

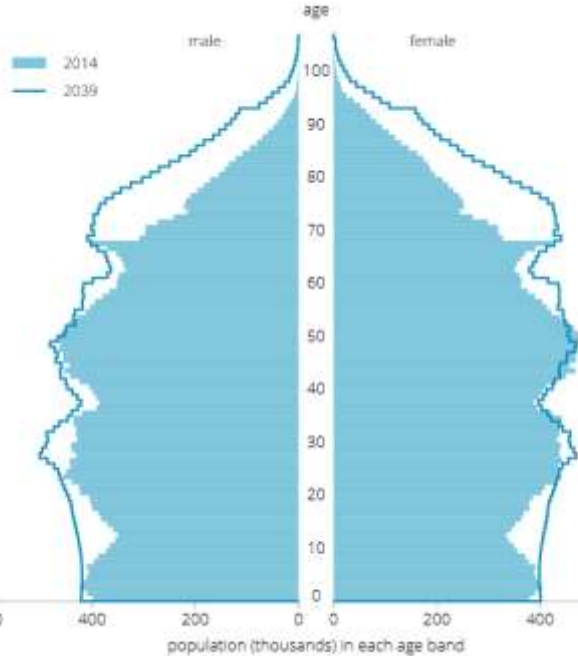
Medicines optimisation and frailty: an integrated approach to safer care

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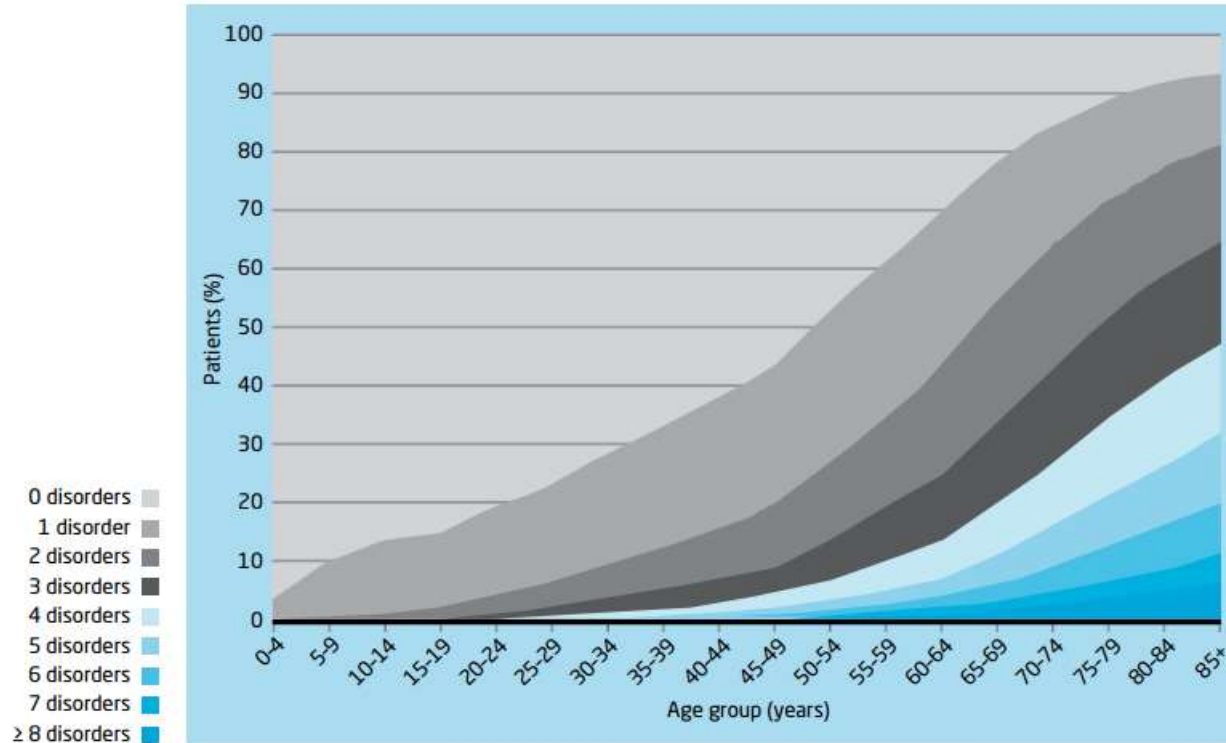
We're getting on!

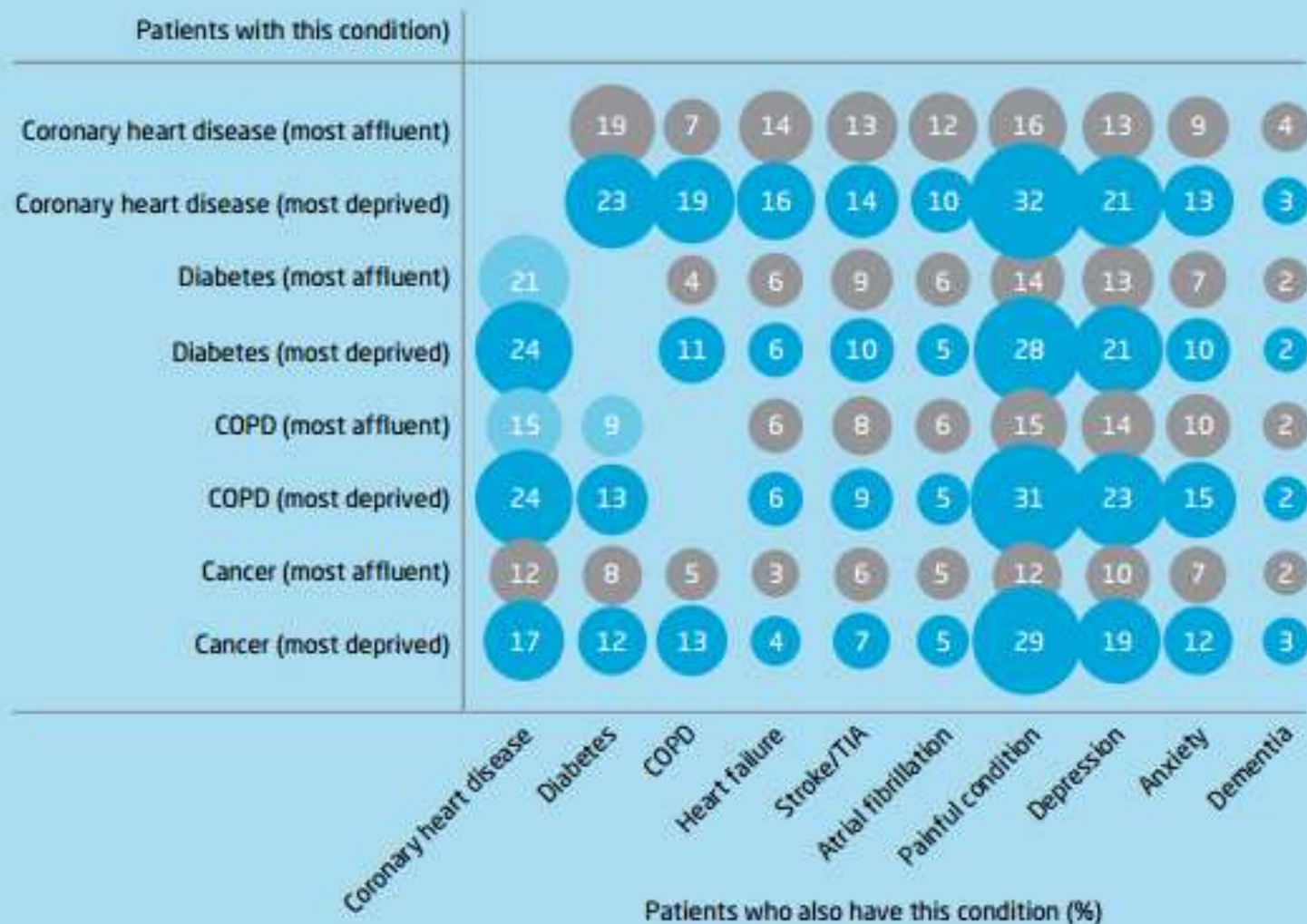
millions



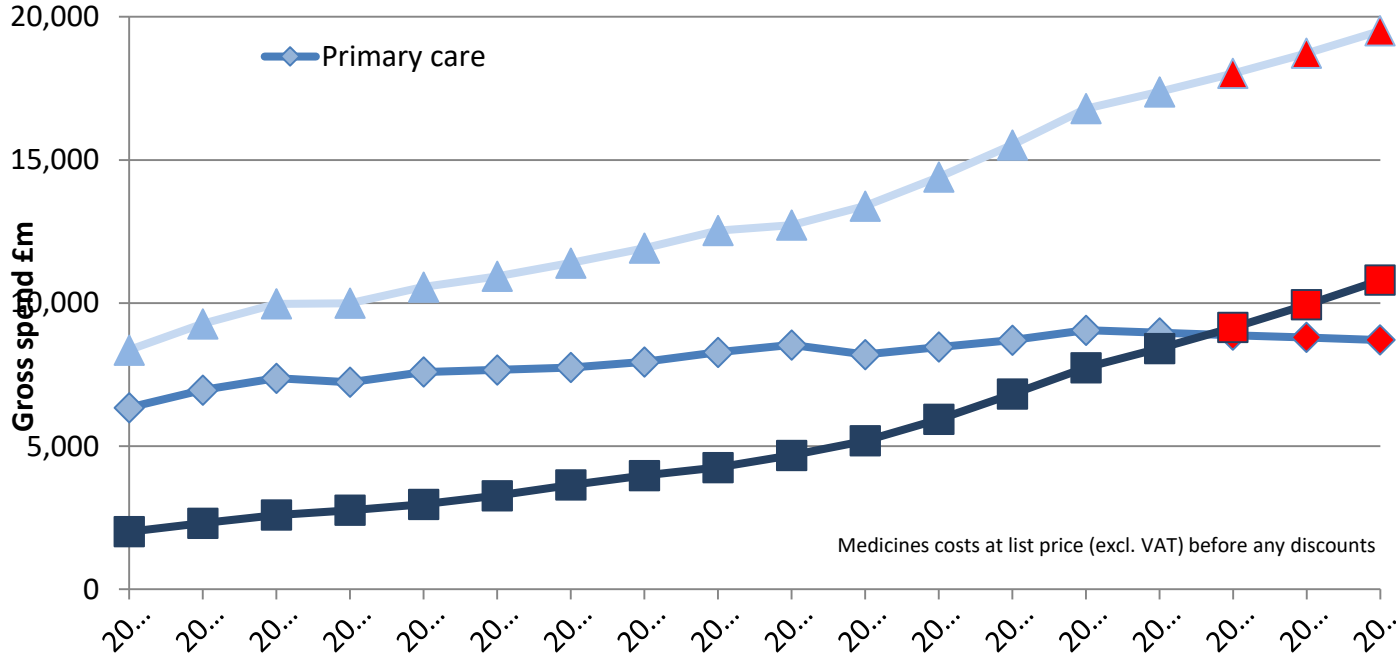
Ages	2014	2019	2024	2029	2034	2039
75 & over	5.2	5.8	7.0	7.8	8.7	9.9
75-84	3.7	4.1	4.9	5.4	5.6	6.3
85 & over	1.5	1.7	2.0	2.4	3.2	3.6
Old Age Dependency Ratio (people of pensionable age per thousand people of working age)	310.4	290.4	301.3	308.1	344.1	369.6

Number of chronic disorders

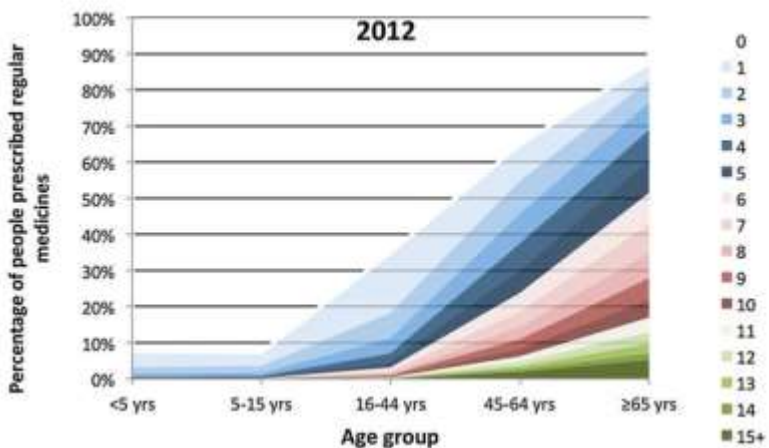
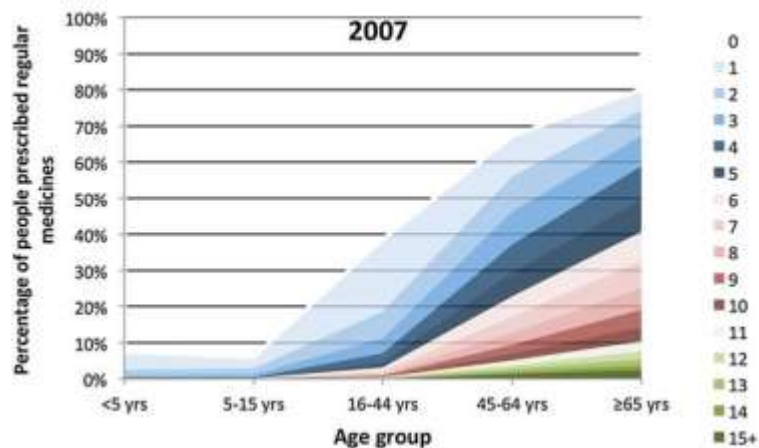
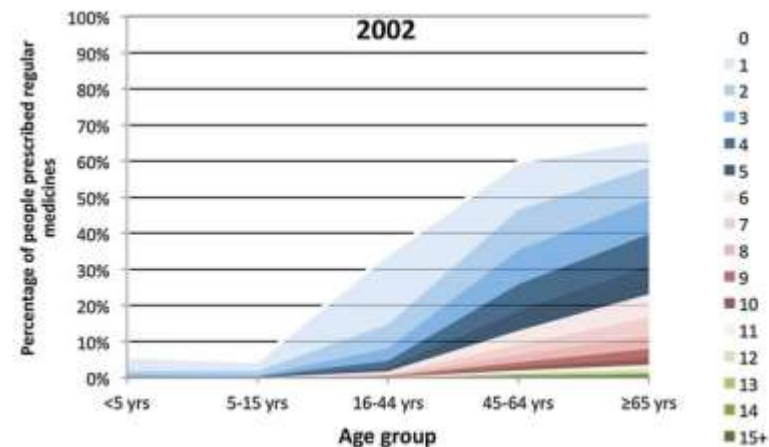
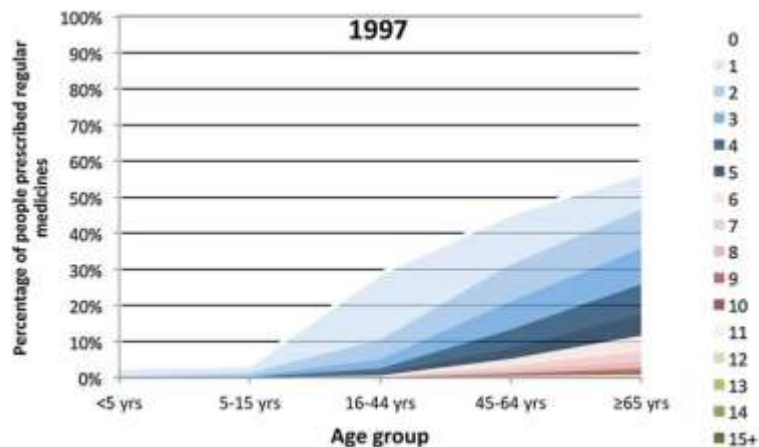




There is growing pressure on the NHS drugs bill

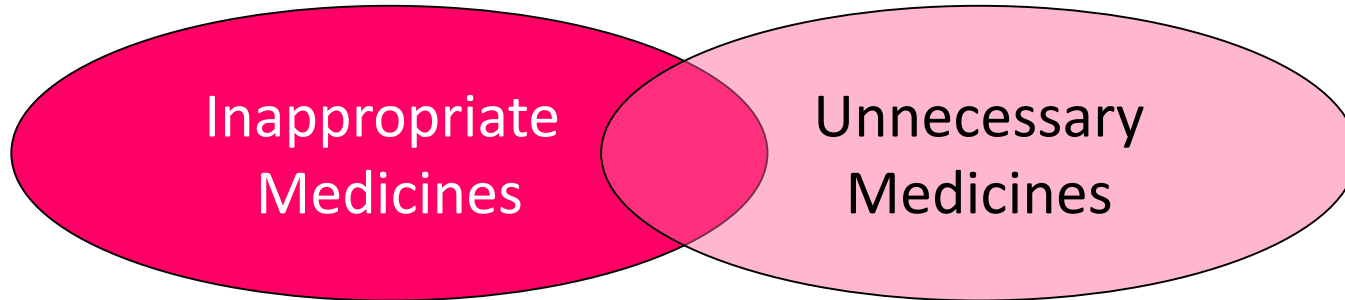


- Overall medicines spend 2016/17 was £17.4bn, an increase of 33.7% from £13bn in 2010/11
- Cost of medicines prescribed and dispensed in primary care rose from £8.6bn in 2010/11 to £9.0bn in 2016/17, a rise of 3.6%
- Cost of medicines used in hospitals increased from £4.2bn in 2010/11 to £8.3bn in 2016/17, a rise of 98.3%

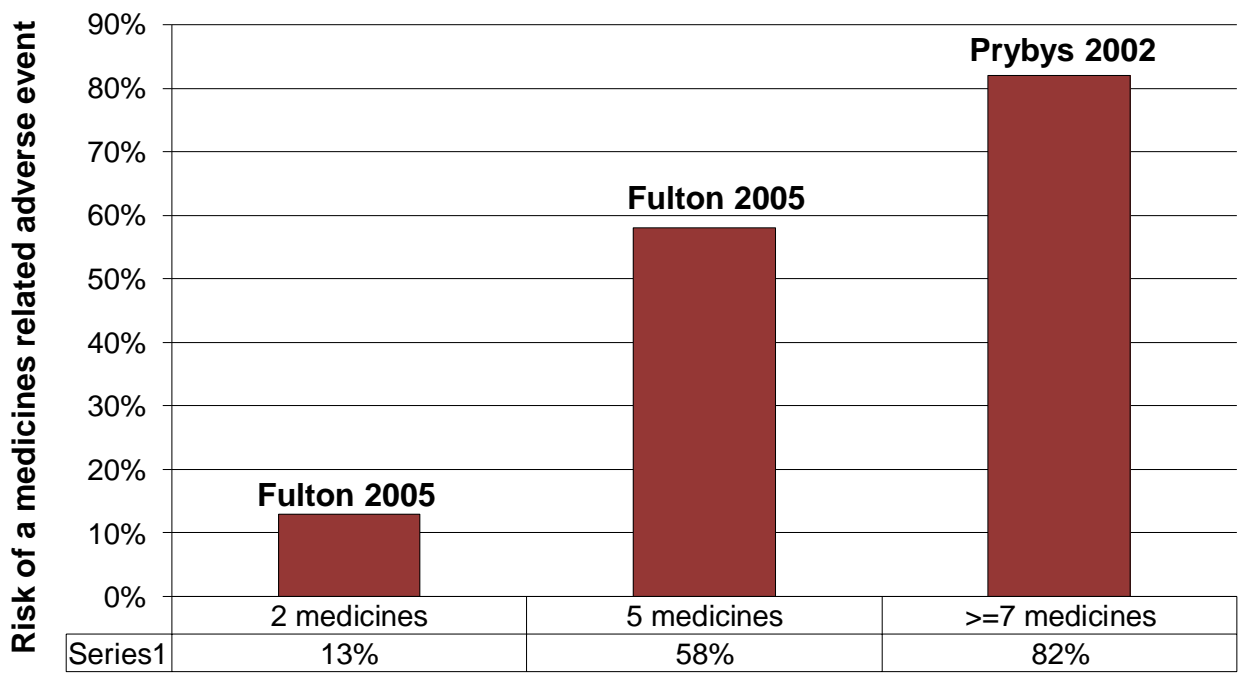


Polypharmacy

- Administration (prescribing) of more medicines than are clinically indicated representing unnecessary drug use (Montamat 2004)

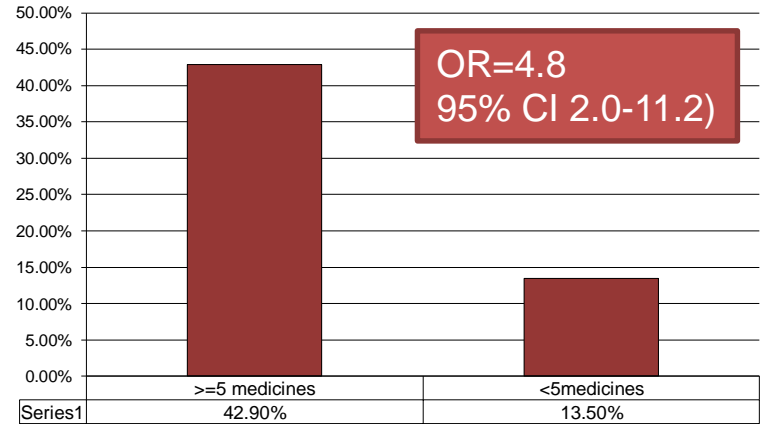


Polypharmacy: negative health outcome



Under-prescribing

- Failure to prescribe medicine to treat disease or prevent disease
- Polypharmacy increases the chance of under-prescribing
 - The Treatment-Risk Paradox (Ko 2004)



Kuijpers (2007)

How well do we
use medicines?

Do patients take their medicines?

How many patients (%) who are prescribed a new medicine take it as prescribed, experience no problems and receive as much information as they need?	?
Ten days after starting a medicine, how many patients are non-adherent	?
Of these, how many don't realise they are not taking their medicines correctly?	?
And, how many are intentionally non-adherent?	?

Do patients take their medicines?

How many patients who are prescribed a new medicine take it as prescribed, experience no problems and receive as much information as they need?	16%
Ten days after starting a medicine, what proportion of patients are non-adherent	33%
Of these, how many (%) don't realise they are not taking their medicines correctly?	55%
And, how many are intentionally non-adherent?	45%

How well do we use medicines?

How many care home residents were exposed to one or more medication errors?	?
How many medication incidents were reported to the NPSA between 2005 and 2010 and what % of them involved actual patient harm	?
What is the prescribing error rate in hospital?	?
How many serious prescribing errors occurred in General Practice in 2010?	?

How well do we use medicines?

How many care home residents were exposed to one or more medication errors?	>66%
How many medication incidents were reported to the NPSA between 2005 and 2010 and what % of them involved actual patient harm	0.5m 16%
What is the prescribing error rate in hospital?	9%
How many serious prescribing errors occurred in General Practice in 2010?	1.7m

Are we get value for money from medicines?

How much do we waste on medicines each year?	?
How much is avoidable?	?
What proportion of readmissions are caused by medicines	?

Are we get value for money from medicines?

How much do we waste on medicines each year?	£300m
How much is avoidable?	£150m
What proportion of readmissions are caused by medicines	6%

Well, the Glaxo pill protects my heart from the side effects of the Pfizer pill that prevents potential liver failure due to the Merck pill that minimises the risk of stroke posed by the Novartis pill that reduces blood clots caused by the Glaxo pill...

The devil of it is I can't remember the illness that started all this



Getting Older: impact on medicines

Pharmacodynamics

↑Sensitivity,
↑Response,
↓Compensation

Pharmacokinetics

↓Metabolism,
↓Clearance
↓Elimination

Orthostatic circulatory responses

Blunting of reflex tachycardia=postural hypotension, On rising from rest, BP should increase doesn't = postural hypotension = **FALLS**

Postural control

↓ in dopamine receptors in stratum
↓ Static postural reflexes
↑ **FALLS**/fractures

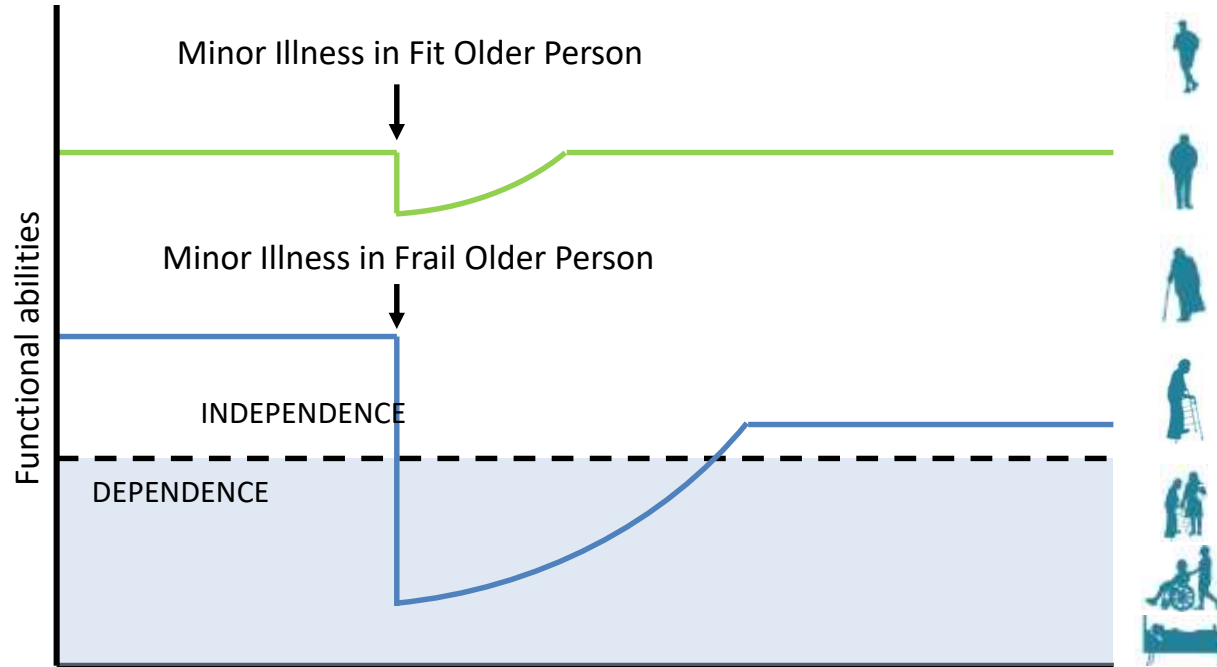


GI motility =
Constipation

Prostatic hypertrophy, OAB,
urethral dysfunction
= Incontinence

Cognitive function
change in CNS = confusion

Resilience



Medicines related admissions

- NSAIDs 29.6%
- Diuretics 27.3%
- Warfarin 10.5%
- ACE 7.7%
- Antidepressants 7.1%
- Beta blockers 6.8%
- Opiates 6.0%
- Digoxin 2.9%
- Prednisolone 2.5%
- Clopidogrel 2.4%

Meet Mrs JB

- 90 year old female
- Mobile (wheelchair), cognitive impairment
- PMH: Hypertension, MI, RA, Dementia
- New year's day: confused and unwell and was admitted to hospital → UTI diagnoses
- Treated with antibiotics and rehydrated
- Routine monitoring detected new AF
- Rivaroxaban (anticoagulant) commenced in hospital
- Discharged back home with no further planned follow up



Mrs B (90y) is
prescribed 21
medicines



Amlodipine 10mg tablets (BP)

Bendroflumethiazide 2.5mg tablets (BP)

Doxazosin 4mg tablets (BP)

Clopidogrel 75mg tablets (blood thinning)

Quetiapine 200mg tablets (antipsychotic)

Zopiclone 7.5mg tablets (sleeping tablet)

Folic Acid 5mg tablets (vitamins)

Alendronic acid 70mg tablets (bone protection)

Adcal D3 1.5g/10micrograms (bone protection)

Paracetamol 500mg tablets (pain)

Naproxen 500mg tablets (pain)

Ferrous Sulphate 200mg tablets (iron)

Simvastatin 40mg tablets (cholesterol)

Codeine Phosphate 30mg tablets (pain)

Rivaroxaban 20mg tablets (blood thinning)

Donepezil 10mg tablets (dementia)

Memantine 20mg tablets (dementia)

Mirtazapine 15mg tablets (antidepressant)

Morphine sulphate 10mg/5ml (pain)

Laxido (laxative)

Docusate Sodium (laxative)

09.01.2016	Discharged from hospital. New models of care team to review
01.01.2016	Went to see Mrs B at home. Patient was unwell with fever, confusion, urine positive for nitrates and leucocytes. Ambulance rang for hospital admission. Dr M Gibbons
28.12.2015	Patient's daughter requested. Patient has dementia, recently discharged from POAS. Progressive symptoms of agitation. Trial of quetiapine, review in one month. Dr Dr K Watts (Locum)
24.12.2015	Telephone advice. Daughter concerned that mother is becoming anxious and some agitation. Reassured and advised to get in touch if symptoms worsen Dr M Gibbons
01.12.2015	Letter received from Dr XXX from XXX NHS Mental Health Trust. Mrs B has been discharged following stabilisation of anti-dementia medicines. No plans for further follow up. Dr AB Jones

Fragmented Care

- Decisions made in isolation across organisations

Amlodipine 10mg tablets (BP)
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Morphine sulphate 10mg/5ml (pain)
Laxido (laxative)
Docusate Sodium (laxative)

Appropriateness

- Silo care
- Three questions
 - Need?
 - Safe?
 - Appropriate?

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Docusate Sodium (laxative)

Unsafe Care

- Silo care
- Inappropriate
- Opioids, antipsychotics, benzo, interactions

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Never challenging

- Silo care
- Appropriateness
- Safety
- Challenge need for medicine at every opportunity

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Morphine sulphate 10mg/5ml (pain)
Laxido (laxative)
Docosate Sodium (laxative)

No Patient Involvement

- Silo care
- Appropriateness
- Safety
- Not challenging
- Shared decisions → Better Decisions

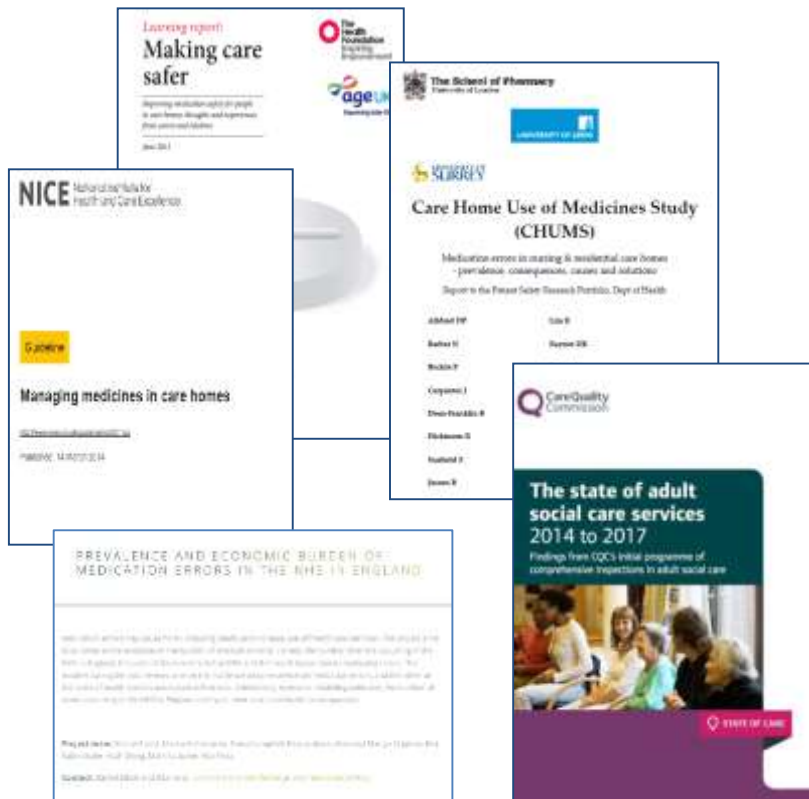
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Medicines Use in Care homes

Excess medicines
(unnecessary/
inappropriate)

Lack of
structured
review

Rare patient
involvement



Medication
Errors

Medicines
Waste

Silo
working

Medication Errors

- 41.7% of 237 million errors in care homes
- Medicines Optimisation
 - Prescribing errors (3%)
 - Monitoring errors (6.9%)
- Care Home Systems
 - Administration errors (92.8%)
- Other
 - Dispensing errors (3.6%)



<http://www.eepru.org.uk/wp-content/uploads/2018/02/medication-error-report-revised-final.2-22022018.pdf>

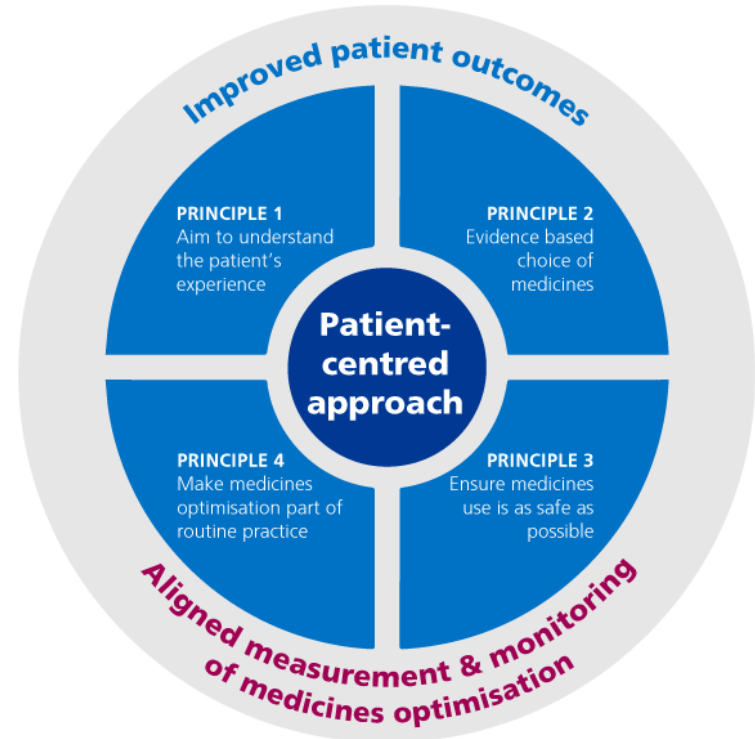
So, how do
we fix this?

Group Task

- Why are we not so good at using medicines?
- What are the barriers to better medicines use?
- What are the solutions?

Medicines Optimisation

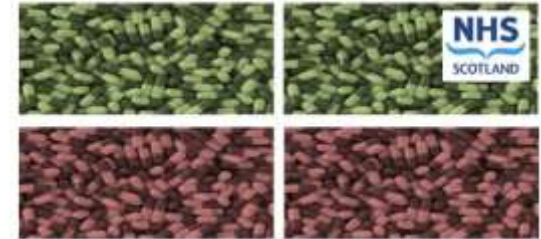
- ✓ Improve quality
- ✓ Reduces risk of harm from medicines
- ✓ Reduces costs



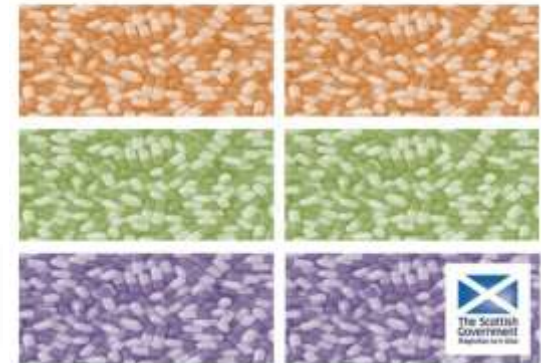
We can all optimise medicines

- Aims and objectives of drug therapy
- What's essential drug therapy
- Unnecessary & unsafe drug therapy
- Are therapeutic objectives being achieved?
- Adverse events (s/e, falls, cognition, QoL)
- Cost-effective
- Is the patient **willing** and **able** to take drug therapy as intended?

What are the patient's views and values?



Polypharmacy Guidance March 2015



Medicines Optimisation in Practice

- What's your case load? How will you identify patients?
 - >4, >10, >15, >20 Medicines
 - Falls
 - Frequent attenders, OOH calls, A&E
 - High risk medicines (e.g. anticholinergics, antipsychotics)
 - Patient groups (housebound, care homes, learning disabilities)
- Who's doing what and where?
 - Pharmacy services from CCGs, NECS, Hospitals
 - GP incentive schemes
 - LA, Social Care, CQC
- What are the gaps?
- Identify your stakeholders
 - GPs, nursing, social care, hospitals, pharmacy
 - Shared purpose
 - Don't work alone!!!

Case Study: Northumbria Integrated Service

- Pharmacy team work across primary and secondary care
- Support network between Mental Health and other local pharmacy services
- Team works closely with community pharmacy, general practice, social care and voluntary sector

89y old lady admitted to A&E following epileptic fit

Assessed on A&E: decision to increase Lamotrigine

Discharged back to care home
Pharmacist liaised with A&E and prescribed

Community Pharmacy supplied

Admission to ward avoided

Case Study: East Surrey

- Pharmacists and pharmacy technicians supporting medicines optimisation and management
- Medicines optimisation @ patient level
- Supporting care homes (medicines systems, waste, education & training)

Medicines waste logs assessed by pharmacy technicians

Waste and reasons identified

Education, Systems change & MO

Waste re-audited

Average monthly waste/home was £554.86

After 9 months, ave monthly waste/home
£280.56

% reduction in medication waste: 50.6%

Case Study: Birmingham & Solihull

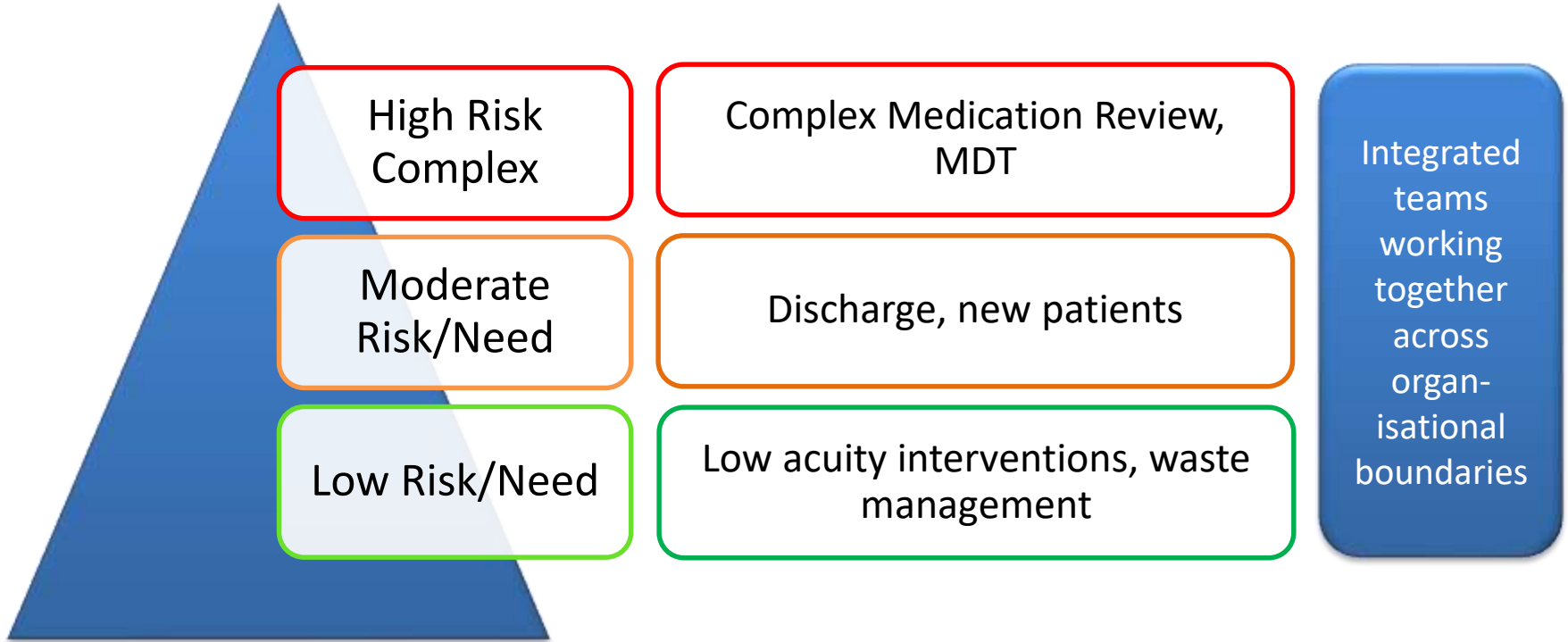
- Pharmacists and pharmacy technicians supporting medicines optimisation and management
- New patient service
- Supported discharge

New Patients or discharged from hospital →
Rapid review (Medicine Reconciliation) by
Pharmacy Team → Escalate Care to MDT

In 3-5y all residents will have optimised
medicines!

Proactive vs Reactive

A stratified approach



Integration

- Less likely to have poor care when we:
 - Understand each other
 - Join up care
 - Share Decisions
 - Co-develop
 - Work across organisations
 - Involve patients, families
- Relationships and good conversations



Next Steps on the Five Year Forward View



Deliver improvements in the priority areas:

- Cancer
- Mental health
- Primary care
- Urgent and emergency care

A national move towards **integrated care**

Learning from the vanguards is integral to Sustainability and Transformation Plans

Integrated Care Systems

We launched 44 Sustainability and Transformation Partnerships (STPs) to enhance joint working between NHS commissioners and providers, and local government, in every health and social care system across England.

STPs will provide the opportunity for...

1. A cultural shift towards systems leadership
2. Create the right environment and incentives to support the integration of services
3. Develop sustainable and autonomous systems, that can make the decisions required to improve care in their area within their share of the budget

In time, mature local systems will...

1. Work together to address systemic challenges
2. Collaboratively develop a care model that more proactively manages need and gets upstream to prevent illness
3. Makes the necessary decisions to improve services in their area, within their share of the budget



Developing the long term plan for the NHS

https://www.engage.england.nhs.uk/consultation/developing-the-long-term-plan-for-the-nhs/user_uploads/developing-the-long-term-plan-for-the-nhs-final.pdf

Working better together

- Shared decisions with family
- Support from Psychiatry of Old Age Services
- Linked in with community pharmacy
- Care home staff and GPs involved
- 12 Medicines stopped
- Antidepressant dose increased
- Laxative → PRN

→ Medicines optimised! 😊

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Rivaroxaban 20mg tablets (blood thinning)
Donepezil 10mg tablets (dementia)
Memantine 20mg tablets (dementia)
Mirtazapine 15mg tablets (antidepressant)
Increased to 30mg daily
Morphine sulphate 10mg/5ml (pain)
Laxido (laxative) → PRN
Docusate Sodium (laxative) → PRN



“When we strive to become better than we are, everything around us becomes better too”

Paulo Coelho, The Alchemist

www.health.org.uk/pills

 @wasimbaqir

england.pharmacyintegration@nhs.net