Polypharmacy in the Elderly

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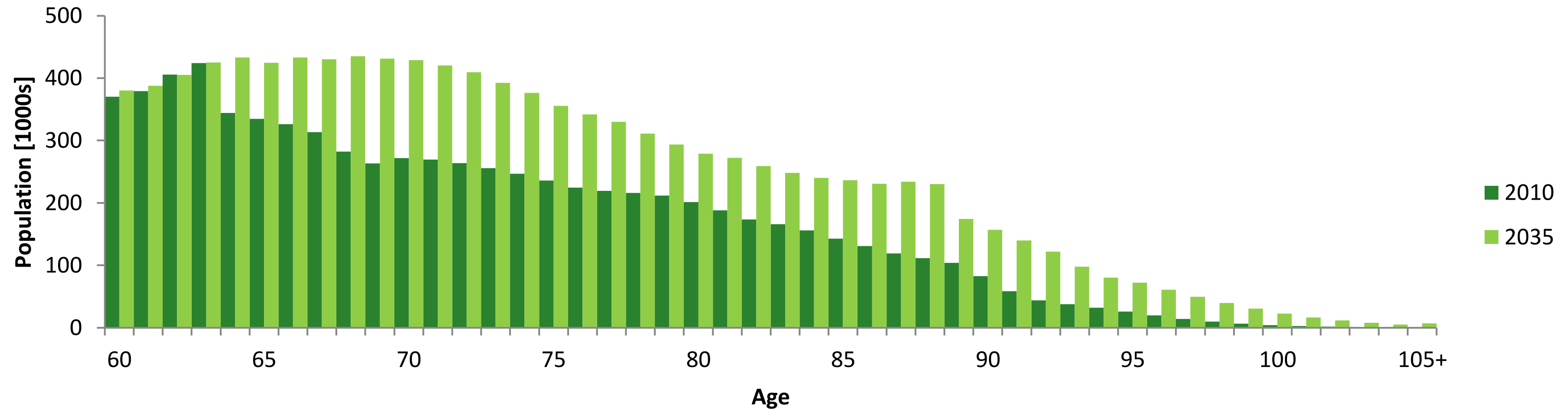
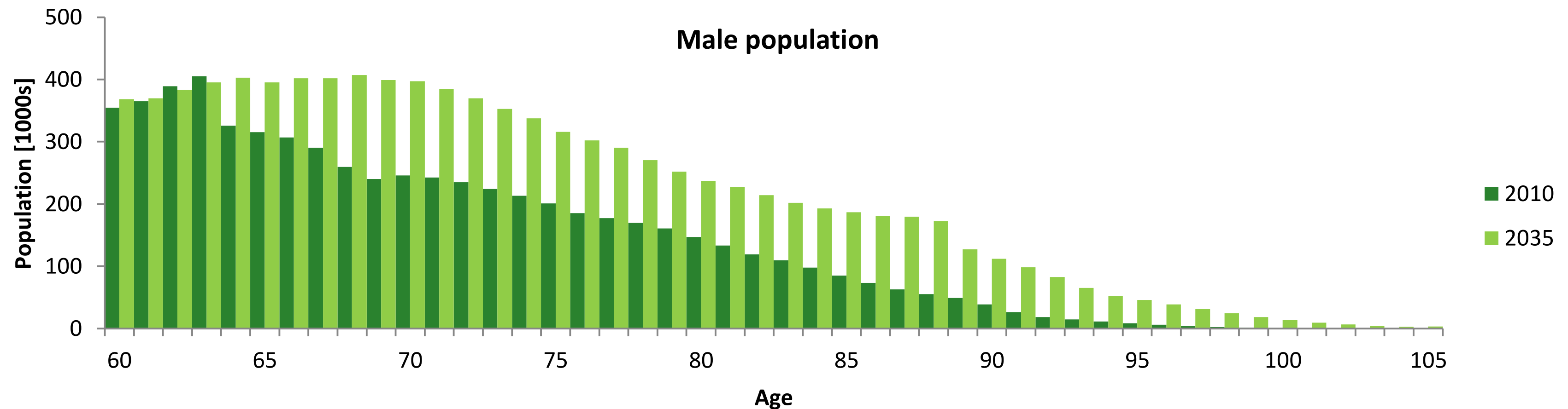
May 2016

Elderly population in the UK is expected to increase





Office for National Statistics. National Projections: UK population to exceed 65m by 2018.
Available at: www.ons.gov.uk/ons/dcp171780_229187.pdf

Frailty syndrome

- **Dealing with the frail not old**
- **Dealing with the frail not the thin**
- **Decline in health and functioning with age**
- **Risk of catastrophic outcomes**
- **Triad: Sarcopenia, osteopenia, anaemia.**
- **Reduced activity, fatigue, postural sway, falls**
- **Is not the 90-year-old golfer…**
- **It is the user of the NHS…**

Chen X, et al. Clin Interv Aging. 2014;9:433–41

Evidence versus Reality

- Elderly > 65 years (evidence)
- Average age medical take > 86 years (reality)
- Single Organ Disease (evidence)
- Multi organ disease (reality)
- Mortality outcomes (evidence)
- QOL outcomes (needed in reality)
- Economic outcomes (society and individual)

PFE, pelvic floor exercises

Evidence versus Reality

- Evidence is good
- Population outcomes
- Reduced disease burden
- Number needed to treat
- Impact on individual is lost
- (No) Immerging evidence base for Frailty

System by failure or design

Care of the Elderly is "not sexy"

Society is fixated on youth

We are scared of ageing and dying

Outrage versus injustice

Signal organ mantra of zeighhesit

Rembember "the bladder is an unreliable witness..”

So is any single organ…

But the needs of an individual aren't …

Polypharmacy : Definition

- **Polypharmacy is the use of four or more medications by a patient ; generally adults aged >65 years.**
- **Polypharmacy in 40 % community elderly**
- **Polypharmacy in 21% of learning disabled**

Pharmacology: easy overview

- **Medication in : ease of route and complex regimes**
- **Medication out : competition for excretion**
- **Peak trough effects exaggerated**
- **Adverse drug effects and confusion**
- **Anticholinergic burden**
- **Significant side effects?**
- **Meal of medication…**
- **Two opiates not twice as good as one...**

BBB, blood–brain barrier; CNS, central nervous system
Chancellor MB, et al. Drugs Aging 2012;29:259–73

Ags beers criteria 2012

Potentially inappropriate medications

1991 consensus 2 categories

2012 AGS revision 3 categories

1. **Inappropriate by high adverse effect low effectiveness (antihistamine)**
2. **Inappropriate by exacerbation of chronic health problem (constipation)**
3. **Caution by risk greater than benefit in the individual (n=1 bleeding risk)**

J. AmGeriatriSoc. 2012 April 60(4):616-63

Falling Down

- Risk of falls increases with increasing medication
- ‘Fall’ is an oxymoron
- Being Frail is a risk factor for death
- Fall is a marker of declining function
- Fall ..fear.. Reduced activity.. Fall.. Fear
- Maintenance of function best
- Isn't a blood test
- Nor a QOFF or CQUIN

J Nutr Health Ageing 2012 Oct 16 (10):903-7

Making good choices

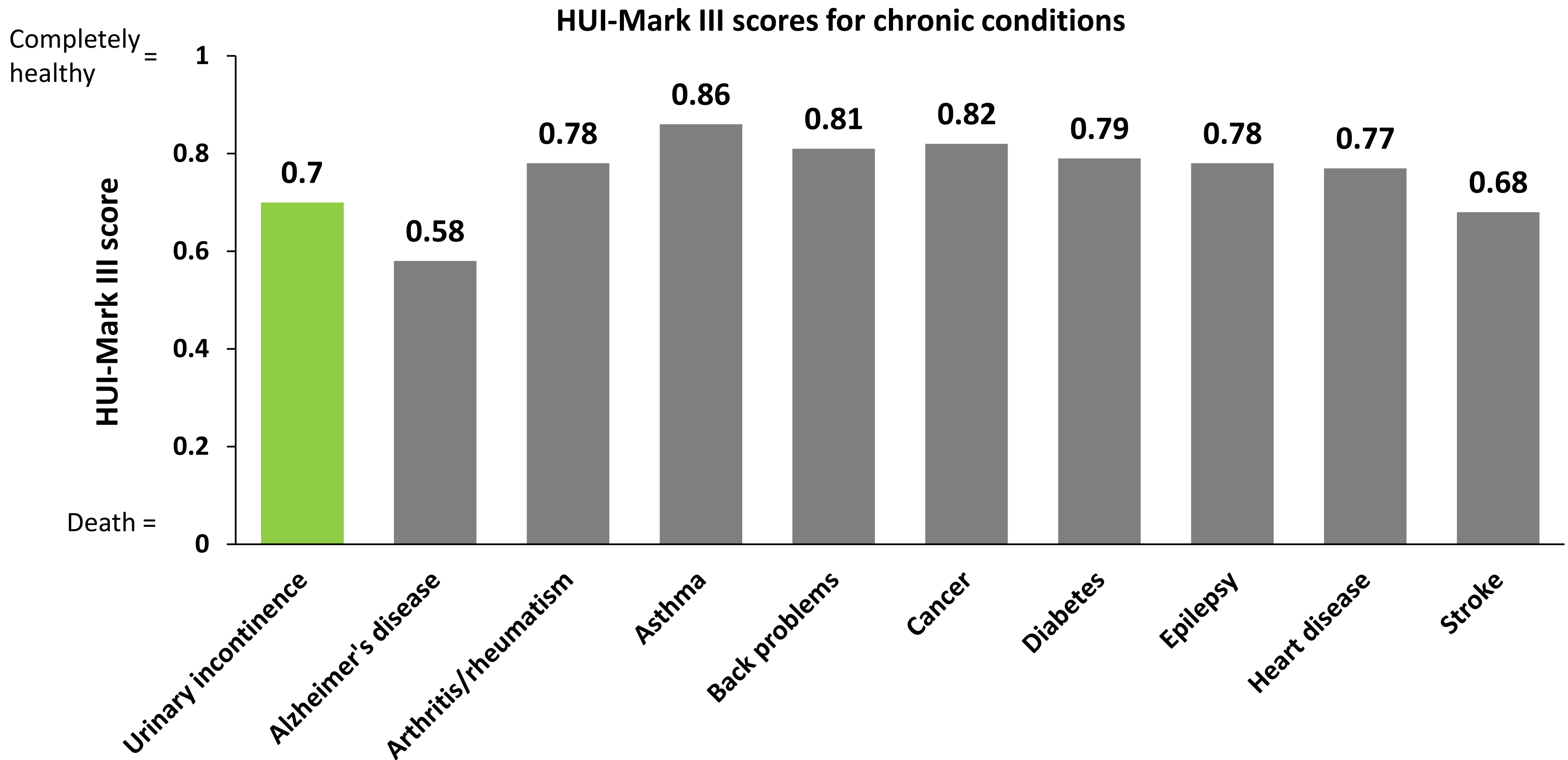
- QOL outcomes
- Life to years
- Consideration of the prognosis of the individual
- Patient advocacy and choice
- Acceptable versus unacceptable side effects
- Beers criteria number 3…….

Setting the scene: why?

- **Nocturnal, falls and fractured NOF**
- **UI predictor of poor outcome for stroke**
- **Patients with UI more likely to be admitted**
- **UI (new and old) increases LOS**
- **Treatment is ‘cheaper’ than containment**
- **Risk factor for admission to 24-hr care**
- **CQUIN target CAUTIs**
- **OAB prevalence increases with age**

CAUTI; catheter-associated urinary tract infection; CQUIN; Commissioning for Quality and Innovation; LOS, loss of stool; NOF, neck of femur; OAB, overactive bladder; UI, urinary incontinence

Individuals with UI, Alzheimer's disease or stroke have the lowest utility scores



HUI-Mark III is an interval-scaled health status classification system that examines vision, hearing, speech, ambulation, dexterity, emotion, cognition and pain. Utility units relate to a person's state of well-being. Death is set at a utility score of 0.0 and a completely healthy individual is assigned a score of 1.0. Data from 17,626 community-dwelling individuals.

Mittmann N, et al. Pharmacoeconomics 1999;15:369–76

Frailty, UI and drugs: why say no?

- Geriatricians do pharmacology and MDT
- Old geriatricians have older memories
- Previous paucity of evidence base
- Unrealistic study populations and outcomes
- Terodiline “made you dry, made you die”
- Unproven postural hypotension risk
- Retention in men with voiding symptoms <2%
- Two drugs good, (more than) four drugs bad…

FRAILTY, UI AND DRUGS WHY SAY NO?

- Anti-cholinergic load IS important
- Delirium is important and serious but rare (good)
- Demonstrated decline in IADL
- 1 in 3 >80 yrs have cognitive impairment
- But more to gain from OAB and UI treatment
- Lots and lots of drugs with anti-cholinergic activity
- Beta 3 agonist available
- Lots of drugs can worsen UI and make you fall (doxazin)
- Constipation important in UI and OAB

IADL, instrumental activities of daily living

COE: why say yes?

- **NICE push for MDT**
- **Because of individual and national economic need**
- **Can treat! Importance of med review**
- **Input on the frail (NOF example)**
- **Evidence base is becoming realistic**
- **Necessity of health economics (life to years)**
- **New generation of interest (trainees)**
- **New drug class also creates interest**
- **Reduced reluctance to treat**

COE, Center of Excellence; MDT, Multidisciplinary Team; EAU, European Association of Urology; NOF, National Osteopathic Foundation

The (LUTS) drugs do work

- **Loop diuretics for RDUP**
- **NSAIDs for nocturia (with care)**
- **Selective alpha blockers for voiding LUTS**
- **Desmopressin for nocturnal enuresis (not >65 yrs: yet)**
- **Anti-muscarinics for OAB (NICE GD148)**
- **Beta2 agonists for OAB**
- **Laxatives to aggressively treat constipation**

LUTS, lower urinary tract symptoms; NSAID, non-steroidal anti-inflammatory drug

N.I.C.E. IS NICE IF QUOTED RIGHT

Do not use oxybuytnin in frail older women

CG97
CG 148
CG 171

CONCLUSION

- **Healthcare outcomes and choices in the Frail should:**
- **Consider psychosocial and economic implications**
- **Maintenance of activity and function**
- **Prevent falls**
- **Medication reviews are important**
- **Pain relief**
- **Treatment of depression and anxiety**
- **Maintenance of continence.**
- **PROMS**

CONCLUSION

- Frail get more benefit from symptomatic treatment
- More benefit in all domains…
- Clinical trials need to address this
- Evidence needs to reflect reality
- Involvement of COE in MDT is vital
- Entering a time of positivity…
- Educated aware ageing population
- Lobby groups and support groups

"What different choices I would have made if immortality was an option."

Tom Stoppard

“Live long BUT prosper"

Spock: Revised

Thank you