Alzheimer's Disease Mortality Dynamics

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Introduction

Definitions

- Dementia can be defined as a condition with progressive or persistent loss of intellectual functioning.
- Dementia results in loss of memory and abstract thinking.
- Dementia encompasses personality change, resulting from organic disease of the brain
- There are four categories of dementia
- Alzheimer's Disease is the most prevalent form of dementia
- Alzheimer's Disease gradually destroys the nerve cells in the brain
- Age is the best-known risk factor for disease
- Changes to the brain can appear 20 year before onset of symptoms
- Late-stage disease leaves a patient bedridden and susceptible to developing other medical conditions especially pneumonia. Secondary conditions result in death.
- Certain genes increase the risk of developing Alzheimer's Disease and having a first-degree relative with Alzheimer's disease increases the risk of developing it by 10 to 30 percent. (CDC)

Impact Alzheimer's Disease Summary

- 150,000 people aged 65 and older are living with Alzheimer's in Arizona.
- 8.9% of people aged 45 and older have subjective cognitive decline.
- 261,000 family caregivers bear the burden of the disease in Arizona.
- 511 million hours of unpaid care provided by Alzheimer's caregivers.
- $10.8 billion is the value of the unpaid care.
- $414 million is the cost of Alzheimer's to the Arizona state Medicaid program.
- "If global dementia care were a country, it would be the 14th largest economy in the world."(WHO)

Objectives

Purpose

- The purpose of this study Is to understand the mortality patterns and diagnostic rates

Research Questions

- What is the Diagnostic rate for different genders, race/ethnicity, age groups?
- Does Alzheimer's lead to different mortality rates for different genders, races, age groups, geographic

Data and Methods

Data

- This research analyzes data from the Arizona Department of Health study conducted from 2000 to 2017
- The study examines Arizona resident mortality from Alzheimer's disease
- Data was obtained from death certificates filed with the Arizona Department of Health Services.
- The population denominators were obtained from the Census Bureau
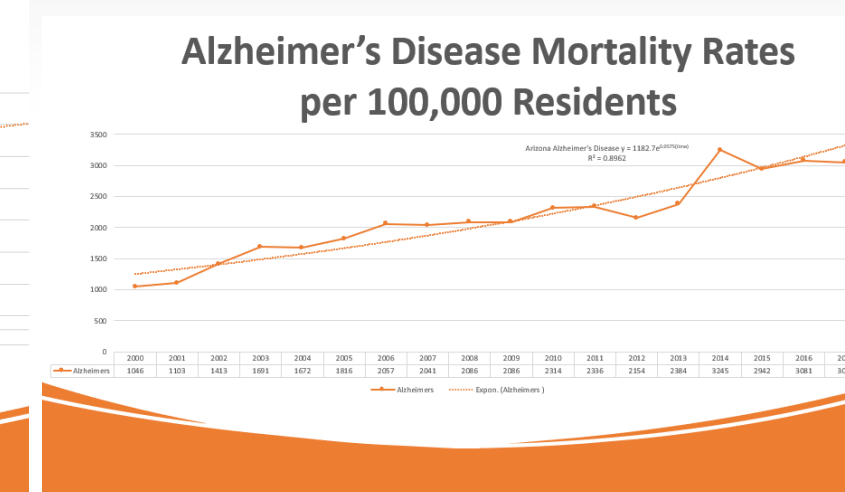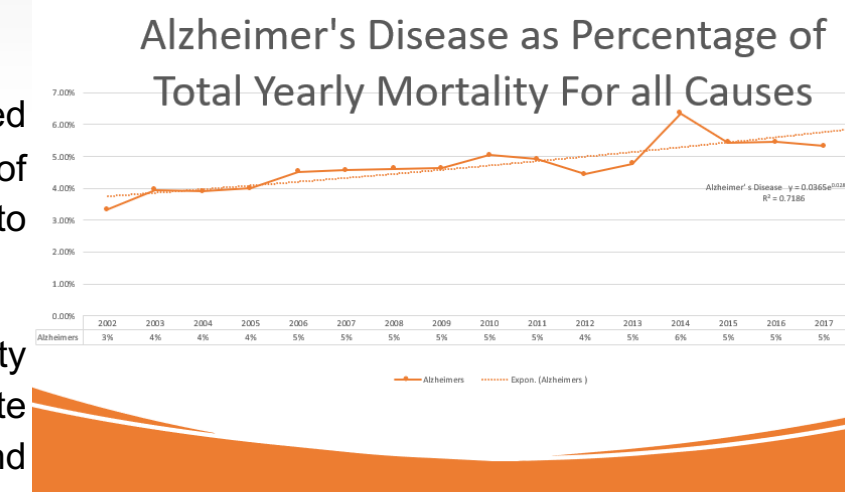
Methods

- This analysis utilized Microsoft Excel to extrapolate disease rates over time.
- The analyses focused on the state of Arizona
- The information provided by the Arizona Department of Health Services was analyzed based on factors of race/ethnicity, gender, rural/urban conditions, county, and age.
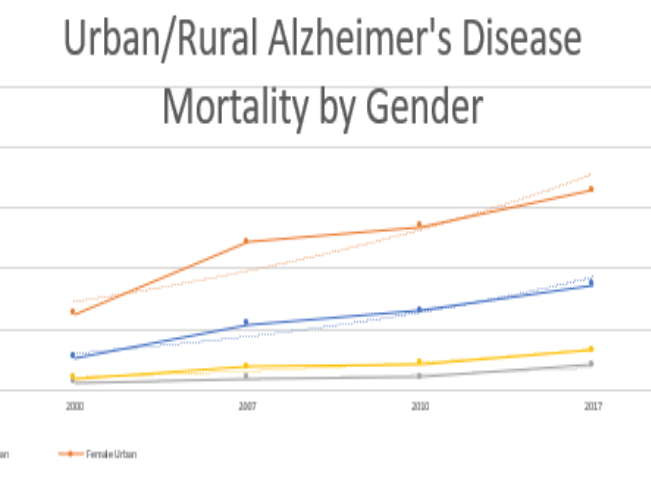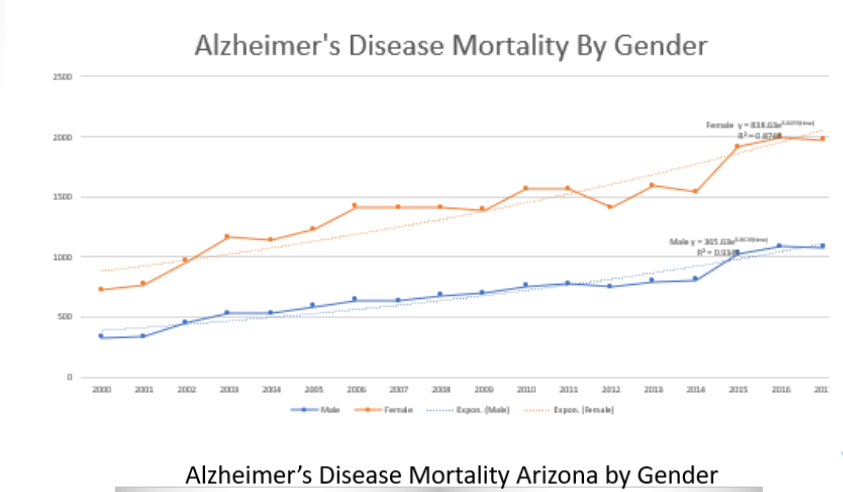
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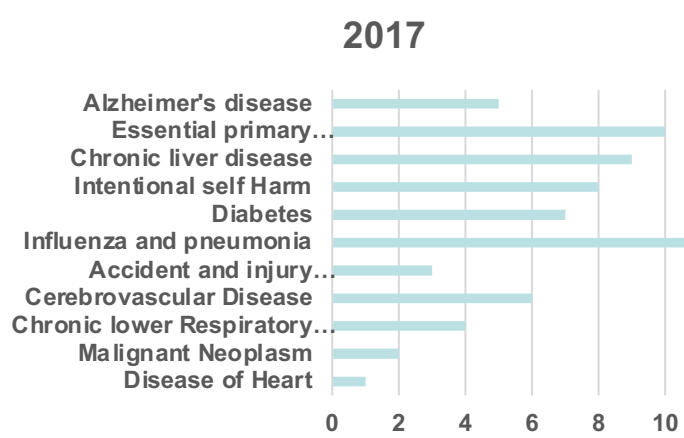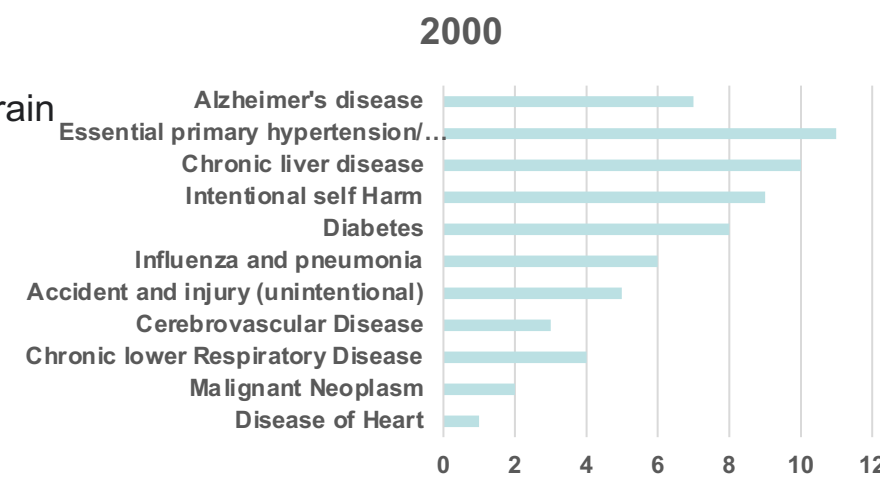
Overall Population

- .Alzheimer's Disease accounted for between 3-5% Percent of deaths for the years 2000 to 2017
- Alzheimer's disease mortality saw an increase at a growth rate od .0575 between 2000 and 2017.

Geography and Population Density

- The rate of Alzheimer's Disease deaths is greater in Urban populations.
- Urban and rural mortality rates increased at rates of .3229 and .3832, respectively.
- Greenlee County had the greatest growth in Alzheimer's mortality rates
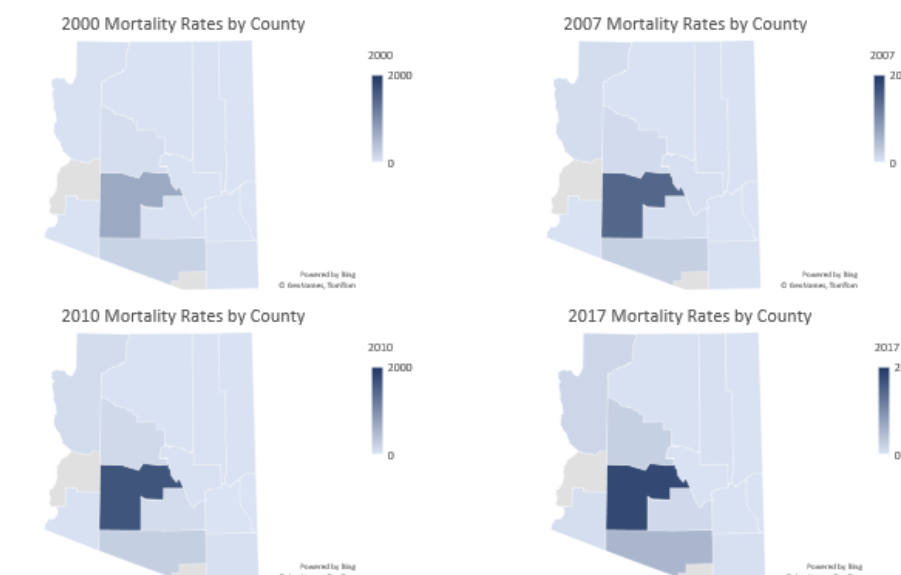
Race/Ethnicity

- White Non-Hispanic Arizona residents had the largest number of mortality
- The percentage of Alzheimer's deaths was disproportionate to racial demographics.
- In 2000 White Non-Hispanic Residents made up 91.7% of Alzheimer's deaths and 63.8% of the Arizona population.

Age Demographic

- The oldest age group had the greatest risk of mortality due to Alzheimer's. This is consistent with prior research.
- Males in the 85+ category had the highest growth rate of disease.
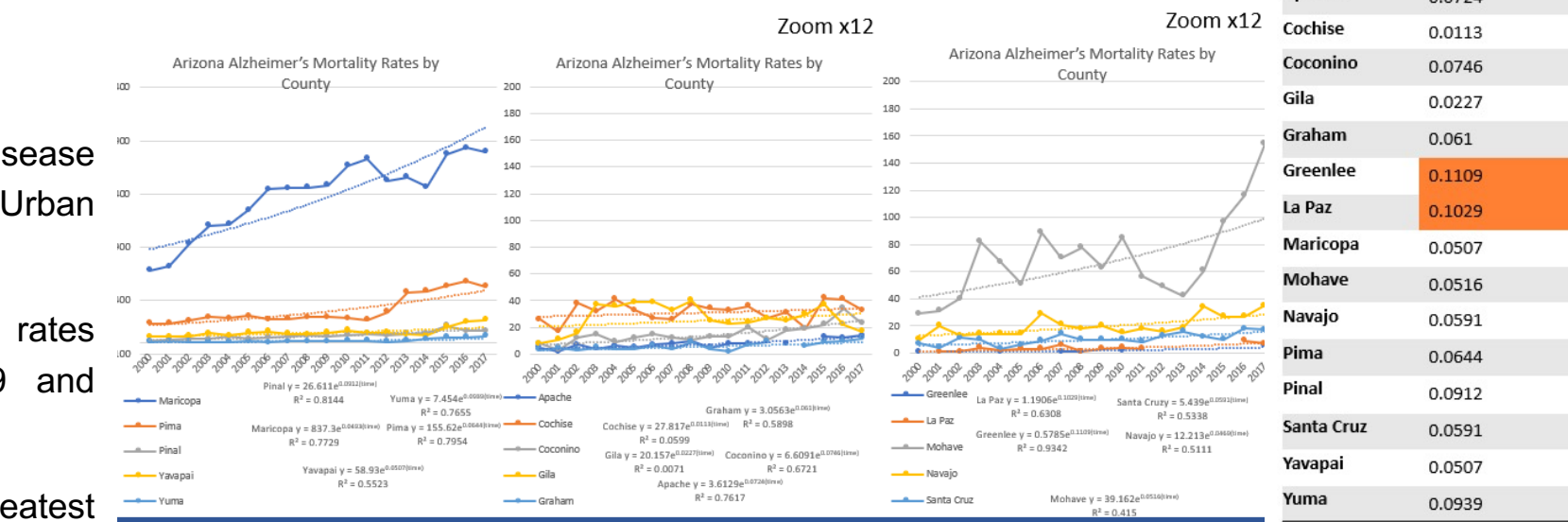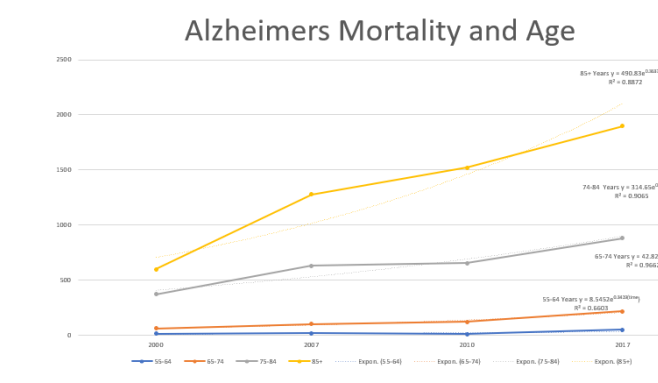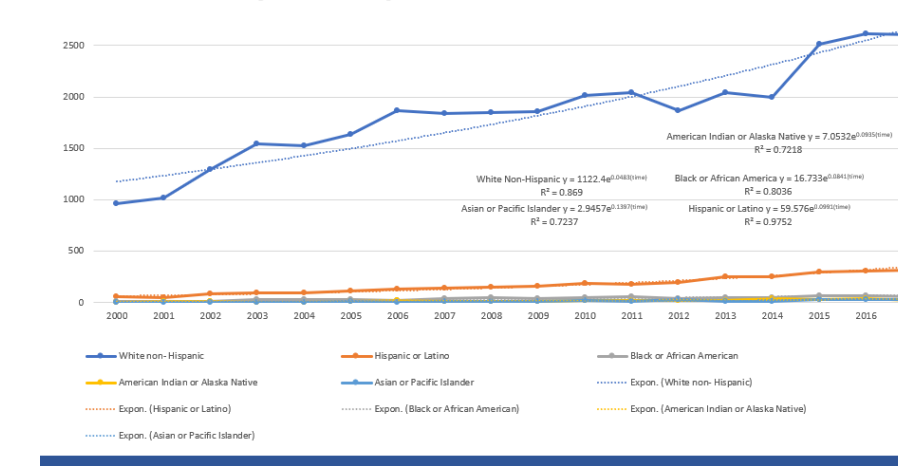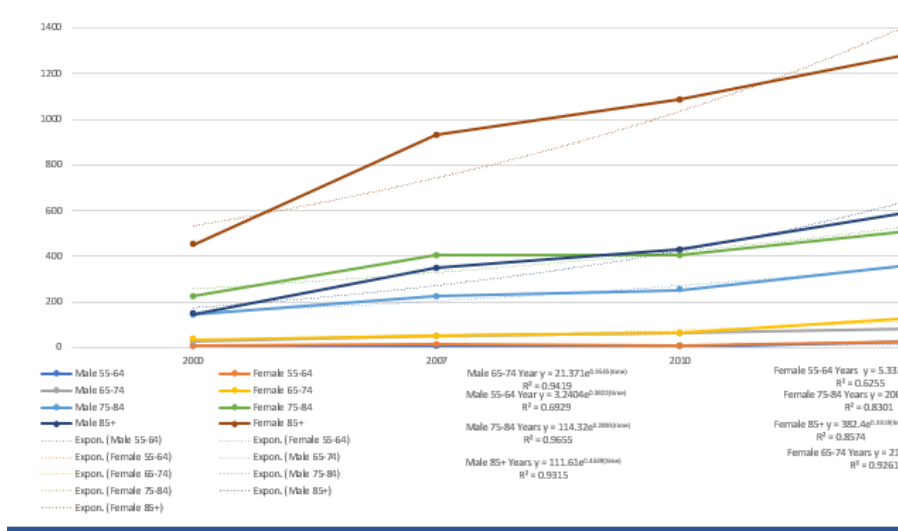
Gender

- Females have increased rates of Alzheimer's mortality
- The ratio of Female to Male Alzheimer's mortality cases decreased over the study period from 2000 to 2017.
- Urban Males had the highest growth rate of Mortality due to Alzheimer's Disease from 2000 to 2017.

County	Growth Rate
Apache	0.0724
Cochise	0.0113
Coconino	0.0746
Gila	0.0227
Graham	0.061
Greenlee	0.1109
La Paz	0.1029
Maricopa	0.0507
Mohave	0.0516
Navajo	0.0591
Pima	0.0644
Pinal	0.0912
Santa Cruz	0.0591
Yavapai	0.0507
Yuma	0.0939

Conclusions

Results

- The risk of mortality from Alzheimer's increases was found to increase with age.
- Rural residents had a decreased risk of mortality due to Alzheimer's disease.
- Arizona's White Non-Hispanic had an increased risk of Alzheimer's Disease Mortality.
- Female residents suffer from approximately twice the rates of mortality then male residents. Females had higher Alzheimer's mortality rates in every age group, racial group and geographical cluster.

Literature Cited & Acknowledgements

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