United States Cancer Statistics (USCS)

Prostate Cancer Incidence by Stage at Diagnosis, United States—2001–2019

U.S. Cancer Statistics Data Briefs, No. 34

April 2023

In 2019, a total of 224,733 new cases of prostate cancer were reported in the United States. The incidence rate was 112 per 100,000 males. Most cases of prostate cancer (70%) were diagnosed at the local stage.

Aside from non-melanoma skin cancer, prostate cancer was the most common cancer among men in 2019. That year, 37% of prostate cancer cases were diagnosed among men aged 45 to 64 years, 43% among men aged 65 to 74 years, and 20% among men aged 75 years or older. In 2001, these percentages were 34%, 39%, and 27%, respectively.

From 2001 to 2019, prostate cancer incidence was highest among men aged 65 to 74 years. In 2019, the incidence rate was 658 per 100,000 males (Figure 1).

Figure 1. Trends in Prostate Cancer Incidence[a] by Age, All Stages,[b] United States, 2001–2019
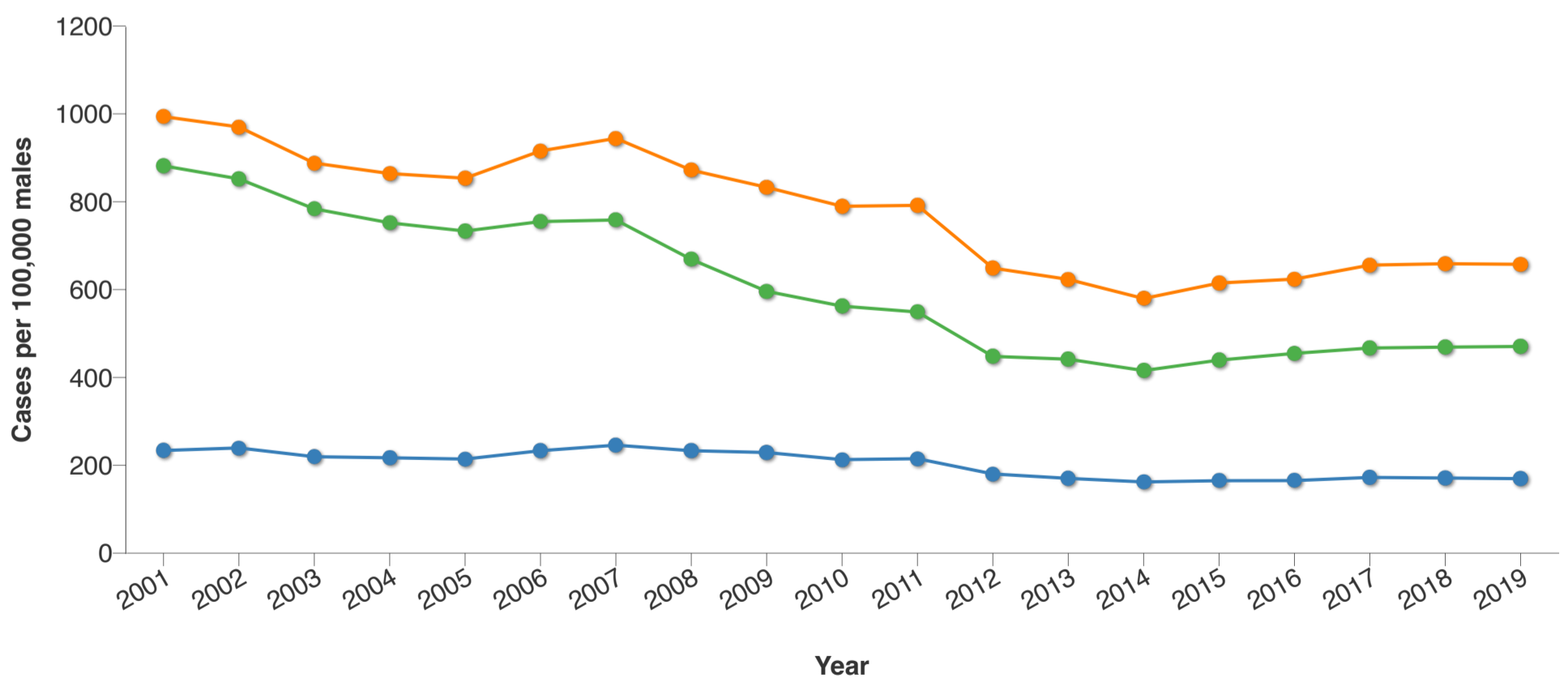
- ○ 45 to 64 years
- ○ 65 to 74 years
- ○ 75 years and over

Data Table	2001	2002	2003	2004
○ 45 to 64 years	234	240	220	217

	2001	2002	2003	2004
○ 65 to 74 years	994	970	888	864
○ 75 years and over	882	852	784	752

[a]Rates are per 100,000 males and are age-adjusted to the 2000 U.S. standard population.
[b]Cases diagnosed only by autopsy or death certificate were excluded from analysis.

## Incidence Trends Overall and by Stage at Diagnosis

This analysis used SEER Summary Stage to code stage at diagnosis as localized, regional, distant, or unknown—

- Localized cancer is confined to the primary site.
- Regional cancer has spread directly beyond the primary site (regional extension) or to regional lymph nodes.
- Distant cancer has spread to other organs (distant extension) or remote lymph nodes.
- Some cancers are unstaged or the stage is unknown or unspecified.

Three staging schemas were used at different periods in this analysis and are combined as "Merged Summary Stage." For more information, see Stage at Diagnosis.

The incidence of prostate cancer declined from 2001 to 2019, with some changes from year to year and by stage at diagnosis. Overall and for localized stage, rates decreased from 2007 to 2014 and levelled off from 2014 to 2019. Rates for regional stage were stable from 2001 to 2013 and increased from 2013 to 2019. Rates for distant stage were stable from 2003 to 2011, increased from 2011 to 2017, and were stable from 2017 to 2019.

Figure 2. Trends in Prostate Cancer Incidence[a] by Stage at Diagnosis,[b] United States, 2001–2019

○ Overall ○ Localized ○ Regional ○ Distant ○ Unknown
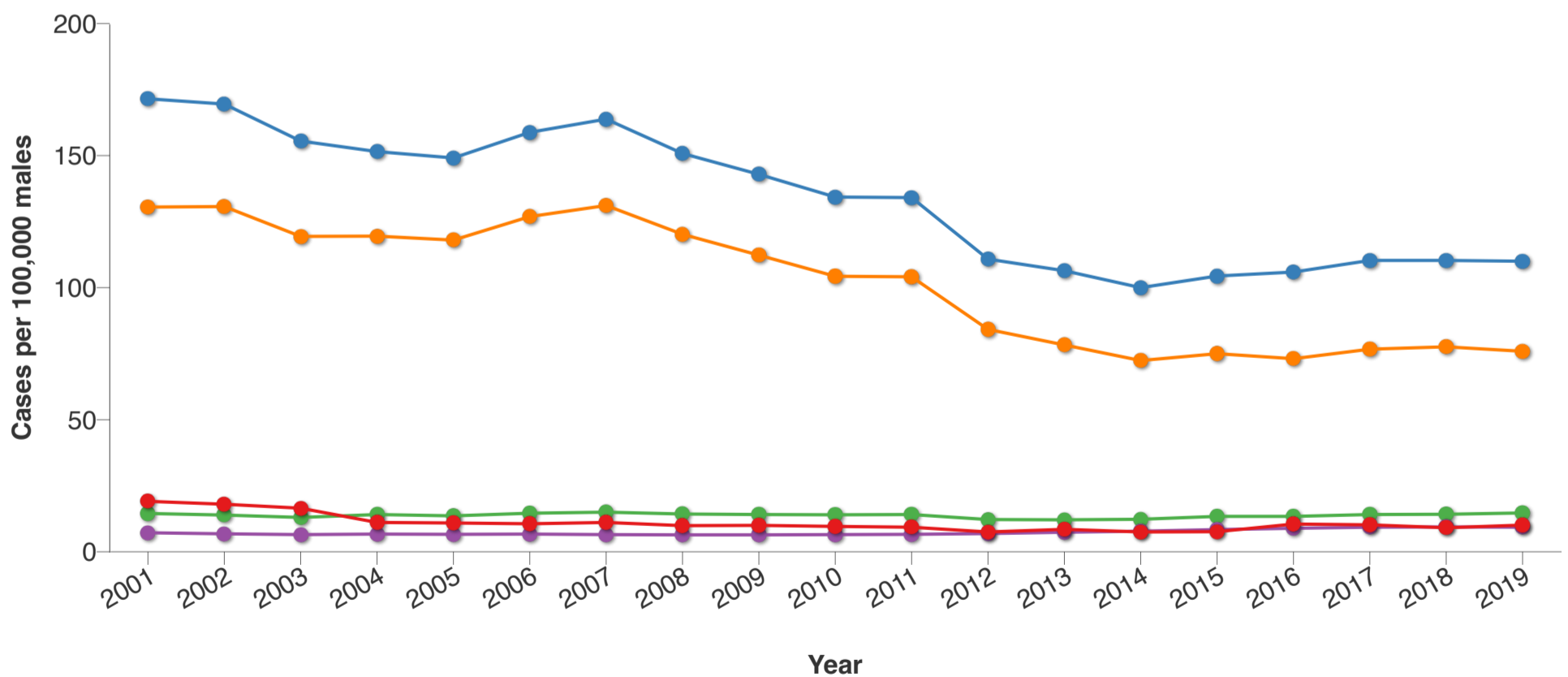
Data Table				—
	2001	2002	2003	2004
○ Overall	172	170	156	152
○ Localized	131	131	119	120

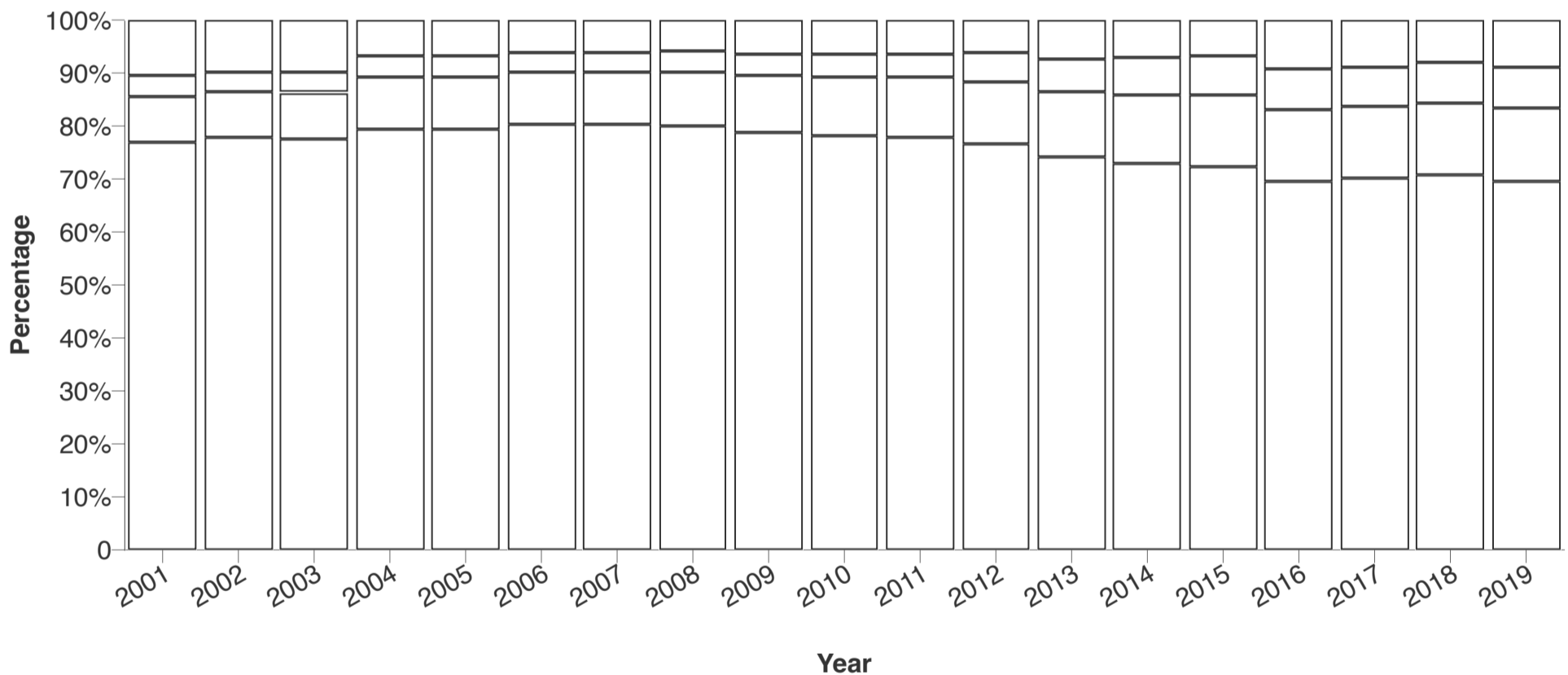|	2001	2002	2003	2004
○ Regional	15	14	13	14
○ Distant	7	7	7	7
○ Unknown	19	18	17	11

[a]Rates are per 100,000 males and are age-adjusted to the 2000 U.S. standard population.

[b]Merged Summary Stage was used to classify stage at diagnosis. Cases diagnosed only by autopsy or death certificate were excluded from analysis.

Percentage of Cases by Stage at Diagnosis

From 2001 to 2019, most prostate cancer cases were diagnosed at localized stage. From 2008 to 2015, the percentage of prostate cancer cases diagnosed at localized stage was lower compared to previous years, and the percentage diagnosed at regional and distant stages was higher. The percentage of cases with an unknown stage was lower from 2001 to 2008 and higher from 2009 to 2015. Since 2015, the percentages of prostate cancer cases diagnosed at each stage have remained consistent. Some changes in incidence by stage may correspond to changes in the staging schema, screening recommendations, and use of the prostate-specific antigen (PSA) test.

Figure 3. Percentage of Prostate Cancer Cases Diagnosed by Stage at Diagnosis,[a] United States, 2001–2019

Localized only   ○ Regional   ○ Distant   ○ Unknown

Data Table —

	2001	2002	2003	2004
○ Localized only	77%	78%	77%	79%
○ Regional	9%	9%	9%	10%
○ Distant	4%	4%	4%	4%
○ Unknown	10%	10%	10%	7%

[a]SEER Summary Stage 2000 was used in 2001, 2002, 2003, 2016, and 2017. Derived SEER Summary Stage 2000 was used from 2004 to 2015, and SEER Summary Stage 2018 was used in 2018 and 2019.

U.S. Preventive Services Task Force (USPSTF) Prostate Cancer Screening Recommendations

The USPSTF makes evidence-based recommendations about clinical preventive services. USPSTF assigns one of five letter grades (A, B, C, D, or I) to each recommendation. As of 2012, these grades ⧉ are defined as—

A and **B:** USPSTF recommends the service.

C: USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences.
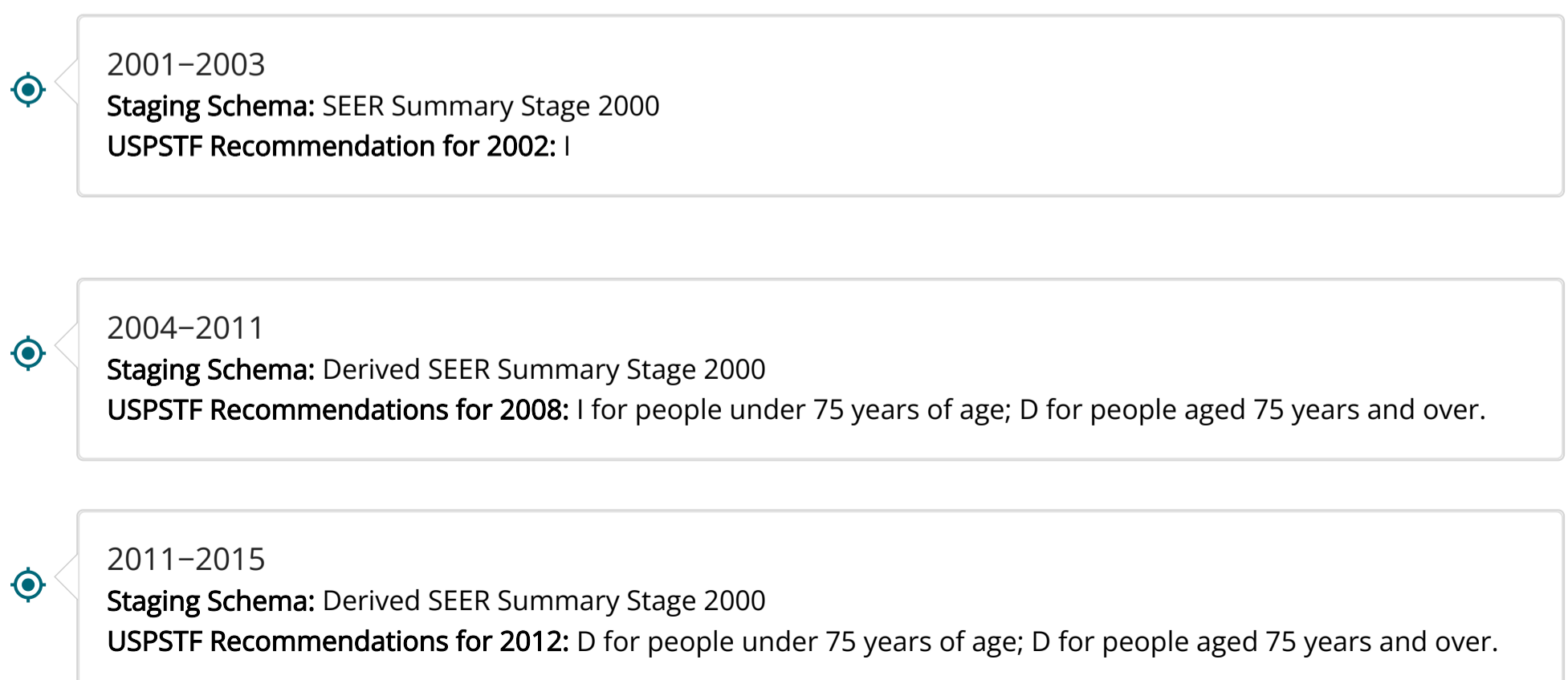
D: USPSTF recommends against the service.

I: USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service.

USPSTF regularly reviews evidence and updates recommendations. The USPSTF released new prostate cancer screening recommendations in the following years—

- **1996:** Recommended against routine prostate cancer screening with digital rectal examination (DRE), serum tumor markers (PSA), and transrectal ultrasound (TRUS). (D recommendation)
- **2002:** Concluded evidence was insufficient to recommend for or against routine screening for prostate cancer using PSA testing or DRE. (I recommendation)
- **2008:** Concluded evidence was insufficient to assess the balance of benefits and harms of prostate cancer screening among men younger than 75 years (I recommendation) and recommended against screening for prostate cancer among men 75 years or older (D recommendation).
- **2012:** Recommended against PSA-based screening for prostate cancer (D recommendation).
- **2018:** Recommended that men aged 55 to 69 years make an individual decision about PSA-based screening for prostate cancer should be an individual one (C recommendation) and recommended against PSA-based screening for prostate cancer in men 70 years or older (D recommendation).

Prostate cancer statistics may be influenced by changes over time in the staging schema, screening recommendations, and PSA test use.

Figure 4. Timeline from 2001 to 2019 Considering the Coding Used for Stage at Diagnosis and U.S. Preventive Services Task Force (USPSTF) Recommendations for Prostate Cancer Screening[a]

2001–2003
Staging Schema: SEER Summary Stage 2000
USPSTF Recommendation for 2002: I

2004–2011
Staging Schema: Derived SEER Summary Stage 2000
USPSTF Recommendations for 2008: I for people under 75 years of age; D for people aged 75 years and over.

2011–2015
Staging Schema: Derived SEER Summary Stage 2000
USPSTF Recommendations for 2012: D for people under 75 years of age; D for people aged 75 years and over.

2016–2017
Staging Schema: SEER Summary Stage 2000

2018–2019
Staging Schema: SEER Summary Stage 2018
USPSTF Recommendations for 2018: C for people between 55 and 69 years of age; D for people aged 70 years and over.

[a]Includes SEER Summary Stage coding used for stage at diagnosis and US Preventive Services Task Force (USPSTF) recommendations.

Data Source

Data in this brief come from U.S. Cancer Statistics, the official federal cancer statistics.

U.S. Cancer Statistics incidence data are from population-based registries that participate in CDC's National Program of Cancer Registries (NPCR) and/or the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program and met high-quality data criteria for the 2003 through 2021 data submission periods, covering 98.2% of the US population (excluding data from Nevada and Mississippi). Cases diagnosed only by autopsy or death certificate were excluded from the analysis. Trends were assessed using joinpoint regression analysis.

More Information

- Prostate Cancer
- U.S. Cancer Statistics

Suggested Citation

Centers for Disease Control and Prevention. *Prostate Cancer Incidence by Age and Stage at Diagnosis, United States—2001–2019.* USCS Data Brief, no. 34. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services; 2023.

Last Reviewed: April 20, 2023