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Recognising and Managing Polypharmacy in Practice 28th March 2022

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CNS for frailty
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Overview

- Background to polypharmacy
- How to manage polypharmacy
- Tools for use in practice

Why do we prescribe?

Primary prevention
Treatment
Symptom control

How do we make prescribing decisions?

National guidelines
Evidence based
Experience

Multi-morbidity

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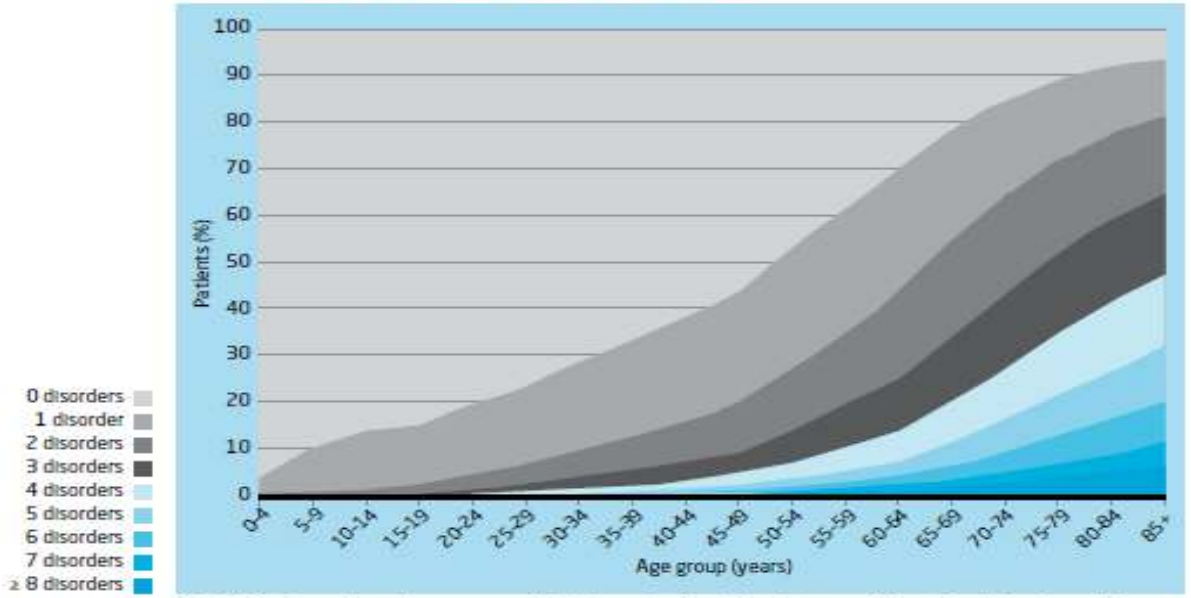
Multi-morbidity defined as the presence in an individual of 2 or more long term conditions (LTC)

Can include:

- Defined physical and mental health conditions
- Ongoing conditions such as learning disability
- Symptom complexes such as frailty or chronic pain
- Sensory impairment such as sight or hearing loss
- Alcohol and substance misuse

Figure 5 Number of chronic disorders by age group



Note: This figure shows how common it is to have significant long-term conditions in relation to age. Few people (fewer than 30 per cent) do not have at least one condition by the age of 60, and many people will have two or three.

Source: Barnett *et al* (2012)[3]

Multi-morbidity

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- Growing number of people with a LTC – around 15 million people in England now have a LTC and the number of LTC increases with age.
- Average number of prescription items per year for any one person in England is increasing
- Estimated between 30% – 50% of medicines for LTC are not taken as intended

https://www.nice.org.uk/guidance/ng56

Polypharmacy

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The Kings Fund definition polypharmacy:

Appropriate polypharmacy

‘Prescribing for an individual for complex conditions or for multiple conditions in circumstances where medicines use has been optimised and where the medicines are prescribed according to best evidence’

Problematic polypharmacy

‘The prescribing of multiple medicines inappropriately, or where the intended benefit of the medicines are not realised’

Polypharmacy epidemiology

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In 2015/16 48% of adults had taken at least 1 prescribed medicine (not including contraception or nicotine replacement)

This increases with age to more than 90% of those aged 75 and over

24% of adults were taking 3 or more medications

http://healthsurvey.hscic.gov.uk/media/63790/HSE2016-pres-med.pdf

Adherence

- Adherence is an important but often overlooked factor in polypharmacy. WHO in 2003, highlighted that 30-50% of medicines are not taken as intended (www.who.int/chp/knowledge/publications/adherence_full_report.pdf).
- Often further medicines are prescribed in response to 'treatment failure' rather than a check of the level of treatment adherence. This was illustrated by a recent study (BJ Clinical Pharmacology Vol 84 Issue 1 Jan 2018 18-24) which highlighted that hypertension is only controlled in 35% of people. Those in this study were assessed for adherence to their blood pressure medicines (physicians and people under their care were unaware of adherence measurements), and 68% of the people prescribed medicines were non-adherent.

How did we get here?

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- Treating the disease and not the patient
- Prescribing pressures
- Medical and nursing specialism
- Working in silos
- Lack of research and evidence in relation to those who are very old
- Expectation that we can live forever

Tools to assess appropriateness of de-prescribing

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Aim is to review whether the risk of harmful effects exceeds the potential benefit

- Beers criteria (American Geriatrics society Updated 2019)

https://nicheprogram.org/sites/niche/files/2019-02/Panel-2019-Journal_of_the_American_Geriatrics_Society.pdf

- STOPP/START

http://ageing.oxfordjournals.org/content/early/2014/10/16/ageing.afu145.full

- Anticholinergic burden

http://www.medichec.com/assessment

- Scottish guidelines

Scottish Government Polypharmacy Model of Care group (2018)

Anticholinergic Burden Scale

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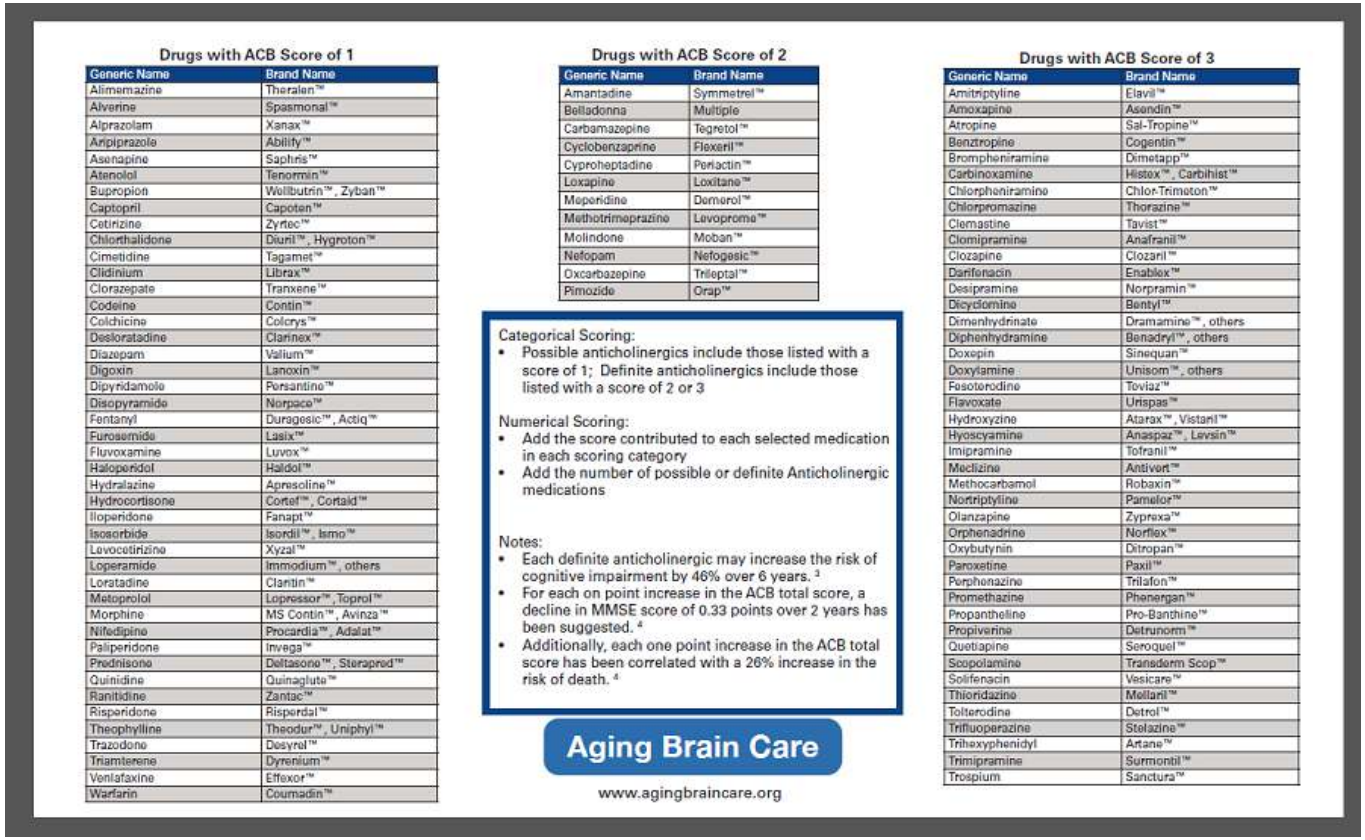

Drugs with ACB Score of 1

Generic Name	Brand Name
Alimemazine	Theralen™
Alverine	Spasmonal™
Alprazolam	Xanax™
Aripiprazole	Abilify™
Asenapine	Saphris™
Atenolol	Tenormin™
Bupropion	Wellbutrin™, Zyban™
Captopril	Capoten™
Cetirizine	Zyrtec™
Chlorthalidone	Diuril™, Hygroton™
Cimetidine	Tagamet™
Clidinium	Librax™
Clorazepate	Tranxene™
Codeine	Contin™
Colchicine	Colcrys™
Desloratadine	Clarinex™
Diazepam	Valium™
Digoxin	Lanoxin™
Dipyridamole	Persantine™
Disopyramide	Norpace™
Fentanyl	Duragesic™, Actiq™
Furosemide	Lasix™
Fluvoxamine	Luvox™
Haloperidol	Haldol™
Hydralazine	Apresoline™
Hydrocortisone	Cortef™, Cortaid™
Iloperidone	Fanapt™
Isosorbide	Isordil™, Ismo™
Levocetirizine	Xyzal™
Loperamide	Immodium™, others
Loratadine	Claritin™
Metoprolol	Lopressor™, Toprol™
Morphine	MS Contin™, Avinza™
Nifedipine	Procardia™, Adalat™
Paliperidone	Invega™
Prednisone	Deltasone™, Sterapred™
Quinidine	Quinaglute™
Ranitidine	Zantac™
Risperidone	Risperdal™
Theophylline	Theodur™, Uniphyl™
Trazodone	Desyrel™
Triamterene	Dyrenium™
Venlafaxine	Effexor™
Warfarin	Coumadin™

Drugs with ACB Score of 2

Generic Name	Brand Name
Amantadine	Symmetrel™
Belladonna	Multiple
Carbamazepine	Tegretol™
Cyclobenzaprine	Flexeril™
Cyproheptadine	Periactin™
Loxapine	Loxitane™
Meperidine	Demerol™
Methotrimeprazine	Levoprome™
Molindone	Moban™
Nefopam	Nefogesic™
Oxcarbazepine	Trileptal™
Pimozide	Orap™

Categorical Scoring:
- Possible anticholinergics include those listed with a score of 1; Definite anticholinergics include those listed with a score of 2 or 3

Numerical Scoring:
- Add the score contributed to each selected medication in each scoring category
- Add the number of possible or definite Anticholinergic medications

Notes:
- Each definite anticholinergic may increase the risk of cognitive impairment by 46% over 6 years. [3]
- For each on point increase in the ACB total score, a decline in MMSE score of 0.33 points over 2 years has been suggested. [4]
- Additionally, each one point increase in the ACB total score has been correlated with a 26% increase in the risk of death. [4]

Aging Brain Care

www.agingbraincare.org

Drugs with ACB Score of 3

Generic Name	Brand Name
Amitriptyline	Elavil™
Amoxapine	Asendin™
Atropine	Sal-Tropine™
Benztropine	Cogentin™
Brompheniramine	Dimetapp™
Carbinoxamine	Histex™, Carbihist™
Chlorpheniramine	Chlor-Trimeton™
Chlorpromazine	Thorazine™
Clemastine	Tavist™
Clomipramine	Anafranil™
Clozapine	Clozaril™
Darifenacin	Enablex™
Desipramine	Norpramin™
Dicyclomine	Bentyl™
Dimenhydrinate	Dramamine™, others
Diphenhydramine	Benadryl™, others
Doxepin	Sinequan™
Doxylamine	Unisom™, others
Fesoterodine	Toviaz™
Flavoxate	Urispas™
Hydroxyzine	Atarax™, Vistaril™
Hyoscyamine	Anaspaz™, Levsin™
Imipramine	Tofranil™
Meclizine	Antivert™
Methocarbamol	Robaxin™
Nortriptyline	Pamelor™
Olanzapine	Zyprexa™
Orphenadrine	Norflex™
Oxybutynin	Ditropan™
Paroxetine	Paxil™
Perphenazine	Trilafon™
Promethazine	Phenergan™
Propantheline	Pro-Banthine™
Propiverine	Detrunorm™
Quetiapine	Seroquel™
Scopolamine	Transderm Scop™
Solifenacin	Vesicare™
Thioridazine	Mellaril™
Tolterodine	Detrol™
Trifluoperazine	Stelazine™
Trihexyphenidyl	Artane™
Trimipramine	Surmontil™
Trospium	Sanctura™

Medicines Review

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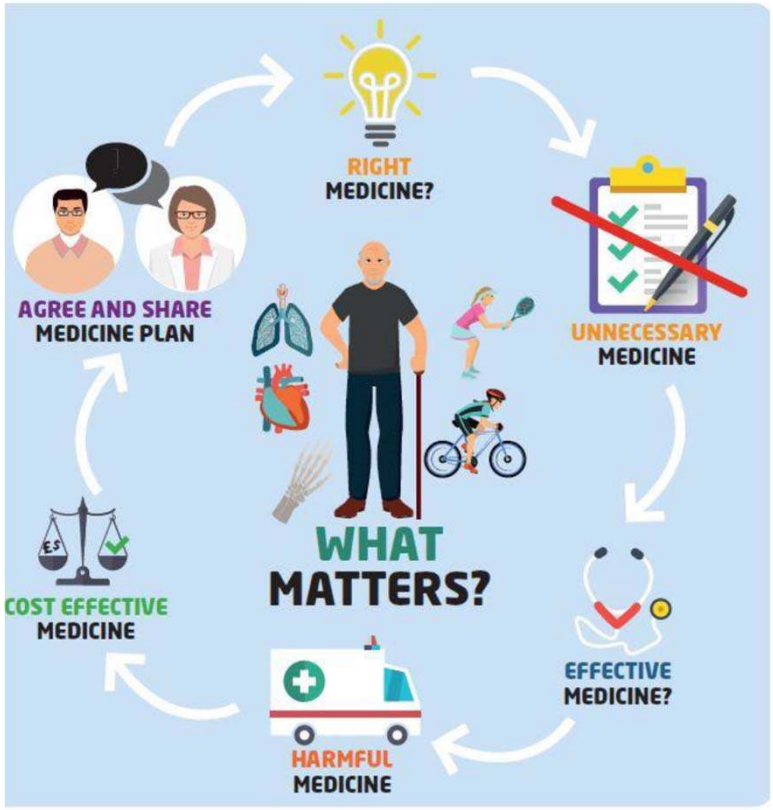

What matters to the patient (Aim)

- Identify aims and objectives of drug therapy by asking the patient *what matters to you*
- Explain any key information such as laboratory markers
- Establish treatment objectives with patient through shared decision making

Does the patient take unnecessary drug therapy (Need)

- For the remaining drugs, it should be verified that each has a function in achieving the therapeutic goals or outcomes that matter most to the patient
- Review preventative treatment to ensure the patient is able to continue taking medicine for required time to gain benefit (Drug efficacy (NNT)
- Can lifestyle changes replace any unnecessary drug therapy?

Are therapeutic objectives being achieved (Effectiveness)

- Check treatment choice is the most effective to achieve intended outcomes
- If this is not the case, the possibility of patient non-adherence should be investigate as a potential explanation. Otherwise, the need for does titration may also be considered. 50% of patients taking four or more medicines don't take them as prescribed

Is the patient at risk of ADR's or suffers actual ADR's (Safety)

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- The presence of ADR's can sometimes be identified from laboratory data (eg hypokalaemia form diuretic use)
- The patient may report such symptoms (including drug-drug and drug-disease interactions)
- Ask the patient specific questions (eg about the presence of anticholinergic symptoms, dizziness or drowsiness). If patient is experiencing ADR's use Yellow card reporting

Is the drug therapy cost-effective? (Efficiency)

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- Opportunities for cost minimisation should be explored, but changing drugs for cost reasons should only be considered if effectiveness, safety or adherence would not be compromised
- Ensure prescribing is in line with current formulary recommendations

Is the patient willing and able to take drug therapy as intended (Patient-centred)

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- Does the patient understand the outcome of the review?
- Ensure drug therapy is tailored to patient preferences
- Agree and communicate plan with patients and/or welfare proxy
- Even if adult lacks capacity, their views should still be sought.

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In summary:

Risk v benefit – when the risk of harmful effects exceeds the potential benefit for the patient – consider whether the medication should be stopped

Deprescribing is all of our responsibility

Use the tools to help you with your decision making