperplasia and Associated Lower Urinary Tract Symptoms (BPH/LUTS); Urinary Stone Disease (USD); Urinary Incontinence (UI); Urologic Chronic Pelvic Pain Syndrome (UCPPS); and Fournier's Gangrene (FG). These analyses are available as separate documents on the UDA website. Additional details on the methodology and data sources are provided in Appendices A and B, respectively, in the Introduction and Methods document.

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Healthcare Expenditures of Urologic Diseases

Main Takeaways

- In 2021, among the prevalent cohort aged 65 and older, benign prostatic hyperplasia and associated lower urinary tract symptoms (BPH/LUTS), urinary stone disease (USD), urinary incontinence (UI), and urologic chronic pelvic pain syndrome (UCPPS) Medicare fee-for-service (FFS) expenditures were \$1.3 billion, \$1.1 billion, \$400 million, and \$29 million, respectively, amounting to a combined \$2.8 billion.
- In 2021, among the prevalent cohort aged 65 and older, USD and BPH/LUTS registered the highest average expenditures per patient (\$954 and \$375, respectively); followed by UI (\$269) and UCPPS (\$198).
- From 2012 to 2021, outpatient services contributed to a rising share of total spending for all four urologic conditions.
- For UCPPS, average expenditures per patient for women were more than twice those for men (\$349 compared to \$132 in 2021).

1 Overview

This document presents estimates for total Medicare fee-for-service (FFS) expenditures on several major urologic conditions in the United States for those aged 65 and older: benign prostatic hyperplasia and associated lower urinary tract symptoms (BPH/LUTS); urinary stone disease (USD); urinary incontinence (UI); and urologic chronic pelvic pain syndrome (UCPPS), including interstitial cystitis/bladder pain syndrome (IC/BPS) and chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS).

In this document, expenditure is characterized as reported healthcare utilization spending associated with primary diagnosis of each condition. Specifically, this document reports expenditures (in nominal dollars) on Medicare FFS claims, which include Medicare payment amount, beneficiary payment amount, and payment made by third-party insurers when Medicare is not the primary payer. Expenditure as reported here does not include spending on Part D prescription drugs. See 2024 Methods document for methodological details.

The results are reported as total annual expenditures and average expenditures per patient per year; and both metrics are reported separately for the prevalent cohort and the incident cohort (see 2024 Methods document for the definition of cohorts). For the prevalent cohort, total annual expenditures are stratified by sites of service: inpatient services, emergency department (ED) services, outpatient services (including hospital outpatient and ambulatory surgical centers),

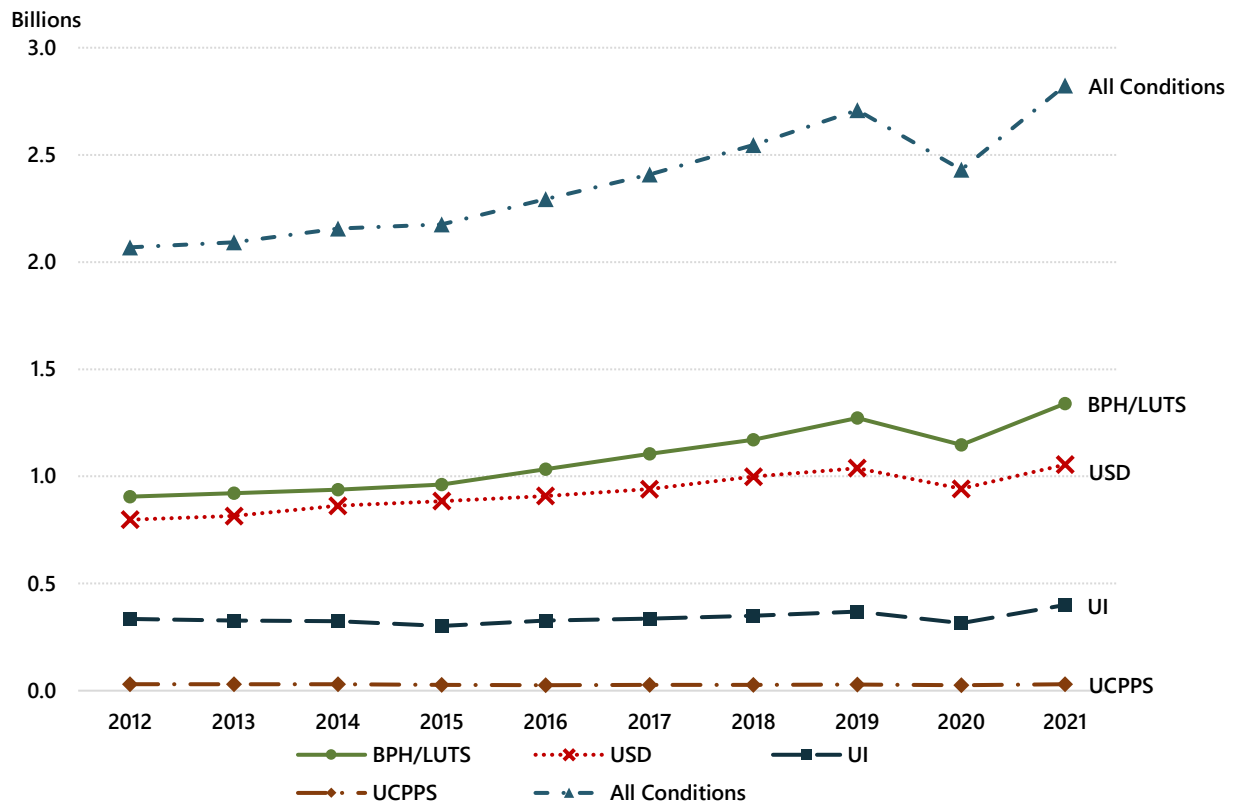
physicians' office services, and all other services.¹ Spending on the prevalent cohort helps capture spending among all (primary) diagnoses associated with persons recorded with the disease of interest in each calendar year, while spending for the incident cohort helps capture spending that is more directly tied to expenses in a window immediately following incident diagnosis (e.g., expenses associated with the diagnostic work-up). Further, the main metrics are stratified by age, race/ethnicity, region, dual Medicare and Medicaid eligibility status, and gender.

Section 2 reports expenditure results for each condition of interest. Section 3 discusses our results and their implications.

2 Results

In 2021, among the prevalent cohort aged 65 and older, BPH/LUTS; USD; UI; and UCPPS expenditures were \$1.3 billion, \$1.1 billion, \$400 million, and \$29 million, respectively; amounting to a combined \$2.8 billion (Figure 1). Among the incident cohort aged 65 and older, BPH/LUTS; USD; UI; and UCPPS expenditures were \$169 million, \$354 million, \$86 million, and \$7 million, respectively; amounting to a combined \$617 million. The following subsections report selected results for each condition.

Figure 1. Medicare FFS total expenditures for prevalent cohort, by condition (2012-2021)



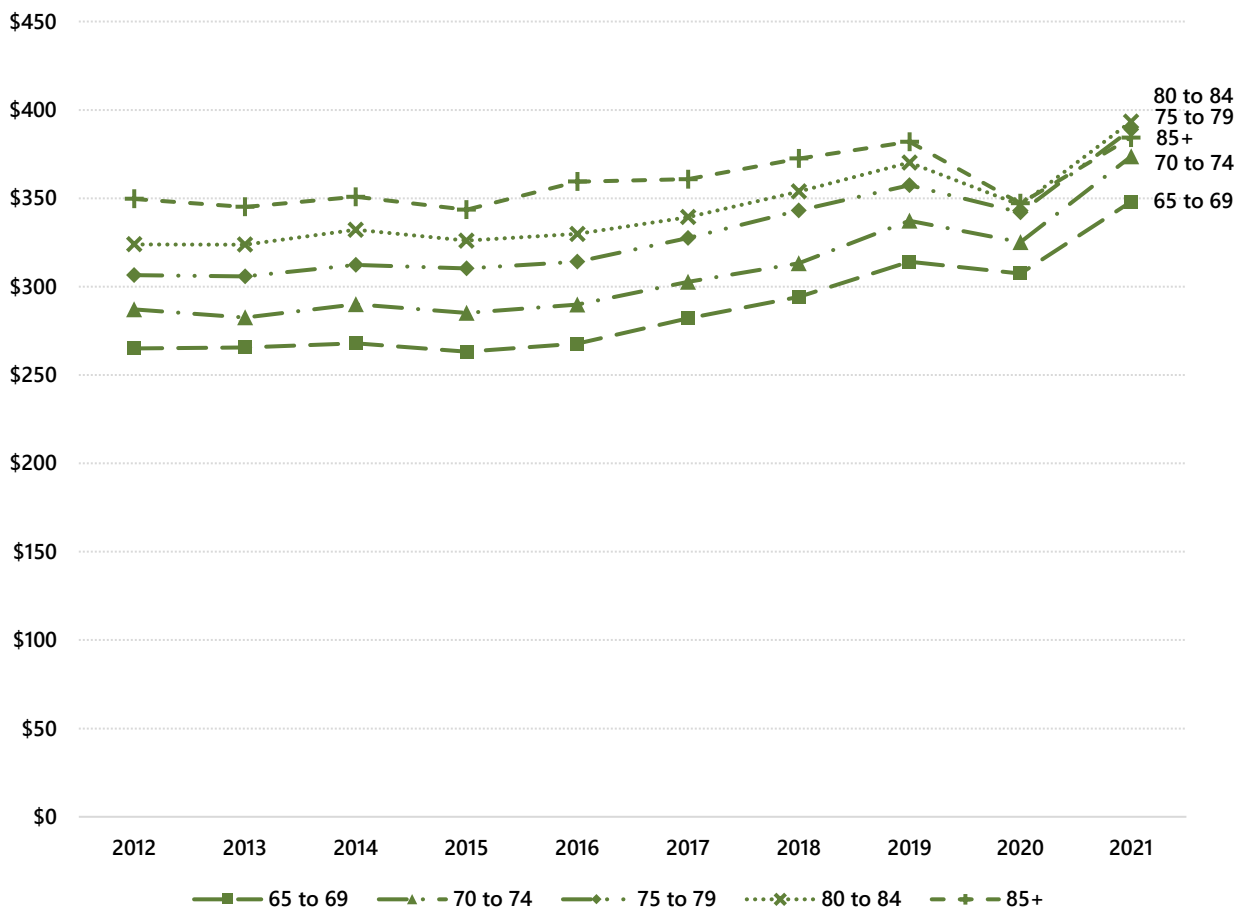
Notes: Total FFS expenditures with primary diagnosis of the given condition. Units denote nominal dollars. "All Conditions" denotes sum of expenditures across all four conditions in each year.

→ Benign prostatic hyperplasia and associated lower urinary tract symptoms (BPH/LUTS)

○ Prevalent cohort spending

For patients aged 65 and older with BPH/LUTS, total expenditures (in nominal dollars) associated with services that were submitted with a primary diagnostic code of BPH/LUTS were approximately \$1.1 billion annually from 2012 to 2021. Expenditure per patient averaged \$320 annually during the same period. Expenditure per patient tended to be higher for older age subgroups (Figure 2). In 2021, average expenditure per patient was highest for the 80-84 age group (\$393), followed by the 75-79 and 85 and older age groups (\$389 and \$384, respectively). Expenditure per patient for Whites aged 65 and older in 2021 was \$378 compared to \$344, \$301, and \$401 for Blacks, Asians, and Hispanics, respectively. Expenditure per patient was higher in the West (\$439; 2021) and Northeast (\$386) compared to the Midwest (\$365) and South (\$343).

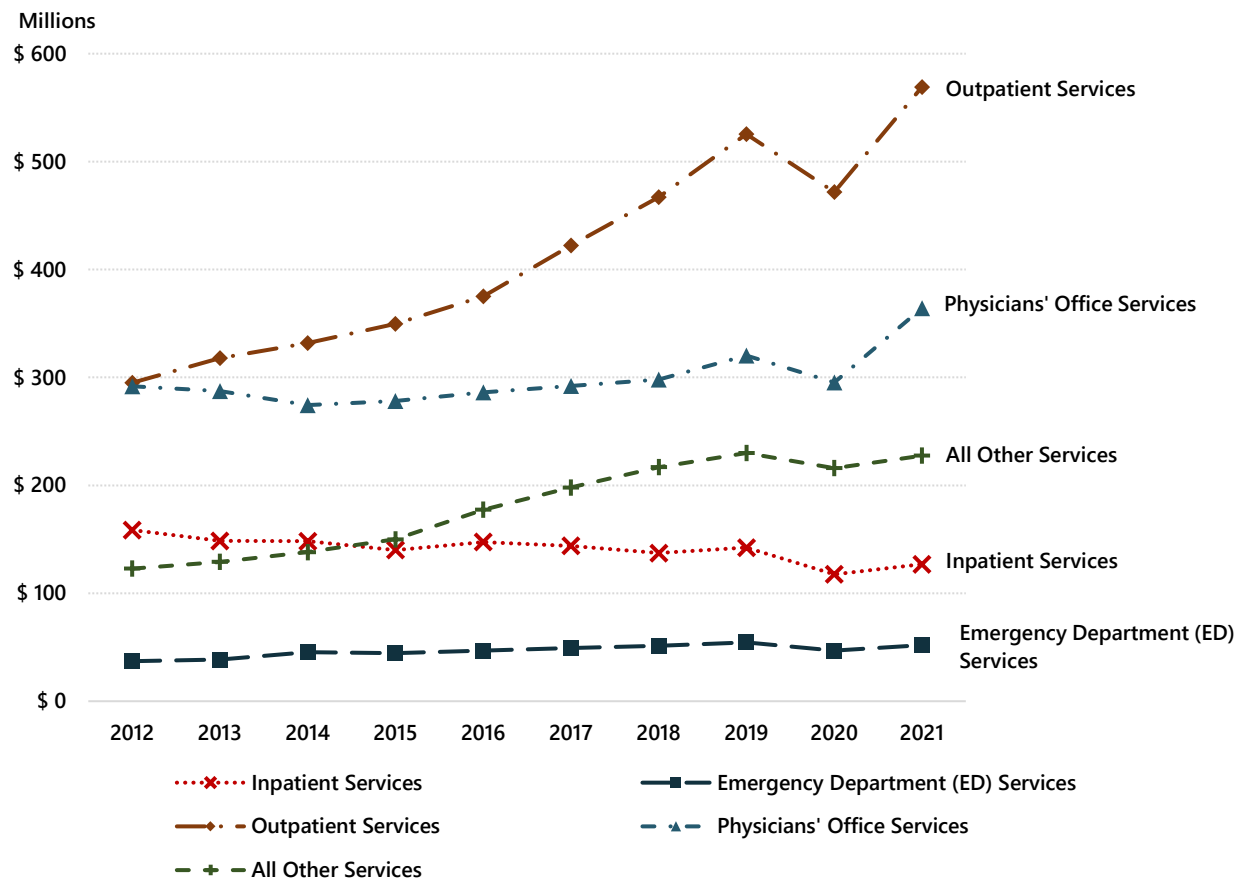
Figure 2. Average Medicare FFS expenditure per patient, by age, prevalent BPH/LUTS cohort (2012-2021)



Note: Numerator denotes total FFS expenditures with primary diagnosis of BPH/LUTS. Denominator denotes number of patients aged 65 and older with BPH/LUTS in each year. Units denote nominal dollars.

In 2021, outpatient services had the largest share of all total annual expenditures (42%, \$569 million, Figure 3). Physicians' office services also accounted for 27% of total expenditures in 2021 (\$364 million, Figure 3). The share of annual expenditures accounted for by outpatient services increased from 33% in 2012 to 42% in 2021.

Figure 3. Medicare FFS expenditures for prevalent BPH/LUTS cohort, by site of service (2012-2021)



Notes: Medicare FFS expenditures with primary diagnosis of BPH/LUTS, by site of service. Units denote nominal dollars.

o Incident cohort spending

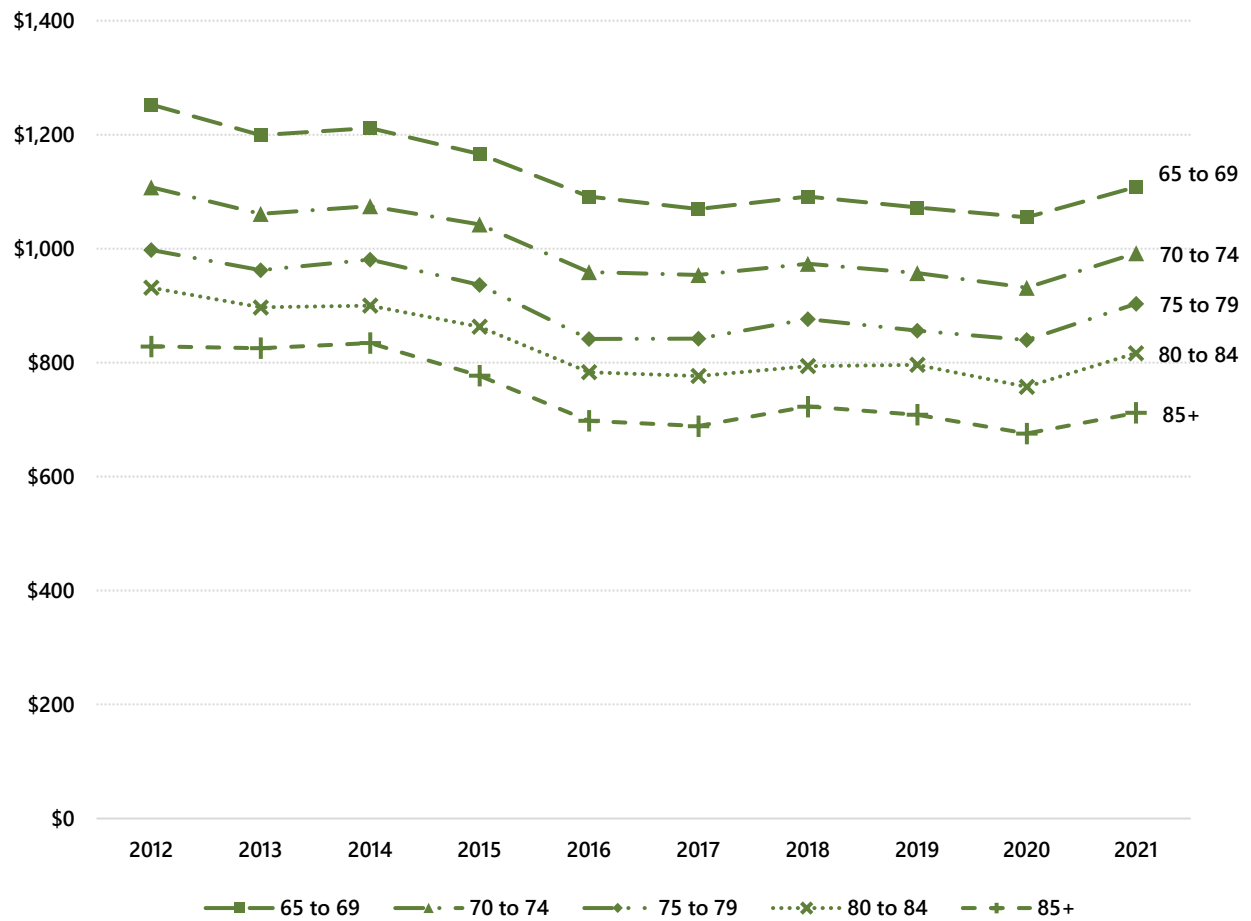
For patients aged 65 and older with an incident diagnosis of BPH/LUTS, total expenditures (in nominal dollars) associated with services that were submitted with a primary diagnosis of BPH/LUTS within 12 months after initial diagnosis were approximately \$200 million annually from 2015 to 2020. Average expenditure per patient with incident BPH/LUTS tended to be higher for older age subgroups.

→ Urinary stone disease (USD)

○ Prevalent cohort spending

For patients aged 65 and older with USD, total expenditure (in nominal dollars) associated with a primary diagnostic code of USD amounted to approximately \$924 million annually from 2012 to 2021. Expenditure per patient averaged \$972 annually during the same period. Expenditure per patient tended to be lower for older age subgroups (Figure 4). In 2021, expenditure per patient was highest for the 65-69 age group (\$1,108), followed by the 70-74 and 75-79 age groups (\$992 and \$904). Expenditures per patient for men and women were \$905 and \$1,033, respectively, in 2021. Expenditure per patient for Whites aged 65 and older (\$970; 2021) was higher compared to other race/ethnicities. Expenditure per patient was higher in the Midwest (\$1,115; 2021) and West (\$1,046) compared to the Northeast (\$943) and South (\$838).

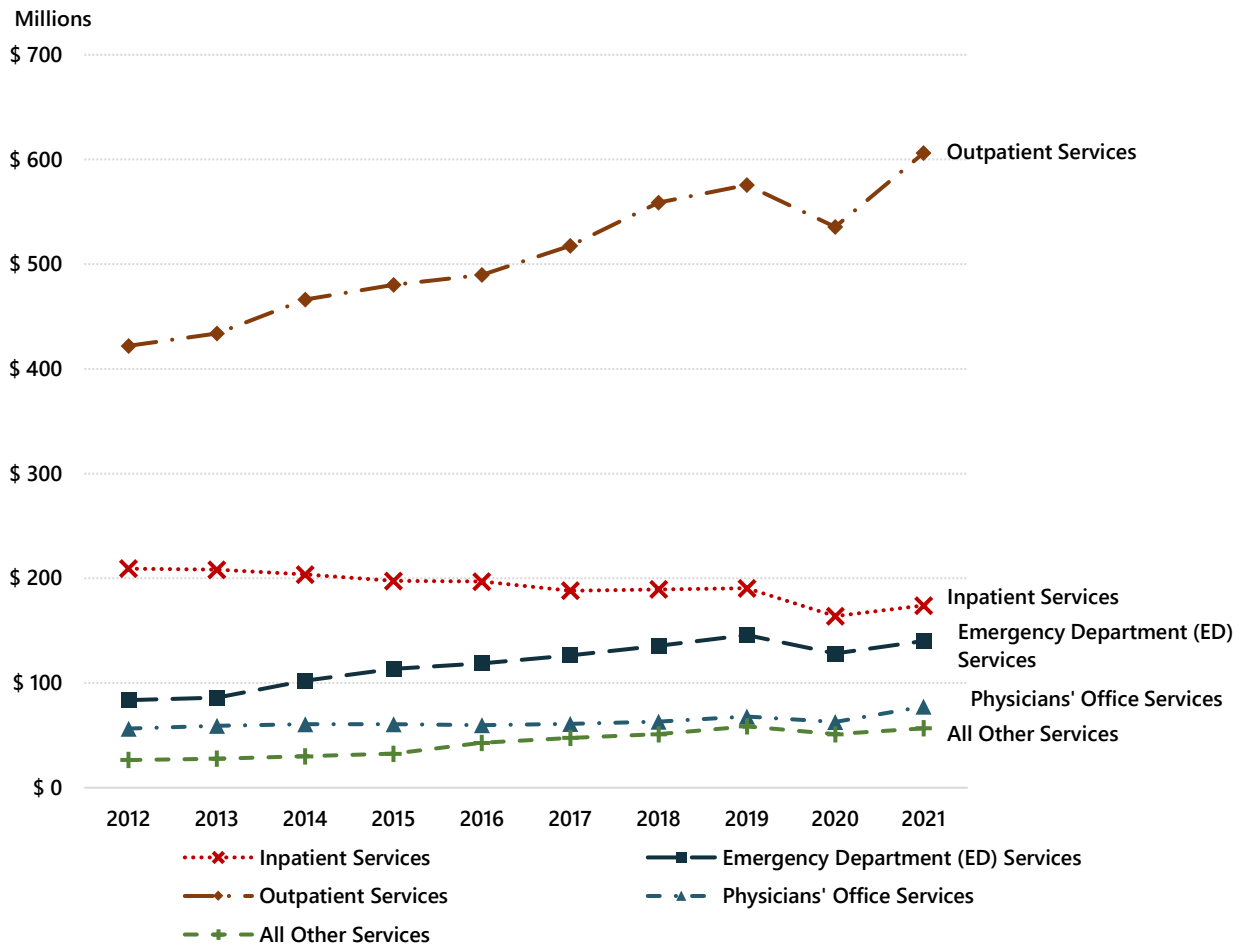
Figure 4. Average Medicare FFS expenditure per patient, by age, prevalent USD cohort (2012-2021)



Note: Numerator denotes total FFS expenditures with primary diagnosis of USD. Denominator denotes number of patients aged 65 and older with USD in each year. Units denote nominal dollars.

In 2021, outpatient services had the largest share of all total annual expenditures (57%, \$606 million). Inpatient, ED, and physicians' office services accounted for 16% (\$174 million), 13% (\$140 million), and 7% (\$78 million) of total expenditures, respectively (Figure 5). The share of annual expenditures accounted for by outpatient services increased from 53% in 2012 to 57% in 2021.

Figure 5. Medicare FFS expenditure for prevalent USD cohort, by site of service (2012-2021)



Note: Medicare FFS expenditures with primary diagnosis of USD, by site of service. Units denote nominal dollars.

o Incident cohort spending

Among patients aged 65 and older with incident USD, total expenditure (in nominal dollars) associated with a primary diagnosis of USD within 12 months after initial diagnosis amounted to approximately \$378 million annually during 2015-2020. Expenditure per patient with incident USD 12 months after initial diagnosis was stable during 2015-2020, averaging \$1,177 annually.

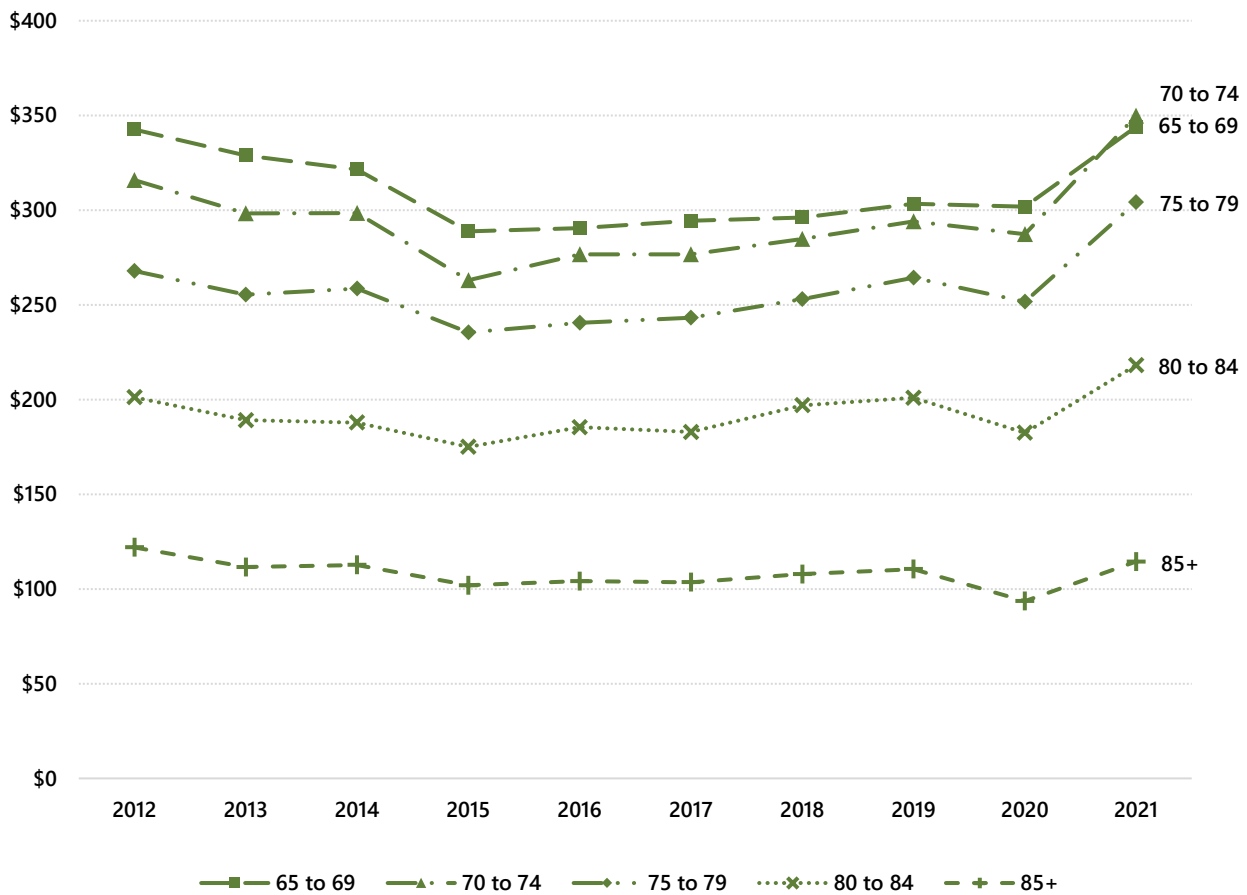
→ Urinary incontinence (UI)

○ Prevalent cohort spending

For patients aged 65 and older with UI, total expenditures (in nominal dollars) associated with services that were submitted with a primary diagnostic code of UI amounted to approximately \$339 million annually from 2012 to 2021. Expenditure per patient averaged \$232 annually during the same period.

Expenditure per patient tended to be lower for older-age subgroups (Figure 6). In 2021, the expenditure per patient was higher for the 65-69 (\$344) and 70-74 (\$350) age groups compared to other age groups. Expenditures per patient for men and women were similar (\$261 and \$273 in 2021, respectively). The expenditure per patient for Whites aged 65 and older (\$280; 2021) was greater than Blacks (\$190), Asians (\$111), and Hispanics (\$175). Expenditure per patient was highest in the South (\$303; 2021) compared to the West (\$267), Midwest (\$255), and Northeast (\$215).

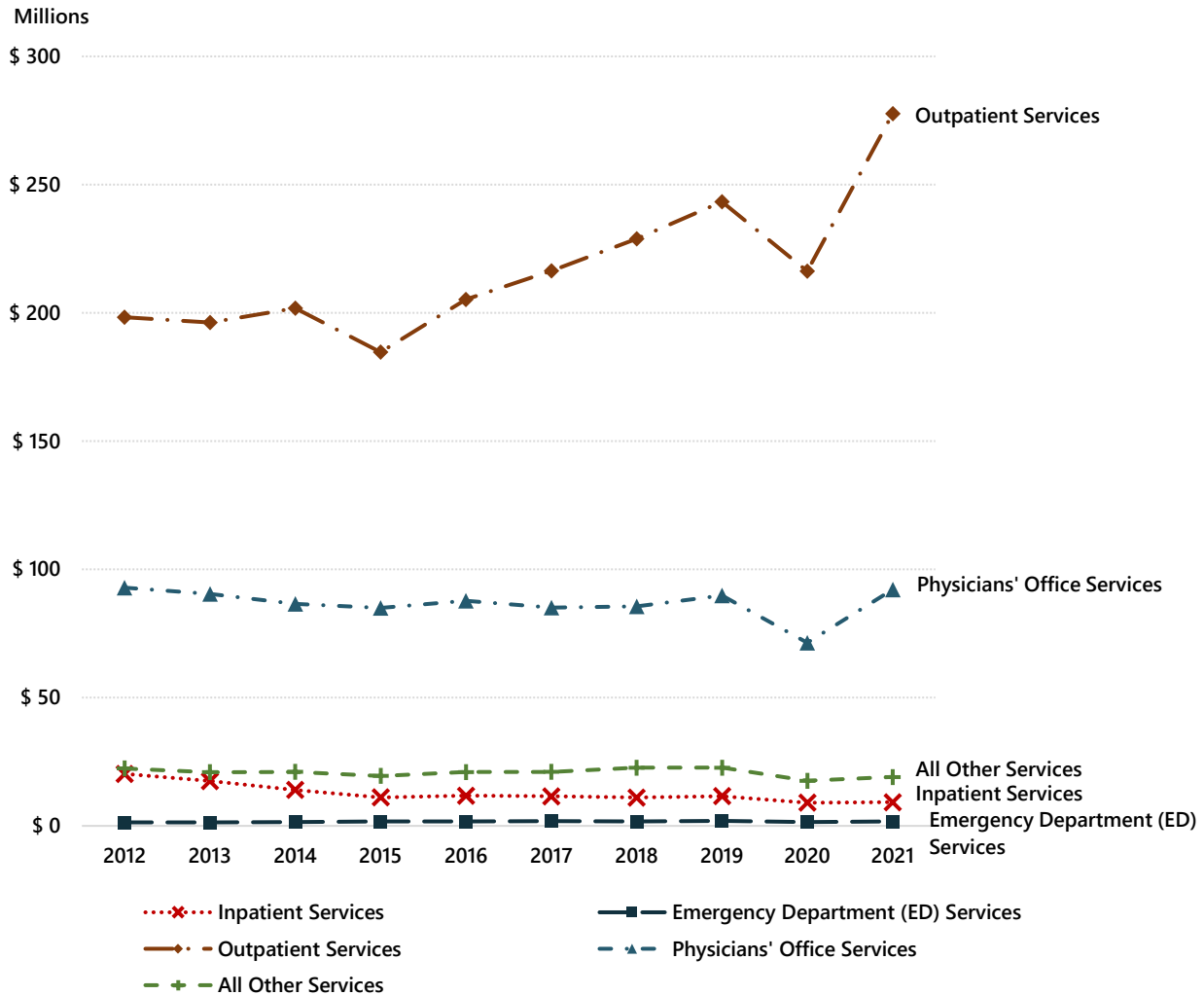
Figure 6. Average Medicare FFS expenditure per patient, by age, prevalent UI cohort (2012-2021)



Note: Numerator denotes total FFS expenditures with primary diagnosis of UI. Denominator denotes number of patients aged 65 and older with UI in each year. Units denote nominal dollars.

In 2021, outpatient services had the largest share of all total annual expenditures (69%, \$278 million, Figure 7). Physicians' office services accounted for 23% (\$92 million, Figure 7). The share of annual expenditures accounted for by outpatient services increased from 59% in 2012 to 69% in 2021.

Figure 7. Medicare FFS expenditure for prevalent UI cohort, by site of service (2012-2021)



Note: Medicare FFS expenditures with primary diagnosis of UI, by site of service. Units denote nominal dollars.

o Incident cohort spending

For patients aged 65 and older with an incident diagnosis of UI, total expenditures (in nominal dollars) associated with services that were submitted with a primary diagnosis of UI within 12 months after initial diagnosis amounted to approximately \$100 million annually from 2015 to 2020. The expenditure per patient with incident UI remained stable during this period, averaging \$188 annually.

→ Urologic chronic pelvic pain syndrome (UCPPS, including IC/BPS and CP/CPPS)

○ Prevalent cohort spending

Among patients aged 65 and older with UCPPS, total expenditure (in nominal dollars) associated with a primary diagnostic code of UCPPS amounted to approximately \$28 million annually from 2012 to 2021. In 2021, approximately 60% of expenditures were accounted for by patients aged 65 and older with IC/BPS, while the other 40% were accounted for by patients aged 65 and older with CP/CPPS.²

In 2021, expenditure per patient ranged between \$190 and \$205 for all the age groups. Expenditure per patient for women was more than twice that for men (\$349 compared to \$132 in 2021). This is driven by compositional and per patient expenditure differences in its two sub-conditions: IC/BPS and CP/CPPS. Expenditure per-patient with IC/BPS is higher than that for patients with CP/CPPS (\$358 compared to \$115 in 2021). Compositionally, expenditures for women includes IC/BPS only; while for men they include both IC/BPS and CP/CPPS. Further, for men, IC/BPS accounts for only 5% of the total recorded diagnoses of UCPPS.

In 2021, physicians' office services had the largest share of all total annual expenditures (40%, \$12 million). Outpatient services and inpatient services also accounted for 34% (\$10 million) and 11% (\$3 million) of total expenditures, respectively.

○ Incident cohort spending

For patients aged 65 and older with incident UCPPS, total expenditures (in nominal dollars) associated with services that were submitted with a primary diagnosis of UCPPS within 12 months after initial diagnosis were on average \$9 million annually from 2015 to 2020. The corresponding total annual average expenditures for IC/BPS and CP/CPPS were \$4 and \$5 million, respectively. Expenditure per patient with incident UCPPS declined from \$161 to \$143 between 2015 and 2020. The average expenditure per patient for IC/BPS was approximately three times higher than that for CP/CPPS (\$319 compared to \$109).

3 Discussion

Total expenditure (in nominal dollars) for BPH/LUTS, USD, UI, and UCPPS was approximately \$2.4 billion annually from 2012 to 2021. BPH/LUTS and USD accounted for 46% and 39% of total expenditures, respectively. UCPPS and UI together accounted for 15%. Total expenditures across all four conditions increased from \$2.1 billion in 2012 to \$2.8 billion in 2021.

Outpatient services appear to have played a bigger role in spending for urological diseases over time. This increase has been accompanied by a decline in inpatient services. This suggests that many services that were performed in the inpatient setting may have been transferred to hospital-based outpatient and ambulatory surgical centers in the study period.

For BPH/LUTS and UCPPS, average spending per patient was higher for older age subgroups. However, for USD and UI, average spending per patient was higher for younger age subgroups. This suggests potential differences in available treatment for different age groups by condition. For example, it may be that beneficiaries with USD who are younger are more likely to receive intensive treatment, leading to higher spending. Conversely, conditions like BPH/LUTS are managed through medication before receiving more intensive treatment, which could mean that costlier treatments are received by older age subgroups.

For BPH/LUTS on average, expenditure per patient for the incident cohort was 15% higher than expenditure per patient for the prevalent cohort. Similarly, for USD, expenditure per patient for the incident cohort was 26% higher than expenditure per patient for the prevalent cohort. However, for UCPPS and UI, expenditure per patient was lower for the incident cohort compared to the prevalent cohort. This suggests that USD may incur expenses that are particularly concentrated near the time of incident diagnosis.

This document focuses on expenditures for the age 65 and older cohort. A number of future directions may be promising for assessing the economic cost associated with urologic diseases. First, further research can estimate expenditure for younger cohorts based on comprehensive data sources. Second, expenditures can be broadened to other sources of spending such as those under Medicare Part D coverage. Third, additional analytics (e.g., regressions) can be conducted to estimate incremental per patient cost of urologic diseases, controlling for confounders. Lastly, assessing spending in a framework based on episodes of care for urologic conditions may be promising.³

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- ¹ “Other Services” comprises of expenditures that are not included in inpatient services, emergency department (ED) services, outpatient services (including hospital outpatient and ambulatory surgical centers), and physicians’ office services. For example, this may include spending on labs and imaging not otherwise covered by the earlier categories.
 - ² A small percentage of male beneficiaries recorded with IC/BPS diagnosis also had recording of CP/CPPS. This overlap was less than 1% in all years.
 - ³ For example, this can be done by defining an episode of care based on an anchor period and post-anchor period under standard window lengths and well-defined diagnosis and procedure codes; calculating spending based on these standardized episodes; and assessing time trends in spending per episode.