



Developing the role of the NMP in Care Homes and Community Hospitals

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Aims and objectives



To be aware of:

- The current and potential roles of the NMP Independent Prescriber in Care Homes and Community Hospitals
- Working in primary care alongside GPs to improve care in care homes
- Why polypharmacy is especially problematic in older people
- How proactive reviews can reduce acute admissions
- Working with the patient with physical and mental health conditions
- Covid considerations



The care home population

- 490,36 people in UK in 2021
- 70% live in residential care homes and 30% in nursing homes
- 15% of people aged 85 and over live in care homes
- Size of the care home population has been static since 2001
- People are staying at home for longer
- Acuity has risen in the last two decades

Who lives in a care home?



- People with complex multi-morbidity
- Most, 87%, severely disabled
- Most, 70%, cognitively impaired
- Over half, 54%, have cardiovascular disease
- Almost a quarter, 22%, have had a stroke
- Three quarters of care home residents are women

Community Hospitals



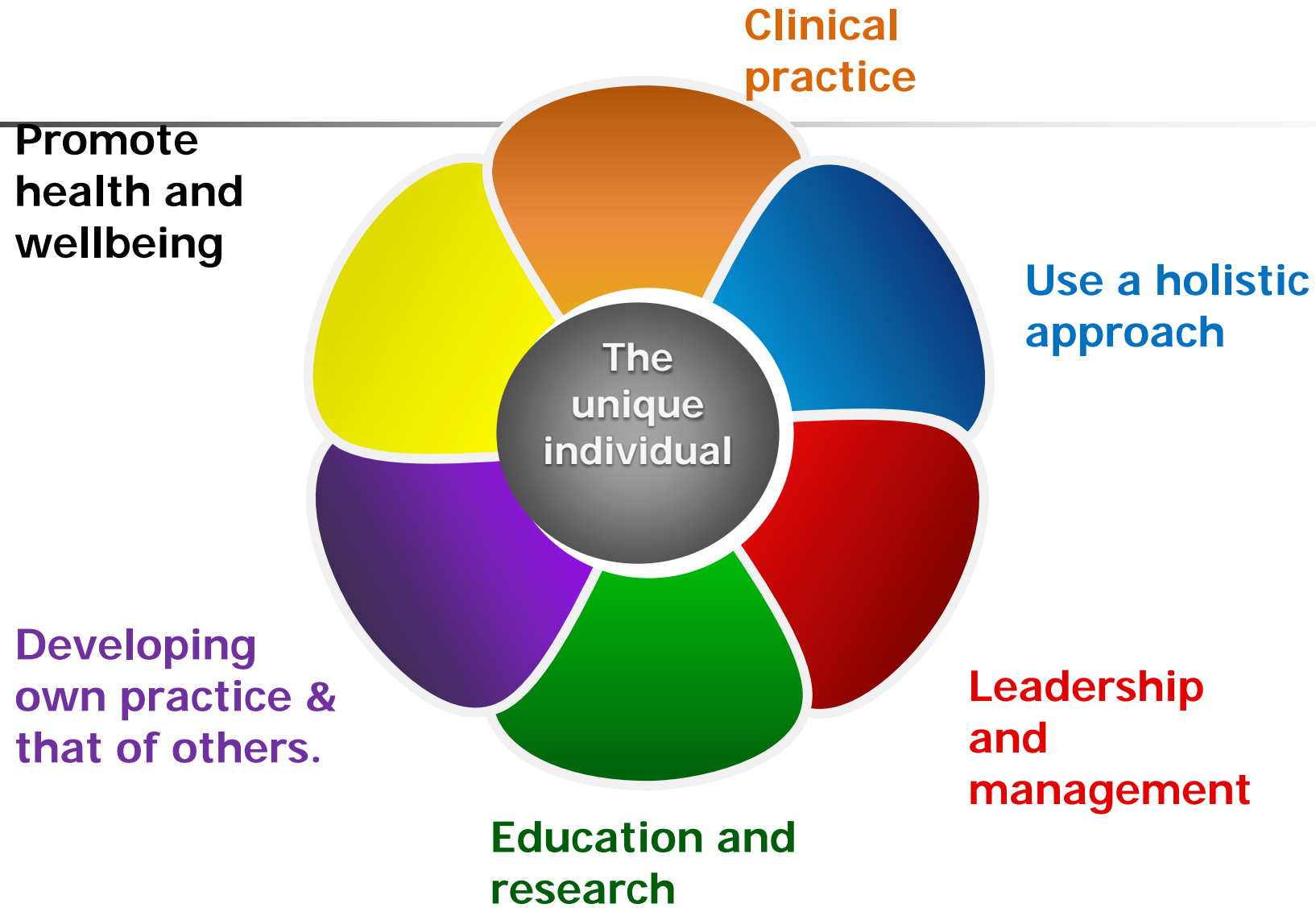
- Over 500 in UK
- Inpatient beds, step up and step down
- Walk in centres, minor injuries
- Outpatient clinics
- Wound care clinics
- Community IV treatments



My experience in community hospitals

- Admitting patients, clerking, writing up drug charts, medication reviews, falls clinic
- Seeing and treating patients, determining discharge dates and discharge destination with MDT
- Setting up and running nurse led wards
- Developing community and community hospital based IV therapy
- Developing a team of nurse practitioners
- Supporting community intermediate care services

Components of advanced clinical practice





Clinical practice role of the NMP

Reactive

Responding to illness and acute deterioration

Dealing with wounds and pressure ulcers

Proactive

Routine reviews of medication and long term conditions

Determining ceilings of care & end of life care planning.

Palliative care planning

Prevention of pressure damage and skin problems by working proactively.

Clinical practice role of the NMP

City Hospitals Sunderland 
NHS Foundation Trust

CURB-65 score for pneumonia	
Score	Description
1	Age 65+
1	New onset confusion
1	Urea >7mmol/l
1	Respiratory rate >30/min
1	SBP <90mmHg / DPB <60mmHg
Additional adverse prognostic features	Hypoxaemia (SaO ₂ <92% or PaO ₂ <8 kPa) regardless of FiO ₂ Bilateral or multilobe involvement on CXR

- Sarah Harris is 85 and has type two diabetes, heart failure, hypertension and dementia. She becomes unwell, has an elevated temperature, pulse and respiration rate.
- The ANP is able to examine Mrs Harris, determine her diagnosis, bronchopneumonia, and use the CURB 65 score to check if this can be managed in the care home or community hospital
- The ANP prescribes antibiotics and monitors condition

Proactive care and the NMP



- Review of long term conditions
- Medication review
- “Just in case” prescribing
- Education and training
- Policies, procedures, guidelines
- Audit of effectiveness



Medication and the older person

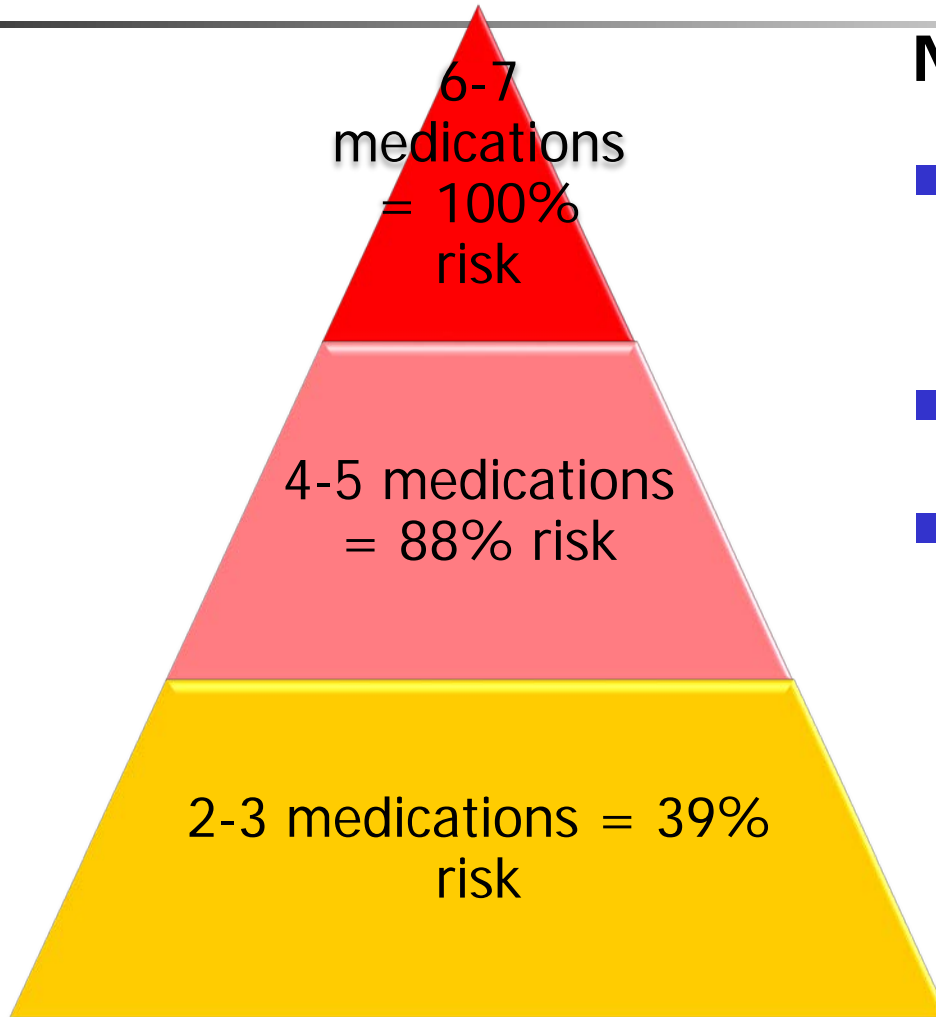
- Age related changes cause reduced ability to absorb and excrete drugs (Wooten, 2012: Miller, 2007: Miller, 2000: Nguyen & Goldfarb, 2012: Esposito et al, 2007: Mühlberg & Platt, 1999).
- >Gastrointestinal motility and >gastro-intestinal blood flow
- Changes in distribution of drugs due to > in muscle mass & < in fat
- > ability to metabolise drugs due to > hepatic blood flow & liver mass
- Reduced ability to excrete drugs due to decline in renal function
- Changes at molecular level that alter receptor binding and may < or > sensitivity to particular classes of drugs.



Consequences of age related changes

- Adverse drug reactions become more common as people age
- Polypharmacy increases as people age as long term conditions more prevalent
- Dysphagia incidence rises with age
- Increased sensitivity to cholinergic burden

Polypharmacy increases the risk of ADRS



Number of medicines

- 2-3 = 39% risk drug interactions
- 4-5 = 88% risk
- 6-7 medicines = 100% risk



Classifications of adverse drug reactions

- **Type A Reactions** : Augmented reactions result from an exaggeration of a drug's normal pharmacological actions when given at the usual therapeutic dose and are normally dose-dependent. Examples include respiratory depression with opioids or bleeding with warfarin. Type A reactions also include those that are not directly related to the desired pharmacological action of the drug, for example dry mouth that is associated with tricyclic antidepressants.
- **Type B Reactions** Bizarre reactions are novel responses that are not expected from the known pharmacological actions of the drug. These are less common, and so may only be discovered for the first time after a drug has already been made available for general use. Examples include anaphylaxis with penicillin or skin rashes with antibiotics.
- **Type C Reactions** Continuing reactions, persist for a relatively long time. An example is osteonecrosis of the jaw with bisphosphonates.
- **Type D Reactions** Delayed reactions, become apparent some time after the use of a medicine. The timing of these may make them more difficult to detect. An example is leucopenia, which can occur up to six weeks after a dose of lomustine.
- **Type E Reactions** End-of-use reactions, are associated with the withdrawal of a medicine. An example is insomnia, anxiety and perceptual disturbances following the withdrawal of benzodiazepines.



What is polypharmacy?

- No universal definition
- Definitions include 5+ medications
- Importance is appropriateness
- Benefits risks and benefits
- Willing and able to comply



Polypharmacy

“Irrational use of medicines is a major problem worldwide. More than half of all medicines are prescribed, dispensed or sold inappropriately, and half of all patients fail to take them correctly” (WHO, 2017)

<https://www.who.int/bulletin/volumes/95/8/17-198002/en/>



Principles safe prescribing

1. Clear diagnosis, is a medicine the best way to treat, what are the benefits
2. Medical history, allergies, ADRs, other medications
3. Risks and benefits and comorbidities
4. Patient's ideas, concerns, expectations
5. Use safe effective medication, tailored to patient and select right route and formulation



Principles safe prescribing (2)

6. Use national guidelines and local formularies
7. Write clear prescriptions to reduce risk of error
8. Monitor response and benefits and adverse effects
9. Communicate with patient, document and safety net
10. Prescribe within limits of your knowledge and experience



Are we over-prescribing?

- 49% people aged 65+ take 5+ medicines up from 12% in 20 years
- 50% people aged 75+ take 5+ medicines
- NHS spend up from £13 billion 2010 to £18.2 billion 2017/18
- 1.1 billion px items dispensed 2017/18
- December 2018 review into over-prescribing launched



Public Health England Review (2019)

Reviewed px of antidepressants, benzodiazepines, z-drugs, opioids and gabapentinoids

- 1 in 4 adults in England is taking these medicines
- Antidepressant prescription rates increasing others decreasing
- People are taking medicines for longer 500,000 taking opioids & 120,000 taking benzodiazepines continuously for at least 3 years
- Inequalities, women more px, gabapentinoids more in areas with high poverty levels
- The medicines were linked with dependence and withdrawal symptoms
- Patients report a lack of support including information about risk and alternatives.

Stephen Taylor, Fizz Annand, Peter Burkinshaw, Felix Greaves, Michael Kelleher, Jonathan Knight, Clare Perkins, Anh Tran, Martin White, John Marsden

[Dependence and withdrawal associated with some prescribed medicines: an evidence review](#)

Public Health England review.



PHE recommendations

1. Prescribing data on medicines that can cause dependence or withdrawal more transparent and accessible
2. Improve treatment information for patients and carers to support shared decision-making
3. Improve support for patients getting dependence or withdrawal symptoms
4. Further research on the prevention and treatment of dependence and withdrawal from prescribed medicines
5. National helpline for patients who are experiencing drug dependence

How did we get to this place?

NICE

National Institute for
Health and Care Excellence



- Medical & nursing specialism
- Working in silos
- Treating the disease & not the patient
- Lack of research & evidence in relation to those who are very old
- Lack of health promotion, we're getting sicker
- Expectation that we can all live forever



Who is at greatest risk of polypharmacy?

- Older people – more likely to be prescribed multiple medications and at greater risk of ADRs due to age related changes
- Those with cognitive impairment
- Those with mental health problems



Keeping people safe and well

- Be aware of how ageing affects pharmacodynamics and pharmacokinetics
- Be aware of the risks of polypharmacy
- Learn how to use tools to reduce polypharmacy
- Reduce tablet burden when possible by using MR drugs
- Be aware of ADRS
- Remember the older person is still someone

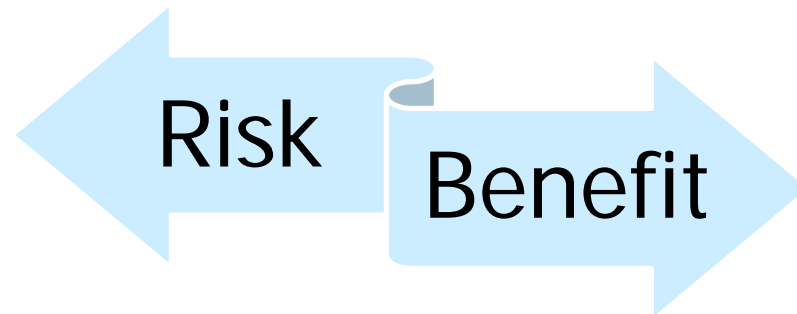


How comorbidities affect treatment

- Cardiac failure -NSAIDs > oedema, worsen failure – contraindicated
- Renal failure- NSAIDS nephrotoxic, opiates and codeine with great caution
- Dysphagia- soluble meds > Na, BP and stroke risk
- Dementia, tramadol, codeine, opiates, > falls risk
- Depression – anti-depressants + tramadol = serotonin syndrome



When might a medicine be inappropriate?



- When the risk of harmful effects exceeds the potential benefit for the patient or when a safer, better tolerated or more effective alternative drug or treatment is available



Drug interactions

- Remember falls risk
- How will this affect bladder and bowel
- Sedatives, analgesics and anti-depressants dangerous
- Opioids double risk injurious falls
- Non opioids can > risk by 15-75%
- Tramadol and anti-depressants
- High doses, small people, > metabolism



High risk medicines

- Four types medicines = 1/3 ADR related admissions
- Warfarin
- Anti-platelets e.g. Aspirin & clopidogrel
- Oral hypoglycaemics e.g. gliclazide
- Drugs with narrow therapeutic range e.g. digoxin.

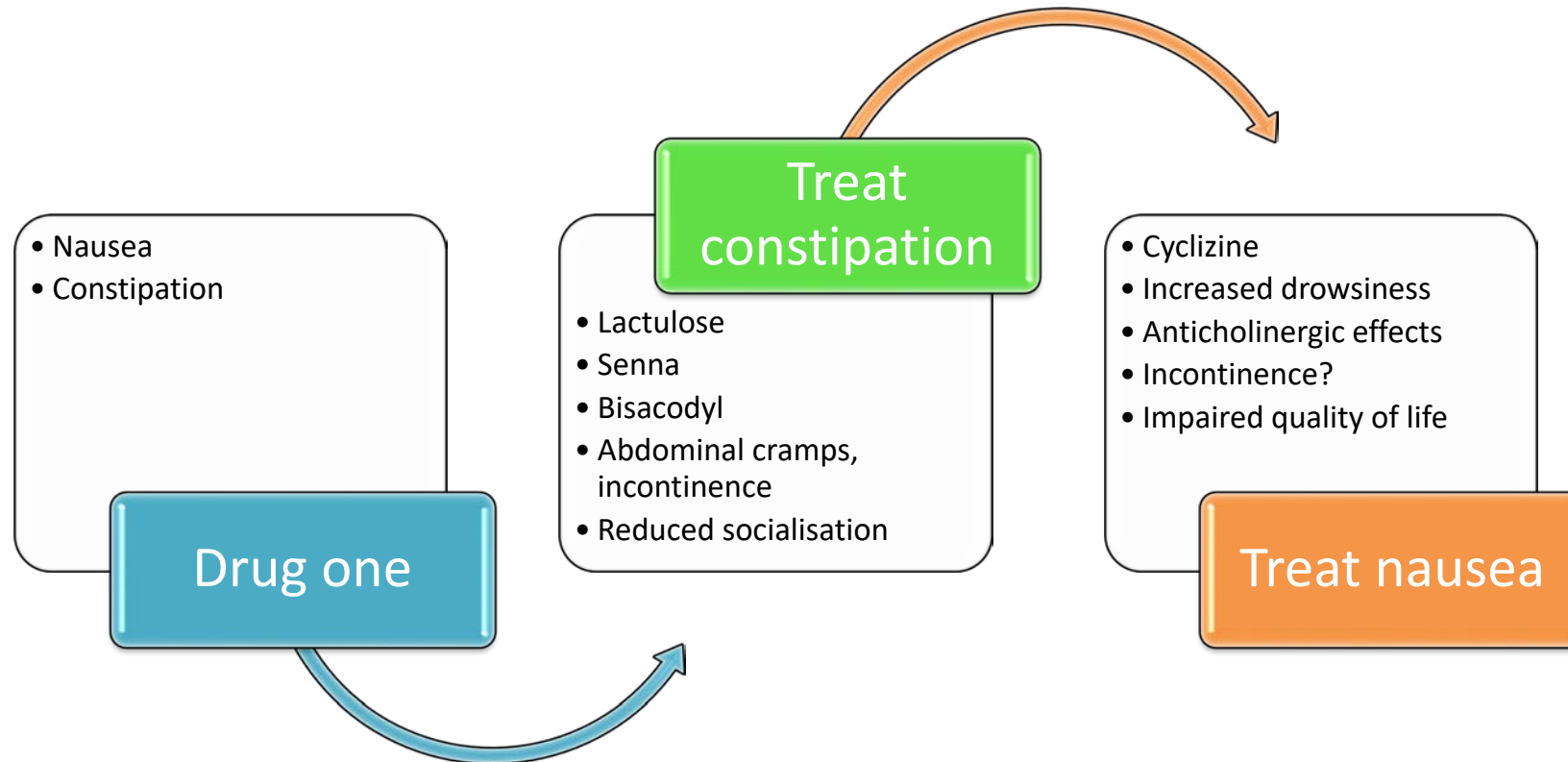


Where you live can increase risk of inappropriate medication

- 12% those living at home
- 40-50% living in nursing homes

Any thoughts on why?

Beware the prescribing cascade



Identify and manage side effects



- Explain possible side effects
- Discuss, be partners and negotiate
- Work out if its worth managing side effects or changing tack
- Have a dialogue

Concordance



- 40% non concordant why?
- Side effects
- Worried addiction
- Difficulty swallowing
- Forgetting to take
- Unsure of when to take
- How many pills prepared to take



STOPP/START Screening tool

- Principle all drugs should be clinically indicated. Criterion for discontinuation:
- Any drug prescribed without an evidence-based clinical indication.
- Any drug prescribed beyond the recommended duration, where treatment duration is well defined.
- Any duplicate drug class prescription e.g. two concurrent NSAIDs, SSRIs, loop diuretics, ACE inhibitors, anticoagulants (optimisation of monotherapy within a single drug class prior to considering a new agent).
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4339726/bin/supp_44_2_2_13_index.html



Beers criteria

- American Geriatrics Society 2015 Beers Criteria Update Expert Panel (2015). *American Geriatrics Society 2015 updated Beers criteria for potentially inappropriate medication Use in older adults*. J Am Geriatr Soc. 2015; 63: 2227–2246
- <http://onlinelibrary.wiley.com/doi/10.1111/jgs.13702/full>



Cholinergic burden

- Anticholinergics include antispasmodics, bronchodilators, anti-arrhythmics, antihistamines, anti-hypertensive drugs, anti-parkinsonian agents, skeletal muscle relaxants, and psychotropic drug
- Adverse effects common and rise in line with burden
- Impair cognition in the ageing brain



Drugs to watch out for

- “Orphan” medicines
- Long-acting benzodiazepines, fluoxetine, tricyclic antidepressant (e.g., amitriptyline).
- Drugs to treat UI e.g oxybutinin
- Iron
- PPIs increase C. diff and pneumonia risk and often Px inappropriately
- Long term antibiotics to prevent UTI
- Vitamins e.g thiamine and vit B when no longer drinking
- Hay fever meds in December
- Z drugs
- NSAIDS – watch kidney function

Therapeutic decision making



- Ability to determine the patient's expectations
- Ability to determine when onward referral required
- Ability to determine who else can help in patient management
- Ability to work as a team to provide the best possible care and treatment



The role of the NMP in medication management

- Medication reviews
- Using non medical management e.g diet and fluids rather than laxatives
- Reducing risks such as falls that impair quality of life
- Reducing the risk of hospital admission
- Enhancing well being



Avoiding unnecessary hospital hospitalisation

- 5.5% risk of ADR increases by 0.5% per night
- 17.6% risk infection increases by 1.6% per day
- 30% risk functional decline
- Increased risk re-admission
- Increased risk of institutional care
- Reduced quality of life



Covid considerations

- Older people 30% of Covid deaths worldwide
- Reports indicate 19,000 Covid deaths in care homes, likely to be an underestimate
- Death rates 62 times higher in people aged 65 and over
- Prevention: Vaccination, infection control
- Early identification and plan of care if infected



Treating Covid

The treatments available are:

[Nirmatrelvir and ritonavir \(Paxlovid\)](#)

[Sotrovimab \(Xevudy\)](#)

[Remdesivir \(Veklury\)](#)

[Molnupiravir \(Lagevrio\)](#)

Nirmatrelvir, ritonavir, remdesivir and molnupiravir are antiviral medicines. Sotrovimab is a biological medicine. It is also known as a neutralising monoclonal antibody (nMAb).

Contraindications and cautions in pregnancy and breastfeeding as we do not know if they are safe



Sotrovimab (Xevudy) IV

- The dose of sotrovimab is 500mg. It's given as a single doses, intravenously, over 30 minutes..
- Person needs monitoring for 30 minutes post dose
- Around 10% of people experience hypersensitivity this can cause nausea, dizziness, an itchy rash, red warm skin. Self limiting but anti-histamines can help.
- Can cause anaphylaxis, treated adrenaline, The usual dose is 500 micrograms (0.5ml of adrenaline 1/1000) and taken to hospital



Remdesivir -IV

- Prior to prescribing clotting time, LFTs and U&Es checked
- Dose 200mg on the first day and then 100mg the second and third day
- Given by intravenous infusion over 30 minutes to two hours.
- Side effects: Affect 1 in 10, headaches, nausea and vomiting.
- Can cause anaphylaxis, treated adrenaline, The usual dose is 500 micrograms (0.5ml of adrenaline 1/1000) and taken to hospital



Paxlovid- oral;

- Paxlovid works by stopping the virus that causes COVID-19 from growing and spreading in the body.
- Paxlovid tablets are given within 5-7 days of testing positive or start of symptoms.
- Dosage 2 nirmatrelvir tablets and 1 ritonavir tablet BD for 5 days.
- Side effects affect 1 in 10 and include diarrhoea, vomiting and a change in taste.



Paxlovid research findings

- Reduces the risk of dying from COVID-19 by 79%
- Decreases hospitalisations by 73% in at-risk patients who are ages 65 and older
- Among ages 65 and older, there were two deaths from COVID-19 in 2,484 treated patients, as compared with 158 in the 40,337 untreated patients. This represented a 79% lower chance of dying from COVID-19. (See notes for reference)



Molnupiravir - oral

- Dosage: 4 molnupiravir capsules BD for 5 days. Molnupiravir starts working very soon after taking it.
- Side effects affect 1 in 10 include dizziness and headaches.
- Can cause anaphylaxis, treated adrenaline, The usual dose is 500 micrograms (0.5ml of adrenaline 1/1000) and taken to hospital



Treating Covid symptoms

- Dyspnoea- salbutamol via spacer or nebulizer
- Oxygen if required
- Pain – analgesia
- Palliative care medications if indicated, e.g glycopyrronium. NB hyoscine can cause hallucinations so I consider this more effective.
- Tender loving care



Care Home Models of NMP service provision

- Directly employed by the care home
- Employed by the GP
- Employed by NHS in care home support teams or rapid response teams



Community hospital models of service provision

- Nurse consultant led with nurse practitioners and nurse specialists
- GP led with NC and NP support
- Medical consultant led with medical support
- Medical consultant led with NP support

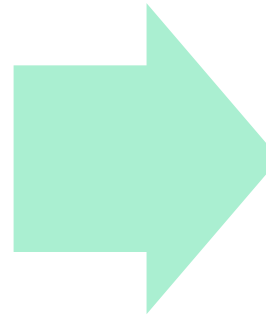
Medical consultant led is usually part time and difficult to recruit to posts. Can involve expensive locum staff



Nurse led services in community hospitals

Drivers

- Difficulty recruiting medical staff
- Economic nurse led model more cost effective
- Growing evidence base for nurse led care
- Expanding role of nurses, history taking, examination, diagnosis, prescribing



Barriers

- Resistance medical staff
- Organisational fear, is this too risky?
- Recruiting nurse consultants and nurse practitioners all in high demand

Working alongside GPs to improve care in care homes

- NMP may be directly employed by GP, governance, indemnity and prescribing issues resolved
- NMP may work in partnership with GP and GP prescribes or NMP obtains stock items to use
- NMP and GP may be employed by NHS in care home support, admission avoidance or rapid response teams
- Essential demarcation of roles though there will be overlap
- Clear escalation plans, NMP, GP and to acute



Care home barriers to development of the role

- Gulf between health and social care
- Lack of incentives to employ directly
- Governance issues – who pays NMP indemnity
- Practical issues, who issues prescribing pads and pays for items prescribed?
- Lack of support and career pathways



Benefits NMP/NPs in care homes

- Well established in nursing homes in North America for last 30 years.
- Proven to reduce hospital admissions
- Reduces treatment delays and timely treatment improves quality of care
- Reduced length of stay when admitted
- NPs are primary care providers in nursing homes & in some cases employed by physicians
- Some work on this in UK over last 20 years



Benefits nurse consultants & nurse practitioners community hospitals

- Care closer to home
- Rehabilitation older people can get lost and deteriorate in busy acute settings
- Reducing pressure on ambulance services, accident and emergency and acute
- Reduces bed pressures in acute
- Provides high quality care and minimises treatment delays

Last words



- Older people & those who have multiple comorbidities can gather medicines as they move across services. These act and interact and it's vital to ensure that the patient is central to decision making and treatment.



Thank you for listening

Any questions or comments?