WEBINAR

Wednesday, 30 March 2022
7.00–8.00 pm AEDT

REDUCING THE BURDEN OF MEDICINES WITH ANTICHOLINERGIC EFFECTS ON OLDER PEOPLE

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Anticholinergic burden: What comes to mind?

Anticholinergic burden: an important QUM issue

- Anticholinergic burden is the cumulative effect on a person from taking one or more medicines with anticholinergic effects.[1]
- Cumulative burden may be caused by multiple medicines including those not typically thought of as having anticholinergic effects.[2,3]
- The impact on patient health outcomes includes large increases in fall-related hospitalisation, the risk of dementia and mortality,[4,5] and overall reduced quality of life.

1 Kouladjian O'Donnell L, et al. J Pharm Pract Res 2017;47:67-77.
2 Parkinson L, et al. Med J Aust 2015;202:91-4.
3 Veterans'MATES. Medicines: the hidden contributor to falls and hip fractures. Canberra: Australian Government, 2018.
4 Nishtala PS, et al. Pharmacoepidemiol Drug Saf 2014;23:753-8.
5 Dmochowski RR, et al. Neurourol Urodyn 2021;40:28-37.

Compounding effects of anticholinergic and sedative medicines

- Medicines with anticholinergic or sedative properties may cause adverse events by contributing to an older person's anticholinergic or sedative burden.[1]
- High long-term cumulative exposure is associated with poorer cognitive and physical functioning.[2]
- This burden may be decreased by reducing the number and dose of medicines with anticholinergic and sedative effects.[1]

1 Bell JS, et al. Aust Fam Physician. 2012;41:45-9.
2 Wouters H, et al. J Gerontol A Biol Sci Med Sci. 2020;75:357-65.

Quality Indicator Program

From **1 July 2021**, RACFs must collect and report on new quality indicators under the National Aged Care Mandatory Quality Indicator Program (QI Program).[1]

Quality indicators measure important aspects of quality of care that can affect a resident's health and wellbeing.

Falls and major injury	Medication management
% of residents who experienced **one or more falls**	% of residents who were prescribed **nine or more medications**
% of residents who experienced **one or more falls resulting in major injury**	% of residents who received **antipsychotic medications**

1 Department of Health. QI Program. Canberra: Australian Government Department of Health, 2021.

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Anticholinergic effects

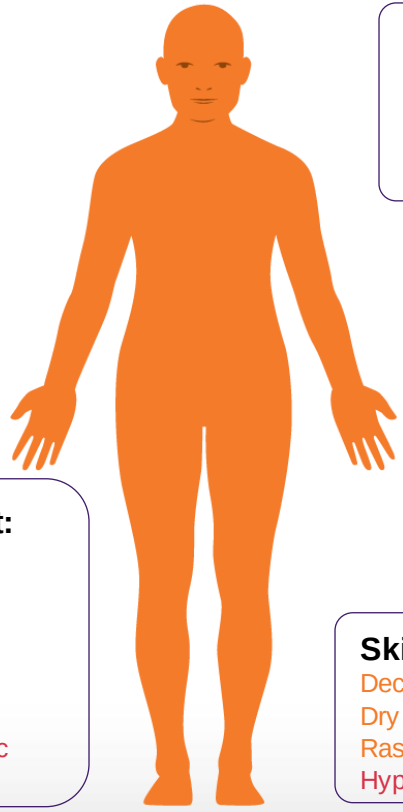
Central effects:

Drowsiness
Fatigue
Inability to concentrate
Restlessness
Dizziness
Confusion & agitation
Headache & fever
Insomnia
Memory loss
Cognitive impairment
Falls & accidents
Hallucinations
Delirium
Seizures
Functional decline & increased dependency
Diminished quality of life

Eye:

Mild dilation of pupil
Dry eyes
Inability to focus
Blurred vision
Increased risk of angle-closure glaucoma

KEY
System:
Mild
Moderate
Severe



Mouth:

Dry mouth
Thirst
Oral discomfort
Reduced appetite
Difficulty in eating and swallowing
Malnutrition
Difficulty with speech
Respiratory infections
Dental or denture problems

Gastrointestinal tract:

Dyspepsia
Constipation
Gastro-oesophageal reflux
Nausea or vomiting
Faecal impaction
Paralytic ileus
GI obstruction

Genitourinary tract:

Urinary hesitancy
Difficulty urinating
Incontinence
Urinary retention or obstruction
Urinary tract infection
Exacerbation of prostatic hypertrophy

Skin:

Decreased sweating
Dry and flushed skin
Rash
Hyperthermia/heat stroke

Heart:

Tachycardia
Arrhythmias
Exacerbation of angina
Exacerbation of heart failure
Postural hypotension

Courtesy of the Australian Department of Veterans' Affairs.
Adapted from Figure 1 of Veterans'MATES Therapeutic Brief Brochure for Topic 39: Thinking clearly about the anticholinergic burden

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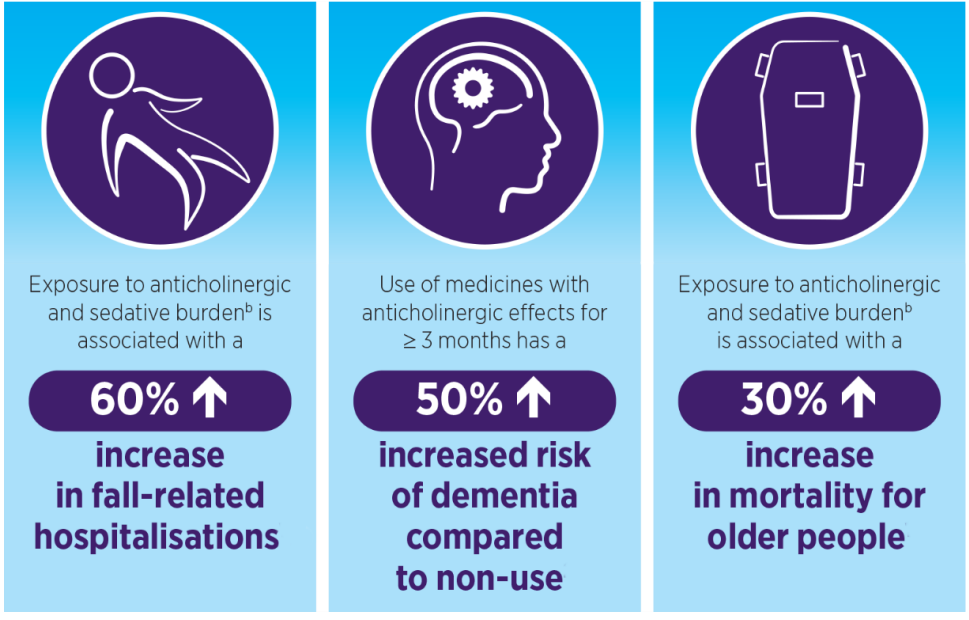
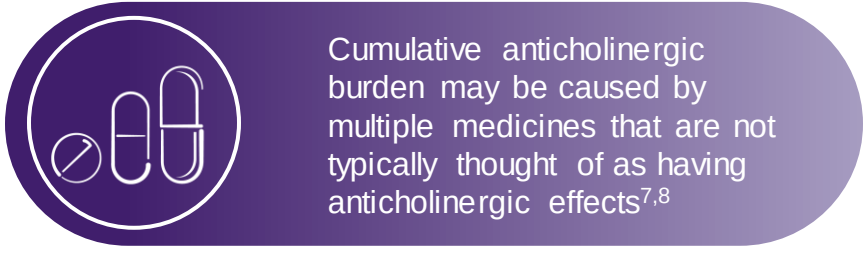
Impact on patient health outcomes[1,2]





b. Based on the Drug Burden Index (DBI), which measures cumulative exposure to medicines with anticholinergic and sedative effects[3]
~ Statistics are approximated

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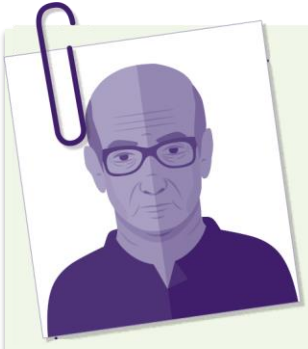
Meet Colin



Colin is an 81-year-old resident in your facility and has been newly diagnosed with Parkinson's disease. His wife died 2 years ago. His care staff reported that he has been more forgetful and unsteady on his feet. He has also been complaining of dry eyes and constipation.

Medical history

Parkinson's disease
Hypertension
Hyperlipidaemia
Depression
Type 2 diabetes
Chronic back pain
Osteoarthritis

Social history

Widowed
Requires 1x assistance in activities of daily living (ADLs)

Allergies

Nil

Medicines

metformin 1 g tablet twice daily
tapentadol 100 mg SR tablet daily
rosuvastatin 10 mg tablet at night
sertraline 50 mg tablet daily
telmisartan 80 mg tablet in the morning
temazepam 10 mg tablet at night
levodopa/carbidopa 100 mg/25 mg tablet three times daily
docusate with senna two tablets twice daily
Movicol sachet when required
Optive lubricant eye drops one to two drops in each eye when required

Case Question 1

- Which medicines do you think are contributing to Colin's symptoms?

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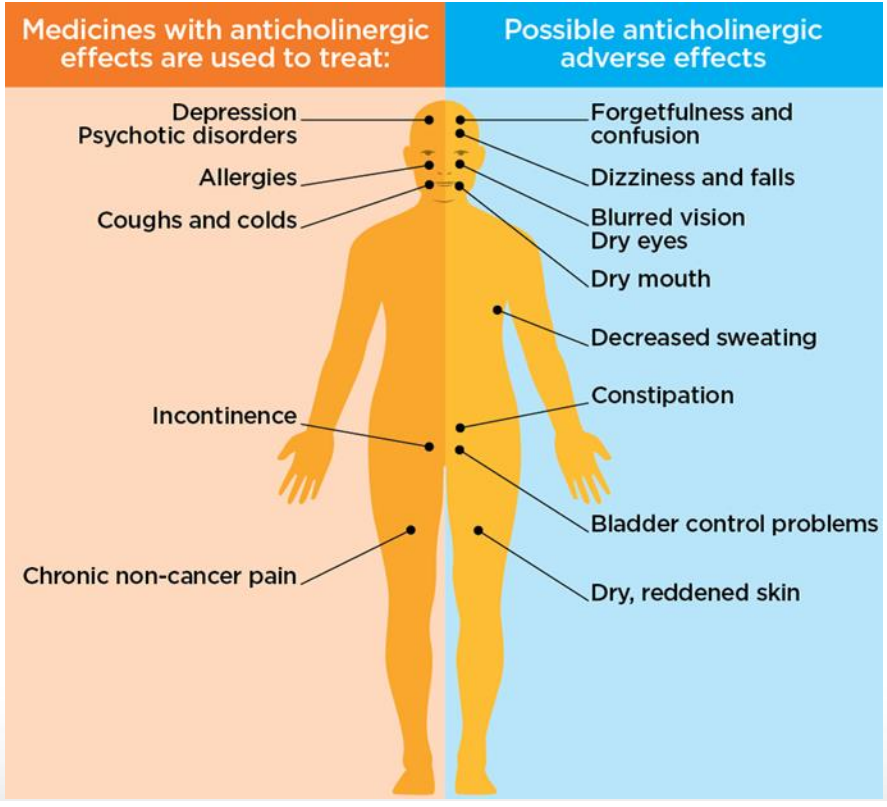
Indications for medicines with anticholinergic effects and their possible adverse effects[3–5]



Courtesy of the Australian Department of Veterans' Affairs, reproduced from Figure 1 of Veterans'MATES Therapeutic Brief Brochure for Topic 39: Thinking clearly about the anticholinergic burden

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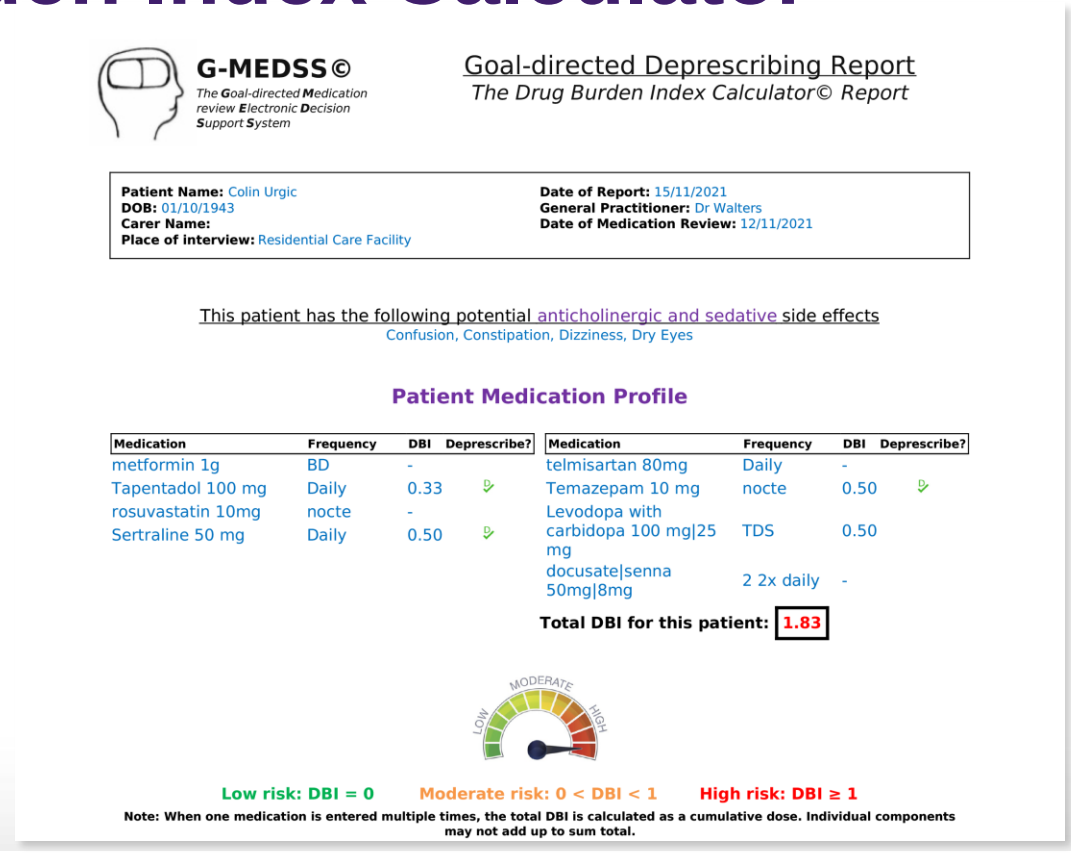
Drug Burden Index Calculator



G-MEDSS©
*The **G**oal-directed **M**edication review **E**lectronic **D**ecision **S**upport **S**ystem*

Goal-directed Deprescribing Report
The Drug Burden Index Calculator© Report

Patient Name: Colin Urgic
DOB: 01/10/1943
Carer Name:
Place of interview: Residential Care Facility

Date of Report: 15/11/2021
General Practitioner: Dr Walters
Date of Medication Review: 12/11/2021

This patient has the following potential anticholinergic and sedative side effects
Confusion, Constipation, Dizziness, Dry Eyes

Patient Medication Profile

Medication	Frequency	DBI	Deprescribe?
metformin 1g	BD	-	
Tapentadol 100 mg	Daily	0.33	
rosuvastatin 10mg	nocte	-	
Sertraline 50 mg	Daily	0.50	

Medication	Frequency	DBI	Deprescribe?
telmisartan 80mg	Daily	-	
Temazepam 10 mg	nocte	0.50	
Levodopa with carbidopa 100 mg|25 mg	TDS	0.50	
docusate|senna 50mg|8mg	2 2x daily	-	

Total DBI for this patient: 1.83

Low risk: DBI = 0 **Moderate risk: 0 < DBI < 1** **High risk: DBI ≥ 1**

Note: When one medication is entered multiple times, the total DBI is calculated as a cumulative dose. Individual components may not add up to sum total.

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Aggregated Data Figure 1

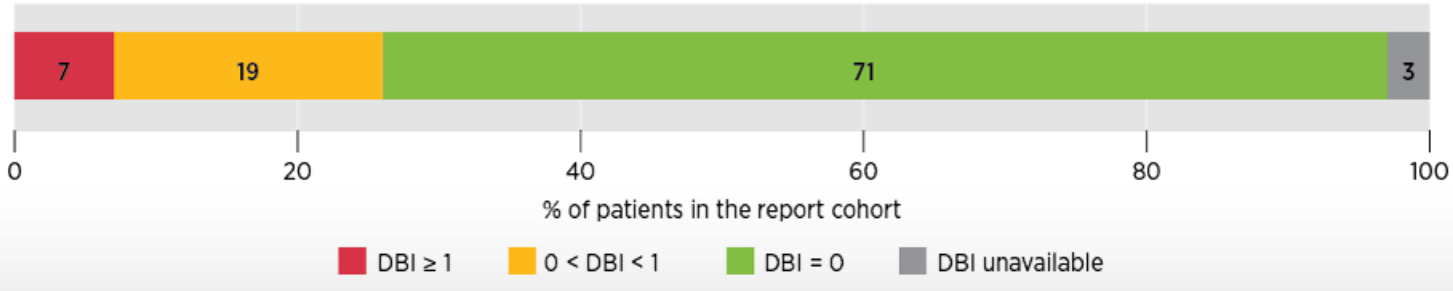
The report cohort includes all regular patients aged over 65 years, or Aboriginal or Torres Strait Islander peoples aged over 55 years, living in the community.

Drug Burden Index (DBI) is a measure of the cumulative exposure to anticholinergic and sedative medicines, which impair physical and cognitive function in older adults. A high DBI, (DBI ≥ 1) is associated with poor clinical outcomes in older people, such as falls, cognitive impairment and an increased risk of all-cause mortality.

DBI score is derived from medicines with anticholinergic and sedative effects prescribed regularly as recorded in the current medicine list in the clinical information system.

What proportion of patients have a DBI ≥ 1?

Figure 1: DBI scores for those in the report cohort



DBI score unavailable: no DBI score calculated due to incomplete data for medicine strength or frequency or dose.

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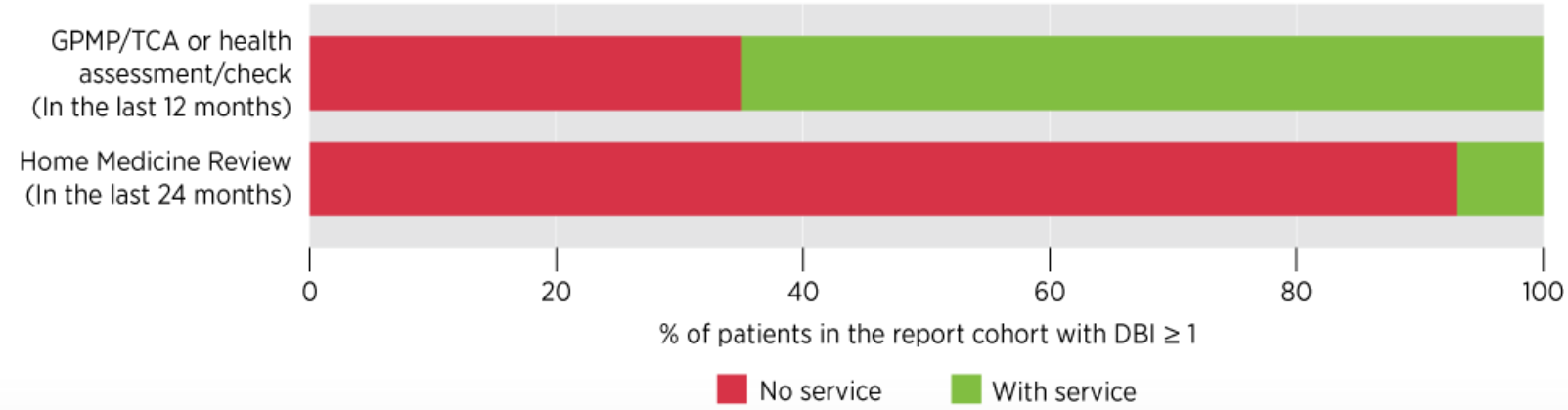
Case Question 2

- How would you assess and review Colin's anticholinergic burden?

Aggregated Data Figure 2

What proportion of patients with a DBI ≥ 1 did NOT receive a service that could be used to assess anticholinergic burden?

Figure 2: Services provided for those in the report cohort with DBI ≥ 1



GPMP: General Practitioner Management Plan; DBI: Drug Burden Index; TCA: Team Care Arrangement
Data collected in the last 12 and 14 months preceding November 2021.

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Assess anticholinergic burden using existing systems and tools

Health checks
Review current medicines list when taking patient history

Validated assessment tools
Eg, Drug Burden Index (DBI) Calculator

Medication management reviews
Home Medicines Review (HMR)
Residential Management Medication Review (RMMR)

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Patient-centred care for older people[9–11]

WHAT MATTERS TO THE PATIENT

A shared understanding of the patient's personal **goals** and **preferences** may improve health outcomes, facilitate patient-centred HMRs/RMMRs, and drive comprehensive care planning[12,13]

MEDICINES

Consider **reviewing** the patient's current **medicines list**, including over-the-counter medicines, at least annually and at any transition of care or change in condition[9]

MOBILITY AND COGNITIVE FUNCTION

Consider anticholinergic burden when making a **differential diagnosis** for presentations such as falls and cognitive decline[9]

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Multidisciplinary opportunities

Multidisciplinary opportunities may support person-centred care and help address any concerns or issues.

- **Case conferences**
- **RMMRs**
- **Medication Advisory Committee (MAC) meetings**
- **Quality Use of Medicine (QUM) services**

RMMR patient consent changes after June 2020

- Consent must be obtained from the resident or their authorised representative for each individual RMMR.[1]
- If there is no other suitable person to give consent, the service may still be completed if:[1]
  - the resident's physical or mental health or safety may be significantly and detrimentally impacted
  - the resident may be exposed to a potentially life-threatening situation
  - the resident might reasonably be exposed to serious injury or illness.

1 Pharmacy Programs Administrator. Residential medication management review patient consent. Victoria: PPA, 2020.

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RMMR referrals[1]

- A recommendation based on the resident's clinical need may be provided by the medical practitioner, pharmacist, nursing staff, the resident or their carer. However, a medical practitioner is required to provide the initial referral.
- The referral should include the reason for referral and all relevant prescribing and clinical history.
- Accredited pharmacists need to ensure that appropriate consent has been gained prior to conducting the RMMR.
- The resident interview (if relevant) must take place within 90 days of the date of the referral to be remunerated under the RMMR program.

1 Pharmaceutical Society of Australia. Guidelines for pharmacists providing Residential Medication Management Review (RMMR) and Quality Use of Medicines (QUM) services. Sydney: PSA Ltd, 2017.

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A detailed referral will help enable an informative HMR/RMMR

TABLE 1 **Information to include in a HMR/RMMR referral (MBS Items 900 and 903)[14–16]**

HMRs/RMMRs lead to healthier patients, improved compliance, empowerment and improved confidence to self-manage, and better use of medicines[17–20]

A detailed referral allows for tailored recommendations and improves the chance a HMR/RMMR plan can be put into place[21]

Specifying the **reason** for the referral could help get the most out of the review process for the patient[22,23]

Include relevant information in the referral[24]

- Laboratory results
- Medical records
- Previous health assessments
- Care plans
- Case conference summaries
- Patient's personal goals and preferences[12]

- **Share** the HMR/RMMR plan with the patient and pharmacist[22]
- In complex situations, two follow-up consultations, conducted by an accredited pharmacist at least a month apart and within 9 months, may be used to support ongoing medication management[25,26]

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Actively involve patients in HMR/RMMR decisions

TABLE 2 Responding to patient concerns[27]

 Some patients may be reluctant to take up a HMR/RMMR if they:	 Explain the purpose and benefits of a HMR/RMMR
▹ Don't understand the purpose of the review, its potential benefits or what happens during the process	▹ A HMR/RMMR allows GPs and pharmacists to work together to provide the best care possible for the patient
▹ Are concerned about upsetting the GP or specialist, losing independence, or dealing with a pharmacist they don't know	▹ A HMR/RMMR exists to help patients, by encouraging better and safe medicines use, to reduce risk of adverse effects, and improve disease management
▹ Have privacy/cultural issues about an in-home review	▹ The review should be conducted at the patient's home/aged-care residence unless there is an exemption to conduct it at a neutral venue[26]

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Case Question 3

- What management strategies would you discuss with Colin to address his anticholinergic and sedative burden?

Aim to minimise anticholinergic burden[1–3]

TABLE 1A **Management guidance[2,4,5]**

MEDICINES[a,b]	STARTING MEDICINE	STOPPING MEDICINE	NON-ANTICHOLINERGIC ALTERNATIVE CONSIDERATIONS	NON-PHARMACOLOGICAL OPTIONS (optimise throughout management)
DEPRESSION				
SSRIs citalopram escitalopram fluoxetine paroxetine sertraline **SNRIs** desvenlafaxine duloxetine venlafaxine **Other** mirtazapine	Start with low dose; assess response after 2–4 weeks. If response is inadequate and dose adjustment is required, increase gradually (no more than every 2 weeks) until acceptable response is achieved or daily dose limit reached. Response to treatment usually apparent after at least 1–2 weeks; full benefit may take 4–6 weeks or longer. TCAs are usually reserved for treatment-resistant depression and ideally used under psychiatrist guidance. **Monitoring** Monitor patients more frequently at start of treatment as activation and suicidal thoughts are more common during the first 7–10 days.	If an acceptable response is achieved, continue at the same dose for 6–12 months, then consider deprescribing. In recurrent and severe depression, consider longer-term maintenance treatment. Taper over several weeks to avoid discontinuation symptoms. For example, reduce dose by 25–50% every 1–4 weeks until daily dose is half the lowest strength available. Continue at lowest dose for 2 weeks then stop. Some patients may require withdrawal over months. Discontinuation symptoms are usually mild and last 1–2 weeks. If severe, restart the antidepressant at lowest effective dose identified during tapering and use slower dose reduction.	All antidepressants have some degree of anticholinergic or sedative effects.	**Psychological therapies** ▶ CBT ▶ IPT ▶ Brief psychodynamic psychotherapy ▶ Mindfulness-based cognitive therapy ▶ Family therapy **Lifestyle modifications** ▶ Sleep hygiene ▶ Adequate physical activity ▶ Healthy diet ▶ Minimise alcohol consumption ▶ Reduce stress ▶ Social support

a. Medicines list selected from top 200 PBS subsidised drugs by prescription volume 2019–2020 b. List is not exhaustive
CBT = cognitive behavioural therapy; CBT-i = cognitive behavioural therapy for insomnia; IPT = interpersonal psychotherapy; SNRI = serotonin and norepinephrine reuptake inhibitor; SSRI = selective serotonin reuptake inhibitor; TCA = tricyclic antidepressant

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Aim to minimise anticholinergic burden

TABLE 1A **Management guidance**[2,4,5]

MEDICINES[a,b]	STARTING MEDICINE	STOPPING MEDICINE	NON-ANTICHOLINERGIC ALTERNATIVE CONSIDERATIONS	NON-PHARMACOLOGICAL OPTIONS (optimise throughout management)
DEMENTIA WITH CHANGED BEHAVIOUR				
Antipsychotics olanzapine quetiapine risperidone	Only consider using a drug to treat aggression or psychosis of dementia if non-pharmacological management has not alleviated symptoms and the patient is distressed or considered a threat to themselves or others. Use lower starting dose in older people due to increased risk of adverse events, increase gradually to lowest effective dose. **Monitoring** Review for improvement in behaviours every 4–6 weeks. Review with plan to taper or stop within 12 weeks.	In case of long-term treatment, slowly taper dose, by 25–50% every 1–2 weeks until lowest practical dose is reached, then stop after 1–2 weeks. Consider slower dose reduction if patient is taking a high-dose antipsychotic or initially had severe symptoms. If recurrent/withdrawal symptoms develop, revert to previous lowest effective dose. Re-attempt a slower taper after 12 weeks.	All antipsychotics have some degree of anticholinergic or sedative effects. When stopping an antipsychotic, create a management plan that includes psychosocial interventions.	**Person-centred approach** ▶ Person-centred care techniques ▶ Behavioural therapies ▶ Environmental changes
INSOMNIA				
Benzodiazepines temazepam	Psychological and behavioural interventions effectively treat insomnia and are first-line therapy. If necessary, use pharmacological treatment for a short period (< 2 weeks, preferably not on consecutive nights) and agree to a definite time limit with the patient. Prescribe a low dose and avoid long-acting agents. **Monitoring** Older people have an increased risk of over-sedation, ataxia, confusion, memory impairment, falls and respiratory depression. Dependence on hypnotics may occur after as little as 2 to 4 weeks of continuous use. The hypnotic efficacy of benzodiazepines appears to reduce within 4 weeks.	In case of long-term treatment, consider a dose reduction (25% of original dose every 1–4 weeks). A slower decrease can be considered for the final dose reduction, or if problematic discontinuation symptoms occur.	Use non-pharmacological alternatives to assist with sleep. Melatonin may be an option for people aged > 55 years. Consider melatonin for an initial period of 3 weeks then review. If needed, continue use for an additional 10 weeks.	▶ Sleep hygiene/education ▶ Relaxation techniques ▶ CBT-i ▶ Sleep restriction ▶ Stimulus control

a. Medicines list selected from top 200 PBS subsidised drugs by prescription volume 2019–2020 b. List is not exhaustive
CBT = cognitive behavioural therapy; CBT-i = cognitive behavioural therapy for insomnia; IPT = interpersonal psychotherapy; SNRI = serotonin and norepinephrine reuptake inhibitor; SSRI = selective serotonin reuptake inhibitor; TCA = tricyclic antidepressant

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Aim to minimise anticholinergic burden

TABLE 1B **Management guidance**[2,4,5]

MEDICINES[a,b]	STARTING MEDICINE	STOPPING MEDICINE	NON-ANTICHOLINERGIC ALTERNATIVE CONSIDERATIONS	NON-PHARMACOLOGICAL OPTIONS (optimise throughout management)
CHRONIC NON-CANCER PAIN				
Opioids codeine fentanyl oxycodone tramadol **Non-opioids** **TCAs** amitriptyline nortriptyline **Gabapentinoids** gabapentin pregabalin **SNRIs** duloxetine venlafaxine	**Opioids** Opioids for chronic non-cancer pain provide little, if any, benefit and pain intensity may reduce if opioids are discontinued. Optimise non-pharmacological therapies and non-opioid medicines (such as paracetamol and NSAIDs) before considering opioids.[6,7] If an opioid trial is appropriate, use a lower initial dose (25–50% of usual adult dose) for older people and titrate to effect. When changing opioids, start at 50% equianalgesic dose and titrate to response. **Monitoring** Consider tapering if: treatment for chronic non-cancer pain is inadequate or duration of treatment > 3 months; significant adverse effects occur; opioid has been continued unnecessarily after acute pain treatment; risk of misuse or overdose is identified. **Non-opioids** Initiate non-opioids at low doses to improve tolerability and reduce adverse effects; titrate slowly to maximum tolerated dose.	**Opioids** Rationalise regimen to a single modified-release opioid, then reduce dose when treatment is stabilised.[8] Reduce dose by 10–25% each week (if used < 3 months) and by 10–25% each month (if used >3 months). Monitor laxative requirements. **Non-opioids** If effective, for most patients, continue in the short–moderate term (up to 12 weeks) until patient has achieved a supported self-management approach. Assess efficacy and trial deprescribing every 3–6 months. Some patients with permanent nerve damage may require therapy for longer than 12 weeks. Reduce dose by 25–30% each week (if used < 3 months) and by 25–30% every 2 weeks (if used > 3 months).	Consider an integrated multidisciplinary approach to pain management. Paracetamol and NSAIDs have no anticholinergic or sedative effects. Lidocaine 5% patches are preferred if the patient has localised neuropathic pain.	**Physical therapies**[7] ▶ Graded exercise ▶ Activity pacing **Psychological therapies**[7] ▶ CBT ▶ Acceptance commitment therapy Engage the patient in self-management strategies that focus on the patient's active contribution to their pain management. This includes physical activity, social connection, good nutrition and sleep.

a. Medicines list selected from top 200 PBS subsidised drugs by prescription volume 2019–2020, except for antihistamines (cyproheptadine, promethazine, cetirizine, fexofenadine, loratadine) b. List is not exhaustive
CBT = cognitive behavioural therapy; NSAID = nonsteroidal anti-inflammatory drug; SNRI = serotonin and norepinephrine reuptake inhibitor; TCA = tricyclic antidepressant

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Aim to minimise anticholinergic burden

TABLE 1B **Management guidance**[2,4,5]

MEDICINES[a,b]	STARTING MEDICINE	STOPPING MEDICINE	NON-ANTICHOLINERGIC ALTERNATIVE CONSIDERATIONS	NON-PHARMACOLOGICAL OPTIONS (optimise throughout management)
ALLERGIES				
Antihistamines **Sedating** cyproheptadine promethazine **Less sedating** cetirizine fexofenadine loratadine	Avoid use of sedating antihistamines or use a lower dose for older people. **Monitoring** Monitor carefully due to increased risk of sedation and anticholinergic effects in older people.	Reduce dose of sedating antihistamine slowly, by 25–50% of daily dose each week to month.[9]	Intranasal corticosteroids are most effective for symptoms of allergic rhinitis, particularly for nasal congestion. Topical treatments (moisturisers, eye drops, anti-inflammatories, local anaesthetics) have fewer adverse effects than oral antihistamines.[9]	**Environmental** ▶ Minimise contact with allergens **Physical**[9] ▶ Sodium chloride irrigation for eyes/nose ▶ Wet/cold compress ▶ Moisturise skin
URINARY URGE INCONTINENCE				
Anticholinergics oxybutynin	Adverse effects are usually dose related. Start with a low dose and increase cautiously to the lowest effective dose. **Monitoring** Monitor for adverse effects after 4 weeks and assess for improvement of symptoms.	Stop if no overall benefit after 4 weeks. An alternative medicine could be tried.	Mirabegron may be an option for people with urge incontinence intolerant of anticholinergic effects, or when anticholinergics are not effective or contraindicated. Botulinum toxin may be considered for people with urge incontinence intolerant of anticholinergic effects.	▶ Bladder diary ▶ Bladder retraining ▶ Pelvic floor exercises ▶ Modify fluid intake ▶ Lifestyle (weight loss/smoking cessation) ▶ Incontinence aids ▶ Avoid constipation ▶ Minimise diuretics

a. Medicines list selected from top 200 PBS subsidised drugs by prescription volume 2019–2020, except for antihistamines (cyproheptadine, promethazine, cetirizine, fexofenadine, loratadine) b. List is not exhaustive
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Monitoring withdrawal effects when deprescribing[1]

Monitor short term (within 1–3 days)	Monitor long term (> 7 days)
Monitor for withdrawal symptoms Symptoms can occur within 1–3 days of dose reduction	**Monitor for recurrence of symptoms** Recurrence of previous or new symptoms may occur within 1–2 weeks of dose reduction or cessation

- Common withdrawal symptoms when deprescribing medicines with anticholinergic effects include irritability, anxiety, insomnia and sweating.
- Withdrawal symptoms usually mild and can last up to 6–8 weeks.
- If severe symptoms (eg, tachycardia, profuse and persistent sweating, severe anxiety, or severe insomnia) occur, restart at the previous lowest effective dose.

1 NSW Therapeutic Advisory Group Inc. Deprescribing tools. NSW TAG, 2021. https://www.nswtag.org.au/deprescribing-tools/

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Managing anticholinergic side effects

- Review falls as part of the usual falls assessment protocols.
- Dry mouth management strategies[1,2]
  - Dental products with high fluoride, calcium or casein to help prevent tooth decay
  - White petroleum jelly for dry lips
  - Avoid lollies and alcohol-containing mouthwashes
  - Stabilise dentures with adhesives to prevent ulcers and remove during sleep
  - High ph artificial saliva without citric acid
- Dry eye management strategies[3]
  - Lubricating eye drops, gels or ointments (best given at night)
- Constipation management strategies[4]
  - High-fibre diet (eg, prunes)
  - Drinking plenty of fluids (unless there are fluid intake restrictions)
  - Exercising

1 Better Health Channel. Dry mouth. Victoria: Department of Health State Government of Victoria, 2021.
2 Deutsch A, Jay E. Aust Prescr 2021;44:153-160.
3 Better Health Channel. Dry eye. Victoria: Department of Health State Government of Victoria, 2021.
4 Veterans'MATES. What you can do about constipation. Canberra: Australian Government, 2007.

Switching and stopping guidance

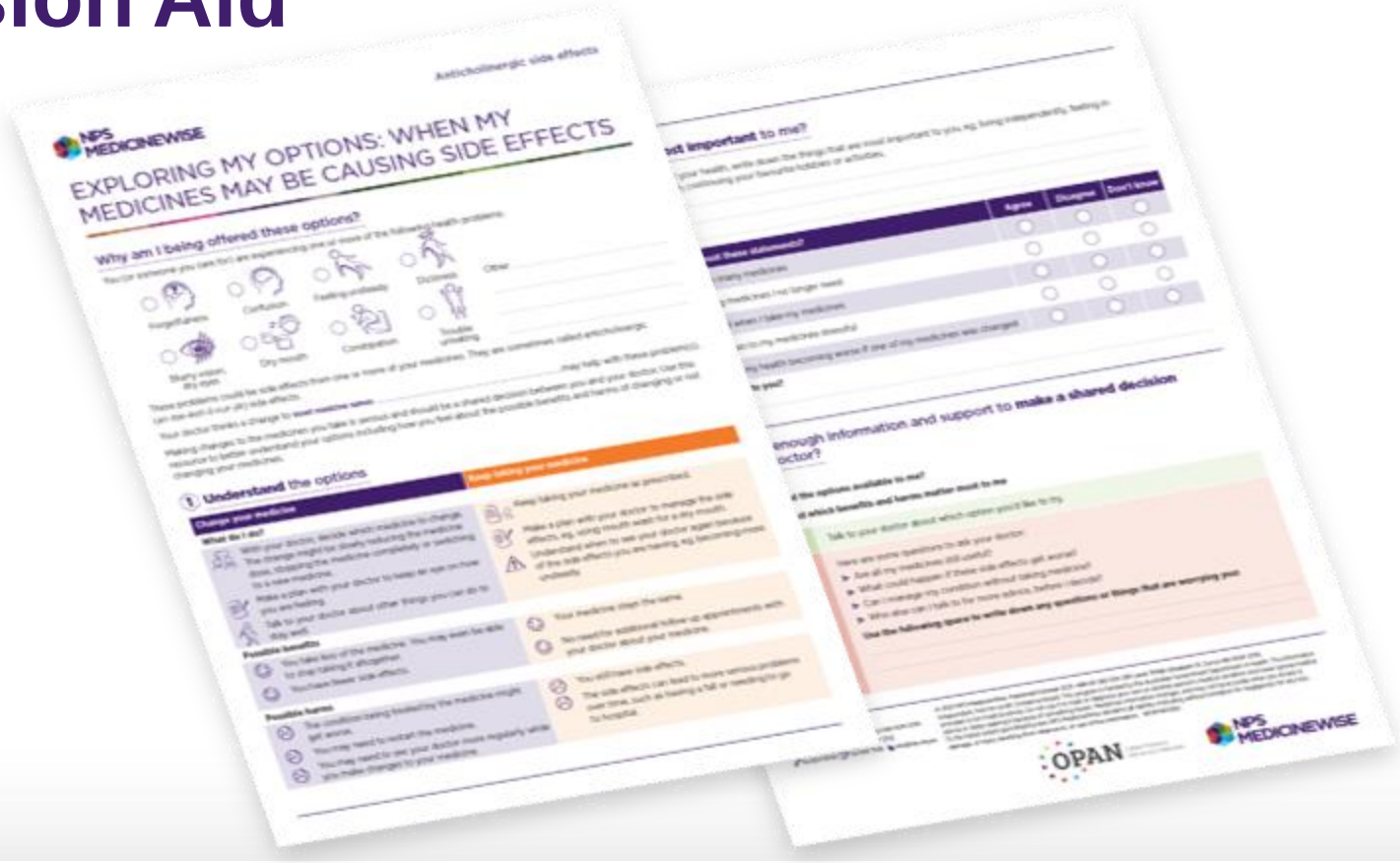
Antidepressants
www.nps.org.au/australian-prescriber/articles/switching-and-stopping-antidepressants

Antipsychotics
www.nps.org.au/australian-prescriber/articles/stopping-and-switching-antipsychotic-drugs

Benzodiazepines
www.nps.org.au/news/managing-benzodiazepine-dependence-in-primary-care

Opioids
www.nps.org.au/professionals/opioids-chronic-pain

Decision Aid



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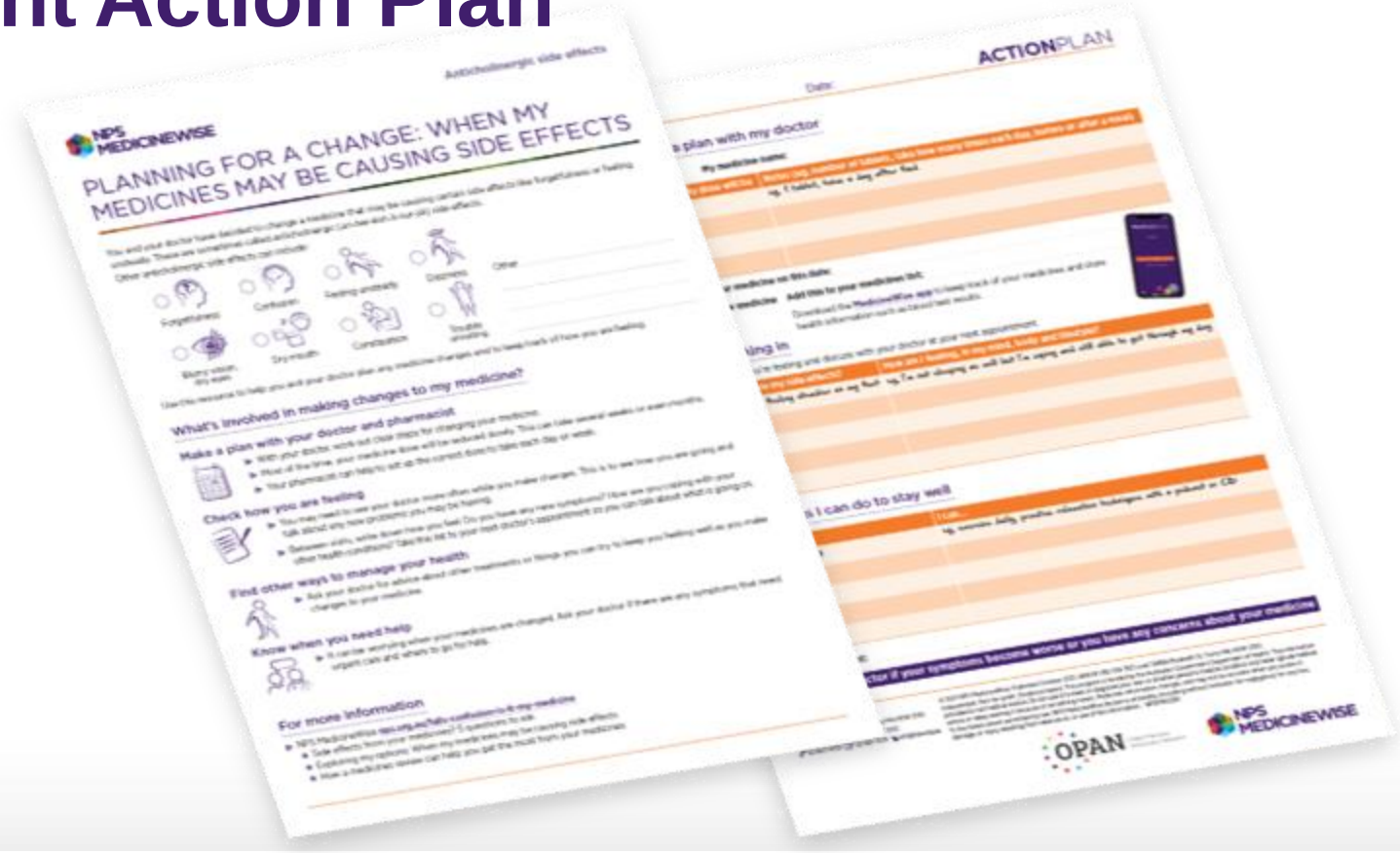
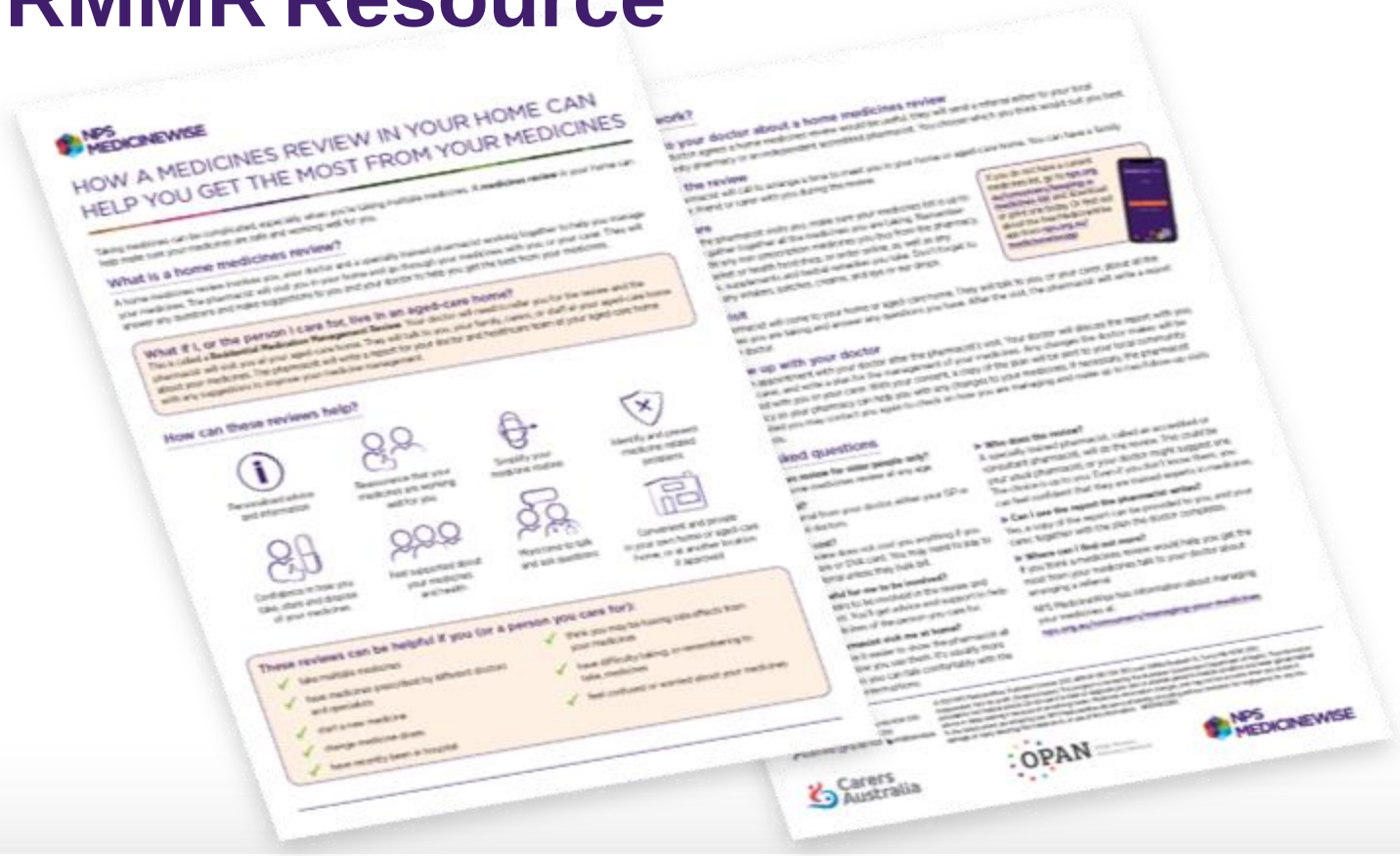
Patient Action Plan



HMR/RMMR Resource



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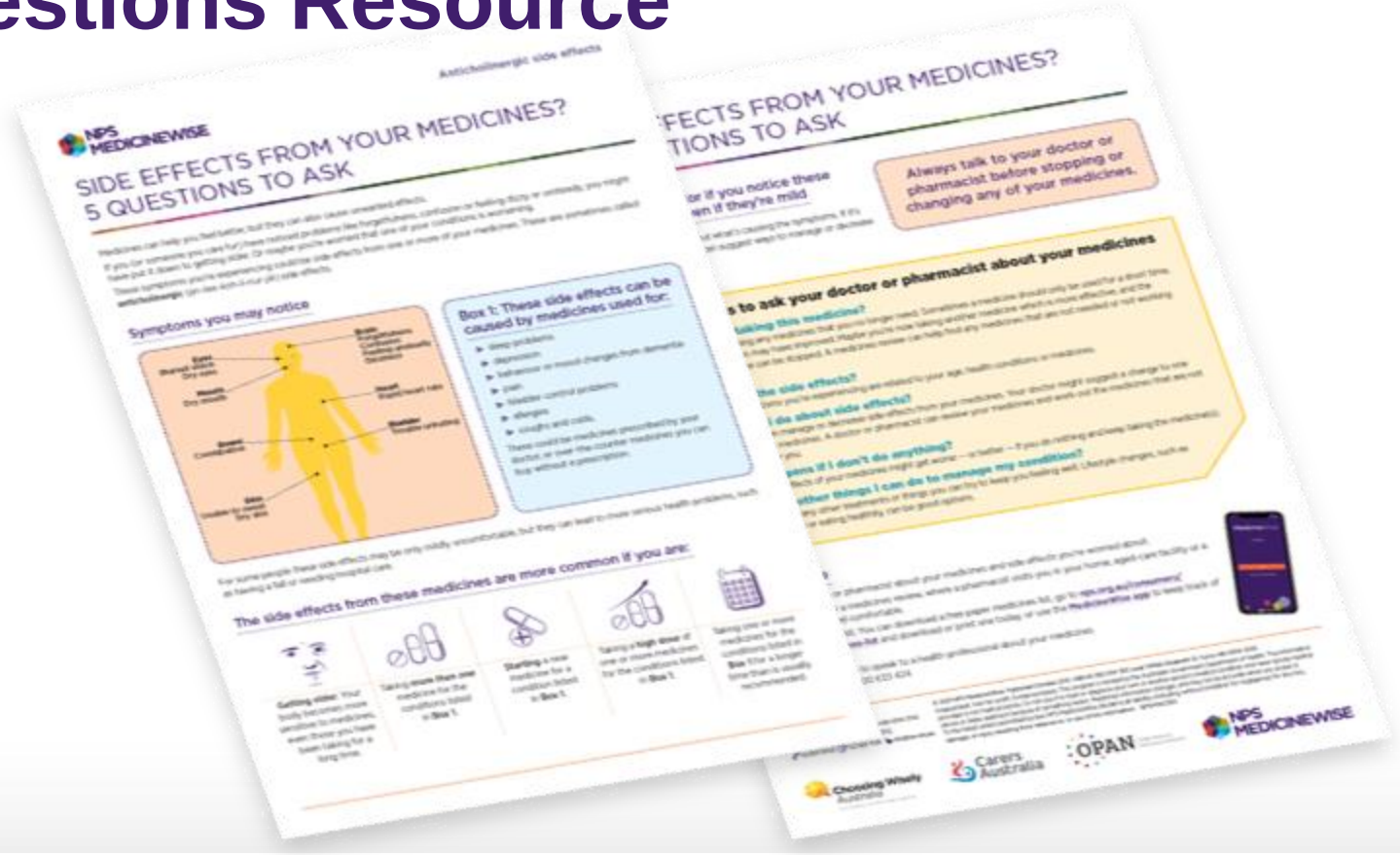
Choosing Wisely
5 Questions Resource



NPS MEDICINEWISE

Other Resources

NPS MedicineWise Website

https://www.nps.org.au/professionals/anticholinergic-burden#hp

Drug Burden Index Calculator

https://gmedss.com/landing

Thank you

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