

# **Aging in Arizona: Leading Causes and Risk Factors of Death Among Residents 65 Years and Older-2021**

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# Presentation Outline

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- Findings
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  - Mortality
  - Hospital Discharges (Emergency Department Visits and Inpatient Hospitalizations)
  - Health Behaviors and Risk Factors
  - Health Outcomes
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- Future Directions



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Questions

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# Report Background

- In the 2023-2026 State Plan on Aging, ADHS is tasked with the following actions:
  - ADHS will support media campaigns or awareness efforts developed by other state agencies that target messaging for the older adult population.
  - ADHS will secure Governor's annual proclamations to promote the following health awareness months: Healthy Aging & Falls Prevention Awareness Month (September); National Alzheimer's Disease Awareness Month (November; in coordination with the Arizona Alzheimer's Association).
  - ADHS will participate as a member of the Governor's Advisory Council on Aging (GACA). (ADHS Director will designate a proxy.)
  - **ADHS will develop a bi-ennial health data profile for CY 2021 & CY 2023 data that provides an overview of the health status of the older adult population in Arizona.**
  - ADHS, in coordination with our statewide and community partnerships, will leverage the Arizona Health Improvement Plan (AzHIP) Pandemic Recovery and Resilience Action Plan to increase public health resources, training and support for family caregivers.
  - ADHS will serve on the Advisory Board for the Taskforce Against Senior Abuse (TASA) and participate in workgroups.
  - ADHS will support the Falls Prevention Coalition projects, including providing falls- unintentional injury data for the Coalition's website update.



# Methods

- **Data sources:** Vital records, Hospital Discharge data, Behavioral Risk Factor Surveillance System(BRFSS)
- **Population Denominators:** Population estimates developed by Arizona Office of Economic Opportunity
- **Rates:** (# events among Arizonans 65 years and older/Number of Arizonans 65 years and older) X 100,000 residents aged 65 years and older



# ICD-10 Codes

ICD-10 Codes	Description
A00-B99	Infectious and Parasitic Diseases
C00-C97	Malignant Neoplasm
G30	Alzheimer's Disease
I00-I99	Diseases of the Circulatory System
I01-I02, I05-I09, I11, I13.0-I13.2, I10-I27, I30-I52, R00.1, I97.10-I97.19	Heart Disease
I60-I69	Cerebrovascular Disease
J00-J99	Diseases of the Respiratory System
J40-J47	Chronic Lower Respiratory Disease
K95.0-K95.8	Diseases of the Digestive System
M00-M99	Diseases of the Musculoskeletal System and Connective Tissue
R00-R99	Symptoms, Signs, and Ill-Defined Conditions*
S00-T88	Injury and Poisoning
U07.1	COVID-19

\*Signs, symptoms, abnormal results of clinical, laboratory, or other investigative procedures, and ill-defined conditions regarding which no diagnosis classifiable elsewhere is recorded.



# Population Growth

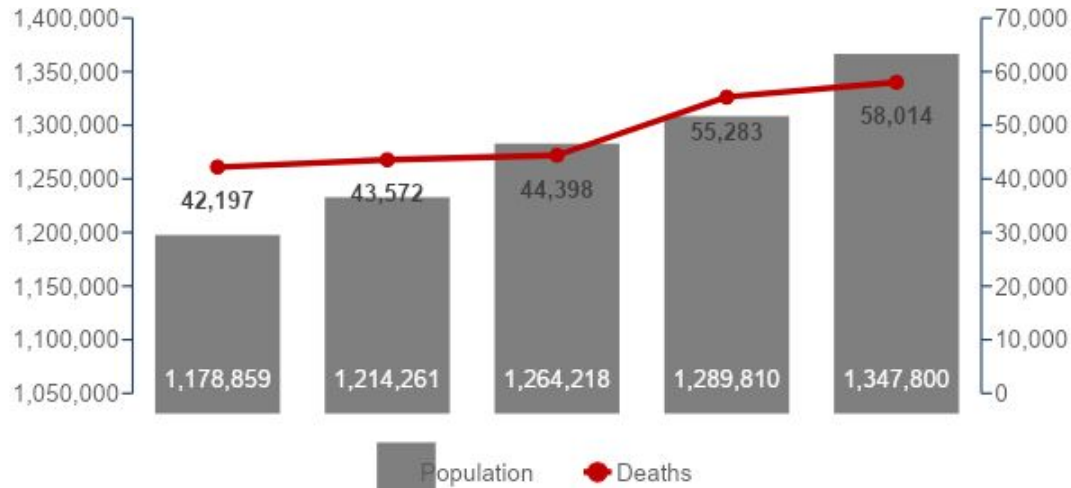
Arizonans 65 years and older experienced a 14% population growth between 2017 and 2021.<sup>1</sup>With aging, comes the increasing risk of chronic diseases such as heart disease, type II diabetes, arthritis, and cancer.<sup>1</sup> The increasing number and proportion of Arizonans 65 years and older will necessitate the strategic planning of cost-effective health and social services to properly care for our older population.

<sup>1</sup>Arizona Department of Health Services, Population Health and Vital Statistics (2017-2021), Population Denominators. Accessed October 21, 2022. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php>



# Population Growth

Number of deaths and total population of Arizonans 65 years and older-Arizona 2017-2021



Data Source: Arizona Vital Statistics, Death Certificates

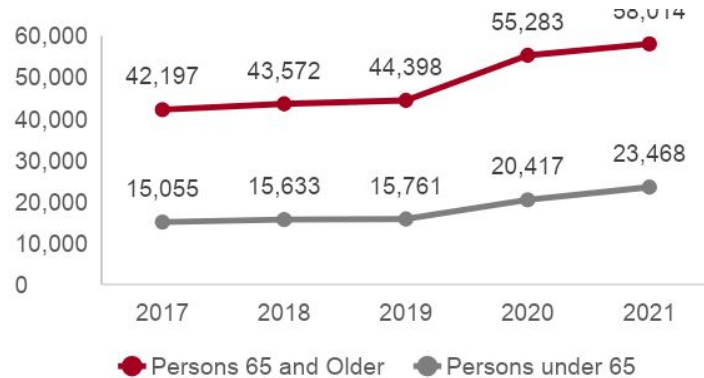


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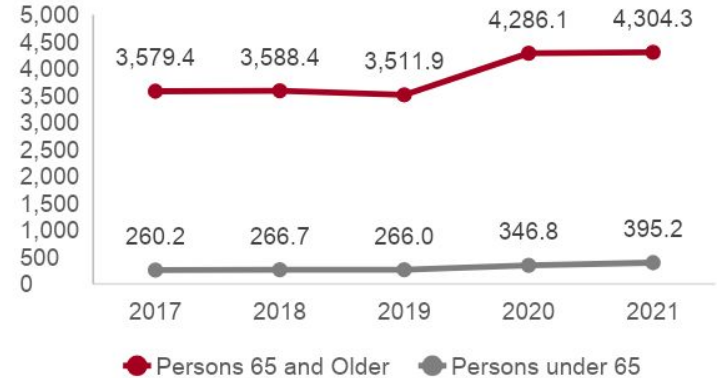
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# Mortality by age group

Number of deaths among Arizonans 65 years and older and under 65 years-Arizona 2017-2021



Mortality rate (per 100,000 residents) among Arizonans 65 years and older and under 65 years -Arizona 2017-2021



Data Source: Arizona Vital Statistics, Death Certificates



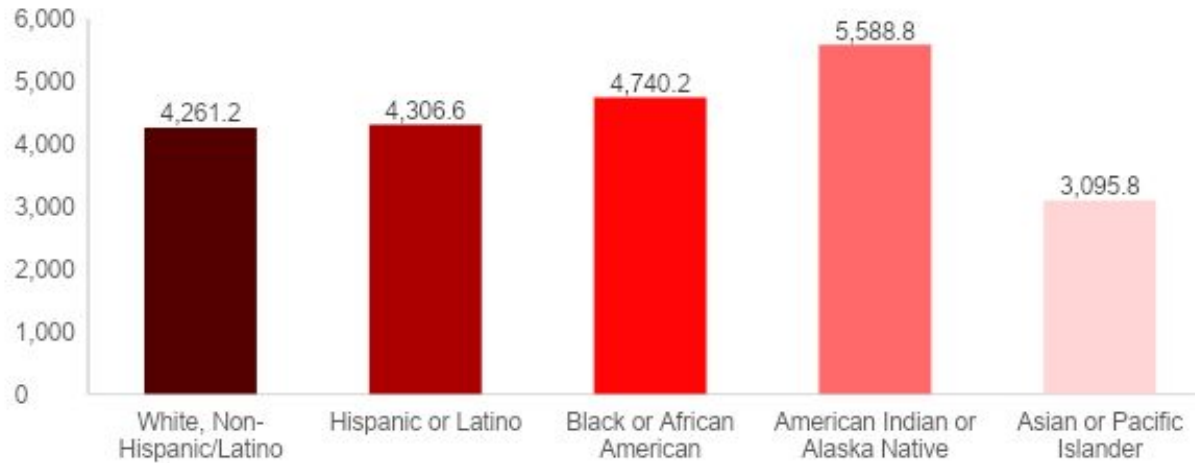
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# Mortality by race and ethnicity

Mortality rate (per 100,000 residents) among Arizonans 65 years and older by race and ethnicity -Arizona 2021



Data Source: Arizona Vital Statistics, Death Certificates

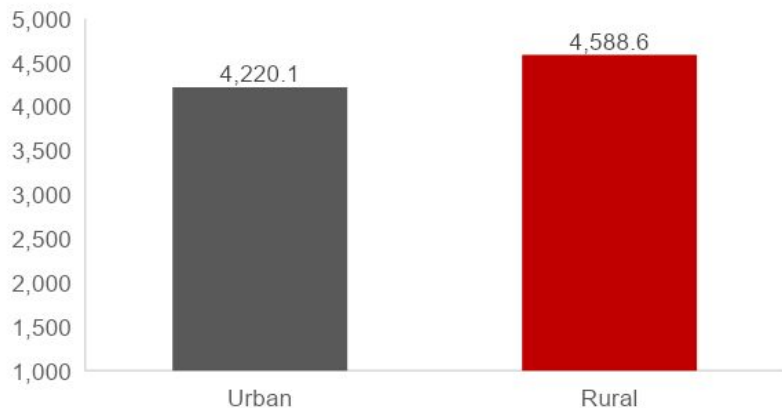


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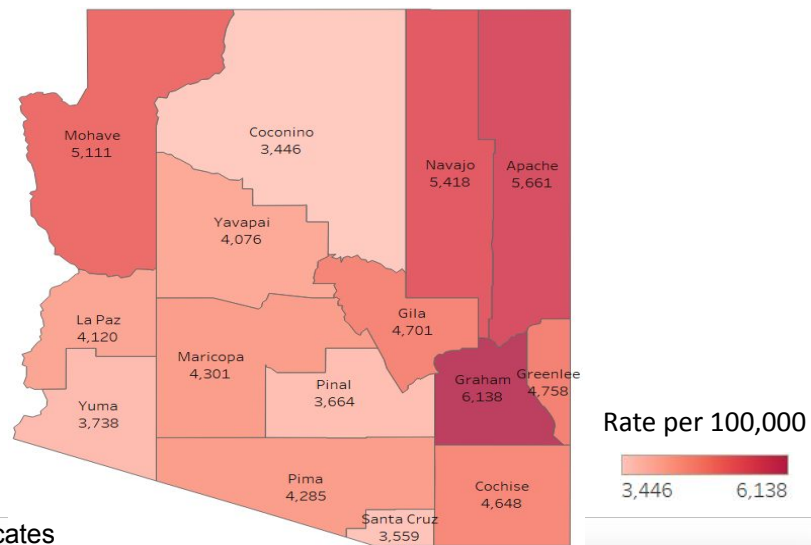
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# Mortality by residence

Mortality rate (per 100,000 residents) among Arizonans 65 years and older by urban/rural residence regions-Arizona 2021



Mortality rate (per 100,000 residents) among Arizonans 65 years and older by county of residence-Arizona 2021



Data Source: Arizona Vital Statistics, Death Certificates



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# Leading causes of death

Number and rate by Top 5 leading causes of deaths among Arizonans 65 years and older-Arizona, 2017-2021

	Number of deaths (N)					Mortality Rate per 100,000 residents				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Heart Disease	10,171	10,265	10,406	11,701	12,083	862.8	845.4	823.1	907.2	896.5
Malignant Neoplasm	8,850	8,984	9,356	9,644	9,718	750.7	739.9	740.1	747.7	721.0
COVID-19	*	*	*	6,260	8,421	*	*	*	485.3	624.8
Chronic Lower Respiratory Disease	3,293	3,310	3,237	3,220	3,135	279.3	272.6	256.1	249.7	232.6
Cerebrovascular Disease	2,292	2,456	2,473	*	2,847	194.4	202.3	195.6	*	211.2
Alzheimer's Disease	2,997	2,979	3,009	3,195	*	254.2	245.3	238.0	247.7	*

Data Source: Arizona Vital Statistics, Death Certificates

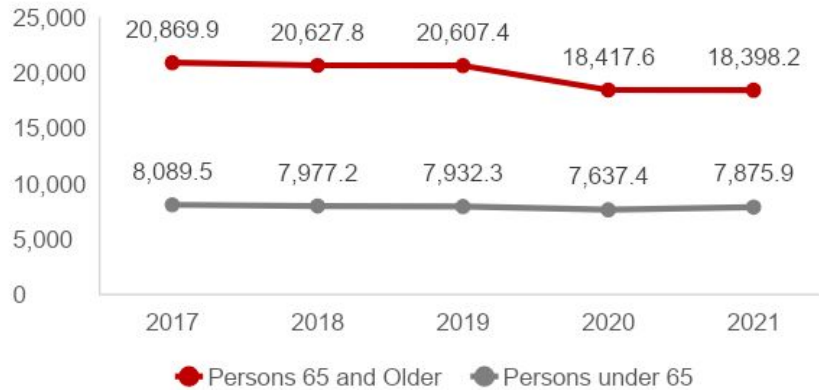


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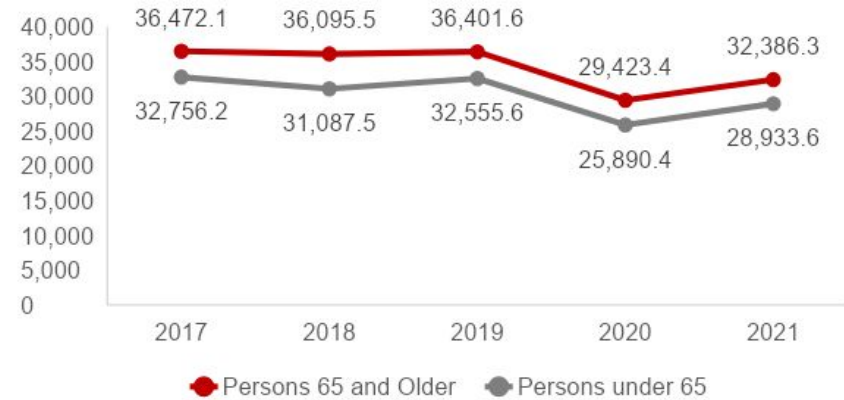
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# Hospital discharges by age group

**Inpatient hospitalization rate (per 100,000 residents) among Arizonans 65 years and older and under 65 years-Arizona 2017-2021**



**Emergency department visit rate (per 100,000 residents) among Arizonans 65 years and older and under 65 years-Arizona 2017-2021**



Data Source: Arizona Hospital Discharge Data

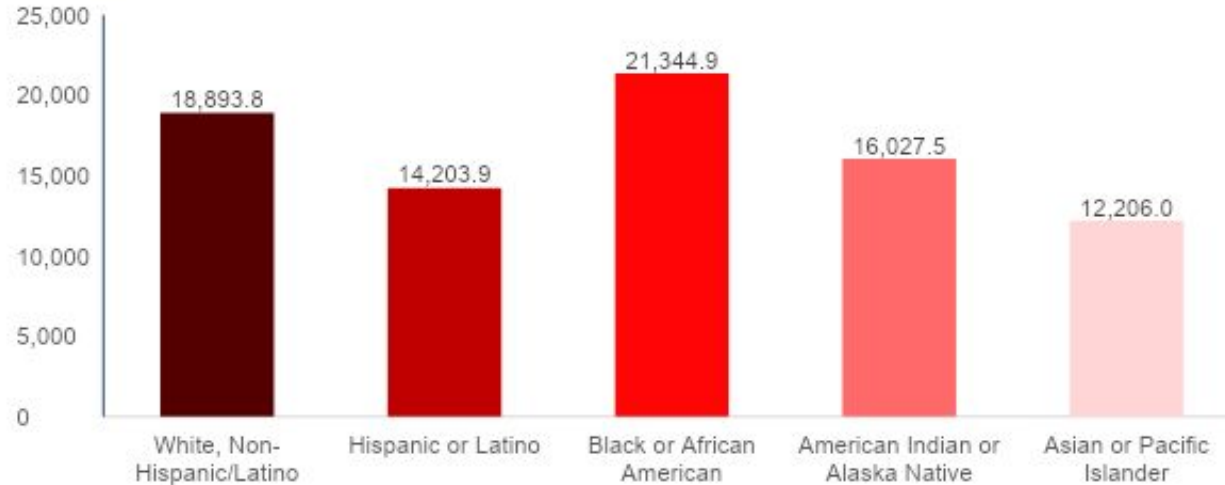


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# Hospital discharges by race and ethnicity

Inpatient hospitalization rate (per 100,000 residents) among Arizonans 65 years and older by race and ethnicity-Arizona 2021



Data Source: Arizona Hospital Discharge Data

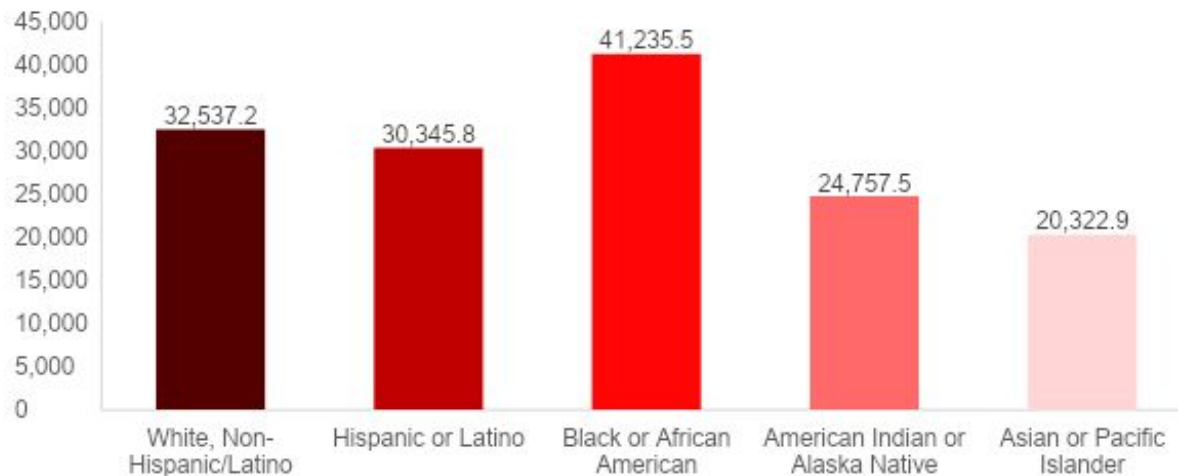


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# Hospital discharges by race and ethnicity

Emergency department visit rate (per 100,000 residents) among Arizonans 65 years and older by race and ethnicity -Arizona 2021



Data Source: Arizona Hospital Discharge Data

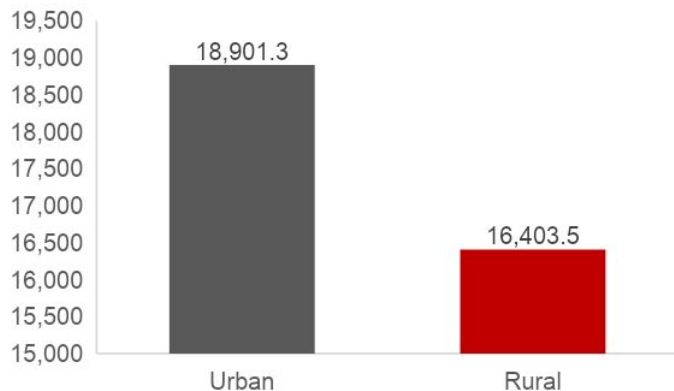


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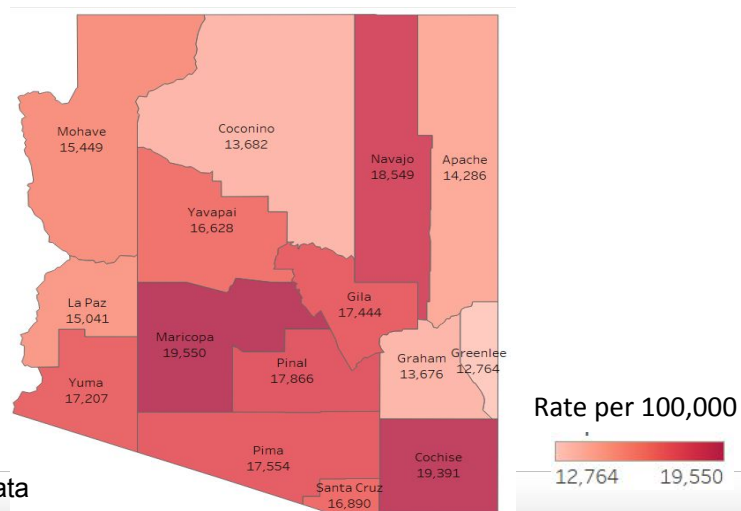
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# Hospital discharges by residence

Inpatient hospitalization rate (per 100,000 residents) among Arizonans 65 years and older by urban/rural residence area-Arizona 2021



Inpatient hospitalization rate (per 100,000 residents) among Arizonans 65 years and older by county of residence -Arizona 2021



Data Source: Arizona Hospital Discharge Data

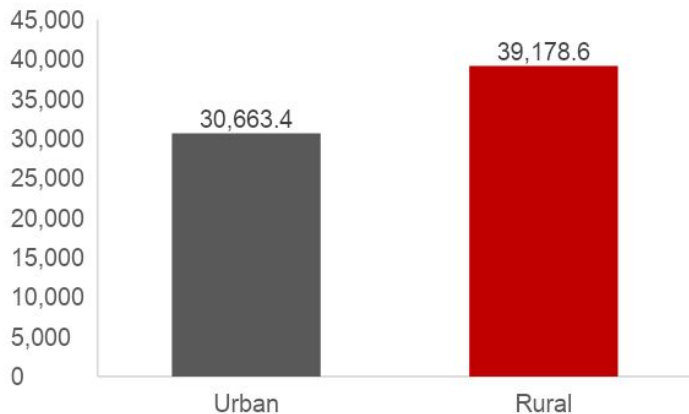


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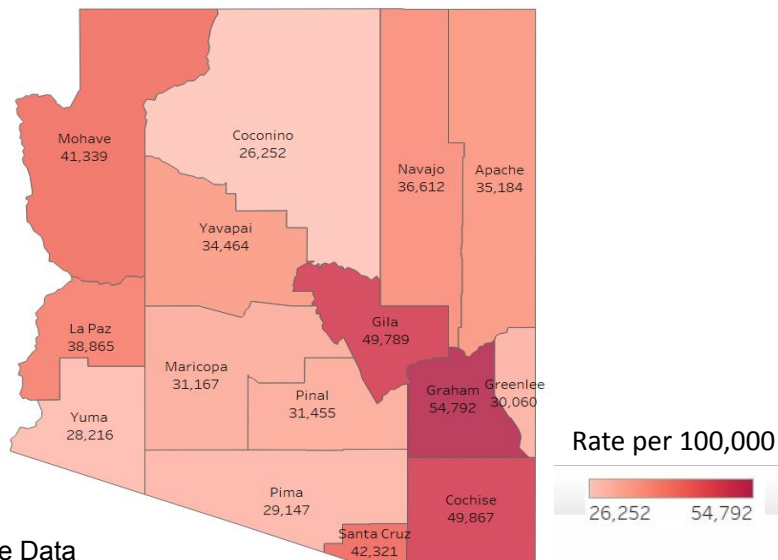
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# Hospital discharges by residence

Emergency department visit rate (per 100,000 residents) among Arizonans 65 years and older by residence area-Arizona 2021



Emergency department visit rate (per 100,000 residents) among Arizonans 65 years and older by county of residence-Arizona 2021



Data Source: Arizona Hospital Discharge Data



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# Leading causes of hospital discharges

Number and Rate of the Top 5 leading causes of inpatient hospitalizations among Arizonans 65 years and older-Arizona 2021

Leading Cause of Inpatient Hospitalization	Count	Rate
Diseases of the Circulatory System	58,699	4,355.2
Infectious and Parasitic Diseases	28,425	2,109.0
Diseases of the Digestive System	23,914	1,744.3
Diseases of the Respiratory System	15,668	1,162.5
COVID-19	15,591	1,156.0

Data Source: Arizona Hospital Discharge Data



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# Leading causes of hospital discharges

Number and Rate of the Top 5 leading causes of emergency department visits among Arizona residents 65 years and older-Arizona 2021

Leading Cause of Emergency Department Visits	Count	Rate
Symptoms, Signs, and Ill-Defined Conditions*	110,412	8,192.0
Injury and Poisoning†	87,464	6,489.4
Diseases of the Circulatory System	38,061	2,823.9
Diseases of the Musculoskeletal System and Connective Tissue	36,127	2,680.4
Diseases of the Digestive System	30,045	2,229.2

Data Source: Arizona Hospital Discharge Data



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# Health behaviors and risk factors

Prevalence estimates of health behaviors and risk factors among Arizonan BRFSS participants 65 years and older-Arizona 2021

Topic	Answer Choices	Weighted Frequency	Prevalence Estimate	
Any exercise or physical activities (past month)	Yes	974,110	72.5%	
	0 times	470,630	87.3%	
Binge drank (number past 30 days)	1 time	17,571	3.3%	
	2-4 times	30,580	5.7%	
	5 or more times	20,014	3.7%	
	Smoking status	Current smoker-every day	87,083	6.8%
		Current smoker-some days	31,576	2.5%
Former smoker		499,552	39.3%	
Never smoked		654,421	51.4%	
Ever been told had high blood pressure	Yes	767,329	57.1%	
	Borderline	562,815	41.9%	
Ever been told had high cholesterol	No	10,138	0.8%	
	Yes	610,975	48.0%	
Body Mass Index category	Underweight	22,298	1.8%	
	Normal weight	380,327	31.3%	
	Overweight	467,726	38.5%	
	Obese	344,942	28.4%	

Data Source: Arizona Behavioral Risk Factor Surveillance System

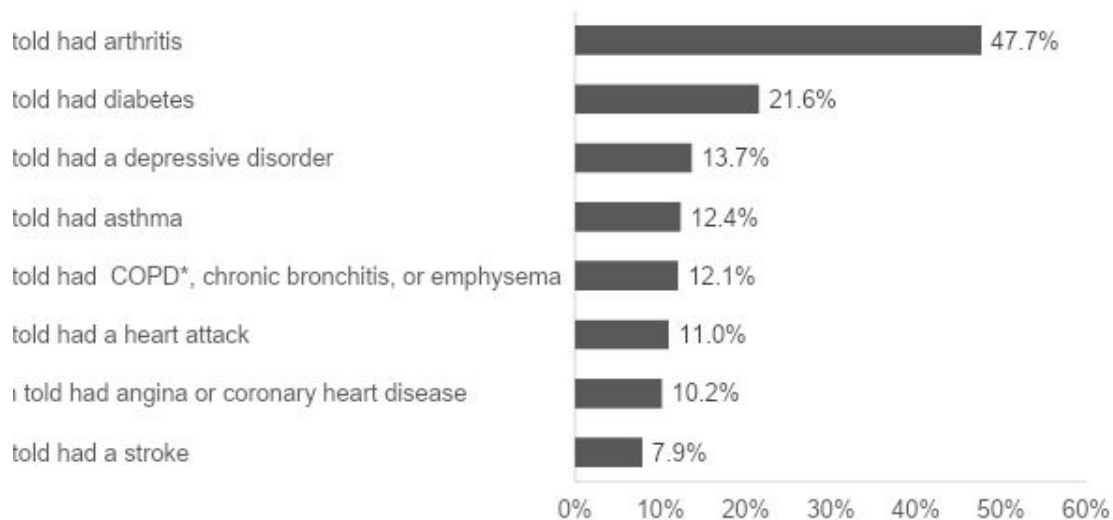


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# Health outcomes

Prevalence estimates of self-reported health outcomes among Arizonan BRFSS participants 65 years and older-Arizona 2021



\*Chronic Obstructive Pulmonary Disease

Data Source: Arizona Behavioral Risk Factor Surveillance System



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# Limitations

- National decline in emergency department visits for all causes other than COVID-19 in 2020
- ADHS hospital discharge records do not capture data from Federal hospitals, such as Veteran's Administration and Indian Health Service or on Arizona residents who use a hospital in another state.
- Possible misclassification of characteristics at the hospital-level, including race and ethnicity
- Possible recall and social desirability bias from BRFSS participants
- Data utilized in this report utilize encounters and may include duplicate cases for the same person resulting in an overestimation in rates and cases



# Future directions

- Focus on social determinants of health such as transportation and poverty and their affect on older adults
- Explore data on other populations of interest such as LGBTQ+ communities and persons with disabilities
- Explore factors that disproportionately affect older Arizonans, including Alzheimer's disease and loneliness
- Explore Caregivers and other workforce(Direct care workers) that support the growing aging population



# Acknowledgements

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# Questions

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