Evaluation of the Aging Physician

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DISCLOSURES

David E.J. Bazzo, M.D. has no relevant financial relationships to disclose that would present a conflict of interest.

AMA Masterfile: Physicians Past, Present and Future

- **1985**
  - Number in active practice = 476,683
  - Mean age = not known
  - % 65 or older = 9.4
- **2005**
  - Number in active practice = 672,531
  - Mean age = 50.0 (SD = 11.4)
  - % 65 or older = 11.7 (n = 78,340)
- **2014** (FSMB data)**
  - **JMR;101(2)pp8-23.**
  - Number in active practice = 916,264
  - Mean age = 52; 55 m, 47 f
  - % 60 or older = 30.9 (n = 282,472)
  - % 70 or older = 10.9 (n=99,554)
- **2020**
  - Number in active practice 1,050,000 (estimate)
  - % 65 or older = 18 (n=189,000)
  - % 55 or older = 39 (n=409,500)

Risk Factors Other Than Aging That May Affect Clinical Competence

- Poor performance in medical school
- Solo practice
- Lack of hospital privileges
- Lack of ABMS board certification
- Out-of-scope practice
- Clinical volume
- New knowledge/ procedural skills
- Fatigue/stress/burnout
- Health issues—mental and physical—may or may not relate to aging

Responsibility: Societal/Professional Contract – 19th Century

As a self-regulated profession, medicine is granted substantial societal privilege and, in return, is expected to set standards for entering practice, for sustaining privilege to practice, and for sanctioning and removing from practice physicians (5%–10%) who neglect or abuse that privilege.

Responsibility

Campbell et al. *Ann Int Med* 2007

96%

- of physician responders agreed that impaired or incompetent physicians should be reported to the appropriate authorities

45%

- reported that they had encountered such colleagues and failed to report incompetent colleagues

“Normal” changes associated with aging

- Atrophy of brain
- Decline in number of brain neurons
- Benign senescent forgetfulness
- Decreased lean muscle mass
- Decreased visual acuity
- Diminished hearing
- Decreased reflex time
- Osteoporosis
- Arteriosclerosis
- Decreased compliance of arteries and left ventricle

Diseases associated with aging

- Myocardial infarction
- Stroke
- Most cancers
- Dementia
- Parkinson's Disease
- Other neurodegenerative disorders

Petersen RC. Mild cognitive impairment

NEJM 2011; 364: 2227-34.

- In persons older than 65 in the general population the prevalence of mild cognitive impairment (MCI) is about 10% and perhaps slightly more
- In the population with MCI the annual progression to dementia, most commonly Alzheimer's disease, is about 5% to 10%

Moutier CY, Bazzo DEJ, Norcross WA. J Med Reg 2013; 99 (1): 10-18.

- Independent complete history and physical examination, to include screening vision and hearing
- Assessment of mental health using inexpensive standardized tools
- Cognitive assessment (Microcog or MOCA)
- Peer review (?)
- Goals would be safe patient care, quality improvement, maximizing physician health
- If needed, accommodations where possible; including “winding down,” transitioning to retirement

Comment

- Setting an age-based standard for cessation of practice makes no scientific sense
- Humans age in a very heterogeneous way
- To the extent we can measure such things, aging brings experience, compassion, and wisdom

Unintended Consequences of Age-Based Competence Decisions/ Mandatory Retirement

- Contribute to predicted physician shortfall as population ages and their needs for medical care increase
- Loss of contributions of medical wisdom and experience
- Economic losses: society paid for medical education; delaying retirement
- Beware the “law of averages”—old does not necessarily mean incompetent
- Age may be a risk factor, but it is not the only one
- Age Discrimination in Employment Act (ADEA)

California Public Protection and Physician Health Inc. (CPPPH)

- Funded by CMA, CHA, specialty societies, county medical societies, and professional liability insurance carriers.
- Mission Statement: "…to develop a comprehensive statewide physician health program so that California does not remain one of the few states without such a resource."
- Outreach: Regional Workshops on "Neuropsychological and Psychological Factors" and "Legal Aspects" relating to Aging Physicians

AMA – 2015 Report: Assuring Safe and Effective Care for Patients by Senior/Late Career Physicians

- "Physicians must develop guidelines/standards for monitoring and assessing both their own and their colleagues' competency.

- Formal guidelines on the timing and content of testing of competence may be appropriate and may head off a call for mandatory retirement ages or imposition of guidelines by others."

The Canadian experience: Quebec

- 2001–2010, 1,618 physicians were contacted 2 to 3 months in advance of an onsite visit in which their practice would be reviewed.
  - Level 0: No action, satisfaction letter
  - Level 1: Recommendations
  - Level 2: Recommendations and control visit follow-up
  - Level 3: Refresher course or retraining or limitation (retirement was a frequent option with this result)
  - Level 4: Cancellation of licensure
- Physicians over the age of 70 had three times higher rate of cancellation (31 percent) compared to the group less than 70 years old (10 percent).
- 65 to 69 showed only slightly higher rate of cancellation (13 percent) but had nearly double the rate of Level 3 recommendation than for the physician group less than 65 years old (18 percent vs. 10 percent)

JOURNAL of MEDICAL REGULATION VOL 99, NO 1:10-18. 2013

The Canadian experience: Ontario

- **22%** of physicians in the group over 75 years old had gross deficiencies in their practice
- **16%** in the 50-to-74 year-old group had deficiencies
- **9%** of physicians under the age of 49 had deficiencies

- When the age categories were split differently:
  - 55-and-older physicians had poorer performance than physicians under age 55
  - Surprisingly, there was close to no difference in physicians' performance outcomes between the 55-to-69 year-old group and the group over 70 years old

JOURNAL of MEDICAL REGULATION VOL 99, NO 1:10-18. 2013

Possible models for an aging physician screening assessment

Screening Test vs. Diagnostic Test

Screening tests are offered to asymptomatic people who may or may not have early disease or disease precursors and test results are used to guide whether or not a diagnostic test should be offered.

	Diagnostic test	Screening test
Result	The cutoff is set towards high specificity, with more weight given to diagnostic precision and accuracy than to the acceptability of the test to patients	The cutoff is set towards high sensitivity. As a result many of the positive results are false positives. This is acceptable, particularly if the screening test is not harmful or expensive.
Cost	Patients have symptoms that require accurate diagnosis and therefore higher costs are justified.	Since large numbers of people will be screened to identify a very small number of cases, the financial resources needed must be justified carefully.
Result of the test	The test provides a definitive diagnosis (e.g. a definite diagnosis of Meningitis through blood test or lumbar puncture.	The result of the test is an estimate of the level of risk and determines whether a diagnostic test is justified.
Invasiveness	May be invasive.	Often non-invasive.
Population offered the test	Those with symptoms or who are under investigation following a positive screening test.	Those at some risk but without symptoms of disease.

Sheringham J, Kalim K, Crayford T. Mastering Public Health: A guide to examinations and revalidation. ISBN-13 978-1-85315-781-3

The Hospital community

Hospital/Group	Screening Commences At	Frequency of Assessment	Areas Assessed
University of Virginia Health System	Age 70	Every year after age 75	• Physical and mental capacity (not defined further)
Munson Healthcare (Michigan)	Age 65, then 70	At reappointment	• Physical and mental examinations
Driscoll Children's Hospital (Corpus Christi, TX)	Age 70	At reappointment	• Physical and mental examinations (described elsewhere) • Proctoring of clinical performance if deemed appropriate
Sharp Rees-Steely (San Diego, CA)	Age 70	Every year after age 70	• PAPA (Microcog™, H&P, vision, hearing, substance use disorders, depression and anxiety)

Overall Rationale for PACE Aging Physician Assessment (PAPA)

- Reliable
- Easy
- Inexpensive
- Broad Acceptance

Screening Battery

- **Cognitive screen**
  - MicroCog™
  - MoCA©
- **Intake form**
  - e.g. PACE, 87 questions
- **History & physical exam**
- Vision, hearing
- Screen for substance abuse, depression and anxiety
  - PHQ-9
  - GAD-7
- **Quality data:**
  - OPPE (Ongoing Professional Practice Evaluation), FPPE (Focused Professional Practice Evaluation), peer review, proctoring
  - Simulators, dexterity testing (peg board, suturing)

Rationale for MicroCog™

- Designed for physicians
- Norm groups based on education level
- Data comparison between age-based norms and general populations

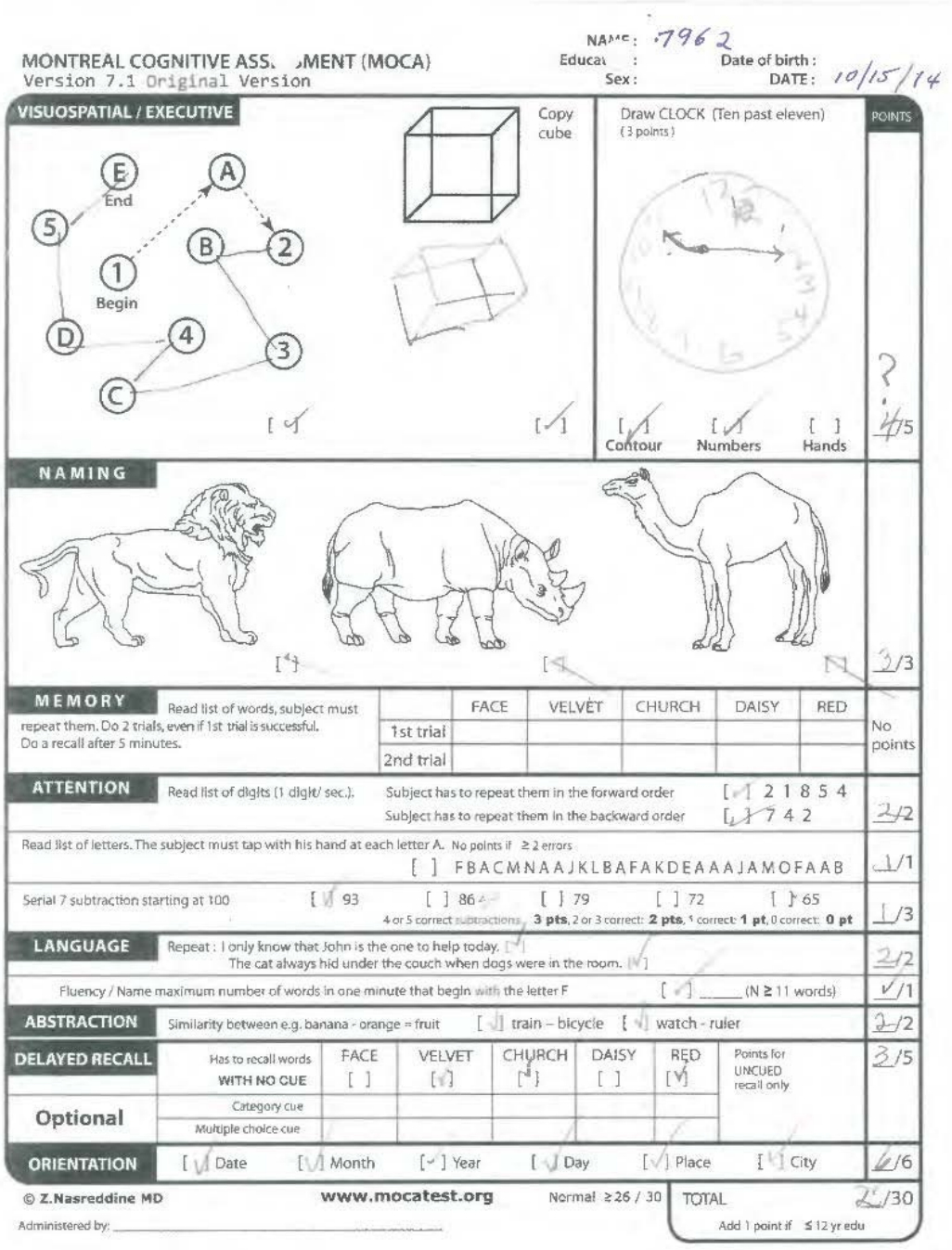
Rationale for MicroCog™ – Summary Index Table Part 1

Age and Education Corrected Norms (Age: 75 - 79, Education: > High School)	Sum	Scaled Score	%ile	95% Conf. Interval	Qualitative Description
Level 3 - Indexes					
General Cognitive Functioning (GCF)	213	108	70	101-115	Average
General Cognitive Proficiency (GCP)	100	100	50	93-107	Average
Level 2 - Indexes					
Information Processing Speed (IPS)	83	89	23	82-96	Average
Information Processing Accuracy (IPA)	151	124	95	116-132	Above Average
Level 1 - Indexes					
Attention/Mental Control (Attn)	81	114	82	104-124	Average
Reasoning/ Calculation (Reas)	57	96	39	84-108	Average
Memory (Mem)	77	122	93	112-132	Above Average
Spatial Processing (Spat)	37	94	34	82-106	Average
Reaction Time (RT)	73	115	84	108-122	Above Average

Rationale for MicroCog™ – Summary Index Table Part 2

Reference Group Norms					
	Sum	Scaled Score	%ile	95% Conf. Interval	Qualitative Description
Level 3 - Indexes					
General Cognitive Functioning (GCF)	161	75	5	68-82	Low Average
General Cognitive Proficiency (GCP)	70	79	8	72-86	Low Average
Level 2 - Indexes					
Information Processing Speed (IPS)	44	59	<1	52-66	Below Average
Information Processing Accuracy (IPA)	122	102	55	93-111	Average
Level 1 - Indexes					
Attention/Mental Control (Attn)	65	93	32	81-105	Average
Reasoning/ Calculation (Reas)	47	80	9	68-92	Low Average
Memory (Mem)	54	92	30	81-103	Average
Spatial Processing (Spat)	19	59	<1	50-71	Below Average
Reaction Time (RT)	43	79	8	71-87	Low Average

MOCA©



MONTREAL COGNITIVE ASS. MENT (MOCA)
Version 7.1 Original Version

NAME: 7962
Educat :
Sex:
Date of birth:
DATE: 10/15/14

VISUOSPATIAL / EXECUTIVE — Copy cube — Draw CLOCK (Ten past eleven) (3 points) — POINTS

Contour [ ] Numbers [ ] Hands [ ] — 4/5

NAMING — 3/3

MEMORY — Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.

	FACE	VELVET	CHURCH	DAISY	RED
1st trial					
2nd trial					

No points

ATTENTION — Read list of digits (1 digit/ sec.).
Subject has to repeat them in the forward order [ ] 2 1 8 5 4
Subject has to repeat them in the backward order [ ] 7 4 2 — 2/2

Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors
[ ] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B — 1/1

Serial 7 subtraction starting at 100 [ ] 93 [ ] 86 [ ] 79 [ ] 72 [ ] 65
4 or 5 correct subtractions: **3 pts**, 2 or 3 correct: **2 pts**, 1 correct: **1 pt**, 0 correct: **0 pt** — 1/3

LANGUAGE — Repeat : I only know that John is the one to help today. [ ]
The cat always hid under the couch when dogs were in the room. [ ] — 2/2

Fluency / Name maximum number of words in one minute that begin with the letter F [ ] _____ (N ≥ 11 words) — 1/1

ABSTRACTION — Similarity between e.g. banana - orange = fruit [ ] train – bicycle [ ] watch - ruler — 2/2

DELAYED RECALL

	Has to recall words WITH NO CUE	FACE	VELVET	CHURCH	DAISY	RED
Optional	Category cue					
	Multiple choice cue					

Points for UNCUED recall only — 3/5

ORIENTATION [ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City — 6/6

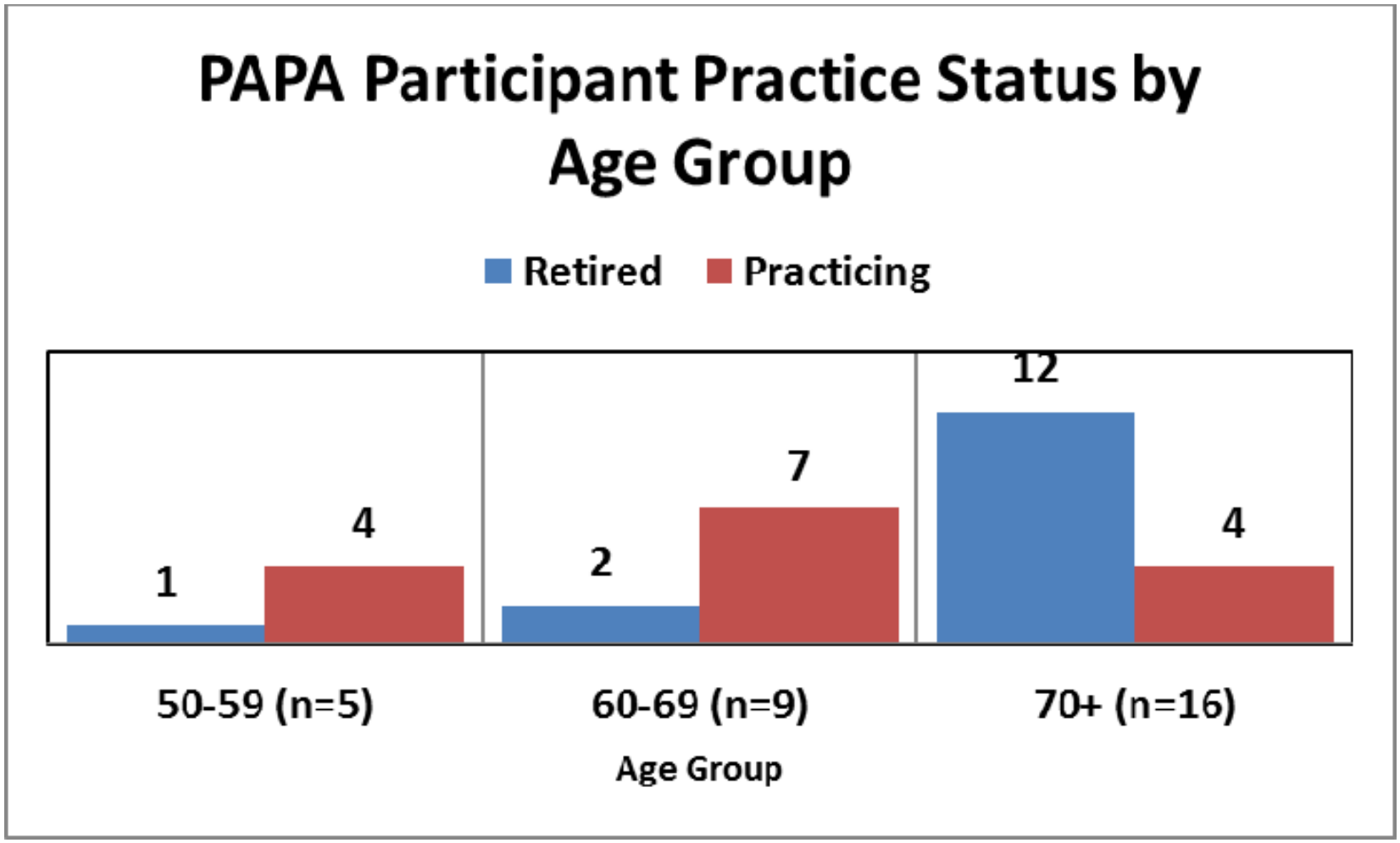
© Z.Nasreddine MD — www.mocatest.org — Normal ≥26 / 30

TOTAL 25/30
Add 1 point if ≤ 12 yr edu

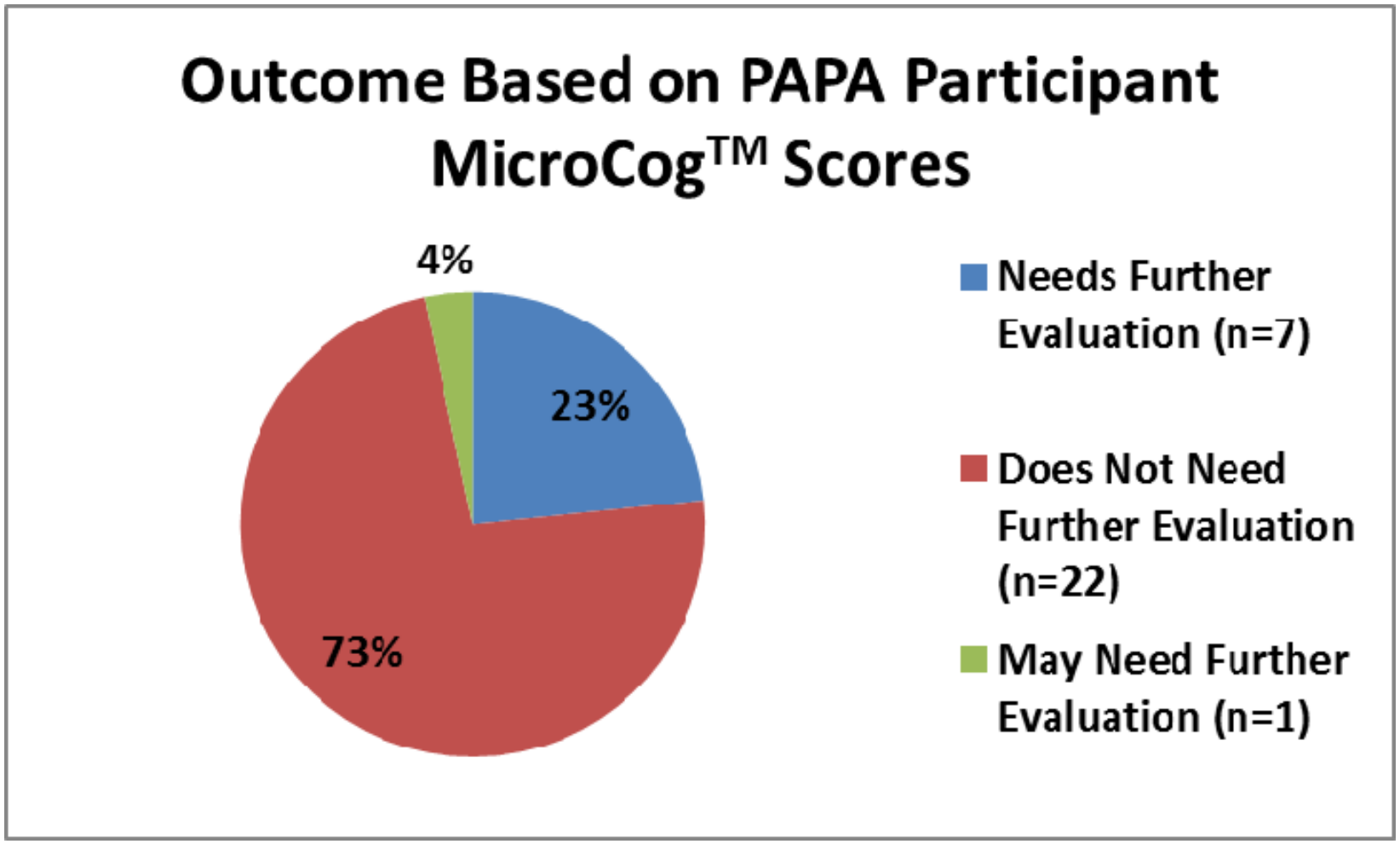
Administered by: _____

UC San Diego
SCHOOL of MEDICINE

Participants

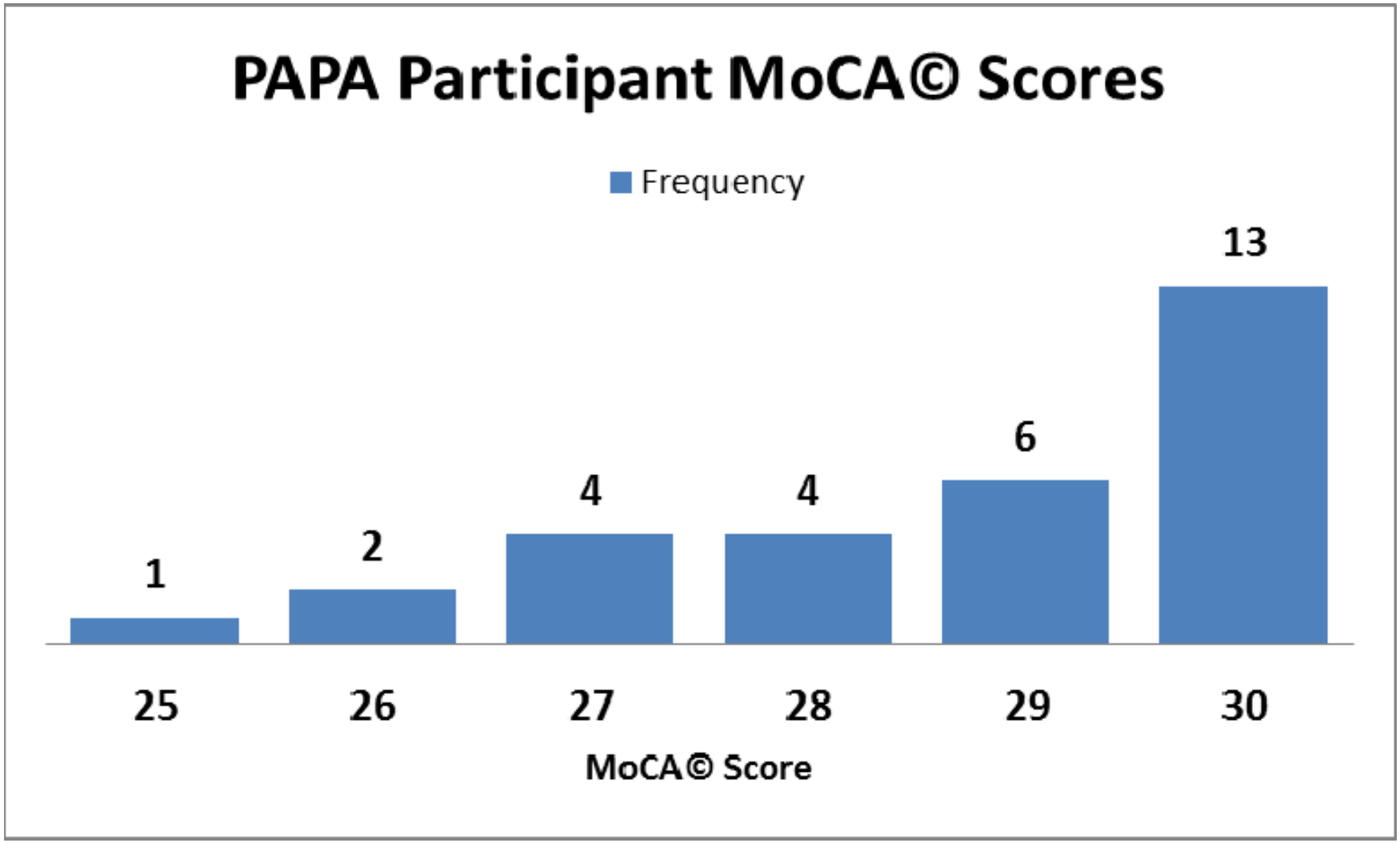


Results of cognitive testing: MicroCog™



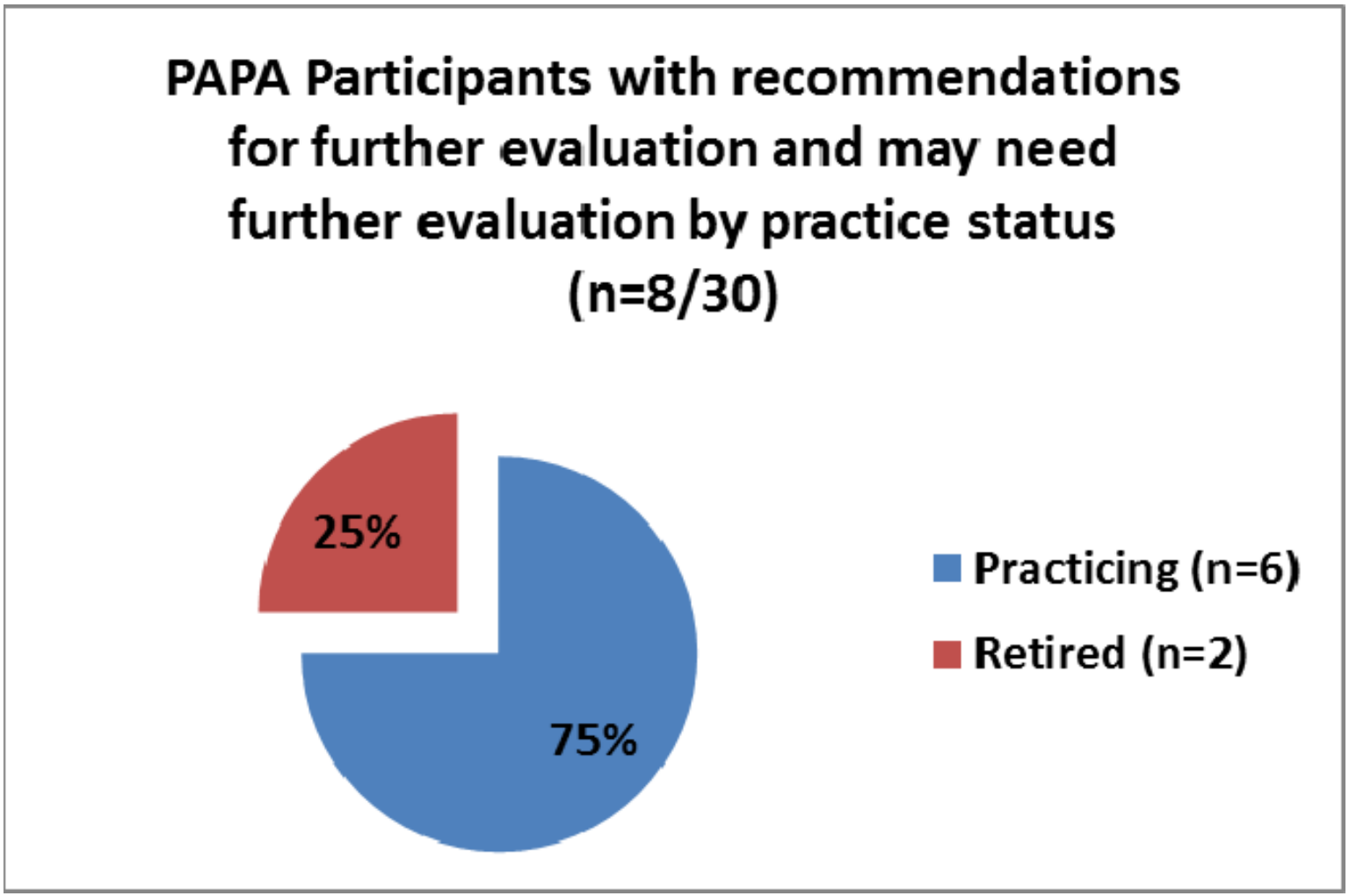
MoCA© vs. MicroCog™

Normal score ≥26



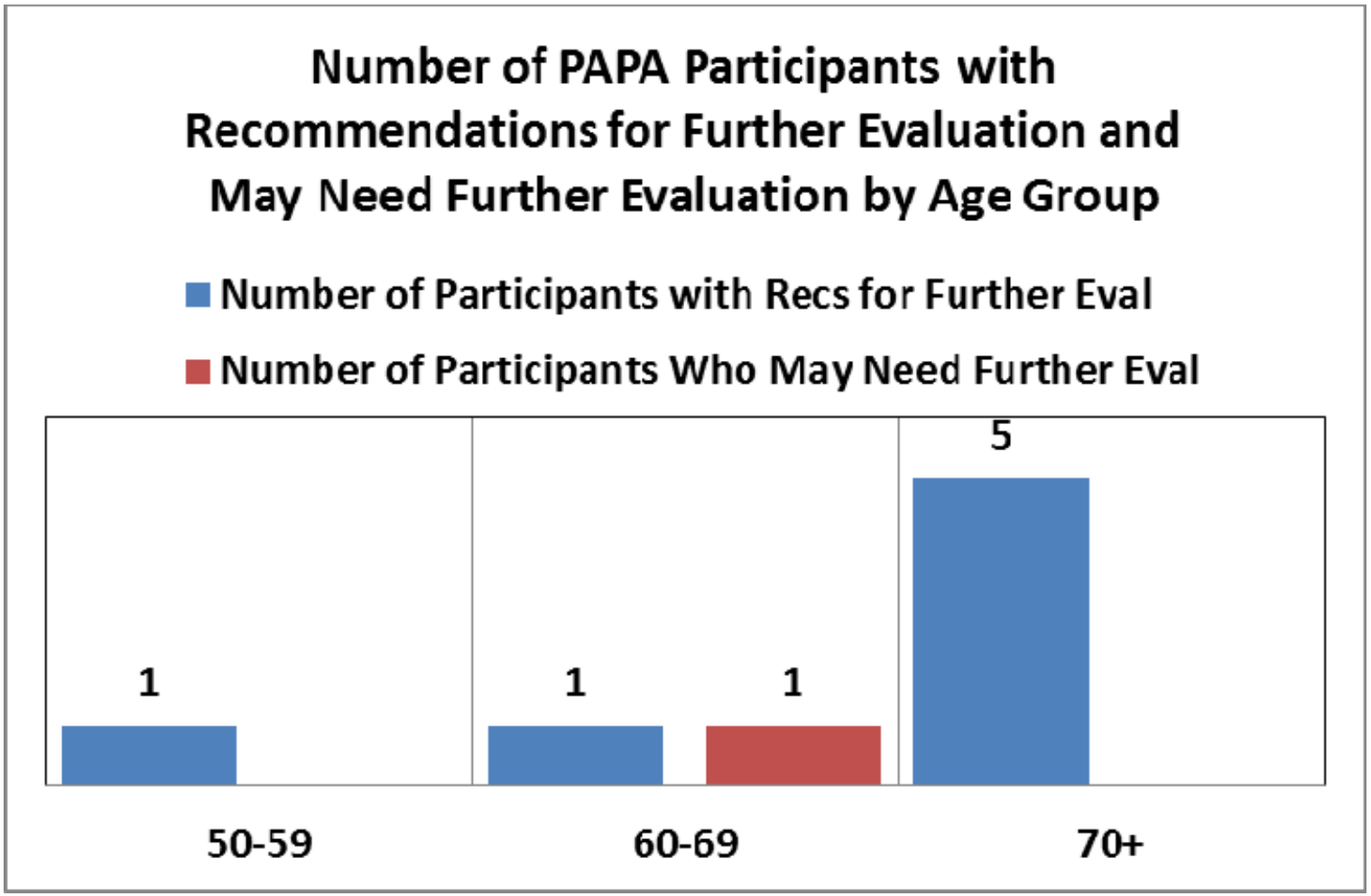
Practicing doctors who needed further evaluation

*Based on MicroCog™ results



Age group recommendations

*Based on MicroCog™ results



Participant comments

- What was their opinion of the process?
- Should this type of screening be applied universally?

PAPA Comments	Number
Good Process/thorough	23
Universal screening	14
Service	6
Surgical field/procedure/simulator	5
Age-based screening is critical	5
Retesting in future	4
Beneficial	3
Compulsory testing	3
Physician take lead vs. mandated process	2
Independent body do testing	1
MicroCog™ fun	1
Thankful for feedback	1

PAPA Comments	Number
Computer problems/didn't understand	5
Tests tedius/fatigue during MicroCog™	5
Universal application touchy/over-regulated/not another hoop	3
Cost concern	1
Longer than expected	1

PACE Aging Physician Assessment - Data

- Started July 2014
- 27 evaluations to date
  - 6 participants with 2 evaluations (peds)
  - 4 female – 1 participant with 2 evaluations
- Youngest 69.0
- Oldest 76.2
  - Average 72.4

PAPA - data

- Pediatrics – 18 (6 with two evaluations)
  - Medical genetics – 2
  - Adolescent medicine – 1
- Radiology – 3
  - Nuclear medicine - 1
- Orthopedic surgery – 2
- Urgent care – 1
- Otolaryngology – 1
- Internal medicine – 1 (Rheumatology)
- Plastic surgery – 1

*All but 1 board certified

PAPA - data

- **7 screens with recommended further evaluation**
  - 4 with full neuropsychological assessment
    - 3 found Fit
      - 71.9 yo male pediatrics
      - 70.0 yo female pediatrics
      - 72.8 yo male radiology
    - 1 found Unfit
      - 76.0 yo male orthopedics
  - 3 pending full neuropsychological assessment
      - 71.1 yo male otolaryngology
      - 69.6 yo female pediatrics – medical genetics
      - 73.9 yo male plastic surgery

Screening location?

- Home institution
  - Advantage: close, control of process
  - Hurdle: bias, resources
- Local/regional center
  - Advantage: relatively close, standardized
  - Hurdle: loss of control, cost
- National center
  - Advantage: standardization, study
  - Hurdle: cost, distance

Accommodations

- Can a surgeon with early mild cognitive impairment first-assist at surgery?
- What if something bad happened and that became generally known, even if it were not the surgeon's fault?

Accommodations: Severe hearing loss

- In a pediatric cardiologist in 1950?
- In a pediatric cardiologist in 2015?

Criticisms of age-based physician screening and assessment

- Tools and processes used have not been directly tested on physicians in a controlled, prospective trial
- It is unclear who will do the screening
- It is unclear who should “own” the results
- The motivation of the assessors or those ordering the assessment may not always be pure
- The assessors or those ordering the assessment may not have clear plans for how to manage the results

Questions

- Thank you

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