# Managing Polypharmacy: User Guide

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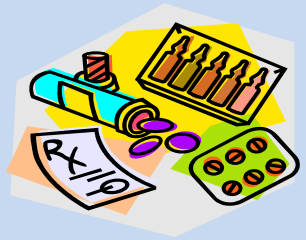


# What we are going do

- Clinical Aspects of Polypharmacy Management
  - You are likely to already be good at this
  - What are the core things elderly specialists need to be ‘good’ at

- User Guide
  - What are the key concepts / rate limiting steps to delivery of good prescribing in complex adults

*N.B. Time must be in 24 hour format

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| ENOXAPARIN | 40mg | |
| Route: S/C | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 1800 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| TRIMETHOPRIM | 200mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 2200 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| MIRTAZAPINE | 30mg | |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 2200 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| OMEPRAZOLE | 20mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| THYROXINE | 250mcg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

*N.B. Time must be in 24 hour format

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| APIXIBAN | 5mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 2200 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| CALCICHEW D3 Forte | 1 tab | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 1800 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| ALENDRONATE | 70mg | 0800 |
| Route: ORL | Indication: | Comments: one week on Fri |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| PERINDOPRIL | 8mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| REQUIP XL PM | 2mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

*N.B. Time must be in 24 hour format

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| OXYBUTININ | 5mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 2200 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| INDAPAMIDE | 2.5mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| 20. PICOLONE | 7.5mg | |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 2200 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| PARACETAMOL | 1g | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 1400 |
| Signature: | Name: | 1800 |
| | | 2200 |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| ATORVASTATIN | 80mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

*N.B. Time must be in 24 hour format

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| CETIRIZINE | 10mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| METFORMIN | 1g | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 1400 |
| Signature: | Name: | 2200 |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| CLOPIDOGREL | 75mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| GLICLAZIDE | 160mg | 0800 |
| Route: ORL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date / Initial: | 1800 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| | | |
| Route: | Indication: | Comments: |
| Start Date: | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| CODEINE | | |
| Dose: 30mg | Route: ORL | Frequency & com: PRN Req for Pain 4-6 |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| NITROPERIDOL | | |
| Dose: 2mg | Route: ORL | Frequency & com: PRN Req for asthma |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| LORAZEPAM | | |
| Dose: 0.5mg | Route: PO | Frequency & com: PRN Req for agitation |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| IBUPROFEN | | |
| Dose: 400mg | Route: ORL | Frequency & com: 4-6 hrly PRN |
| Start Date: 20/9/18 | Stop date / Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| | | |
| Dose: | Route: | Frequency & comm |
| Start Date: | Stop date / Initial: | |
| Signature: | Name: | |

*N.B. Time must be in 24 hour format

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| ENOXAPARIN | 40mg | |
| Route: S/C | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | 1800 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| TRIMETHOPRIM | 200mg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | 2200 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| OMEPRAZOLE | 20mg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| THYROXINE | 250mcg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

*N.B. Time must be in 24 hour format

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| APIXABAN | 5mg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | 2200 |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| ACCICHAN D3 Tab | 1 tab | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | 1800 |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| ALENDRONATE | 70mg | 0800 |
| Route: ORAL | Indication: | Comments: one week on FRI |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| PERINDOPRIL | 5mg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| [illegible] | [illegible] | 0800 |
| Route: INH | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

*N.B. Time must be in 24 hour format

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| OXYBUTININ | 5mg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | 2200 |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| RANITIDINE | 2.5ml | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| ZOPICLONE | 7.5mg | |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | 2200 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| PARACETAMOL | 1g | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | 1400 1800 2200 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| ATORVASTATIN | 80mg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

*N.B. Time must be in 24 hour format

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| CETIRIZINE | 10mg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| MESALAZINE | 1g | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | 1400 |
| Signature: | Name: | 2200 |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| CLOPIDOGREL | 75mg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| GLICLAZIDE | 160mg | 0800 |
| Route: ORAL | Indication: | Comments: |
| Start Date: 20/9/18 | Stop date Initial: | 1800 |
| Signature: | Name: | |

| Drug (Approved Name) | Dose | Time* |
|---|---|---|
| | | |
| Route: | Indication: | Comments: |
| Start Date: | Stop date Initial: | |
| Signature: | Name: | |

CODEINE

| Dose | Route | Frequency & |
|---|---|---|
| 30mg | ORAL | As Req to |
| Start Date: 20/9/18 | Stop date Initial: | |
| Signature: | Name: | |

| Drug (Approved Name) | |
|---|---|
| [illegible] | |
| Dose: 2mg | Route: ORAL |
| Start Date: 20/9/18 | Stop date Initial: |
| Signature: | Name: |

| Drug (Approved Name) | |
|---|---|
| LORAZEPAM | |
| Dose: 0.5mg | Route: PO |
| Start Date: 20/9/18 | Stop date Initial: |
| Signature: | Name: |

| Drug (Approved Name) | |
|---|---|
| IBUPROFEN | |
| Dose: 400mg | Route: ORAL |
| Start Date: 20/9/18 | Stop date Initial: |
| Signature: | Name: |

| Drug (Approved Name) | |
|---|---|
| Dose | Route |
| Start Date | Stop date Initial |
| Signature: | Name: |

# What are the core concepts?

- Stealth Geriatrics ?
  - Taking the whole picture into account
  - Patient specific goals

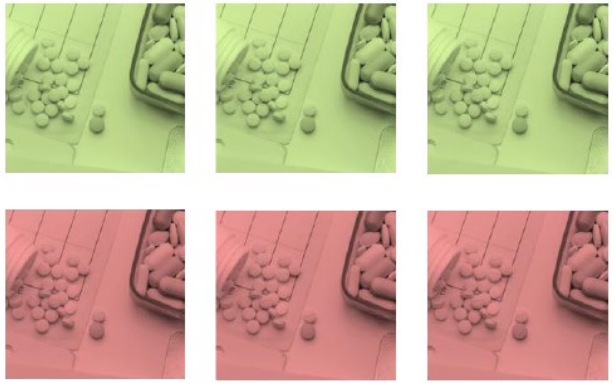
- Getting away from automatic prescribing
  - If patient has condition A they *must* get Drug B

# First things first:
# Do we really need a guideline ?

- ‘Use common sense’?
- ‘Realistic Prescribing’ ?
- ‘Patient centred prescribing’ ?

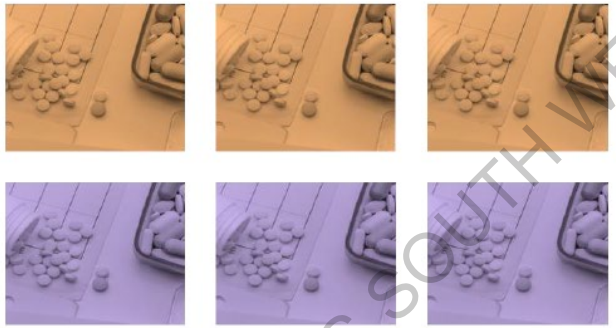
# Probably Yes

- Provides a structure (a *teachable* structure)
  - Extremely important given size of problem/population
- Guards against broad strokes prescribing
  - *Always give X Never give Y Always Stop Z etc*
- Fits in with ‘standard’ guidelines
- “Air cover”



# Polypharmacy Guidance
# Realistic Prescribing

### 3rd Edition, 2018



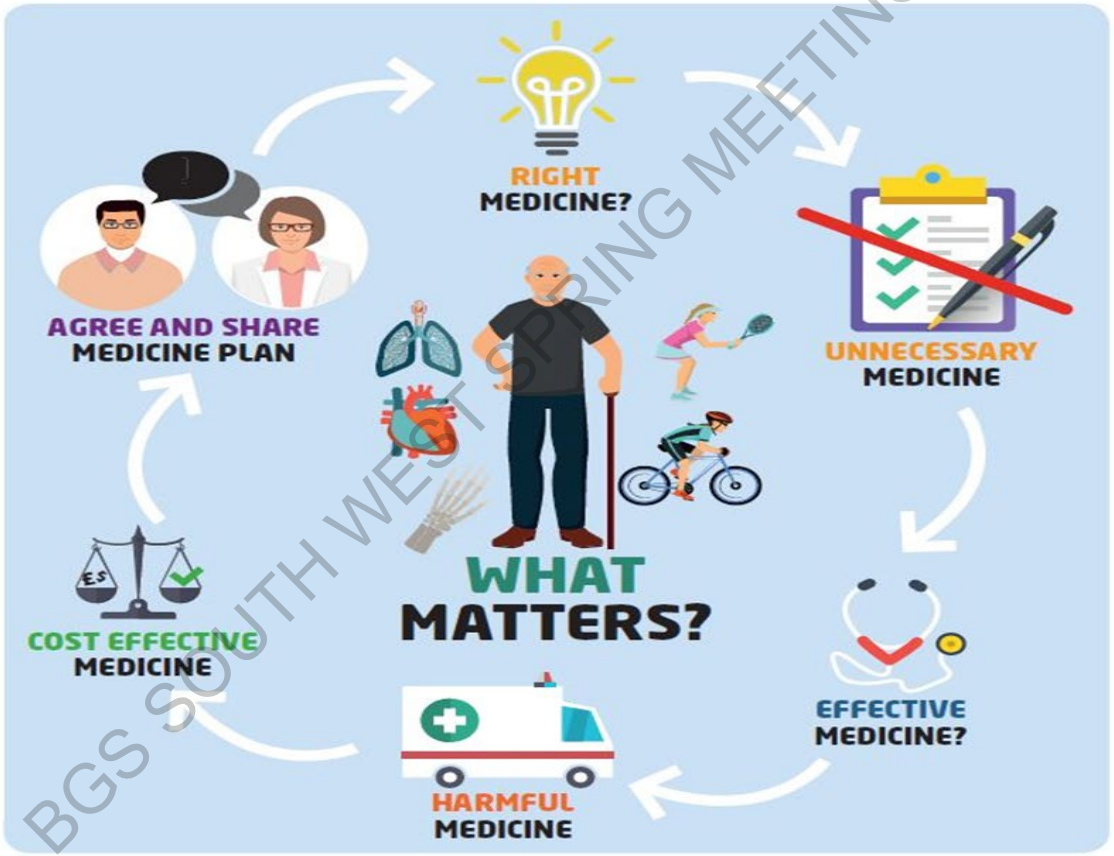
REALISTIC MEDICINE

Scottish Government
Riaghaltas na h-Alba
gov.scot

NHS SCOTLAND

| Domain | Steps | | Process |
|---|---|---|---|
| Aims | 1. | What matters to the patient? | **Review diagnoses and identify therapeutic objectives with respect to:**<br>• What matters to me (the patient)?<br>• Understanding of objectives of drug therapy<br>• Management of existing health problems<br>• Prevention of future health problems |
| Need | 2. | Identify essential drug therapy | **Identify essential drugs (not to be stopped without specialist advice):**<br>• Drugs that have essential replacement functions (e.g. levothyroxine)<br>• Drugs to prevent rapid symptomatic decline (e.g. drugs for Parkinson's disease, heart failure) |
| | 3. | Does the patient take unnecessary drug therapy? | **Identify and review the (continued) need for drugs:**<br>• With temporary indications<br>• With higher than usual maintenance doses<br>• With limited benefit in general for the indication they are used for<br>• With limited benefit in the patient under review (See: *Drug Efficacy (NNT)* table) |
| Effectiveness | 4. | Are therapeutic objectives being achieved? | **Identify the need for adding/intensifying drug therapy in order to achieve therapeutic objectives:**<br>• To achieve symptom control<br>• To achieve biochemical/clinical targets<br>• To prevent disease progression/exacerbation |
| Safety | 5. | Does the patient have ADR/Side Effects or is at risk of ADRs/Side Effects?<br>Does the patient know what to do if they're ill? | **Identify patient safety risks by checking for:**<br>• Drug-disease interactions<br>• Drug-drug interactions (see *Cumulative Toxicity* tool)<br>• Robustness of monitoring mechanisms for high-risk drugs<br>• Drug-drug and drug-disease interactions<br>• Risk of accidental overdosing (Yellow Card Scheme)<br>**Identify adverse drug effects by checking for**<br>• Specific symptoms/laboratory markers (e.g. hypokalaemia)<br>• Cumulative adverse drug effects (see *Cumulative Toxicity* tool)<br>• Drugs that may be used to treat ADRs caused by other drugs (*Sick Day Rule* guidance can be used to help patients know what do with their medicines if they fall ill) |
| Cost-effectiveness | 6. | Is drug therapy cost-effective? | **Identify unnecessarily costly drug therapy by:**<br>• Consider more cost-effective alternatives (but balance against effectiveness, safety, convenience) |
| Patient centeredness | 7. | Is the patient willing and able to take drug therapy as intended? | **Does the patient understand the outcomes of the review?**<br>• Does the patient understand why they need to take their medication?<br>• Consider Teach back<br>**Ensure drug therapy changes are tailored to patient preferences**<br>• Is the medication in a form the patient can take?<br>• Is the dosing schedule convenient?<br>• Consider what assistance the patient might have and when this is available<br>• Is the patient able to take medicines as intended?<br>**Agree and Communicate Plan**<br>• Discuss with the patient/carer/welfare proxy therapeutic objectives and treatment priorities<br>• Decide with the patient/carer/welfare proxies what medicines have an effect of sufficient magnitude to consider continuation or discontinuation<br>• Inform relevant healthcare and social care carers change in treatments across the care interfaces<br>Add the READ code **8B31B** to the patients record so that when they move across transitions of care it is clear their medication has been reviewed |

# 7 STEPS TO APPROPRIATE POLYPHARMACY



# One Tool Medication Review

**START HERE -> Outstanding Medication Reviews: Right Click & Edit to Complete**
Last Medication Review (Date and comments))
**ONLY ADD A NEW REVIEW IF THERE ARE NONE ABOVE TO COMPLETE**
**If required by the practice, record the ECSCRO Polypharmacy code:**

| ESCRO Polypharmacy Review (66RZ.00 Rep.presc. monitoring NOS) | |
|---|---|

**1. Identify aims and objectives of drug therapy – consider what matters most to the patient**

ALL medicines should be prescribed for a specific indication which should be documented in the patient's record.
CLICK HERE TO VIEW DIAGNOSES AND REPEATS, CLICK AGAIN TO HIDE

| Indication for Each Drug Checked (8BIK.00 Indication for each drug checked) | |
|---|---|

**2. Identify any inappropriate medication for the patient (Click all applicable)**

Identify and review the (continued) need for drugs with: specific stop dates, temporary indications, higher than usual maintenance doses, limited benefit . Changes to guidelines and patient health can mean a medicine is no longer appropriate. This includes disease-drug and drug-drug interactions. Also consider OTC medicines. Essential drugs should not to be altered without specialist advice:
TABLE

| Specialist Advice (671H.00 Discussed with clinical supervisor) | Adverse Drug Reaction (TJz.00 Adverse reaction to drug NOS) | At Risk of Adverse Drug Reaction (9G4..00 Adverse drug reaction notification) | |
|---|---|---|---|
| | | | |
| **Medication Satisfactory** (8B3E100 Medication satisfactory) | **Medication Changed** (8B31600 Medication Changed) | **Medication Stopped** (8B3R.00 Drug therapy discontinued) | **Medication Commenced** (8B31300 Medication Commenced) |

**3. Are therapeutic objectives being achieved and has all appropriate monitoring been undertaken?**

Monitoring should be carried out to help assess whether a medicine is effective and can be used safely
CLICK HERE TO VIEW RECENT LAB RESULTS AND EXAMINATION FINDINGS, CLICK AGAIN TO HIDE

| Efficacy of All Medication Checked (8BIR.00 Efficacy of all medication checked) | |
|---|---|
| | |

| Monitoring up to Date (8BIf.00 Drug monitoring up to date) | Monitoring required (Select from List) | |
|---|---|---|

**4. Is the drug therapy cost effective?**

Identify unnecessarily costly drug therapy by considering more cost-effective alternatives (but balance against effectiveness, safety, convenience)

| Yes (8BIs.00 No Cost effective drug alternatives available) | No (8BIr.00 Drug changed to cost effective alternative) | |
|---|---|---|

**5. Is the patient willing and able to comply with ALL treatment?**

Can patient comply with all forms / frequencies of drugs? A good indicator of compliance with treatment is regular ordering of repeat prescriptions at expected intervals, for CMS patients review Treatment Summary Report

| Yes (8B3E.00 Drug compliance good) | No (8B3i.00 Drug compliance poor) | |
|---|---|---|

**Any further referral necessary?**

| Referred to Pharmacist (8H7t.00 Referral to pharmacist) | Referred to GP (8H62.00 Referral to GP) | |
|---|---|---|

# Words and meanings *really* matter

# Disclaimers

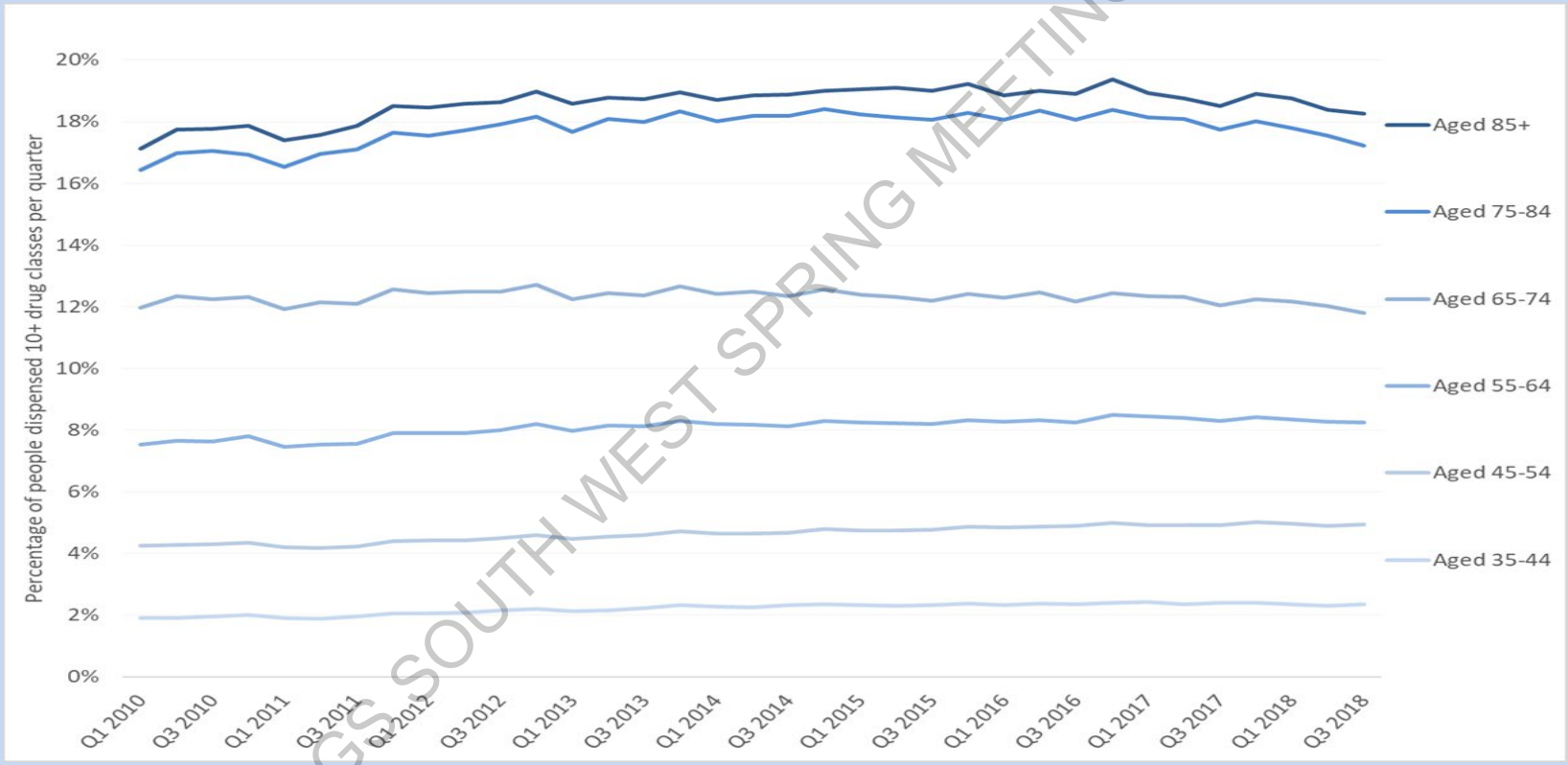
- Stopping drugs is **not** the primary goal

- Thinking openly and carefully is the goal

# De-prescribing

- Part of the process
- Helpful for some things eg
  - Review all patients on known dire combos
    - OAC + Antiplatelet(s)
    - ACE + NSAID + DIURETIC (+ ARB)
    - Antipsychotics in dementia
- Measurable (no small issue)

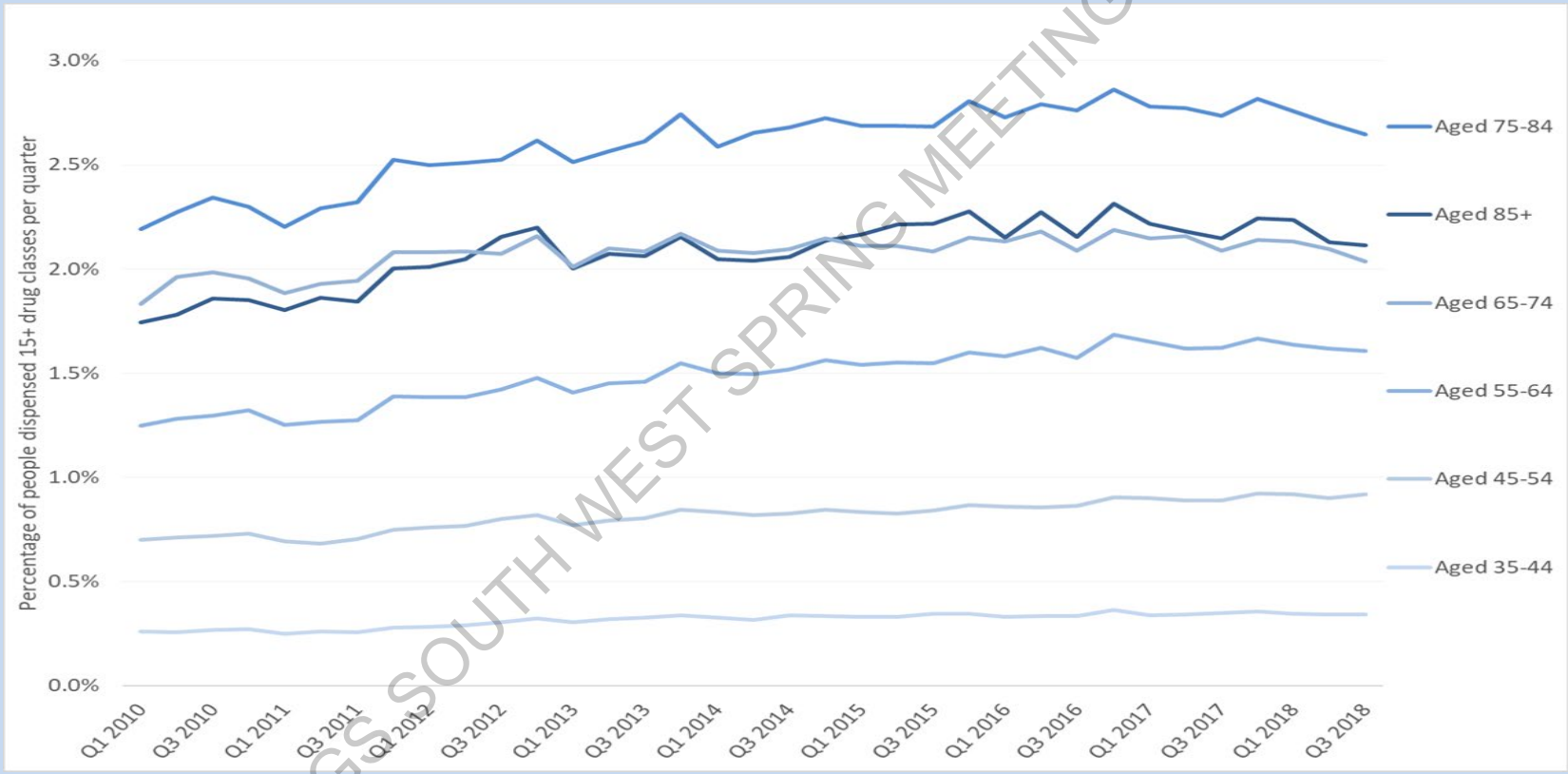
# Percentage of adults on 10 + drug classes






Source :-ISD commissioned by SG Polypharmacy model of care/evaluation group

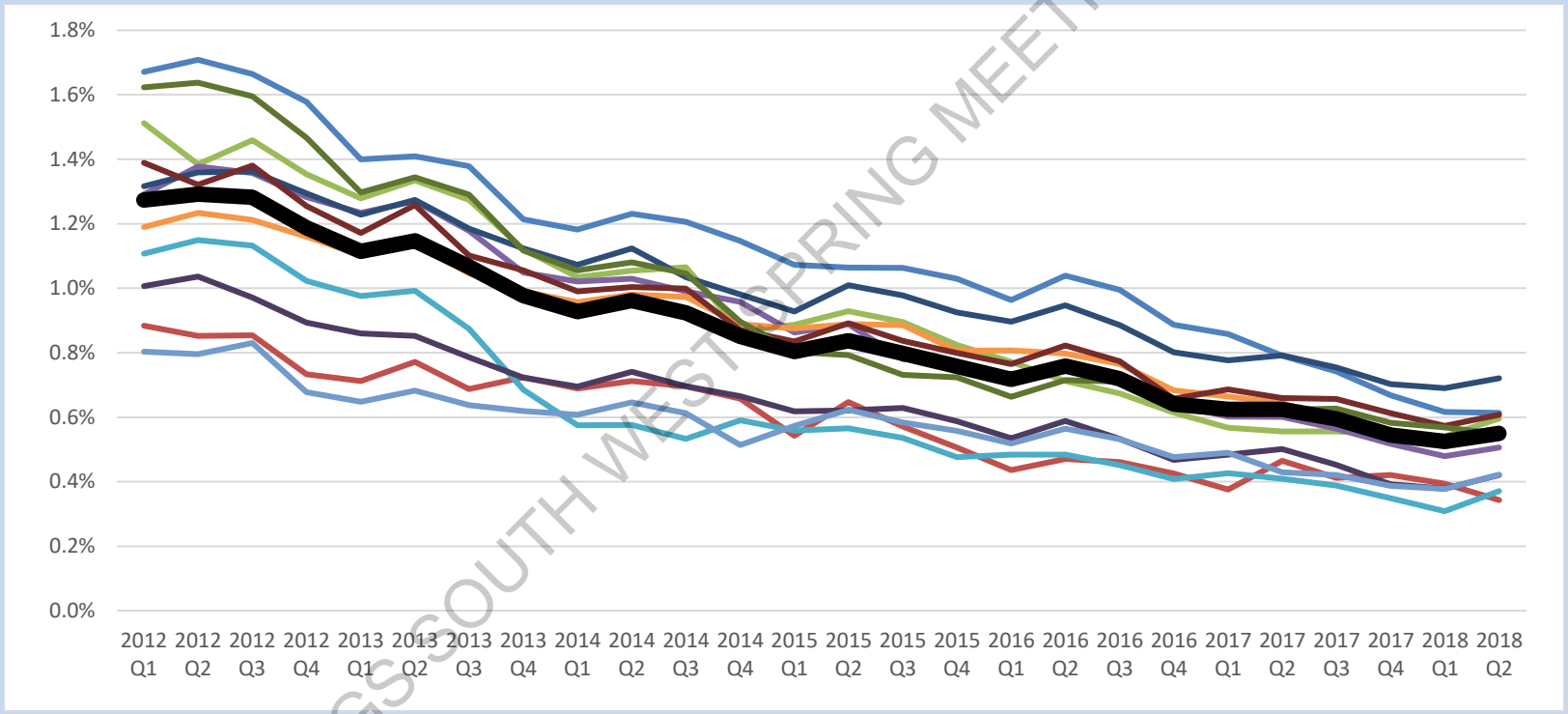
# Percentage of adults on 15 + drug classes






Source :-ISD commissioned by SG Polypharmacy model of care/evaluation group

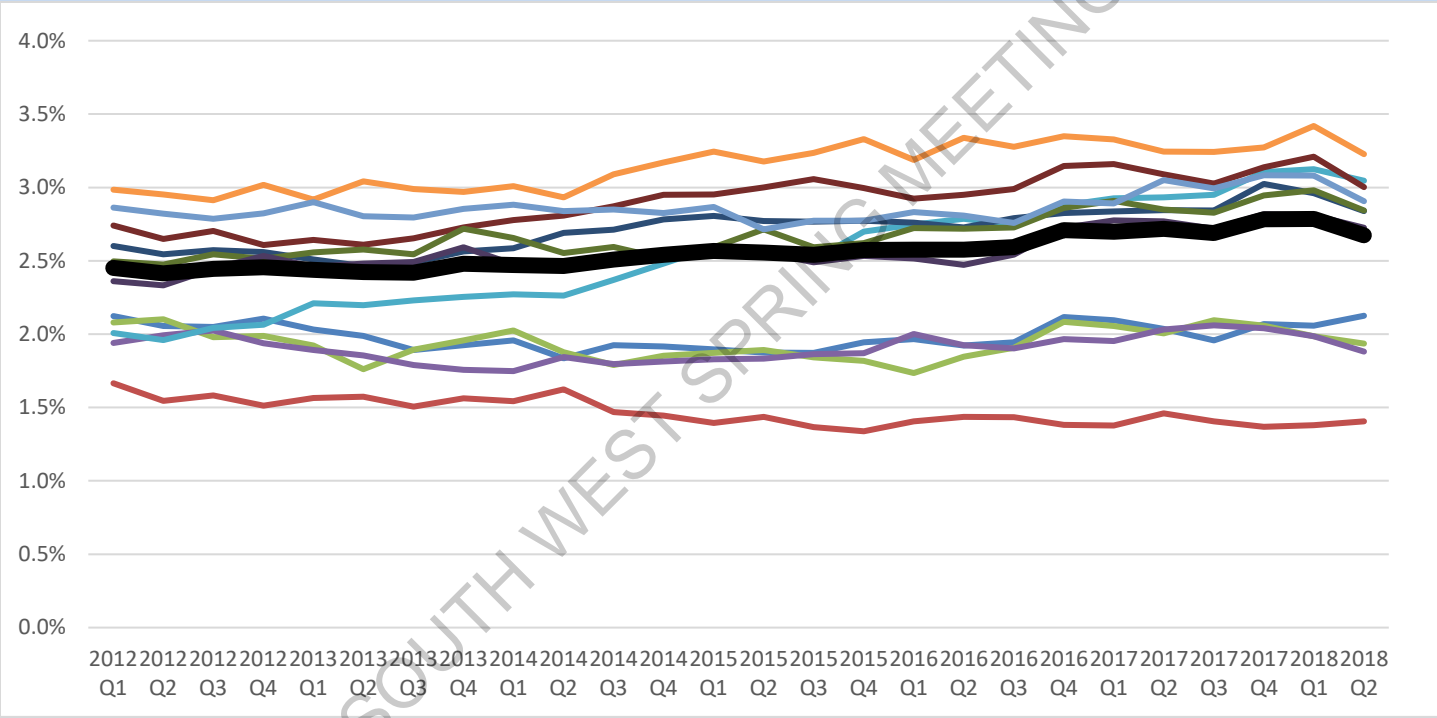
# ‘Triple whammy’ ACEI/ARB, diuretic, NSAID






Source :-ISD commissioned by SG Polypharmacy model of care/evaluation group

# Antipsychotics in over 75s






Source :-ISD commissioned by SG Polypharmacy model of care/evaluation group

# De-Prescribing:-downsides

- Misses medicine optimisation
- *Under prescribing* in polypharmacy patients
- Supporting folk on appropriate polypharmacy

- ? Longer term risk to acceptability ie seen as primarily cost cutting

# Be aware of public perception

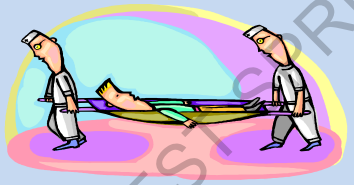
- 2017 XXXXX CCG advised review of care homes to rationalise medication
  - Unarguably a good idea.

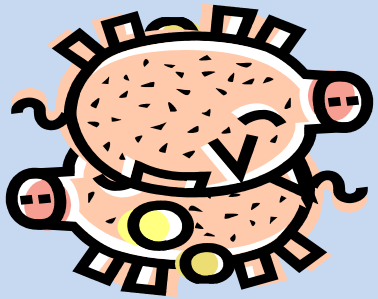
- If enough medications stopped GPs keep half the saved cash
  - Massive press backlash

If anything gets a label of Ageist or Primarily Cost Saving it is a dead project walking

# Marketing is important

- Public Funded
- Competitive v resources
- ‘Loveability index’ v ‘health economics’
- Inverse care law



# What is Polypharmacy

- >4
- >10
- ???

- More drugs than you need taking in to account
  - Side effects
  - Time to Benefit
  - Adherence

# Helpful terms

Appropriate Polypharmacy

Inappropriate Polypharmacy

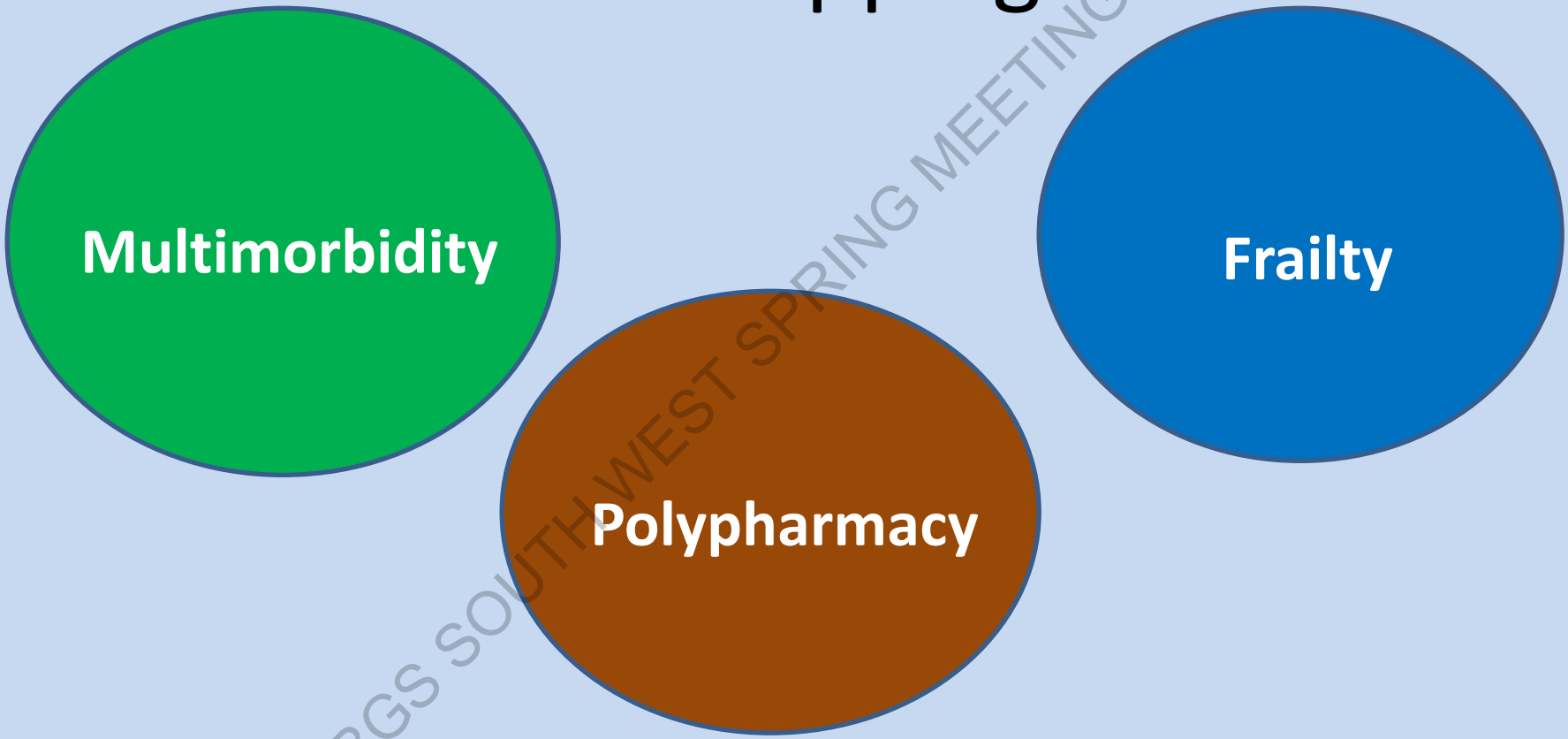
**Polypharmacy and Medicines Optimisation Duerden, Avery, Payne Kings Fund Report 2013**

# Other Key Concepts

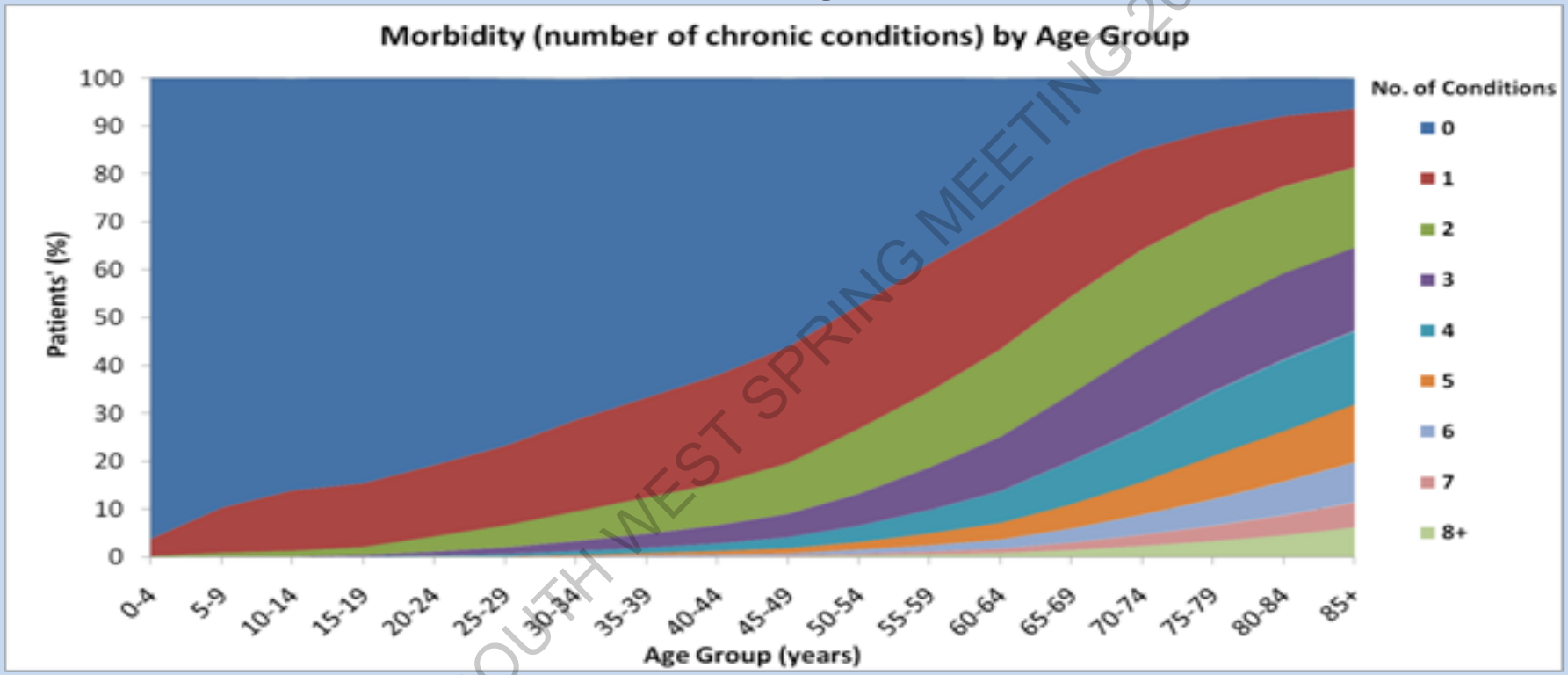
- Frailty
  - a decreased ability to withstand illness without loss of function

- Age is next to useless

# Three overlapping areas

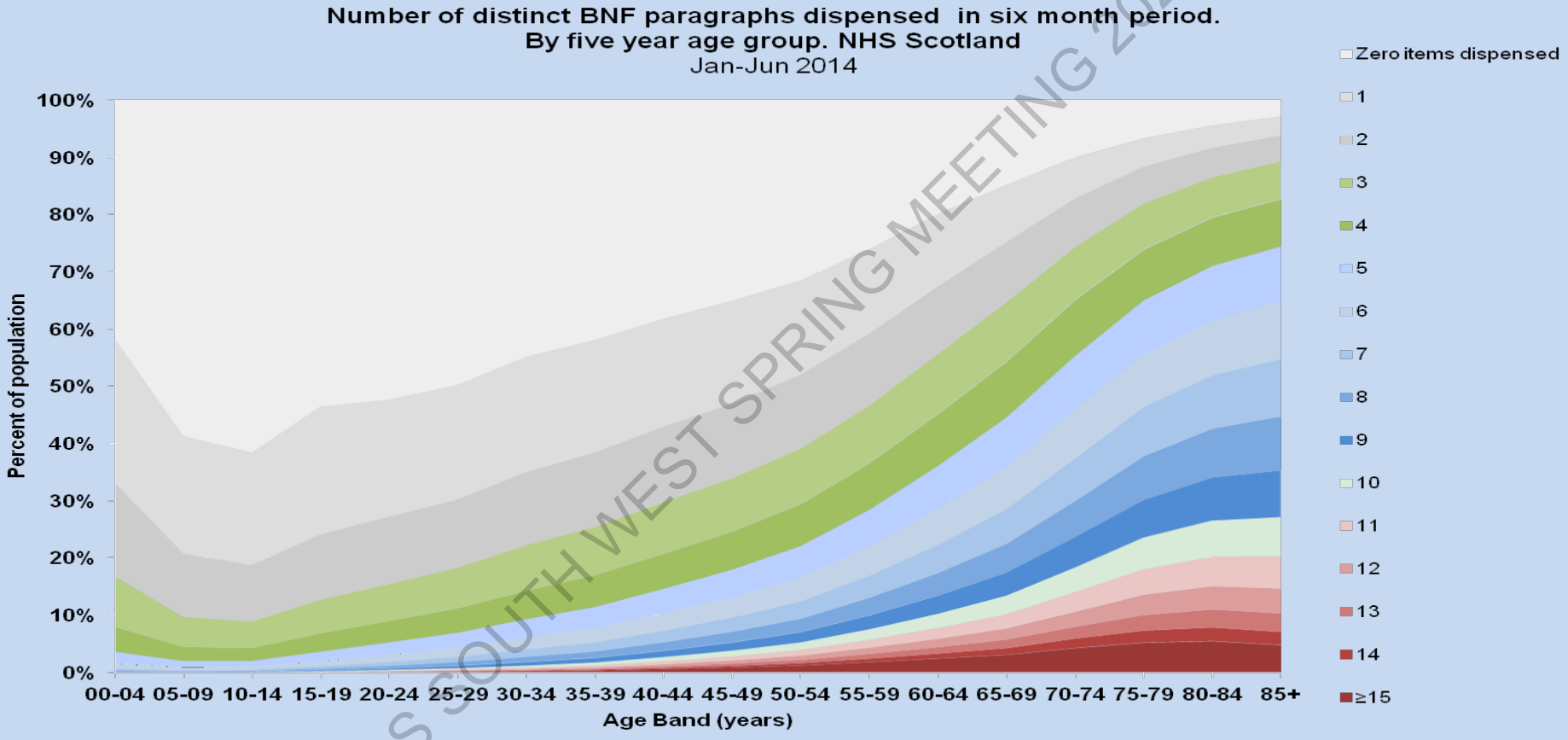


# Multimorbidity is common



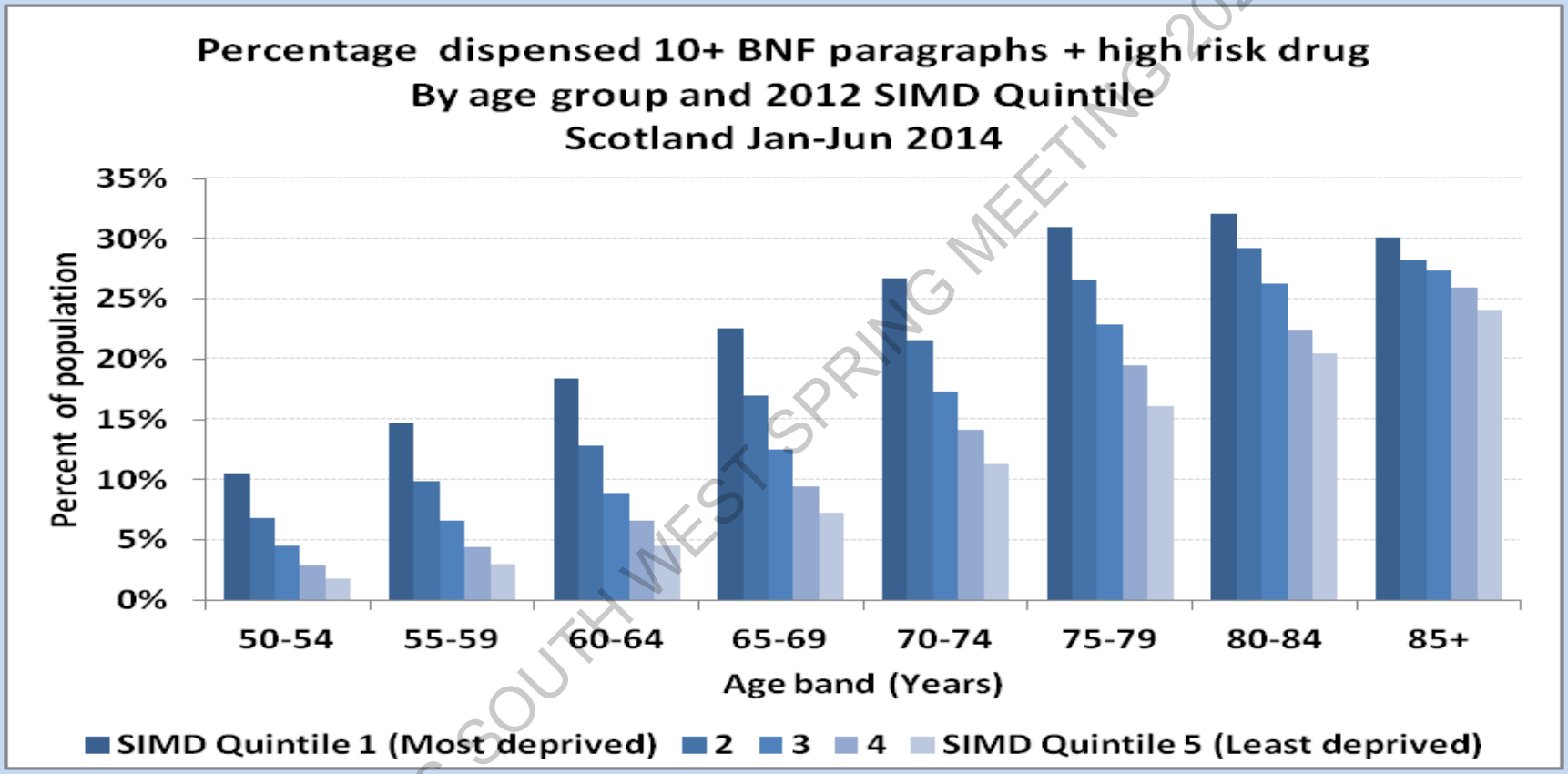



Barnett K, Mercer SW, Norbury M et al. Epidemiology of multi-morbidity and implications for healthcare, research, and medical education: a cross sectional study. The Lancet 2012:380:37-43






ISD





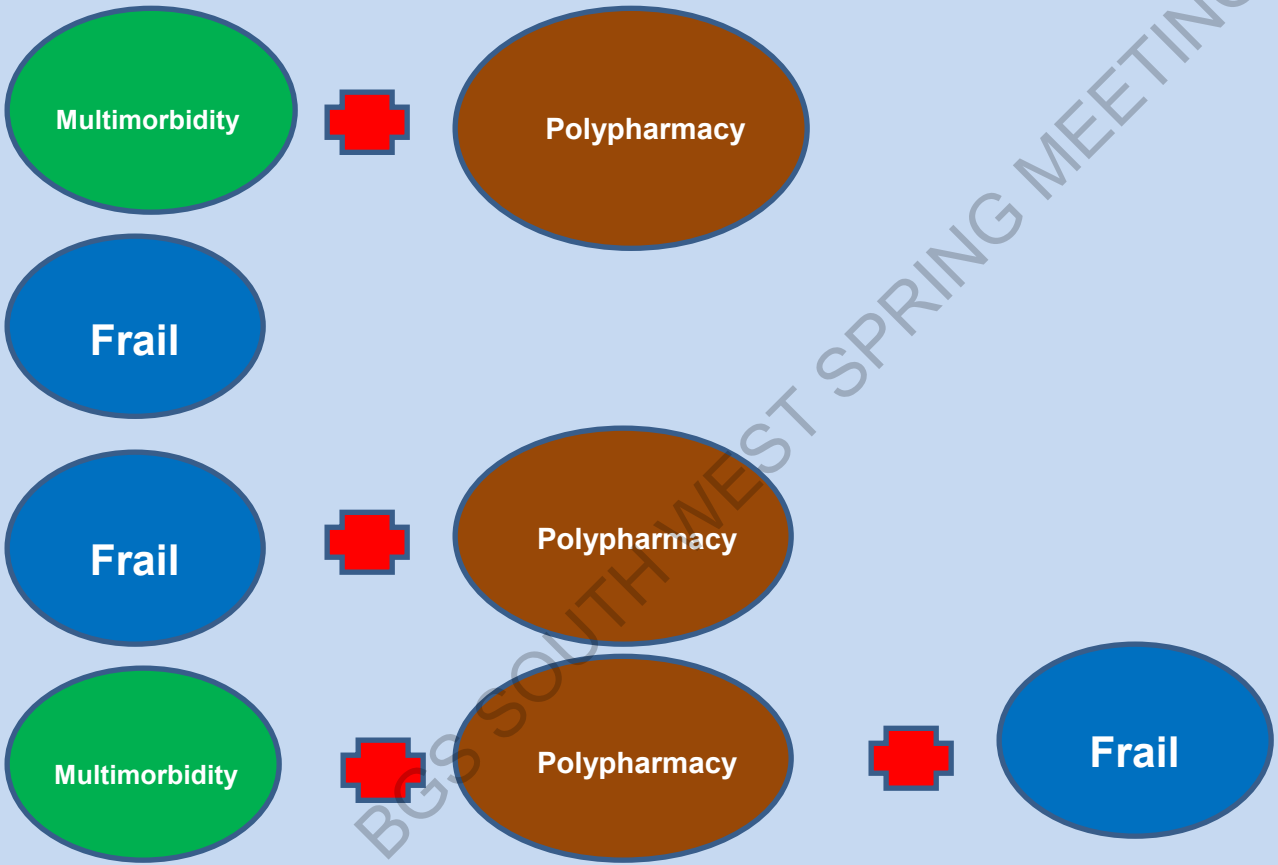

**Source ISD**

# So how old is your patient?

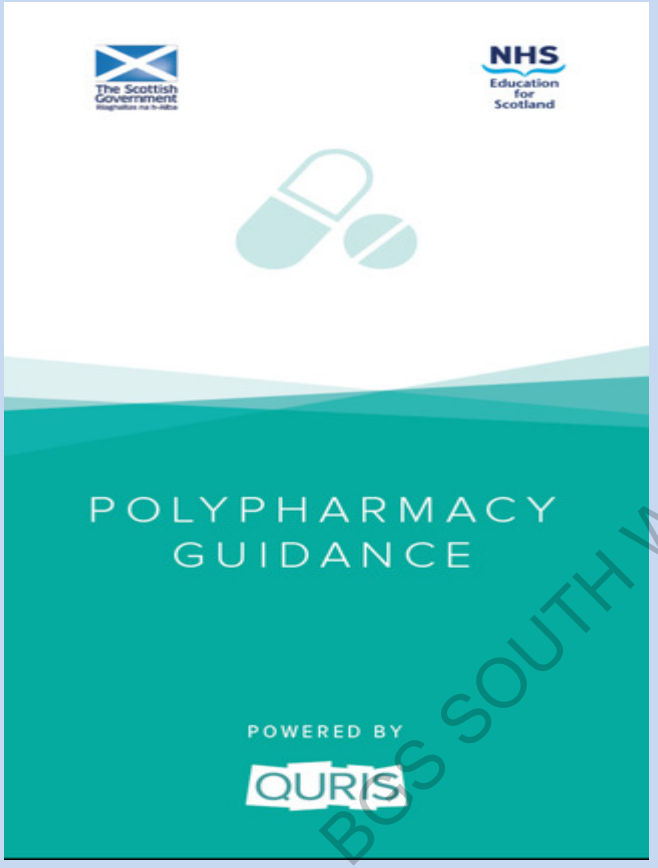
- Lots of old folk who are physiologically younger than years
  - Most of whom will be rich

- Lots of younger folk who are physiologically older than years
  - Many of whom be deprived

# What category is your patient in?



# Geriatricians need to be really good at reading papers




# Game changing concepts

A lot of commonly prescribed medication is not as effective in a patient specific basis than the drive to get the drugs prescribed would imply.

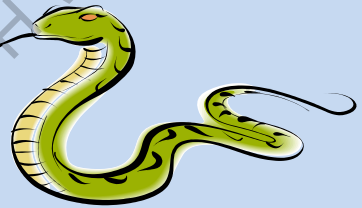
# Drug Effectiveness

- Secondary Prevention works
- ……but how much ?
  - Selected Highlights

# Population Treatments v Individual Benefit / Risk

# Drug Effectiveness Example

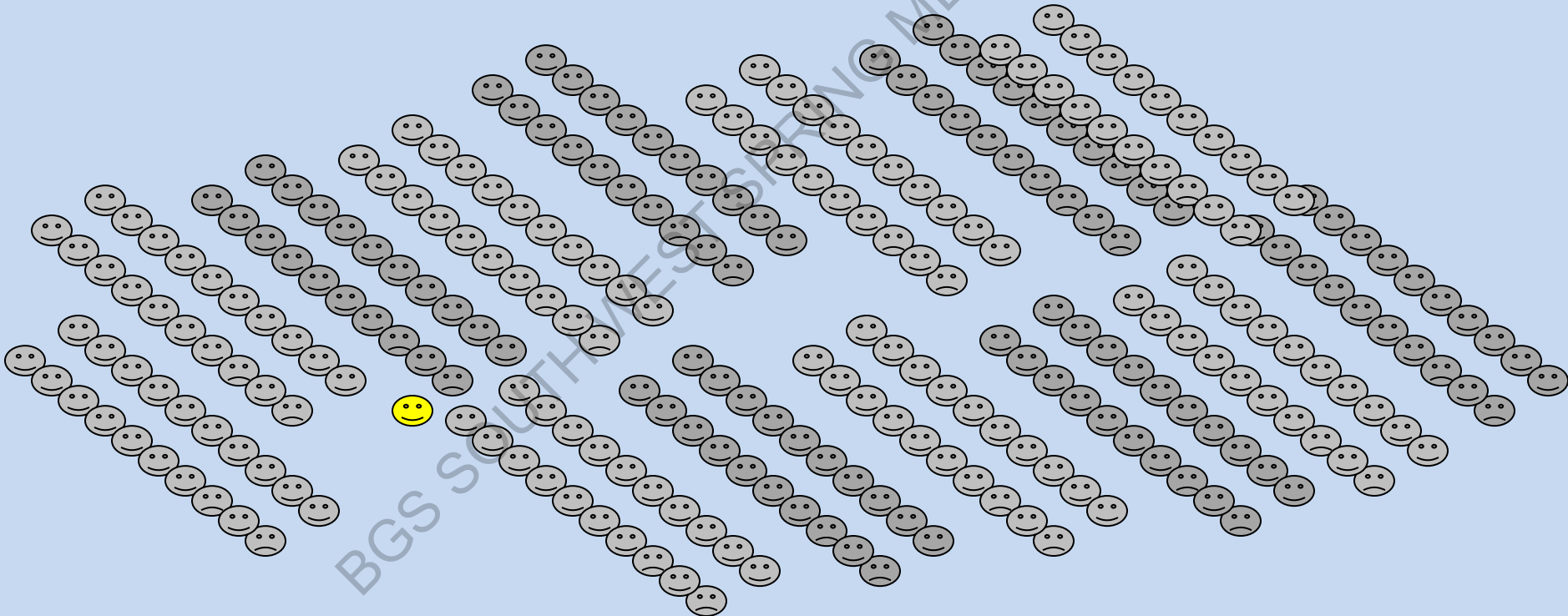
ACE Inhibitors



# Population treatments

# v

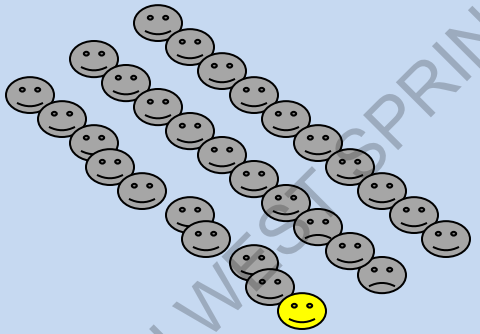
# Individual Benefit /Risk



# Population treatments

# v

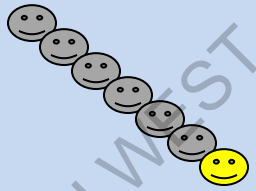
# Individual Benefit /Risk



# Population treatments

# v

# Individual Benefit /Risk



# Be Aware Long Term Strategies

Need a long time

# Be aware of Extrapolation

**Table 1. Baseline Characteristics of the Participants.***

| Characteristic | Rivaroxaban plus Aspirin (N=9152) | Rivaroxaban Alone (N=9117) | Aspirin Alone (N=9126) |
|---|---|---|---|
| Age — yr | 68.3±7.9 | 68.2±7.9 | 68.2±8.0 |
| Female sex — no. (%) | 2059 (22.5) | 1972 (21.6) | 1989 (21.8) |
| Body-mass index† | 28.3±4.8 | 28.3±4.6 | 28.4±4.7 |
| Blood pressure — mm Hg | | | |
| Systolic | 136±17 | 136±18 | 136±18 |
| Diastolic | 77±10 | 78±10 | 78±10 |
| Cholesterol — mmol/liter | 4.2±1.1 | 4.2±1.1 | 4.2±1.1 |
| Tobacco use — no. (%) | 1944 (21.2) | 1951 (21.4) | 1972 (21.6) |
| Hypertension — no. (%) | 6907 (75.5) | 6848 (75.1) | 6877 (75.4) |
| Diabetes — no. (%) | 3448 (37.7) | 3419 (37.5) | 3474 (38.1) |
| Previous stroke — no. (%) | 351 (3.8) | 346 (3.8) | 335 (3.7) |
| Previous myocardial infarction — no. (%) | 5654 (61.8) | 5653 (62.0) | 5721 (62.7) |
| Heart failure — no. (%) | 1963 (21.4) | 1960 (21.5) | 1979 (21.7) |



Rivaroxaban with or without Aspirin in Stable Cardiovascular Disease Eikelboom et al NEJM 2017; 377 (14) 1319 - 1330

## Demographics

| | High-dose vaccine group (n=26 639) | Standard-dose vaccine group (n=26 369) |
|---|---|---|
| Mean age (years) | 83·6 (8·8) | 83·6 (8·9) |
| Female | 19 262 (72%) | 19 016 (72%) |
| Ethnic origin | | |
| African American | 3888 (15%) | 3978 (15%) |
| White | 20 159 (76%) | 19 837 (75%) |
| Hispanic | 1396 (5%) | 1291 (5%) |
| Married | 5013 (19%) | 5008 (19%) |
| Pneumococcal vaccine in previous 5 years | 24 480 (92%) | 24 201 (92%) |
| Baseline ADL scale (of 28 points) | 17·1 (6·7) | 17·4 (6·5) |
| Previous conditions | | |
| Heart failure | 5415 (20%) | 5457 (21%) |
| Stroke, cerebrovascular accident, or transient ischaemic attack | 5259 (20%) | 5401 (20%) |
| Hypertension | 21 109 (79%) | 20 842 (79%) |
| Diabetes mellitus | 9055 (34%) | 9190 (35%) |
| Asthma, CLD, or COPD | 5274 (20%) | 5425 (21%) |
| Alzheimer's disease and related dementias | 16 971 (64%) | 16 796 (64%) |

Data are n (%) and mean (SD). ADL=activities of daily living. CLD=chronic lung disease. COPD=chronic obstructive pulmonary disease.



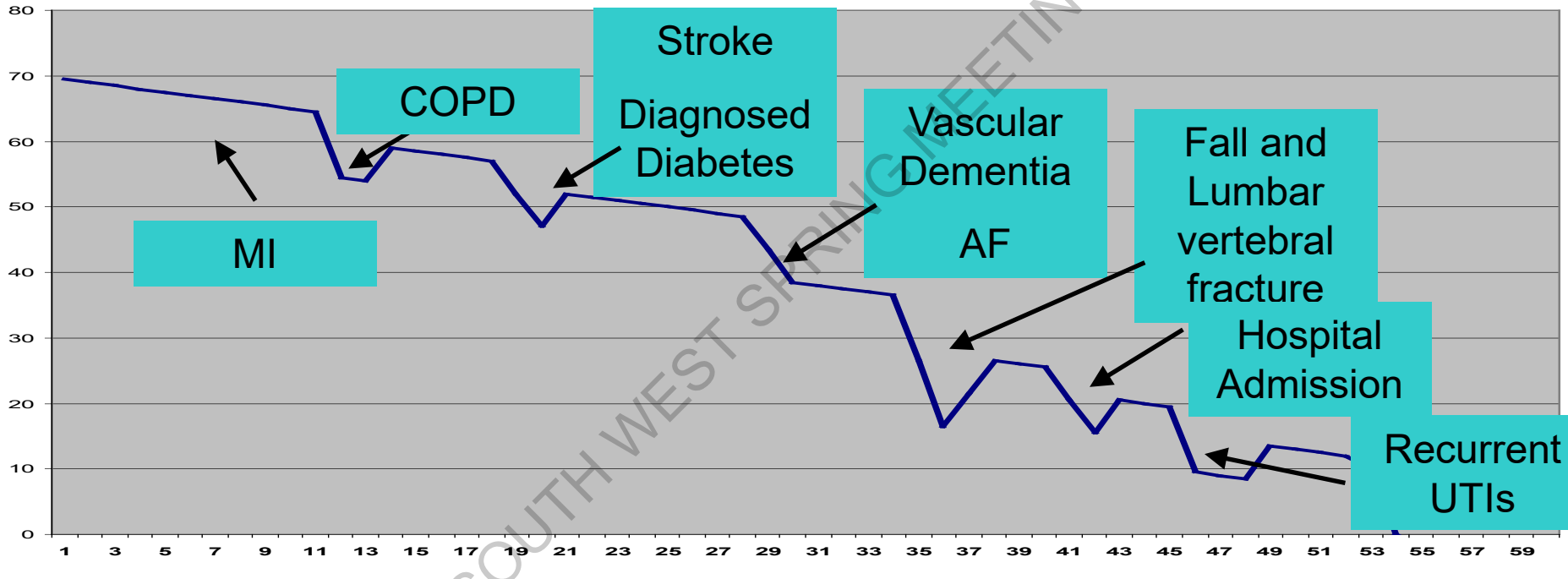
Comparative effectiveness of high-dose versus standard-dose influenza vaccination on numbers of US nursing home residents admitted to hospital: a cluster-randomised trial
*Gravenstein S et al., Lancet Respir Med. 2017;5(9):738-46).*

# Now on to the scenarios and what scenarios do

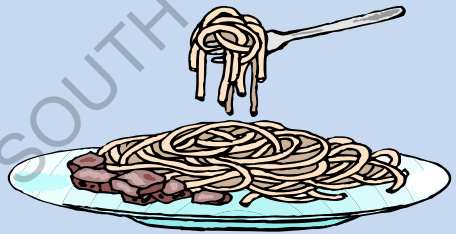
# Scenarios

- Likely to use them a lot in teaching (good)
  - Stories stick well
  - Important to know how to embed concepts

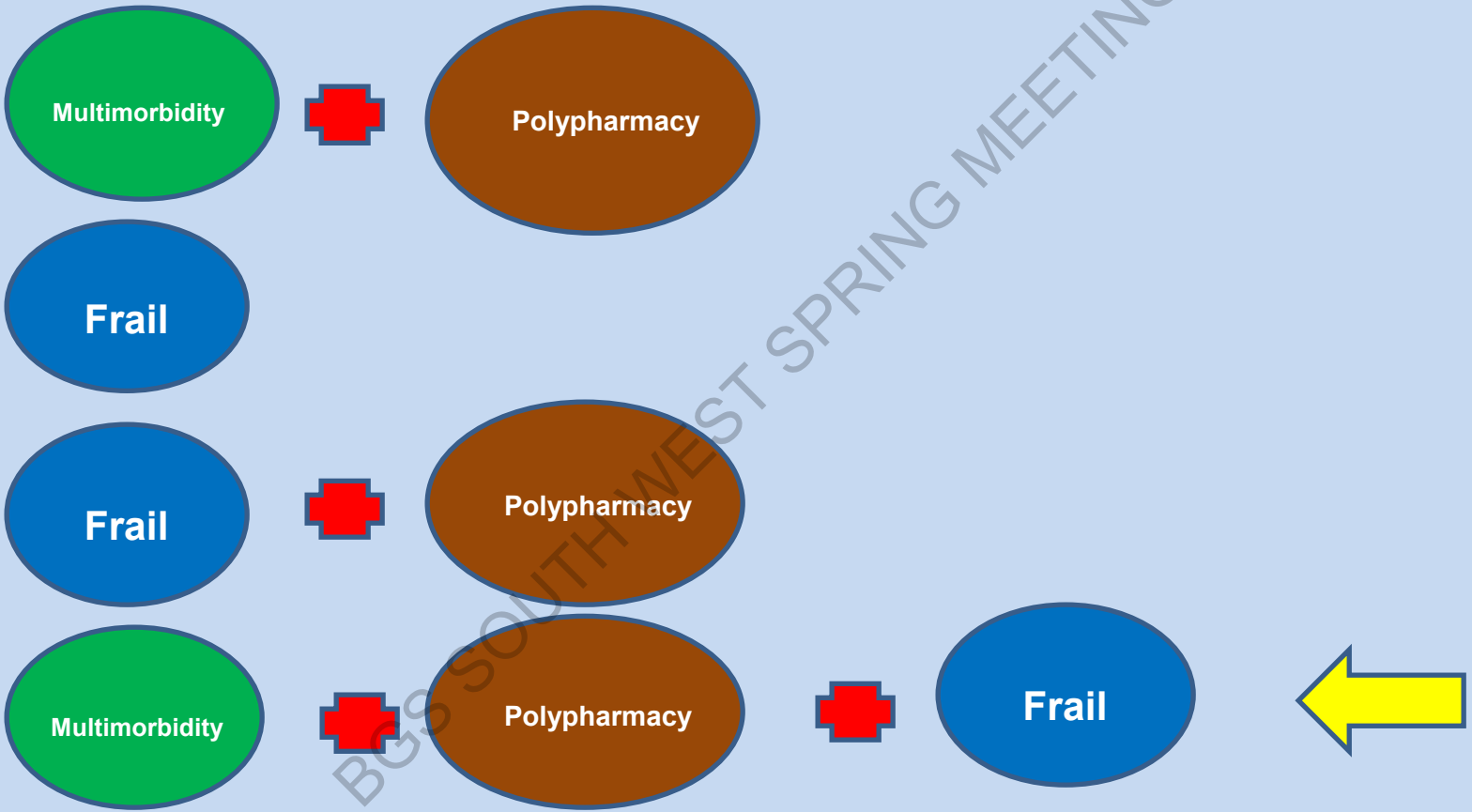
# Lets meet Mrs Jones..



# Current Function



# What category is your patient in?



# Medication

- Metformin  1 g TDS
- Gliclazide  160mg bd
- Calcichew D3 forte 1 tab twice a day
- Alendronate 70mg  once a week
- Perindopril 4mg once a day
- Indapamide 2.5mg once a day
  Warfarin as per INR
- Seretide 250 1 puff twice a day
- Salbutamol as required
- Clopidogrel 75mg once a day
- Atorvastatin 80mg once a day
- Mirtazapine 30mg  nocte
- Zopicolone 7.5 mg at night
- Oxybutinin 5mg bd
- Thyroxine 150mcg once a day
- Atrovent inhaler 4 times a day.
- Paracetamol 1g QDS
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  - Thyroxine 150mcg once a day
- OTHER
  - Paracetamol 1g QDS
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Drugs she thinks helps the most

- Oxybutinin
- Zopicolone
- Mirtazapine

Drugs that every frail adults guideline will suggest you stop

- Oxybutinin
- Zopicolone
- Mirtazapine

When thinking about this lady what proportion of her medication did you assume she takes?

- 100%
- 90%
- 70%
- 50%
- <40%
- Did not consider that…

# Thoughts on this lady

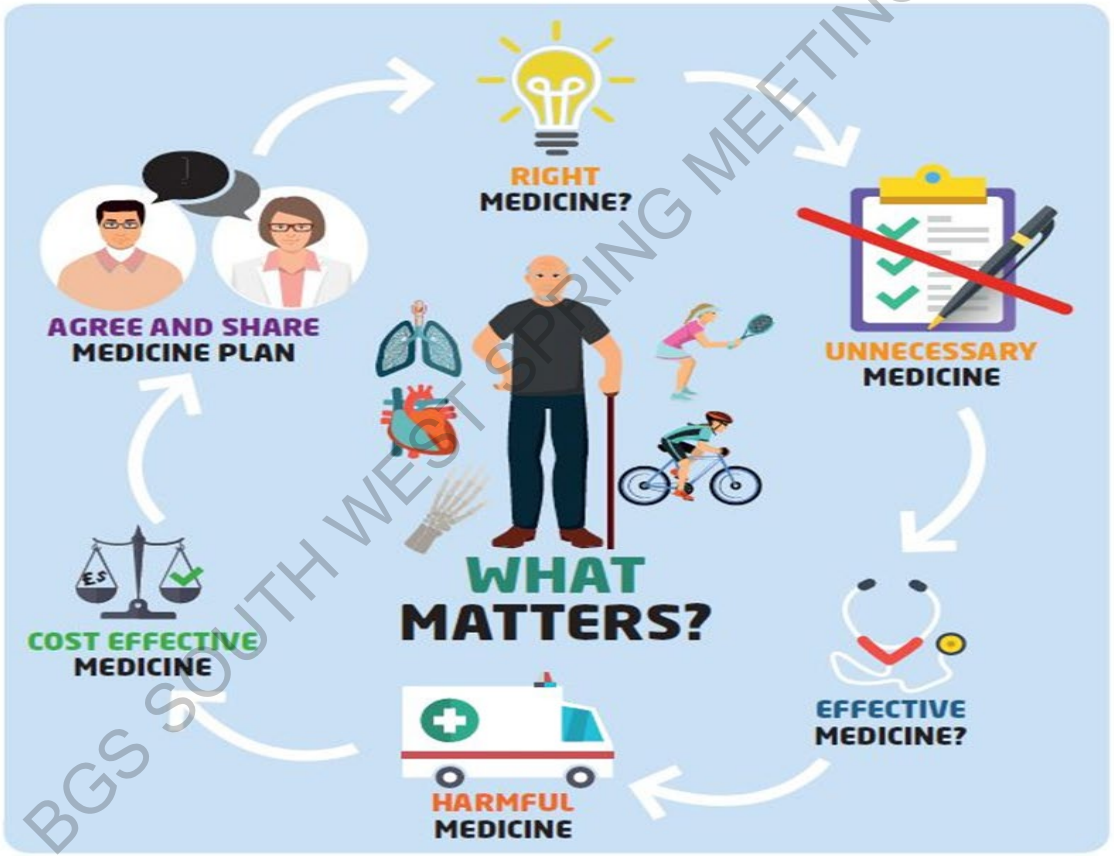
- Synchronise Agendas
  - What are her main goals
- How effective is her medication
- When  does treatment become over treatment ?
- Prioritise.
    - More medications >> more potential interactions harms

– What are the patients priorities likely to be?

– What are there carers priorities likely to be?

– What are the Health Service Priorities likely to be?

# 7 STEPS TO APPROPRIATE POLYPHARMACY



# **Example** Run through

Reality will always be a bit (a lot) less clear cut.

# Facts and figures

- BP 106/56
- HbA1c 40 mmmol/mol
- Urine Albumin/Creat ratio
  - trace microalbuminuria
- Creatinine 124 eGFR 45
- Weight 43kg

First get rid of the obvious poisons

# Medication

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# BP reduction in the very frail

- PARTAGE trial
  - **increase** in mortality over 2 years in nursing home residents (mean age 87.6 years) when blood pressure ran < 130 on 2 or more blood pressure agents.
    - Number needed to harm 10 patients treated for one extra death over 2 years.
    - [Mortality over two years 30% v 20% so this is perhaps a fairly fit Care home group.].
  - There is also emerging concern about low diastolic blood pressures in older adults.

# Medication

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  - Metformin 1 g TDS
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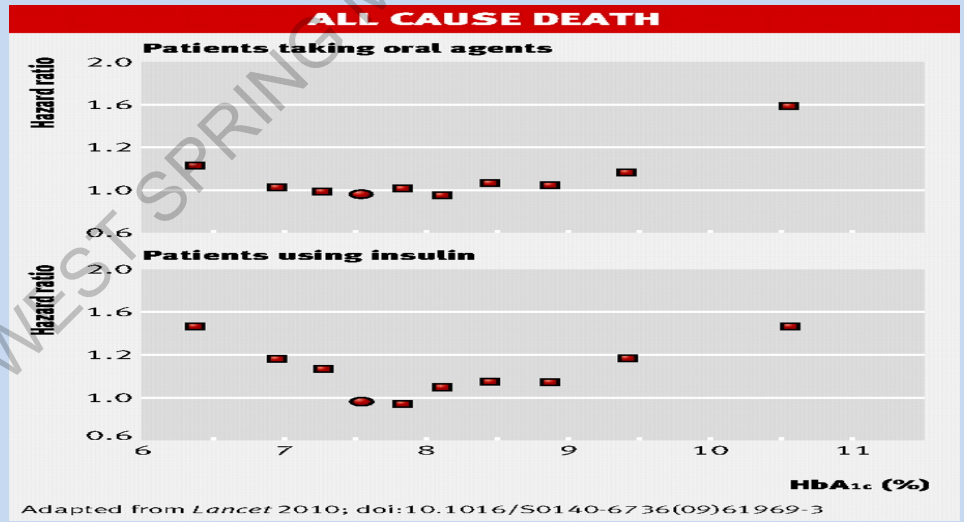
# Diabetic drugs

- Hb AIC 5.8% - dangerous



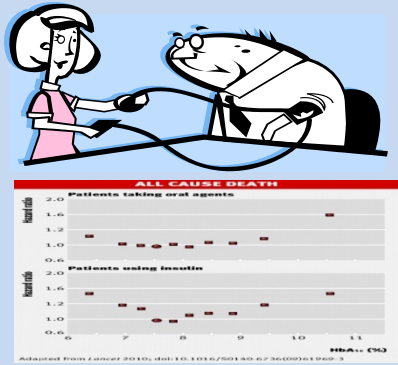
# In short.....

- Beware
  - Systolic BP <130
  - Diastolic < 70
  - Pulse < 60
  - Hba1c < 60

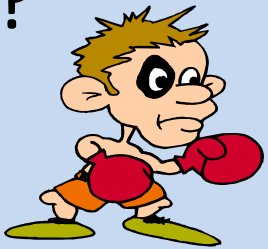
    - Unless super strong indication

# Key risk/ benefit Questions

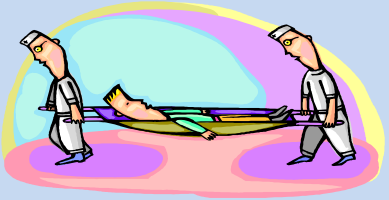
- [Postural] Blood Pressure too low ?




- Blood Sugar [Hba1c] too low?



- Blood too thin [ed]?



- Kidneys too vulnerable?

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# Anticholinergic Risk Scale

| 1 Point | 2 Points | 3 points |
|---|---|---|
| **Haloperidol**<br>Quetiapine<br>Mirtazapine<br>Paroxetine<br>Trazadone<br>Ranitidine | Clozapine<br>Nortryptyline<br>Baclofen<br>Cetirizine<br>Loratadine<br>Cimetidine<br>Loperamide<br>Prochlorperazine<br>**Tolteridone** | Chlorpromazine<br>Amitrytyline<br>Imipramine<br>Chlorpheniramine<br>**Hydroxyzine**<br>Oxybutinin |

The Anticholinergic Risk Scale and Anticholinergic Adverse Effects in Older Persons. Rudolph JI et al *Arch Intern Med. 2008;168(5):508-513*

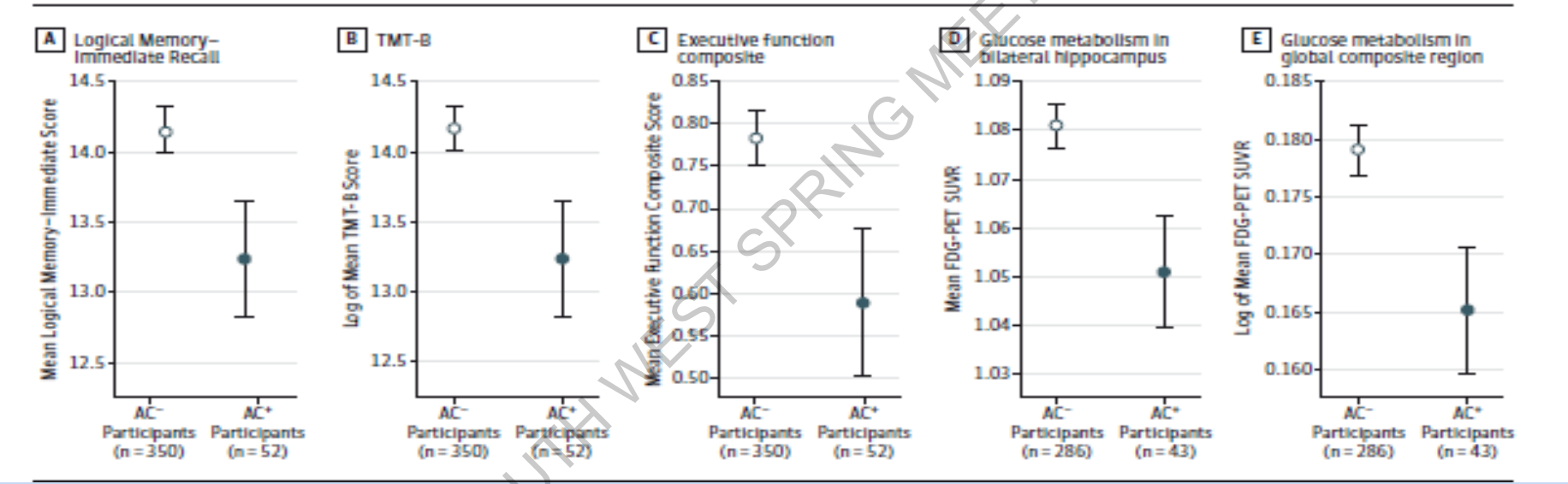
# Anticholinergics and accelerated decline?

- Long term follow up of cognitive normal adults
  - Cognitive testing
  - Imaging
- Looking for clues re development dementia
- Looking at those on Anticholingergics v none



**Association Between Anticholinergic Medication Use and Cognition, Brain Metabolism, and Brain Atrophy in Cognitively Normal Older Adults Risacher et al, JAMA Neurol. 2016;73(6):721-732**

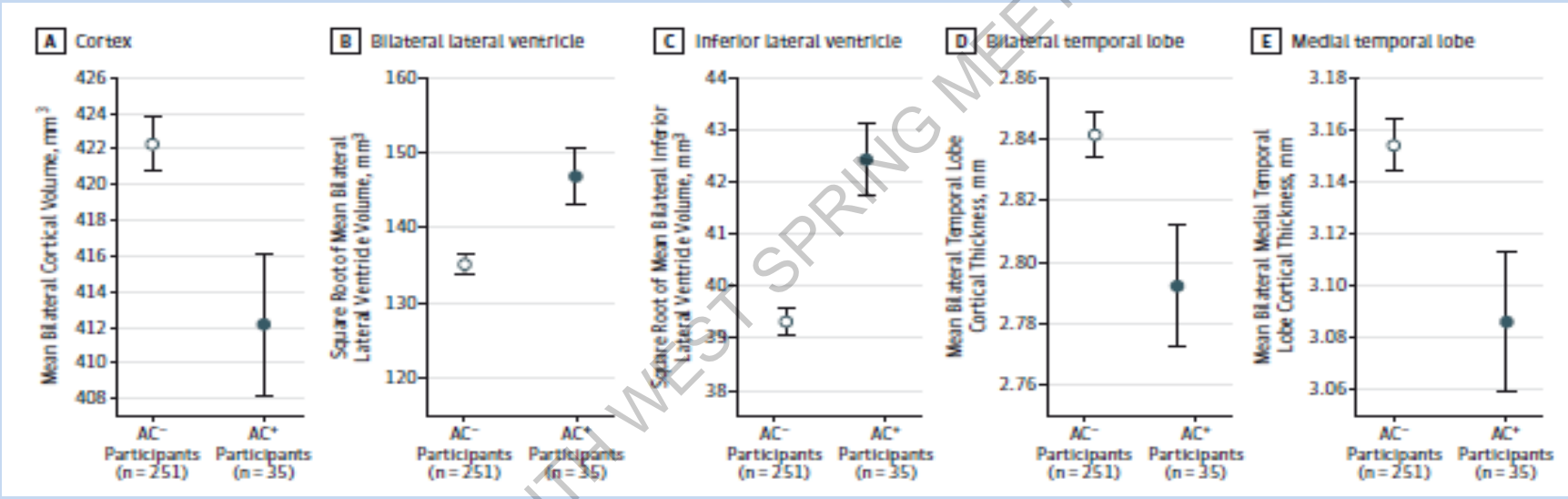
# Accelerate Cognitive loss??






**Association Between Anticholinergic Medication Use and Cognition, Brain Metabolism, and Brain Atrophy in Cognitively Normal Older Adults Risacher et al, JAMA Neurol. 2016;73(6):721-732**

# Accelerate Brain Atrophy??



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# Anticholinergics and accelerated decline?

- Will be a while before definitive
  - Confoundings abound

- But
  - Adults are often brighter off anticholinergics
  - Cognition a high stakes risk

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# Drugs that are not actively harming but ? efficacy

# Questions to ponder

- Is this a population treatment or an individual treatment ?
- Does this individual look anything like the trial population?
- Do they have long enough to benefit?

# Medication

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# STOP!

What do they think?

# Being Human

- IF
  - Drug doing no harm
  - Not bankrupting the health service
  - Patient /carer (*understandably*) terrified that stopping the drug will lead to harm (*which might well occur anyway*)
- Continuing may be the holistic move
- BUT do ask the question..

# Medication

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  - Warfarin as per INR
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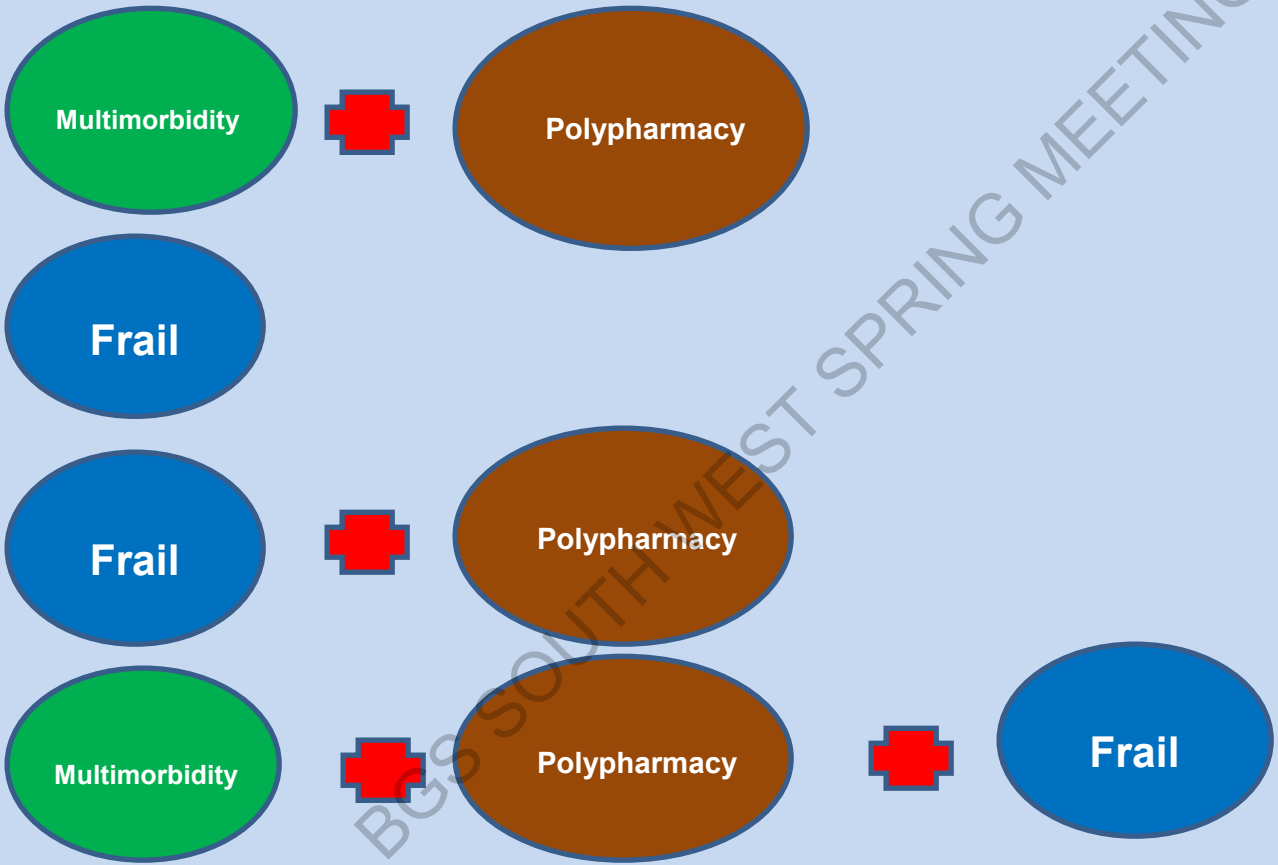
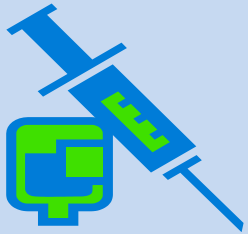
# Summary of that

- Idealistic drug review
  - Rarely manage that radical a change
- But it does lead to benefit.
  - Focus on Food
  - Carer Stress
  - Iatrogenic harm reduced
  - Big picture story telling

# What happens next ?

# What category is your patient in?





Aspirin 75 mg od

Metformin 1 g TDS

Gliclazide 80 mg bd

Pioglitazone 30 mg od

Salbutamol Inh

Becotide inh 100 bd

Thyroxine 75 mg od

Citalopram 20 mg od

Bendrofluazide 2.5 mg od

Lisinopril 30 mg od

Amlodopine 10 mg od

Atenolol 50 mg od

Furosemide 40 mg od

Gabapentin 400 mg TDS

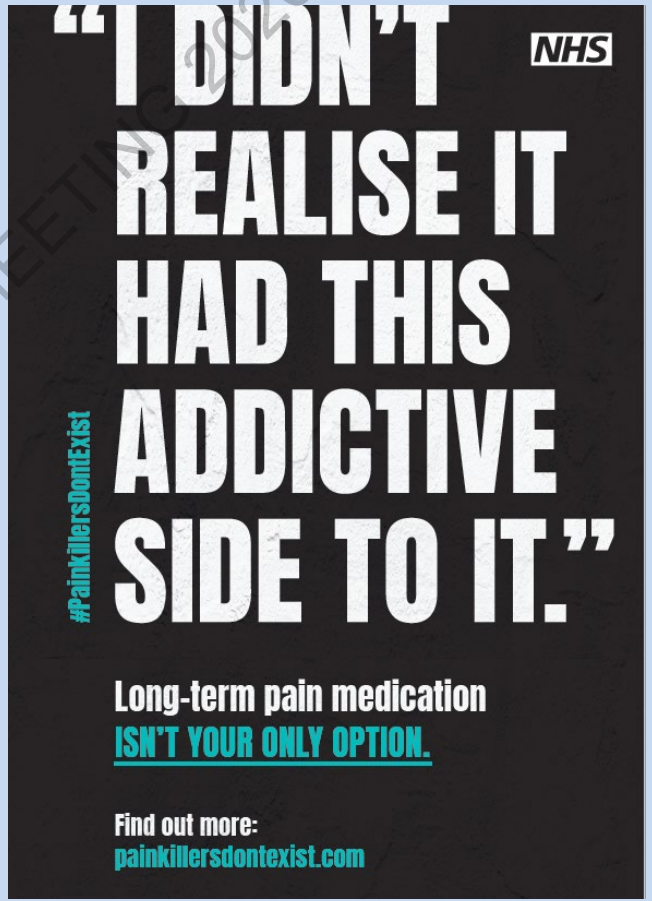
Diclofenac 50 mg TDS

Tramadol 100 mg QDS

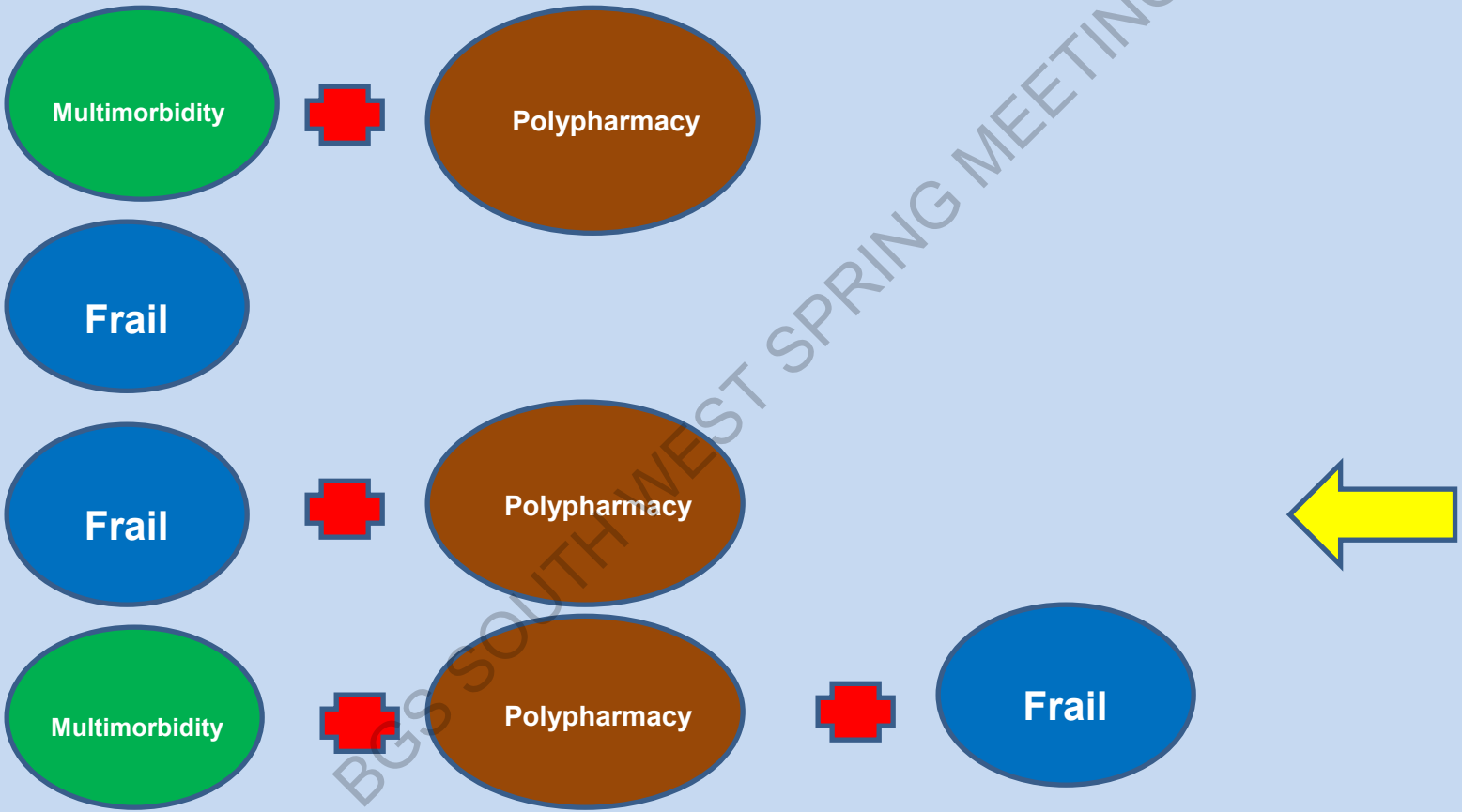
# Similar (but not the same)

- Compliance
- ‘Social factors’
  - Carer
  - Money
- Priortising treatments
  - Can’t do every thing at once.

# What matters to YOU ?

# What category is your patient in?



Trazadone 150 mg od

Thiamine 100 mg TDS

Bendrofluazide 2.5 mg od

Tramadol MR 100 mg bd

Cetirizine 10 mg od

Amisulpride 100 mg bd

Diprobase PRN

Eumovate topical bd

# This case

- Overtreatment
  - Sedatives
  - Antipsychotics
  - Steroid cream
- Undertreatment
  - ? LVSD
  - ? Thyroid
  - +++++

# Hard Heads and Soft Hearts

- Hard Heads
  - Study learn and know what we can re medication efficacy
  - Be willing and active in challenging prescribing
  - Be confident enough to be seen as leaders in how to prescribe

- Soft Hearts
  - Adult focussed goals
  - Teach train and develop others
  - Always ensure focus goes on the patient not the pills