Early Cognitive Dysfunction in the Elderly: Screening and Assessment

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Faculty/Presenter Disclosure

- **Faculty:** Dr. Bill Dalziel

- **Relationships with commercial interests:**
  - **Grants/Research Support:** Nil
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  - **Consulting Fees:** Nil
  - **Other:** Nil

The first senior moment.

The Silent Epidemic is <u>NOT SO SILENT</u>

The facts …

- A new case in Canada every 4 minutes (100,000 new cases per year)

- Now (450,000) to 750,000 by 2025

- 3rd most expensive disease in the Canadian Healthcare System (2040: all current healthcare budget)

- 1 in 4 Canadians has a family member affected by the disease and half of all Canadians know someone diagnosed with Dementia

- What % of 65+ patients have cognitive impairment?

- How many 65+ patients in your practice have dementia or MCI (Mild Cognitive Impairment)?

<u>Dementia</u>   <u>MCI</u>

11%   16%

TOTAL 27%

? How About Age 80 Plus?

- How many 80+ patients in your practice have dementia or MCI (Mild Cognitive Impairment)?
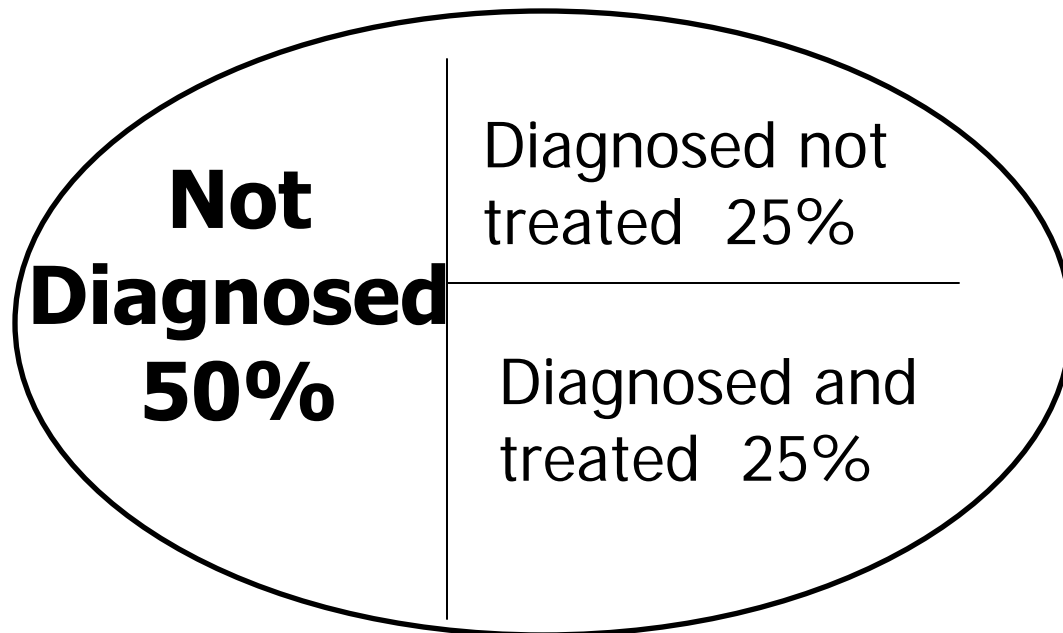
<u>Dementia</u>   <u>MCI</u>

16%   25%

TOTAL 41%

A Typical GP Practice (65+ = 400-500)

- Prevalence 11% N = 40 to 55
- Incidence 2% per year N = 8-10

Not Diagnosed 50%

Diagnosed not treated 25%

Diagnosed and treated 25%

LACK OF RECOGNITION

How is dementia <u>currently</u> "recognized"?

> ...A Sentinel Event

OR

> ...Normalization Fails

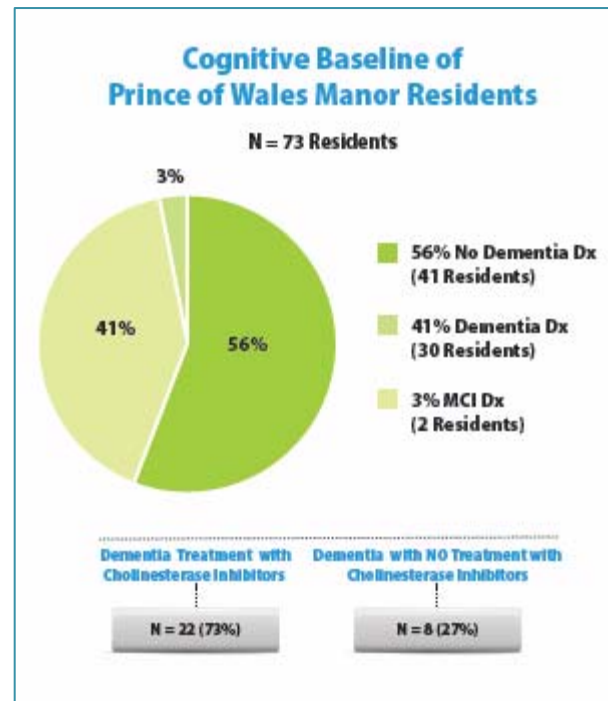# Dementia Early Warning Symptoms (ABC concerns)

For Caregivers:

- Difficulty performing familiar tasks
- Problems with language
- Disorientation of time and place
- Poor and decreased judgment
- Problems with abstract thinking
- Misplacing things
- Changes in mood and behavior
- Changes in personality
- Loss of initiative
- Memory loss affecting day-to-day function

Dementia Early Warning Symptoms

For Professionals:

- Frequent phone calls/appointments – missing/wrong day
- Poor historian, vague, seems "off", repetitive questions or stories
- Poor compliance meds/instructions
- Appearance/mood/personality/behaviour
- Word-finding/Decreased social interaction
- Subacute change in function without clear explanation/frequent visits to ER
- Confusion - surgery/illness/meds
- Weight loss/dwindles/ "failure to thrive"
- Driving – accident/problems/tickets/family concerns
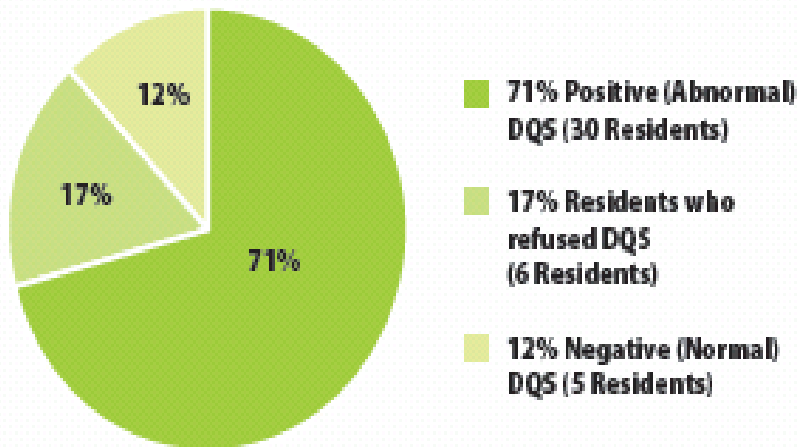- Head-turning sign (turning to caregiver for answer)

Part 1-Baseline of Cognitive Screens (prior to screenings)

Cognitive Baseline of Prince of Wales Manor Residents

N = 73 Residents

3%

41% 56%

- 56% No Dementia Dx (41 Residents)
- 41% Dementia Dx (30 Residents)
- 3% MCI Dx (2 Residents)

Dementia Treatment with Cholinesterase Inhibitors
N = 22 (73%)

Dementia with NO Treatment with Cholinesterase Inhibitors
N = 8 (27%)

Results of Memory Quick Screens and Full Cognitive Assessments

Results of Dementia Quick Screen (DQS) on Residents with no Diagnosis of Dementia or MCI

N = 41 Residents

- 71% Positive (Abnormal) DQS (30 Residents)
- 17% Residents who refused DQS (6 Residents)
- 12% Negative (Normal) DQS (5 Residents)

Results of Full Cognitive Assessment on Residents with Positive DQS

N = 32 Residents (30 Positive DQS and 2 Pre-Dx MCI)

- 47% Dementia (15 Residents)
- 28% Normal Assessment (9 Residents)
- 25% MCI (8 Residents)
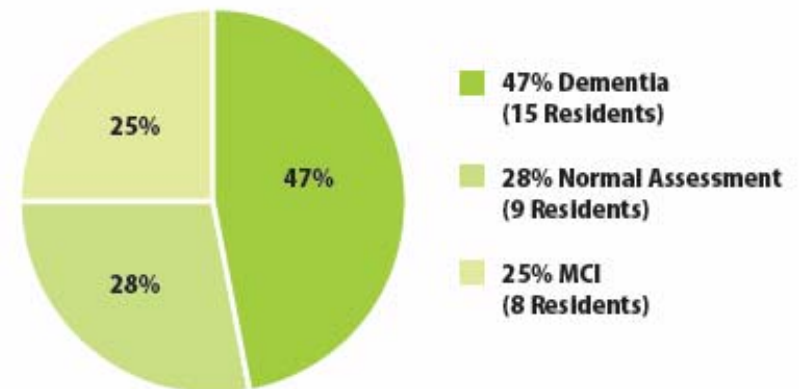
- Preliminary diagnosis made by Geriatrician's review of assessments
- Formal Diagnosis to be made/confirmed by Residents' Physician
- 2 Residents with Dx MCI now progressed to Dementia category

High Risk Screening
OR
CASE FINDING

? WHY ?

Earlier Recognition → So What

Why should we do Dementia Screening?

Social

- Social/financial planning
- Early caregiver education
- Safety: compliance, driving, cooking
- Advance directives planning
- Right/Need to know

Medical

- Reversible cause/component
- Risk factor treatment
- Compliance strategies
- Treatment of other diseases
- AChEI treatment
- Crisis avoidance

POSITIVE BRAIN HEALTH

How to Avoid Getting Dementia

1. Recognize and treat ALL VRFs (vascular risk factors)
2. Go play outside: Exercise: walking and pumping
3. Stay in school…and keep learning
4. Wear a helmet
5. Eat like your Italian Momma

How to Avoid Getting Dementia
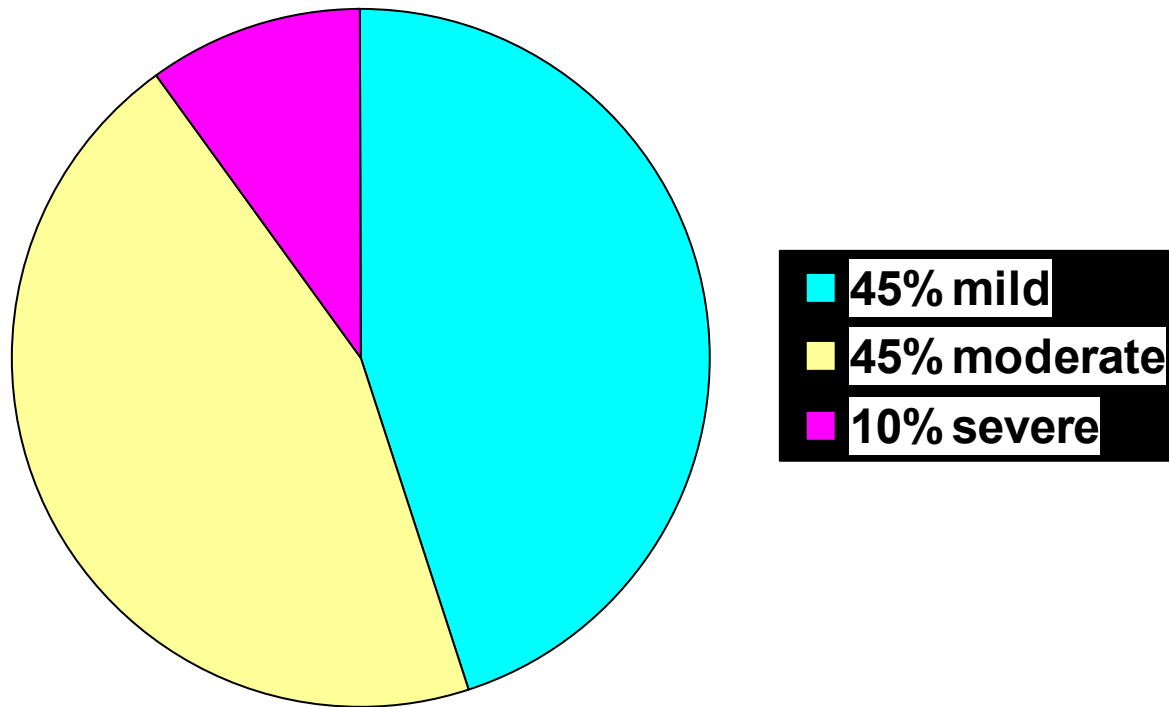
6. Go find a nice girl or boy (and get married)
7. I love to cook with wine and SOMETIMES I even put it in the food.
8. Don't smoke or roll in the grass.
9. Go play with your friends.
10. Don't Worry…Be Happy

What % of dementia diagnosed is diagnosed in the early/mild stage?

Stage of Dementia At Time of Diagnosis – 55% are Moderate/Severe

- 45% mild
- 45% moderate
- 10% severe

First Symptom to Dx = 2.5 years

Case Study: Mrs. Green

A 80 year old female with BP 165/85 and no family history of dementia

Question #1:

Do you screen this type of patient **ALREADY**?

Question #2: IS HER RISK OF DEMENTIA
1. <10%
2. 10-20%
3. 20-30%
4. Over 30%

Dementia Risk Calculator

< 65	1%
65	2%
70	4%
75	8%
80	16%
85	32%

✓Risk Doubles every 5 years of Age

✓Each additional vascular risk factor approximately doubles the risk

✓Positive family history doubles the risk

Overall risk = age risk _____% x family hx risk multiplier____x vascular risk multiplier ____= ____%

Question #3:

- ? In a busy office/clinic/ ER Hospital situation what screening "tests" could you use?

Dementia Quick Screen

- 3 item recall (**0-1 correct**: OR 3.1)

- Animals in 1 minute (**<15:** OR 20.2)
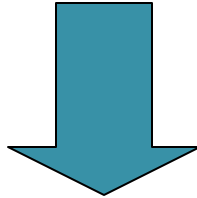
- Clock drawing (**abnormal:** OR 24)

Mrs. G's DQS is Positive:

- 6 animals in 1 minute
- 1/3 recall
- Abnormal clock (hands to 10 & 11)

So What's Next?

1. Dementia Quick Screen +ve

   OR

2. Caregiver or patient concerns

   Patient/caregiver interview

   ? What are the key questions?

Visit 1 – Dementia Assessment Toolkit
Does The Patient Have Dementia?

<u>Description of Problems</u> (Informant info critical)

_____

_____

Onset: _____

Progression: Gradual ❑ or Abrupt ❑

1. Is the patient's memory worse than 1 year ago?   ❑ Yes ❑ No

2. Has there been an effect on functional activities?   ❑ Yes ❑ No

   Which ADL - _____

3. Has there been any psychobehavioural changes?   ❑ Yes ❑ No

   ❑ Apathy   ❑ Disinhibition

   ❑ Anxiety   ❑ Irritability

   ❑ Depression   ❑ Hallucinations

ABC Checklist for Cognitive Problems
(if Memory Quickscreen Abnormal)

	OK	A Problem			
1. ADLs	❑	❑ Shopping	❑ Housekeeping	❑ Finances	❑ Cooking
		❑ Transportation	❑ Hobbies/Leisure	❑ Tools/Appliances	❑ Transportation
2. Behaviour	❑	❑ Apathy/↓ Initiative	❑ Anxiety	❑ Depression	❑ Hallucinations
		❑ ↓ Alertness/ "tuned in"	❑ Wandering	❑ Agitation/Anger	❑ Aggression
3. Cognition	❑	❑ Repetition	❑ Word finding	❑ Forgetfulness	❑ Orientation
		❑ Meds compliance	❑ Focus/"following"	❑ Reading/TV	❑ Misplacing

Dementia Assessment Guide

Red Flags:	Think of:
❑ Cognitive decline within 3 months of CVA/TIA, previous CVA/TIA ❑ Focal neurological symptoms/Signs/Abrupt onset/stepwise decline	- Vascular Dementia (VAD) - Mixed AD/VAD
❑ Visual hallucinations – (detailed/recurrent) ❑ Pronounced fluctuation in cognition over hours/days ❑ Parkinsonism (especially rigidity) / bradykinesia	Lewy Body Dementia
❑ Behavioural changes: disinhibition / apathy ❑ Impulsivity / poor judgment / self-neglect / socially inappropriate	Frontotemporal Dementia
❑ Abnormal gait ❑ Incontinence early in course of dementia	Normal Pressure Hydrocephalus (NPH)

MMSE

- 30-point scale

- Focus on memory/orientation (16/30 points) - good for AD, poor for non-Alzheimer's dementias

- Poor at upper end at discrimination between normal (especially highly educated) and MCI

- Poor with those < grade 5 education (cut off = 20 for 80 y/o, 19 for 85 y/o)

MoCA

- 30-point scale

- Available free of charge in multiple languages at www.mocatest.org

- <u>Comprehensive</u>: Many more domains than MMSE (good for AD and non AD)

- <u>Minor</u>: adjustment for education (add 1 point if ≤ grade 12) **IS WRONG**

- MCI = MOCA <26?

- Using a cut-off score <26 provides sensitivity of 80%, and specificity of 91% to distinguish MCI from normal

- Much better discrimination between

<u>Normal</u>	vs	<u>MCI</u>	and	<u>Dementia</u>
≥ 26		< 26		< 26
		(usually 21-25)		(usually < 20)
		(function OK)		(function affected)

How To Decide if an Elderly Person Can Stay at Home:
The Interval of Need Concept

Interval of Need
=
How long can a person be left alone

Interval of Support =
Informal & Formal

A Decrease in Interval-of-Need Means an Increase in Caregiver Stress

Interval of Need	AD Stage (MMSE)	Functional Loss	Behaviour Problems	Formal Services	Caregiver Situation
> 7 days	MCI	None	0	0 to +	0 - Away
2 to 7 days	Mild (23 to 28)	Some iADLs (Shopping)	0 to +	+ to ++ 0 to +	Alone With CG
12 to 48 hours	Mild-Mod (18 to 22)	Most iADLs	0 to ++	++ to +++ 0 to ++	Alone, live in or Frequent visits
4 to 12 hours	Moderate (14 to 18)	All iADLs, Some pADLs	0 to ++	+ to +++	Needs live-in CG Spouse or child
2 to 4 hours	Mod-Sev (10 to 13)	Most pADLs	+ to +++	+ to +++ with respite	Live-in CG, usually spouse
<2 hour	Severe (<10)	Most pADLs incl. mobility or feeding	+ to ++++	+ to ++++ with respite	Devoted spouse CG
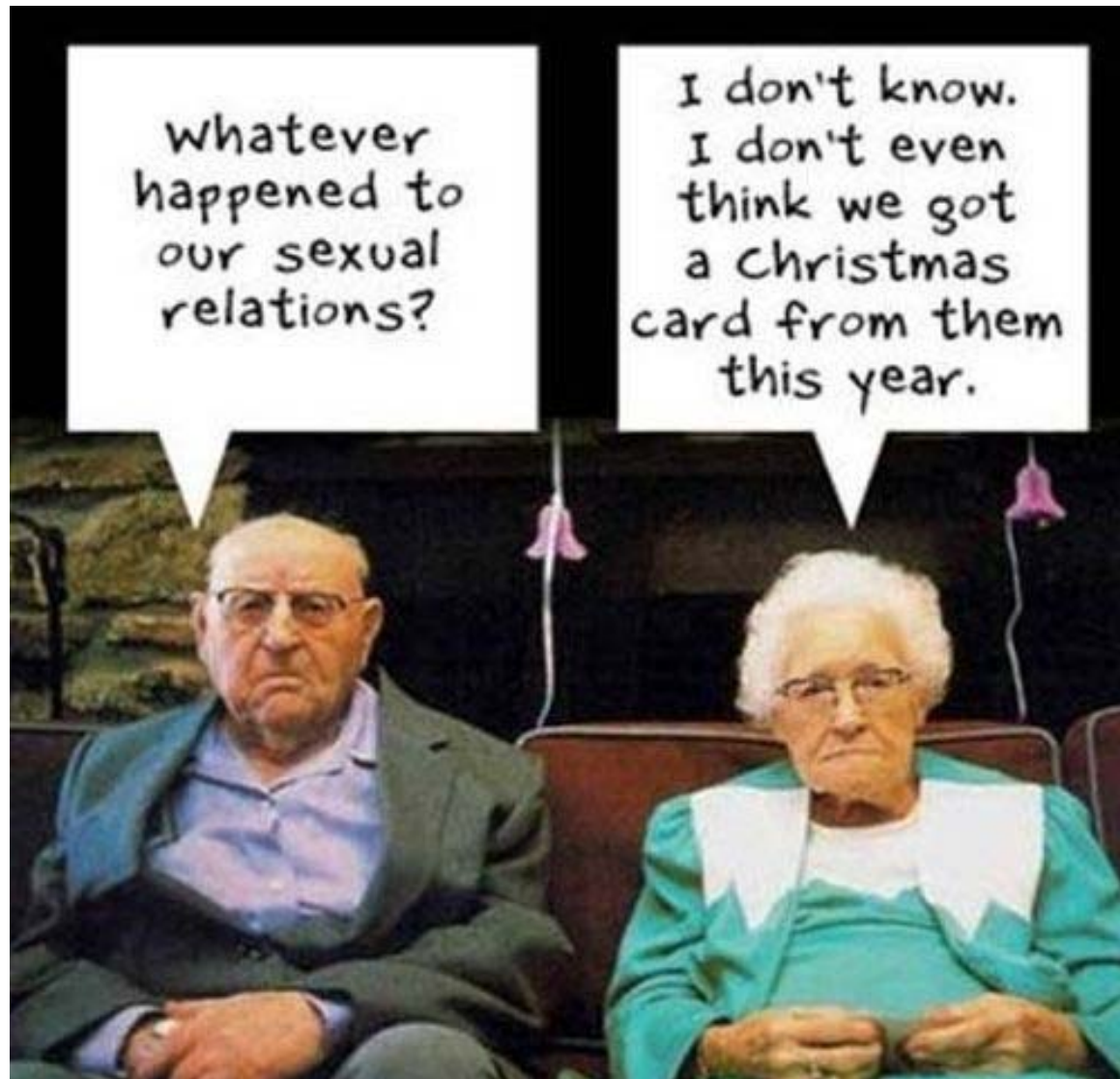
Case History: Mrs. Green

- Husband admits he has seen some forgetfulness, slowly worsening over the past year and has observed some irritability and apathy
- He has not observed any problems in shopping, cooking, cleaning, banking, driving etc.

1.DOES SHE HAVE EARLY DEMENTIA?

2.WHAT WOULD YOU DO NEXT?

MCI vs Dementia

- MCI = cognitive changes but no functional changes
- Dementia = cognitive change **<u>CAUSING</u>** functional changes.

(Not scores on tests)

Mrs. Green: COG Δ → NO Fn Δ

No the patient does <u>NOT</u> have dementia. Mrs. Green has Mild Cognitive Impairment (MCI).

- Rx VRFs

- Lifestyle

- Yearly F/U (15%)

BUT...

1 Year Later

- Mrs. G. had shown increasing forgetfulness and repetitiveness. Her husband has seen some problems with banking, shopping and cooking. Her MMSE is now 21, MOCA 18.
- What is the diagnosis?
- <u>What should be done next?</u>

Causes that must be ruled out

- Delirium
- Depression
- Alcohol
- Hypothyroid
- Drug side effects (including OTC/herbals)
- Significant hearing/vision problem
- Recent head injury/fall
- Poorly controlled medical conditions

Examination/Lab/CT

1. Neuro/CVS focus
2. CBC, electrolytes, blood sugar, calcium, TSH, creatinine, B12
3. CT for "other" reason

Investigations

- Lab normal CBC, electrolytes, Cr, Ca, BS, TSH, B12

- CT: 1 old lacune and moderate PVWM changes

Mrs. Green has:

- Mild mixed AD with CVD (cerebrovascular disease) or mixed AD/VAD

Triple Therapy In Dementia

Prevent the Preventable

- Lifestyle changes
- Antihypertensive
- Antidiabetic
- Antiplatelet
- Antilipemics
- Anticoagulants
- Antidepressant

Treat the Treatable

- A trial in all patients with a cholinesterase inhibitor
- A trial with Ebixa in mod-severe disease

Care for the Caregivers

- Referral to Alzheimer Society
- Home support
- Respite
- Recognize and change caregiver burden/stress/
- depression