Collusion Or Collaboration?
Cognitive Impairment Detection And Earlier Diagnosis Of Dementia

The KAER Process
Relevance For Patients And Families

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In The Absence of Cognitive Symptoms

• Screening for dementia is “controversial”
  ✓ US Public Health Task Force – evidence review
  ✓ Responding to symptom complaints

• Medicare Annual Wellness Visit Includes Cognitive Assessment

• Reframing the conversation from dementia to “brain health” or preserving function

• Making sure that we have concrete strategies for maximizing brain health
Physicians Do Not Identify or Diagnose Dementia
*An Old Story – A New Mandate*

Do We Detect Cognitive Impairment?

- Surveyed 729 physicians in southern California health maintenance organization (2000-01)
- Asked physicians to estimate the cognitive functioning of one of the selected patients participating in the cohort study of estrogen and memory function
- 2-Stage Dementia assessment (TICS/TDQ)
- Medical records reviewed for dementia documentation

Physician Recognition of Cognitive Impairment

• On a scale from 0 to 10 with 0 being “no cognitive impairment” to 10 being “severely impaired”, please estimate your patient’s level of cognitive impairment by placing an ‘X’ on the appropriate number.

Physician Recognition of Cognitive Impairment

Can We Move the Conversation to “Cognition”?

Consider the following (somewhat rhetorical) questions about cognitive impairment detection:

• Are patients fearful?
• Are patients unaware?
• Do patients/families want to know?
• Do expectations about aging bias patients and families?
• Do expectations about aging bias physicians?

If “brain health” is my agenda, how do I make this patient-centered?
A Man and His Son

- 93 Year Old Veteran in Geriatric clinic with his son
- Hypertensive with some gait instability
- Requires assistance with IADLs
- Highly social and converses freely about current events
- Had prior Mini-Mental State Exam of 21
- Today’s Montreal Cognitive Assessment (MoCA) was 12
- We reviewed the exam results
- His son was dismissive of the test results: “My Dad is great!”
- We deferred further discussion....
Patient-Centered Approaches Explored Through Case Scenarios

- Different patient-family dyads require different approaches
- Finding the right words is easier if you don’t have to go looking
- An array of options are currently available

Case examples:
1. Presenting clinical problems help initiate the conversation.
2. Patient: “I am doing great!” Family: “No he is not.”
3. Patient: “I am worried about my memory.”
Approaches to Addressing Brain Health: Starting the Conversation (The KAER Toolkit)

- **Raise the topic** of brain health and changes in memory and cognition that may occur in older adults.
- **Ask** older adult patients whether they have concerns about their memory or cognition.
- **Listen for and acknowledge** patient-reported concerns about memory and cognition.
- **Listen for and acknowledge** family-reported concerns about the older adult’s memory and cognition.
- **Observe for signs and symptoms** of cognitive impairment and possible dementia.
Include a question about memory and/or other cognitive functions in a routinely used health risk assessment.

Use available information about health conditions and functioning of older adults that are often associated with cognitive impairment.

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- **Use available information** about health conditions and functioning of older adults that are often associated with cognitive impairment.
- Combined approaches
89 Year-Old Woman, Graduated Phi Beta Kappa, University of Chicago

• Moved six years earlier to be near her daughter
• Socially active, lives alone
• Charismatic, articulate, and proud
• Returns for 6-month routine visit with daughter
• Several year history of coronary disease
• New 7-pound weight loss
Screening Versus Diagnosis

• We are beyond screening here aren’t we?
• Weight loss is a red flag for a geriatric syndrome
• This is our entry point.
• “Why do you think you have lost weight?” Pose the same question to daughter? – Engagement
• “Are you concerned?” – (if not raise the concern and why: can help us wade through the barrier of stigma)
• “Believe it or not but sometimes, we forget to eat.”
MINI-COG™

• Three-item recall
  ✓ Assure registration (Maximum 3 trials)

• Clock drawing test
  ✓ Large circle, insert all numbers, “ten minutes past eleven”
MINI-COG™ Scoring

- One point for each item recalled (0-3)
- Normal clock = 2 points; abnormal = 0
- Normal clock must have:
  - All 12 numbers (relatively) evenly spaced inside circle
  - Two hands pointing to 11 and 2
- MINI-COG™ score:
  - 0-2 suggests dementia
  - 3-5 suggests no dementia
- MINI-COG™ outperforms MMSE and CASI*

A Useful Addition: The Clock Drawing Test

• Less dependence on education and language
• Identifies deficits in:
  ✓ Visual-spatial
  ✓ Construction (planning)
  ✓ Abstraction
  ✓ Focal deficits
• Dependent upon fine motor skills and intact vision
• More qualitative—requiring some judgment
Her Clock Draw – First Part
“Place the hands to show 10 minutes after 11”
With an Abnormal Screening Test What’s Next?

• Normalize findings – “Many of my patients have difficulty with this.” (Different than saying “this is normal.”)

• Solicit impressions, feelings about test. “How do you think you did?”

• Offer words for those who have few – “Sometimes people are worried about how they do on tests like this one.”
With an Abnormal Screening – Test Next Steps?

• Explain what the results mean in real but lay terms – “Making a clock requires a part of our brain that is in a different place where we remember some things.”

• Discuss the words that we use (e.g., “dementia”) to “dismempower” their impact

• Explain in explicit terms, next steps (join the dyad)

We will get to evaluation later in this presentation.
79-Year Old Veteran Owns / Rents Apartments

- Still manages multiple apartments
- Wife seems concerned
- Has peripheral vascular disease and moderately controlled diabetes mellitus, hypertension
- Drives with no reported infractions or accidents
- Traditional marital relationship, domineering personality
- Do you want to broach cognitive screening?
Introducing “Cognitive Screening”

• Different statements will “resonate” for different people

• Link this process to more familiar clinical activities, e.g., screening for hypertension, using a stethoscope

• Explain the range of possible findings and the strategies we use depending on how one does

• Explore concerns about this process

• Emphasize the importance of how this process relates to health and safety moving forward
Meeting Resistance: Kick-start Statements

• “Do you know anyone with memory troubles?”
• If yes, “tell me more about that.”
• “What do you think about the possibility that in the future you might have trouble with your thinking and memory?”
• “Would you like to know about things you could do for yourself that may keep your brain healthy?”
• “Sometimes, medications that we prescribe or conditions that go untreated can affect our thinking and memory. Baseline measures are important.”
93 Year-Old Emeritus Professor of Physics

- Academically active: presenting papers, working daily
- Chronic anxiety disorder
- Wife diagnosed with mild cognitive impairment
- He is concerned about his memory
- Moderate aortic stenosis, claudication

*Do no harm*....
Minimizing Anxiety in the Already Anxious

- Explore the basis of concern – “What has happened that led to your concern about this?”
- “If my test shows you are having some difficulty, what will you do with that information?”
- “We look at many factors and a screening test is only one small part.”
- “Sometimes very capable people do not do well on a test because of nervousness.”
- “This is a good thing for us to do because we will both understand better if there is something we need to work on.”
Strategies to Keep Nearby

- Exercise emotional intelligence
- Explore the unstated
- Be reflective and use ‘us’ and ‘we’
- Establish trust and the sense of continuity
- Identify strengths of the patient and dyad
- Find the “half-full cup”
Summarizing Assessment

• The Tool Kit can facilitate increasing cognitive assessment as a part of usual clinical practice
  • Raise the topic
  • Listen for and acknowledge
  • Observe for signs and symptoms
  • Incorporate into usual healthcare routine
  • Integrate into other health and functional issues
Evaluation: Do We Need to Understand Dementia Subtypes?

- Alzheimer’s Disease
- Frontotemporal Lobar Degeneration*
- Lewy Body Disease*
- Vascular Disease
- Traumatic Brain Injury*
- Substance/Medication Use
- HIV Infection
- Prion Disease*
- Parkinson’s Disease
- Huntington’s Disease
- Prion Disease
- Another Medical Condition
- Multiple Etiologies
DSM-V Major Neurocognitive Disorder

• A. Significant Cognitive Decline in 1 or more domains
  • Complex attention, executive function, working memory, language, perceptual motor, or social cognition
  • Based on:
  • Concern of an individual, informant, clinician of significant decline
  • AND substantial impairment in cognitive performance, preferably documented by neuropsychological testing or, in its absence, another qualified clinical assessment

• B. Cognitive deficits interfere with independence in everyday activity

• C. Not delirium

• D. Not better explained by other mental health conditions
The Polka Dot Dress

• 79 year old gentleman presents with periods of confusion and visual hallucinations

• One year history of gait impairment and falls

• “He has his good times and bad times”

• Today, in the office, he is alert and oriented to place, month and year but not date

• What other history/exam features do you want to know?
Diagnostic Effort

• Tell me more about these images you see.”
• “What are the circumstances of falling?”
• “What are the changes in thinking and memory?”
• BP measurements?
• Physical examination – specific aspects?
Vivid Hallucinations
Diagnostic Effort

• “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”

• “What are the circumstances of falling?”

• “What are the changes in thinking and memory?”

• BP measurements?

• Physical examination – specific aspects?
Diagnostic Effort

• “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”

• “More clumsy tripping over things.”

• “What are the changes in thinking and memory?”

• BP measurements?

• Physical examination – specific aspects?
Diagnostic Effort

• “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”

• “More clumsy tripping over things.”

• “Memory’s OK sometimes, but gets real confused and then better again”

• BP measurements?

• Physical examination – specific aspects?
Diagnostic Effort

• “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”

• “More clumsy tripping over things.”

• “Memory’s OK sometimes, but gets real confused and then better again”

• 150/85 lying, 105/60 standing

• Physical examination – specific aspects?
Diagnostic Effort

• “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”

• “More clumsy tripping over things.”

• “Memory’s OK sometimes, but gets real confused and then better again”

• 150/85 lying, 105/60 standing

• Mask-like facial appearance, mild rest tremor, some rigidity in tone
Dementia with Lewy Body Disease

- Encompasses dementia with Lewy bodies and Parkinson’s disease dementia
- Second most common dementia due to neurodegenerative* disease (20%)
- Cognitive fluctuations: attention, level of arousal, executive function, visuospatial

*vascular dementias are not considered neurodegenerative
Lewy Body Disease

• Spontaneous Parkinsonism* (axial > appendicular)
• Impairment in attention, executive, visuospatial function
• Fluctuating cognition*
• Recurrent visual hallucinations*
• Sensitivity to antipsychotic medications
• Confused with delirium

*Core features

• Supportive features: repeated falls, syncope, severe autonomic dysfunction
Lewy Body Dementias

• Up to 80% w/PD progress to dementia

• Increase risk w/duration of PD, 50% after 10 yrs.

• With progression, both PD dementia and DLB become similar – continuum as opposed to dichotomous entities

• DLB is under diagnosed

  – Criteria only moderately accurate

  – Including REM Behavioral Sleep Disturbance improves sensitivity w/o decreased specificity
The Lawyer Who Fell From Grace

• 81 year old practicing attorney – well respected among his peers

• Missed appointments with clients, legal briefs less descriptive, episode of getting lost while driving home

• Given more menial tasks at work, not being as frequently included in some staff discussions
What are the thinking and memory problems?”

“How long has this been a problem and has it progressed?”

“Any other family members with similar difficulties?”

Neuroimaging?
Diagnostic Effort

• “He has trouble remembering things that we have discussed, things we did yesterday, even today.”

• “How long has this been a problem and has it progressed?”

• “Any other family members with similar difficulties?”

• Neuroimaging?
Diagnostic Effort

• “He has trouble remembering things that we have discussed, things we did yesterday, even today.”

• “It started a few years ago, I guess, and it’s been getting worse.”

• “Any other family members with similar difficulties?”

• Neuroimaging?
Diagnostic Effort

• “He has trouble remembering things that we have discussed, things we did yesterday, even today.”

• “It started a few years ago, I guess, and it’s been getting worse.”

• “I think he had an uncle and and a few cousins.”

• Neuroimaging?
Alzheimer’s Disease

• Insidious development of recent memory loss
• Forgetting details of recent events
• Difficulty learning and retaining new information (no benefit from cueing)
• Aphasia is frequent early in course (word-finding difficulties)
• Visuospatial (getting lost, constructional apraxia)
• Executive dysfunction (problem solving, multi-tasking, judgment)
Alzheimer’s disease

- Memory impairment and anomia are earliest cognitive symptoms
- Anterograde amnesia – most common syndromic presentation
- Primary progressive aphasia (PPA): AD or FTD
- Logopenic variant (lvPPA) is speech that is nonfluent, effortful, and with word finding difficulties
- May be the most common aphasia phenotype of AD
62 year-old Business Executive

- Family reported 2-year h/o personality change
- Irritable, depressed appearing
- Lack of empathy, insight
- Refused medical care during that time period
- Forced out by “early retirement”
- Progressive loss of language
- Diagnosed with early AD
- Do you agree?
Additional History

• Starts eating hamburgers and ice cream exclusively (never ate hamburgers before)
• Began frequently opening and closing the garage door in the middle of the night
• Walking the dog at 3 AM totally naked
• What are you suspicious about now?
Diagnostic Effort

- Age of onset influences diagnostic probabilities
- Informant interview always important
- “Tell me about social circumstances and concerning behaviors.”
- Always assess depression
- Psychiatric history
- Family history
- Cognitive testing
Frontotemporal Dementia

• Third most common neurodegenerative disorder (second under age 65) 3-4/100,000
  – (20-30,000 case prevalence in US)

• Average age of onset is 50-60 years (as young as 30s) – only 10% over the age of 70

• Two distinct clinical syndromes:
  • Behavioral-variant FTD (1/2 to 2/3rds of FTD)
  • Primary progressive aphasias
    • Non-fluent a grammatic
    • Semantic (word finding)
Six months later

- Choking on hamburgers, only eating ice cream
- Losing weight
- Falling frequently with a gait abnormality
- How would you evaluate now?
Diagnostic Effort/Results

• Walking with bilateral foot drop
• When examining with the patient undressed
  – Diffuse muscle atrophy
  – Diffuse fasciculation
• What has happened here?
FTD Associations

• Motor neuron disease including amyotrophic lateral sclerosis (ALS) - ~ 15% before, during, or after diagnosis of FTD
• Progressive supranuclear palsy (PSP) and corticobasilar degeneration (CBD) pathologically related syndromes
• FTD with motor neuron disease due to DNA binding protein pathology (TDP-43)
• Consider genetic testing for patients with FTD and one or more first degree relatives with clinical syndrome of neurodegenerative disorder
83 year-old Retired Postal Worker

- Three-year history of gait impairment
- Kicked out of bridge club last year: “too slow”
- More forgetful but compensates with lists and post-it notes around the house
- Ten year history of non-insulin dependent diabetes and hypertension with evidence of regular medication use
Diagnostic Effort

- Patient / informant history
- Neuroimaging?
- Objective cognitive testing?
- Physical exam
- Gait assessment
Diagnostic Effort/Results

• “Tell me about your memory problems. When did you first notice this? Have things changed since then?”
• Hold off on neuroimaging until you really “need” it
• Memory testing – are recall deficits corrected with cuing?
• BP measure and earlier data
• Is gait broad based and apraxic?
Vascular Dementia

• Clinical heterogeneity
• Hard to distinguish mixed from pure
• Acute or insidious onset with variable progression
• Focal neurologic findings common
• Cognitive testing again can be non-specific but attention, executive function, processing speed
• Memory impairment characterized as cuing-dependent distinguishes from AD but often AD coexists in older age patients
• Second most common cause of early onset dementia
• Sub-cortical small infarcts plus white matter changes on MRI but specifics are controversial
Dementia Diagnosis and Sub-Type Determination Looks Easy, Right?

• In primary care settings, the majority of presentations will be straightforward
• But clarity is lost in the absence of objective data
• For those 25% who are less typical or where additional reassurance is needed, referral will be needed
• Consider referral to neurologic, geriatric, geriatric psychiatric, or neuropsychological care
Conclusion

• To help people with problems, one has to know that problems exist

• Starting the conversation ("Kick-start") is necessary but not sufficient

• Dementia assessment and evaluation requires a multi-domain approach and is best accomplished with objective cognitive testing and informant history.

• Medication therapy remains only marginally effective.

• More importantly, education and psychosocial care carry enormous benefits.