medicines reconciliation and polypharmacy

NZ Nurses Organisation
March 2019

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clinical advisory and prescribing pharmacist

the next 85 minutes ….

- different pharmacists roles
- medicines reconciliation
  - what it is
  - pitfalls
  - examples
- “polypharmacy”
  - is it all as bad as we hear
  - approaches to polypharmacy
- questions

questions

questions

questions

pharmacists?

- community pharmacists
- hospital pharmacists
- primary care / general practice pharmacists
  - clinical medication reviews
    - complex patients
    - long term conditions (multiple comorbidities)
  - medicines reconciliation and follow up
  - medicines information – all staff
  - clinical audits – individualised
  - patient groups (self-management)

clinical advisory pharmacists are responsible and accountable for:
reducing drug related morbidity and mortality through the identification and resolution of drug therapy problems by optimising medicines therapy for individuals

CAPA
Clinical Advisory Pharmacists Association

medicines reconciliation

- collect
- compare
- communicate
- ….. ?medication history taking++

medicines reconciliation is the **process** to **collect, compare and communicate** the **‘most accurate’** list of medicines that a patient is taking, together with details of any allergies and/or adverse drug reactions (ADRs) and non-prescribed, Rongoa, complementary or OTC medicines with the outcome of providing correct medicines for a given time period

why?

- more than 50% of medication errors occur at **transition of care**
- up to 95% of medication histories in primary care are reported to contain at least 1 error
- up to 33% of errors have the potential to cause harm
- patients with one or more medicines missed off after discharge from hospital are 2 to 3 times more likely to be readmitted

new zealand audit – 214 discharge summaries

- 41% of discharge summaries had a medicine error or errors
  - 20% had an incorrect medicine list in the PMS pre-admission
  - 14% had medicines that were listed on the PMS medicine list prior to admission but missed off at admission to hospital, for the duration of their stay and at discharge
  - 13% of discharge summaries contained an incorrect medicine dose at discharge
  - 5% had a significant drug interaction or contraindication
  - 10% required contact with the hospital to clarify missing information e.g. clarify intentions/ doses, missing information
  - Over a 2 week period in 2012, 30% of discharge interventions were classified as very significant or significant and had potential to avert ED presentation or admission

collect - sources

- **primary source** - the person / carer
  - preferably from the containers plus person
    - check dispensing date
  - ask the person how they take the medicine
    - how many tablets, how often, when, last taken … *especially prn*
    - …. and what do they think it is for
    - recently started medicines
    - recently discontinued medicines
    - allergies or unwanted effects
  - remember – inhalers, eye drops, nasal sprays, OTC, health supplements … **and medicines from friends / family**

collect - sources

- **secondary** sources
  - electronic health record
  - community pharmacy
  - general practice
  - residential care
  - …. private specialists, lead maternity carer, family
- **tertiary** sources
  - clinic notes
  - discharge summaries
  - transfer letters
  - *yellow card*

compare (and *explore*)

- at least two sources
  - verbal vs labels
  - clinic letters vs general practice list
  - any explanation? *The drug detective*

communicate

- the hand over - how
- document
  - date, sources
  - discrepancies [label says but only takes …; X says Y stopped this]
    - omissions / additions
    - dose discrepancies
  - decisions - clear
- referral to ….
- *and who will keep the patient informed*

what do you see?

- OD vs BD
- prn medicines …. which, when, for what
- ADRs – as opposed to allergies
- old lists from clinic, tapering dose
- ‘dropped’ medicines … *X said to do, but I do*
- adherence is erratic – depends on the day – and when asked
- different perceptions … *X told me; I have an allergy …*

polypharmacy

we are drowning in information

- but starving of wisdom

E.O Wilson

polypharmacy

vs

optimisation

not just about ‘aged’ people …

- multiple co-morbidities
  - guidelines
- prescribing cascade due to ADRs
- symptoms - escalating
  - pain
  - sleep

the majority of medicines are of no benefit to the majority of patients

messages - pill for every ill??

- drug related morbidity and mortality
  - 5 – 15% hospital admissions (up to 30%)
  - ADRs: 7 x more common in 70 – 79 yo than 20 – 29 yo
  - ADRs: subtle and more likely to go unrecognised
- people are heterogeneous
  - chronological versus physical versus mental age
  - co-morbidities (versus genetics), life expectancy
- minimal studies in the very aged (> 80 years)

messages - conflict?

- must follow guidelines
- must achieve clinical indicators
- under-treatment is ageism – look at the studies!!
- pressure – drug company (DTCA), patient / family / H & D

- poly-pharmacy is bad, bad
- decrease drugs in the elderly
- inappropriate medicines in the elderly – poor performance indicators
- individualise therapy / QoL
- ? patient / family
- ‘internal unease’

damned if you do and damned if you don’t

messages - guidelines – useful but ….

- population based – evidence in ‘normal’ populations
- generalised, at times vague
- single disease …. but multiple conditions
- vulnerable to changes in evidence [HTN]
- less specific in
  - **multiple co-morbidities / medicines**
  - extremes of age, weight
  - organ impairment – renal, hepatic
  - ethnicities
  - *phenotypes*

pragmatic … balancing

- not necessarily ideal (guidelines), but aiming for optimal (individualised)
- benefits vs harms
  - HbA1c
  - pain
  - older people

glycaemic control

- intense glycaemic control
  - nephropathy, retinopathy, neuropathy
  - long term
- benefits – limited long term
- harms – hypoglycaemia, pill burden
- jane has an HbA1c of 56 mmol/mol and is on metformin 500 mg twice daily … what now?
  - ‘older’ people …. 55 to 64 mmol/mol

ease off the antihyperglycaemics …. taper gliclazide

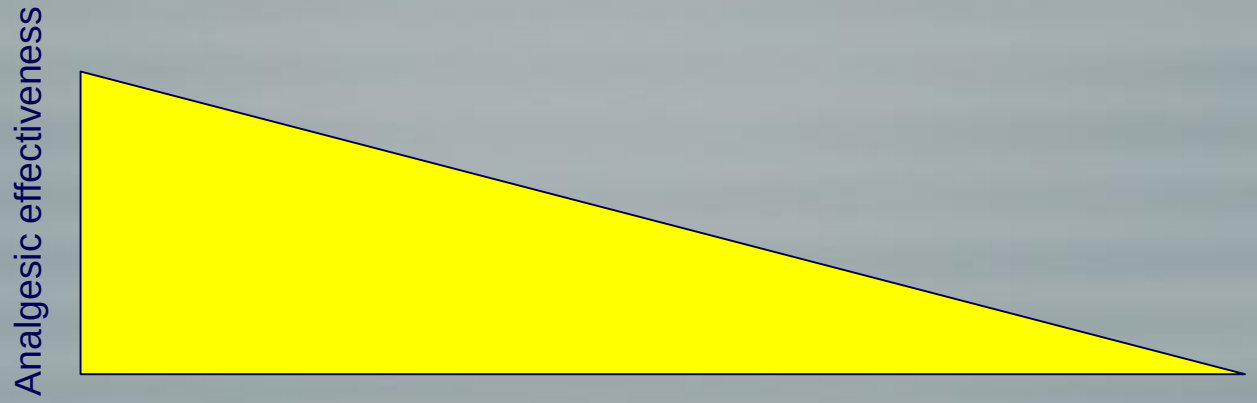
pain – and other prn medicines

- tramadol 50 mg 1 – 2 tds prn
- paracetamol 2 q4h prn, max 8 tablets a day
- ibuprofen 200 mg 2 tds prn
- ondanestron 4 mg tds prn

Ask the next 10 patients you see ☺

pain – escalation and de-escalation

- acute vs chronic pain



- de-escalation
  - opiates – tramadol
  - gabapentinoids – gabapentin, pregabalin

expectations

- most earlier analgesic studies are post-operative / dental
- pain changes overtime – real but some rewiring
- a ‘good’ response is a 50% reduction in pain
- rct’s provide averages
- explanation, assurance and managing expectations crucial
- **optimisation, not maximization / minimisation**

new medicines effectiveness?

- number needed to treat (nnt)[> 50% reduction in pain]
  - tramadol 4 – 5
  - pregabalin 4 – 5
  - gabapentin 5 – 8
- number needed to harm (gabapentin, pregabalin)
  - dizziness 19%
  - somnolence 14%
  - peripheral oedema 7%
  - gait disturbance / ataxia 9%
  - memory ~1%
  - dependence / misuse
  - mood (anti-epileptic)
  - respiratory depression esp. with opiates, BDZ
  - Weight gain
  - **Caution with driving**

de-prescribing / de-escalation

- **very** slow … months
- **and** extensive commitment

- preferable to identify those with chronic pain and refer early

older people – guideline driven

- mrs FE is 86 years old with dementia [MOCA 19 / 30]
- medical conditions
  - diabetes, IHD, HF, osteoarthritis, frailty

medicines		**laboratory**	
aspirin	100 mg daily	HbA1c	56 mmol/mol
atorvastatin	20 mg daily	BP	~136 / 64
cilazapril	5mg daily	HR	56 - 64
furosemide	40 mg daily	ECHO	Preserved EF
metoprolol	95 mg daily	BMI	19.2 (recent weight loss)
metformin	500 mg bd	eGFR	~ 52
gliclazide	80 mg mane	CrCl	25 - 30
omeprazole	20 mg bd		
quetiapine	25 mg nocte		
paracetamol	1 gm qid		
laxsol	2 bd		

discontinuing medicines in the elderly

- does not worsen outcomes; reduces adverse drug events.

  Bain K et al. JAGS. 2008; 56: 1946-52

- 238 medicines stopped in 124 patients

  - no clinical consequences in ~ 75%

- bp lowering: 35 - 40% remained normotensive
- antipsychotic: reduced risk of falls

discontinuation of medicines

- 199 ‘disabled’ patients in residential care
- stopped 332 medicines (mean 2.8 / patient)
- success in 88% of patients with 90% of medicines
  - nitrates (100%)
  - bp lowering (82%)
  - potassium (100%)
  - sedatives / tranquillisers (88%)
  - h_2 antagonist (94%)
  - frusemide (85%)
  - iron (95%)
  - antipsychotic (69%)
- mortality 45% (control) versus 21% (discontinued)
- acute care referral 30% (control) versus 12% (discontinued)

Garfinkel D et al. IMAJ. 2007; 9: 430-34

so should we de-prescribe?

– and not follow the guidelines?

the application of guidelines for specific chronic disorders is not always suited to an older person with co-morbidities, frailty

- beneficence [benefits]
  - evidence for likely benefit in this particular person? (NNT)
- non-maleficence [harms]
  - adverse effects likely for this particular person, given their age, co-morbidities and other medicines? (NNH) …. *We expect death, we used the medicines to reduce death …. But do we know if they, or the targets, are increasing mortality? … BP, BG*
- autonomy
  - what does this person want?

people may have a life expectancy that is shorter than the time needed to benefit from the drug ... or the potential life extension may be very short

QoL – the balance shifts

if we treat – what's 'appropriate'?

- e.g. beers, medication appropriateness index, stop/start
  - what are the patient's / family's views?
  - is there still an indication (symptoms)?
  - what are the potential adverse effects?
  - what are the long-term benefits?
  - is a trial discontinuation / dose reduction feasible - how?
  - document, plan, share. monitor
- but what about "us"
  - as big a step as starting an medicine – possibly bigger as it we are no longer 'preventing' research-based morbidity and mortality
  - medicines often started in response to an event (hospital), and may still be 'seeing' a specialist
  - conscious effort to transfer to palliative care
  - just leave well alone

discontinuation / dose reduction

… or do not start

- primary / secondary prevention … **NNT**
  - antithrombotics – aspirin, anticoagulants
  - blood pressure lowering (target)
  - statins (? discontinue > 85 years)
  - frusemide (if not for heart failure)
- hypoglycaemic medicines
- omeprazole
- nsaid
- bisphosphonate / alendronate
- antipsychotics
- iron
- potassium
- *benzodiazepines*

Discontinuation and tapering

- start low, go slow ….. and reverse slowly (months)
  - depends on duration of use
    - β-blockers … halve dose every month
    - PPI's … halve dose every month *[patient control]*
    - gabapentin / pregabalin / opiates
    - benzodiazepines
    - antidepressants – SSRIs **and** TCAs
    - antiepileptic medicines
    - anticholinergic medicines
    - *antihyperglycaemics*
    - *blood pressure lowering*
  - **no need to taper** – alendronate, iron, potassium, warfarin

older people – remember mrs FE

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step 1 – taper, and keep tapering

now	3 months	medicines		laboratory		
		aspirin	100 mg daily	HbA1c	56 mmol/mol	less intensity OK
halve /stop		atorvastatin	20 mg daily	BP	~136 / 64	less intensity OK
halve		cilazapril	5mg daily	HR	56 - 64	less intensity OK
halve	*stop*	furosemide	40 mg daily	ECHO	**preserved EF**	evidence poor
halve	*halve*	metoprolol	95 mg daily	BMI	19.2 (recent weight loss)	
	step 3?	metformin	500 mg bd	eGFR	~ 52	
halve	stop	gliclazide	80 mg mane	CrCl	25 - 30	expect with age
halve	*halve*	omeprazole	20 mg bd			
halve		quetiapine	25 mg nocte			
reduce 3 gm		paracetamol	1 gm qid			
		laxsol	2 bd			

italics – further clinical information required; depends on effect of initial step

discontinuation?

- 84 year old frail woman fractured her neck of femur. discharged to a resthome on:
  - metoprolol 95 mg daily
  - candesartan 32 mg daily
  - amlodipine 5 mg daily
  - simvastatin 40 mg nocte
  - aspirin 100 mg daily
  - omeprazole 20 mg bd (new)
  - alendronate 70 mg weekly (new)
  - cholecalciferol 1.25 mg monthly (new)
  - zopiclone 7.5 mg nocte prn (new)
  - laxsol 2 nocte prn (new)
- no history of cardiac event (‘hypertension’ since 1996)
- bp after two weeks at resthome ~ 136 - 142 / 60 – 64 mmHg

discontinuation?

- a frail 89 year old woman in a retirement village apartment, with AF
- preadmission: diltiazem 180 mg daily, aspirin 100 mg daily. *(LDL = 1.4 mmol/L)*

  potential TIA late one evening. returned late next afternoon on

  - warfarin mdu
  - diltiazem 180 mg daily
  - atorvastatin 40 mg daily
  - cilazapril 2.5 mg daily
  - bendrofluazide 2.5 mg daily
  - omeprazole 20 mg daily

summary – reducing medicines

- shared decision making
- advanced treatment directives / advance care plan - discussed annually *(enduring power of attorney)*
- document decisions / discussions and **share with secondary / primary care** when feasible
- annual **structured, systematic** medication review. Give patients permission to stop medicines / opt out
- consider when geriatric care becomes palliative care
- next time there is a ‘mystery’ or falls, weight loss / nausea, incontinence, cognitive impairment … consider stopping medicines, not starting
- discontinuation ~ 75% successful - monitor

Nga mihi nui