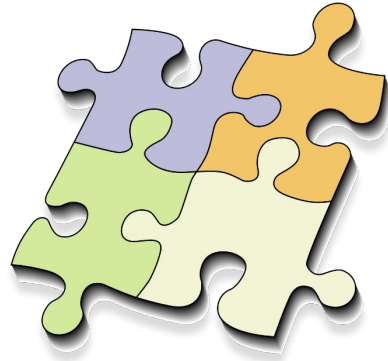
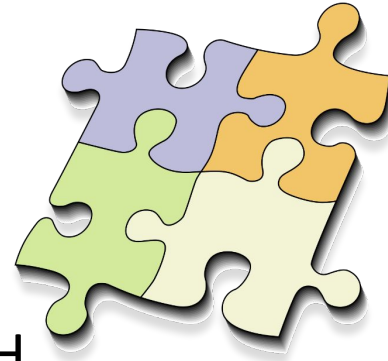


A “4-D” View of Delaware’s Geriatric Behavioral Health Issues:

Dementia, Depression, Drugs, and



Diversity



James M. Ellison MD, MPH

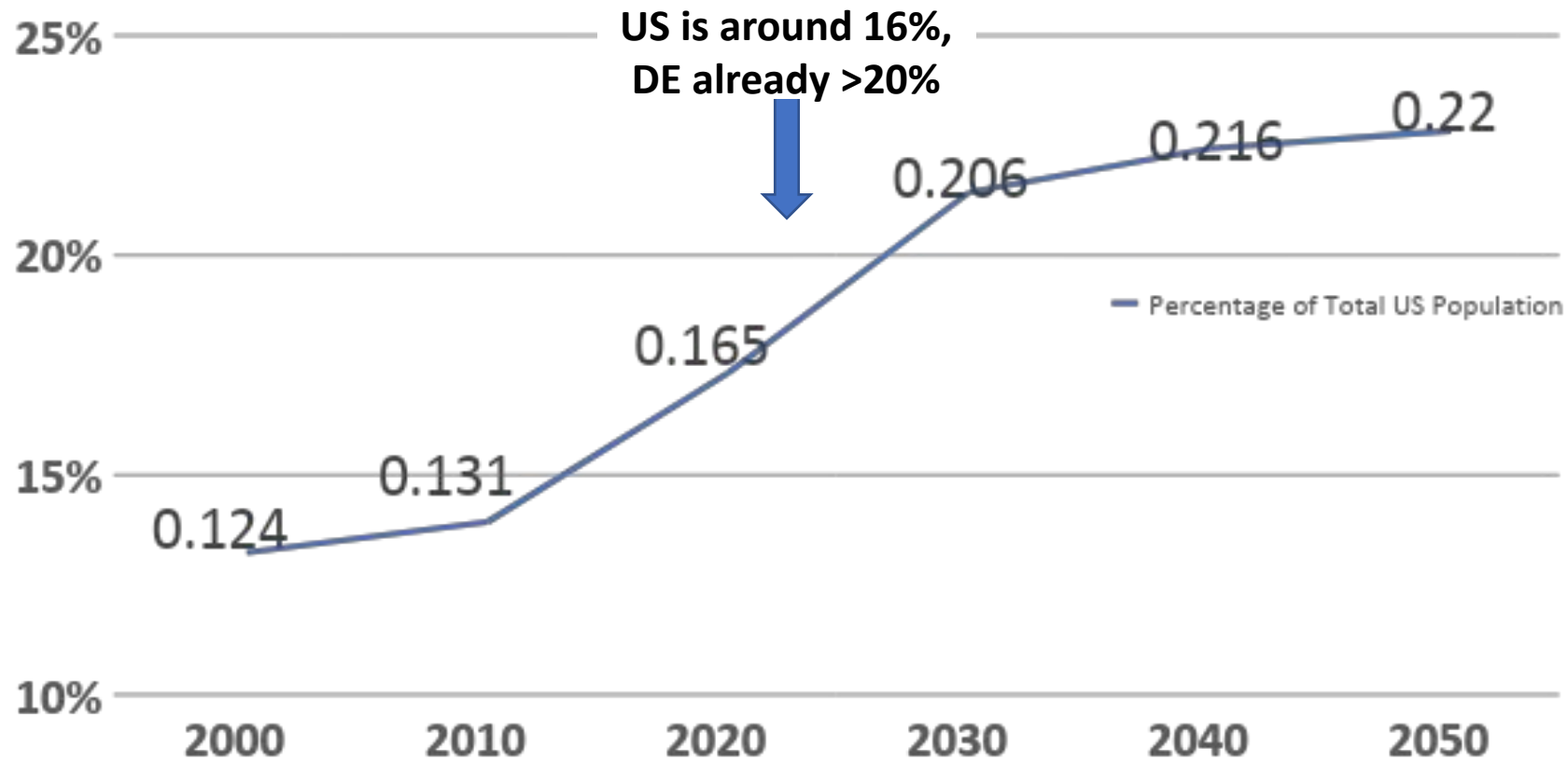
Director, Comprehensive Alzheimer’s Center,
Vickie & Jack Farber Institute for Neuroscience, Jefferson Health

Professor of Psychiatry and Human Behavior

Sidney Kimmel Medical College, Thomas Jefferson University

Philadelphia, PA

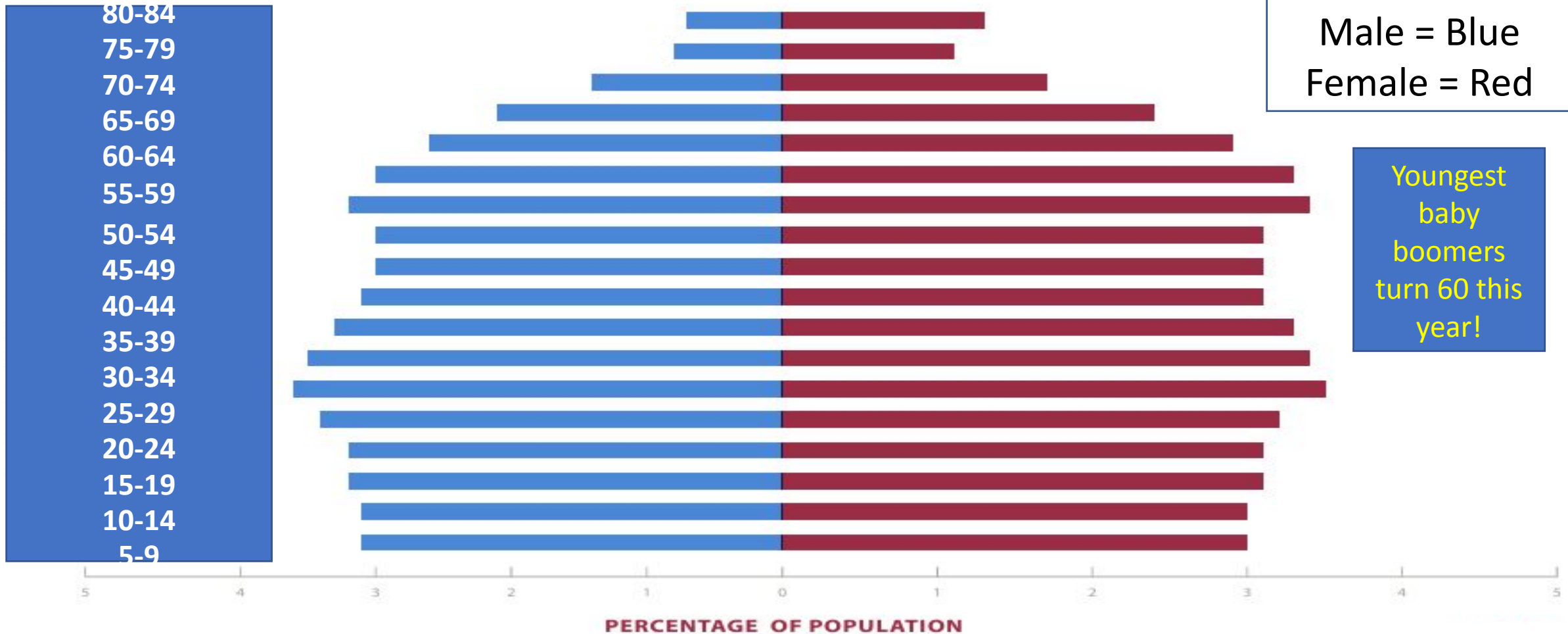
In The US, Seniors Comprise An Increasing Percentage of the Population (2000 to 2050)



Data from:

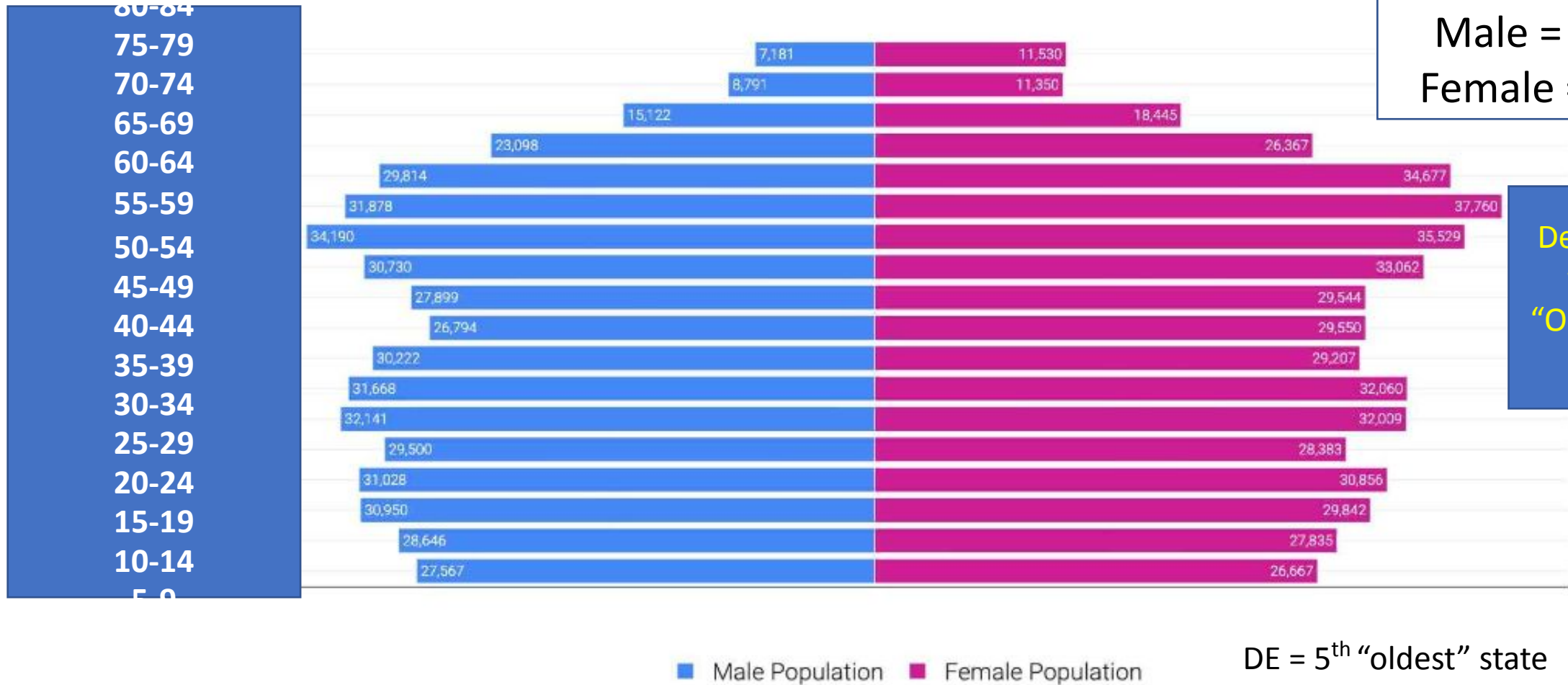
<https://www.statista.com/statistics/457822/share-of-old-age-population-in-the-total-us-population/>

US Population Pyramid Shows Baby Boomer and Boomer Echo Bulges



Delaware's Population Pyramid Promises An Increase in Older Adult Population

LEGEND
 Male = Blue
 Female = Red



Delaware's
 the 5th
 "Oldest" US
 State

Delaware's Elders

- 20.8% of Delawareans are 65+ (2023)
- Median Delaware age 41.4 vs US 38.5 (2024)
- The highest concentration of elders is in Sussex County (24.4% of population).
- Current projections of the elderly population in DE:
 - Significant increase in state's older adult population
 - Overall increase in Sussex County's share of elders is projected.
 - Large increase in 75+ year olds is projected in Sussex and Kent Counties.

<https://www.census.gov/quickfacts/fact/table/DE/PST045222>;

https://www.dhss.delaware.gov/dhss/dsaapd/files/projections_delaware_2019.pdf;

<https://worldpopulationreview.com/state-rankings/median-age-by-state>

General Health Characteristics of DE Population

- DE ranked #18 in 2023 Health Care state list
- High rate of poverty (#3 in US)
- High rate of income inequality (#4 in US)
- Very high health care disparity
- Health rankings, DE general population:
 - **#36 in number of uninsured**
 - **#39 in hypertension**
 - **#40 in high cholesterol**
 - **#42 in diabetes**
 - **#43 in obesity**
 - **#43 in chronic kidney disease**

Delaware's Seniors Rank Low vs Other US States in:

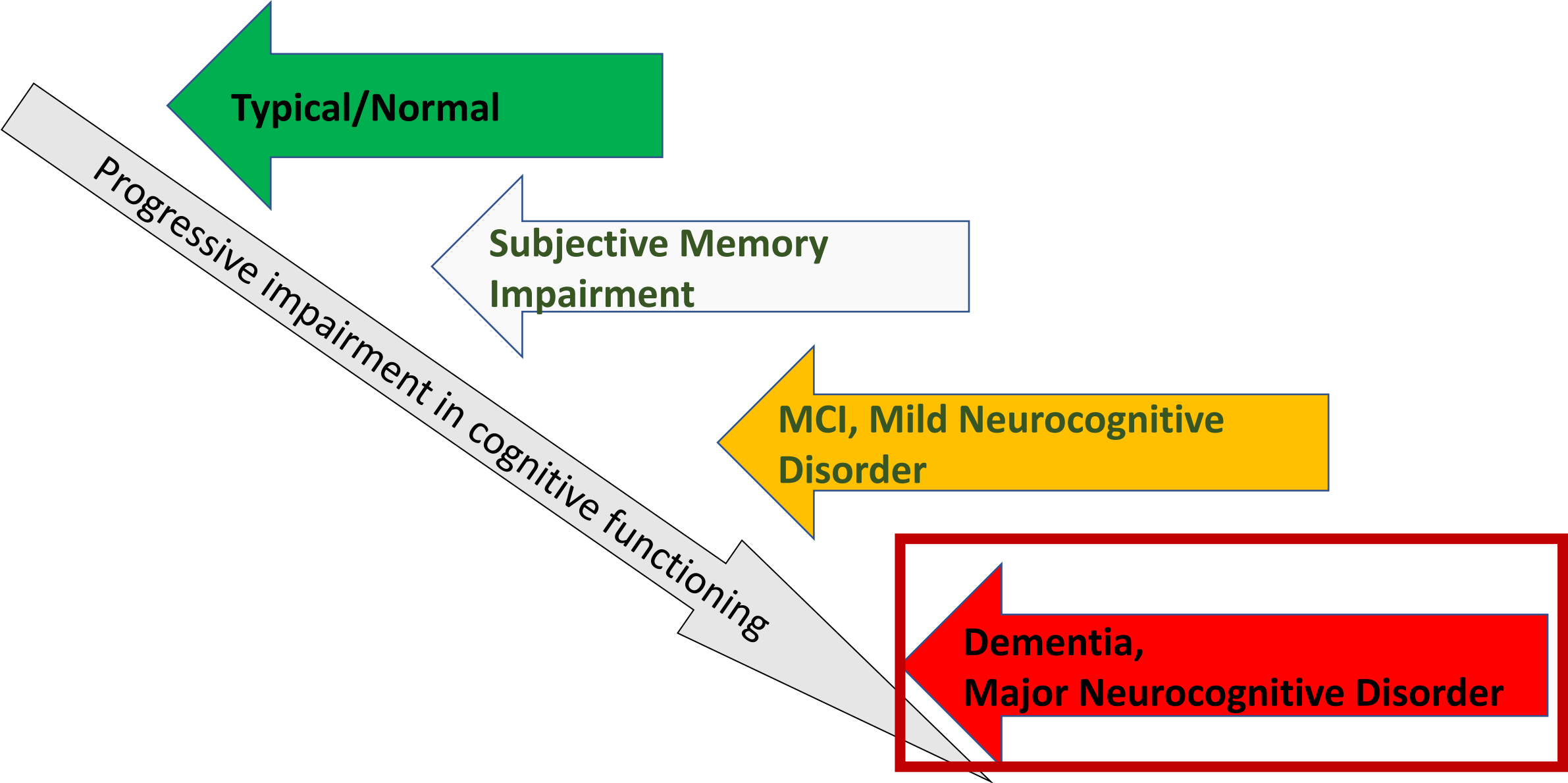
- **Drug deaths 23/50**
- **Access to care 32/50**
- Physical inactivity 33/50
- Preventable hospitalizations 34/50
- Obesity 37/50
- Dedicated Health Care Provider 37/50
- Sleep deprivation 39/50
- **Excessive alcohol use 44/50**
- Multiple Chronic medical diseases 48/50
- **Delaware's Seniors Rank Well for:**
 - **Among states with lower reported rates of**
 - **Late Life Suicide or Cognitive Impairment**

Delaware and Our Elders Face Mental Health Challenges

- **Dementia** is prevalent and increasing.
- **Depression** and suicide risk are prevalent and treatable.
- **Drug concerns** (both Substance Use Disorders and Medication-related issues) are prevalent and increasing.
- **Diversity** impacts each of these conditions.
- Delaware is already affected and will face increasing need to address these challenges in coming years.

1. Dementia

Aging Is Associated with a Spectrum of Cognitive Changes, Some of Which Are Disorders



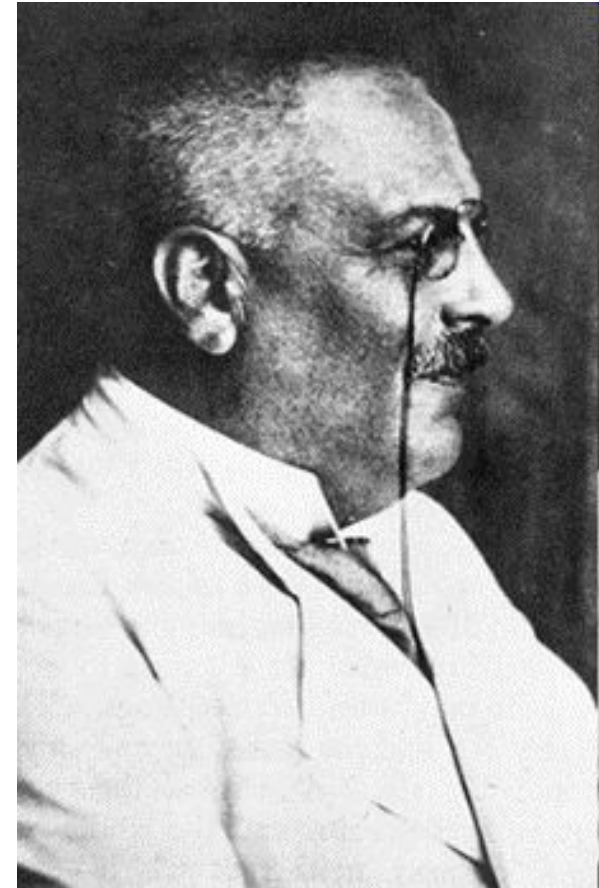
DSM-5-TR “Major Neurocognitive Disorder”: A Flexible and Inclusive Definition

- *Evidence of significant cognitive decline in **1 or more domains** based on **concern AND objective assessment**
- *Interferes with **independence** in everyday activities

- *Not delirium or another mental disorder

Dementia in the United States

- Over 6.2 million US adults now live with dementia.
- Alzheimer's Disease is the most prevalent dementia (60-80% of dementia cases) in US.
- Age is the biggest risk factor: 73% of people with Alzheimer's dementia are 75+ years old.
- The prevalence is still growing because the oldest baby boomers turn 78 in 2024.
- Number of US dementia caregivers is estimated at more than 11 million.
- High cost to health care system: \$321 billion in 2022 not including unpaid caregiving by family and others



2023 Alzheimer's Disease Facts and Figures.

<https://www.alz.org/media/Documents/alzheimers-facts-and-figures.pdf>; ;

<https://apps.abpn.org/verifycert/?stateId=8&certificationId=16>

Other (Non-Alzheimer's) Causes of Dementia Are Also Important

- **Vascular Cognitive Impairment**
- **Dementia with Lewy Bodies**
- **Parkinson's Disease Dementia**
- **Frontotemporal Dementias**
- **Alcohol Related Dementia**
- **Traumatic Brain Injury Dementia**
- **AIDS Dementia**
- **Huntington's Disease**
- **Spongiform (CJD) Encephalopathy**
- **Normal Pressure Hydrocephalus**

Alzheimer's Disease in Delaware

- An estimated 19,000 Delawareans had Alzheimer's Dementia in 2020.
- A projected 23,000 Delawareans will have AD in 2025.
- Alzheimer's disease affects caregivers too.
 - Delaware's caregivers number 31,000.
 - They provide 45 million hours of unpaid care per year.
 - They provide 85 million dollars of unpaid care per year.
 - 61.8% of caregivers live with at least one chronic condition.
 - 23.3% of caregivers live with depression.

Mortality of Alzheimer's Disease: 5th Most Frequent Cause of Death Among Older Delawareans Age 65+ (2017-2021)

- Heart Disease
 - Malignant Neoplasms
 - Cerebrovascular Disease
 - Lower Respiratory Diseases
 - **Alzheimer's Disease**
 - COVID-19
 - Diabetes
- In 2021, in Delaware, for adults age 75+ only COVID-19 caused more deaths than Alzheimer's disease.

What's New and Urgent with Dementia Care?

- 1. New diagnostic tests promote early diagnosis.
- 2. New treatment options encourage early intervention.
- 3. Burden of behavioral (non-cognitive) symptoms
- 4. Prevention is increasingly important.

New Diagnostic Tests and Treatments

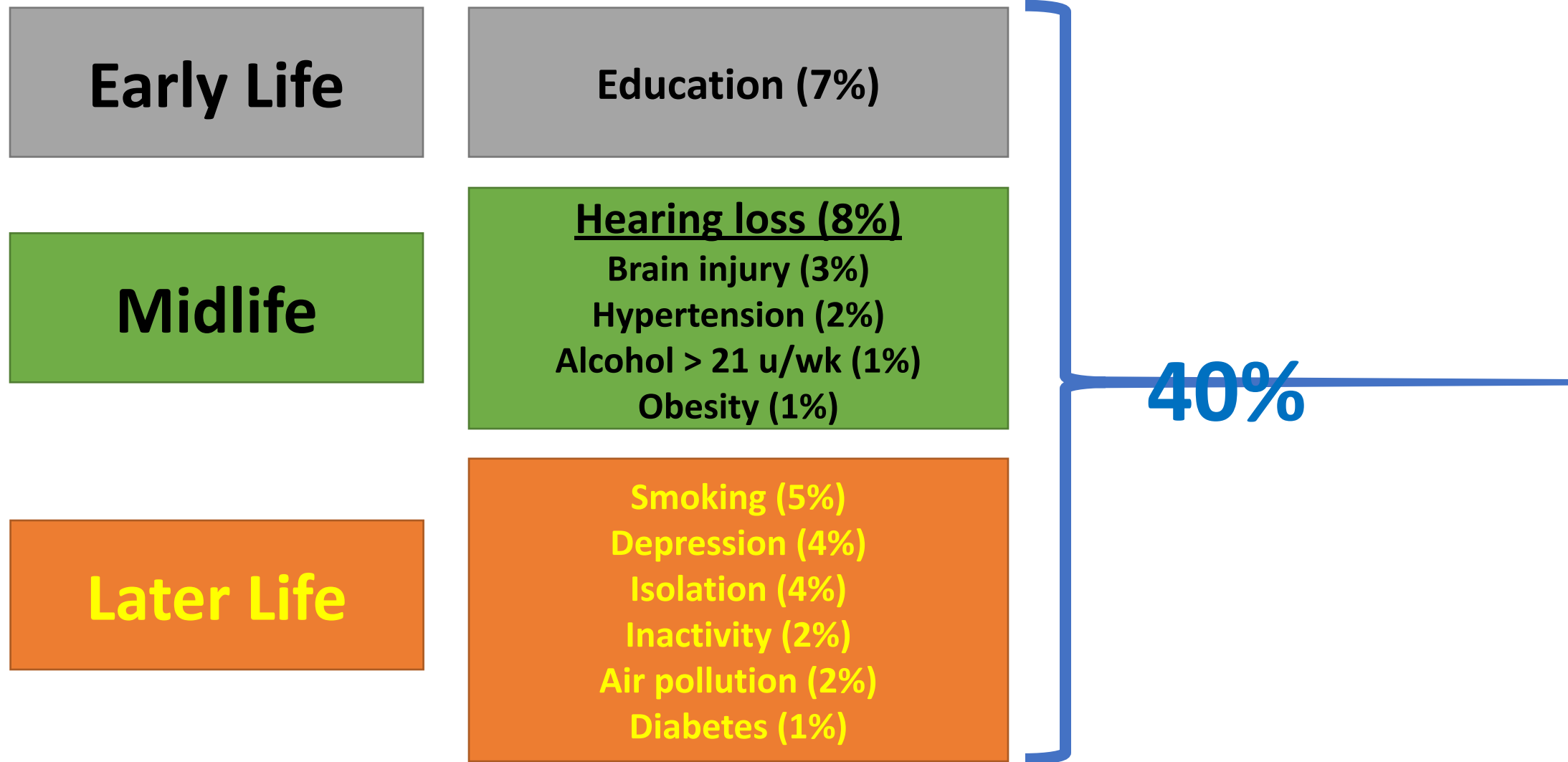
- AD develops silently for decades before causing symptoms.
- Symptoms are “mild” for some years before dementia.
- Biomarkers allow identification at earlier and earlier stages of AD.
 - Neuropsychological tests
 - Neuroimaging
 - CSF tests
 - Blood tests
- Early detection progress goes hand-in-hand with new therapeutic developments:
 - More efficient research (participant selection, monitoring of outcomes)
 - **We are now seeing the first effective “disease modifying” medications for AD now, the monoclonal antibodies.**

The Burden of Noncognitive Symptoms



Changes in:	Timing	Frequency	Examples
Mood	Early	Frequent	Depression Mania
Thinking	Early Later	Frequent	Suicidal ideation Delusions Hallucinations
Activity	Early and Late	Frequent	Agitation, aggression Wandering Sexual inappropriate behavior Sleep/activity cycle disruption

Prevention: Population Attributable Risk for Dementia Associated with Remediable Factors



Challenges in Delaware

- Public education: Brain-healthy lifestyle, Hearing Aids and other preventive interventions, Chronic medical disease management.
- Screening: Home Tests vs Primary Care vs “Memory Clinic”
- Definitive evaluation: Who can do this?
- Treatment:
 - Workforce limitations (presently only 13 geriatricians in DE)
 - Facility limitations
 - Access to treatments (individualized and newer) is not widespread because of workforce distribution, geography, health literacy, expense.
- Model Education/Evaluation Programs:
 - U of DE public education/research (DECCAR – Center for Cog. Aging Research)
 - Swank Center (Diagnosis and Treatment)
- Caregiver support (DSAAPD)

Caregiver Support Groups

Not found, error 404

The page you are looking for no longer exists. Perhaps you can return back to the [homepage](#) and see if you can find what you are looking for. Or, you can try finding it by using the search form below.



This site can't be reached

Check if there is a typo in www.ec-online.net.

If spelling is correct, [try running Windows Network Diagnostics](#).

DNS_PROBE_FINISHED_NXDOMAIN

2. Depression

DSM-5-TR Criteria for Major Depressive Episode

- 5 required sx (present at least 2 wk), depressed mood OR loss of interest/pleasure must be present. At least 4 additional symptoms present most or all days:
 - weight loss or appetite decrease/weight gain (A)
 - insomnia/hypersomnia (S)
 - psychomotor agitation/retardation (P)
 - fatigue/loss of energy (E)
 - worthlessness/guilt (G)
 - diminished concentration/decision-making (C)
 - thoughts of death/suicide/attempt (S)
- Distress or functional impairment
- Medical/Substance/Psychiatric exclusions
- There has not been a manic/hypomanic episode

SIG

E CAPS

Sleep

Interest

Guilt/worthlessness

Energy

Concentration

Appetite/weight

Psychemotor

Suicidal

MDD = “Major Depressive Disorder”

American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition.

Text Revision. Washington DC, American Psychiatric Association, 2022.

But Late Life Depression Rates Are Relatively Low in Community but High in Primary Care and LTCF

	Clinically Significant Depressive Symptoms ¹	Major Depressive Disorder ¹
Community	8-15% 9.7-26.1% for 75+³	1-3% 4.4-10.6% for 75+²
Primary Care		6-9%³
Long Term Care	30-50%	6-25%

1. Ellison JM, Gottlieb G: Recognition and management of late life mood disorders. In: Sirven JI, Malamut BL (eds): Clinical Neurology of the Older Adult, 2nd Edition. Philadelphia, Lippincott Williams & Wilkins, 2008; 2. Luppá et al. J Aff Dis 2012;136:212-221; 3. National Health and Nutrition Survey 2013-2016; 4. Unutzer et al. Milbank Q 1999;77:225-6

Adverse Outcomes of Untreated LLD¹⁻⁷

- Increased use of non-mental health services
 - 2x medical appointments, 2x polypharmacy
- Reduced medical treatment adherence
- Functional Decline / Increased disability
- Increased morbidity/mortality:
 - CVA/MI/Hypertension/Diabetes/Dementia/SUD/Suicide
- Increased health care costs⁷
- And yet – more than ½ of depressed elders go untreated.⁸

What Is Exceptional About LLD?

- 1. Etiologies can differ
 - Recurrence of early onset mood disorder
 - Psychosocial stressors of late life (including loneliness)
 - Affective consequences of medical burden:
 - Medical sx can mimic depressive sx
 - Vascular depression hypothesis¹
 - Inflammation hypothesis²
- 2. Locus of Care: Help sought in Primary Care
 - Comfort/relationship with Primary Care setting
 - Higher medical burden (illnesses, symptoms)
 - Untreated/undertreated patients are common³

1. Alexopoulos et al. Dialogues Clin Neurosci 1999;1:68-80 ;2. Maes et al. Metab Brain Dis 2009;24:27-53;

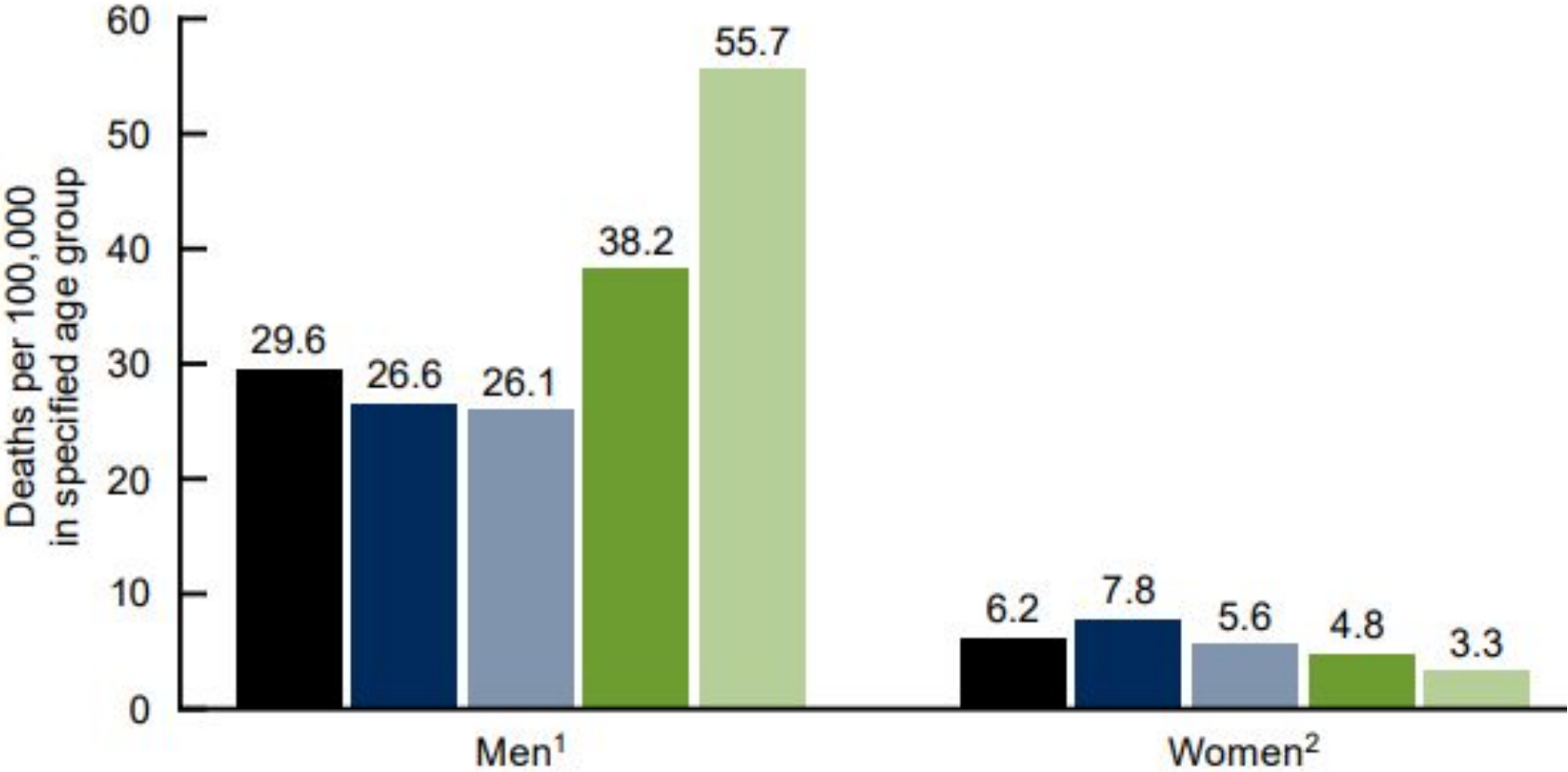
3. Mitchell et al. Psychother Psychosom 2010;79:285-94.

Depression and Medical Illness

- Medical burden in the elderly is great, and illnesses complicate the diagnosis of depression because of overlapping symptoms.
- Many illnesses are linked with increased depression risk: e.g. Coronary Artery Disease (15-23%), Diabetes Mellitus (17-25%), ESRD with dialysis (25%), Cancer (25%)
- **Effective treatment requires attention medical disorders / treatment adverse effects / medication interactions.**
- Evaluation of late life depressive symptoms is more complex, requires special skill and experience.

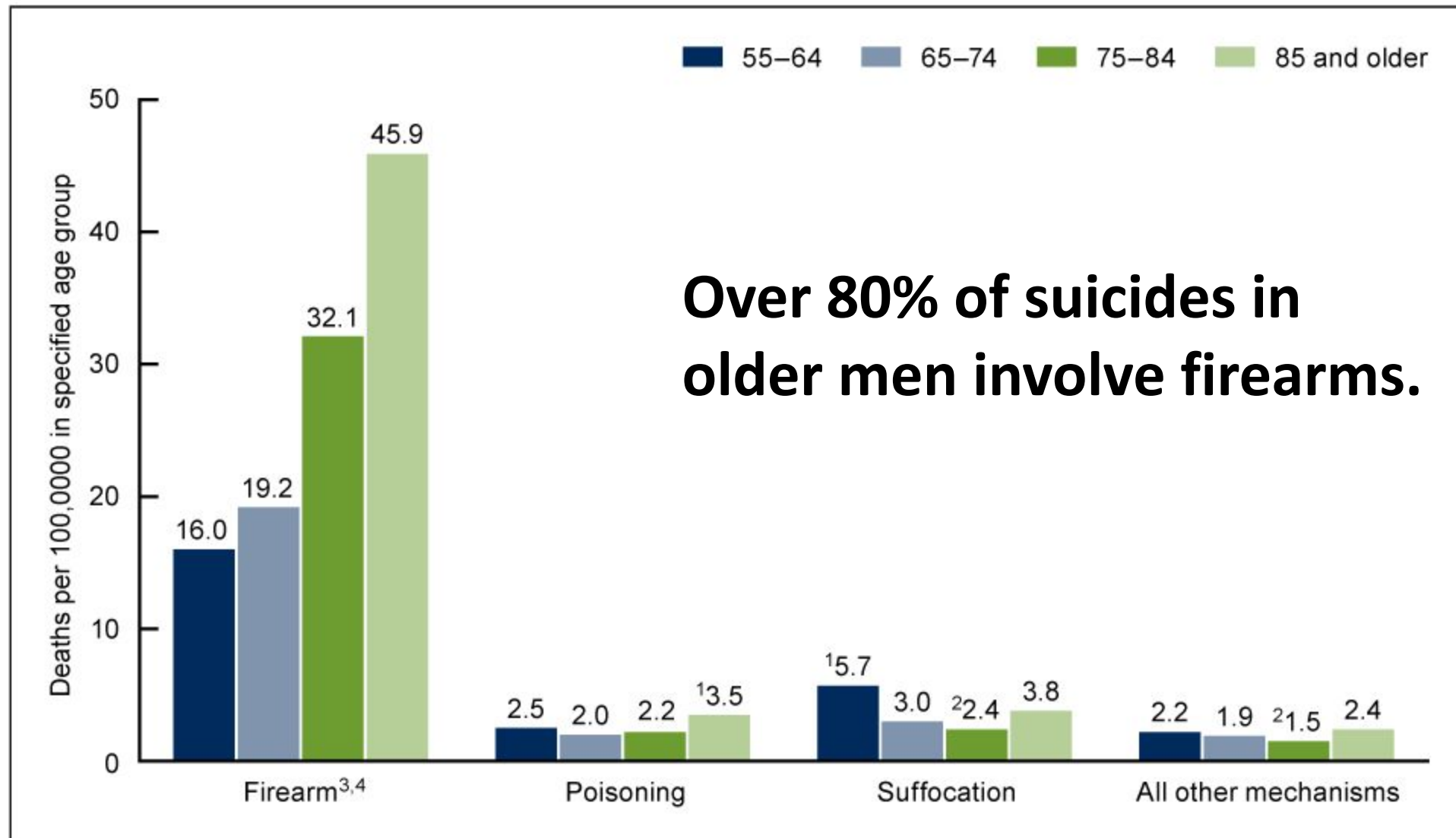
In Later Life, Depression is the Most Frequent Antecedent to Suicide – And Suicide Rate Increases With Age (2021 US Data)

■ Total ■ 55–64 ■ 65–74 ■ 75–84 ■ 85 and older



<https://www.cdc.gov/nchs/data/databriefs/db483.pdf>

Figure 3. Suicide rate among men age 55 and older, by age group and mechanism of death: United States, 2021



¹Age group has the highest rate compared with all other age groups in specified mechanism of death, $p < 0.05$.

²Age group has the lowest rate compared with all other age groups in specified mechanism of death, $p < 0.05$.

³Suicide rates for men were significantly higher than poisoning, suffocation, and all other mechanisms of death for all age groups, $p < 0.05$.

⁴Significant linear trend by age group, $p < 0.05$.

NOTES: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause-of-death codes U03, X60–X84, and Y87.0. Mechanisms of suicide are identified using *International Classification of Diseases, 10th Revision* codes X72–X74 for firearm, X60–X69 for poisoning, and X70 for suffocation. Access data table for Figure 3 at: <https://www.cdc.gov/nchs/data/databriefs/db483-tables.pdf#3>.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Epidemiology of Suicide in Later Life

- In older adults, one of 4 suicide attempts is fatal.¹
- Increased risk with²:
 - Older, white, male
 - Widower, living alone, isolated, loss of social support, financial stress
 - Pain, Perceived poor health
 - Greater functional impairment
 - Acute stressful event, bereavement
 - Access to lethal means – Firearms-related death very common.
- **DEPRESSION**: most frequent antecedent to suicide in later life.

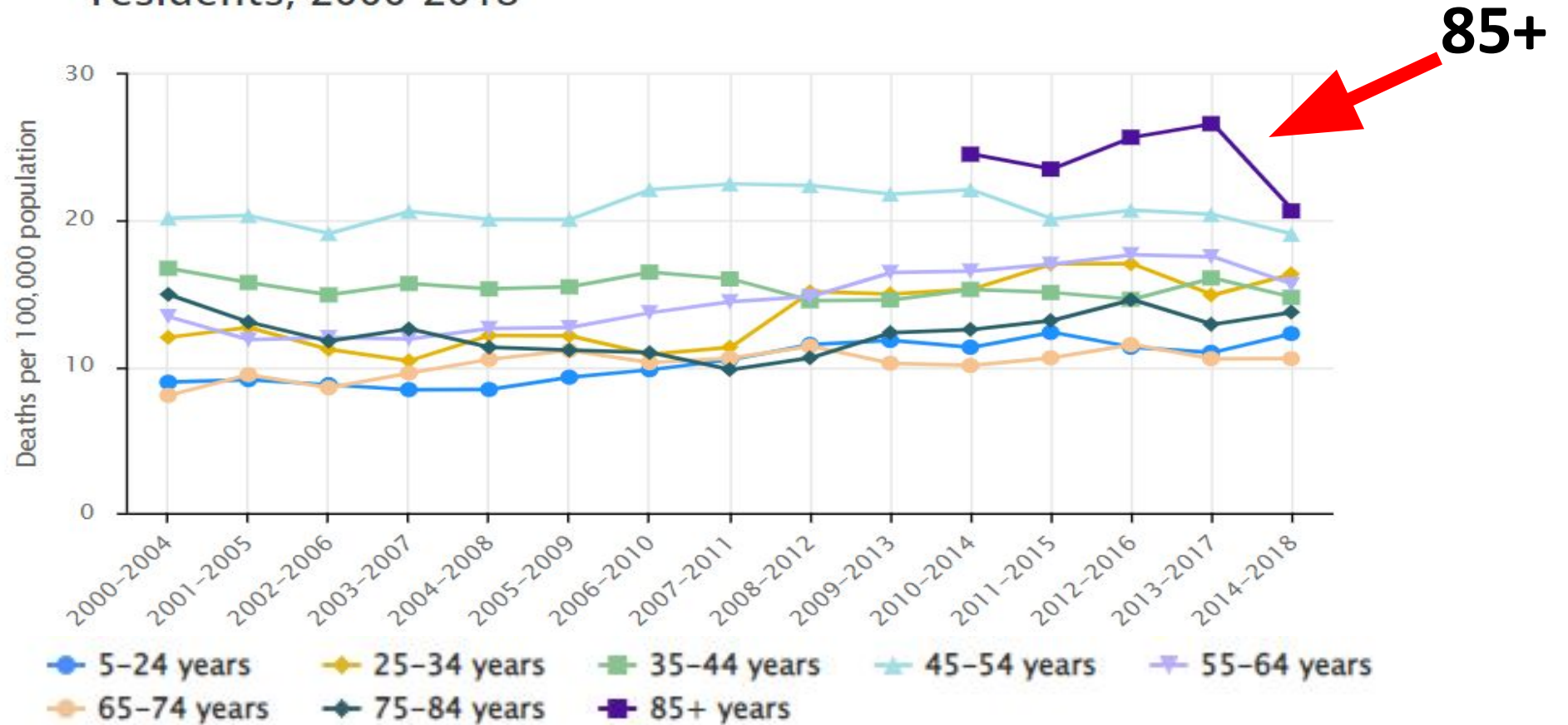
1. Crosby et al. Suicide Life Threat Behav 1999;29: 131-140; 2. Blazer and Friedman. Am Fam Physician 1979;20:91-6; see also for additional information: Conwell et al. Completed suicide at age 50 and over. J Am Geriatr Soc 1990;38: 640-644; Conwell et al. Completed suicide among older patients in primary care practices: a controlled study. J Am Geriatr Soc 2000;48: 23-29.2000

Depression Preceding Suicide is Often Missed

In a 2004 study of U.S. depressed elderly adults seen in primary care during the 12 months preceding a suicide attempt, fewer than 1/10 had received an appropriate depression diagnosis.

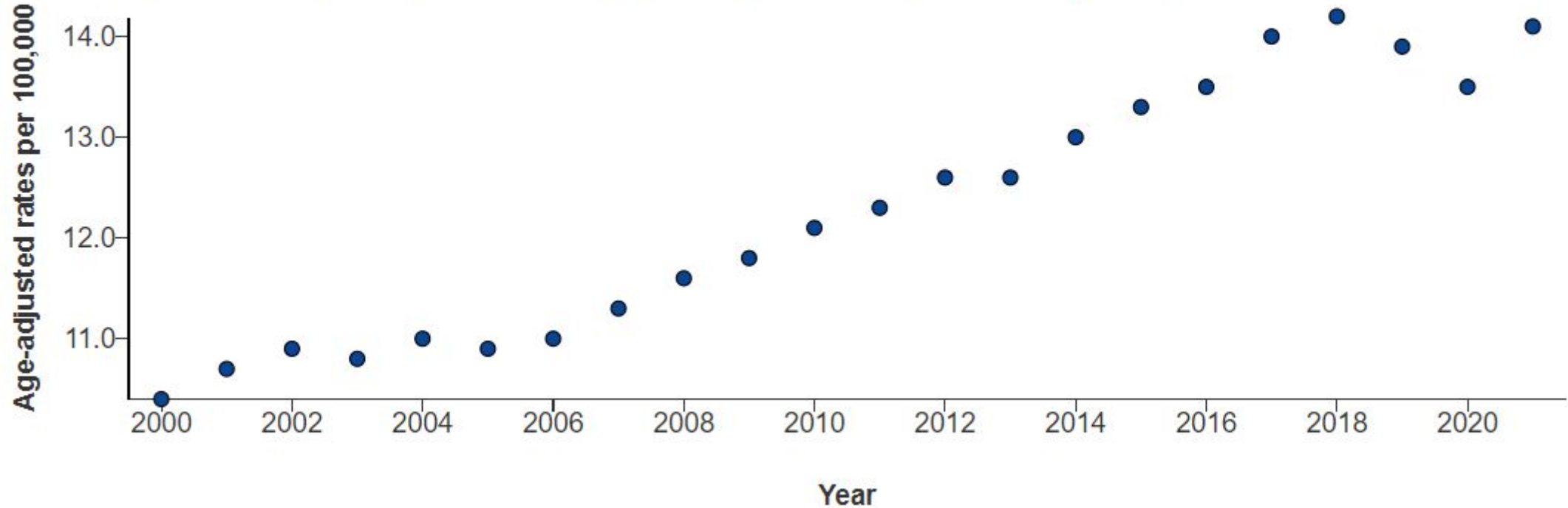
Suicide Rates: Delaware in 2000-2018

Five-year age-specific suicide rates, Delaware residents, 2000-2018



After Dip, US Suicide Rate Increased

Suicide rates increased 37% between 2000-2018 and decreased 5% between 2018-2020. However, rates nearly returned to their peak in 2021.

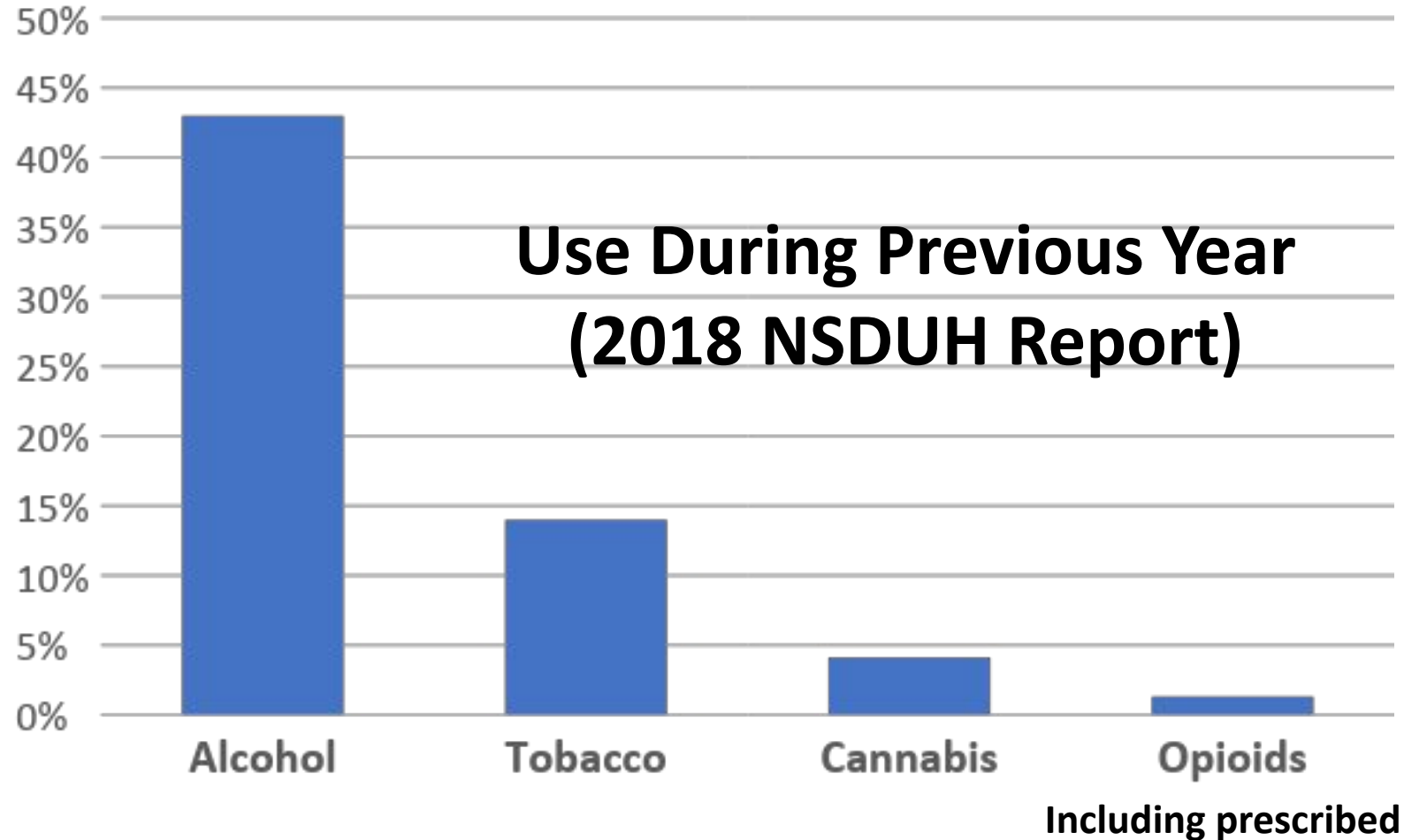


Challenges for Delaware

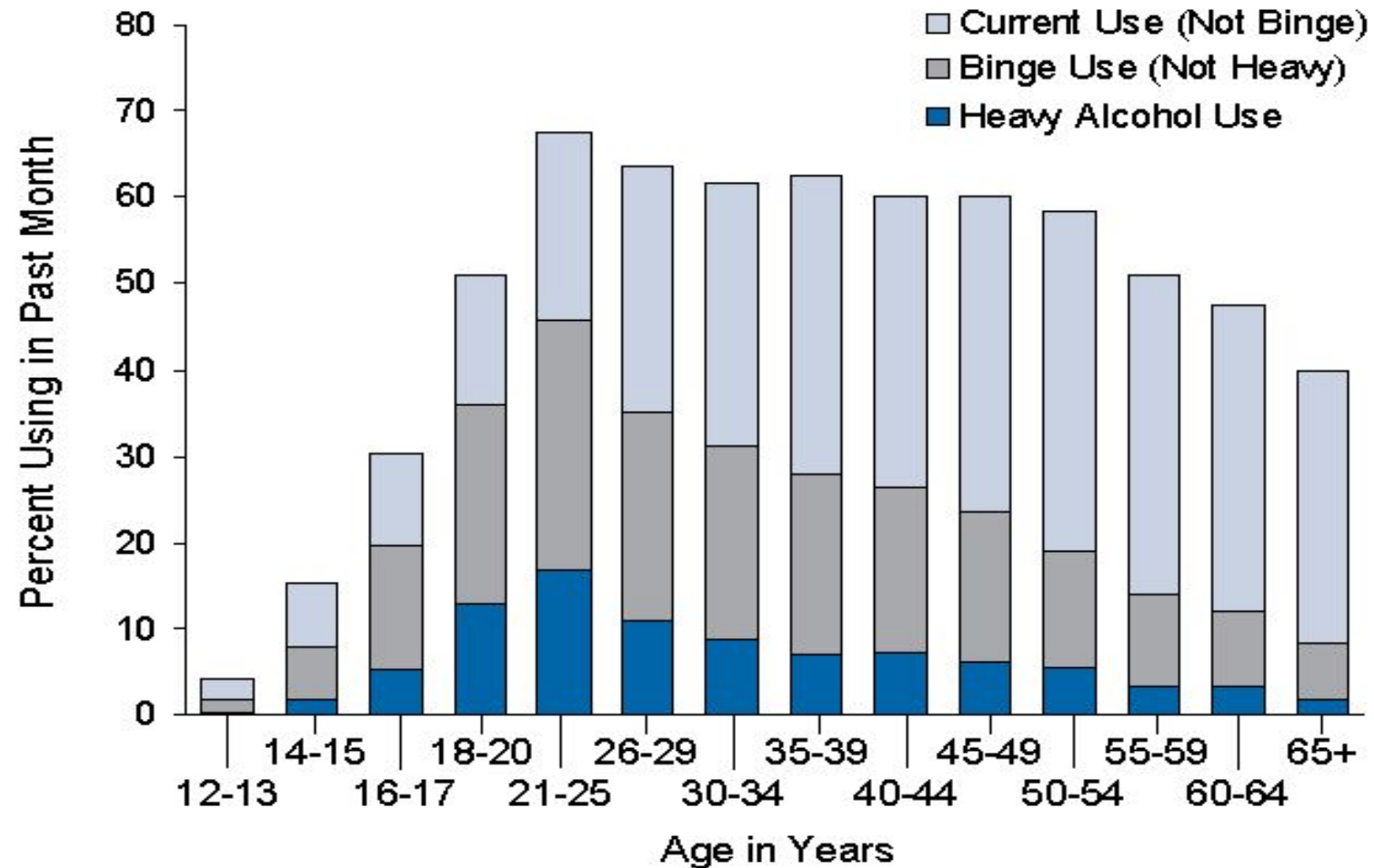
- Integrated care reduces suicide risk.
- Screening for depression/suicidal ideation is increasing.
- Access to BH care for late life depression is limited.
- Suicide prevention for elders is needed.
- Gun ownership policies – worth reviewing?

3. Drugs

Alcohol and Drug Use (1 Year Prevalence) By US Adults Age 65+ in 2017



ALCOHOL: What is the Extent of Use/Binge/Abuse In United States Community-Dwelling Elderly?



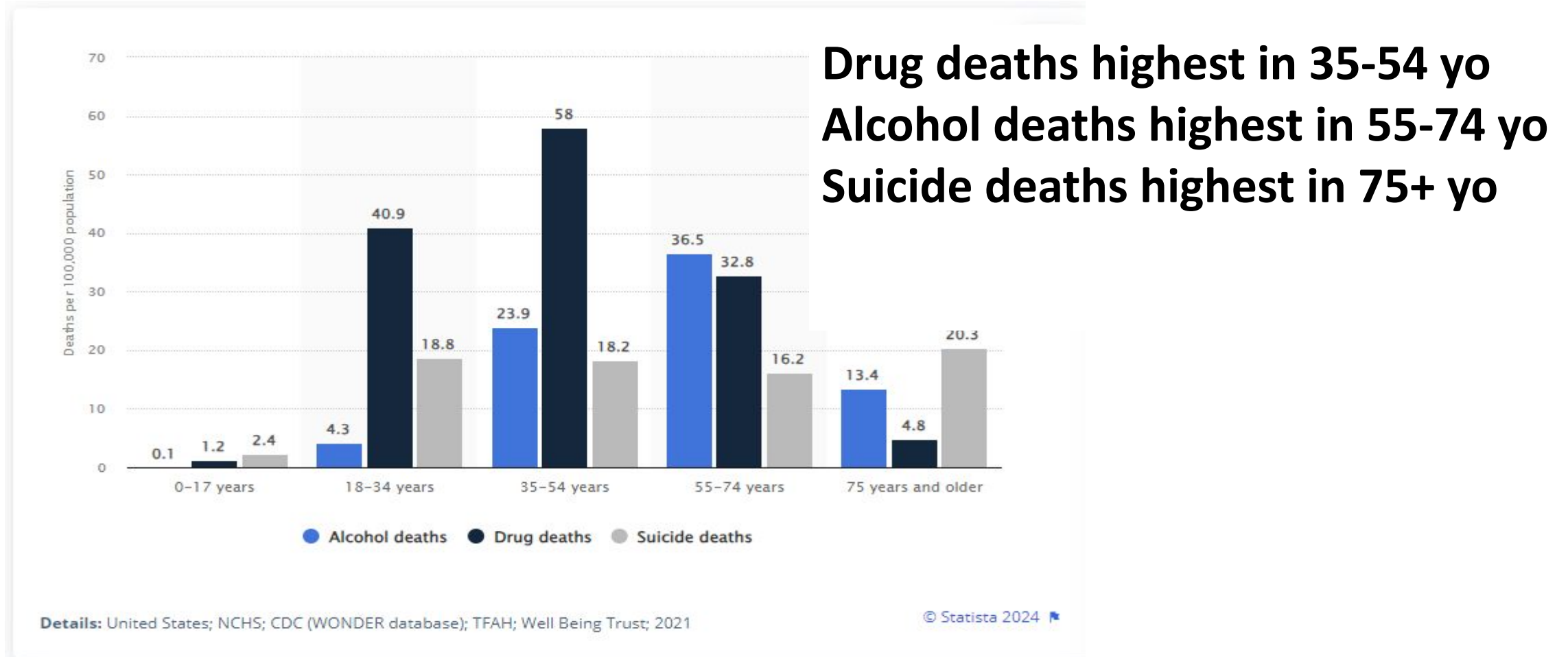
US older adult heavy alcohol use in 2021: 3.4%

DE older adult heavy alcohol use in 2021: 4.6%

How Much Alcohol is Too Much in Later Life?

- Appropriate limit: no more than average of 1 standard drink per day
- No binge drinking (4 or more standard drinks in one day) episodes
- No drinking while taking certain medications or in patients with certain illnesses – a major issue for older adults

Rate of alcohol, drug, and suicide deaths in the U.S. in 2021, by age group



Tobacco: The Leading cause of premature and preventable morbidity and death in the US

- From 2013-2021, tobacco smoking among US adults age 65+ remained between 8.7 and 9.1%
- Correlates of smoking in the general US population include:
 - Age 25-64 higher than 65+
 - Men 13.1% > women 10.1%
 - Non-Hispanic White > non-Hispanic Black > Hispanic > Asian
 - GED level education > college > graduate degree
 - Low income > high income
 - Not married > married
 - Disability > no disability

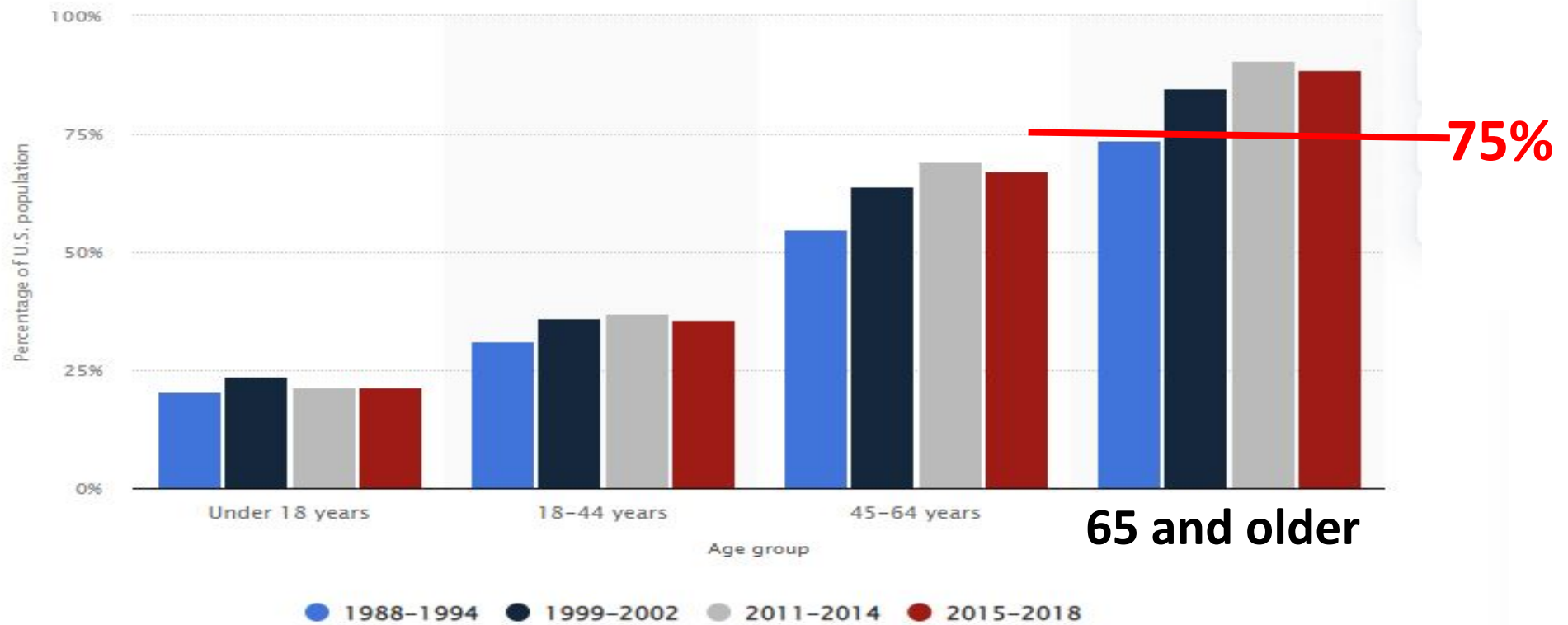
Prognosis

- Older smokers have higher probability of success in quitting.
- Behavioral plus medical treatment is more successful.
- Smoking-associated chronic illnesses include cardiovascular disease, COPD, HT, CA, diabetic complications, osteoporosis, poorer quality of life.
- Cessation is associated with health benefits even after long smoking history.
- Depression should be screened because it may follow cessation.

Prescription Drug Use Among Older Adults

- High prevalence of prescription drug use and misuse
 - Pain medications
 - Hypnotics
 - Anxiolytics
- Insomnia and chronic pain are common reasons for prescription:
 - Cancer, osteoporosis, rheumatoid & osteoarthritis, degenerative disc disease, chronic sciatica, or sequela of multiple surgeries

Percentage of U.S. population with usage of prescription drugs within past month between 1988 and 2018, by age



Details: United States; NCHS

© Statista 2024

Benzodiazepines

- Benzodiazepine use among older US adults continues to increase.
- One recent study showed use averaged 13.5% for age 65+ and remained high with increasing age up to 90+.
- Between 2003-2015 the number of primary care visits during which a bzd was prescribed nearly doubled (3.8%-7.4%)
- Use was higher among women than men.
- Use was higher among individuals with dementia.

Benzodiazepine Illicit Use Is Uncommon, But Effects Of Medicinal Use Can Be Adverse

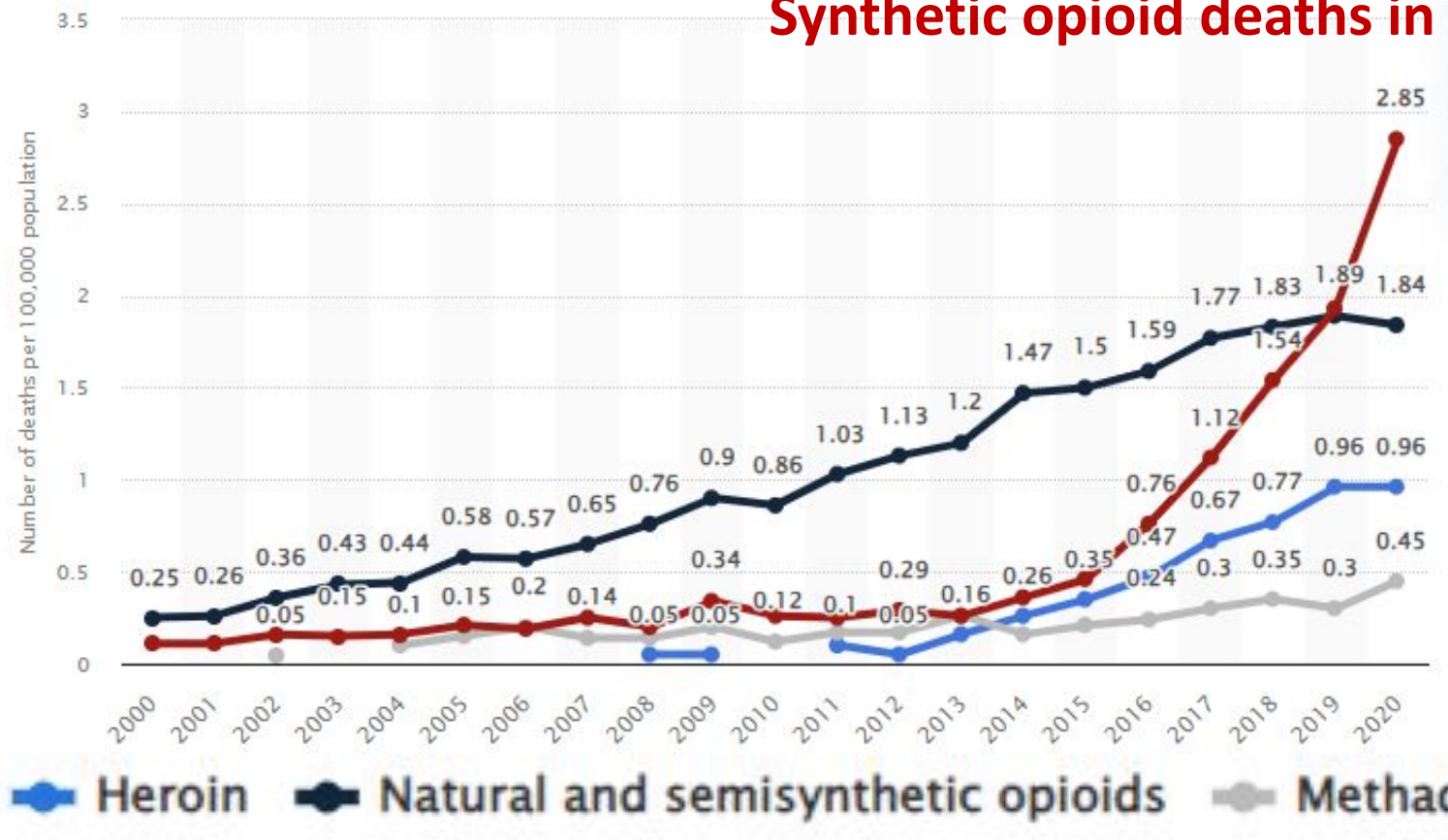
- Illicit use is uncommon
 - Rarely taken for euphoric effect
 - Polysubstance abuse and dose escalation are rare
- But adverse effects can be more severe in elders
 - Slower clearance
 - Balance problems, fall risk
 - Cognitive impairment can persist for several weeks after discontinuation
 - Discontinuation syndrome

Opioid Use in Older Adults in US

- About 15% of US community dwelling adults age 50+ received an opioid prescription in 2020.
- Misuse of prescribed opioids is common (35% in one recent study).
- Misuse is frequently associated with depression, anxiety, PTSD, other SUD, physical comorbidities, chronic pain.
- Women are at greater risk for problematic prescription use.
- “Problematic opioid use” (2%) and opioid use disorder (0.13%) rates in older adults are low but increasing.

Opioid involved drug overdose death rate for adults aged 65 years and over in the U.S. from 2000 to 2020, by opioid type

Synthetic opioid deaths in older adults 2.85/100,000



Though still an infrequent cause of death in older adults (about 10/100,000 in 2020), opioid deaths are increasing.

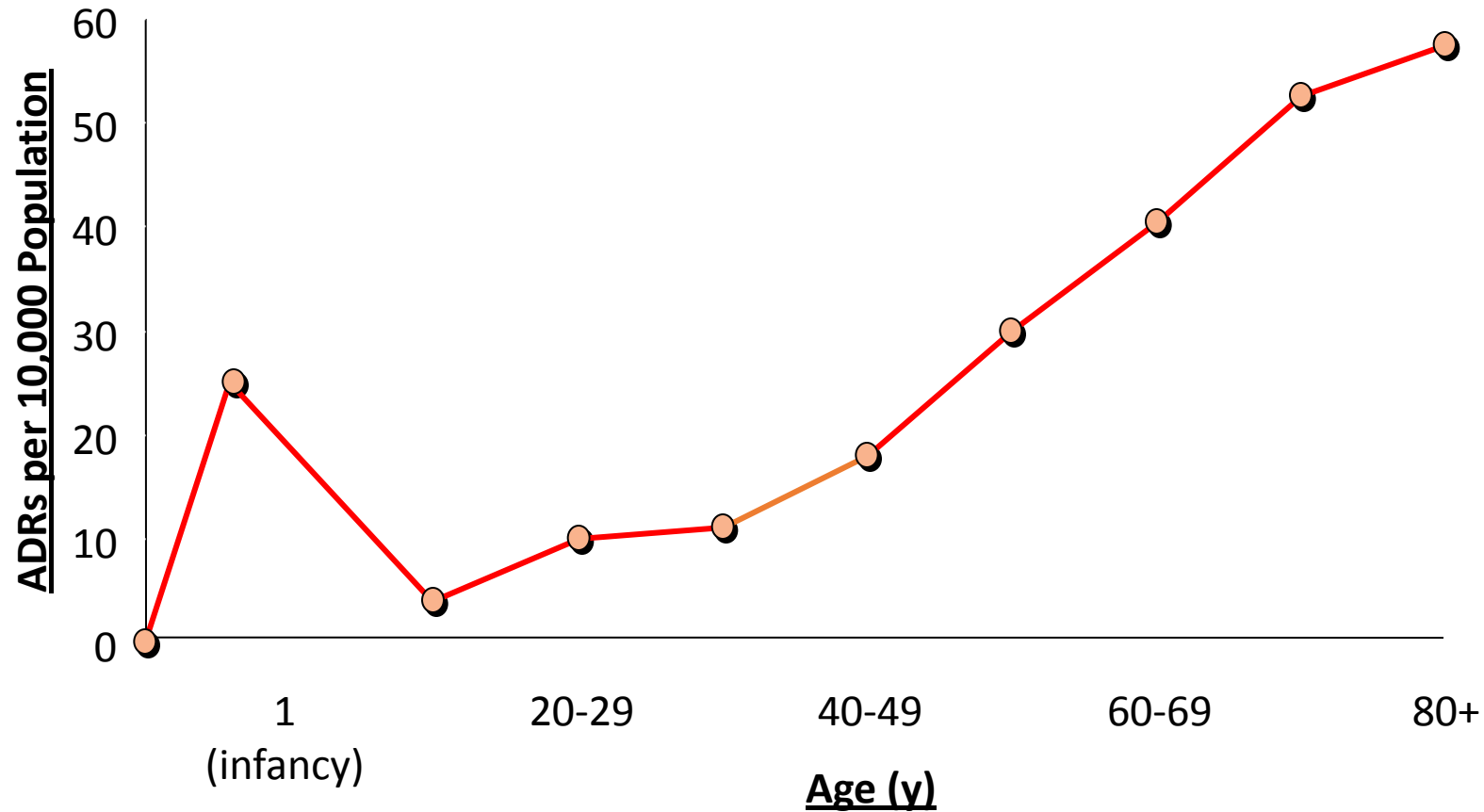
Polypharmacy (Prescribed Medications)

- Adults age 65+ are largest consumers of prescription and nonprescription meds in US, consuming 1/3 of all prescribed medications.
- Use has more than doubled since 1990, continues to increase.
- Age-related changes in physiology increase hazard for adverse effects in older adults including delirium, falls, loss of function, need for placement.
- Risk factors for polypharmacy:
 - More acute & chronic disease
 - More doctors visits
 - Fragmented care
 - ED visits
 - Drugs prescribed to counteract a side effect of another drug
 - Lack of regular med reconciliation
 - Prolonged duration of prescriptions
 - Automatic refills

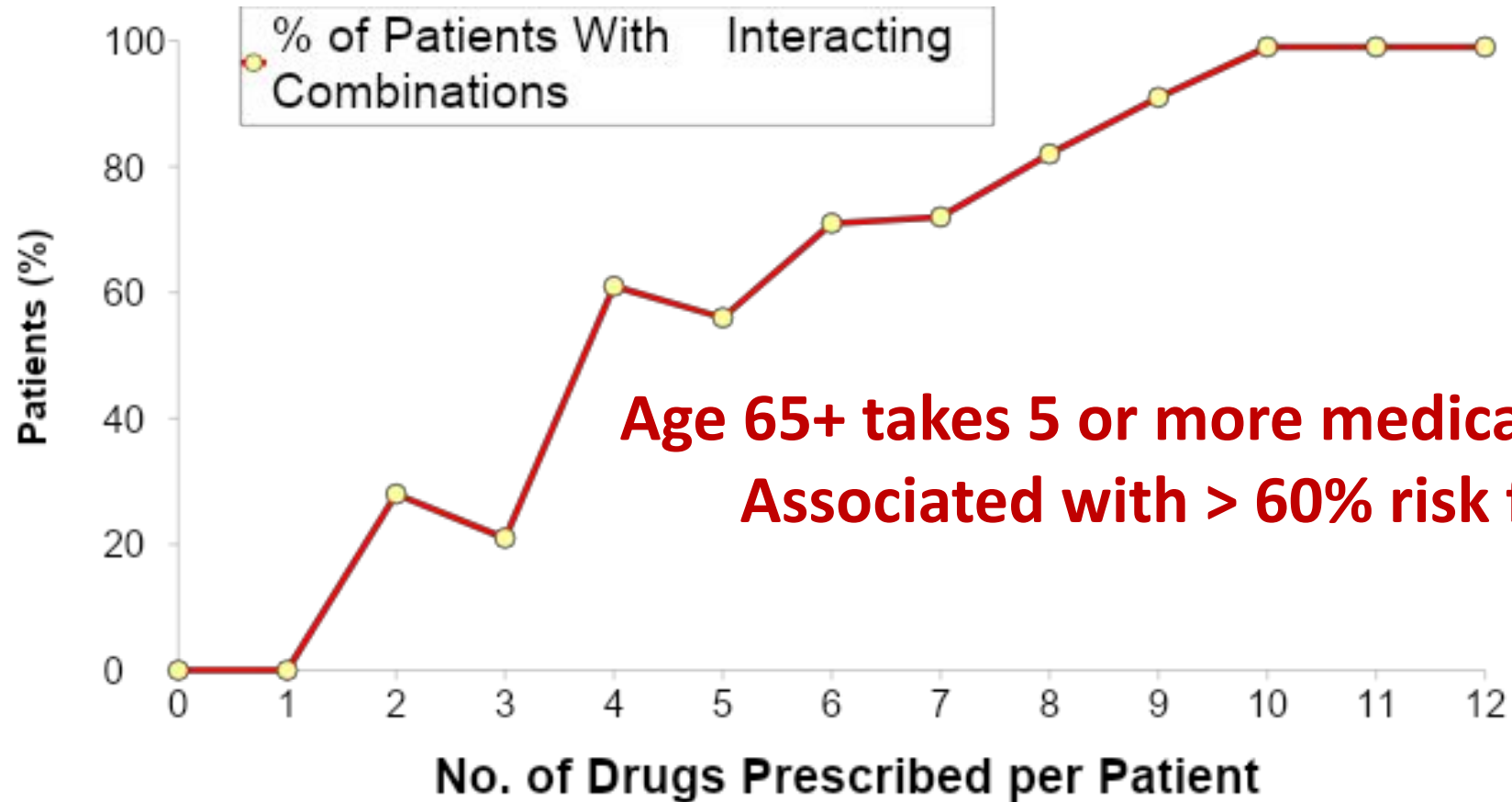
Eight Common Medication-Related Problems

- Medical condition requires new or additional medication
- Patient taking unnecessary drug given present condition
- Wrong drug for patient's medical condition
- Correct drug, dose too low
- Correct drug, dose too high
- Adverse drug reaction
- Patient not taking drug correctly
- Drug interaction

The Importance of Polypharmacy: Adverse Drug Reactions (ADRs) Increase with Age



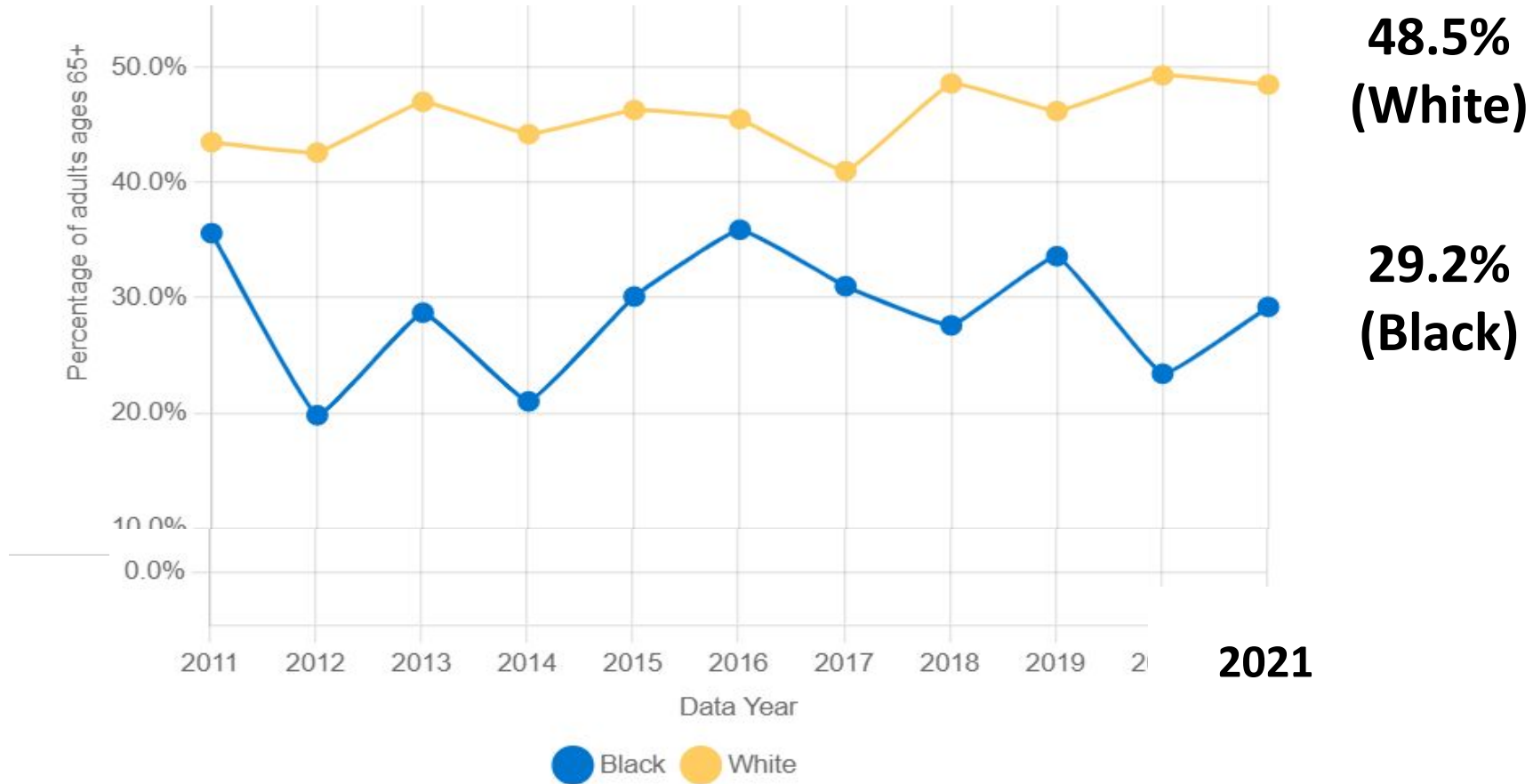
Pharmacokinetic Principles and Aging: Coadministered Drugs Increase Likelihood of Adverse Interactions



4. Diversity

Overall Delaware Health Care Disparity (White vs Black):

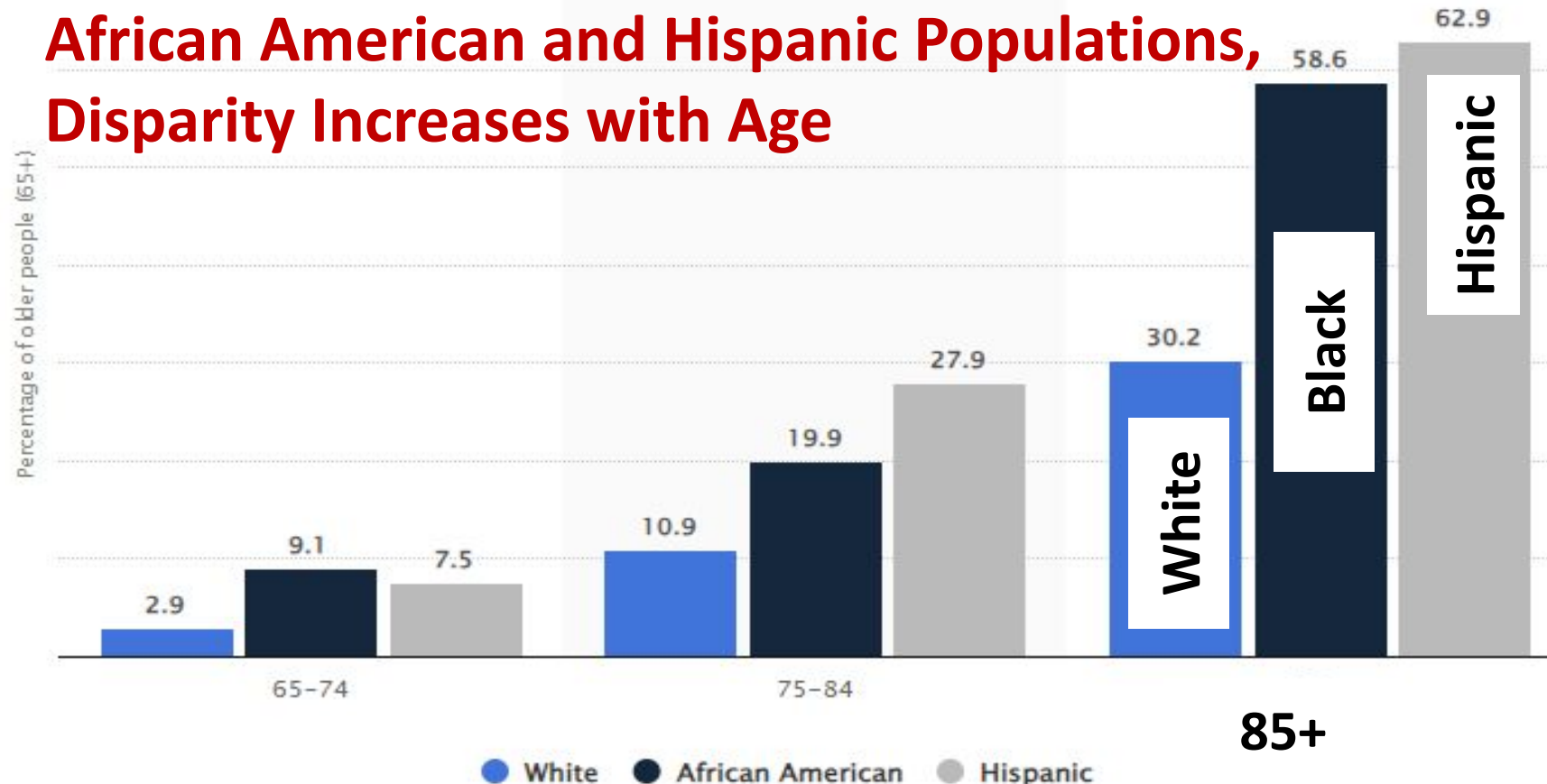
Percentage of DE Adults 65+ Who Reported Health as Good Or Excellent in 2023



Dementia Disproportionately Affects Blacks/Hispanics:

Racial/Ethnic Disparities in Alzheimer's Prevalence: US, 2006, 65-74 vs 75-84 vs 85+

Alzheimer's Disproportionately Affects African American and Hispanic Populations, Disparity Increases with Age

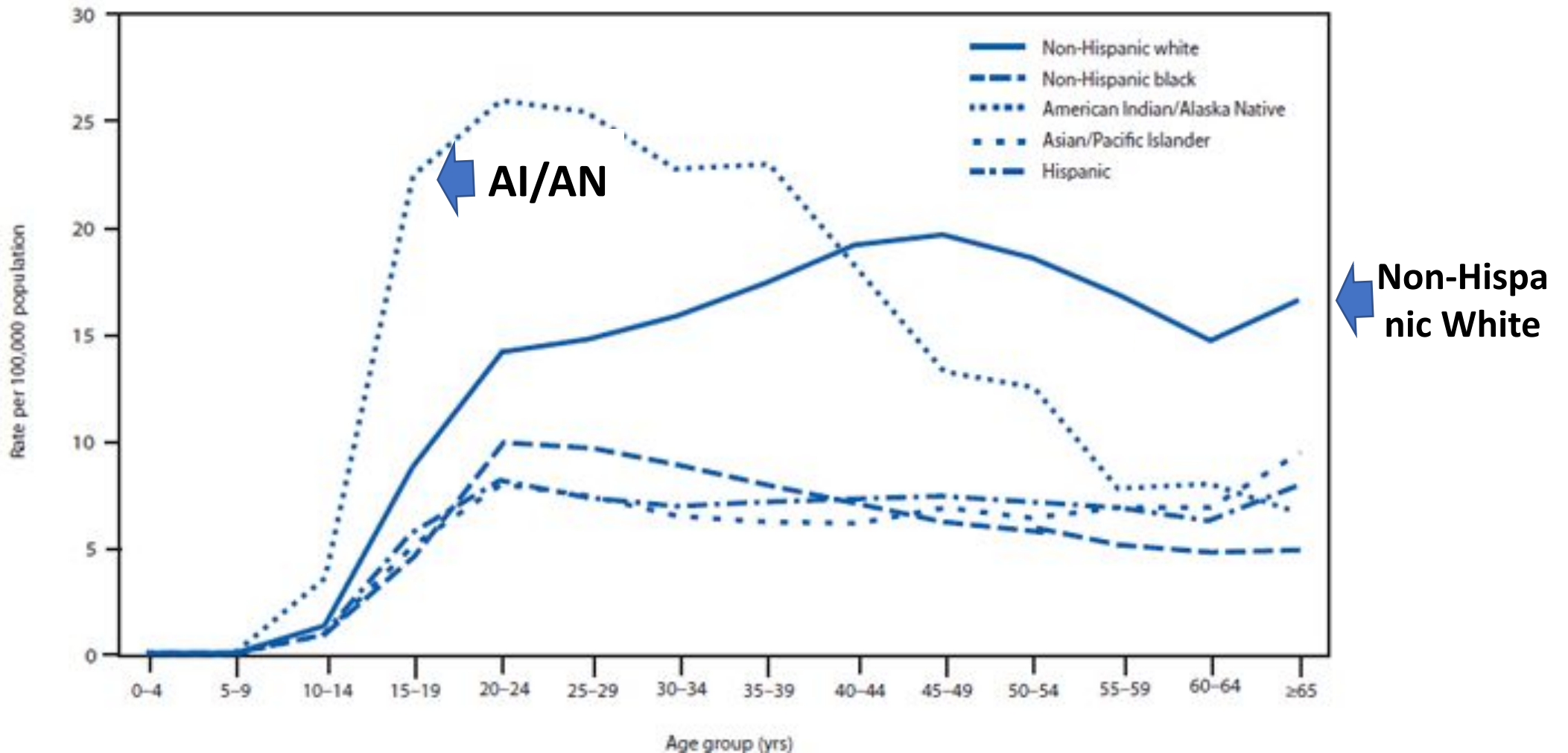


<https://www-statista-com.ezp-prod1.hul.harvard.edu/statistics/216616/proportion-of-older-people-in-the-us-with-dementias/>

Late Life Depression Disproportionately Affects Hispanic and Black Populations

- A cross-sectional study of 25,503 participants of mean age = 67.1 controlled for confounding factors and found that compared to non-Hispanic white subjects:
 - **Hispanic** participants' PHQ-8 scores were 23% higher.
 - **Black** participants' PHQ-8 scores were 10% higher.
 - Anhedonia, sadness, psychomotor symptoms were more prevalent in minority groups than in white participants.
 - Underrecognized/undertreated? Among the depressed, Black participants were 61% less likely to report any treatment (meds, counseling) vs Non-Hispanic white participants.

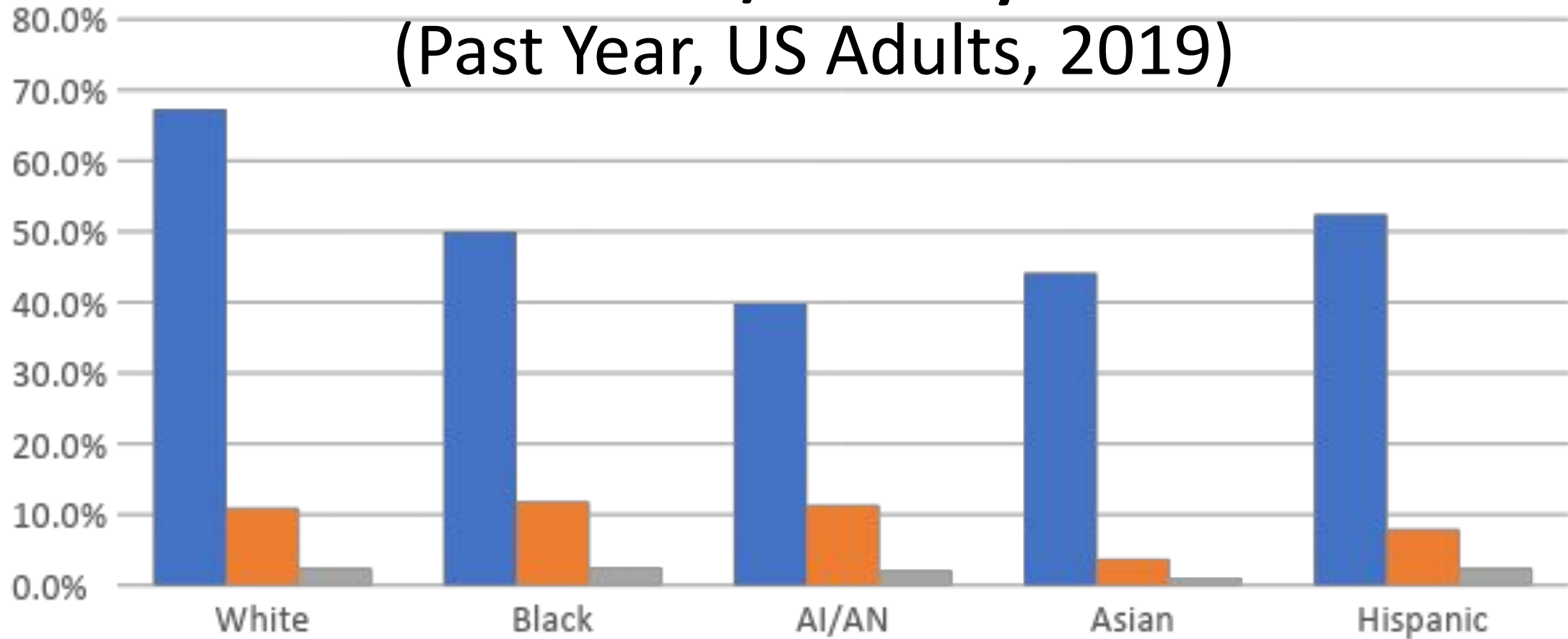
Late Life Suicide Primarily Affects White Males: Suicides in US 1999-2007 by Age/Ethnicity



Crosby et al. Suicides — United States, 1999–2007. CDC. Morbidity and Mortality Weekly Report (MMWR), January 14, 2011 / 60(01);56-59

Late Life Alcohol Use / Illicit Drug Use / Prescription Pain Med Misuse in Age 50+ Varies With Race/Ethnicity

(Past Year, US Adults, 2019)



5. DE Resources

Services and Programs for the Aging Population With Dementia Through Delaware DHSS

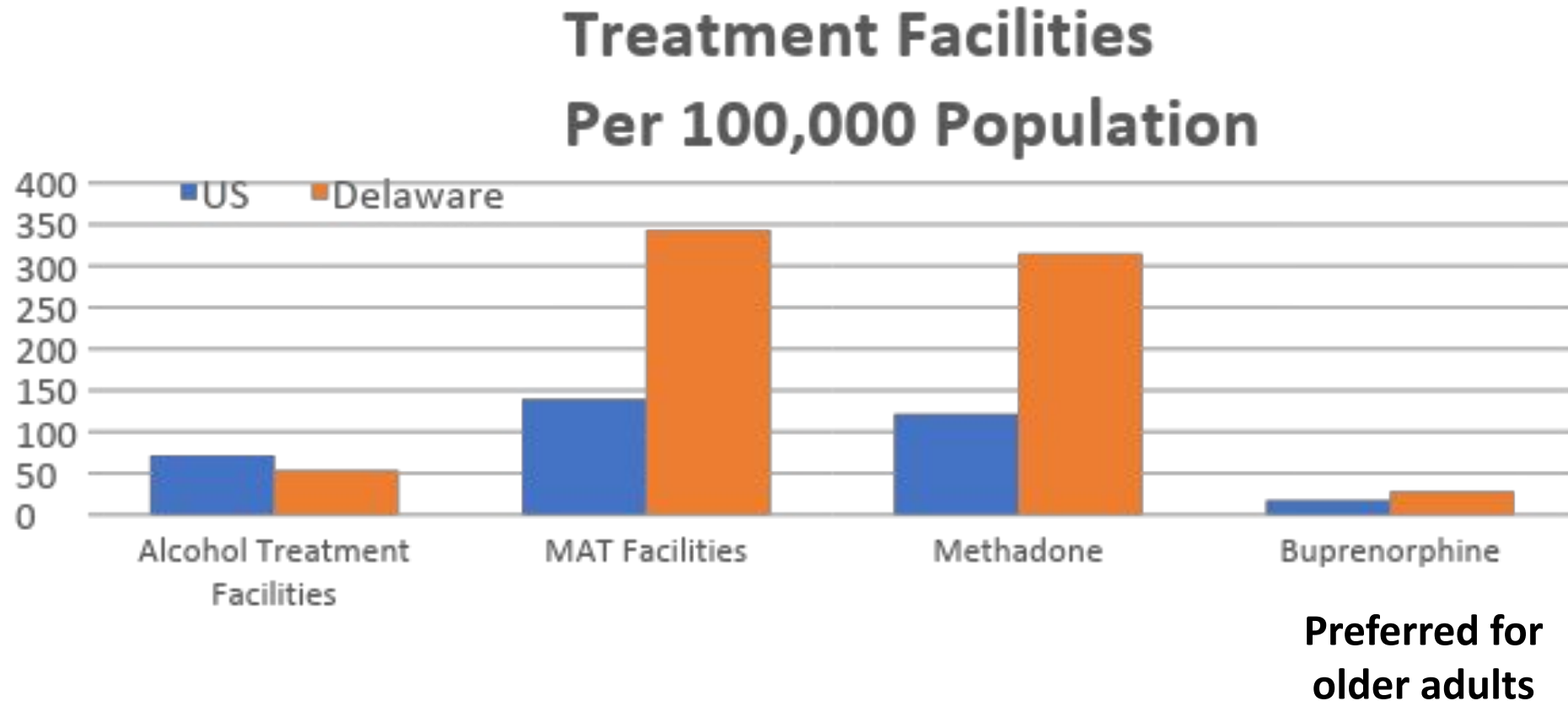
(DSAAPD): <https://dhss.delaware.gov/dhss/main/aging.htm>

- **Division of Services for Aging and Adults with Physical Disabilities
Delaware Aging and Disability Resource Center (ADRC)**
- Personal Care services to support independent living
(DelawareADRC@delaware.gov)
- Adult Day Services (<https://www.dhss.delaware.gov/dhss/dsaapd/adc.html>)
- Emergency Response Systems (DelawareADRC@delaware.gov)
- Institutional or In-home Respite Care (DelawareADRC@delaware.gov)
- Meal Programs (<https://dhss.delaware.gov/dhss/dsaapd/hdm.html>)
- Caregiver Support (<https://dhss.delaware.gov/dhss/dsaapd/caregive.html>)

Geriatric Inpatient Psychiatric Care for Depression in DE

- Specialized Geriatric Care is available at:
 - Meadow Wood
 - Rockford Center
 - ChristianaCare
 - Delaware Psychiatric Center
- ECT is available at:
 - ChristianaCare

Drug Treatment Facilities: US vs DE, 2022 (Any Specialized DSAMH Programs for Older Adults?)



Data from https://www.samhsa.gov/data/quick-statistics-results?q_s_type=nsumhss&state=United%20States&year=2022;
https://www.samhsa.gov/data/quick-statistics-results?q_s_type=nsumhss&state=Delaware&year=2022

Challenges Facing Delaware

- Educating public, reducing stigma
- Educating providers, especially primary care
- Expanding the workforce to address growing needs
- Improving access to high quality care
- Addressing needs of diverse population



Questions/Discussion