Managing Cognitive Disorders in Medical Respite Programs

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Presenters

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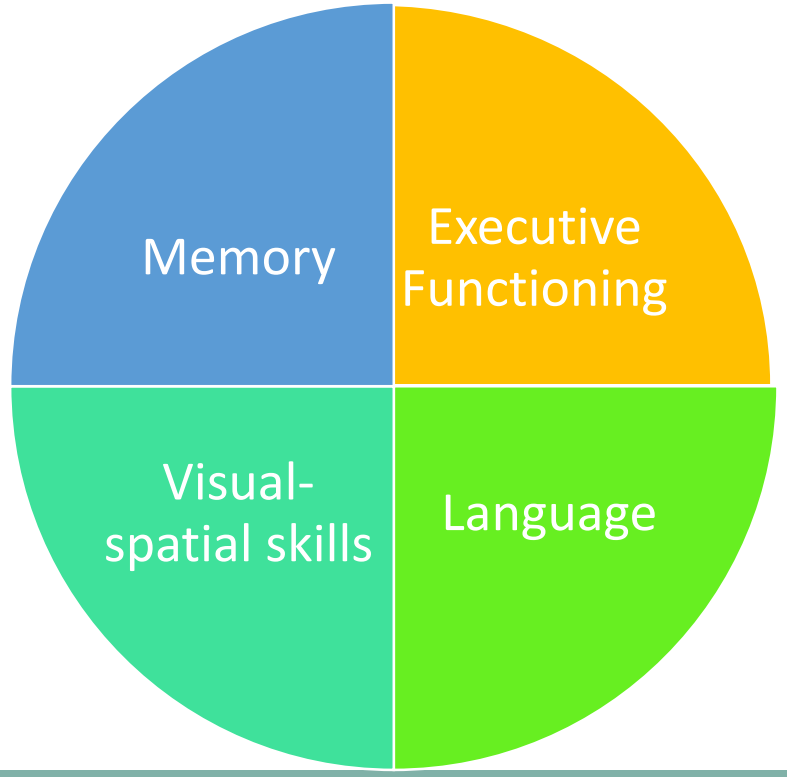
Learning Objectives

- Review tools for screening and diagnosis of cognitive disorders
- Learn strategies for managing problem behaviors associated with cognitive impairment
- Understand the consumer perspective on cognitive impairment and medical respite.

Elements of Cognition



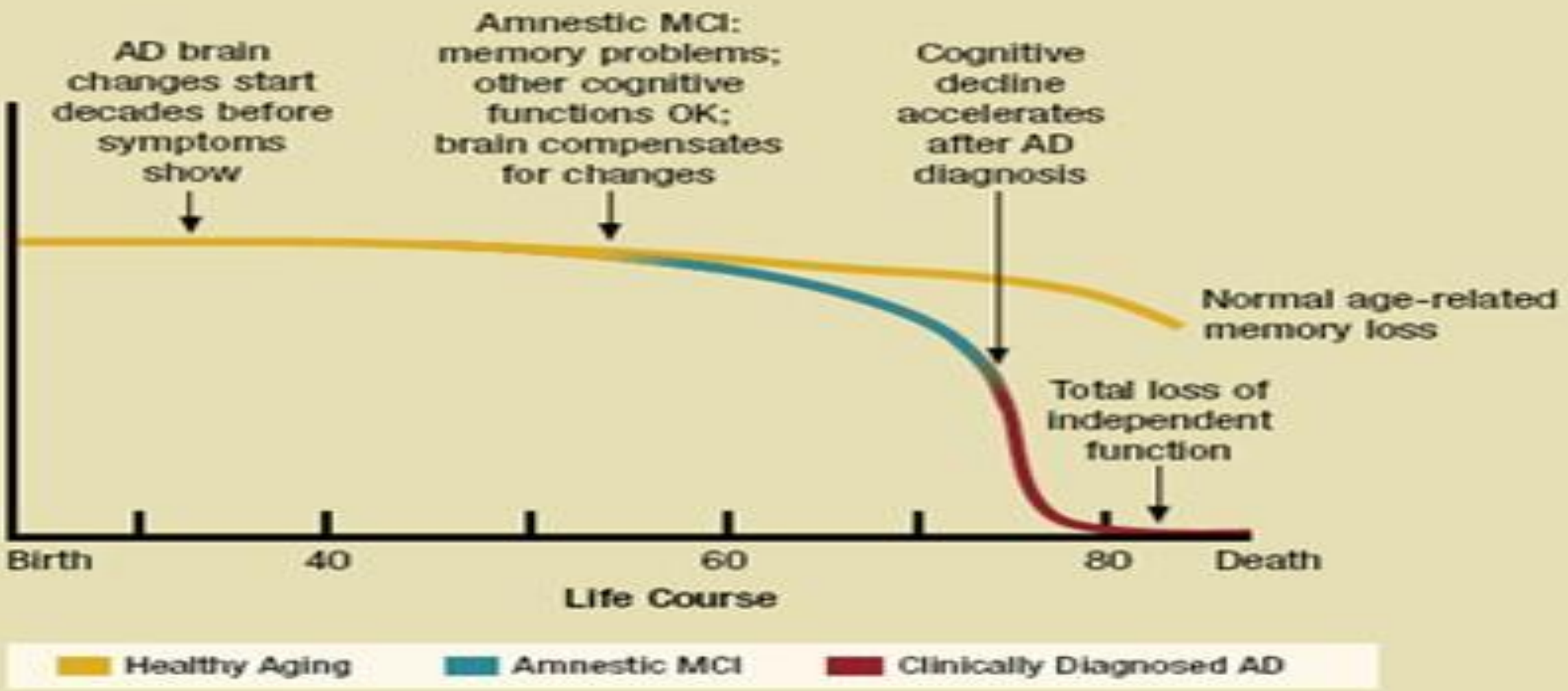
What is cognitive impairment?

- Spectrum between normal cognition and dementia

- Amnestic CI: subjective and objective memory impairment
  - Preserved cognition and no ADL impacts
  - High risk of conversion to dementia

- Non-Amnestic CI: memory intact
  - Problem with executive functioning, language or visual spatial skills

Charting the Course of Healthy Aging, MCI, and AD



Via Mark Newbrough, MD

Table 2. Associations Between MR Imaging Measures and Measures of Cognition in 896 Subjects [a]

Test	Model	MTA		WMHs		Lacunes	
		Score	*P* Value	Score	*P* Value	Score	*P* Value
ADAS-cog/MCI	1	3.7 (0.3)	<.001	1.1 (0.2)	<.001	1.3 (0.6)	.02
	2	2.8 (0.3)	<.001	0.1 (0.2)	.76	0.5 (0.6)	.37
	3	2.8 (0.3)	<.001	−0.2 (0.2)	.43	0.5 (0.5)	.33
New York University Paragraph Recall Test	1	−0.6 (0.1)	<.001	−0.2 (0.1)	<.01	−0.1 (0.2)	.55
	2	−0.5 (0.1)	<.001	0.04 (0.1)	.60	−0.01 (0.2)	.96
	3	−0.5 (0.1)	<.001	0.1 (0.1)	.30	−0.02 (0.2)	.89
DSST	1	−5.5 (0.7)	<.001	−2.7 (0.5)	<.001	−3.5 (1.4)	.01
	2	−2.0 (0.7)	<.01	−0.4 (0.5)	.46	−1.5 (1.3)	.25
	3	−3.0 (0.9)	.001	−0.2 (0.5)	.71	−6.5 (2.7)	.02

Abbreviations: ADAS-cog/MCI, Alzheimer's Disease Assessment Scale, cognitive subscale, mild cognitive impairment version; DSST, Digit Symbol Substitution Test; MTA, medial temporal lobe atrophy (score, 0-4); WMHs, white matter hyperintensities in quintiles.

[a] Values are given as β (SE). General linear models were constructed. In model 1, MTA, WMHs, and lacunes were entered in separate models as predictors, with ADAS-cog/MCI, New York University Paragraph Recall Test, and DSST scores as dependent variables. In model 2, age and sex were added as covariates. In model 3, MTA, WMHs, and lacunes were entered simultaneously as predictors, and ADAS-cog/MCI and Paragraph Recall Test as dependent variables, controlling for age and sex. In model 3, with DSST as the dependent variable, the significant interaction term MTA*Lacunes ($P = .03$) was added.

Cognitive Impairment and Homelessness

- Meta-analysis of 24 studies → 3000 individuals
  - US, Europe, Australia and Brazil

- Chronically homeless and sick
  - 46 years old, 83% men, 4.7 years homeless on average
  - 50% had SUD, 20% psychotic d/o, 33% affective disorder

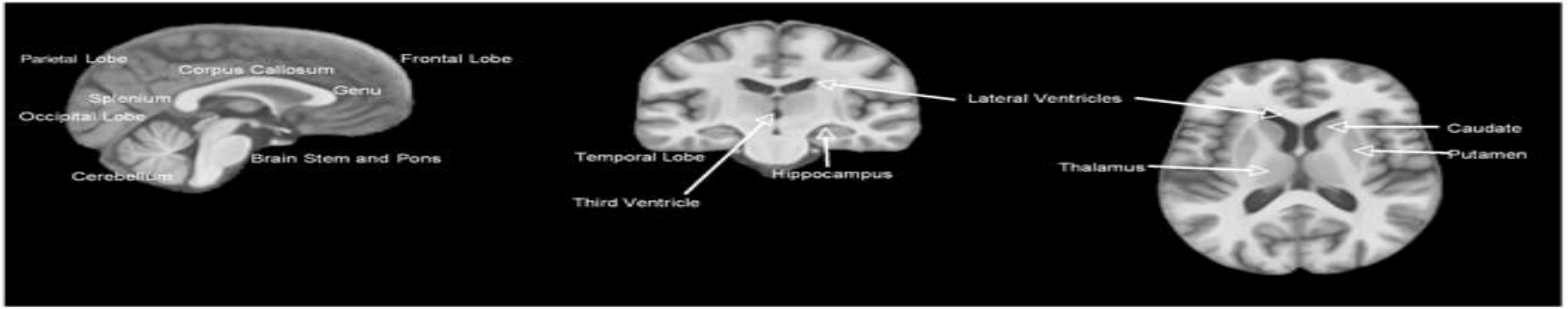
- Increased Prevalence
  - 25% screened positive (variety of tools)
  - Mean IQ was 1SD below average
  - 5-8x higher than non homeless adults > 70 years old

Depp et alNerv Ment Dis. 2015 February ; 203(2): 126–131.

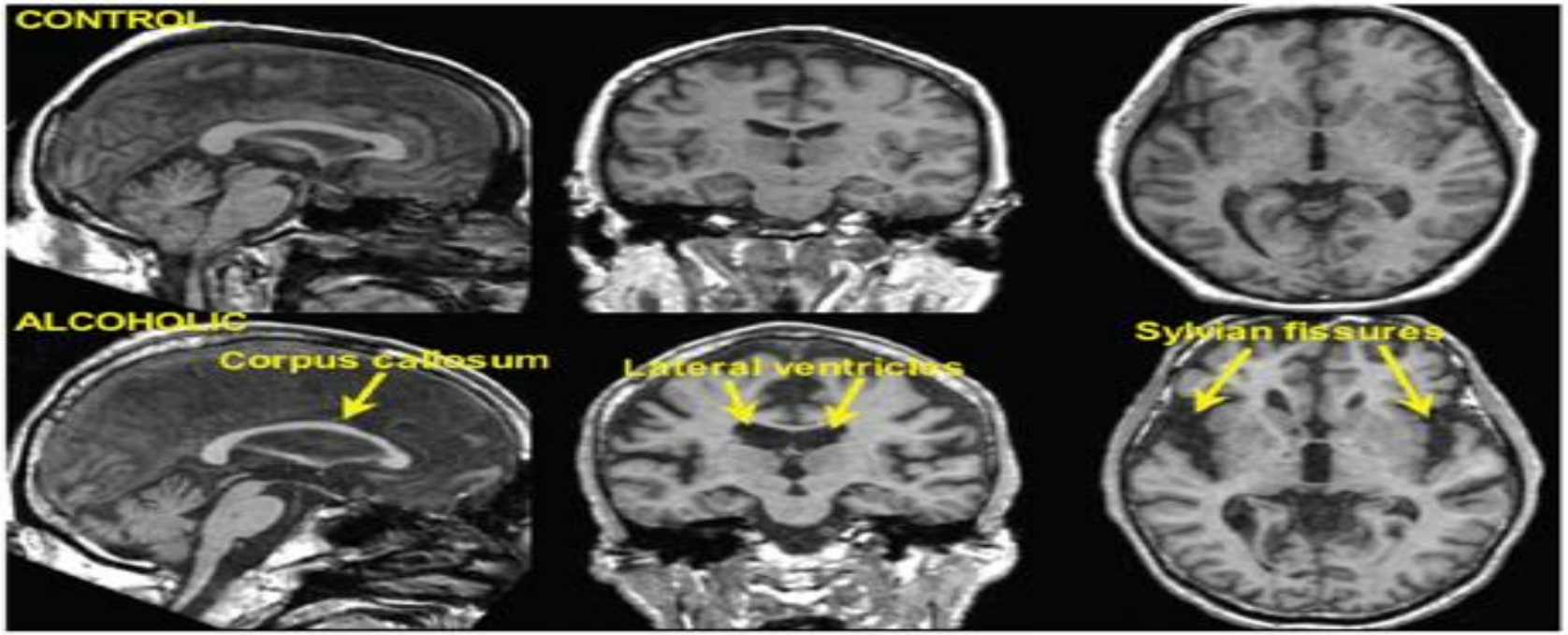
Effect of SUD

- Alcohol especially can worsen cognitive impairment
- Directly: impact temporal lobes, executive functioning
- Indirectly: through TBI, seizure disorder etc

A


Parietal Lobe
Corpus Callosum
Frontal Lobe
Genu
Splenium
Occipital Lobe
Brain Stem and Pons
Cerebellum
Temporal Lobe
Third Ventricle
Hippocampus
Lateral Ventricles
Caudate
Putamen
Thalamus

B


CONTROL
ALCOHOLIC
Corpus callosum
Lateral ventricles
Sylvian fissures

Traumatic Brain Injury and Homelessness

- TBI screenings among individuals who are homeless have indicated 8-53% of those experiencing homelessness have sustained a TBI, which is up to 5 times greater than the general population.

- 5-15% of mild TBI survivors, as well as virtually all survivors of moderate and severe TBIs have one or more semi-permanent or permanent deficits impacting their performance in routine activities.

Traumatic Brain Injury and Homelessness

- Of clients screened at Baltimore HCH using the Ohio State University TBI-Identification Screen, 67.6% screened positive for a brain injury with a loss of consciousness.

- These are clients who were referred to our Occupational Therapist, so we would expect they had problems functioning. However, this still shows how TBI contributes to functional difficulties experienced by our clients.

Traumatic Brain Injury and Homelessness

There is no clear evidence, but some possible reasons that TBI can contribute to homelessness are:

Lack of family/social support following injury

- TBI results in limited insight into what tasks someone can perform, but no safety net to “fail”
- Impact of TBI leads to decreased problem solving, frustration tolerance, memory and executive functioning, all needed to live independently and to navigate social services

Traumatic Brain Injury and Homelessness

Lack of identification of TBI

- Not seeking treatment after injury (e.g. domestic violence)
- Injury not detected by medical staff
- Client doesn't report injury

Depression after TBI leads to new/increased substance abuse

Screening for cognitive impairment

- Indicators for screening
- Screening tools
- Screening case study
- Client experience

Indicators for screening

- Reports any history of head injury or concussions while discussing life/medical history (car accidents, falls)
- History of or current physical abuse, trauma, or domestic violence
- History of or recent physical assault
- Reports falling at home, dizziness, or is very unsteady when walking
- Has difficulty remembering information, paying attention during sessions, or appears to be disorganized

Indicators for screening (continued)

- Has a history of seizures/uncontrolled seizures
- Substance use history
- History of incarceration
- Unclear history of mental health symptoms, difficult to diagnose mental health
- Over age 62

Tools for Screening: MMSE

- Most common cognitive assessment in the USA
- 5-7 minutes long
  - Tests orientation, recall, attention, calculation, language, praxis
- Max score is 30
- Good for dementia but not sensitive for cognitive impairment

Tools for Screening: MOCA

- Designed to assess CI in older adults
- More sensitive for mild cognitive impairment
  - Memory, language, attention, visual-spatial, executive function
- Max score 30
  - < 26 has sensitivity of > 94% for MCI
  - Need to adjust for education

Tools for Screening: OSU-TBI ID

All clients referred to Occupational Therapy at the Baltimore respite are screened with the Ohio State University Traumatic Brain Injury Identification Screen (OSU TBI-ID)

- A standardized procedure to elicit the lifetime history of TBI for an individual, based on CDC definitions
- 5 minutes to administer
- Screens for injuries, amount of time for loss of consciousness, repeated impacts

Name: _____ Current Age: _____ Interviewer Initials: _____ Date: _____

Ohio State University TBI Identification Method — Interview Form

Step 1

Ask questions 1-5 below. Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.
   ☐ No ☐ Yes—Record cause in chart
2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?
   ☐ No ☐ Yes—Record cause in chart
3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?
   ☐ No ☐ Yes—Record cause in chart
4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?
   ☐ No ☐ Yes—Record cause in chart
5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.
   ☐ No ☐ Yes—Record cause in chart

Interviewer Instruction:
If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

Step 2

Interviewer instruction: If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the chart below.

Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

Step 3

Interviewer instruction: Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

If yes, what was the typical or usual effect––were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began? Ended?

Step 1	Step 2						
	Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
Cause	No LOC	< 30 min	30 min-24 hrs	> 24 hrs	Yes	No	

If more injuries with LOC: How many?_____ Longest knocked out?_____ How many ≥ 30 mins.?_____ Youngest age? _____

Step 3	Typical Effect		Most Severe Effect				Age	
Cause of repeated injury	Dazed/ memory gap, no LOC	LOC	Dazed/ memory gap, no LOC	LOC < 30 min	LOC 30 min - 24 hrs.	LOC > 24 hrs.	Began	Ended

Adapted with permission from the Ohio State University TBI Identification Method (Corrigan, J.D., Bogner, J.A. (2007). Initial reliability and validity of the OSU TBI Identification Method. J Head Trauma Rehabil, 22(6):318-329.

Case – Cognitive Impairment in Medical Respite

- 66M with alcohol use disorder, diabetes, enlarged prostate and traumatic brain injury s/p craniotomy in 2010 is admitted to your facility for management of his diabetes.

- Questions for Discussion
  - How can you create a safe environment for this patient?
  - How can you minimize outbursts and conflict with staff?
  - How would you assess his fall risk?

Dementia Friendly Respite

- Screening
- Behavior Management
- Supports
- Environment

Impact of cognitive impairment on respite self-management tasks

- Recall: remembering to take medications and keep appointments
- Problem solving: how to refill medication, how to schedule a specialty referral, how to find a specialist's office
- Following instructions: medication instructions, reading nutrition labels, knowing what foods to buy
- Frustration tolerance: problems in waiting areas, interacting with front desk staff

Case Study

- Before we did regular screening, this client wasn't screened until after he left our respite program.
- Gaps in the client's story: He was a college graduate who had worked as a librarian and lived abroad, but was showing executive functioning deficits. Client couldn't explain how he became homeless.
- During OSU-TBI screen, client revealed he had almost drowned 15 years ago and was in a coma for a week. He had never told any of his current providers this and didn't see how it was related to how he became homeless.
- We increased his level of supports, particularly around decision making.

Communication and Behavior Management

Setting realistic expectations

- For staff to engage calmly and patiently with a client, staff need to have realistic expectations
- This is especially true for clients who are not as obviously cognitively impaired (very verbal and intelligent but lacking in other cognitive areas)
- Clients may be accustomed to self-reliance and have difficulty accepting help. They may minimize deficits so they don't appear vulnerable on the streets

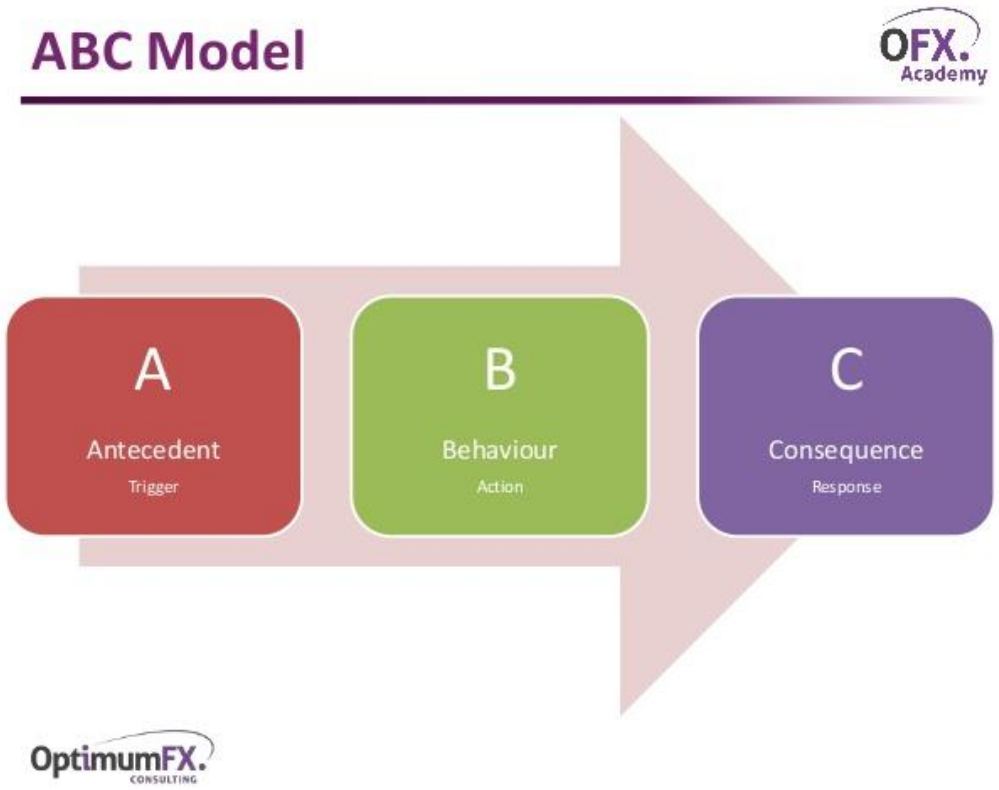
Communication and Behavior Management

- Staff might get frustrated that client
    - "isn't motivated"
    - is "acting out"
    - is "forgetting on purpose"

- When someone screens positive for a cognitive impairment or functional difficulties, educate all staff who interact with client about what this means

- For some clients with dementia, a more directive approach rather than motivational interviewing approach is helpful

Communication and Behavior Management



Communication and Behavior Management

- Behavior
  - Clear description of the problem behavior
  - When, Where, How often, with Who?
- Antecedent
  - What is happening before?
  - What are the “triggers”?
  - In dementia, it is often frustration or avoidance
- Consequence
  - What is happening after?
  - Is client getting out of an activity that they find frustrating or confusing?

Communication and Behavior Management

- What can I do to prevent the problem behavior?
- What can I do to not reward problem behavior?

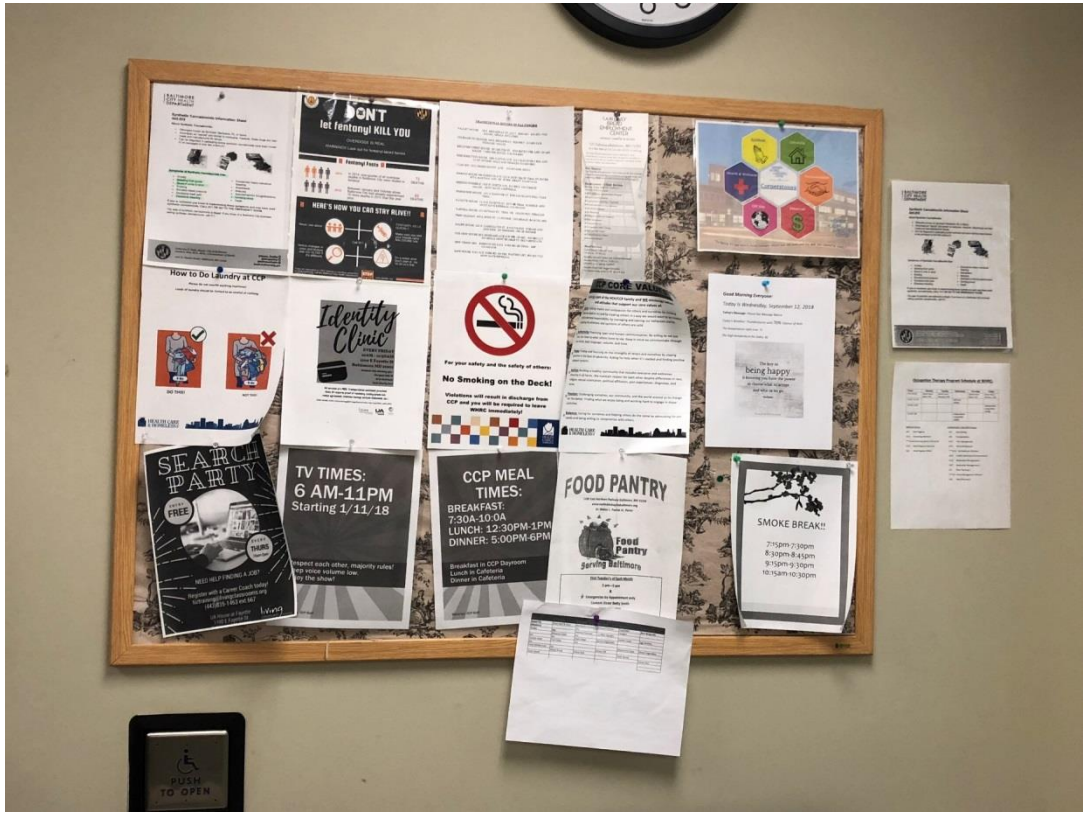
Supports

- Community Health Worker
  - Engagement and motivation
  - Reinforcement of positive behaviors
  - Escorts
  - Referrals to Community Health Workers at our clinic for ongoing care after discharge

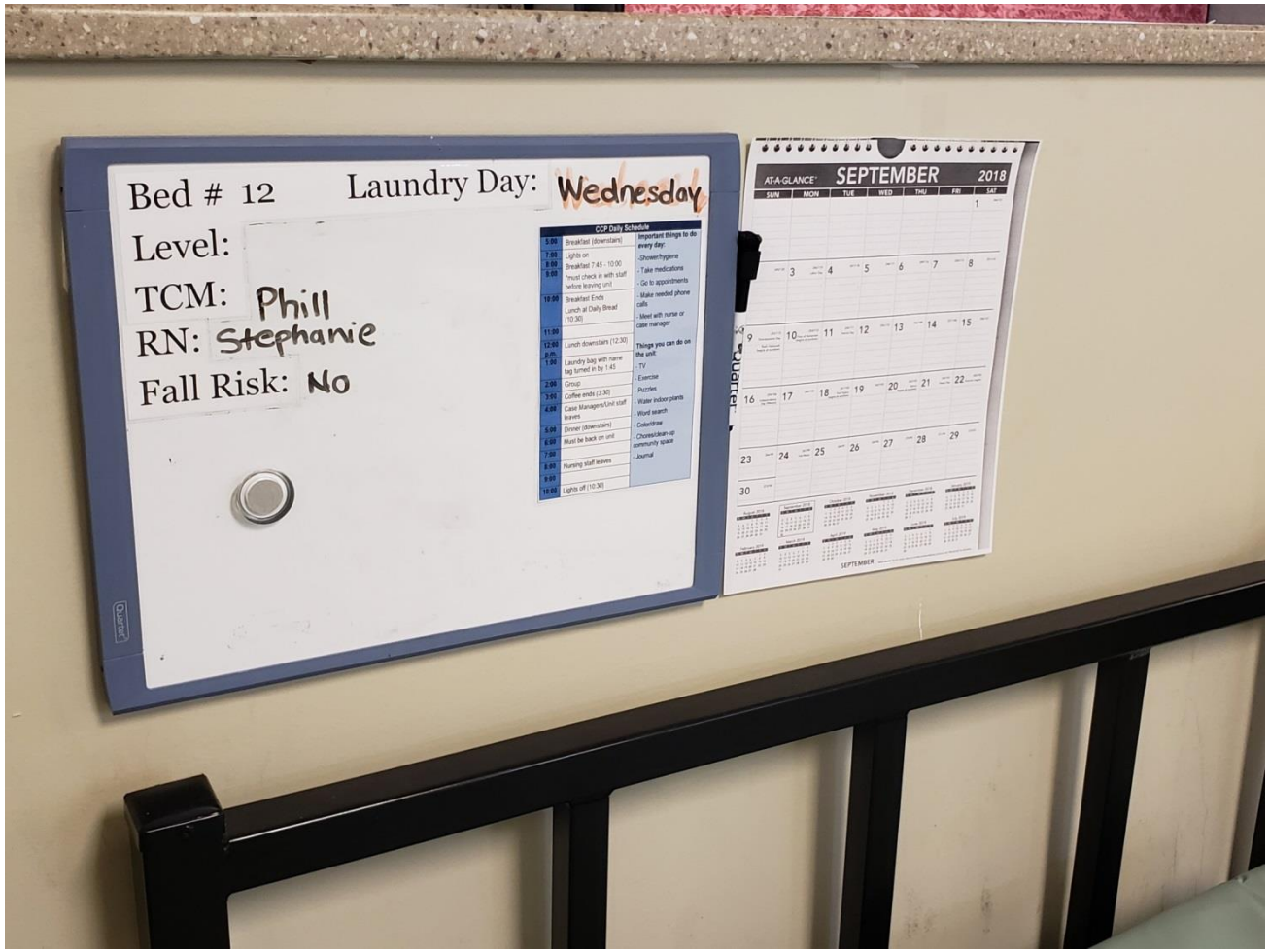
Supports

- Occupational Therapy
  - Functional Assessments. Cognitive assessments can’t predict what areas the in which the client will experience functional deficits
  - Medication management
  - Falls prevention
  - Organizational and memory skills

Environment: information presented in a clear and uncluttered manner



Environment: calendar, schedule and white board by each bed



Environment: appropriate storage

Like this

Not this

Joe shares his story

Ongoing treatment after respite

Referring clients to ongoing treatment for cognitive limitations can promote successful long-term outcomes.

- Occupational therapy
  - Targeted interventions for clients being discharged to housing (home safety visits, falls prevention, community integration)
  - Functional assessment and skill development
  - Memory and organizational strategies
- Community Health Worker
  - Appointment reminders, escorts when needed, help with independent ADLs

Ongoing treatment after respite

Brain Injury Rehabilitation Day Programs

- Baltimore's Return Program focuses on helping clients regain independence and possibility return to work
- The team includes a neuropsychologist, speech therapist, occupational therapist, physical therapist, social worker, pre-vocational specialist, case manager, and a support group.

Adult Day Program

- For clients who will not return to work, a day program can provide medication management, meals and social support.

Questions or Comments?