Deprescribing: An Approach to Optimize Medications

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OHIO PHARMACISTS ASSOCIATION

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1 VOICE VISION TEAM

Disclosure Statement

- Name of Speaker(s) has/have no relevant financial relationship(s) with ineligible companies to disclose.

  and

- None of the planners for this activity have relevant financial relationships with ineligible companies to disclose.

Learning Objectives

At the completion of this activity, the participant will be able to:

- Identify individuals potentially appropriate for deprescribing
- Review medications to prioritize for deprescribing utilizing a patient-centered approach; and
- Describe and apply a strategy for safe medication reduction and/or discontinuation

What is deprescribing?

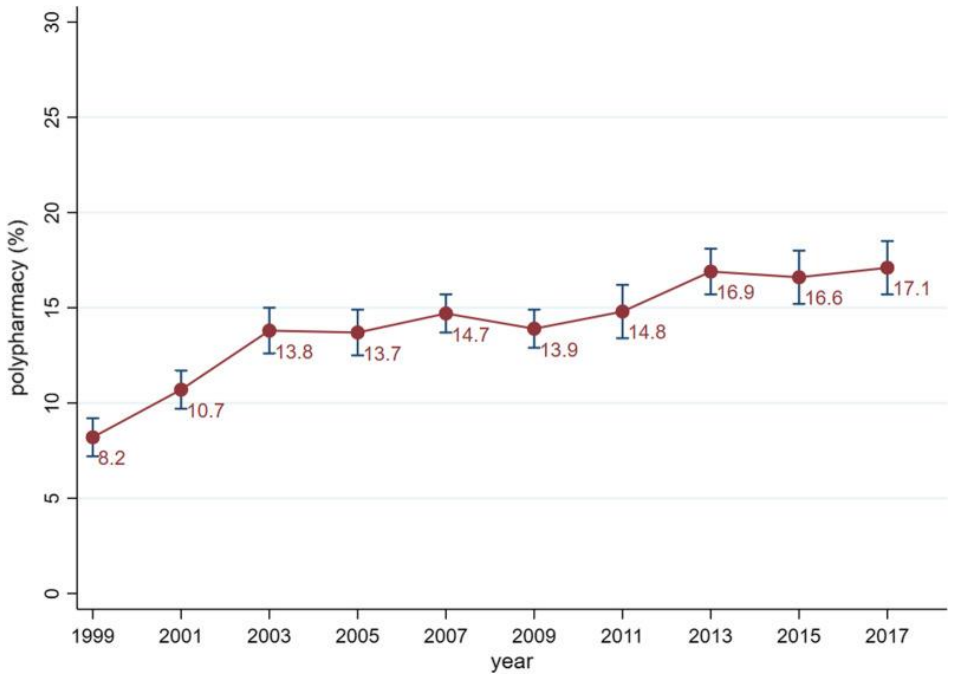
- "A systematic process of identifying and discontinuing medications in instances where harms outweigh the benefits and includes shared decision making along with close monitoring of effects."
  - Nguyen M, et al.
- "Deprescribing is part of good prescribing- backing off when doses are too high, or stopping medications that are no longer needed."
  - Deprescribing.org

Nguyen, Michelle, et al. "The Effect of Pharmacist-Initiated Deprescribing Interventions in Older People: A Narrative Review of Randomized Controlled Trials." *The Senior Care Pharmacist*, vol. 38, no. 12, 1 Dec. 2023, pp. 506–523, https://doi.org/10.4140/tcp.n.2023.506. Accessed 23 Dec. 2023.
"Deprescribing.org." *Deprescribing.org*, 9 Mar. 2019, deprescribing.org/.

WHY DEPRESCRIBE?

Prevalence of Polypharmacy

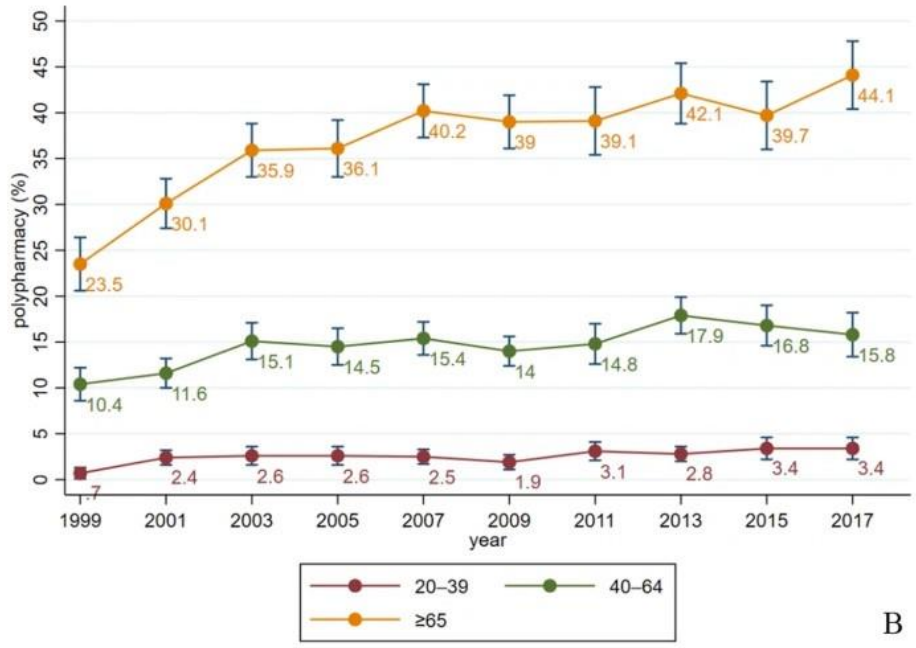
- National Health and Nutrition Examination Survey (NHANES) Study
  - Polypharmacy simultaneous use of 5+ medications
  - Prevalence is increasing overtime



Wang X, Liu K, Shirai K, Tang C, Hu Y, Wang Y, Hao Y, Dong JY. Prevalence and trends of polypharmacy in U.S. adults, 1999-2018. Glob Health Res Policy. 2023 Jul 12;8(1):25. doi: 10.1186/s41256-023-00311-4. PMID: 37434230; PMCID: PMC10337167.

At Risk Population

- National Health and Nutrition Examination Survey (NHANES) Study from 1999-2018
  - ≥ 40 years account for the majority of individuals with polypharmacy
  - Highest in adults ≥ 65 years



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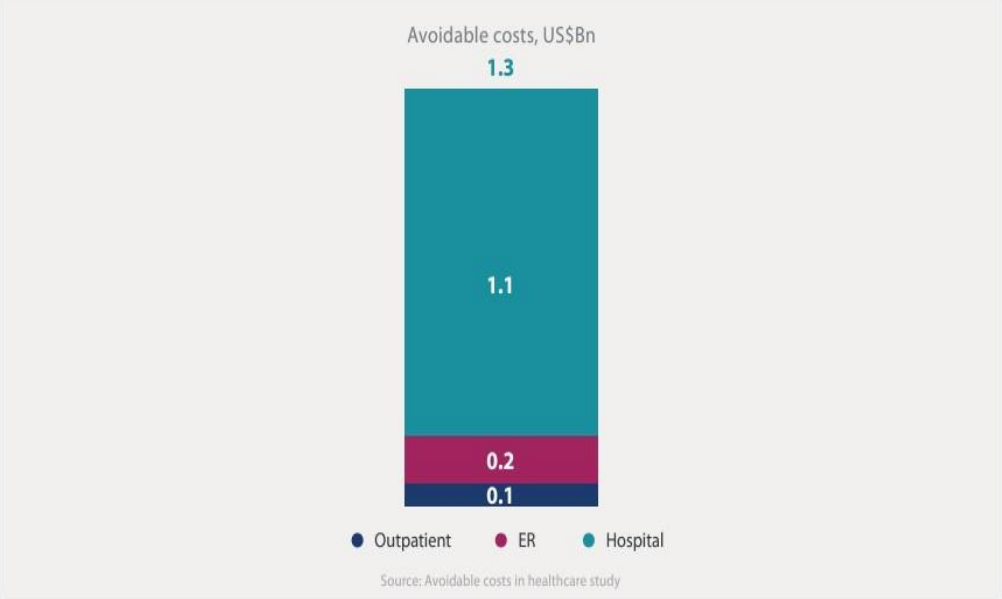
Adverse Drug Events in Adults

- CDC Medication Safety Program
  - Older Adults (65 years or older)
    - Visit emergency departments almost 450,000 times each year
    - 2x as often as younger persons
  - Adverse Drug Events in this population
    - 1.3 million emergency department visits each year
    - 350,000 patients each year need to be hospitalized for further treatment after emergency visit

"Adverse Drug Events in Adults." Medication Safety, Centers for Disease Control and Prevention, 6 Apr. 2023, www.cdc.gov/medicationsafety/adult_adversedrugevents.html#print

Avoidable Costs

Exhibit 12: Avoidable costs due to mismanaged polypharmacy



- Approximately $2 billion spent in avoidable healthcare costs each year due to mismanagement of complex medication regimens

Aitken M, Valkova S. Avoidable costs in U.S. healthcare: the $200 billion opportunity from using medicines more responsibly. IMS Institute for Healthcare Informatics. June 2013. Available at: http://offers.premierinc.com/rs/381-NBB-525/images/Avoidable_Costs_in%20_US_Healthcare-IHII_AvoidableCosts_2013%5B1%5D.pdf.

Physician Office Visits

- A survey conducted in 15 large metropolitan US cities
- Average wait times to see a new physician in 2022
  - 26 days (almost 4 weeks)
  - Up from 21 days from 2004 survey (24% increase)
  - Anticipated to get worse over time

National Ambulatory Medical Care Survey: 2018 National Summary Tables." U.S. Department of Health and Human Services, National Center for Health Statistics, 2018, www.cdc.gov/nchs/data/ahcd/namcs_summary/2018-namcs-web-tables-508.pdf.
"2022 Survey of physician appointment wait times." Merritt Hawkins. Available from: bit.ly/2MEti4J

Goals of Deprescribing

- Decrease medication burden / polypharmacy
- Decrease medication side effects
- Decrease adverse drug events
- Decrease medication errors
- Decrease drug-drug interactions
- In doing so,
  - Decrease health services and costs
  - Decrease morbidity and mortality
  - Improve quality of life and health outcomes for patients

DEPRESCRIBING OVERVIEW

Deprescribing Process

- Patient Identification
- Medication Assessment
- Deprescribing Prioritization
- Deprescribing Strategies
- Documentation / Physician Communication & Collaboration
- Follow-Up: Monitor and Evaluate
- Billing/Reimbursement (if applicable)

Patient Identification

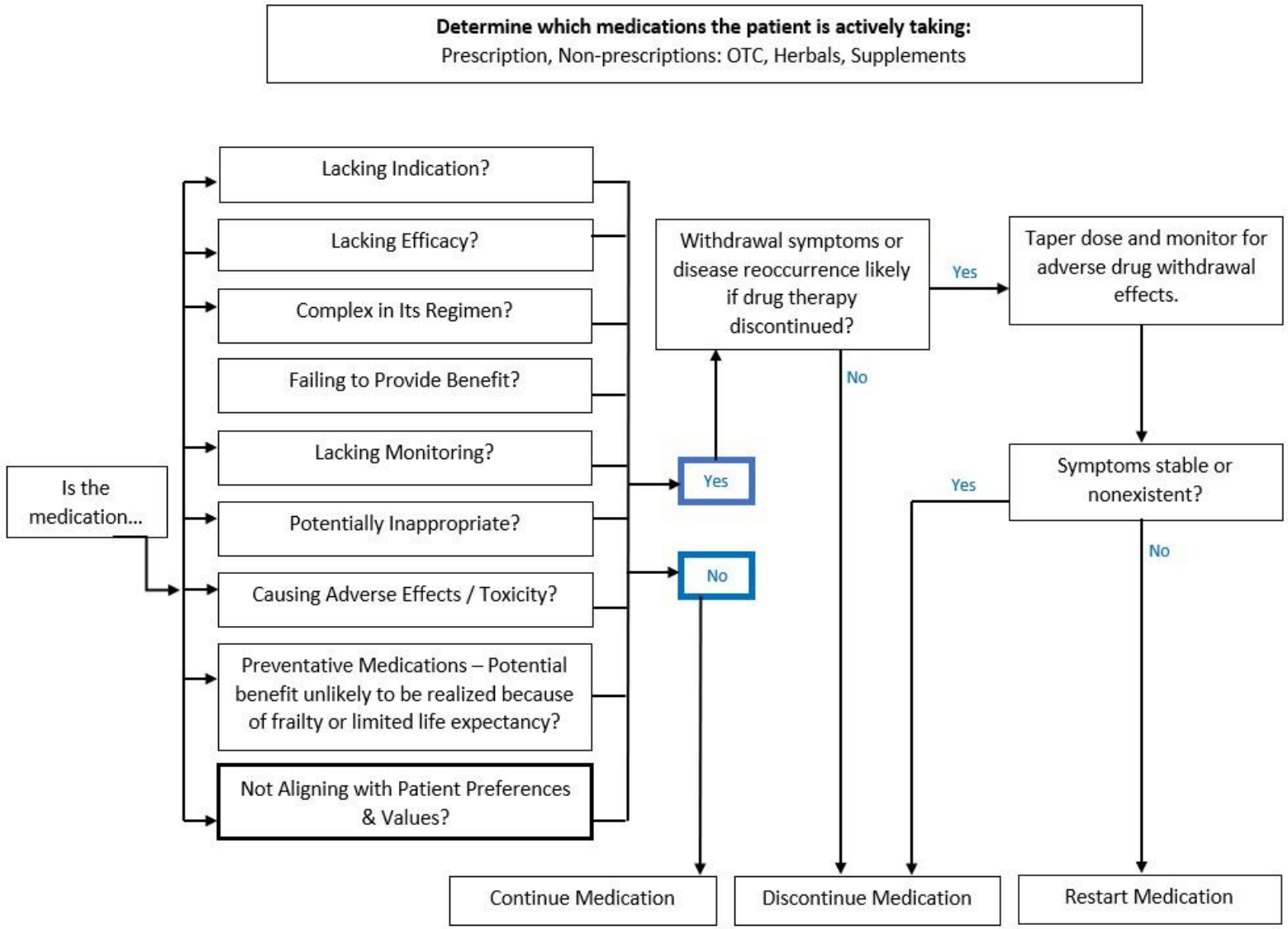
- Polypharmacy (5+ medications)
- Advanced age
- Prescribing cascade
- Multiple comorbidities
- Multiple prescribers
- Use of over-the-counter (OTC) products
- History of hospitalizations
- Visits medical practices with poor medication tracking processes
- Frailty and limited life expectancy

Takhar, Shannan, and Noelle Nelson. “Deprescribing as a Patient Safety Strategy.” *Agency for Healthcare Research and Quality*, 27 Oct. 2021, psnet.ahrq.gov/primer/deprescribing-patient-safety-strategy#:~:text=A%20useful%20way%20to%20approach%20deprescribing%20is%20to,others.%205%20Implement%20and%20monitor%20the%20deprescribing%20regimen.

Medication Evaluation Approach

- Comprehensive Medication Review
  - Complete medication list
  - Prescription medications
  - Non-Prescription medication
    - OTCs
    - Herbals
    - Supplements
- Targeted Medication Review
  - Patient interest
  - Practitioner interest
  - Focusing on specific medication/class

Medication Assessment Algorithm



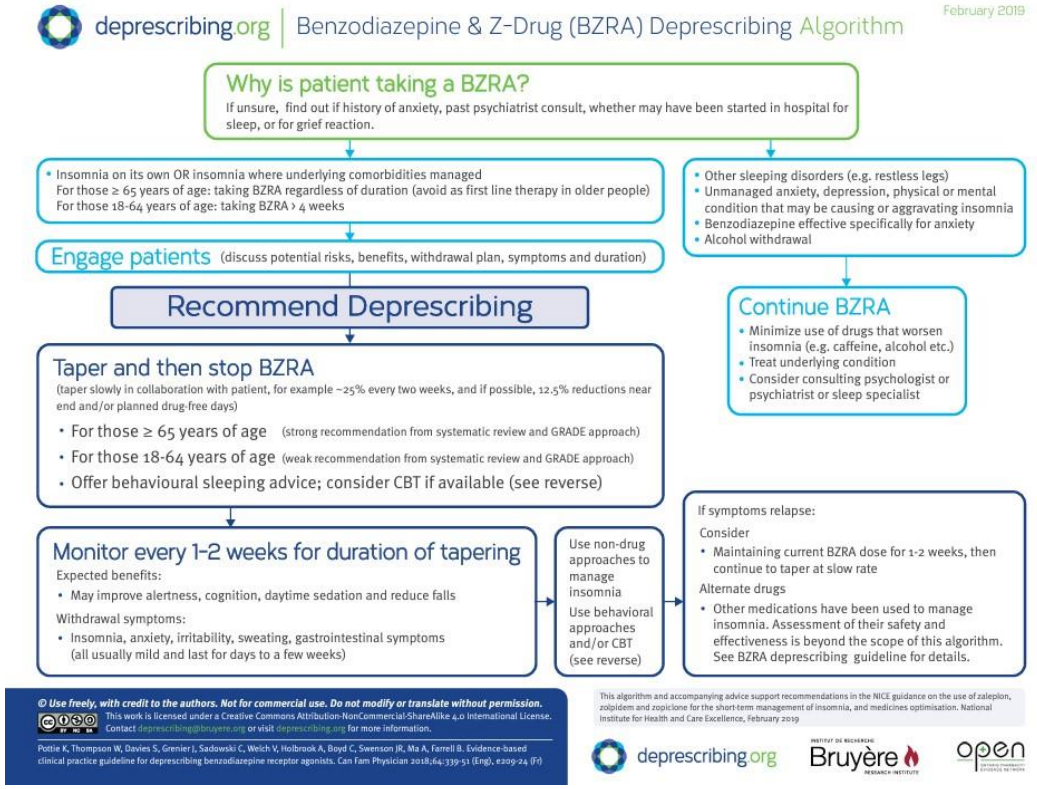
Scott IA, HilmerSN, Reeve E, et al. "Reducing inappropriate polypharmacy: the process of deprescribing." *JAMA Intern Med.* 2015:175:827-34.

Endsley, Scott. "Deprescribing Unnecessary Medications: A Four-Part Process." *Family practice management* vol. 25,3 (2018): 28-32.

Deprescribing Tools

- BEERS Criteria 2023**
- START/STOP Criteria ** (Version 3)
- Deprescribing.org **
- Deprescribingresearch.org **
- PIMSPLUS.org**
- TaperMD.Com**
- Medication Appropriateness Index (MAI)
- Anticholinergic Risk Scale (ARS)
- Medstopper.com
- Falls Risk Increasing Drugs (FRIDS)
- Drug Burden Index (DBI)
- Sedative Load Model (SLM)
- Choosing Wisely Campaign
- Mortality risk calculators

  https://eprognosis.ucsf.edu/calculators.php



Patient Case 1

RB 92YOF (frail) is in to see PCP for a routine visit and a concern about falls.

Dx: Type 2 DM, Vit D Deficiency, GERD, Urinary Retention, Constipation, Severe Protein Calorie Malnutrition, Hypertension, Hyperlipidemia

PMH: UTIs (Ecoli), Hernia, Intestinal Obstruction, Altered Mental Status

PSH: Cardiac Pacemaker

Allergies: Peanuts

Immunizations: Up-to-date

Vitals: Wt 145lbs (66kg), BP 122/73mmHg, P 76bpm, R 18bpm, BS 223mg/dL, Pain 0

Labs:

- CMP: WNL Scr 0.9 except GFR 59L, Ca 5.9L;
- CBC: WNL except RBC 4L Hgb 10.3L, Hct 34L
- A1C: 10.3%H
- Lipid Panel: WNL except HDL 47L, LDL 35L

Special Orders:

- FreeStyle Libre Monitor
- Glucagon PRN
- Fingersticks QID

Consults: Cardiology, Urology, Endocrinology

Medication List:

- Amlodipine 5mg BID
- Apixaban 2.5mg BID
- Atorvastatin 20mg HS
- Carvedilol 25mg BID
- Humalog 14u TID and 4u HS
- Humalog SSI
- Hydralazine 10mg BID
- Lantus 25u AM
- Losartan 100mg AM
- Mirabegron ER 25mg AM
- Pantoprazole 40mg AM
- Vitamin D 50000IU every week on Friday

Blood Sugars: Noted she is experiencing some high blood sugars (300-400 mg/dL) in the middle of the day and some low blood sugars in the morning and middle of the day (60-70mg/dL) indicating hypoglycemia (maybe unawareness)

Patient Case 1 (continued)

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Lacking Indication
Lacking Efficacy
Complex in its Regimen
Failing to Provide Benefit
Lacking Monitoring

Causing Adverse Effects/Toxicity
Prevention medications
Not Aligning with Patient Preferences & Values

Patient Case 1 (continued)

- Lacking Indication?
  - Apixaban
- Lacking Efficacy?
  - Atorvastatin, Losartan, Pantoprazole, Vitamin D, Mirabegron,
- Complex in its Regimen?
  - DM: Humalog QID + SSI + Lantus + BS QID
  - HTN: Carvedilol + Hydralazine + Losartan + Amlodipine
- Failing to Provide Benefit?
  - Pantoprazole, Mirabegron, Atorvastatin
- Lacking Monitoring?
  - Vitamin D
- Potentially Inappropriate?
  - Pantoprazole, Atorvastatin
- Causing Adverse Effects/Toxicity?
  - Falls Assessment
    - Hypotension: Carvedilol + Hydralazine + Losartan + Amlodipine
    - Hypoglycemia: Humalog + Lantus
- Prevention medications?
  - Atorvastatin
- Not Aligning with Patient Preferences & Values?
  - Compare your prioritized list/ approach with the patients and find common ground

Deprescribing Medication Prioritization

1. Critical medications
   - Clinical evidence supporting the benefit of medications
2. Symptom-management medications

Often, the benefit (maybe risks) and appropriateness of medication withdrawal can be established during monitoring and follow-up evaluation

Reeve E, Shakib S, Hendrix I, Roberts MS, Wiese MD. Review of deprescribing processes and development of an evidence-based, patient-centered deprescribing process. Br J Clin Pharmacol. 2014 Oct;78(4):738-47. doi: 10.1111/bcp.12386. PMID: 24661192; PMCID: PMC4239968.

Patient-Centered Shared-Decision Making

- Determining ability to trial medication withdrawal involves:
  - Patient consent
  - Appropriate timing
  - Whether or not withdrawal was previously attempted
- Approaches to optimize patient willingness to deprescribe:
  - Minimize fear or stress
  - Minimize patient-prescriber relationship impairment
  - Emphasis on achieving therapeutic and/or patient-specific goals
    - not because the patient is 'not worth treating'
  - Discuss of the lack of benefits/necessity of the medication and the potential risks (ADEs, cost)
  - Discuss steps taken to minimize the risks of deprescribing
  - Confirm that deprescribing is a 'trial'

Reeve E, Shakib S, Hendrix I, Roberts MS, Wiese MD. Review of deprescribing processes and development of an evidence-based, patient-centred deprescribing process. Br J Clin Pharmacol. 2014 Oct;78(4):738-47. doi: 10.1111/bcp.12386. PMID: 24661192; PMCID: PMC4239968.

Patient-Centered Shared-Decision Making

- Keep it personal to the patient
- Patient's choice is to be respected
- Providing patient support
  - Pair non-pharmacologic options along with deprescribing:
    - Lifestyle modifications
    - Coping strategies
    - Counselling

Reeve E, Shakib S, Hendrix I, Roberts MS, Wiese MD. Review of deprescribing processes and development of an evidence-based, patient-centred deprescribing process. Br J Clin Pharmacol. 2014 Oct;78(4):738-47. doi: 10.1111/bcp.12386. PMID: 24661192; PMCID: PMC4239968.

Deprescribing Strategies

1. Discontinue medication
   - Minimal risk for adverse drug withdrawal effects (ADWE)
2. Tapering medication
   - Prevent ADWE
   - Detect return of condition early
   - Increase patient comfort/confidence

- If symptoms return despite tapering, it may be a return of medical condition
  - Tapering may NOT completely prevent ADWE

Reeve E, Shakib S, Hendrix I, Roberts MS, Wiese MD. Review of deprescribing processes and development of an evidence-based, patient-centred deprescribing process. Br J Clin Pharmacol. 2014 Oct;78(4):738-47. doi: 10.1111/bcp.12386. PMID: 24661192; PMCID: PMC4239968.

Safety Concerns

- Adverse drug withdrawal events (ADWE)
  - Very limited prevalence data
  - Serious harm: Rare (especially with tapering)
  - Common classes: Cardiovascular and Central Nervous System
  - Medications: PPIs, Corticosteroids
- Return of medical condition
  - Requires close monitoring
  - May consider re-initiating medication or alternative drug/non-drug therapy
  - Predictors to increase risk of return of condition after medication withdrawal specific to medication/medication class
- Reversal of drug-drug interactions

Reeve E, Moriarty F, Nahas R, Turner JP, Kouladjian O'Donnell L, Hilmer SN. A narrative review of the safety concerns of deprescribing in older adults and strategies to mitigate potential harms. Expert Opin Drug Saf. 2018 Jan;17(1):39-49. doi: 10.1080/14740338.2018.1397625. Epub 2017 Nov 6. PMID: 29072544.

Patient Case 2

JO is an 80 YOM picking up his prescriptions. While in conversation, JO complains about all the medications he is taking and asks you for help to approach his doctor. You grab his medication list and ask him to bring in his non-prescription medications. You work together to identify the indication for each medication.

Medication List:

- Acetaminophen 325mg Q4H PRN – Pain – Started on his own
- Amlodipine 2.5mg QD – High Blood Pressure
- Aspirin 81mg QD – Unknown
- Calcium + Vitamin D 600mg/400IU BID – General Health/Wellness – Started on his own
- Coenzyme Q QD – Memory – Started on his own
- Loratadine 10mg QD – Spring Allergies – Started on his own
- Losartan 50mg QD – High Blood Pressure
- Multivitamin QD – General Health/Wellness – Started on his own
- Clopidogrel 75mg AM – Unknown
- Pravastatin 10mg HS – Cholesterol
- Sertraline 50mg AM – Depression
- Vitamin C 500mg QD – General Health/Wellness

Patient Case 2 (continued)

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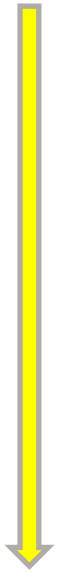
- Pravastatin 10mg HS – Cholesterol
- Sertraline 50mg AM – Depression
- Vitamin C 500mg QD – General Health/Wellness

Pharmacist Prioritized Deprescribing Medication List:

1. Coenzyme Q
2. Vitamin C
3. Calcium + Vitamin D
4. Multivitamin
5. Loratadine
6. Amlodipine
7. Acetaminophen
8. Aspirin
9. Clopidogrel
10. Losartan
11. Pravastatin
12. Sertraline

"Symptom-Management" Medications



"Critical" Medications

Patient Case 2 (continued)

JO expresses that the CoEnzyme Q is helping a lot with his memory and feels strongly about it. He likes his multivitamin because he feels like his diet may not be here it should. He asks if he has to take the sertraline anymore. He says it makes him feel tired. He mentions he started it after his wife passed away.

"Adjusted" prioritized medication list:

1. Sertraline*
2. Vitamin C
3. Calcium + Vitamin D

4. Coenzyme Q*
5. Multivitamin *
6. Loratadine
7. Amlodipine
8. Acetaminophen

9. Aspirin
10. Clopidogrel
11. Losartan
12. Pravastatin

After a long conversation on the risks and benefits of his medications as well as some of the unknowns on his medication lists. A plan has been reached.

JO agrees to stop:

- Vitamin C
- Calcium + Vitamin D

You place a call to JO physician reviewing todays discussion. The physician asks JO to make an appointment to reevaluate the sertraline medication. And asks for your recommendation:

[ ] Trial sertraline 25mg QD. Follow up in 4-8 weeks. Monitor for return of symptoms or ADWE (irritability, anxiety, insomnia, sweating). Physician FYI- Sertraline can be split in half for a 12.5mg dose for further titration, if tolerated.

Documentation/Communication

1. **SOAP Note vs. Abbreviated A/P**
   - Subjective, Objective, Problem List, Assessment/Plan
   - *Encounter/Time: (for billing purposes)*
     - New or Established Patient
     - Pharmacist Name/Credentials
     - Encounter Type: (Face to Face or Telephone/Telehealth)
     - Total Time Spent: (minutes)
     - Date of Service

**Outcomes should be documented **
   - Medication continued, discontinued, restarted
     - Explanation
   - Process that was undertaken that led to this
   - Goals:
     - Minimize medication errors
     - Minimize re-initiation of previously discontinued medications

Example: Abbreviate A/P

- Background: AM 87 YOM was referred by physician at caregiver request to assess medication regimen since experiencing reduced appetite and weight loss. Physician is considering adding mirtazapine for appetite and sleep.
- Weight loss and Reduced Appetite Medication Evaluation
  - Goal to minimize or reverse reduced appetite and weight loss while maintain and improve quality of life.
  - Reviewed all diagnoses listed in EHR, medications, labs, vitals, and progress notes. Conducted completed medication assessment. Discussed in length with patient and caregiver (daughter/medical POA).
  - Findings are listed as such: AM 87 YOM diagnosed with dementia and currently taking donepezil 23mg QD. Taking medication for 2 years with stable weights and appetite per chart and patient and caregiver report. BIMS score declined from 12 (moderate impairment) to 8 (moderate impairment). Caregiver noted AM becoming more dependent on care on ADL. Caregiver notes AM refuses to take donepezil and often misses doses. Caregiver wants her dad to be comfortable and he always had loved to eat. Discussed risk and benefits of medication reduction (including progression of dementia) or continuation (may be the offending agent of reduced appetite and weight loss).
  - Caregiver and patient agrees to reduce the dose to donepezil 10mg QD. Caregiver advised to call if appetite worsens, agitation, aggression, hallucinations, reduced consciousness occurs (ADWE) within 1 week.
  - Follow up in 2 weeks to assess re-emergence of symptoms, medication re-initation, maintaining current dose, or further reduction is needed based on symptoms, appetite, and weight. Physician notified and agreeable with treatment plan and will hold off on mirtazapine at this time.

Documentation/Communication

2. **SBAR Documentation/Communicatio**n
   - Verbal or written communication that helps provide essential, concise information
   - Directed towards any relevant individual that needs communications

- **S**ITUATION
  - The exact circumstances of the situation explained
- BACKGROUND
  - Essential information related to the situation
- **A**SSESSMENT
  - Precise statement based on the situation and background information
- **R**ECOMMENDATION/REQUEST
  - Recommendation for resolving the issue
- *SIGNATURE (optional)*
  - Date, time, who you spoke with and/or signature line agreeing to recommendation

Example: SBAR

- **S**ITUATION

  JS 65YOM stops into Absolute Pharmacy with a refill for his Omeprazole DR Capsule 20mg QD and expressed interest in stopping the omeprazole.

- **B**ACKGROUND

  JS has been and is still currently taking he omeprazole for acid reflux but doesn't know if it's really helping. He has been on it for 6 months and says he is not experiencing any symptoms of acid reflux. He is not taking any NSAID or mentions a history of Barrett's esophagus, severe esophagitis, or GI bleed. JS is open to stopping omeprazole but is nervous about acid reflux reoccurrence.

- **A**SSESSMENT

  According to the product package insert and deprescribing.org, omeprazole may lead to long term adverse effects when continued for more than 8 weeks pneumonia, fractures, Cdiffe, vitamin B12, vitamin C, magnesium, and iron deficiencies). It is recommended to trial a period off to assess if symptoms reoccur. By providing support with avoiding precipitating foods and an as needed medication, deprescribing efforts to discontinue the medication may be achievable. He was agreeable to famotidine but doesn't like the "chalky taste" of Tums and related products.

- **R**ECOMMENDATION

  [ ] Taper omeprazole DR capsule 10mg QD
  [ ] Discontinue Omeprazole DR capsule 20mg QD
  [ ] Start Famotidine 10mg BID PRN if acid reflux occurs. (Dose adjustments occur at CrCl <50ml/min)
  [ ] Start Famotidine 10mg BID (Dose adjustments occur at CrCl <50ml/min)
  [ ] Non-Drug Approaches: Avoid meals 2-3 hours before bed and avoid dietary triggers
  [ ] Monitor: Heartburn, Regurgitation, Dyspepsia, Epigastric Pain, Loss of appetite, weight loss, agitation
  [ ] Follow-up: Office visit. May consider every 4 weeks depending on JS response.
  [ ] Continue omeprazole. Provide risk vs. benefit explanation:

- *SIGNATURE (optional)*

  Practitioner Signature: _____

  Date: _____ Time:_____

Practitioner Communication

- Practitioner communication is very specific to practice and preferences
  - Adding note in patient chart
  - Secured email
  - Secured text
  - Phone call
  - Fax
- Always keep a copy of the documentation for your records

Follow - Up

- Telephone call / telehealth
  - Allows for symptom monitoring and support comfort
- In-person visit
  - Preferred the first visit after complete medication discontinuation
- Follow-up frequency
  - Medication Dependent (how long? how often?)
  - Tailored to the patient

Reeve E, Shakib S, Hendrix I, Roberts MS, Wiese MD. Review of deprescribing processes and development of an evidence-based, patient-centred deprescribing process. Br J Clin Pharmacol. 2014 Oct;78(4):738-47. doi: 10.1111/bcp.12386. PMID: 24661192; PMCID: PMC4239968.

Billing and Reimbursement

- ORC Rule 5160-8-52: “Services provided by a pharmacist”
- Billable opportunity
  - Here are some examples of some billing codes you could use
  - Face to Face Encounter an “Office” Setting:
    - 99202: New pt; 15-29 min
    - 99203: New pt; 30-44 min
    - 99211: Est pt; 5-10 min
    - 99212: Est pt; 10-19 min
    - 99213: Est pt; 20-29 min
  - Telephone Encounter
    - 99441: Tele 5-10min
    - 99442: Tele 11-20 min

CHALLENGES TO DEPRESCRIBING

Patient Challenges

- "Factors important to older adults who disagree with deprescribing recommendation" (survey study)
  - Providing Rationale
    - More supportive of deprescribing recommendation focused on medication adverse effect
    - Participants who disagreed wanted additional communication, alternative strategies, and consideration of their medication preferences
    - Participants who strongly disagreed were less interested in additional information or alternatives

Weir KR, Shang J, Choi J, Rana R, Vordenberg SE. Factors Important to Older Adults Who Disagree With a Deprescribing Recommendation. *JAMA Netw Open.* 2023;6(10):e2337281. doi:10.1001/jamanetworkopen.2023.37281

Patient Challenges (continued)

- Medication Type
  - Older adults have beliefs about a medication to control symptoms right now compared with a medication for preventing future illness, depending on specific symptom and future illness in question
    - Statin vs. PPI
    - Preferred a taper
    - Option to restart medication with symptom return

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Patient Challenges (continued)

- Physician Influence
  - Direct recommendation from a physician to stop a medication is associated with increased deprescribing
- Beliefs about medications
  - Participants expressed a willingness to deprescribe while also perceiving their medications as beneficial and necessary
    - Taking a medication (PPI or Statin) more than likely had a health issue addressed and agreed to take the medication, shaping their perceptions on the importance of the medication
    - May overestimate benefits and underestimate harms of treatments by both patient and clinicians

Weir KR, Shang J, Choi J, Rana R, Vordenberg SE. Factors Important to Older Adults Who Disagree With a Deprescribing Recommendation. *JAMA Netw Open.* 2023;6(10):e2337281. doi:10.1001/jamanetworkopen.2023.37281

Physician Challenges

- Fear of worsening symptoms, withdrawal, or disease relapse
- Worry patient perception misinterpreted as “giving up on them”
- Lack of data to assess risks and benefits with older patients
- Pressure from guideline recommendations
- Reluctant to contradict or stop a medication another clinician prescribed
- Limited time and support to discuss discontinuation

Rubin R. Deciding When It’s Better to Deprescribe Medicines Than to Continue Them. *JAMA.* 2023;330(24):2328–2330. doi:10.1001/jama.2023.22245
Davila H, Rosen AK, Stolzmann K, Zhang L, Linsky AM. Factors influencing providers' willingness to deprescribe medications. *J Am Coll Clin Pharm*. 2022; 5(1): 15-25. doi:10.1002/jac5.1537.

Pharmacist Challenges

- Limited data on safety and efficacy of deprescribing interventions
- Lack of infrastructure support
  - Care fragmentation
  - Support communication and coordination
  - Limited patient information
    - (depending on practice setting)
- Time constraints
- Lack of Incentives to prioritize in routine care

Wu H, Kouladjian O'Donnell L, Fujita K, Masnoon N, Hilmer SN. Deprescribing in the older patient: a narrative review of challenges and solutions. Int J Gen Med. 2021;14:3793-3807. doi:10.2147/IJGM.S253177

Pharmacist Deprescribing Impact

- "The effect of pharmacist-initiated deprescribing interventions in older people: a narrative review of randomized controlled trials"
- Overall, pharmacist-led interventions had a beneficial effect on 22 out of 32 (69%) total medication-related outcomes examined
  - Hospitalizations
  - Urgent care/emergency department visits
  - Outpatient visits
  - Number of accidents
  - Mean total healthcare costs
  - Quality of life
  - Falls
  - Mortality
  - Cognition
  - Adverse drug events
  - Adverse drug -related incidents or clinically important medication errors
  - Functional status

Nguyen, Michelle, et al. "The Effect of Pharmacist-Initiated Deprescribing Interventions in Older People: A Narrative Review of Randomized Controlled Trials." *The Senior Care Pharmacist*, vol. 38, no. 12, 1 Dec. 2023, pp. 506–523, https://doi.org/10.4140/tcp.n.2023.506.

In Summary

- We have an aging population with multi-morbidities using many medications increasing the chance of polypharmacy which can reduce quality of life, increase adverse drug events, which may lead to hospitalizations, increased costs, and reduced quality of life.
- This creates an opportunity for pharmacists to step in and fill this gap in care.
- Optimizing medications through deprescribing helps manages chronic conditions, avoids adverse drug events, and improves outcomes.
- Deprescribing will more than likely translate into cost savings for the health system and patients.

QUESTIONS / DISCUSSIONS

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