



# “Emerging data from the Cork Dementia study”

Dr. Suzanne Timmons

January 31st 2014

# Why should we prioritise improving dementia care in acute hospitals?

Common

Costly

Could do better

Change  
practice

# Extrapolating from elsewhere....

25% of acute hospital beds are occupied by a person with dementia (UK Alz Soc 2009)

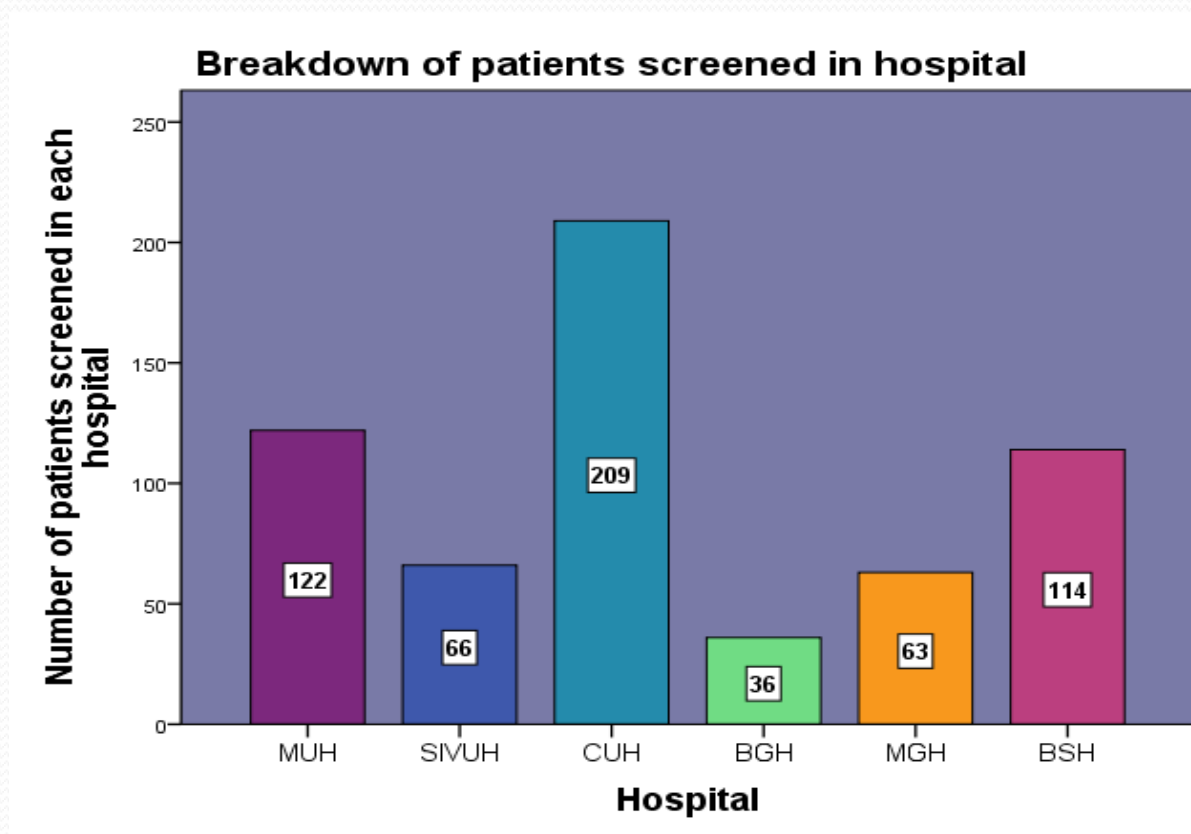
Sampson et al, 2009: 40% of older medical admissions in a teaching UK hospital had dementia.

Only 50% had a previous diagnosis.

Travers et al, 2013: 21% of older admissions to general medical, surgical and orthopaedic wards of four Queensland acute hospitals had dementia.

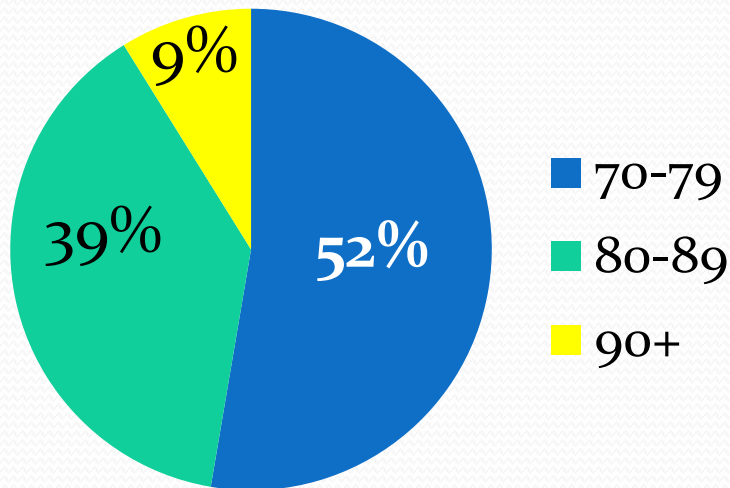
# Cork Dementia Study, 2012-13

- Two weeks of admissions to six hospitals in Cork county...



# Demographics

- 50% non-drinkers; 6% alcohol issues
  - 45% married; 42% widowed
  - Age 70-99: median 79
- 7% current smokers  
6% in Nursing Homes  
51% female



**N= 676 non-day case admissions, age >70**



N= 10 missed / discharged prior to screening

**N= 666 initial contact made for screening (98.5%)**



N= 58 not screened:  
Refused, n = 51  
Actively dying, n = 7

**N= 606 screened for dementia (90%)**

**N= 676 non-day case admissions, age >70**



N= 10 missed / discharged prior to screening

**N= 666 initial contact made for screening (98.5%)**



N= 58 not screened:  
Refused, n = 51  
Actively dying, n = 7

**N= 606 screened for dementia (90%)**

MMSE 27/30 cutoff  
Collateral history (IQCODE)  
Delirium and depression  
Expert panel consensus

**N= 676 non-day case admissions, age >70**



N= 10 missed / discharged prior to screening

**N= 666 initial contact made for screening (98.5%)**



N= 58 not screened:  
Refused, n = 51  
Actively dying, n = 7

**N= 606 screened for dementia (90%)**

MMSE 27/30 cutoff  
Collateral history (IQCODE)  
Delirium and depression  
Expert panel consensus

N= 8 not possible to reach consensus diagnosis



**N= 598 assigned diagnosis (88% of all admissions)**



```
graph TD; A["N= 598 assigned diagnosis (88% of total cohort)"] --> B["N= 325 no cognitive impairment (54%)"]; A --> C["N= 119 cognitive impairment (20%)"]; A --> D["N= 149 dementia (25%)"];
```

**N= 598 assigned diagnosis  
(88% of total cohort)**

**N= 325 no cognitive  
impairment (54%)**

**N= 119 cognitive impairment (20%)**

**N= 149 dementia (25%)**

**N= 598 assigned diagnosis  
(88% of total cohort)**

**N= 325 no cognitive  
impairment (54%)**

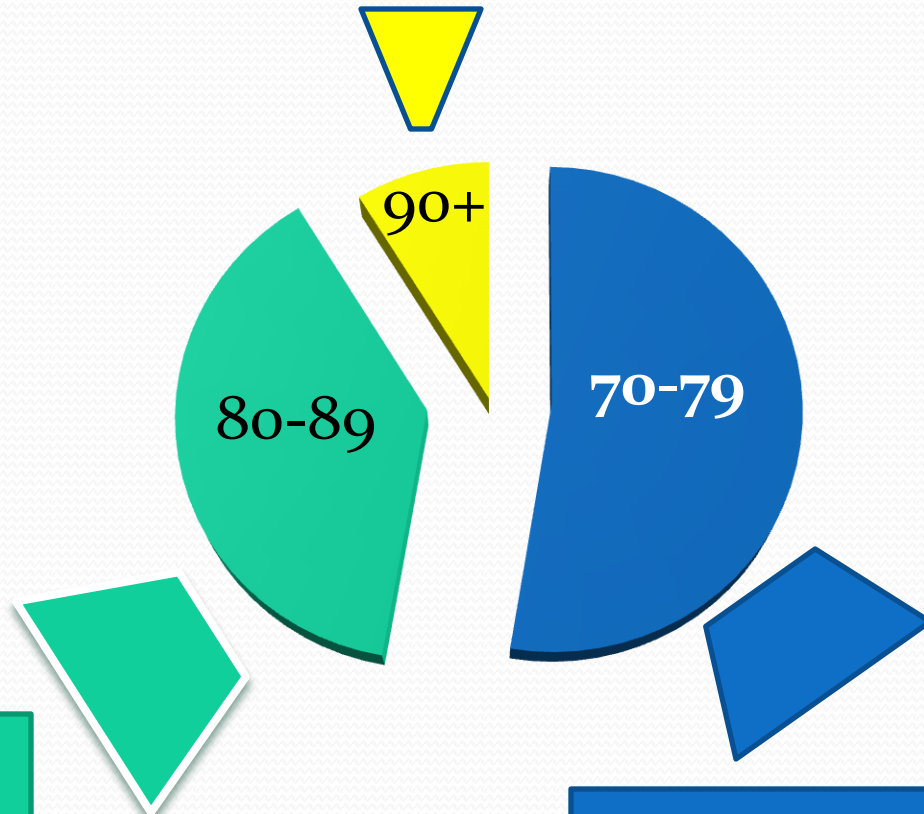
**N= 119 cognitive impairment (20%)**

**N= 149 dementia (25%)**

**56% of cases were mild  
28% moderate  
16% severe**

# Age

N= 54  
63% had dementia



N=231  
32% had dementia

N=340  
13% had dementia



# Co-morbidities / functional status

## Cumulative Index Rating Scale

### Score

1. Cardiac (heart only)	0	1	2	3	4
2. Hypertension	0	1	2	3	4
3. Vascular	0	1	2	3	4
4. Respiratory	0	1	2	3	4
5. EENT (eye, ear, nose, throat, larynx)	0	1	2	3	4
6. Upper GI	0	1	2	3	4
7. Lower GI	0	1	2	3	4
8. Hepatic	0	1	2	3	4
9. Renal	0	1	2	3	4
10. Other GU	0	1	2	3	4
11. Musculo-skeletal	0	1	2	3	4
12. Neurological	0	1	2	3	4
13. Endocrine-Metabolic	0	1	2	3	4
14. Psychiatric/Behavioral	0	1	2	3	4



**CIRS-G:** range 1-29 (max 56).

Median score: 9.7 controls .v. 11.7 dementia,  $p < 0.0001$

**Barthel Index:** range 0-20 (max 20)

Median score: 20 controls .v. 11 dementia,  $p < 0.0001$

**OR of dementia with higher Barthel:** 0.8 (0.77-0.84)

# Hospital variations



**All public hospitals: 29% had dementia**

Rural hospitals : 37<sup>0</sup>%

Urban hospitals: 27 %

Private hospital : 8%       $p < 0.0001$

**Public hospital: OR of dementia: 2.6 (1.2-5.8)**

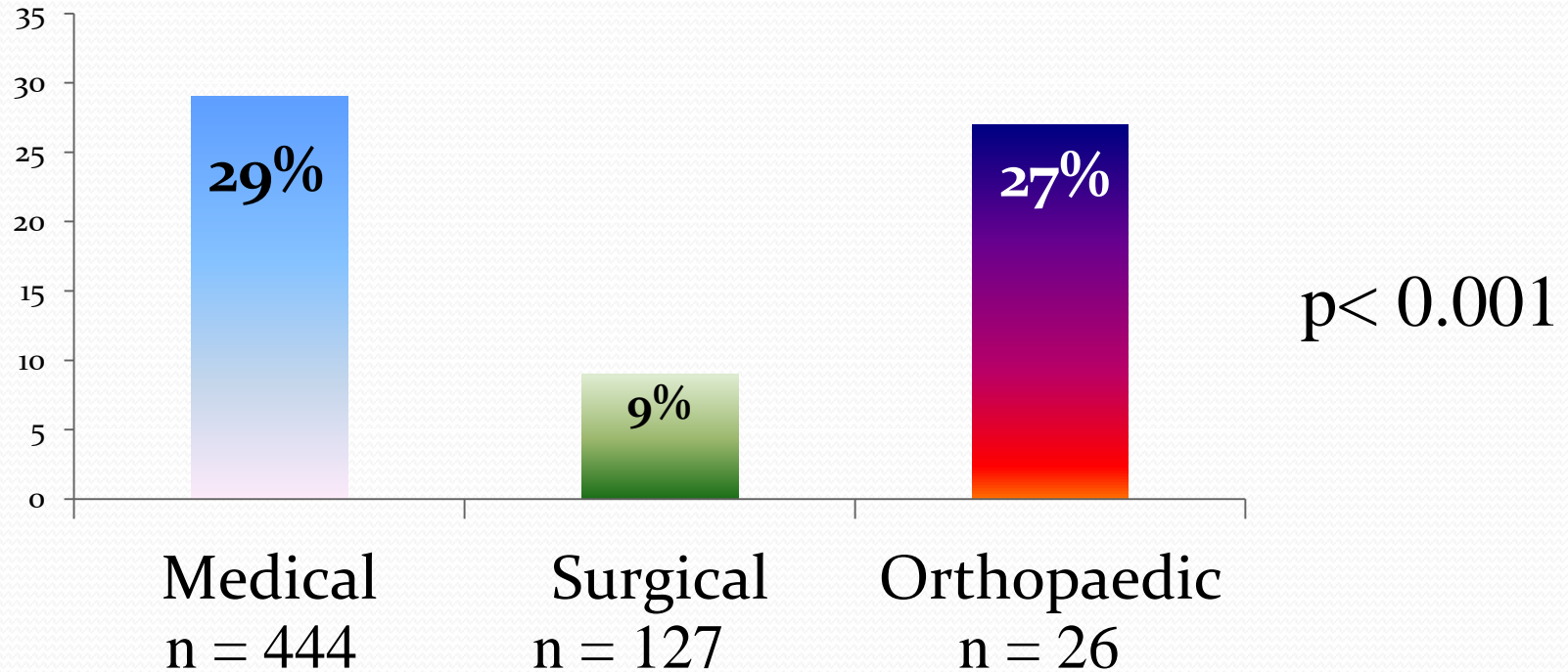
# Acute v elective admissions

- 30% of admissions were elective
- Acute admissions: 29% had dementia
- Elective admissions: 16% had dementia  $p < 0.001$

(Difference explained by age and poorer function)



# Medical versus surgical patients



OR dementia in medical .v. surgical patient: **2.4 (1.1-5.0)**

# Pre-admission Abode



• Home alone	18%	$p < 0.0001$
• Home with another	23%	
• Sheltered accom	39%	
• NH	77%	

# What independently predicted dementia...



- Age OR 1.1 (1.07-1.15)
- Barthel Index OR 0.8 (0.77-0.84)
- Medical admission OR 2.4 (1.1-5.0)
- Public hospital OR 2.6 (1.2-5.8)

# Awareness of dementia:

Of 149 people with dementia,

- 53 had a previous diagnosis of dementia (36%), especially Nursing Home residents ( $p < 0.04$ )
- 18 had some mention of “cognitive impairment” (12%)
- 16 were noted to be confused on admission (11%)

**62 had no mention of any cognitive issue (42%)**

**In 27% of missed cases, the dementia was moderate/ severe**

# In-hospital course

- “Challenging behaviour” / staff burden
- Falls/ injuries/ iv antibiotics/ catheters/ enteral feeding

LOS:            **5 days controls .v. 6 days dementia,  $p = 0.07$**

# Discharge destination

Of those admitted from home/sheltered accommodation:

- Dementia (n=113): 12% discharged to NH; 68% to home
- Control (n= 433): 2% discharged to NH; 87% to home

# Place of abode at 1 year

- 69 people with dementia, admitted from home were alive at one year:
  - 23 were now in a Nursing Home (33%)
- 210 controls, admitted from home, were alive at one year:
  - 7 were now in a Nursing Home (3%)

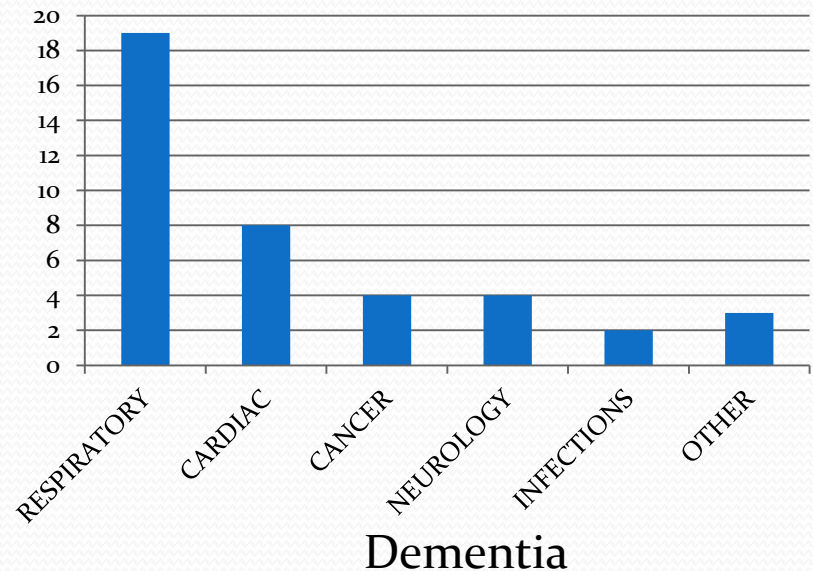
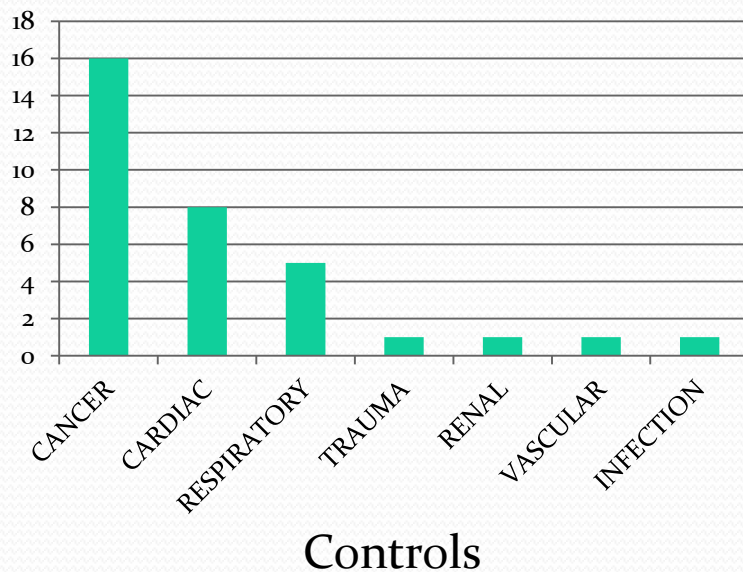
# Mortality

At one year, 98 patients (16%) were dead

In-hospital: 8.7% of those with dementia and 2% of controls

At one year: 27% of those with dementia and 13% of controls

43% of controls died of cancer versus 10.5% of dementia patients





# Place of death....

	Dementia n= 149	Control n = 450	Total %
Total deaths	40 (27%)	58 (13%)	98 (16%)
Acute hosp	<b>26 (65%)</b>	<b>26 (45%)</b>	53%
Hospice	2 (5%)	13 (22%)	15%
LTC	7 (18%)	3 (5%)	10%
Home	5 (13%)	13 (22%)	18%



- Co-investigators:
- Prof. Suzanne Cahill, Social studies TCD
- Mr. John Linehan HSE manager
- Prof. Will Molloy, Geriatrician
- Dr. Kathleen O'Sullivan, Statistics
- Dr. Noel Woods, Health Economist
- Prof. David Meagher, psychiatrist
- Dr. Aoife NiChorcorain, psychiatry of old age
- Researchers:
- Mr. Ed Manning
- Ms. Vanessa Browne
- Ms. Aoife Barrett