Behavioral Health Institute (BHI) Training, Workforce and Policy Innovation Center TeleBehavioral Health 401 Training Series

Behavioral Health Telehealth Resource
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Behavioral Health Institute (BHI)
Training, Workforce and Policy Innovation Center

The Behavioral Health Institute is a Center of Excellence where innovation, research and clinical practice come together to improve mental health and addiction treatment. BHI established initial priority programs which include:

- Improving care for youth and young adults with early psychosis
- Behavioral Health Urgent Care Walk in Clinic
- Behavioral Health Training, Workforce and Policy Innovation Center
- Expanded Digital and Telehealth Services

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Speaker Disclosures

None of the series speakers have any relevant conflicts of interest to disclose.

Planner disclosures

The following series planners and team have no relevant conflicts of interest to disclose:

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DISCLAIMER

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We gratefully acknowledge the support from

The (Maybe) Cognitively Impaired Person at the Other End of the Camera

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My experience 2013 – 2021

A basic cognitive evaluation works as well by telemedicine as in-person, without needing any special equipment

People with cognitive impairments can communicate well enough via telemedicine

The most important issue is **knowing what to look for**

Doing the Right Thing

Why the disease is a problem

What happens during it

Who gets it and how often

How to test for it

What variations exist in it

What causes it

What it is not

What it is

Definition of Dementia (#1)

A **significant**

chronic

loss

in **memory and/or mental functions**,

involving **structural damage** to the brain.

Definition of Dementia (#2)

A progressive neurodegenerative condition with functional consequences.

NOT

-Lifelong

-Abrupt or acute

-Normal aging

-Insignificant

NOT NECESSARILY

-A problem with memory

-Alzheimer's

-Disturbed behavior

-Age-related

-Fatal

DSM-5 Criteria for Major Neurocognitive Disorder (Dementia) [Definition #3]

-Significant cognitive <u>decline</u> in one or more domains

-The impairments interfere with independence (i.e. cause **FUNCTIONAL** problems)

-The symptoms are not due to delirium or another mental disorder

-Domains of cognition:

-Complex attention (multitasking)

-Executive function (complex tasks)

-Learning and memory

-Language

-Perceptual-motor (coordinated activities)

-Social cognition (appropriateness)

Major Neurocognitive Disorder (Dementia) Descriptors

-Possible vs probable

-With or without behavioral disturbance (psychosis, mood problems, agitation)

-Severity: based on **FUNCTIONING**

  -Mild: Instrumental activities of daily living (ADLs) are affected

  -Moderate: Basic ADLs affected

  -Severe: Fully dependent in ADLs

Who has dementia?

At age 65: 1%

Older than 65: 6-8%

Older than 80: 30%
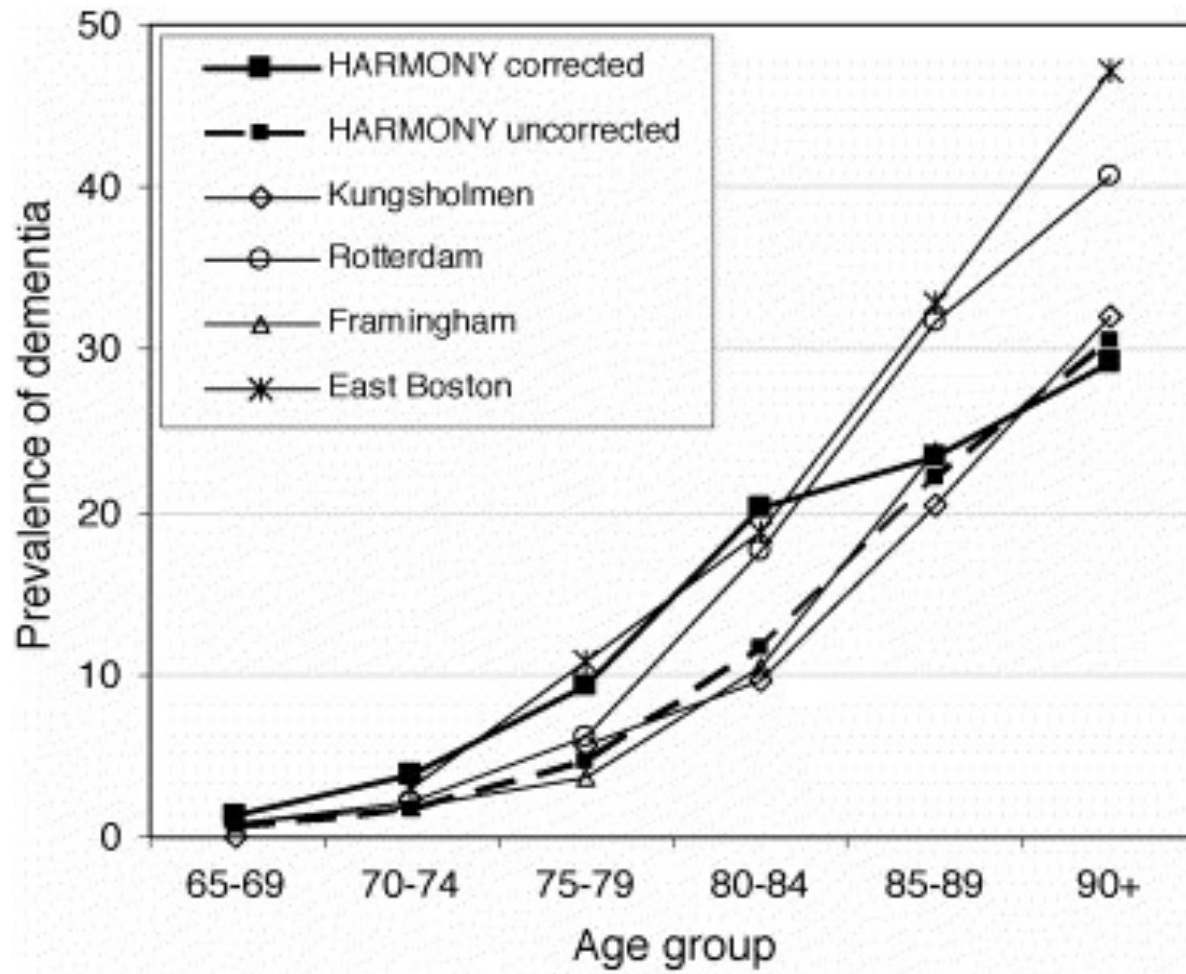
Other Common Causes of Cognitive Problems

-Delirium (including medication side effects and poorly managed medical conditions)

-Sleep apnea

-Vision and hearing problems

-Mental health issues, especially PTSD

General workup of memory problems

Take a good history, including information from others
Focus on FUNCTIONING
Rule out delirium and other causes of memory problems
Conduct a basic cognitive assessment
Symptom-diagnosis mismatch:
  Low → less workup
  High → more workup
[Basic lab tests: CBC, Chem-7, B12, folate, thyroid, calcium –
  recommended but very low-yield
Brain imaging is not routinely indicated]

The Key Question for the Family

"Are there things that he/she used to do for him/self, that you have had to take over?"

Clock drawing (MiniCog)

- "Remember these 3 words: apple, table, penny"

- (Back to #1 until able to repeat all 3 items)

- "Draw a clock face"

- "Put on the numbers"

- "Put on hands to make the time be ELEVEN-TEN"

- "What were the 3 items?"

Scoring:

Clock drawing: 2 if no errors – **NO PARTIAL CREDIT!!**

Each delayed recall item: 1

Figure 1. Clock Drawing

A	B	C	D	E
CDT 4	CDT 2	CDT 2	CDT 1	CDT 2
MMSE 30	MMSE 20	MMSE 19	MMSE 14	MMSE 19

Figure 1: Examples of clock drawing by a normal elderly control (A) and patients with dementia (B-E). For these examples, patients were instructed to draw in the hands at twenty minutes after eight. Respective CDT and MMSE scores are shown below each drawing.
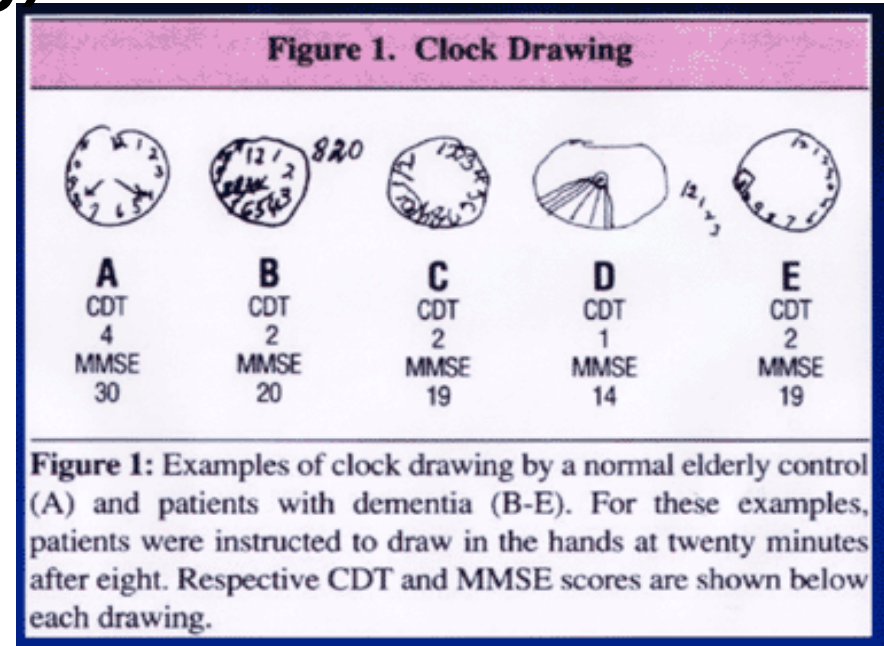
Interpretation:
0-2: Positive screen
3-5: Negative screen

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Screening for dementia via telepsychiatry?

🔖 New blood test predicts Alzheimer's, dementia

Researchers have developed a new blood test that can predict with 90% accuracy whether a healthy person will develop Alzheimer's or cognitive decline within 3 years. They report how they identified and validated the 10 biomarkers that form the basis of the test in a study published in *Nature Medicine*.

Screening for dementia

- Test predicts with 90% accuracy
- → if you have the disease, you will get a positive test 9 out of 10 times
- → if you do not have the disease, you will get a negative test 9 out of 10 times

Basics of screening math

1000 people aged 70-80

40 of them have dementia (4%); 960 do not (96%)

Of the 40 who do have dementia, 36 will have a positive test → 4 (0.4% overall) will wrongly be told they do not have dementia

Of the 960 who do not have dementia, 96 will have a positive test → 96 (10% overall) will wrongly be told they do have dementia

Consequences of screening math

- If you get a negative test (868 people did), your likelihood of **having dementia is 0.4% (false negative)**

- If you get a positive test (132 did), your likelihood of **not having dementia is 73% (false positive)**

- **Two in three** people who are told they have dementia by this test will **not** in fact have it

Routine screening for dementia is <u>not</u> recommended

- It is better to wait **until** patients OR THEIR FAMILIES have concerns or problems

The truly important issues:

Why is dementia a problem for the individual, for the family, and for society?

How can we help people with dementia?

Caring for the Whole Patient, the Family, and the Environment

Listen

Don't make assumptions about what is easy or difficult

Screen caregivers and family members for depression

Focus on aggregate quality of life for the **whole family unit**

Recommend the Alzheimer's Association, County Senior Services, private social workers
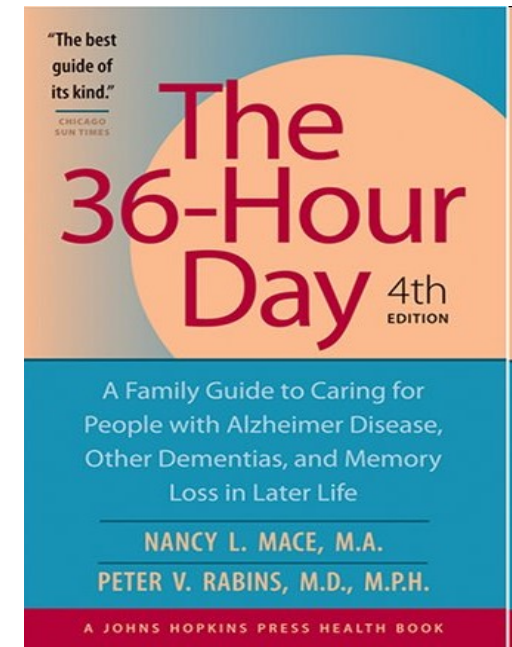
"The best guide of its kind."
CHICAGO SUN TIMES

The 36-Hour Day 4th EDITION

A Family Guide to Caring for People with Alzheimer Disease, Other Dementias, and Memory Loss in Later Life

NANCY L. MACE, M.A.
PETER V. RABINS, M.D., M.P.H.

A JOHNS HOPKINS PRESS HEALTH BOOK

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Learning Objectives:

1. Define Teleneuropsychology (TeleNP)
2. Appreciate ethical considerations for TeleNP
3. List pros and cons for TeleNP
4. Administer brief cognitive testing via telehealth for best TeleNP referrals (e.g., use eMoCA or modified SLUMS)

1. What is TeleNeuropsychology (TeleNP)?

- Appreciate the basics of Telehealth for Behavioral Health
- Know the components of a typical neuropsychological (NP) evaluation; any or all of the following can be conducted via video technology:
  - Interview (patient, and a collateral, if possible)
  - Administration of self-report measures and objective tests to assess various aspects of mood and cognition (include validity markers)
  - Provide feedback (share impression and recommendations)
- Define the situational logistics; these can, and should, have a large impact on how/what NP services can be rendered via CVT
  - Provider competence
  - Patient characteristics
  - Technology needs: camera, computer, and HIPAA compliant/secure software
  - Models of TeleNP (next slide)

Models of TeleNP

What are the main options?

Hybrid TeleNP   **In-Clinic TeleNP**   **Home TeleNP**

Similar to in-person NP   Different from in-person NP

Adapted from Postal et al., 2020

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2. What are common ethical considerations?

- Is there evidence that TeleNP can be valid and reliable?
  - In particular, for older adults and questions of MCI v Dementia v "typical" aging cognitive change

Meta-analysis: 12 studies, 25 measures

No clinically significant differences between F2F and teleNP test scores

- Small and non-significant effect size (Hedges g = −0.03; SE = 0.03; 95% CI [−0.08, 0.02], p = .253)
- Not clinically significant: 1/33rd of a SD difference in scores

No clinically significant differences between F2F and teleNP scores on non-synchronous dependent tests (e.g., BNT 15-item, RCFT)

- Statistically significant, but small (Hedges g = −0.10; SE = 0.03; 95% CI [−0.16, −0.04], p < .001)
- Not clinically significant: 1/10th of a SD difference in scores (f2f scores > teleNP scores)

No clinically significant differences between F2F and teleNP scores on verbally-mediated tests (e.g., digit span, verbal fluency, HLVT total learning)

- Small and non-significant mean effect size
- 1/10th to 1/50th of a SD difference in scores

No differences between F2F and teleNP score for adults aged 65-75 and those with high internet speed

Brearly, et al. 2017

TeleNP Validity: Control vs Impaired x Condition
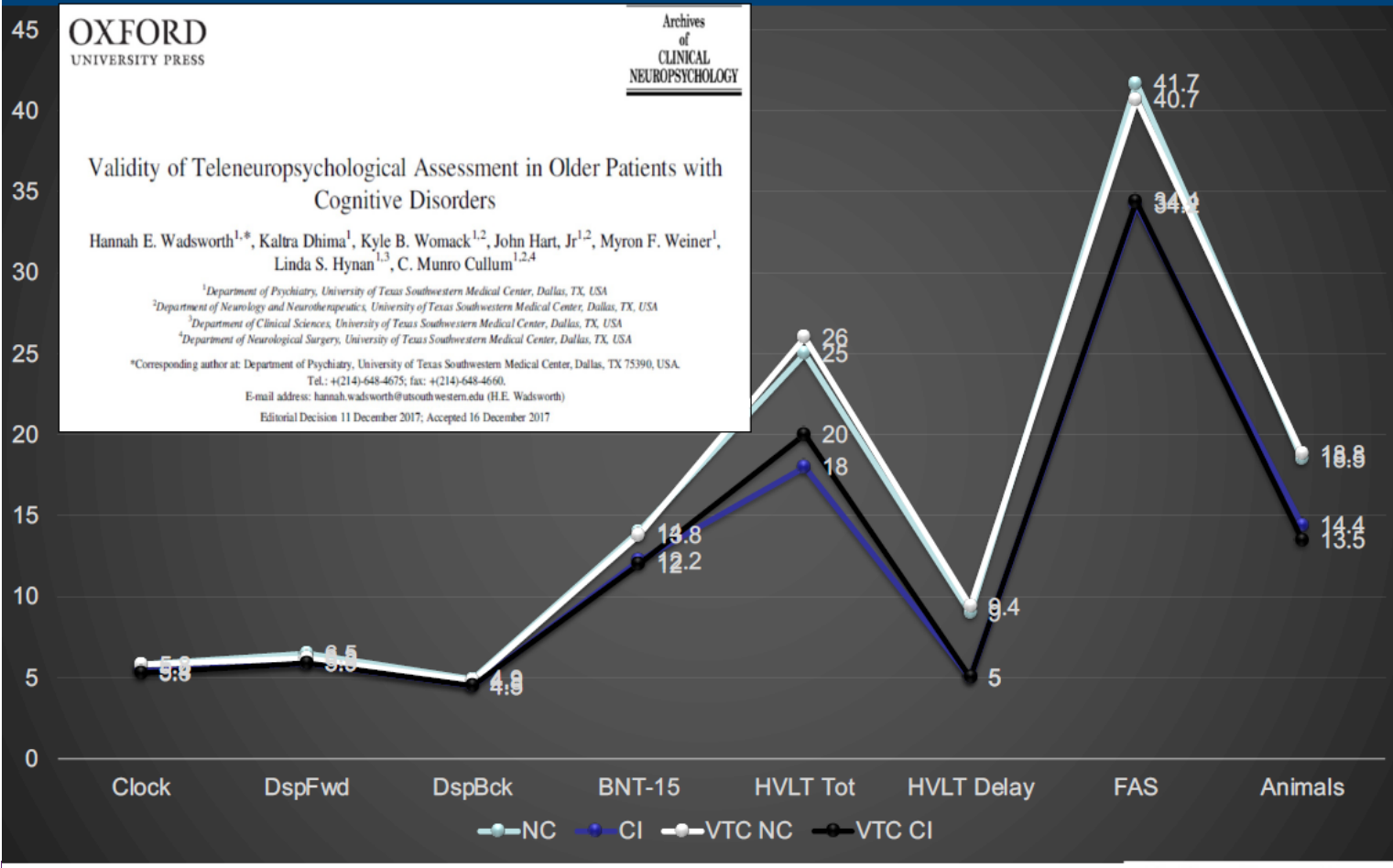
Validity of Teleneuropsychological Assessment in Older Patients with Cognitive Disorders

Wadsworth et al., *Arch. Clin Neuropsy.* 2018

Presentation slide by Dr. Munro Cullum, February 2023

Evidence of TeleNP Utility in Older Adults

Finding: NO SIGNIFICANT DIFFERENCES IN RESULTS BY MODALITY

GLOBAL COGNITIVE

- MMSE or MoCA
- Adas-Cog, RBANS

INTELLIGENCE

- Vocabulary
- Matrix Reasoning

ATTENTION/PROCESSING SPEED

- Digit Span Forward/backward
- Brief Test of Attention
- Oral Trails A

EPISODIC MEMORY

- HVLT
- BVMT-R

EXECUTIVE FUNCTION

- Clock Drawing Test
- Oral Trails B

LANGUAGE

- BNT, BNT-15
- Ponton-Satz Spanish Naming Test
- Phonemic Fluency
- Category Fluency
- Token Test
- Picture Description
- Aural Comp. of Words & Phrases

Marra, et al. *The Clinical Neuropsychologist*. 2020

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2. What are common ethical considerations?

- Is there evidence that TeleNP can be valid and reliable?
  - TeleNP IS comparable to in-person testing.
  - There are NO studies of the effects of masking and other exposure precautions on test results.
  - Test security and publisher limitations must be considered.
  - Methods to assess for performance validity may be reduced – perhaps limiting interpretation.
  - No full normative datasets exists with this testing modality – perhaps limiting forensic application.

2. What are common ethical considerations? continued

Issues of equity and disparity: can cut both ways

- Specialty NP services are typically lacking in rural areas and other behavioral health "deserts"
  - Service providers may not have appropriate training – check for Neuropsychology expertise (and for TeleNP competence)
- Historically, underrepresented groups have less internet access, technology resources, and tech "comfort"; may also have less access to appropriate test settings
  - Flip side: by decreasing travel burdens, may remove some barriers to care and reduce costs associated with specialty care

3. What are the pros and cons of TeleNP?

- Pros
  - Decreased travel/caregiver burden (less fatigue, reduced costs)
  - No masks and can turn the volume way up ☺
  - Pre-pandemic and post-pandemic empirical support is strong for TeleNP validity under certain conditions and populations
- Cons
  - Need technology, tech-savvy, reliable/strong internet, safe and quiet place to be tested
  - Administratively intensive
  - Limitations to "flexible" battery approach and some test choice limitations
  - Materials/Test security

TeleNP Decision Tree
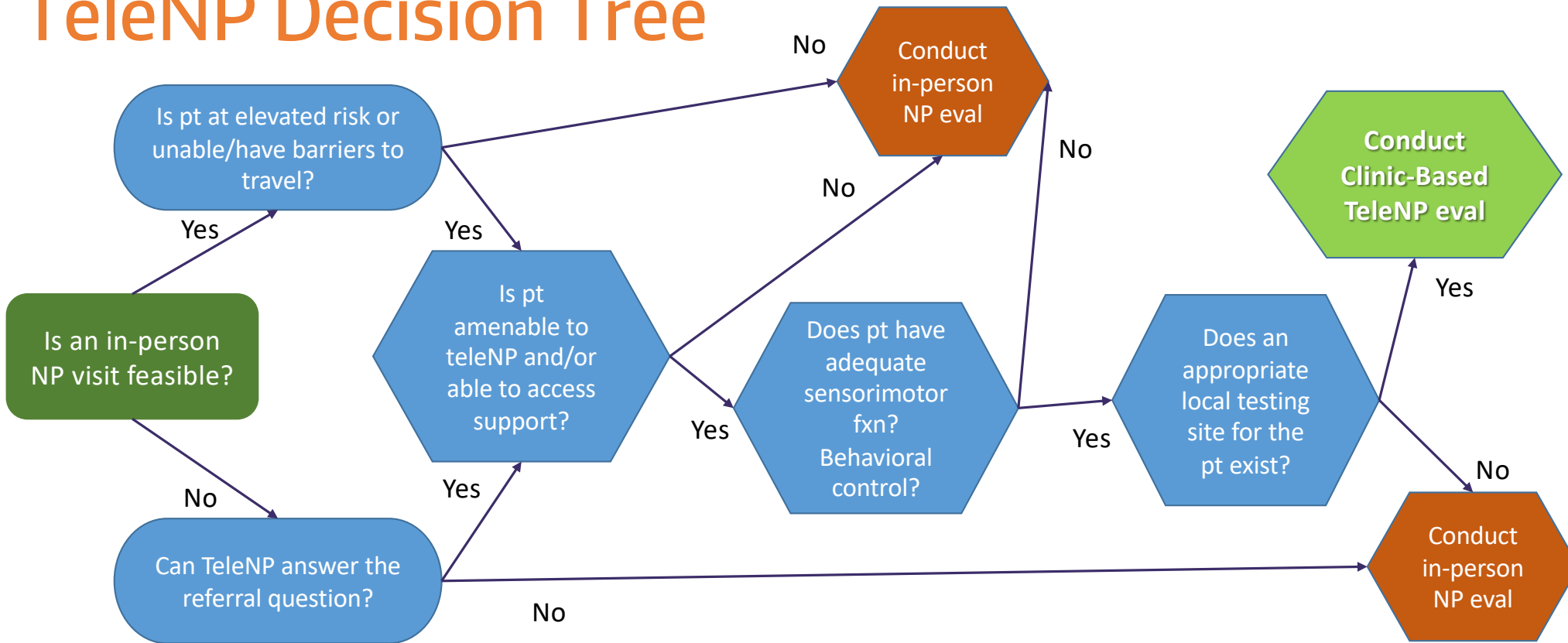
4. Administer brief cognitive testing via telehealth?
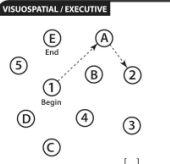
- YES is the answer
  - This information will improve quality and success rate of referrals for TeleNP
- Telemedicine version of the Montreal Cognitive Assessment (MoCA) at www.mocatest.org
- Adapt a measure: St. Louis University Mental Status (SLUMS) is easy
- Brief cognitive test results guide referrals:
  - Perfect score – often can reassure and monitor over time
  - Grey zone score – may refer for NP, but may still choose to monitor over time for decline, rather than immediate refer for a time-consuming NP evaluation
  - Mod-Severely impaired score – NP may be unnecessary as dementia dx or other dx may be clear
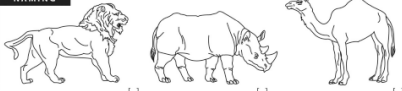
Telemedicine MoCA

- Standard MoCA form, document methods; I like videoMOCA or eMOCA
- Ahead of time:
  - ➢ Have the visual stimuli available to show the patient via downloadable pdf file.
  - ➢ Patient will need a white sheet of paper, a pencil and eraser, and to isolate themselves in a quiet room. Ask them to **not** have a watch or clock in the room, or a calendar.
  - ➢ Data capture: score on the fly or screen shot or take a picture?
- Show the Trail and say: "*This line is going from a number to a letter in ascending order. It begins here and goes from 1 then to A then to 2 and so on. Please tell me where the arrow should go next to respect the pattern I'm showing you. End here at E (point to E)."* Prompt *"Keep going"* as needed.
- Show the Cube and ask them to copy it and then show their work. *"Please hold your paper up in front of your face so I can see it [take a picture of it.]"*
- Similarly, read the Clock instructions and ask them to show their work.
- Show the animals and ask them to name them.
- Vigilance: *"I am going to read a sequence of letters. Every time I say the letter A, clap your hands once. If I say a different letter, do not clap."*
- Date: "*Look straight at the camera and tell me today's date, day of the week, month, and year."*
- Place: *"From what clinic/institution am I calling you from?"*
- City: *"What is the city in which our clinic/institution is located?"*

SLUMS

VAMC
SLUMS EXAMINATION
Questions about this assessment tool? E-mail aging@slu.edu

Name_____ Age_____
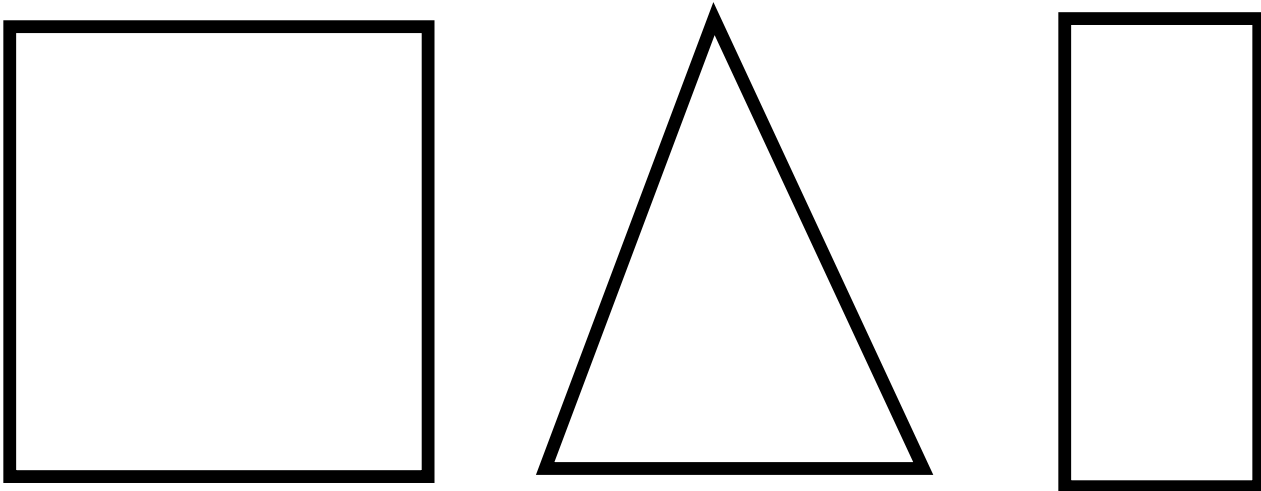
Is the patient alert?_____ Level of education_____

__/1   **1. What day of the week is it?**

__/1   **2. What is the year?**

__/1   **3. What state are we in?**

4. Please remember these five objects. I will ask you what they are later.
Apple   Pen   Tie   House   Car

5. You have $100 and you go to the store and buy a dozen apples for $3 and a tricycle for $20.
1   How much did you spend?
2   How much do you have left?

__/3

6. Please name as many animals as you can in one minute.
0 0-4 animals   1 5-9 animals   2 10-14 animals   3 15+ animals

__/3

__/5   **7. What were the five objects I asked you to remember? 1 point for each one correct.**

8. I am going to give you a series of numbers and I would like you to give them to me backwards. For example, if I say 42, you would say 24.
0 87   1 648   1 8537

__/2

9. This is a clock face. Please put in the hour markers and the time at ten minutes to eleven o'clock.
2   Hour markers okay
2   Time correct

__/4

1   **10. Please place an X in the triangle.**

1   Which of the above figures is largest?

__/2

11. I am going to tell you a story. Please listen carefully because afterwards, I'm going to ask you some questions about it.
Jill was a very successful stockbroker. She made a lot of money on the stock market. She then met Jack, a devastatingly handsome man. She married him and had three children. They lived in Chicago. She then stopped work and stayed at home to bring up her children. When they were teenagers, she went back to work. She and Jack lived happily ever after.

2 What was the female's name?   2 What work did she do?
2 When did she go back to work?   2 What state did she live in?

__/8

_____ **TOTAL SCORE**

SCORING

HIGH SCHOOL EDUCATION		LESS THAN HIGH SCHOOL EDUCATION
27-30	NORMAL	25-30
21-26	MILD NEUROCOGNITIVE DISORDER	20-24
1-20	DEMENTIA	1-19

CLINICIAN'S SIGNATURE _____ DATE _____ TIME _____

SH Tariq, N Tumosa, JT Chibnall, HM Perry III, and JE Morley. The Saint Louis University Mental Status (SLUMS) Examination for detecting mild cognitive impairment and dementia is more sensitive than the Mini-Mental Status Examination (MMSE) - A pilot study. *Am J Geriatr Psych* 14:900-10, 2006.

Data Quality: garbage in, garbage out

Summary of TeleNP Methods & Issues

Models of Care

Informed Consent

Evidence base

Normative data

Ethical and legal considerations

Logistical and practical issues

Questions/comments/curbsides: etritt@uw.edu or emily.trittschuh@va.gov (no PHI, please)

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Additional <u>Free Resources</u> for Washington State Behavioral Health Providers

EDUCATIONAL SERIES:
- UW Traumatic Brain Injury – Behavioral Health ECHO
- UW Psychiatry & Addictions Case Conference ECHO
- UW TelePain series

PROVIDER CONSULTATION LINES
- UW Pain & Opioid Provider Consultation Hotline
- Psychiatry Consultation Line
- Partnership Access Line (pediatric psychiatry)
- Perinatal Psychiatry Consultation Line

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