Deprescribing – The Art of Reduction



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Speaker Info & Conflicts of Interest

Over 34 years experience in Long-Term Care in Missouri as Consultant Pharmacist for 24 years in the Springfield area and 10 years in the St. Louis area.

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Medication Therapy Management (MTM) Certification for over 10 years.

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I have no actual or potentially relevant conflict of interest in relation to this activity.



Deprescribing – Learning Objectives

- 1. Define polypharmacy and the prescribing cascade with associated risks.
- 2. Identify benefits of deprescribing for residents and facility.
- 3. Describe deprescribing process with emphasis on individualization of therapy.
- 4. Identify medication classes that are targets for deprescribing efforts.



Polypharmacy

The simultaneous use of multiple medications by a patient for their conditions.

Can be inappropriate or appropriate depending on individual situation.

Risk of occurrence of polypharmacy increased with multiple chronic medical conditions, multiple prescribers, and use of multiple pharmacies.

Polypharmacy increases risk of adverse drug events, drug interactions, falls, decreased quality of life (e.g., mobility & cognition), hospitalizations, & deaths.

Polypharmacy prevalence increasing with aging population.

Polypharmacy increases healthcare costs.

Polypharmacy itself is associated with hospitalization after a fall.



Polypharmacy Statistics

- Higher prevalence rate of 37-54% in studies in populations 65 and older compared with populations less than 65 with a rate of 15-35% reported.
- In the US, about 50% of nursing home residents are on 9 or more medications.
- Patients taking 5-9 medications have a 50% chance of adverse drug interaction.
- For patients taking 7 or more medications, adverse drug event risk increases to 82%
- Adverse drug event risk increases to 100% when taking 20 or more medications.
- Health Research Funding reports that polypharmacy accounts for 30% of hospital admissions and was the 5th leading cause of death in the US before the pandemic.



Prescribing Cascade

- Medication or medications in combination administered to a patient causing adverse reaction or side effects that are misinterpreted as a new condition, resulting in a new medication being prescribed.
- Contributes to polypharmacy.
- Increases healthcare costs and further increases risk of additional adverse drug events, & drug interactions.
- Usually puts patient health at further risk but can be appropriate if recognized and appropriateness evaluated.
- Think "can this symptom be caused by a medication that is being taken?"



Examples Prescribing Cascade – Potentially Appropriate

- **1.** Potassium prescribed due to low potassium level from diuretic therapy.
- 2. Vitamin B6 prescribed to prevent peripheral neuropathy with isoniazid.
- 3. Folic Acid prescribed to prevent nausea, vomiting, alopecia, & mouth sores when methotrexate given for rheumatoid arthritis.



Examples of Prescribing Cascade – Potentially Inappropriate

- 1. Calcium channel blocker (e.g., amlodipine) causing edema and diuretic prescribed without consideration for dose reduction or alternate therapy.
- 2. Routine antihistamine or urinary antimuscarinic (e.g., oxybutynin) prescribed for someone on acetylcholinesterase inhibitor therapy (e.g., Donepezil).
- 3. Meclizine prescribed for someone on multiple medications that may cause dizziness (e.g., antihypertensives, BPH medications, opioids, benzodiazepines).
- 4. Antipsychotic prescribed for delusions/hallucinations with dopaminergic therapy for RLS (e.g., ropinirole, pramipexole, carbidopa-levodopa).
- 5. Vitamin B12 or Magnesium prescribed for someone on PPI (e.g., omeprazole, pantoprazole) due to low vitamin B12 or magnesium levels.
- 6. Metoclopramide, Tamsulosin, or laxative prescribed for someone on anticholinergic agent(s).





Deprescribing

Definition:

Deprescribing is the planned or supervised dose reduction or discontinuation of medications that may be causing harm or no longer be providing benefit or reducing medications safely to meet changes in health & life expectancy.

Goal:

The goal of deprescribing is to reduce medication burden or harm while improving or maintaining quality of life.



Benefits of Deprescribing for Resident

- Fewer medications = lower risk of side effects
- Fewer medications = lower risk of interactions/additive effects
- Fewer medications = lower pill burden
- Fewer medications = decreased cost
- Fewer medications = improved adherence to other medications
- Fewer medications = reduced risk of hospitalization & death
- Fewer medications = improved quality of life, feel better, think more clearly, less fatigue, less dizziness, & reduce fall risk.



Benefits of Deprescribing for Facility

Reduced time spent on medication administration

- Improved medication adherence
- Improved health outcomes
- Reduced number of Fallers
- Reduced risk of hospitalizations
- Reduce risk of deaths
- Reduced costs



Kua CH, Mak VSL, Huey Lee SW. Health Outcomes of Deprescribing Interventions Among Older Residents in Nursing Homes: A Systematic Review and Meta-analysis. J Am Med Dir Assoc 2019; 20:362. Page AT, Clifford RM, Potter K, et al. The feasibility and effect of deprescribing in older adults on mortality and health: a systematic review and meta-analysis. Br J Clin Pharmacol 2016; 82:583.

Health Outcomes of Deprescribing Interventions Among Older Residents in Nursing Homes: A Systemic Review & Meta-analysis

Study published in 2019 in the Journal of American Directors Association

- •41 randomized controlled trials in nursing home residents >60 years of age
- Deprescribing interventions reduced number of residents with potentially inappropriate medications (PIMS) by 59% (OR 0.41, 95% CI 0.19-0.89)
- Medication review-directed deprescribing interventions reduced all-cause mortality by 26% (OR 0.74, 95% CI 0.65-0.84)
- Medication review-directed deprescribing interventions reduced number of fallers by 24% (OR 0.76, 95% CI 0.62-0.93)



Kua J Amer Med Dir Assoc 2019



Barriers to Deprescribing – Prescriber

- **1. Limited time/reimbursement**
- 2. Multiple providers for one patient
- 3. Incomplete information
- 4. Changing care goals
- 5. Complexity of patients
- 6. Uncertainty of benefit vs harm
- 7. Limited guidelines
- 8. Professional attitudes/prior experience

Barriers to Deprescribing- Patients

- **1.** Resistance to change/prior bad experience
- 2. Lack of knowledge/Limited understanding of deprescribing
- 3. Trust/abandonment/loss
- 4. Fear of withdrawal/stress when medications change/cognitive dissonance
- 5. Change in mental capacity
- 6. Influence of family and friends
- 7. Communication
- 8. Don't want to burden their doctor

Who can participate in deprescribing?

Physicians

Advanced Practice Providers (APP)

Nurses

Pharmacists

Patients & Caregivers

Activities

PT/OT

Dieticians



Decision Making

- Communication with patients & family
 - Key to success
 - Determine goals and preferences
 - Determine experiences with medications
 - Educate
 - Engage them in deprescribing process increases "buy in"
- Points to Consider when communicating with patients & family
 - Determine their preference in decision making process
 - Discuss "what matters" for patient providing patient centered approach
 - Discuss "why" medication should be stopped side effects, lack of benefit
 - Discuss "how" medication will be stopped and monitored
 - Frame as "trial" with reassurance can be restarted if necessary
 - Frame as "not giving up on you" or taking something away, just optimizing care
 - Address concerns and fears



Deprescribing Process – Shared Clinical Decision Making

Communication with other health care providers essential

Specialist

- Medication may have been originally prescribed by specialist
- Communicate with specialist can be invaluable to avoid confusion & reason for wanting to stop
- If communication not possible, clinicians should not hesitate to stop if causing more harm than benefit
- Non-prescribing clinicians
 - Pharmacists, nursing, dieticians, therapists, others
 - Communicate to PCP or specialist clearly reason should be deprescribed with supporting evidence
 - Communicate how should be deprescribed (DC or taper) and how should be monitored
 - All involved in monitoring for improvements or adverse events of deprescribing process
 - Reconciliation when leaves facility to assure to avoid inadvertent restarts



Deprescribing Process – Step Wise Approach

Step 1 - Gather relevant information & engage patient and other participants

Step 2 - Identify and decide on drugs to prescribe

Step 3 - Develop a plan for discontinuation, implement plan, monitor, & follow-up



Deprescribing Process – Step 1: Gather Information, Engage Participants

Compile a list of all regular and as needed medications including over-the-counter meds.

- Dose and frequency of each med
- Duration of use
- Indication for use
- Patient's experience with each med (i.e., efficacy, difficult to take, side effects)
- Adherence/Compliance
- Review patient goals of care, preferences, and values.
- Consider patient's overall susceptibility to drug-induced harms.
 - Comorbidities
 - Cognitive impairment
 - Falls/fall risk
 - Frailty
- Engage the patient &/or family/caregivers in a discussion of the deprescribing process.
- Connect with other health care professionals who may need to be consulted or could assist.





"The voices from my prescription side effects say you should consider lowering the dosage."

Deprescribing Process – Step 2: Identify & Decide on Drugs to Deprescribe

Evaluate each medication for potential to be reduced in dose or discontinued. Considering:

- Medications that have no valid or current indication (e.g., PPI's, probiotics).
- Medications that causing or contributing to adverse reactions or existing problems (e.g. reduced mobility, cognitive impairment, tremors, falls, constipation, incontinence).
- Medications that were started as result of prescribing cascade.
- High-risk medications (e.g., anticholinergic meds, other AGS Beers Criteria meds or PIMS).
- Medications that are ineffective.
- •Medications used for preventative indication if has a life-limiting illness (e.g., alendronate).
- •Medications that cause unacceptable treatment burden (e.g., sliding scale insulin).

******USE SHARED CLINICAL DECISION MAKING IN DECIDING WHICH MEDICATIONS TO STOP OR REDUCE**





Deprescribing Process – Step 3: Plan, Implement, Monitor, Follow-up

Plan

- Prioritize meds for discontinuation and plan order of discontinuation (if causing or high risk to cause, DC first).
- Stopping one med at a time usually recommended to get better buy-in and to enable better monitoring. May DC multiple if suspected adverse drug event or low risk for adverse drug withdrawal event (ADWE).
- Tapering is recommended if risk of adverse drug withdrawal reaction (ADWR) or concern for worsening or return of condition for which the medication was prescribed.
- Deprescribing should be considered & promoted as "a trial" giving patient reassurance.
- Implement and monitor the deprescribing plan
 - Patients/family and facility team should be aware for deprescribing effort initiation date & planned monitoring period.
 - Patients/family and facility team should monitor per plan for any ADWR and stay in communication.
- Document plan and outcomes
 - Facility team should document outcome of medication withdrawal including ADWR.
 - PCP should be contacted in event of ADWR to evaluate for need to restart which should also be documented.
- Follow-up
 - Ensure ongoing communication with patient, family, & other relevant health professionals
 - Repeat cycle with each medication planned for discontinuation.



Deprescribing Process – HRM's

 Definition: A high-risk medication in the elderly is a medication that has an increased risk of adverse effects in the elderly

- American Geriatrics Society Beers Criteria for older adults
 - Potentially Inappropriate Medications (PIMS) in older adults
 - Drug-Disease interactions
 - Drugs to be used with caution in older adults
 - Drug-Drug interactions
 - Medications to be avoided or dosage reduced with varying levels of kidney function
 - Drugs with strong anticholinergic properties

CMS National Committee for Quality Assurance (NCQA) Geriatric Measurement Advisory Panel



Deprescribing Process – TTB & TTH

Time to Benefit (TTB) is the time until a statistically significant benefit is observed in trials of people taking a medication as compared to a control group not taking the medication.

Time to Harm (TTH) is the time until a significant adverse effect is seen in a trial for those taking the medication as compared to the control group not taking the medication.

Consideration of TTB & TTH helps us understand benefits versus risks for an individual patient.

Patient's goals and preferences should take precedence when uncertainty exists

Examples: Statins, dementia medications



Deprescribing Process – Choosing Wisely

- Choosing Wisely Mission is to promote conversations between clinicians and patients by helping patients choose care that is:
 - Supported by evidence
 - Not duplicative of other tests or procedures already received
 - Free from harm
 - Truly necessary
- Use the recommendations as guidelines
- Emphasize Special considerations in older adults:
 - Increased sensitivity to adverse drug reactions
 - Prescribing Cascade
 - Polypharmacy & drug-drug interactions
 - Palliative and end of life care
 - Less is more approach



Deprescribing Process – Choosing Wisely

Don't initiate medications to treat new and emerging symptoms without first ascertaining that the new symptom is not an adverse drug event of an already prescribed medication.

Don't continue medications at transitions of care without a pharmacist or other qualified health care professional performing a comprehensive medication review to verify accurate and complete medication information in concert with current medical problems.

Don't prescribe or routinely continue medications for older adults with limited life expectancy (LLE) without due consideration to individual goals of care, presence of comorbidities and timeto benefit for preventive medications. LLE defined as life expectancy less than 24 months.

Don't recommend highly anticholinergic medications in older adults without first considering safer alternatives or non-drug measures.

Don't use anticholinergic medications concomitantly with cholinesterase inhibitors in patients with dementia.



Deprescribing Process – Choosing Wisely

Don't use three or more CNS-active medications (antidepressants, antiepileptics, antipsychotics, benzodiazepines, gabapentinoids, opioids, Z-drugs), especially in older adults.

Don't combine opioids with benzodiazepines or gabapentinoids to treat pain in older adults and re-evaluate routinely for deprescribing during chronic use.

Don't prescribe tramadol for older adults without due consideration of the potential risks and harms related to serotonergic excess, seizures, falls, and drug-drug interactions.

Don't use two or more medications that are known to increase the risk of bleeding without evaluating the potential risks and benefits. These medications include direct oral anticoagulants (DOACs), warfarin, aspirin, SSRI's, SNRI's, antiplatelet agents, NSAIDs, & corticosteroids.

Don't use strong CYP3A4 and P-glycoprotein inhibitors or inducers with Direct Oral Anticoagulants (DOACs) and periodically access the medication regimen for such drug-drug interactions.





Deprescribing Process – Target Meds

Vitamin Supplements

- Anticholinergic Medications
 - First Generation Antihistamines Hydroxyzine, diphenhydramine
 - Antispasmodics Dicyclomine, Hyoscyamine
 - Antiparkinsonian Agents Benztropine, Trihexyphenidyl

Stomach Medications

- Proton Pump Inhibitors Omeprazole, Pantoprazole
- Metoclopramide
- H2 antagonists Famotidine
- Cholesterol medications
 - Statins atorvastatin, simvastatin, etc.
 - Fenofibrate derivatives gemfibrozil, fenofibrate
- Muscle Relaxants cyclobenzaprine, methocarbamol, chlorzoxazone

Type 2 Diabetes Medications

- Sulfonylureas
- Sliding Scale Insulin



Deprescribing Process – Target Meds

Urinary Tract Anticholinergics – Oxybutynin, Tolterodine, Trospium, Solifenacin

Psychotropic Medications

- Benzodiazepines lorazepam, alprazolam, clonazepam, diazepam, chlordiazepoxide
- Antipsychotics haloperidol, chlorpromazine, risperidone, quetiapine, olanzapine
- Hypnotics & Z-Drugs temazepam, zolpidem, zaleplon, eszopiclone
- Antidepressants tricyclic antidepressants, SSRI's/SNRI's

Pain Medications

- NSAIDs Indomethacin, Ibuprofen, Naproxen, Meloxicam, Celecoxib
- Opioids Tramadol, Oxycodone, Hydrocodone, Fentanyl, Morphine, Methadone
- Gabapentinoids Gabapentin, Pregabalin

Dementia Medications – Donepezil, Rivastigmine, Galantamine, Memantine

- Antiplatelet/Anticoagulant Aspirin, Clopidogrel, Warfarin, Apixaban, Rivaroxaban
- Hormone therapies Megestrol, Estradiol, conjugated Estrogen, Testosterone

Bisphosphonates – Alendronate, Ibandronate, Risedronate.



Deprescribing Process – Meds that Require Tapering

Medications that can result in adverse drug withdrawal reactions if stopped abruptly^{*[1-6]}

Medication	Symptoms that can result from abrupt discontinuation		
Acetylcholinesterase inhibitors	Abrupt cognitive decline, aggression, agitation, hallucinations, reduced consciousness		
Antiseizure medications	Anxiety, depression, seizures		
Antidepressants	Akathisia, anxiety, chills, gastrointestinal distress, headache, insomnia, irritability, malaise, myalgia		
Antiparkinsonian agents	Hypotension, psychosis, pulmonary embolism, rigidity, tremor		
Antipsychotics	Dyskinesias, insomnia, nausea, restlessness		
Baclofen	Agitation, anxiety, confusion, depression, hallucinations, hypertonia, insomnia, mania, nightmares, paranoia, seizures		
Benzodiazepine receptor agonists	Agitation, anxiety, confusion, delirium, insomnia, seizures		
Beta blockers	Angina pectoris, anxiety, myocardial infarction, severe hypertension, tachycardia		
Clonidine	Agitation, headache, palpitations, severe hypertension		
Corticosteroids	Anorexia, hypotension, nausea, weakness		
Opioids	Abdominal cramping, anxiety, chills, diaphoresis, diarrhea, insomnia, restlessness		
Proton pump inhibitors	Gastric upset, heartburn (due to rebound hyperacidemia)		

* This is a partial list. When in doubt, it is typically safer to slowly taper a medication than to stop it abruptly. Adverse drug withdrawal reactions (ADWRs) refer to adverse physiological changes caused by medication withdrawal beyond a simple return of the underlying condition the medications are intended to treat, for example as may occur when medication exposure has resulted in up- or down-regulation of end-organ receptors that result in receptor over- or under-activation when the medication is abruptly withdrawn. Not included in this table is the wider spectrum of adverse drug withdrawal events (ADWEs), which can include return or worsening of the condition a medication was being used to treat or adverse psychological responses to medication withdrawal.^[6]



Deprescribing Process - Resources

- Available on deprescribingnetwork.ca and deprescribing.org
- Patient handouts, brochures, & engaging stories & quizzes on general topics as well as medication and disease specific topics.
- Healthcare provider tools including educational videos, deprescribing algorithms, posters, postcards, other communication tools.





Deprescribing Process - Resources

EMPOWER brochure topics

- Sedatives-hypnotics
- Antihistamines
- Gabapentinoids
- NSAIDS
- PPI's & H2 antagonists
- Antipsychotics
- Sulfonylureas

Use of EMPOWER brochures led to 1 in 4 older adults stopping benzodiazepines.



You May Be at Risk

You are taking one of the following sedative-hypnotic medications:





Deprescribing Process - Resources

- National Hospice & Palliative Care Organization (NHCPO)
- Downloadable deprescribing toolkit for residents on hospice or palliative care
- Decision trees in the flow chart describe deprescribing opportunities for deprescribing medications at the end of life.
- Address "pill burden."
- Medication therapies include anticoagulants & antiplatelet agents, dementia medications, statins, inhalers, & Type 2 DM medications.

Why D	Deprescribe?			
	CONSIDER	DEPRESCRIBING IF ANY OF THE FOLLOWING FACTORS IS PRESENT:		
Patient at risk for bleeding		Increased risk for major hemorrhage or bleeding complications present in patients on anticoaguiation threapy with advanced age, CHF, CVD, hypertension, liver or renal disease, diabets, history of or recent GI bleed, anemia, concomitant use of antiplatelets or NSAIDS_4 ^{MN2} I HAS-BLED score tool can be used to assist clinicians in identifying patients at high risk for bleeding. ¹ I When bleeding does occur, lack of access to reversal agents other than vitamin K (phytonadhon) can be diffecult. Hospitalizations is required for potients to use the reversal		
		agents for dabigatran, apixaban, and rivaroxaban to manage bleeding. ²		
	Medication may no longer be indicated	 No palliative benefit present or clinical signs of impending death Antiplateliate oranizoagulant medications mayo have been started with time-limited intent after a procedure or event. Evaluate continued need and potential to de-escalate to aspirin monotherapy or deprescribe entriely. Benefits of multiple antiplateliet or anticoagulation combination therapy is generally limited 		
		to 3-12 months of therapy; likely no additional benefit to longer therapy, only increased risk of bleeding, especially in the hospice population. ⁴		
	Patient at risk for falls	Hospice patients, young and old, have an increased risk of falling, and potential for internal or external bleeds. Risk of an intracranial hemorrhage in a debilitated ambulatory patient who may fall is arrater than the hemofit in coverning a strakes ¹ .		
	Patient at risk for drug- drug interactions	Drug interactions are common with these classes of medications (especially warfarin) increasing bleeding risk or increased clot formation. ² Review medication profile with a pharmacist when adding or discontinuing any medication		
	Decreased rend or hepatic function Amy of antiplatelet and anticoogulant medications rely on liver metabolism and ren- clearance. Bleeding increases with kidney or liver impairment, especially in elderly patie Awaid wardmin in contents with liver follows ¹			
	Decreased nutritional intake	I Hospice patients may have fluctuating nutritional intake, impacting vitamin K intake and affecting the therapeutic risk/benefit associated with warfarin. I Warfarin, invarsaban, and aphaban are highly protein bound anticoagulants. Malnourished patients with law albumin are at an increased risk of bleeding due to higher than usual exposure to circulating active drug. ²		
	Difficulty swallowing	Dabigatran must be swallowed whole; crushing results in excessive absorption and taxicity. ² Danaecrine if partiant counct swallow interct tablets		
	Increase in pill burden and frequent monitoring	Antiplatelet and anticoagulant medications contribute to polypharmacy and pill burden. Warfarin requires routine PT/INR testing. Patients may wish to avoid finger sticks or blood draws. If routine bloodwork or INR testing is refused by patient/family, discontinue warfarin. ⁵		
	Continued use is outside the goals of care	Continuing medications that are not relieving any symptoms (i.e. not palliative), may be outside the goals of care (exception may be treatment of DVT).		

Patient & Caregiver Talking Points

The BUILD Model provides a structured process to discuss deprescribing with patients, family, and caregivers.⁹ The basics of the BUILD mnemonic and sample conversational phrases for family and caregiver discussions are below.

BUILD	UNDERSTAND	INFORM	LISTEN	DEVELOP
A foundation of trust and respect	What the family knows about the device	The family about clinical evidence	To the family's goals and expectations	A plan of care in collaboration with family
OVEMBER 2020 VERSIOI	N 1.0 ONATIONAL HOSPIC	E AND PALLIATIVE CARE	ORGANIZATION	my.nhpco.org

Deprescribing - Conclusions

Deprescribing can improve quality of life and reduce falls, decline in physical & cognitive function, adverse drug events, and hospitalizations while also reducing costs.

Reduce polypharmacy and avoid prescribing cascades.

Keep medication safety and optimization at forefront taking into consideration individual comorbidities, preferences, risk level, and level of care.

Reassess medication regimens for necessity, benefit versus risk, and reconsider deprescribing at each opportunity using team approach and shared decision making with support & monitoring.



FEEL GOOD



Deprescribing – Helpful Links

- https://www.deprescribingnetwork.ca/
- <u>https://deprescribing.org/</u>
- <u>https://www.nhpco.org/wp-content/uploads/NHPCO_Deprescribing_Toolkit.pdf</u>
- <u>https://www.choosingwisely.org/getting-started/lists/</u>
- <u>https://www.americangeriatrics.org/media-center/news/older-people-medications-are-common-updated-ags-beers-criteriar-aims-make-sure</u>
- https://geriatricscareonline.org/
- <u>https://pharmacist.therapeuticresearch.com/Content/Segments/PRL/2014/Nov/Chronic-Meds-in-the-Elderly-Taking-a-Less-is-More-Approach-7716</u>
- https://gwep.usc.edu/wp-content/uploads/2023/11/AGS-2023-BEERS-Pocket-PRINTABLE.pdf
- https://www.uptodate.com/contents/deprescribing



Deprescribing Questions

