

# Type 2 Diabetes Mellitus

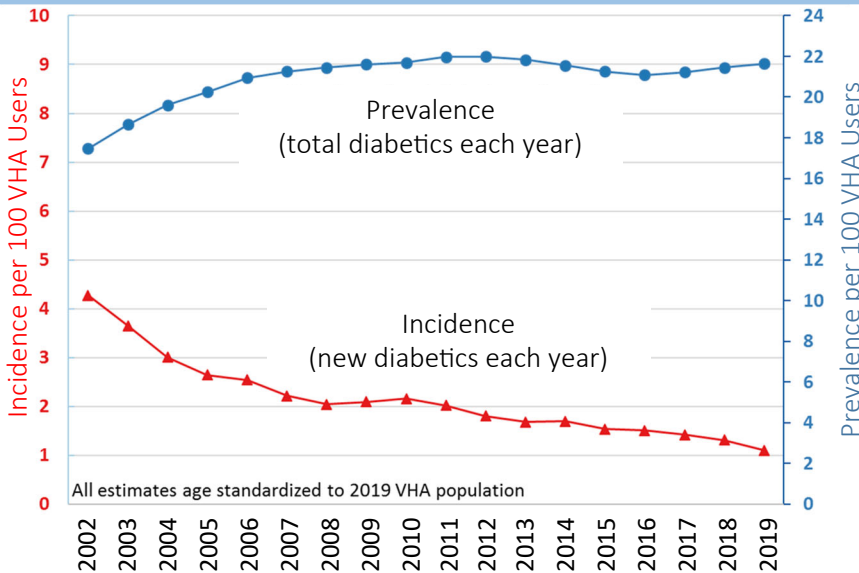
March 2020

## Fact Sheet: Data on Veterans Using VA Health Care

CSPEAR provides timely epidemiologic information on VA health care users. This fact sheet presents summary data to inform a broad community of VA leaders, investigators, and clinicians as they consider how best to address the needs of Veterans.

**Introduction:** Type 2 Diabetes Mellitus (diabetes) is a chronic disease that impairs the ability of the body to produce or respond normally to insulin, causing abnormal levels of blood sugar. This can result in multiple complications such as heart disease, blindness, kidney failure, extremity amputations and other chronic disorders.<sup>1,2</sup> Diabetes is highly prevalent in the United States (U.S.) affecting 9.3 percent of the population in 2015,<sup>3</sup> and was also the seventh leading cause of death in the U.S. in 2017.<sup>4</sup> The rise in obesity in the U.S. has likely contributed to the rise in the prevalence of diabetes over the last two decades.<sup>5</sup> Since diabetes is a highly prevalent and complex disease requiring continual medical care the burden to society is large.<sup>6</sup>

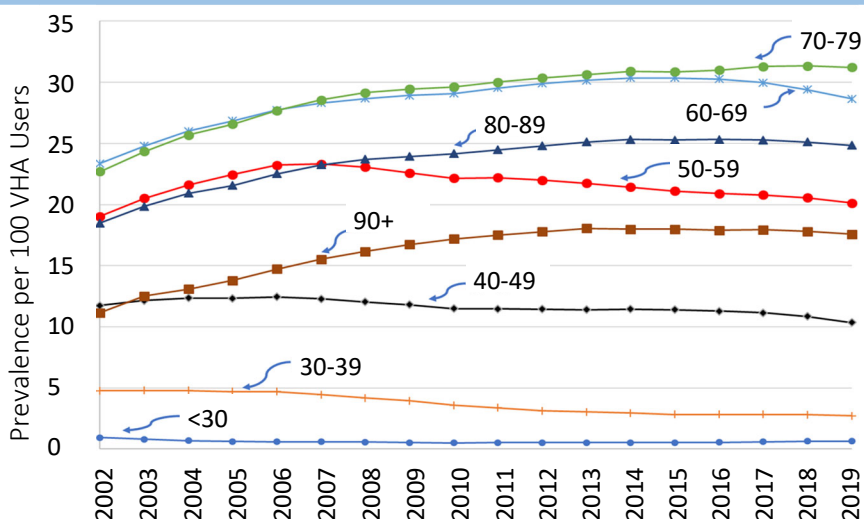
**Trends in Diabetes Prevalence and Incidence, Fiscal Years (FY) 2002-2019**



### Fast Facts

- Between FY02-19, there were 1,811,249 incident diabetes diagnoses in 12,203,016 Veterans Health Administration (VHA) users; 96.3% were male.
- The incidence of diabetes diagnoses declined steadily between FY02 and FY19, but the prevalence increased through FY07 and has remained stable since then.
- From FY02 to FY19, there was a decline in incidence in every age group (data not shown). However, the prevalence for males 60+ increased through FY13 and has remained stable since then. The prevalence for males younger than 60 years old has primarily been stable or declining slowly from FY06 through FY19.
- Although the incidence of diabetes is declining and prevalence is stable in the VHA user population, both remain over twice the US rates. Greatest disparities were among those 45-64 years old and among men.

**Trends in Diabetes Prevalence for Males Stratified by Age, Fiscal Years (FY) 2002-2019**



### Diabetes Incidence: All US vs VHA Users

	Incidence per 100	
	US Pop*	VHA User**
Overall	0.67 (.62-.73)	1.55
Age 18-44	0.31 (.26-.38)	0.61
Age 45-64	1.09 (.96-1.22)	2.25
Age ≥65	0.94 (.80-1.09)	1.52
Women	0.68 (.60-.76)	0.95
Men	0.67 (.59-.77)	1.61

\*Data from National Health & Nutrition Examination Survey, 2015, with 95% confidence intervals

\*\*Based on current VHA user data, FY2015

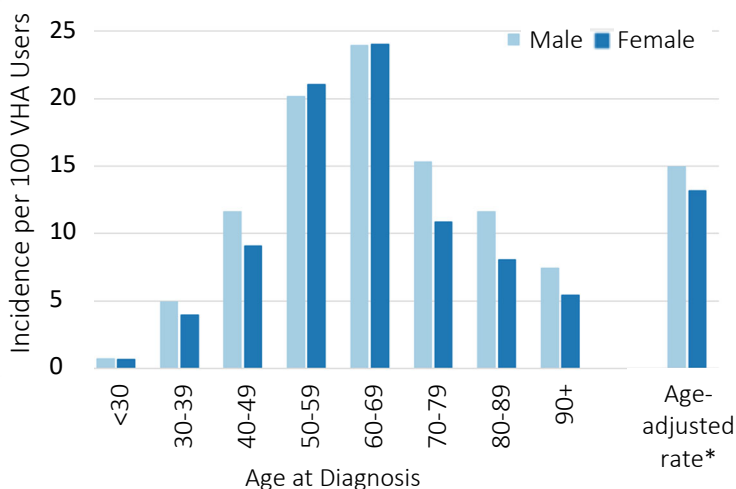
Visit [CSPEAR's website](#) or contact [CSPEAR@va.gov](mailto:CSPEAR@va.gov) for more information.

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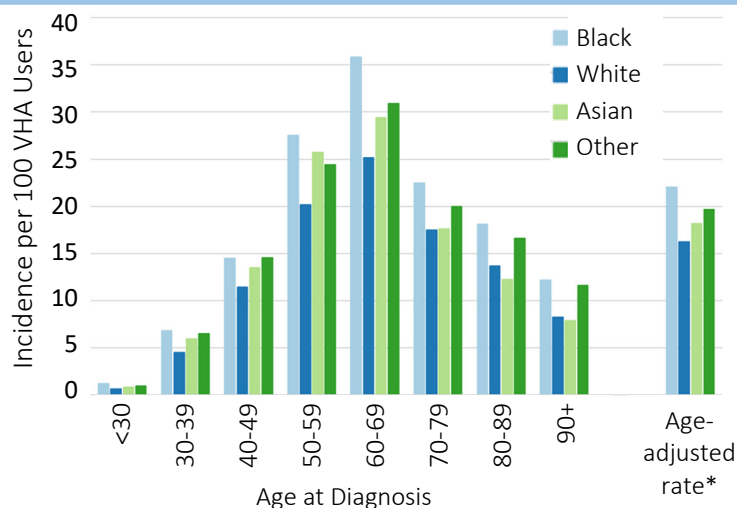
U.S. Department of Veterans Affairs  
Veterans Health Administration  
Cooperative Studies Program

### Cumulative Incidence per 100 VHA Users by Sex and Age at Time Of Initial Diabetes Diagnosis, FY 2002-2019



\*Age adjustment to 2019 VHA user population

### Cumulative Incidence per 100 VHA Users by Race and Age at Time Of Initial Diabetes Diagnosis, FY 2002-2019



\*Age adjustment to 2019 VHA user population

### Data Source and Study Population

Data were extracted from the VA Corporate Data Warehouse (CDW). The prevalence and incidence of diabetes from Oct 1, 2001 through Sept 30, 2019 were estimated among adult VHA users, defined as Veterans who received at least one inpatient or outpatient visit of any kind during the fiscal year (N=12,203,016). Criteria for diabetes diagnosis included either 1 inpatient or 2 outpatient ICD-9-CM codes of 250.xx or ICD-10-CM codes of E08.xx, E09.xx, E10.xx, E11.xx or E13.xx. Cases were further limited to those with at least one diabetes medication prescription. (See phenotype webpage: <https://vhacdwdwhweb100.vha.med.va.gov/phenotype/index.php/Diabetes>; link internal to VA)

Incident diabetes cases include VHA users with their first ever diabetes diagnosis in that FY. Prevalent diabetes cases include VHA users with their first diabetes diagnosis in or prior to that FY and who are still alive during that FY.

**Notes:** This work was conducted under CSPEAR's operational access to VA data. This material is the result of work supported with resources and the use of facilities at the VA Cooperative Studies Program Epidemiology Center in Boston. The contents do not represent the views of VA or the US Government.

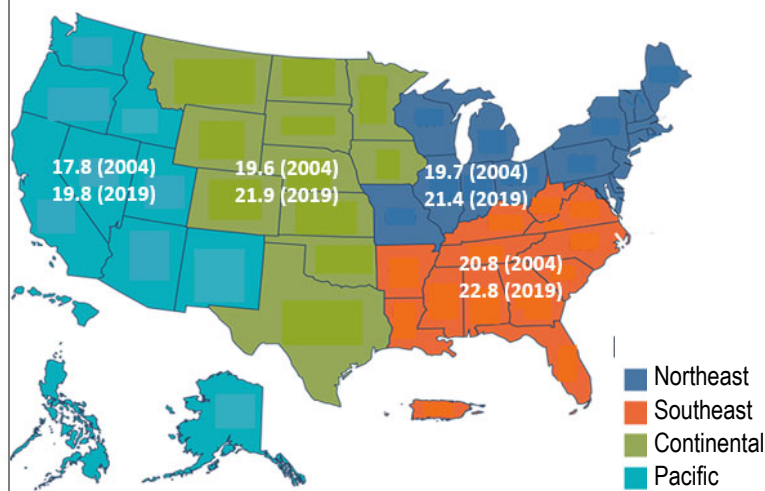
### References and Resources

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2. Cowie CC, Casagrande SS, Geiss LS. Prevalence and incidence of type 2 diabetes and prediabetes. Diabetes in America, 3rd Edition. 2018; 3-32.
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4. Leading Causes of Death 2017. Centers for Disease Control. Accessed January 2020 at <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>.
5. Al-Goblin AS, et al. Mechanism linking diabetes mellitus and obesity. Diabetes, Metabolic syndrome and Obesity: Targets and Therapy 2014;7 587-591.
6. Herman W. The economic costs of diabetes: Is it time for a new treatment paradigm. Diabetes Care 2013. Apr 36 (4): 775-776.

Visit [www.research.va.gov/topics](http://www.research.va.gov/topics) for information about VA research on diabetes and other key topics relating to Veterans' health.

### Prevalence of Diabetes FY2004 & FY2019 by Geographic District

Rates per 100 VHA users, standardized to 2019 VHA population



### Summary

- Among VHA users, 96.3% of diabetics were male. Female VHA users were diagnosed with diabetes at a younger age than male VHA users, mean age at diagnosis of 53 vs 62 respectively. The cumulative incidence pattern by age at diagnosis was similar for males and females, with overall rates of diabetes of 15.0 per 100 VHA users for males and 13.7 per 100 VHA users for females. The highest cumulative incidence occurred for those diagnosed between 60 and 69 years old.
- Among VHA users, 77% of diabetics were White, 18% were Black, 1% were Asian and 4% were other races. Black VHA users had the highest incidence overall and for all age strata. Whites had the lowest incidence overall followed by Asians and Other races.
- The highest prevalence of diabetes occurred in the Southeast region of the U.S. and the lowest in the Pacific region. The prevalence grew 8-12% between 2004 and 2019 for all regions.