



How Many Arizonans with Alzheimer's Disease in 2020 Should We Plan For?

by Tim Flood, MD
ADHS, Bureau of Public Health Statistics

Background

- Need to plan for services for persons with Alzheimer's Dementia (AD)
- Arizona's population is expanding
 - increasing absolute count
 - increasing proportion of elderly persons
- Prevalence of AD correlates with the age of the population
- There is no surveillance system to monitor the prevalence of AD in Arizona

Method

- Create synthetic, state estimates by using prevalence rates from two published sources.
 - > **Source 1:** Prevalence of Alzheimer's Disease in a Retirement Community. (Pfeffer RI, et al., Amer. J Epidemiol. 1987;125:420-36). Calculations uses age 65+.
 - > **Source 2:** Prevalence of Dementia in the US: the Aging, Demographics, and Memory Study (Plassman BL, et al., Neuroepidemiology; 2007;29:125-132). Calculations use age 71+.
- Apply age-specific rates of AD to the population projections for the Year 2009 and Year 2020.
 - > Age- and gender-specific rates are used in source #2.
 - > Severity is estimated using source #1.
- Population Projections: Arizona Dept of Commerce. <http://www.azcommerce.com/EconInfo/Demographics/>

Results

- Estimates of Arizonans with AD in **2009** are 107,935 (Source 1) and 66,351 (Source 2).
- By **2020** the estimated number will be 172,893 (Source 1) and 104,241 (Source 2). Using either source, these figure represent an approximate **60% increase** in the number of cases in 2020 compared to 2009.

Results (cont'd)

Estimated cases of Alzheimer's Disease, all stages

	Year 2009		Year 2020	
	Source 1*	Source 2#	Source 1	Source 2
Arizona	107,935	66,351	172,893	104,241
<i>county</i>				
Apache	874	508	1,272	726
Cochise	2,809	1,685	4,213	2,511
Coconino	1,374	747	2,378	1,271
Gila	1,453	876	2,020	1,210
Graham	552	341	755	446
Greenlee	98	57	120	66
La Paz	874	563	1,207	799
Maricopa	54,736	33,546	85,574	50,842
Mohave	5,839	3,526	9,268	5,685
Navajo	1,703	967	2,727	1,572
Pima	17,930	11,243	27,258	16,468
Pinal	7,585	4,604	17,080	10,611
Santa Cruz	677	396	1,104	635
Yavapai	6,399	3,952	10,276	6,282
Yuma	5,031	3,340	7,641	5,117

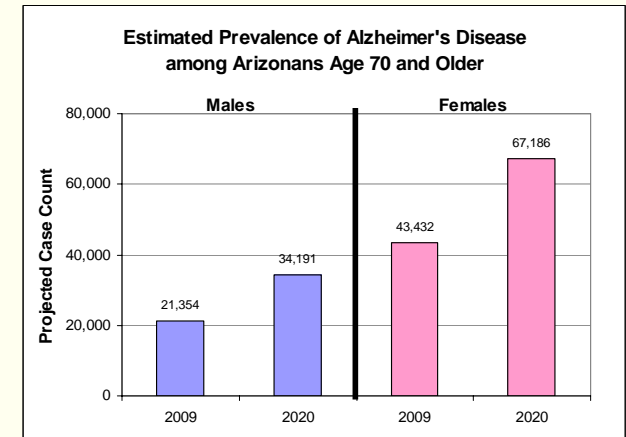
- * Source 1 rate is 11.2% of population, sexes combined, age 65+
- # Source 2 rate is ~ 9.7% of population, sexes combined, age 71+

Estimated cases of Alzheimer's Disease, in moderate and severe stages

	Year 2009	Year 2020
	Source 1*	Source 1
Arizona	15,419	24,699
Apache	125	182
Cochise	401	602
Coconino	196	340
Gila	208	289
Graham	79	108
Greenlee	14	17
La Paz	125	172
Maricopa	7,819	12,225
Mohave	834	1,324
Navajo	243	390
Pima	2,561	3,894
Pinal	1,084	2,440
Santa Cruz	97	158
Yavapai	914	1,468
Yuma	719	1,092

*Rate is ~1.6% of population age 65+.

Estimated cases, all stages; Source 2



Source 2 rate among population: male = 7.05% ; female = 11.48%

Limitations

- The case definitions of AD and methodologies are somewhat different in the two sources.
- Cases among persons of younger ages are excluded from the estimates.

Conclusion

- If current prevalence rates remain unchanged, the absolute number of persons with AD and the services they require will increase by approximately 60% statewide.
- The two sources produced generally similar estimates.

Recommendation

- Service planners and providers should use these estimates to prepare the state for the services needed to care for affected persons and their families.
- We welcome input from researchers who generate prevalence rates at a population level, especially among race and ethnic groups, so that we may generate more accurate estimates in the future.

Contact info: Tim Flood, MD; 150 N 18th Ave; Ste 550; Phoenix, AZ 85007; 602-542-7331; floodt@azdhs.gov