A “4-D” View of Delaware’s Geriatric Behavioral Health Issues: 
Dementia, Depression, Drugs, and Diversity

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

US is around 16%, DE already >20%

Data from:
US Population Pyramid Shows Baby Boomer and Boomer Echo Bulges

LEGEND
Male = Blue
Female = Red

Youngest baby boomers turn 60 this year!

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

DE = 5th “oldest” 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://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

https://www.americashealthrankings.org/explore/measures/health_status_sr/DE/compare
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

- Typical/Normal
- Subjective Memory Impairment
- MCI, Mild Neurocognitive Disorder
- Dementia, Major Neurocognitive Disorder
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://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: 5\textsuperscript{th} 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.

Data are from https://dhss.delaware.gov/dhss/dph/hp/2021.html
What’s New and Urgent with Dementia Care?

1. New diagnostic tests promote early diagnosis.
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

<table>
<thead>
<tr>
<th>Changes in:</th>
<th>Timing</th>
<th>Frequency</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood</td>
<td>Early</td>
<td>Frequent</td>
<td>Depression</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Mania</td>
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<tr>
<td>Thinking</td>
<td>Early</td>
<td>Frequent</td>
<td>Suicidal ideation</td>
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<td>Later</td>
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<td>Delusions</td>
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<td>Hallucinations</td>
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<tr>
<td>Activity</td>
<td>Early</td>
<td>Frequent</td>
<td>Agitation, aggression</td>
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<td></td>
<td>and</td>
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<td>Wandering</td>
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<td></td>
<td>Late</td>
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<td>Sexual inappropriate behavior</td>
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<td></td>
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<td>Sleep/activity cycle disruption</td>
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</tbody>
</table>
Prevention: Population Attributable Risk for Dementia Associated with Remediable Factors

Early Life
- Hearing loss (8%)
- Brain injury (3%)
- Hypertension (2%)
- Alcohol > 21 u/wk (1%)
- Obesity (1%)

Midlife
- Education (7%)
- Hearing loss (8%)
  - Brain injury (3%)
  - Hypertension (2%)
  - Alcohol > 21 u/wk (1%)
  - Obesity (1%)
- Smoking (5%)
- Depression (4%)
- Isolation (4%)
- Inactivity (2%)
- Air pollution (2%)
- Diabetes (1%)

Later Life
- Smoking (5%)
- Depression (4%)
- Isolation (4%)
- Inactivity (2%)
- Air pollution (2%)
- Diabetes (1%)

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

MDD = “Major Depressive Disorder”
But Late Life Depression Rates Are Relatively Low in Community but High in Primary Care and LTCF

<table>
<thead>
<tr>
<th></th>
<th>Clinically Significant Depressive Symptoms¹</th>
<th>Major Depressive Disorder¹</th>
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</thead>
<tbody>
<tr>
<td>Community</td>
<td>8-15%</td>
<td>1-3%</td>
</tr>
<tr>
<td></td>
<td>9.7-26.1% for 75+³</td>
<td>4.4-10.6% for 75+²</td>
</tr>
<tr>
<td>Primary Care</td>
<td></td>
<td>6-9%³</td>
</tr>
<tr>
<td>Long Term Care</td>
<td>30-50%</td>
<td>6-25%</td>
</tr>
</tbody>
</table>

Adverse Outcomes of Untreated LLD\textsuperscript{1-7}

- 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 costs\textsuperscript{7}
- And yet – more than ½ of depressed elders go untreated.\textsuperscript{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 hypothesis
     • Inflammation hypothesis

• 2. Locus of Care: Help sought in Primary Care
   • Comfort/relationship with Primary Care setting
   • Higher medical burden (illnesses, symptoms)
   • Untreated/undertreated patients are common

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)

Over 80% of suicides in older men involve firearms.
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.

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

https://myhealthycommunity.dhss.delaware.gov/stories/suicide
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

Use During Previous Year
(2018 NSDUH Report)

Including prescribed

https://generations.asaging.org/substance-use-disorders-older-adults-overview
ALCOHOL: What is the Extent of Use/Binge/Abuse In United States Community-Dwelling Elderly?

Data from NHDSU and 2021 Behavioral Risk Factor Surveillance System

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

- Drug deaths highest in 35-54 yo
- Alcohol deaths highest in 55-74 yo
- Suicide deaths highest in 75+ yo
**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
  - Depression or psychological distress > no depression / distress

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

65 and older

75%
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.

Gress et al. Cureus 2020;12:e11042
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

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

Synthetic opioid deaths in older adults 2.85/100,000

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

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

Age 65+ takes 5 or more medications: Associated with > 60% risk for AE

4. Diversity
Overall Delaware Health Care Disparity (White vs Black):
Percentage of DE Adults 65+ Who Reported Health as Good Or Excellent in 2023

- 48.5% (White)
- 29.2% (Black)

https://www.americashealthrankings.org/explore/measures/health_status_sr/DE/compare/AK?population=Health_Status_sr_Black

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

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

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

- 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?)

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