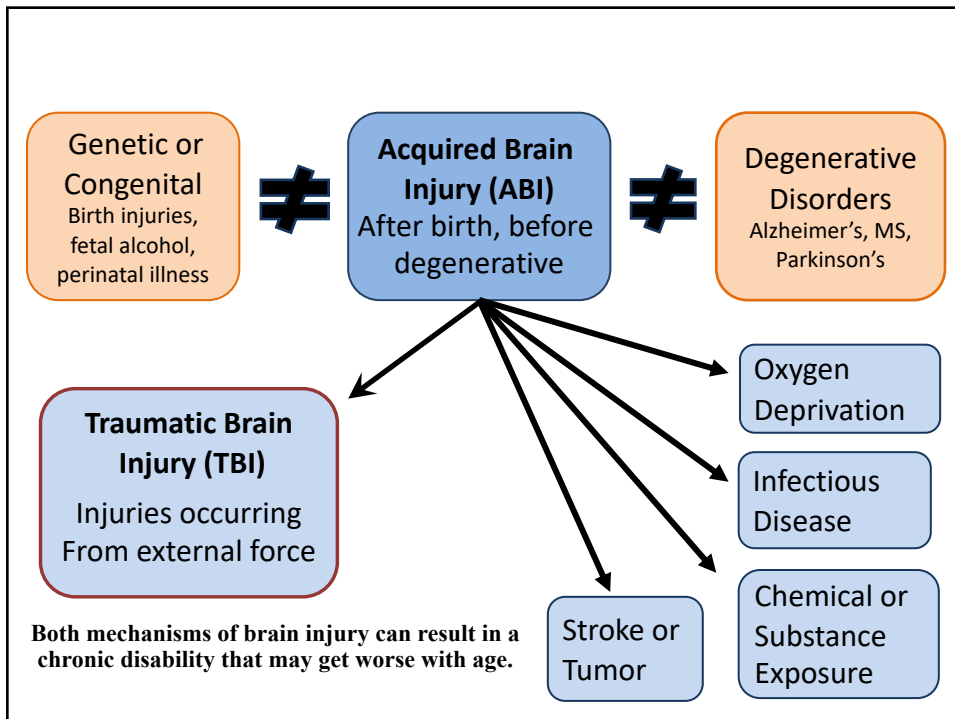


Traumatic Brain Injury and Older Adults

Rebecca Quinn, LMSW, CBIST
rebecca.quinn@und.edu

*Help for Today,
Hope for Tomorrow.*

1

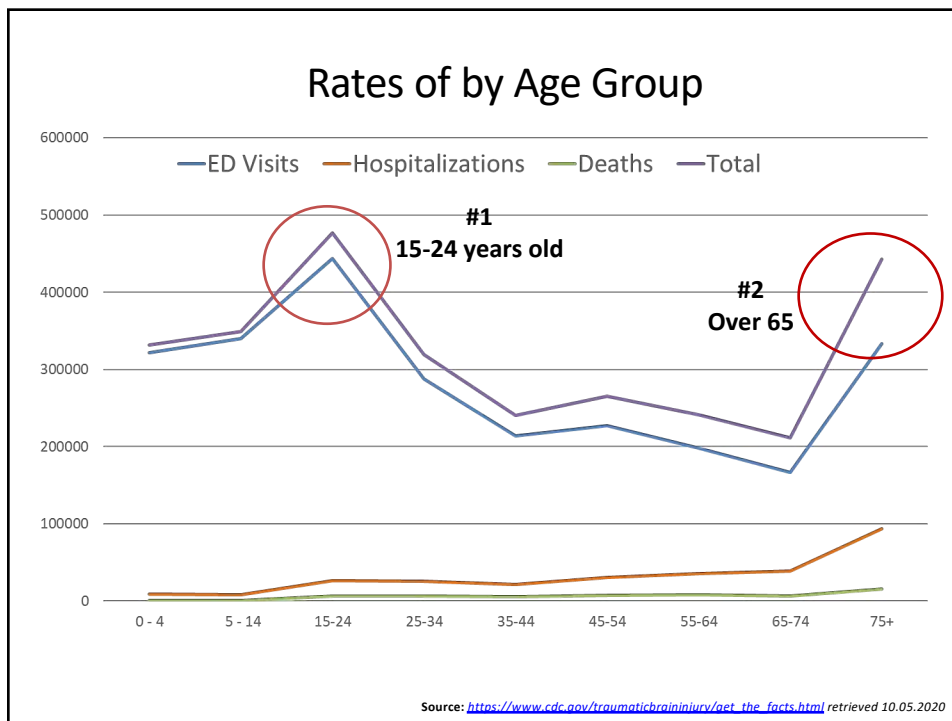


2

TBI in America- facts and figures

- An estimated 2.8 million people sustain a TBI annually. Of them:
 - 50,000 die,
 - 282,000 are hospitalized, and
 - 2.5 million, nearly 90%, are treated and released from an emergency department.

3



4

“Despite this high incidence, older adults may be less likely to seek medical attention for TBI and are also less likely to be accurately diagnosed even when medical attention is sought”

Source: *Journal of Neurotrauma* (2018)



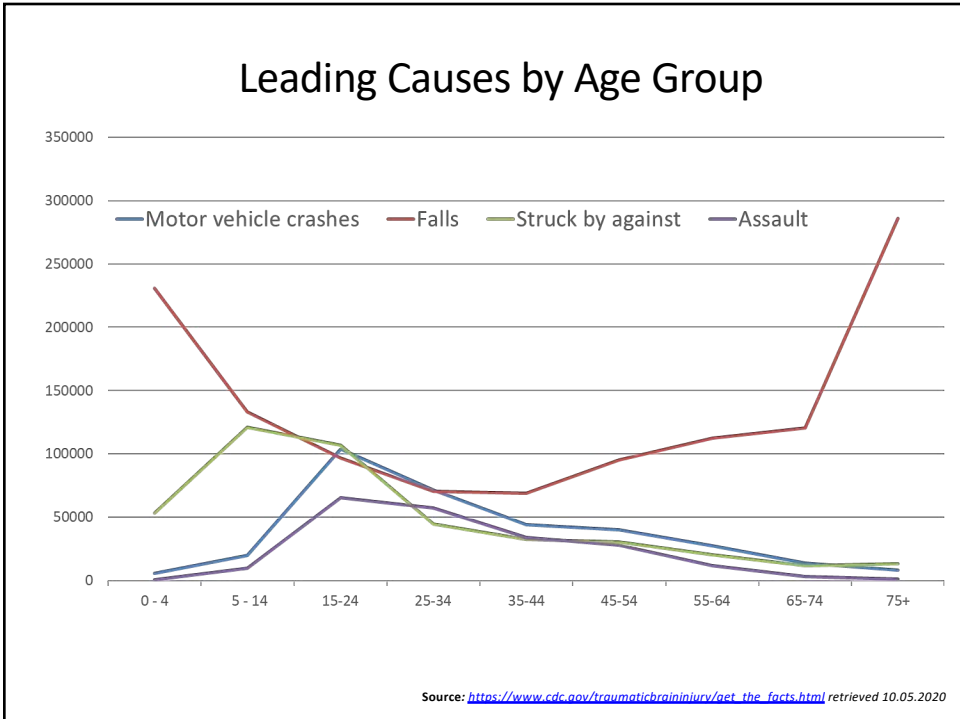
5

TBI in America- facts and figures

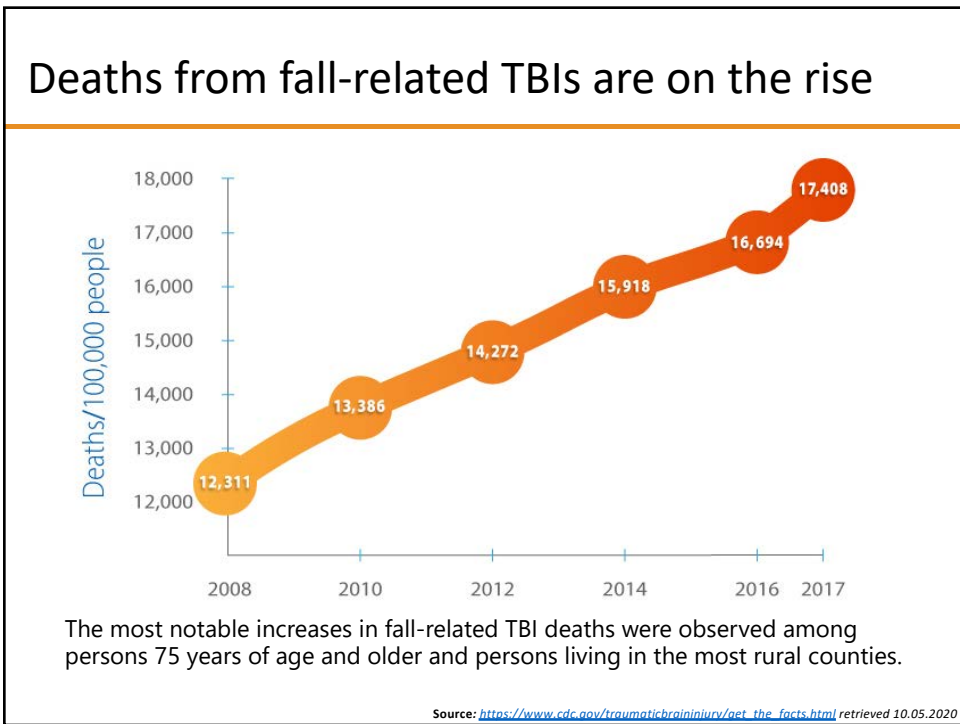
- More than 80,000 ED visits each year in those 65 and older
 - 75% of these require hospitalization
 - Those 75 and older have highest rates of hospitalization and death

Sources: https://www.cdc.gov/traumaticbraininjury/get_the_facts.html retrieved 7.14.2019
<https://www.brainline.org/article/get-stats-traumatic-brain-injury-united-states> retrieved 7.15.2019

6



7



8

Why Hidden Epidemic?

- Injury often overlooked
 - Either seen as no big deal
 - OR more acute issues overshadow (broken hip)
- Symptoms seen as normal decline or aging behaviors
- Lack of awareness
 - TBI/Concussion is only for the young

9

Aging Risk Factors

- Low force = substantial injury
- In elderly falls = 50 percent of traumatic injuries
HIGH risk for repeats
- Adults age 65 and older are at a greater risk of being hit by a car as a pedestrian than are children
- Many older adults cannot navigate crossing the street at a crosswalk at the expected rate of four feet per second

Source: New Jersey Institute for Successful Aging <http://www.youtube.com/watch?v=5K671AJE1ag>

10

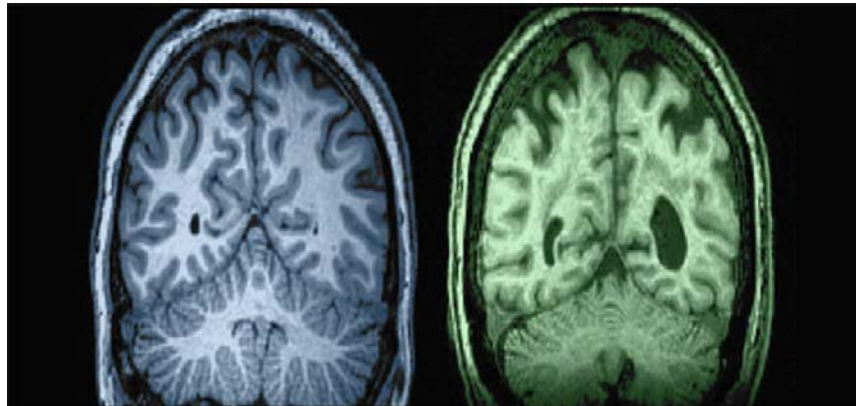
Aging Risk Factors

- Lower body weakness/foot problems/pain
- Cognitive decline
- Vitamin D deficiency
- Medications (tranquilizers, sedatives, antidepressants, blood pressure medication, blood thinners)
- Vision problems
- Intra- cranial changes

11

Age Atrophy

27 year old vs 87 year old



Increase in the space between the brain and the skull from 6% to 11% of the total intracranial space.

Source: <http://discovermagazine.com/2012/oct/16-brutal-truths-about-the-aging-brain>

12

Subdural Hematoma

- Higher risk for subdural hematoma
 - Structural changes in the brain
 - Blood thinning medication
- Higher risk of subdural hematoma, even from minor trauma
- May go unnoticed for many weeks, and are called “chronic” subdural hematomas

13

Why am I telling you this?

The negative impact of a brain injury on the older brain may not become apparent right away

- Even minor bumps should be checked out by a medical professional
- Providers need to be aware that TBI clinical measures lack nuance for reliability in elderly
- Need for monitoring and ongoing assesment

14

Clues suggesting brain injury

- Low-grade headache that won't go away
- Having more trouble than usual remembering things, paying attention or concentrating, organizing daily tasks, or making decisions and solving problems
- Blurred vision or eyes that tire easily
- Ringing in the ears
- Slowness in thinking, speaking, acting, or reading

15

Clues suggesting brain injury

- Getting lost or easily confused
- Feeling tired all of the time, lack of energy or motivation
- Change in sleep pattern—sleeping much longer than before, having trouble sleeping
- Loss of balance, feeling light-headed or dizzy
- Increased sensitivity to sounds, lights, distractions

16

Aging Risk Factors Impacting Outcome

- Pre-existing medical conditions
- Decreased neurochemicals
- Less cognitive “reserve”
- Deficits are more pronounced
- Atrophy makes brain more vulnerable to damage

17

Brain Injury Outcomes

- Compared to younger adults with TBI, Older adults with TBI (on average)
 - Undergo more in-hospital procedures (including imaging and neurosurgery)
 - Have longer acute care hospital & rehabilitation stays
 - are more likely to require continued medical care
 - Slower rate of improvement on functional measures
 - Worse functional outcomes & greater levels of disability
 - Higher rate of discharge to nursing home
- For every 10 years of age, there is a 40-50% increase in the odds of a poor outcome

18

Cognitive Outcomes

- Older adults are at risk for poorer cognitive outcome following TBI
- It's possible that cognitive impairment predisposed the injury or that there's some decreased cognitive reserve present
- Effects of medications need to be carefully considered

19

Functional outcome

TBI model systems data:

- Individuals over 65 who received acute inpatient rehabilitation:
 - Almost all achieved significant functional improvement
 - 2/3 were discharged to community setting
 - Nearly 85% were in community setting 1 year later

Walker, 2013

20

Screening

- A later-in-life TBI may make you vulnerable to death and dementia, and a earlier-in-life TBI may make you more vulnerable to falls later in life.
- **It is recommended that programs that serve older adults screen for a history of brain injury.**

21

Primary Prevention

Address key risk factors

- Medication review
- Functional assessment
- Vision screenings
- Home fall risk assessment*
- Balance training*

*referral to therapy provider increases likelihood of follow through

22

Secondary Prevention

- Identify injuries when they occur
- Provide appropriate care
- Management of medical comorbidities
- Regulation of medications
- Providing ongoing education
- Develop safe return to activity guidelines

23

Case Study

- 68-year-old man front seat passenger in MVC. Transported to ED with broken nose and agitation.
- Treated for broken nose and discharged to daughter.
- A month later his daughter notices that he has been complaining of headaches after watching TV, seem to get flustered and confused, and has been sleeping more.

24

Case Study

- A 75-year-old woman she slipped on ice, hit her head and lost consciousness.
- Regained consciousness after an hour but remained in an altered state.
- Imaging confirmed right-sided focal subdural hematoma; underwent craniotomy.
- 2 weeks after surgery findings included impaired memory, balance issues, limited ambulation and increased tone in the left and right upper extremities and left lower extremities.

25



Contact us today!

855.866.1884

www.ndbin.org

Funded by:

**NORTH
Dakota** | Human Services
Be Legendary.™

26