Initial Adjudication of Cognitive Claims

ILTCI Claim Workshop

March 2016

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Case Study #1 – TQ Comprehensive Plan

Mrs. Wilson is a 68 year old woman with memory issues

- Lives alone, Rx: Aricept , Seroquel and warfarin; struggles to remember meds, cannot manage finances or chores around the house, still driving
- Neighbor helps with groceries and medications; daughter across country requests benefits

- Benefit Eligibility Assessment
  - Diagnosis of Alzheimer's type dementia two years earlier, on Aricept, Seroquel added for hallucinations
  - Struggles with IADLs but independent in ADLs (requires some cueing)
  - MMSE 28/30 (college education); family requesting 4 hours of care 7 days/week
  - Major issues are medication management and meal prep

What is your eligibility decision: ?

Clinical Profile of All Paid LTC Claimants

Disabling Condition	% Approved Claims*
Pure Dementia	25%
Cancer	13%
Stroke	9%
Fractures/Injuries	7%
Arthritis, Rheumatic Disease	6%
Parkinson's Disease	5%
Cardiomyopathy, CHF	4%
Respiratory Disease	4%
Disorders of the Spine	3%
Falls/Gait Abnormalities	2%

Top ten conditions account for 78% of paid claims

LTCG Underwriting and Claims Data Base 2016

Clinical Profile of All Paid LTC Claimants

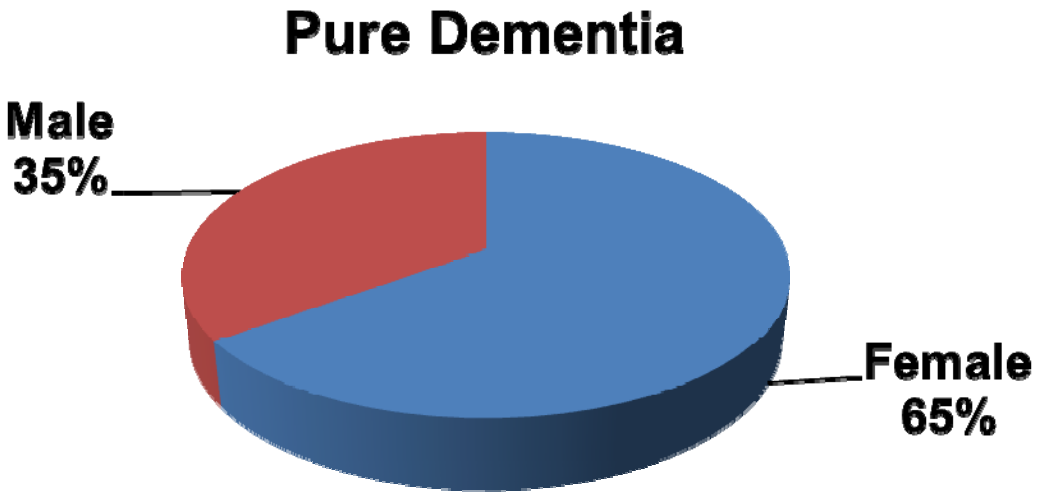
Disabling Condition	Average Paid/Claim*
Pure Dementia	$97,923
Cancer	$18,476
Stroke	$92,849
Fractures/Injuries	$70,986
Arthritis, Rheumatic Disease	$74,366
Parkinson's Disease	$87,436
Cardiomyopathy, CHF	$51,422
Respiratory Disease	$44,974
Disorders of the Spine	$82,741
Falls/Gait Abnormalities	$78,473

Top ten conditions account for 78% of claims payments

LTCG Underwriting and Claims Data Base 2016

Profile of Pure Dementia Claimants

Issue Age	% Claims	Age at Claim	Years on Claim	Average Paid	Initial ADLs
<65 years	24%	73.6	2.8	$105,587	2.2
65-74 years	54%	82.2	2.8	$97,585	2.4
75+ years	22%	87.6	3.0	$90,524	2.3
Total		**81.3**	**2.9**	**$97,923**	**2.3**



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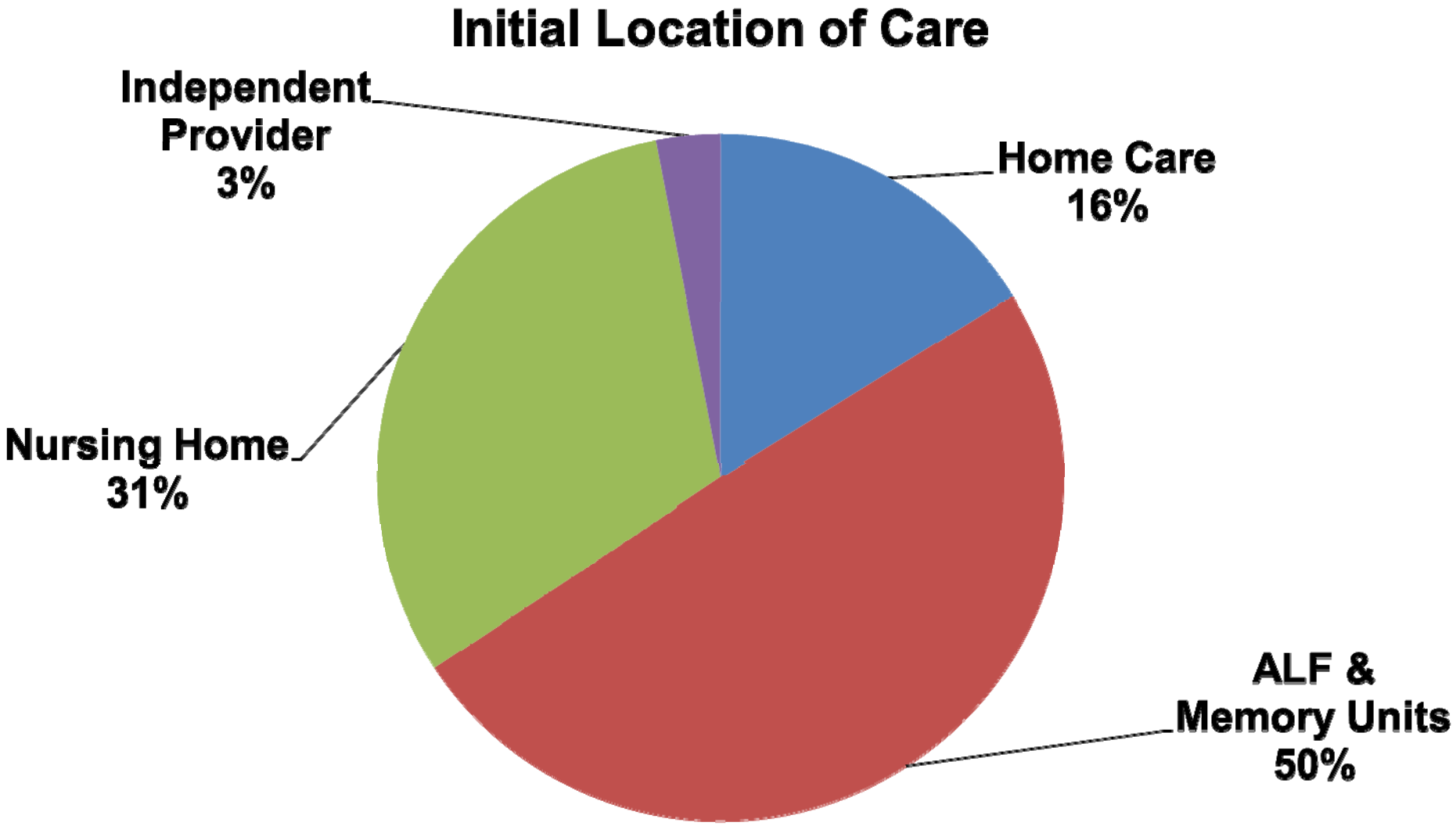
Profile of Pure Dementia Claimants



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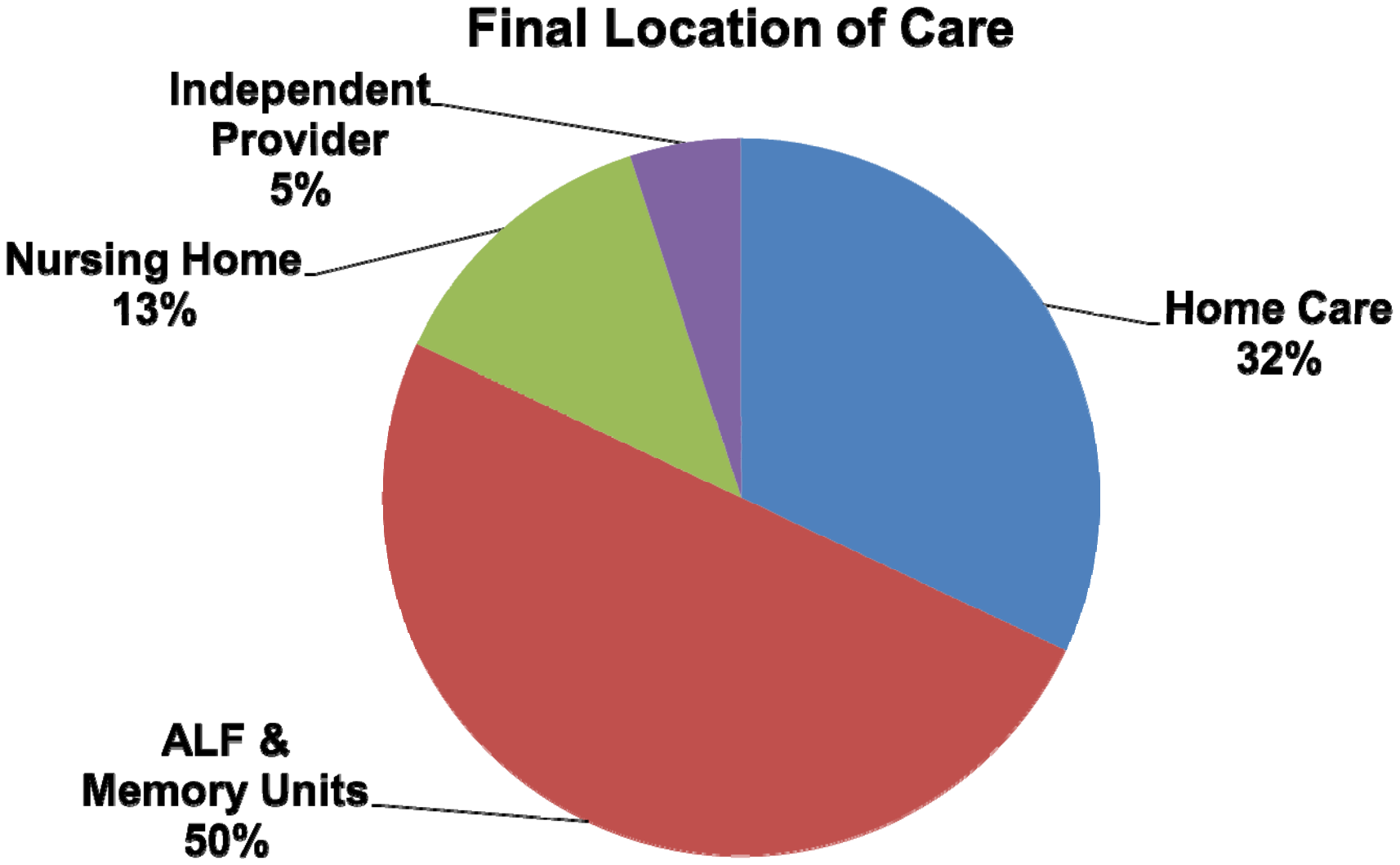
Profile of Pure Dementia Claimants



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Profile of Pure Dementia Claimants

Average claim dementia claim

- 81.3 years at initial claim, now 84.2 years old, female, initially living alone
- 2/6 ADL dependencies, cognitively impaired and in a dementia unit
- On claim for 2.9 years and $97,000 in LTC expenditures

Longest dementia claim to date

- 79 years at initial claim, female living at home, deceased at 94 years
- Initial: 2 ADL dependencies, cognitively impaired with IP and family at home
- Duration: 14.9 years; died in a memory care unit; 6/6 ADL dependent
- More than $300,000 in LTC expenditures

Most costly dementia claim to date

- 77 years at initial claim, female living at home, deceased at 91 years
- Initial: 1 ADL dependency, cognitively impaired with IP and family at home
- Duration: 14.2 years; died in a memory care unit; 6/6 ADL dependent
- More than $1 mill in LTC expenditures

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Clinical Profile of Cognitive Claims

Initial Paid Claims

Benefit Eligibility Trigger Met	Paid Claims	ADLs	Initial
ADL Dependent Only 2 ADLs	4,784	2.0	16.5%
ADL Dependent Only 3+ ADLs	14,936	4.5	51.5%
Cognitively Impaired Only	3,058	0.4	10.5%
Cog Impaired + ADL Dependent	5,914	4.2	20.4%
Special Handling Rule Approval	321	0.6	1.1%
Total Approved Claims	29,013	3.5	

- 31% of Initial Paid Claims Qualify as Cognitively Impaired
- >50% of Paid Claims at Death or Exhaustion are Cognitively Impaired

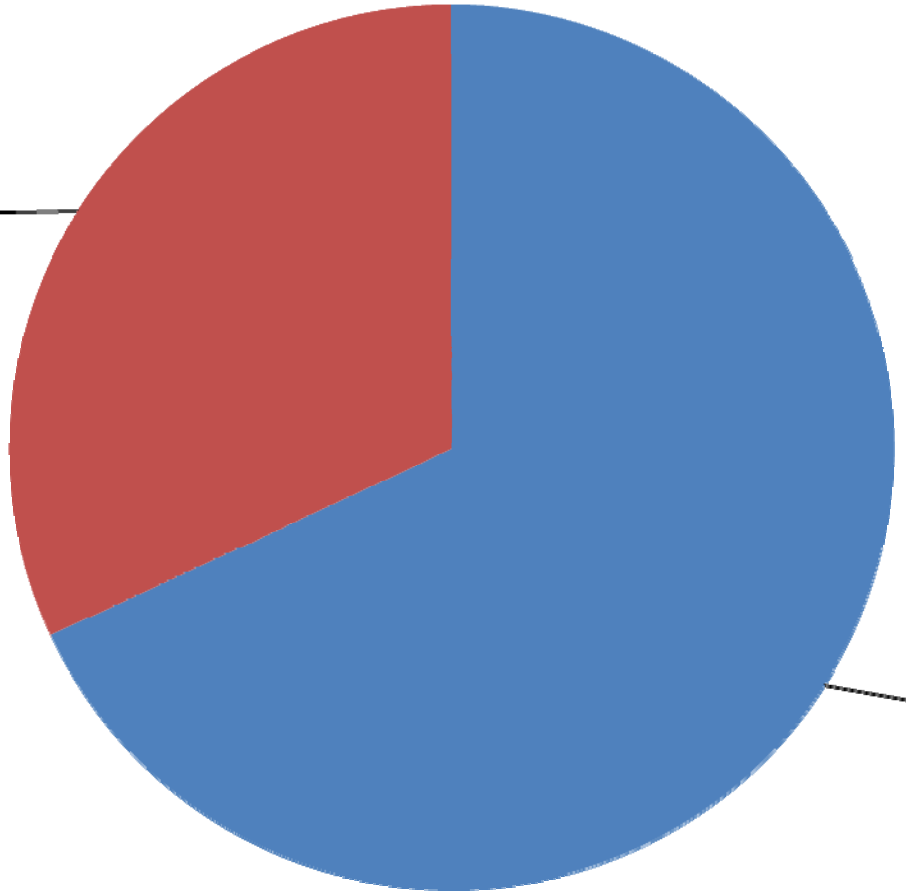
LTCG Underwriting and Claims Data Base 2016

Clinical Profile of Cognitive Claims

Not All Cognitive Claims are for Dementia

Other Cognitive Claims 32%

- Stroke
- Organic Brain Syndrome (OBS)
- Parkinson's
- Traumatic Brain Injury (TBI)
- Encephalopathy
- Brain Tumor



Pure Dementia Claims 68%

Case Study #2 – TQ Comprehensive Plan

- **Mr. Davis**, a 86 year old gentleman with Parkinson's disease
  - Lives with 85 year old spouse, Rx: Sinemet, Xanax; struggles with med bottles, no longer driving, stubbornly independent
  - Spouse helps with IADLs; wife requests help with care and supervision, she is afraid to leave him alone
  - Recently belligerent, compulsive, nighttime hallucinations
- Benefit Eligibility Assessment
  - Diagnosis of Parkinson's for 15 years, on full Parkinson's med regimen
  - Wife performs IADLs and she often helps with dressing; frequent falls when attempting to dress self; independent with bathing
  - MMSE 26/30 (PhD); wife exhausted requesting 2 hours of care 5 days/week (son and daughter help out on weekend)

What is your eligibility decision: ?

Tax Qualified versus Non-Tax Qualified

- Non-Tax Qualified
  - Generally, much lower threshold
    - Medical Necessity
    - Often simply the definition of dementia

- Tax Qualified
  - HIPAA definition
  - Well defined
  - Easier to administer

Benefit Eligibility under a Tax Qualified Plan

HIPAA - Chronically Ill

- All tax-qualified long-term care plans have the same benefit trigger – Chronic Illness
- In order to maintain their tax-qualified status, plans must follow IRS guidelines and carriers have no option to deviate from guidelines
- To qualify for benefits, a claimant must be determined by a Licensed Health Care Practitioner (RN, Social Worker, Physician) to be a ***Chronically Ill Individual***

Benefit Eligibility under a Tax Qualified Plan

A Chronically Ill Individual is one who

- is unable to perform, without Substantial Assistance, at least two Activities of Daily Living for a period of at least 90 days, or
- requires Substantial Supervision to protect the individual from threats to health and safety due to a Severe Cognitive Impairment

Substantial Assistance means

- the hands-on or standby (within arm's reach) assistance of another person
- the IRS permits plans to be *more restrictive*, but not less restrictive

Substantial Supervision means

- *continual* supervision of another person, which may include cuing by verbal prompting, gestures or other demonstrations

Continual versus Continuous

Continual supervision to protect from threats to health and safety due to a Severe Cognitive Impairment

- **Continuous:** Things that are unceasing or exist without interruption are continuous.
- **Continual:** Things that occur frequently or recur intermittently are continual. The continual action doesn't happen ceaselessly, but it does happen regularly

What will it take?

- Medications administration once a day?
- Four hours a day of care for IADLs and meds?
- Twelve hours a day for supervision? What about the other 12 hrs?
- What is the intent of TQ supervision clause for "health &safety"?

Question: What will it take to qualify…

What will it take to qualify for continual supervision under a TQ cert?

Respond with either a “Yes” or a “No”

- Medications administration once a day?
- Four hours a day of care for IADLs and meds?
- Twelve hours a day for supervision?

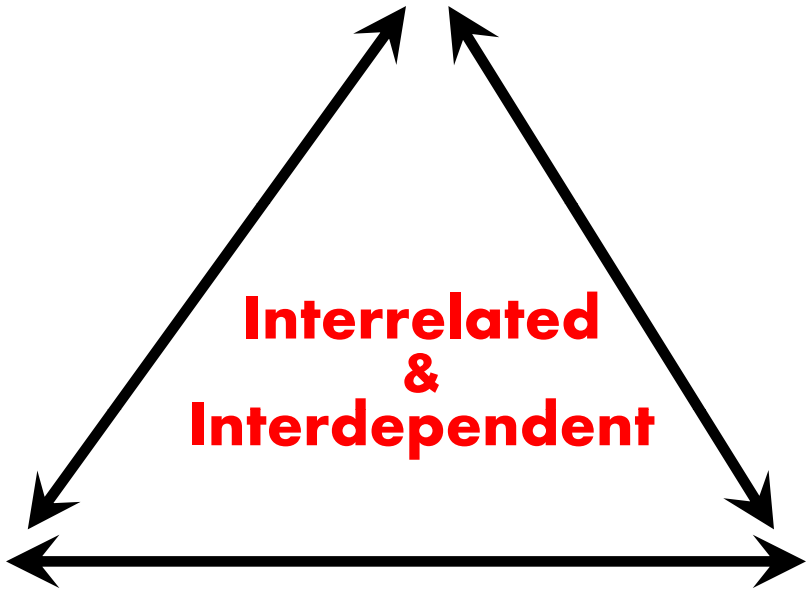
Case Study #3 – TQ Comprehensive Plan

Mr. Smith is a 72 year old gentleman with delusions

- Lives alone, Rx: Abilify and Gabapentin; paranoid, struggles to remember meds, cannot manage finances or chores around the house, stopped driving, spouse recently died, has wandered away, very depressed
- Family helps with groceries; daughter in town requests benefits

- Benefit Eligibility Assessment
  - Diagnosis of hallucinations and delusions, on psychotropic medications
  - Struggles with IADLs but independent in ADLs (requires cueing)
  - MMSE 26/30 (PhD); requesting ALF care with plans to restrict egress with medication administration
- **What is your eligibility decision: ?**

Establishing a Qualifying Cognitive Impairment



Interrelationship: Basis for Approval and Care

They must be consistent – not contradictory

Qualifying Approval:
Cognitive Impairment
Sufficiently Severe
to Require
Substantial Supervision

Interrelated

Plan of Care:
Must Document
Continual
Supervision to protect
health and safety

Eligibility necessarily dictates the *Plan of Care*, while the requested *Plan of Care* necessarily substantiates Eligibility

Information Sources Are Less Than Perfect

- Benefit Eligibility Assessment
  - A snapshot in time
  - Primarily claimant and family report - SUBJECTIVE
  - Cognitive screening tools – dependent upon motivation, mood, hearing
  - The influence of moral hazard – claim often driven by IADL needs
- Phone Interviews – facilities, caregivers, family, etc.
  - Self reporting in an insured environment
- PCP and Specialty Medical Records (APS) – rarely useful
  - Often incomplete, filled with conjecture and inadequate work-ups
  - Very little information on function, dependencies, cognition, care needs
- Provider Records
  - Often incomplete, often overrepresenting level of care
  - Self-interest in an insured environment

Case Study #4 – TQ Comprehensive Plan

Mrs. Johnson is a 82 year old found by visiting son

- Hypotensive, confused, disoriented, dense right-sided hemiparesis

- Hospital admission
  - Diagnosis of left brain stroke treated with thrombolysis
  - Discharged to rehab with 4/6 ADL dependencies and diagnosis of dementia
  - Approved for benefits, 90-day deductible period begins
- At 30 days, 2/6 ADL dependent, discharged to Memory Unit
- At 90 days, socializing, self medicating, 2/6 ADL dependent
- At 120 days, daily care notes show move to ALF, no ADL assistance, dementia diagnosis on Aricept, coming and going from ALF without escort
- In-person assessment: mild left-sided hemiparesis, ALF manages medication, no ADL dependency, MMSE 23/30

What is your plan?

Recovery

- Aren't all long term claims for life?
- Claim closure occurs often
  - True recovery with no return to claim (premium reinstated)
  - Recovery for an extended period before return to claim
  - Still dependent but now relying on family and friends
  - Death and benefit exhaustion
- Recovery allows
  - Benefits to be preserved for future use
  - Reserves to be released
  - Premiums to be reinstated
  - Pricing expectations to be met

Clinical Profile of Those Who Recover

Disabling Condition	% of all Recoveries
Fractures and Injuries	17%
Stroke	11%
Cancer	10%
Pure Dementia	9%
Arthritis, Rheumatic Disease	6%
Disorders of the Spine	5%
Respiratory Disease	4%
Cardiomyopathy, CHF	3%
Parkinson's Disease	3%
Orthopedic Complications	2%

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Clinical Profile of Those Who Recover

Disabling Condition	% of all Recoveries
Fractures and Injuries	17%
Stroke	11%
Cancer	10%
Pure Dementia	9%
Arthritis, Rheumatic Disease	6%
Disorders of the Spine	5%
Respiratory Disease	4%
Cardiomyopathy, CHF	3%
Parkinson's Disease	3%
Orthopedic Complications	2%

Overall Recovery Rates >40%

Recovery Rate of Cognitive Claims in Home Care: 30%

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Case Study #5 – TQ Comprehensive Plan

Mr. Roberts, 73 year old found by daughter

- Hypotensive, confused, disoriented, 4/6 ADL dependencies, unsafe house
- Hospital admission
  - COPD with pneumonia, given diagnosis of Alzheimer's-type dementia
  - Begun on Aricept and Namenda
  - Discharged to a locked dementia unit in ALF
  - Approved for benefits, deductible begins
- At 30 days, ADL independent, begins to socialize
- At 45 days, transferred to an ALF apartment
- At 60 days, able to self medicate, leave without an escort
- At 90 days, resumed driving, dementia diagnosis still in chart

What's your plan?

Recovery in Cognitive Impairment

- Delirium – a transient cognitive impairment
  - The stress of hospitalization, stroke, head injury
  - Infections – UTI, pneumonia, diverticulitis
- Medication complications
- Misdiagnosis
- Pseudodementia
- Encephalopathy
  - Alcohol
  - Metabolic issues
- Missed eligibility decision
  - Claim approved with MCI that improves

Initial Adjudication of Cognitive Impairment Claims

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Cognitive Impairment Complexities

Using Stephen's cases and the HIPAA TQ certification criteria explore:

- **The interaction of mental health and degenerative brain disorders**
- **Accuracy of diagnosing cognitive decline**
- **Anticipating recovery potential of conditions with cognitive decline**
- **People issues:**
  - **Who copes, who cracks, who cares?**

Interaction of Mental Health and Degenerative Brain Disorders

Conditions with Cognitive Impairment

Glossary of Terms:

Dementia: A wide range of symptoms associated with a decline in at least two core mental functions severe enough to reduce a person's ability to perform everyday activities and not explained by delirium or psychiatric disorder

Delirium: A sudden severe confusion due to rapid changes in brain function that occur with physical or mental illness

Mood Disorder:

A psychiatric disorder in which the principal feature is mood disturbance ... includes depression and bipolar disorder

My Approach to Dr. Holland's Cases

	Case #1	Case #2	Case #3	Case #4	Case #5
Age / Gender	**68 Female**	**86 Male**	**72 Male**	**82 Female**	**73 Male**
Medical History	Dx: AD x2yr with memory issues Rx: Aricept, Warfarin Seroquel	Dx: Parkinson's Frequent falls Rx: Sinemet, Xanax	Dx: Unknown Rx: Abilify, Depakote	Dx: Unknown Rx: Unknown	Dx: COPD Rx: Unknown
Education	College	PhD	PhD	Unknown	Unknown
Lives	Alone	With spouse	Alone	Unknown	Unknown
Onset	Slow	Slow	Slow	Acute	Acute
Support Need	IADL; ADL cues	IADL: Driving	IADL; Driving	Unknown	Unknown
New History	None noted	Hallucinations Belligerent Compulsive Caregiver burnout	Newly widowed	Confused Disoriented Stroke Dementia	Confused, Disoriented, Pneumonia
Situs at Claim	Home	Home	ALF wish	Rehab facility	ALF- Locked
MMSE	28/30	26/30	26/30	23/30	Unknown

Distinguishing Features of Common Causes of Cognitive Impairment in the Elderly

Cause	Onset	Progression	Cognitive features	Other features
Delirium	Rapid	Fluctuating Treating cause recovers in weeks	Attention; Altered consciousness; Confused; Short term memory loss	Brief history Seek underlying cause
*Depression (MDD recurrent)	Variable	Treated: improves/ recovers in months	Episodic memory loss	Loss of hippocampal volume
*Depression (MDD late onset)	Variable	Treated: improves/ recovers in months	Attention; Executive function	Anhedonia; Cardiovascular disease
Alzheimer's Dementia (AD)	Insidious	Gradual	Memory loss - early; Language deficits - later	Temporoparietal lobe signs
Vascular Dementia (VaD)	Sudden/ Gradual	Stepwise	Wide range due to cortical and subcortical involvement	Strokes; Cardiovascular disease
Lewy Body Dementia (DLB)	Insidious	Fluctuating	Subcortical pattern; Executive function	Parkinsonism; Hallucinations; Altered consciousness
Frontotemporal Dementia (FTD)	Insidious	Gradual	Personality change; Executive function; Disinhibition; Perseveration	Frontal release signs (grasp & pout reflexes)

Contract: Specific Definitions

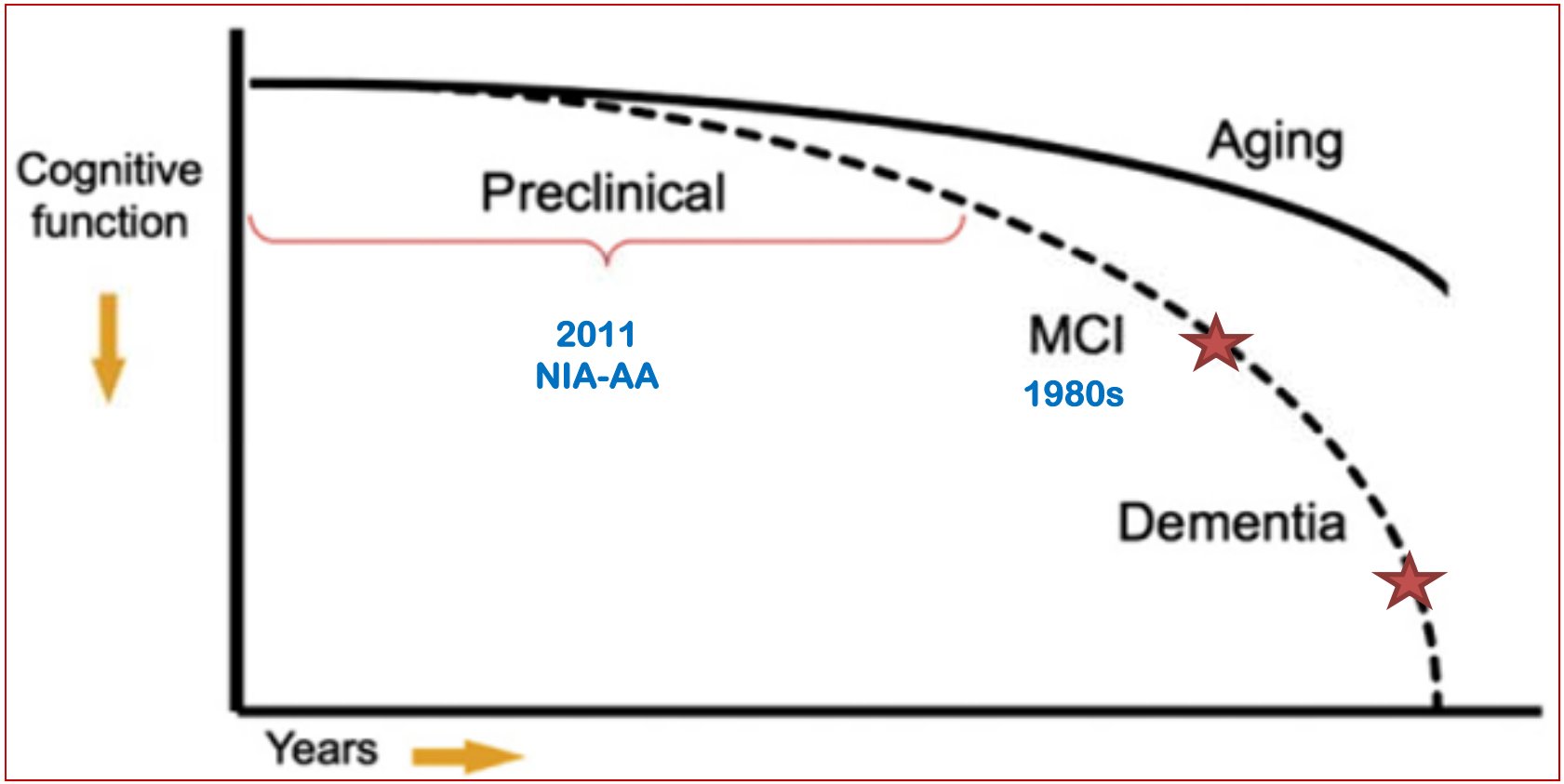
Severe Cognitive Impairment means a loss of deterioration in intellectual capacity that:

- is comparable to (and includes) Alzheimer's disease and similar forms of irreversible dementia; and
- is measured by clinical evidence and standardized tests that reliably measure impairments in the person's
  - short-term or long-term memory
  - orientation as to people, places or time; and
  - deductive or abstract reasoning.

Substantial Supervision means continual supervision (which may include cueing by verbal prompting, gestures, or other demonstrations) by another person that is necessary to protect the severely cognitively impaired person from threats to his or her health or safety.

Accuracy of Diagnosing Cognitive Decline

Focus on Pre-Dementia Phase of Alzheimer's Disease



How Accurate is the Cognitive Test?

Cognitive Screening Test		Sensitivity	Specificity
ACE-R [2,3]	**2006**	84-94% MD	89-100% MD
Clock Draw[3]	**1966**	85-87%	83-86%
DWR		89-96%	98-100%
EMST[1]	**2005**	96% MCI & MD	91% MCI 99% MD
MCAS[4]	**1999**	97.50%	98.45%
Mini-cog[2,3]	**2000**	76-99% MD	89-93% MD
MMSE[2,3]	**1975**	69-91% MD	87-99% MD
MoCa[3]	**2005**	90% MCI 100% MD	87%

1. Shankle WR et al. *PNAS* 2005;102:4919.
2. Cullen B et al. A review of screening test for cognitive impairment: Neurol Neurosurg Psychiatry 2007;78:790–799. doi: 10.1136/jnnp.2006.095414
3. Ismail Z et al. Brief cognitive screening instruments: An update: Int J Geriatr Psychiatry 2010; 25: 111–120
4. Knopman, et.al. Development and Standardization of a New Telephonic Cognitive Screening Test: The Minnesota Cognitive Acuity Screen (MCAS). *Neuropsychiatry, Neuropsychology and Behavioral Neurology*. 2000. 13(4); 286-296

Annual Wellness Cognitive Screening ...

Patient Protection and Affordable Care Act:
Effective January 1, 2011

"All Medicare beneficiaries are required to undergo a cognitive screening as part of their annual wellness examination"

Alzheimer's Association Recommendations for Operationalizing the Detection of Cognitive Impairment During the Medicare Annual Wellness Visit in a Primary Care Setting
Published: Alzheimer's & Dementia 9 (2013) 141–150

US Preventive Services Taskforce: Cognitive Impairment in Older Adults: Screening March 2014

"The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for cognitive impairment."

Will PCP Screening Assist in Adjudication ...

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  - short-term or long-term memory
  - orientation as to people, places or time; and
  - deductive or abstract reasoning.

… in your opinion?

1. Yes
2. No
3. It depends

DSM-5 Criteria for: Major Neurocognitive Disorder *(Dementia)*

A. Evidence of significant cognitive decline from a previous level of performance in one or more cognitive domains*: - Learning and memory - Language - Executive function - Complex attention - Perceptual-motor - Social cognition	**B.** The cognitive deficits interfere with independence in everyday activities. At a minimum, assistance should be required with complex instrumental activities of daily living, such as paying bills or managing medications.
	C. The cognitive deficits do not occur exclusively in the context of a delirium
	D. The cognitive deficits are not better explained by another mental disorder (eg, major depressive disorder, schizophrenia)

DSM: diagnostic and statistical manual.

* Evidence of decline is based on: Concern of the individual, a knowledgeable informant, or the clinician that there has been a significant decline in cognitive function; and a substantial impairment in cognitive performance, preferably documented by standardized neuropsychological testing or, in its absence, another quantified clinical assessment.

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Anticipating Recovery Potential of Conditions with Cognitive Decline

Patterns in the Five Cases

	Case #1	Case #2	Case #3	Case #4	Case #5
Age / Gender	**68 Female**	**86 Male**	**72 Male**	**82 Female**	**73 Male**
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Education	College	PhD	PhD	Unknown	Unknown
Lives	Alone	With spouse	Alone	Unknown	Unknown
Onset	Slow	Slow	Slow	Acute	Acute
Support Need	IADL; ADL cues	IADL: Driving	IADL; Driving	Unknown	Unknown
New History	None noted	Hallucinations Belligerent Compulsive Caregiver burnout	Newly widowed	Confused Disoriented Stroke Dementia	Confused, Disoriented, Pneumonia
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Recovery	None noted	None noted	None noted	90-120days	45-90days

Conditions with Cognitive Impairment

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Delirium: A sudden severe confusion due to rapid changes in brain function that occur with physical or mental illness

Mood Disorder:

A psychiatric disorder in which the principal feature is mood disturbance ... includes depression and bipolar disorder

Conditions that Mimic Delirium

Description	Delirium	Depression	Psychosis	Alzheimer's
Features	Inattention, Confusion	Sadness, No pleasure	Unconnected to reality	Memory loss
Onset	Acute	Slow	Acute or Slow	Insidious
Consciousness	Altered	Normal	Normal	Normal
Attention	Impaired	May be impaired	May be impaired	May be impaired
Orientation	Fluctuates	Normal	Normal	Poor
Thought	Disorganized	Normal	Disorganized	Impoverished
Speech	Incoherent	Normal / Slow	Normal / Pressured	Mild errors
Perceptions	Altered	Normal	Altered	Altered / Normal
Course	Fluctuating within 24hrs	Single, recurrent, chronic	Chronic or Exacerbations	Chronic progressive
Reversibility	Usual	Possible	Rare	Rare
Duration	Hrs. - Months	Wks. - Months	Months to Yrs.	Months to Yrs.

Common Causes of Delirium and Confusional States

Drugs and toxins

Prescriptions: - opioids, sedatives, lithium,
OTC: muscle relaxants, polypharmacy
Drugs of abuse: - antihistamines
Withdrawal: - alcohol, heroin, misuse of Rx
Poisons: - alcohol, benzodiazepines

Infections:

- sepsis
- systemic infection,
- fever-related delirium

Metabolic:

- abnormal sodium, calcium
- abnormal thyroid, parathyroid
- abnormal blood sugar
- low oxygen levels
- nutritional disturbances:
  (thiamine, B12, folate)

Brain disorders

- brain infections – encephalitis, meningitis, abscess
- seizures
- head injury
- hypertensive encephalopathy
- psychiatric disorders

Systemic organ failure

- heart
- liver (acute and chronic)
- kidney (acute and chronic)
- lung disease (low O2 high CO2)

Physical Disorders

- burns
- electrocution
- hyperthermia
- hypothermia
- trauma

Prevalence of Delirium

Studied primarily in hospitals. Data from various studies:

Overall prevalence in the community	1-2%
General hospital admission	14-24%
Postoperative delirium	15-53%
Elders admitted to ICU	70-87%

Cognitive Vulnerability with Medical Comorbidity / Fragility

Assess for Confusion / Delirium

Feature:	Ask:
1. Acute onset	Is there evidence of an acute change in mental status from the patient's baseline?
2. Fluctuating course	Does the abnormal behavior fluctuate during the day, that is tend to come and go, or increase and decrease in severity?

Diagnosis of delirium requires features 1 and 2 plus either 3 or 4

3. Inattention	**Does the person have difficulty focusing attention, for example, being easily distractible or having difficulty keeping track of what is being said?**
4. Disorganized thinking	Was the person's thinking disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject?

Confusion Assessment Method - CAM

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Cognitive Impairment Complexities:

People Issues:

Who copes, who cracks, who cares?

... Who pays?

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  - *deductive or abstract reasoning.*

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Lives	Alone	With spouse	Alone	Unknown	Unknown
Onset	Slow	Slow	Slow	Acute	Acute
Support Need	IADL; ADL cues	IADL: Driving	IADL; Driving	Unknown	Unknown
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Neuropsychiatric Symptoms & Function

Neuropsychiatric Symptom	Normal	CIND (MCI)	Dementia Mild	Dementia Moderate	Dementia Severe	ADL significant	IADL significant
Agitation	4%	13%	13%	24%	41%	1.78	0.67
Anxiety	7%	9%	12%	30%	11%	2.28	10.41
Apathy	3%	14%	13%	25%	42%	1.94	1.66
Delusions,	1%	3%	7%	40%	28%	0.44	2.1
Depression	12%	30%	25%	35%	28%	7.07	2.60
Disinhibition	>1%	9%	5%	31%	8%	1.79	0.67
Elation	2%	0%	0%	0%	5%	NA	NA
Hallucinations	0%	3%	7%	30%	20%	3.88	NA
Irritation	6%	15%	11%	18%	15%	1.31	3.04
Motor behaviors aberrant	0%	3%	11%	12%	31%	0.40	5.47

Shade	%	OR
Green	**<10**	**<1.0**
Yellow	**11 to 20**	**1.1 - 2.0**
Orange	**21 - 30**	**2.1 - 3.0**
Red	**31 - 42**	**>3.0**

Data source:
Prevalence of neuropsychiatric symptoms and their association with functional limitations in older adults in the U.S. J AM Geriatric Soc. 2010 February; 58(2): 330-337

Neuropsychiatric Symptoms:

- Are present in all levels of cognition in the elderly
- Increase in Frequency, Severity and Complexity as cognitive impairment progresses
- Drive progressive need for personal support
- Challenge even the best made plans to provide personal care

Everyone Copes ...
Everyone Cracks ...
"It Takes a Village to Care"

Observations & Take A Ways

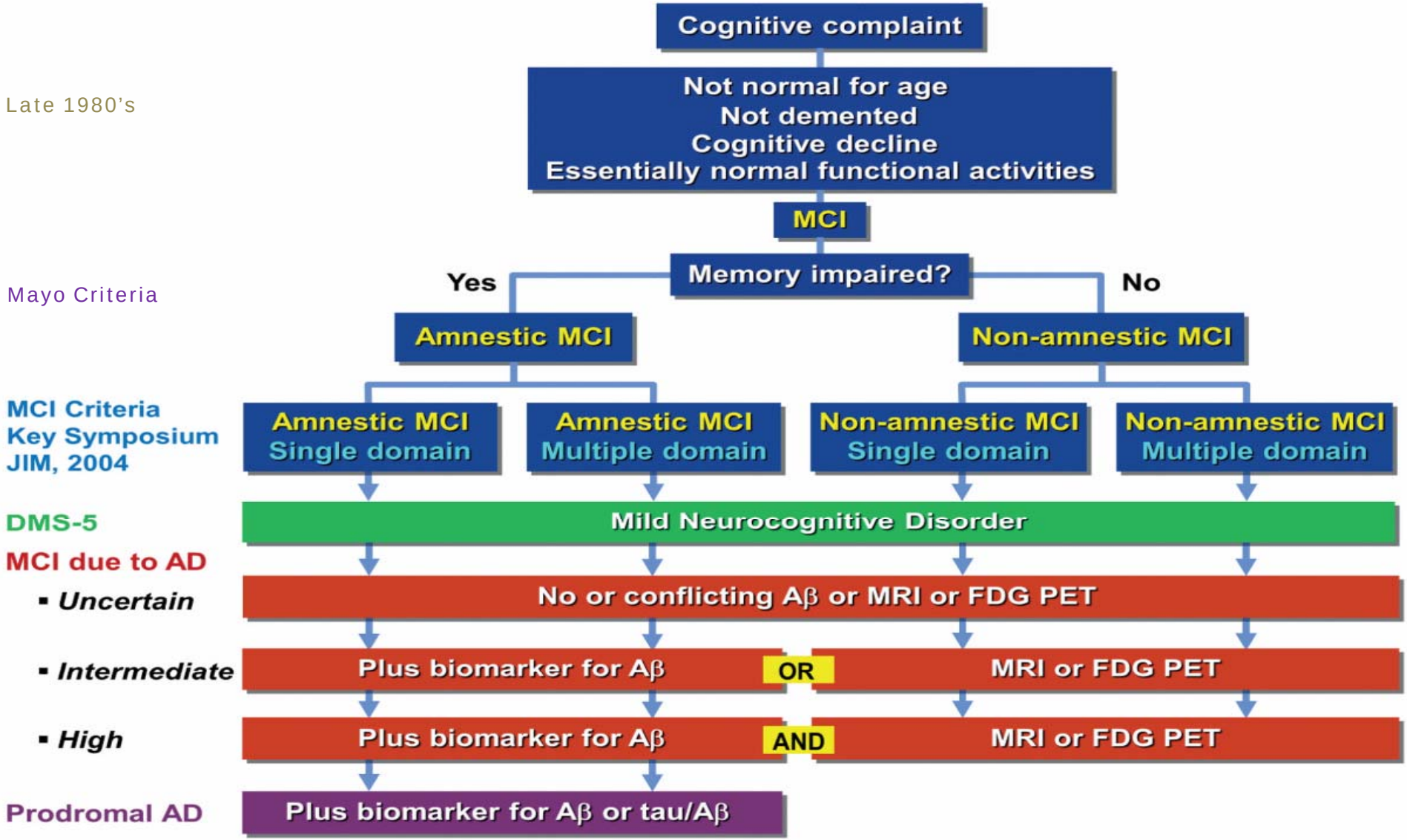
- Eligibility for cognitive impairment can be a challenge
- Multiple data points are critical to effective eligibility determination
- TQ Benefit triggers for cognitive impairment work well though gray areas remain
- Benefit eligibility and Plans of Care are interrelated
- Recovery in cognitive impairment happens, be prepared
- The decision to claim is multifactorial dependent on disease severity, the dynamics of behaviors and the capacity of others to provide care

Questions???

Thank you for your time.

We now open up the forum for any additional questions you may have

Mild Cognitive Impairment



Petersen RC et al. Mild cognitive impairment: a concept in evolution. J. Int Medicine, 2014, 275; 214–228

NIA-AA Diagnostic Criteria for Dementia and MCI

Dementia is diagnosed when there are cognitive or behavioral (neuropsychiatric) symptoms that:

- Interfere with the ability to function at work or at usual activities
- Represent a decline from previous levels of functioning and performing
- Are not explained by delirium or major psychiatric disorder
- Cognitive impairment is diagnosed through a combination of (1) history-taking and (2) an objective cognitive assessment
- The cognitive or behavioral impairment involves a minimum of two of the following domains:
  - Impaired ability to acquire and remember new information
  - Impaired reasoning and handling of complex tasks, poor judgment
  - Impaired visuospatial abilities
  - Impaired language functions
  - Changes in personality, behavior, or comportment

The diagnosis of dementia is intended to encompass the spectrum of severity, ranging from the mildest to the most severe stages of dementia. The methodology for staging of dementia severity was beyond the charge of the workgroup.

- The differentiation of dementia from MCI rests on the determination of whether or not there is significant interference in the ability to function at work or in usual daily activities.
- **MCI criteria**
  - Concern regarding a change in cognition
  - Preservation of independence in functional abilities *(MCI may have mild problems with complex functional tasks performed previously (shopping, paying bills, preparing meals – may take longer or be less efficient – generally maintain independence with minimal aids or assistance)*
    - *May require serial evaluations*
  - Impairment in one or more cognitive domains
  - Cognitive scores are 1 – 1.5 SD below mean for their age and education on culturally appropriate normative data when available

Clinical Dementia Rating (CDR)

Impairment	None (0)	Questionable (0.5)	Mild (1)	Moderate (2)	Severe (3)
Memory	No memory loss or slight inconstant forgetfulness	Consistent slight forgetfulness; partial recollection of events	Moderate memory loss; more marked for recent events; defect interferes with everyday activities	Severe memory loss; only highly learned material retained; new material rapidly lost	Severe memory loss; only fragments remain
Orientation	Fully oriented	Fully oriented or slight difficulty with time relationships	Moderate difficulty with time relationships; oriented for place at examination; may have geographic disorientation elsewhere	Severe difficulty with time relationships; usually disoriented in time, often to place	Oriented to person only
Judgment and problem	Solves everyday problems and handles business and financial affairs well; judgment good in relation to past performance	Slight impairment to solving problems, similarities, differences	Moderate difficulty in handling problems, similarities, differences; social judgment usually maintained	Severely impaired in handling problems, similarities, differences; social judgment usually impaired	Unable to make judgments or solve problems
Community affairs	Independent function at usual level in job, shopping, volunteer and social groups	Slight impairment in these activities	Unable to function independently at these activities though may still be engaged in some; appears normal to casual inspection	No pretense of independent function outside of home; appears well enough to be taken to functions outside of family home	No pretense of independent function outside of home; appears too ill to be taken to functions outside a family home
Home and hobbies	Life at home, hobbies, intellectual interests well maintained	Life at home, hobbies, intellectual interests slightly impaired	Mild but definite impairment of function at home; more difficult chores abandoned; more complicated hobbies and interests abandoned	Only simple chores preserved; very restricted interests, poorly maintained	No significant function in home
Personal care	Fully capable of self care	Fully capable of self care	Needs prompting	Requires assistance in dressing, hygiene keeping of personal effects	Requires much help with personal care; frequent incontinence

Score only as decline from previous usual level due to cognitive loss, not impaired due to other factors.

UpToDate

Treatment options for dementia

Most studied is treatment for Alzheimer's Disease

- Current FDA approved drugs for mild to moderate AD.
  - Demonstrated similar effectiveness demonstrating reproducible improvements in cognition and global functioning but effect was short lived:
    - » Donepezil
    - » Rivastigmine
    - » Galantamine

- New treatments focused on amyloid beta accumulation or tau protein changes in the brain.
  - Takes 10 – 15 years to get drug to market
  - Many have failed Phase III trials due to lack of effectiveness or adverse effects.

Failure of AD Candidate Therapeutics

Agent	Target/Mechanism	Outcome
Non-Aβ		
Atorvastatin; Simvastatin	Cholesterol (HMG CoA reductase inhibitor)	Negative
NSAIDs	Inflammation	Negative
Rosiglitazone	Insulin (PPAR gamma agonist)	Negative
Latrepirdine	Mitochondrial function	Negative
Encenicline	α7 nAChR agonist	Negative (AEs)
Aβ		
AN1792	Amyloid immunoRx	Negative (AEs)
Tramiprosate	Amyloid aggregation	Negative
Tarenflurbil	Gamma secretase	Negative
Semagacestat; Avagacestat	Gamma secretase	Negative
Bapineuzumab	Amyloid immunoRx	Negative
Solanezumab	Amyloid immunoRx	Negative (+/-)
Crenezumab	Amyloid immunoRx	Negative
Gantenerumab	Amyloid immunoRx	Negative
IVIG	Nonselective immunoRx	Negative
LY2886721	Beta secretase	AEs
ACC-001	Amyloid immunoRx	Negative