



The Older patient in the ED

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The Older patient in ED

- ▶ Increasing proportion of ED workload
- ▶ 3 Cases : Agitated and confused
 - Fall with a fracture
 - Weak and Dizzy
- ▶ Drug Interactions and Effects in the Elderly
- ▶ Acute Coronary syndrome
- ▶ Abdominal pain and Constipation
- ▶ The ED environment

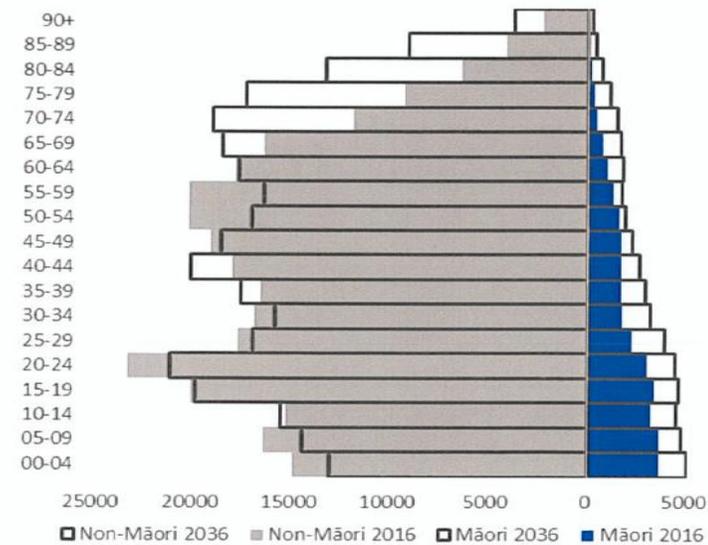
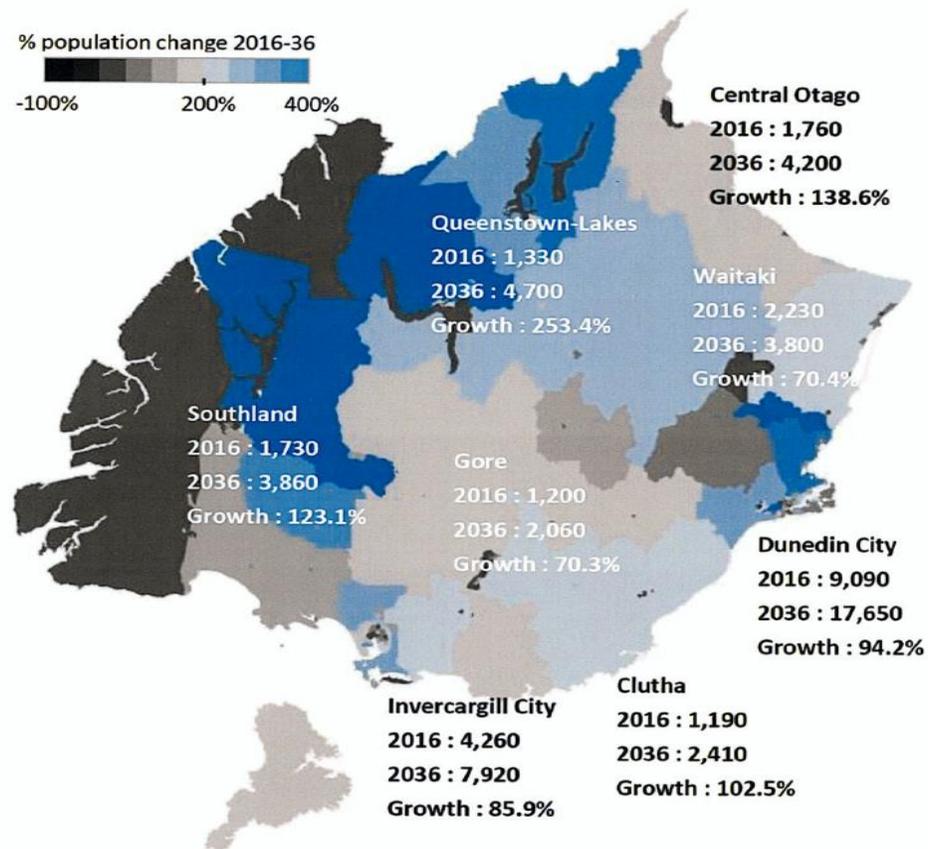
Over 70 → “Geriatric Hospital”

- ▶ 65-74 The Young Old
- ▶ 75 -84 The Middle Old
- ▶ 85 + The Oldest Old !



Demographics – Aged 75+ population growth

Population ageing will present an issue in both urban and rural settings while diversity slowly increases...



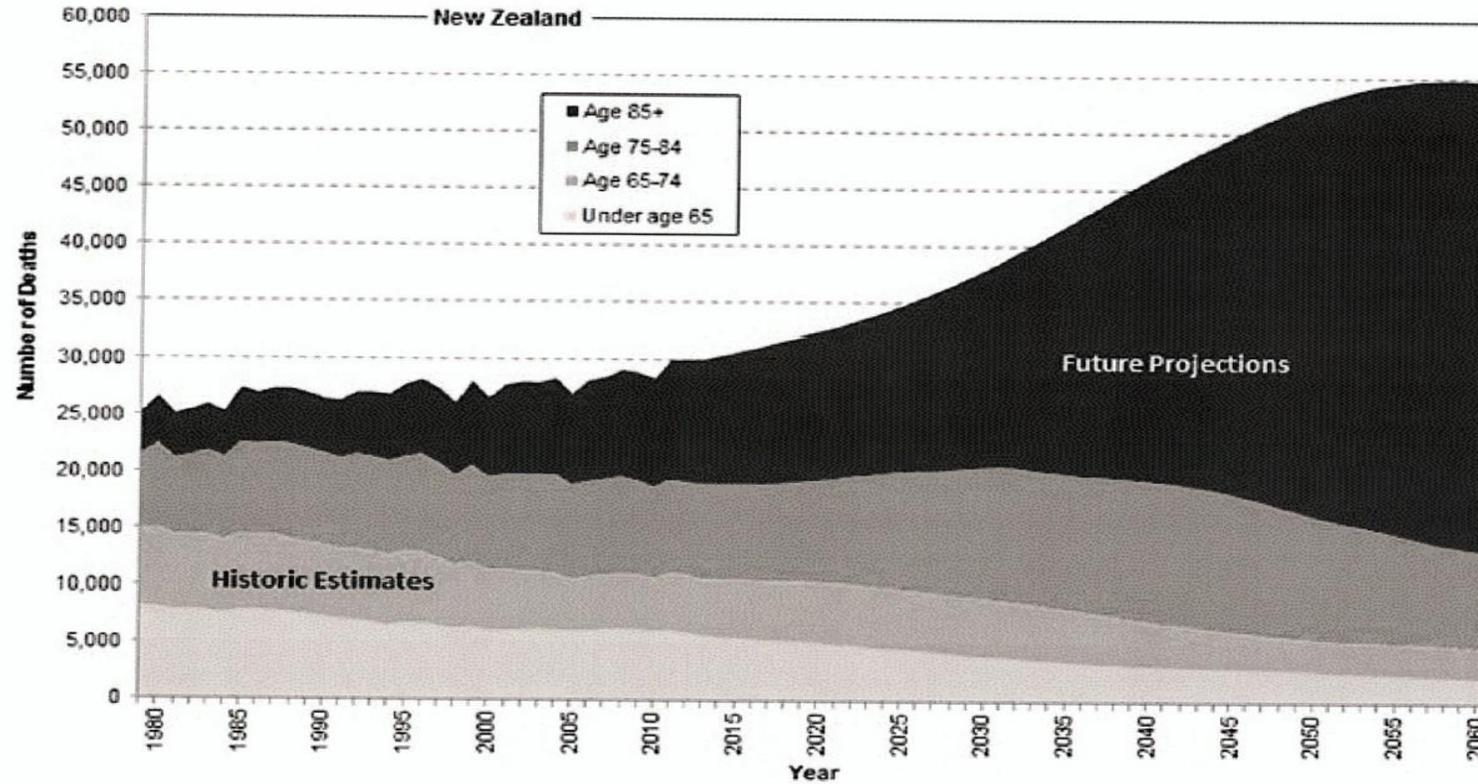
The 75+ Southern population is projected to grow at a slower rate than the NZ population over the next 20 years (103% v. 122%).

The Māori population is likely to remain a younger population.

Note: CAU's with a 75+ population under 25 have been censored
Source: SNZ medium population projections by CAU and age 2016, EY analysis

Trends in mortality

... Which will be important considering the likely course of trends in mortality in the coming years



Source: NZ Palliative Care Council 2013, SNZ

Case 1: The agitated patient

- ▶ 80 year old woman
- ▶ Waited 5 hrs to be seen in ED
- ▶ Increasingly agitated, pulled out IV trying to get out of bed
- ▶ FROM DAUGHTER - increasing confusion over the past week
- ▶ Chronic knee pain, memory loss and incontinence
- ▶ PMH HTN , oseoarthritis, deafness
- ▶ Meds paracetamol, bedrofluazide, cilazapril
- ▶ Patient rambling speech and difficult to maintain her attention

Delirium

- ▶ The acute and fluctuating onset of **in-attention, with disorganized thinking, and/or altered level of awareness**. Unlike dementia (which progresses slowly) **delirium happens acutely**.
- ▶ In the elderly, 70% of delirium is initially “hypoactive,” which can delay its detection in the ED.

TABLE: Distinguishing Features Between Delirium and Dementia

Feature	Delirium	Dementia
Onset	Acute	Insidious
Course	Fluctuating	Constant
Attention	Disordered	Generally Preserved*
Consciousness	Disordered	Generally Preserved*
Hallucinations	Often Present	Generally Absent*

* = Variable in Advanced Dementia

Table 4. The Confusion Assessment Method (CAM)^[7]

Feature 1	Acute onset and fluctuating course Evidence of an acute change in mental status from the patient's baseline. Fluctuating course of the abnormal behaviour during the day (i.e. tend to come and go or increase and decrease in severity)
Feature 2	Inattention Difficulty focusing attention (e.g. being easily distractible or having difficulty keeping track of what was being said)
Feature 3	Disorganised thinking Disorganised or incoherent thought processes, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject
Feature 4	Altered level of consciousness Alert (normal), vigilant (hyper-alert), lethargic (drowsy, easily aroused), stupor (difficult to arouse) or coma (unresponsive)

Diagnosis of delirium requires the presence of both features 1 and 2 and either 3 or 4.



Improving the care for older people
Delirium toolkit



THINKdelirium

PREVENTING DELIRIUM AMONG OLDER PEOPLE IN OUR CARE



Tips and strategies from the Older Persons' Mental Health Think Delirium Prevention project

Canterbury District Health Board
Te Pōari Hauora o Waitahi

4AT single assessment tool

Name: _____ Date: / /
 Date of birth: _____ Zero time: _____
 CHI number: _____

Practitioner name: _____ Practitioner signature: _____

Designation: _____

[1] Alertness
 This includes patients who may be markedly drowsy (eg. difficult to rouse and/or obviously sleepy during assessment) or agitated/hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.

Normal (fully alert, but not agitated, throughout assessment)	0
Mild sleepiness for <10 seconds after waking, then normal	0
Clearly abnormal	4

[2] AMT4
 Age, date of birth, place (name of the hospital or building), current year.

No mistakes	0
1 mistake	1
2 or more mistakes/untestable	2

[3] Attention
 Ask the patient: "Please tell me the months of the year in backwards order, starting at December." To assist initial understanding one prompt of "What is the month before December?" is permitted.

Achieves 7 months or more correctly	0
Starts but scores < 7 months / refuses to start	1
Untestable (cannot start because unwell, drowsy, inattentive)	2

[4] Acute change or fluctuating course
 Evidence of significant change or fluctuation in: alertness, cognition, other mental function (eg. paranoia, hallucinations) arising over the last 2 weeks and still evident in the last 24 hours.

No	0
Yes	4

4AT score
 4 or above: possible delirium +/- cognitive impairment
 1-3: possible cognitive impairment
 0: delirium or severe cognitive impairment unlikely (but delirium still possible if [4] information incomplete)

Causes of Delirium “DIMES”

- ▶ **Drugs and drug withdrawal** – largest category in older patients! Be very diligent at reviewing Rx and OTC meds.
- ▶ **Infection** – the three most common are PUS: Pneumonia, UTI and Skin
- ▶ **Metabolic** – order and review blood results carefully for metabolic causes
- ▶ **Environmental** – too hot/ too cold
- ▶ **Structural** – CNS events (spontaneous or traumatic subdural bleeding, stroke, etc.) Consider CT scan when indicated
- ▶ ****Don't forget urinary retention and constipation/faecal impaction as a cause of delirium in the elderly.****

Treatment of Delirium

- ▶ When non-pharmacological treatments are inadequate for managing agitation, chemical sedation may help.
- ▶ **Avoid benzodiazepines** (unless treating a patient in alcohol or benzo withdrawal) as they worsen confusion, ataxia, and dis-inhibition in older patients.
- ▶ Start with **low-dose haloperidol** (0.5-1.0 mg po or IV if necessary, q30 minutes prn, and reassess after 3 doses). Add risperidone if haloperidol alone is not effective. **Note:** Avoid antipsychotic medications in patients at risk for prolonged QTc or extrapyramidal side effects (using other antipsychotic medications, or past history of EPS, Parkinson's)

Am I dead?

THE

Indications for a CT Head

- ← History of head trauma
- ← Substantially impaired consciousness
- ← New focal neurologic findings
- ← No explanation for deterioration from basic workup



One third to one half of delirium that occurs while older people are in our care can be prevented by addressing these risk factors

Think
PINCHES ME
kindly

Case 2 : The Fallen patient

- ▶ Aged 90 brought in by ambulance
- ▶ Carer heard her fall in bathroom
- ▶ In pain short Left leg and externally rotated
- ▶ Was seen in ED one week prior after she had a fall sustaining bruises only

A Fall in an Elderly Patient

- ▶ Assess Cause of the fall
- ▶ Has there been syncope ?
- ▶ Assess the Injuries sustained
- ▶ Establish a Safe discharge plan
- ▶ Consider prevention options (Osteoporosis Rx)

Risk factor for falls

- ← A history of previous falls (especially falls leading to injuries)
- ← Psychoactive medications and drugs (Alcohol)
- ← Impaired hearing and eyesight
- ← Poor proprioception/general weakness
- ← Loss of mobility due to inactivity

Before sending home a patient who falls

- ▶ Do a basic “road test” of mobility and balance, which can predict future falls. A timed “get up and go” test (the time to rise from a chair and take 6 steps) predicts future falls, with risk increased if the time is >15 seconds.
- ▶ Enlist team members (OT nurse, Physio, pharmacist), family, and community services to optimize the patient for their discharge.

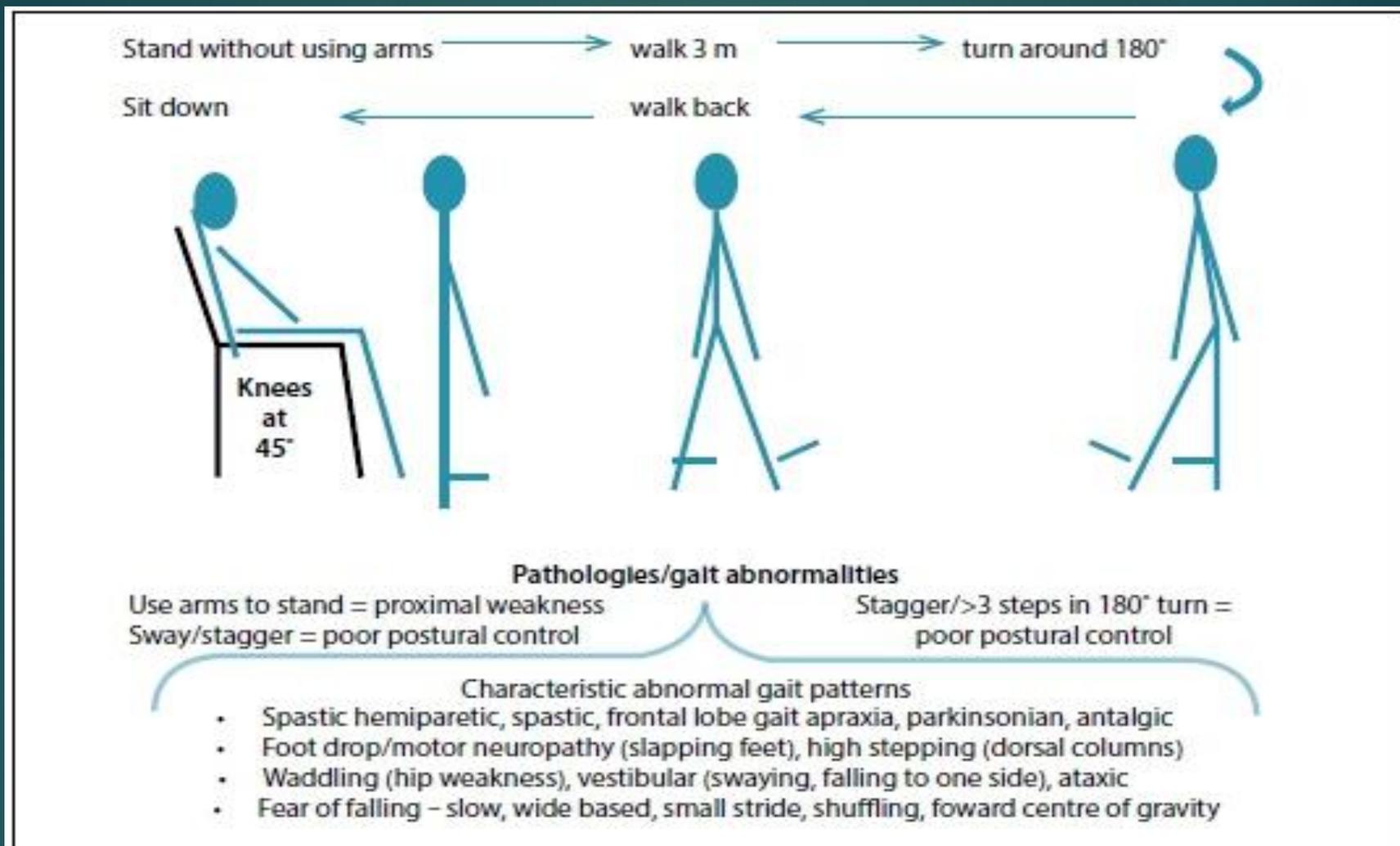


Fig. 4. The Get Up and Go test.

The problem - Falls in Hospital

2010/2011 - For Nottingham University Hospitals NHS Trust

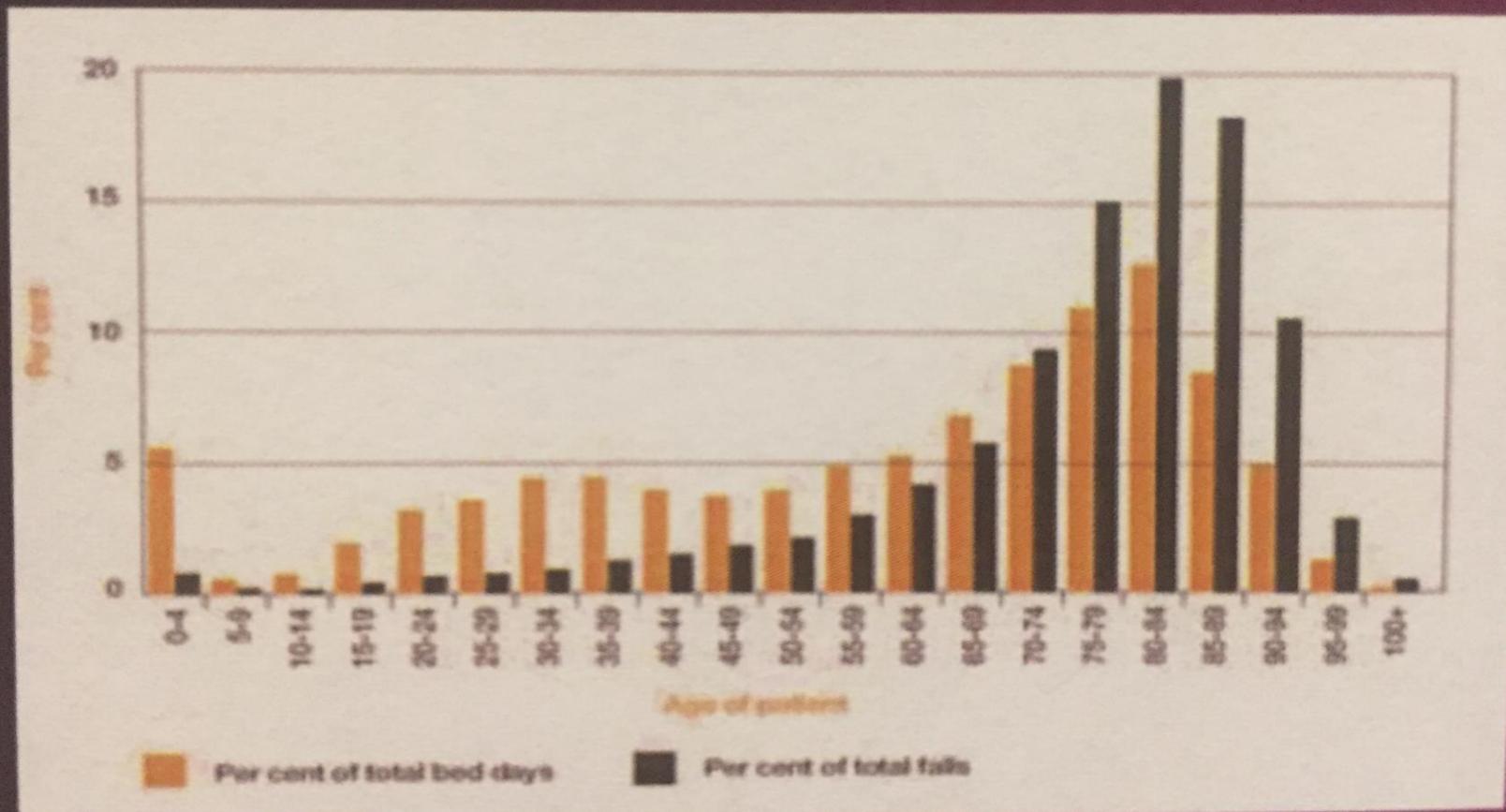
(1800 bed acute teaching hospital)

- **Around 3500 falls are reported in NUH every year**
- **1340 Harmful events every year**
- **10 falls every day**
- **50 Hip Fractures every year**

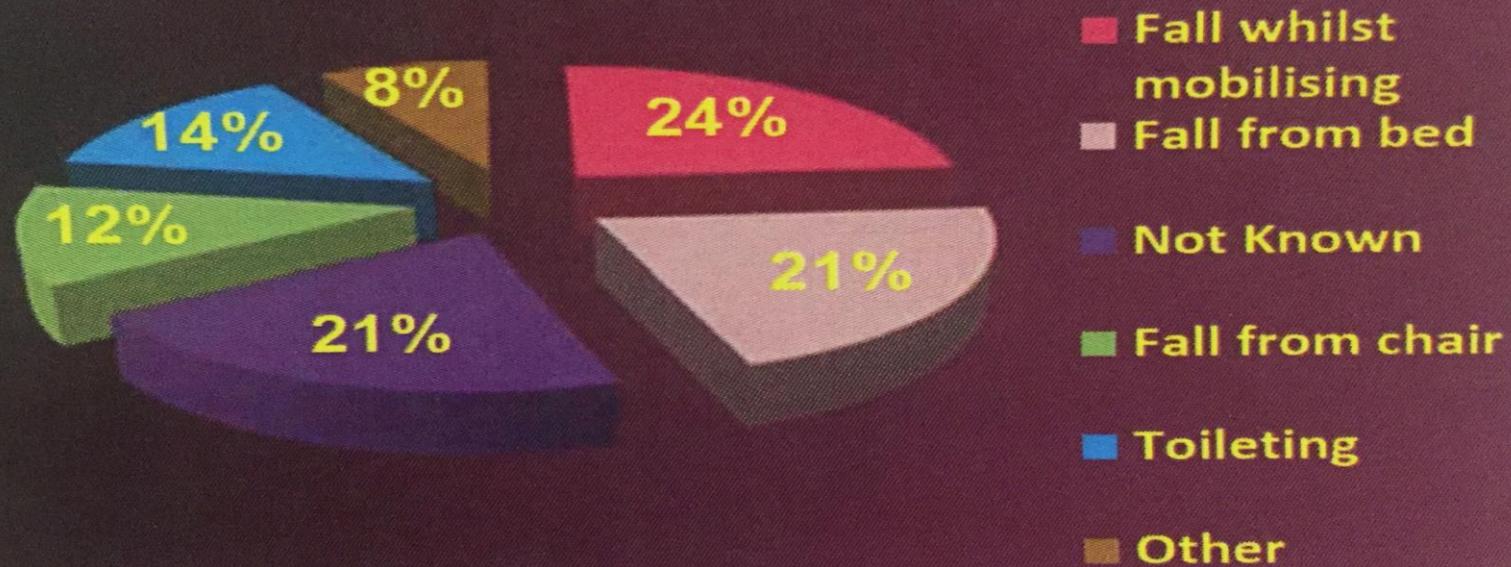
**Great-grandma Josephine Lakin dies aged 97 after
FOUR 'appalling' hospital blunders**



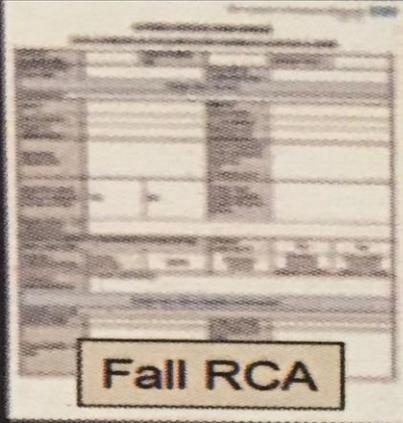
Which age-group fall most?



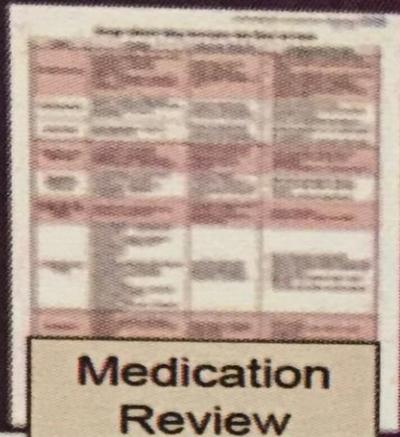
Circumstances when patients fall



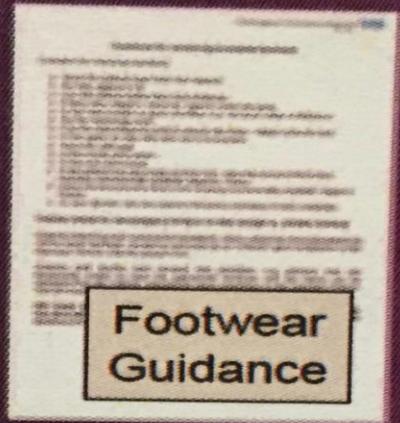
Source – NPSA/NLRS



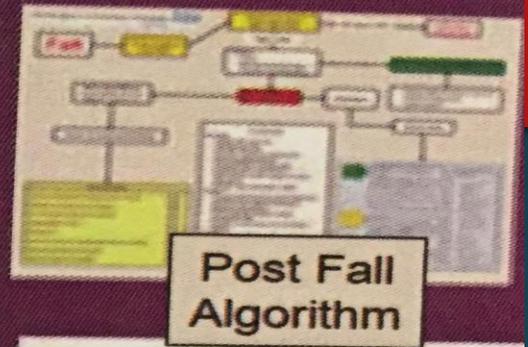
Fall RCA



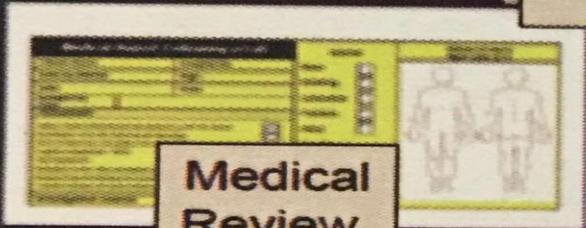
Medication Review



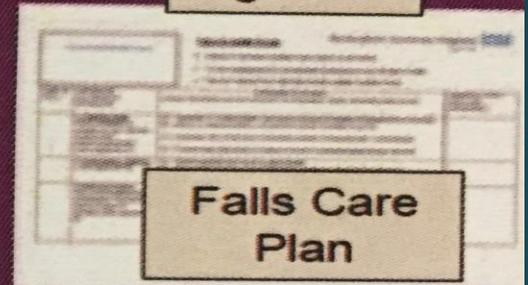
Footwear Guidance



Post Fall Algorithm



Medical Review

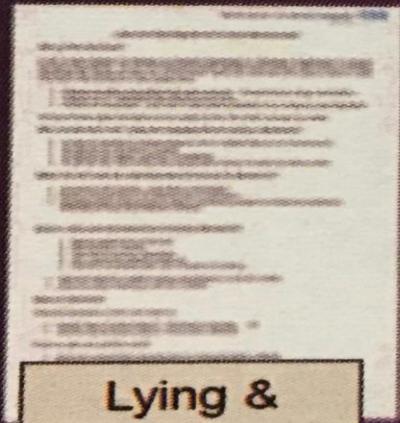


Falls Care Plan

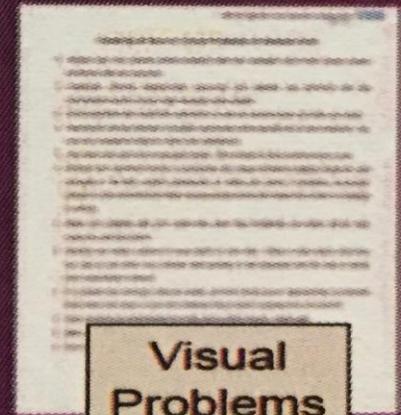
Falls Prevention Toolkit



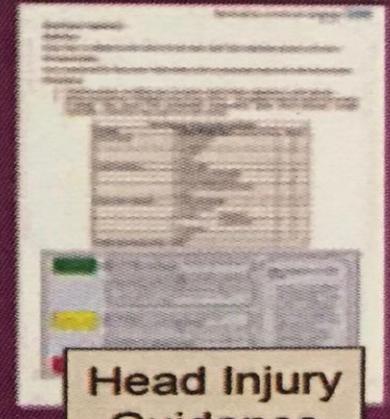
Comfort Rounds



Lying & Standing BP



Visual Problems

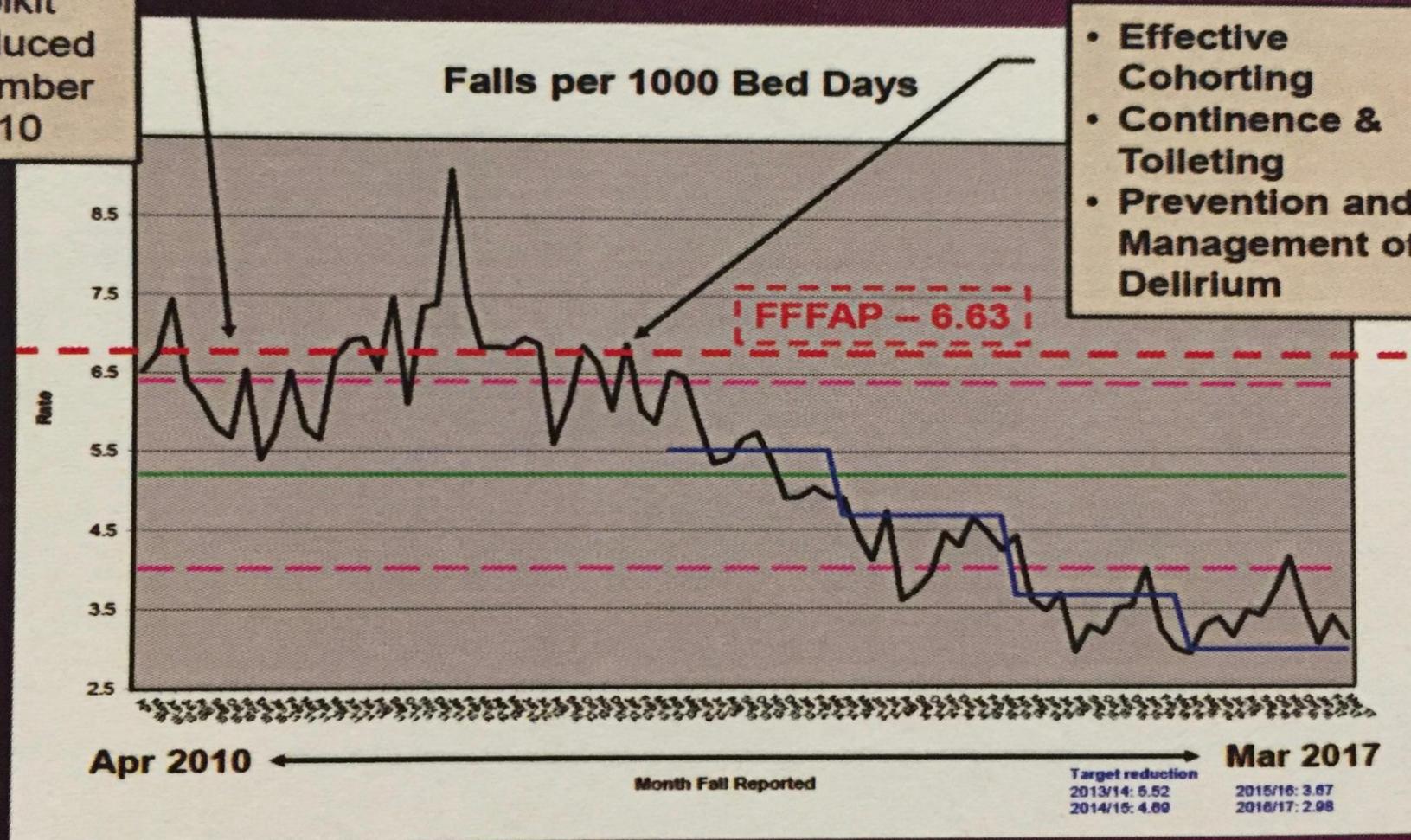


Head Injury Guidance

Falls Prevention Toolkit Introduced November 2010

Performance Measures

- Effective Cohorting
- Continence & Toileting
- Prevention and Management of Delirium

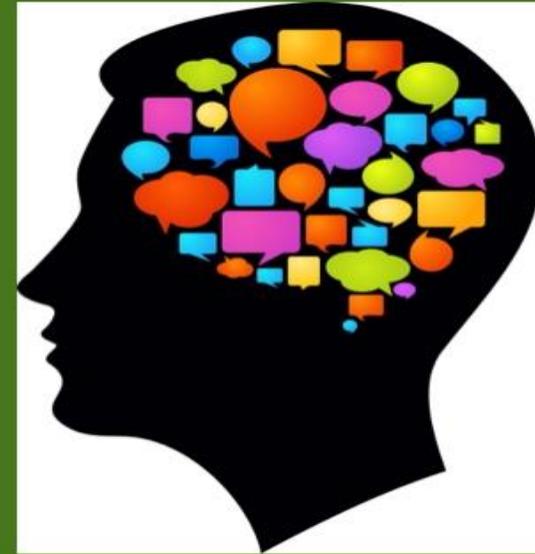


Case 3 : Weak and Dizzy

- ▶ Aged 89 rest home resident “weak and dizzy”
- ▶ Triageed as low priority
- ▶ Feels ok just tired and nauseated
- ▶ Feels like she did last time she had a UTI
- ▶ PMH A Fib , CHF
- ▶ Meds: Frusemide, aspirin, hydrochlorothiazide, digoxin
- ▶ Vitals normal apart from pulse 42, irregular
- ▶ Bloods elevated urea and creatinine digoxin towards the upper end of therapeutic level

Anchoring

Anchoring or focalism is a cognitive bias that describes the common human tendency to rely too heavily on the first piece of information offered (the "anchor") when making decisions. During decision making, anchoring occurs when individuals use an initial piece of information to make subsequent judgments.



**COGNITIVE
BIAS**

Could there be a life threatening diagnosis ?

- ▶ 1) infection
- ▶ 2) metabolic derangements
- ▶ 3) malignancies
- ▶ 4) depression
- ▶ 5) medication side effects or toxicity.
- ▶ **Digoxin toxicity in the geriatric patient**



Emergency
Department
Screener

Start

Information

English

[Back](#) interRAI ED Screener

HIGH RISK

Scores range from 1 to 6. Higher scores indicated greater urgency for referral or assessment

1 2 3 4 5 **6**

Highest Risk: This person is not self-reliant in functional

Drugs with High-Risk and Low Benefit

- ▶ Benzodiazepines – can cause severe agitation and disinhibition, and side effects last a long time in elderly
- ▶ Codeine – a weak analgesic with strong opioid side effects
- ▶ NSAIDS – may trigger acute renal failure, exacerbate hypertension, and cause severe gastritis in the elderly
- ▶ Anticholinergics – side effects, such as delirium, are common in elderly

Drugs with High-Risk but also High-Benefit

- ▶ Anti-coagulants – approx. 2/3 of all drugs interact with warfarin, especially antibiotics, high doses of tylenol, amiodarone, PPIs, SSRIs, and anticonvulsants. When making any medication changes, arrange close follow up for INR surveillance, and inform them of bleeding risk & signs.
- ▶ Hypoglycemics including Insulin – all hypoglycemics may precipitate low glucose, and falls!
- ▶ Opioids – CNS effects of opioids are higher, so start at lower doses.

STOPP START Toolkit Supporting Medication Review

STOPP:

Screening Tool of Older People's potentially inappropriate Prescriptions.

START:

Screening Tool to Alert doctors to Right i.e. appropriate, indicated Treatments.¹

Respiratory System BNF Chapter 3

STOPP

- **Theophylline** as monotherapy for COPD (*safer, more effective alternatives; risk of adverse effects due to narrow therapeutic index*).
- **Systemic corticosteroids** instead of inhaled corticosteroids for maintenance therapy in moderate-severe COPD (*unnecessary exposure to long-term side-effects of systemic steroids*).
- **Nebulised ipratropium** with glaucoma (*may exacerbate glaucoma*).
- **First generation antihistamines** (*sedative, may impair sensorium*). Stop if patient has fallen in past 3 months.

NICE CG 101 COPD



Theophylline

Only offer theophylline after trials of short- and long-acting bronchodilators or to people who cannot use inhaled therapy.

Oral Corticosteroids

Maintenance use of oral corticosteroid therapy in COPD is not normally recommended.

Some people with advanced COPD may need maintenance oral corticosteroids if treatment cannot be stopped after an exacerbation. Keep the dose as low as possible, monitor for osteoporosis and offer prophylaxis.

Respiratory System BNF Chapter 3

START

- Regular inhaled **beta 2 agonist** or **anticholinergic (antimuscarinic)** agent for mild to moderate asthma or COPD.
- Review patients with mild or moderate COPD at least once a year and severe or very severe COPD (FEV1 <50% predicted) at least twice a year. Follow NICE guidance regarding treatment selection for COPD. (Use BTS/SIGN guidelines for asthma).

NICE CG 101 COPD

Assess the need for **oxygen** therapy in people with any of the following:

- very severe airflow obstruction (FEV1 <30% predicted)
- cyanosis
- polycythaemia
- peripheral oedema
- raised jugular venous pressure
- oxygen saturations less than or equal to 92% breathing air.

Give people with FEV1 < 30% a course of **antibiotic** and **oral corticosteroid** tablets to keep at home.

The Dunedin HOME team ED Obs Ward and IM unit every day



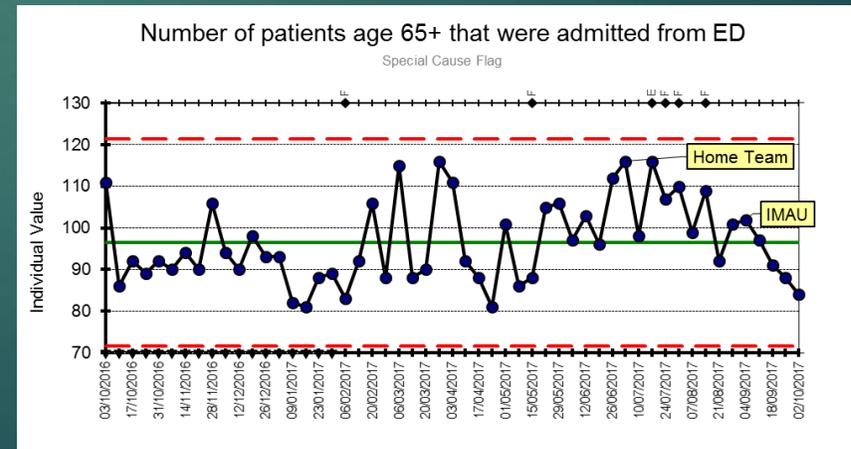
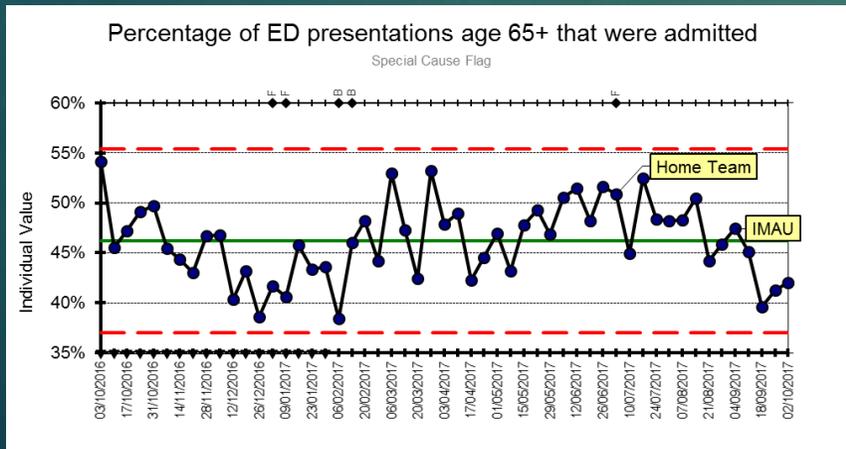
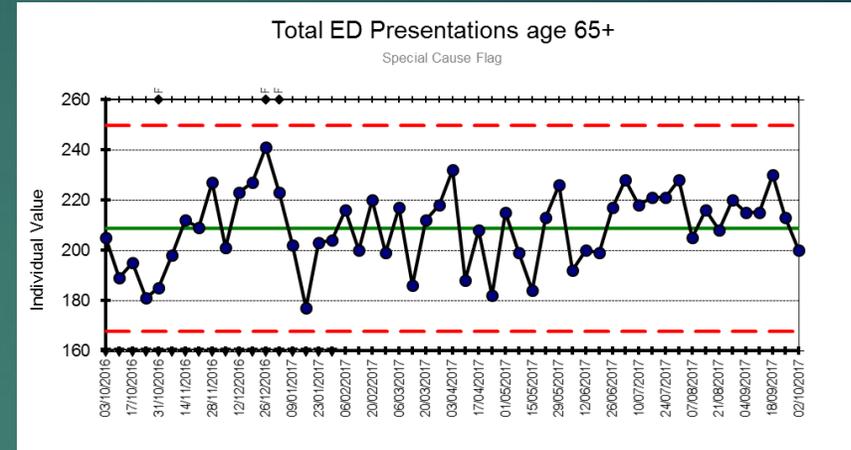
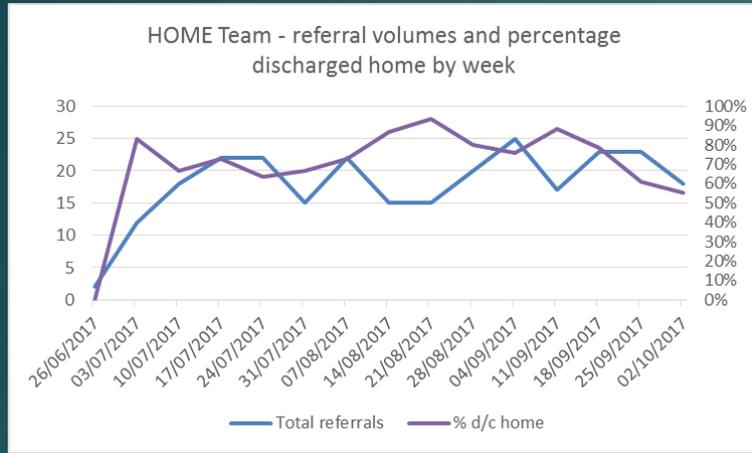
To be completed prior to discharge

Thresholds for discharge	Date achieved
Toileting independently	
Independent and safe mobilising for home	
Social supports adequate for health and wellbeing at home	
Equipment provided or in place for safe discharge	

WERE THRESHOLDS FOR SAFE DISCHARGE MET: YES NO

Comments:

HOME Team Weekly Dashboard



FRAILTY ?

“a clinically recognizable state of increased vulnerability resulting from aging-associated decline in reserve and function across multiple physiologic systems such that the ability to cope with everyday or acute stressors is comprised”

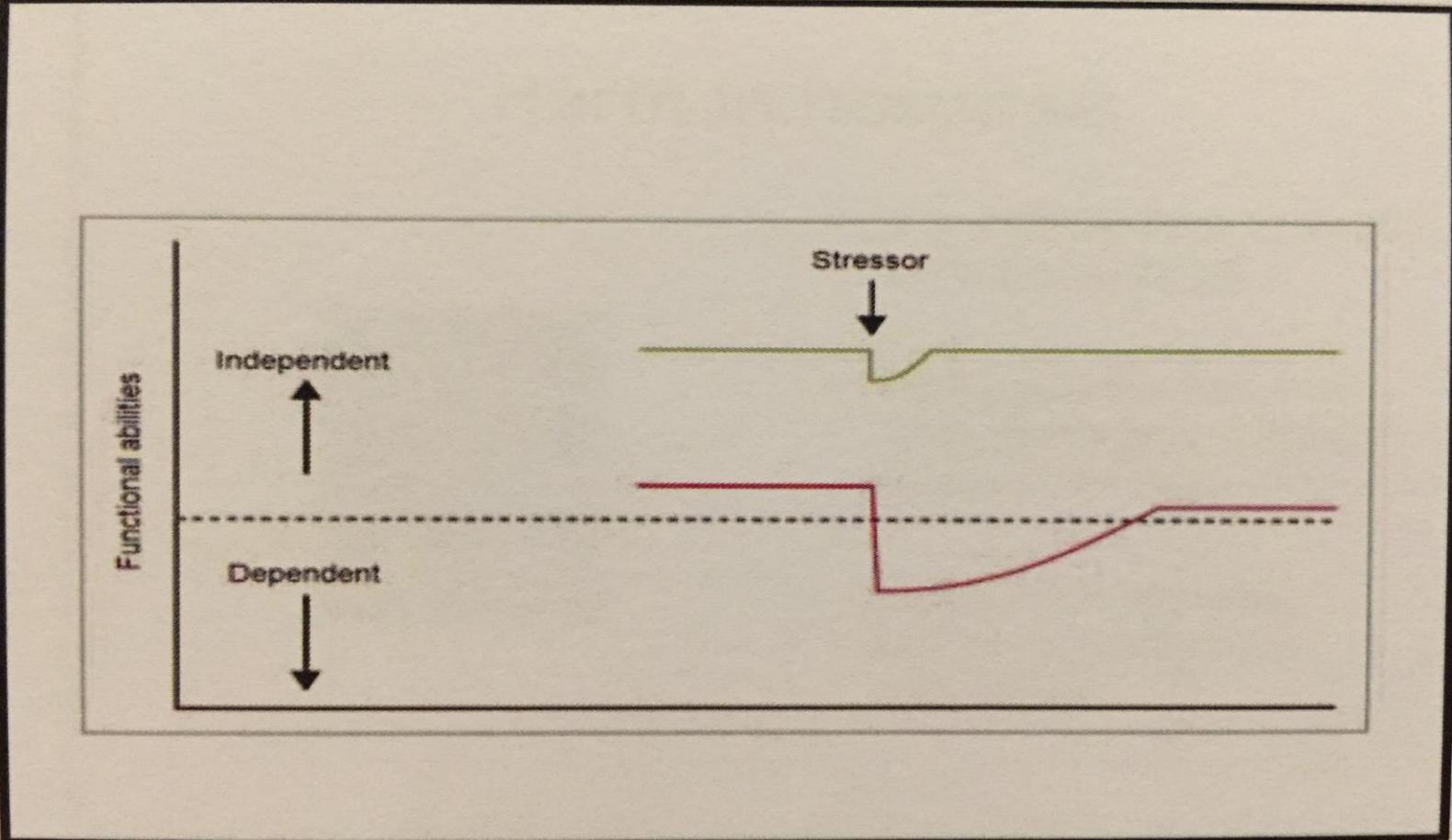


Xue Q-L. The frailty syndrome: definition and natural history. Clin Geriatr Med 2011;27:1-15.

FIRST AUSTRALIA & NEW ZEALAND CONFERENCE ON SARCOPENIA AND FRAILTY

1-12 November 2016. Melbourne, Victoria

Western Health    aimss
Australian Institute for Musculoskeletal Science



- ▶ It is possible to reduce frailty



Chair Stand Exercise

What it does: Strengthens the muscles in your thighs and buttocks.

Goal: To do this exercise without using your hands as you become stronger.

How to do it:

1. Sit toward the front of a sturdy chair with your knees bent and feet flat on the floor, shoulder-width apart.
2. Rest your hands lightly on the seat on either side of you, keeping your back and neck straight and chest slightly forward.
3. Breathe in slowly. Lean forward and feel your weight on the front of your feet.
4. Breathe out and slowly stand up, using your hands as little as possible.
5. Pause for a full breath in and out.
6. Breathe in as you slowly sit down. Do not let yourself collapse back down into the chair. Rather, control your lowering as much as possible.
7. Breathe out.

Repeat 10 – 15 times. If this is too hard for you when you first start doing this exercise, do as many rises as you can and work up to this number.

Rest for a minute and then do another set of 10 – 15 chair stands.

It's never too late

- A 12 week Strength Training programme in 90+ year old nursing home residents doubled their leg strength (*Fiatarone, 1990*)
- Over 75s rejuvenated 20 years of lost strength in 12 weeks of seated strength exercises (*Skelton, 1995*)
- High Intensity Functional Exercise for Care home residents with dementia (12 wks) improved strength, balance and ADLs (*Littbrand, 2011*)



@GCUEngagement

@GCUResearch

#ThisGranCan

@ProFouNDEU

@LaterLifeTrain

Acute Coronary Syndrome

- ▶ Dx is often delayed as elderly patients with MI often present **later**, with **atypical symptoms** and **less definitive ECG findings**.
- ▶ Older patients are more likely to have a “painless heart attack,” and if they do have pain, 20% will describe it as “burning” or as “indigestion.”
- ▶ Patients >85 years old are more likely to present with SOB than with CP and ECG is non-diagnostic in 43%

Abdominal pain and Constipation

The 3 most common surgical causes of abdominal pain in the elderly:

- ▶ **Cholecystitis**—consider this when working up sepsis in older patients, who may present without localized tenderness, nausea, fever, vomiting, or elevated WBC but have high mortality
- ▶ **Bowel obstruction**—femoral hernia is a commonly missed cause of bowel obstruction in the elderly
- ▶ **Appendicitis**—presents atypically in the elderly with higher rates of perforation and mortality

The environment in the ED

- ▶ Non-glare lighting, aisle lighting
- ▶ Non-skid flooring and beside beds, guard rails and hand rails
- ▶ Efforts at noise control (reduce distracting ambient noise)
- ▶ Higher ambient temperatures.
- ▶ Real beds instead of stretchers space for family members to sit comfortably.
- ▶ Egg crate bed padding, Low (LoLo) beds
- ▶ Space for patients to mobilise whilst waiting
- ▶ Work space for case managers, social workers and other ancillary personnel that will provide support services which will be critical to keeping patients out of the hospital.
- ▶ **GEDI's: Geriatric Emergency Department Interventions. Some of these include recliners in lieu of stretchers hearing amplification devices, magnifying glasses, telephones with large numbers, clocks and signage with large lettering,**



The Geriatric ED



Accreditation for Geriatric EM

LEVEL	STAFFING	EDUCATION	SAMPLE POLICY	SAMPLE OUTCOME MEASURES	STANDARD ED EQUIPMENT
3	One nurse and one physician to provide geriatric-focused education	No requirements	Evidence of adherence to urinary catheter avoidance policy	No requirements	Mobility aids
2	Level 3 staffing + transitional care nurse + interdisciplinary care team (physical therapy, occupational therapy, social work, pharmacy) + dedicated hospital administrator who supervises and supports GED	Document geriatric EM-appropriate educational CME for providers working in the GED	Standardized assessments for delirium, dementia, elder abuse, and falls Access to postdischarge follow-up resources such as community paramedicine	Proportion of patients assessed (for delirium, dementia, falls, etc.) and proportion identified as high-risk Rates for hospital admissions and ED returns Proportions of patients with extended ED lengths of stay (>8 hours)	Mobility aids, nonslip socks, pressure-reducing mattresses, hearing aids, bedside commodes, condom catheters, bedside transition stools, large-face analog clocks
1	Level 2 requirements + patient adviser or patient council providing monthly input on GED care quality	Same as level 2	Same as level 2 + guidelines defining criteria for accessing the GED	Same as level 2	Ideally a separate space within or adjacent to non-geriatric ED

In summary :

- ▶ Increasing proportion of ED workload
- ▶ Delirium/Falls/Weak and Dizzy
- ▶ Drug Interactions and Effects in the Elderly
- ▶ Acute Coronary syndrome
- ▶ Abdominal pain and Constipation
- ▶ The ED environment is important

But the real truth is...

