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

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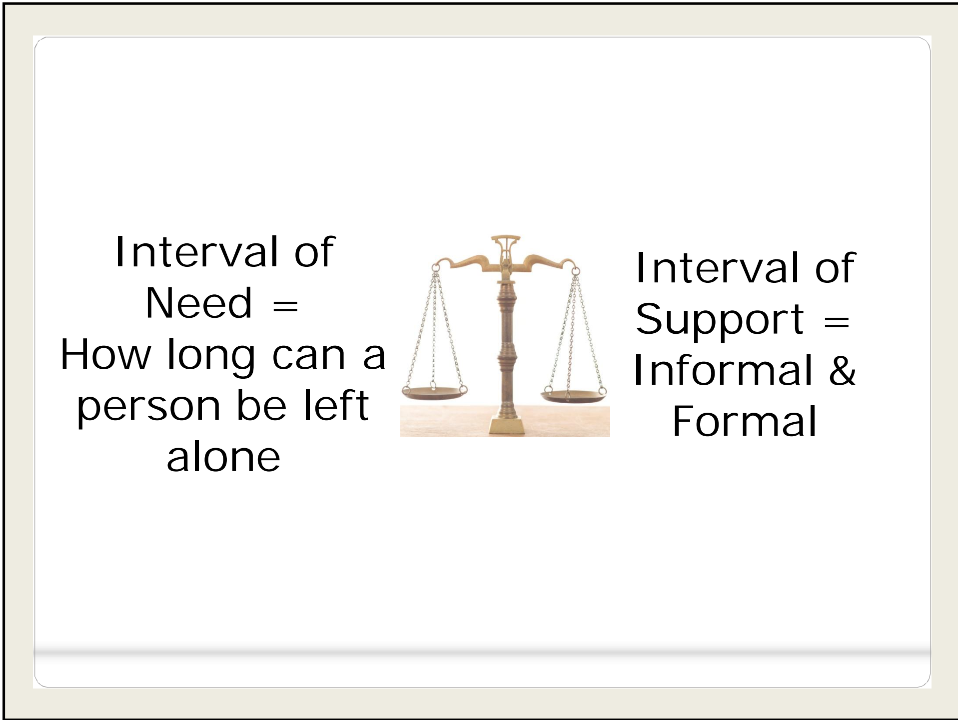
November 2013

## 3 Factors

1. Safety: Falls/Cooking/Unsafe Behaviour
2. Interval of need
3. Interval of support




## 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<br>(23 to 28) | Some iADLs<br>(Shopping) | 0 to + | + to ++<br>0 to + | Alone<br>With CG |
| 12 to 48 hours | Mild-Mod<br>(18 to 22) | Most iADLs | 0 to ++ | ++ to +++<br>0 to ++ | Alone, live in or<br>Frequent visits |
| 4 to 12 hours | Moderate<br>(14 to 18) | All iADLs,<br>Some pADLs | 0 to ++ | + to +++ | Needs live-in CG<br>Spouse or child |
| 2 to 4 hours | Mod-Sev<br>(10 to 13) | Most pADLs | + to +++ | + to +++ with respite | Live-in CG, usually spouse |
| <2 hour | Severe<br>(<10) | Most pADLs incl. mobility or feeding | + to ++++ | + to ++++ with respite | Devoted spouse CG |

## Stages of dementia

**Mild Cognitive Impairment (MCI):**

- Not as "sharp" as one year previously
- No effect on other cognitive functions and no impairment of instrumental activities of daily living (IADL: e.g. finances, shopping, cooking, etc.).
- Possibly some mild behavioural complaints (e.g. anxiety, loss of initiative, irritability etc.)
- Approach is to monitor for change every 6 to 12 months as there is an approximately 10-15% risk per year of progression to dementia.
- Interval of need ≥ 7 days

## Stages of dementia

**Mild Dementia (45% at the time of diagnosis):**

- Change in memory and at least one other cognitive function (e.g. language, visual spatial, judgement, executive function)
- Associated with an impact on IADL's and possibly early mild psychobehavioural problems.
- Some need for informal help and minimal formal services.
- If the person is living at home alone without any informal help there may need to be consideration for residential care if there are significant functional or safety issues
- The interval of need: 2 to 7 days

## Stages of dementia

**Mild-Moderate**

- Many IADLs – shopping, stove, finances, cleaning, medications
- Interval of need 12-48 hours
- Closer to 12 hours – needs live-in CG
- Closer to 24 hours – formal vs live-out CG

## Stages of dementia

**Moderate (45% at the time of diagnosis):**

- At least one personal activity of daily living (PADL) is affected (e.g. dressing, toileting, bathing, hygiene, ambulation etc.).
- Behavioural problems may be more significant including delusions, hallucinations and aggressive behaviour.
- The interval of need is typically 4 to 12 hours
- A need for both significant informal and/or formal services for support and there may be a consideration of need to relocate to a supervised setting (Retirement Home or Long Term Care).
- LTC papers need to be completed

## Stages of dementia

**Moderate-Severe**

- Most pADLs, often ↓ mobility
- Often behavioural issues
- Interval of need 2-4 hours
- Rarely children, usually spouse with very high caregiver burden/stress
- LTC papers must be completed

## Stages of dementia

**Severe (10% at the time of diagnosis):**

- Significant impairment in pADL including feeding
- IADL's are completely lost
- Memory loss is severe
- Behavioural problems may become more severe, and generally the person is in a supervised setting (Retirement Home/Long Term Care) or living with a devoted spouse.
- The interval of need is 0-2 hours and respite care, maximum formal services, and support of the caregiver is critical if the person with dementia is still at home.
- A Nursing Home in the home

## Stages of dementia

**Palliative/End of Life:**

- Completely dependent in pADL
- Generally bed bound, needing feeding
- Generally in a Long Term Care setting with life expectancy less than 3 months – 6 months.
- The need is for compassionate terminal care.

## A Case Continuum Study

- Needs & Supports over a 10 year "case" of a person with Dementia

## Case Continuum Study – Mrs. G.C.

A 75 year old woman with BP 165/85 and treated hyperlipidemia and no family history of dementia and no cognitive complaints

- Do you screen this type of patient **ALREADY**?
- **IS HER RISK OF DEMENTIA**
  - <10%
  - 10-20%
  - 20-30%
  - 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 ___= ___%**

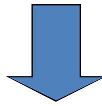
## What is Mrs. G.C.'s Risk?

- Age 75 = 8%
- No FHx = 8%
- 2 $VRF_s$ = 32%

## 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)

1. Dementia Quick Screen +ve




2. Caregiver or patient concerns

Patient/caregiver interview

So What's Next?

## Case History: Mrs. G.C.

- Family history: mother had memory problems in her 70s
- 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.

**DOES SHE HAVE EARLY DEMENTIA?**

**WHAT WOULD YOU DO NEXT?**

- MoCA 22/30
- MMSE "NORMAL" 28/30

## 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 |

(Commonest ABC Symptoms in persons with very mild-mild dementia)

## Mrs. G.C.: COG Δ → NO Fn Δ

No the patient does NOT have dementia. Mrs. G.C. has Mild Cognitive Impairment (MCI).

- Lifestyle (Exercise has best evidence – walking 1 hour/week)
- Aggressive Rx vascular risk factors
- No evidence for pharmacologic Rx
- Monitor yearly risk of progression = 15%/year

BUT…

## Case Continuum

| Time After First Symptom | Ideal Case | Key Issues | Action Needed |
|---|---|---|---|
| | Mrs. G.C. is a 76 year old married woman with Grade 12 education, she had a mother who developed Alzheimer's Disease onset age 84, and a medical history including hypertension, hyperlipidemia and osteoporosis. Her medications are Hydrochlorothiazide, Adalat XL, Lipitor, Calcium, Vitamin D, and Fosamax. | | |

# Case Continuum

| Time After First Symptom | Ideal Case | Key Issues | Action Needed |
|---|---|---|---|
| O months | In the last six months her husband noted that she did seem to be a little bit forgetful having some problems with names, "not quite a sharp" as one year previously, having a little more difficulty planning the bigger family social events and being a little less interested in leisure activities. She was still driving, shopping, cooking, independent in all her IADL's although she occasionally needed a reminder to take her medication. | Public Awareness Risk factors<br>▪ Warning signs<br>▪ Early recognition | A Framework in place for a Public Awareness campaign |

# Case Continuum

| Time After First Symptom | Ideal Case | Key Issues | Action Needed |
|---|---|---|---|
| 6 months | While at the local Pharmacy her husband noticed that the Pharmacist was offering a 2 minute Dementia Screening Test so he and Mrs. G.C. did the test. He was fine but his wife had difficulties in animal naming (9 in one minute) and clock drawing. He realized that this was a significant issue which needed medical attention. | Screening opportunities and caregiver realization that a problem exists. | Screening Program on early recognition:<br>▪ CDN Physicians Education Committee<br>▪ Multidisciplinary continuing education such as pharmacists, nurses etc. |

## Case Continuum

| Time After First Symptom | Ideal Case | Key Issues | Action Needed |
|---|---|---|---|
| 7 months | Her husband was now worried that this was more than normal ageing and did in fact arrange an appointment with the family physician. The family physician tested first with the MMSE on which her score was 25/30. Laboratory testing was negative. Essentially the conceptualization was that Mrs. G.C. was not as "sharp with her memory" as she was 6 months previously but no other areas of cognitive function or functional abilities were affected. | Family Physician education for appropriate assessment of cognitive impairment. | Dementia Education for Family Physicians<br><br>Enhanced diagnostic and treatment services to achieve realistic wait times in urban and rural areas.<br><br>Electronic patient record begun. |

## Case Continuum

| Time After First Symptom | Ideal Case | Key Issues | Action Needed |
|---|---|---|---|
| | The Family Physician explained the concepts of mild cognitive impairment (MCI) and gave advice about being physically, mentally and socially active. He explained that it could progress to more problems with memory and said that he would see her in one year or earlier if there was greater concern about memory or function. The patient's hypertension and hyperlipidemia were well controlled and enteric coated aspirin was started at 81 mg daily. | Family Physician awareness of MCI vs dementia.<br><br>Treatment of vascular risk factors. | Dementia Education for Family Physicians.<br><br>Access to medical services and monitoring and assessment.<br><br>Referral to senior's centre for social activities. |

## Common themes: What is in place

**MILD**

- Enhanced diagnostic & treatment services
- Dementia education for family physicians
- First Link Program for newly diagnosed
- Support & education for person with dementia and caregiver
- Education for service providers
- Public awareness

## Common themes: What needs improvement

**MILD**

- Screening high risk elderly
- Wait times for enhanced diagnostic and treatment services are long
- Continued education for family physicians re: diagnosis, assessment, treatment, First Link Program, driving assessment
- Referral to senior's centres & community supports
- Access to transportation
- Education regarding appropriate re-location to residential care
- Supportive housing

## Mrs. C.G. 1 Year Follow up

- No change

## Mrs. C.G. 2 Year Follow up

- Slowly developing more cognitive problems with difficulty in banking, cooking
- Last 3 days irritable, angry, aggressive

## Mrs. G.C.: Follow-Up

1. Immediate:
   - Delirium diagnosed (Med mix-up + UTI)
   - Responded to treatment, husband took over MEDICATIONS:

2. 1 year Later (now 3 years):
   - Good response to Aricept 5-10 mgm OD
   - MoCA 18→20 after 3/12 trial = a responder
   - 1 year later:
     - No worsening in cognition or further loss of function
     - No behaviour safety issues

Mild Dementia / Interval of Need 12-24 Hours

## Mrs. G. C.: Follow-Up 2 years Later (now 5 years)

- More forgetful
- Some help needed with bathing, grooming dressing started 6 months ago (Memantine added with stabilization), MoCA 16
- Increased irritability, occasionally aggressive
- Not using the stove or wandering
- CCAC 2 hours twice a week

Moderate Dementia / Interval of Need 8 Hours

## Common Themes: What is in place

**MODERATE**
- Education & support for caregivers
- Education for service providers
- Respite: in-home, Day Program, overnight
- Crisis management

CCAC

## Common themes: What needs improvement

**MODERATE**
- Wait times for CCAC in-home assessment is too long, ? CCAC Cog-TEAM
- Benchmarks, standard setting in dementia education for service providers to facilitate transfer of theory to practice
- Increased referral and access to community support services
- Consistent referrals by physicians to support and education for caregivers
- ↑respite + ↑ utilization

## Mrs. G.C.: Follow-Up 1 year Later (now 6 years)

- Having falls, occasional incontinence
- Needs full assist bathing, dressing, grooming
- Occasional misperceptions/paranoia
- Wandered out of the house once
- Husband worried about leaving her ≥ 2 hours
- Caregiver exhaustion/stress, CCAC 2 hours Monday-Friday

Moderate-Severe Dementia / Interval of Need 2 Hours

## Common themes: What is in place

**SEVERE**

- LTC Placement process (de-incentivized)
- Education for physicians in LTC
- Education for caregivers regarding placement process
- Education available for service providers (LTC)
- Community supports
- Paid services

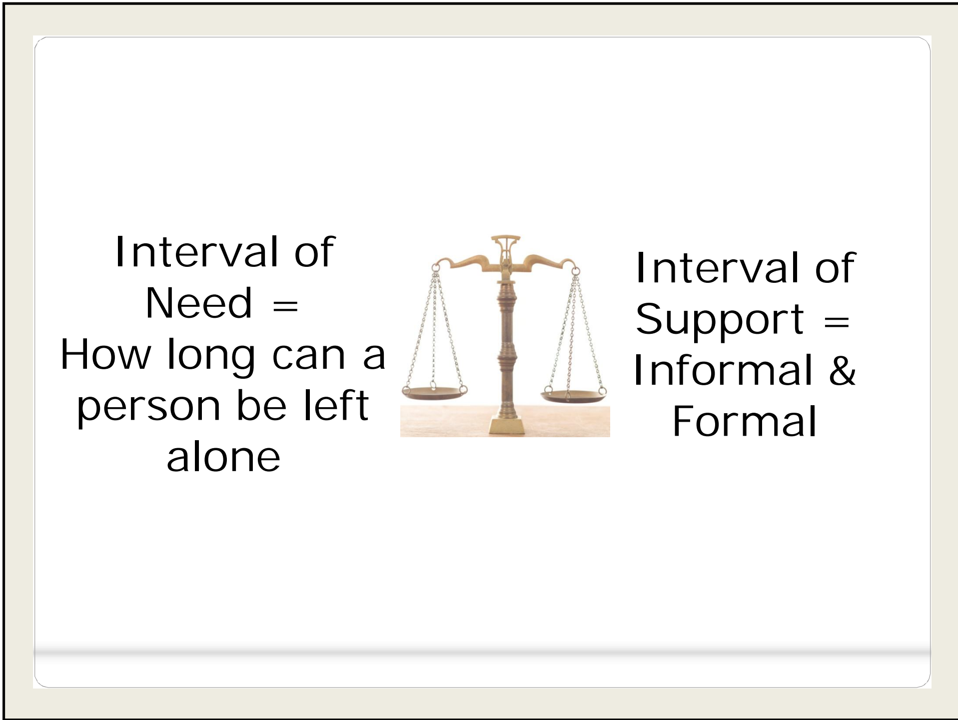
## Common themes: What needs improvement

**SEVERE**

- LTC wait list up to 4 years for some Homes; ~~25% inappropriate admissions to LTC; LTC Homes not able to accommodate different cultures, couples etc.
- Benchmarks, standard setting in dementia education for service providers to facilitate transfer of theory to practice
- Increased referral of caregiver to education regarding placement process
- Person centered care

## Mrs. G.C.: Follow up 2 years later (now 8 years)

- Wandering
- Aggressive
- Interval of need 0 hours
- → LTC placement
- Continued deterioration, pneumonia treated, # left humerus (surgery for comfort) → palliative (diet 10 years after)

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| <2 hour | Severe (<10) | Most pADLs incl. mobility or feeding | + to ++++ | + to ++++ with respite | Devoted spouse CG |

QUESTIONS?