Patient-Centered Deprescribing: Why We All Should Care

Michael J. Koronkowskii, PharmD
UIC College of Pharmacy
In Case You Were Wondering

• The views expressed in this presentation are those of the speaker

• The speaker has no direct conflicts or ties industry

  – Grants  HRSA, IDoA, CDoFSS, Age Options, White Crane Wellness
  – Advisory IDoA-OASAC, OptumRx, BRIDGE Model

• Grateful to OFS Healthcare for the opportunity

• To those in attendance...hopefully... “Lesson’s Learned”
Seduction of Common Sense

... (A) long habit of not thinking a thing wrong, gives it a superficial appearance of being right, and raises at first a formidable outcry in defense of custom. But the tumult soon subsides. Time makes more converts than reason. —

Thomas Paine, Common Sense, 1776
OBJECTIVES

1. Describe the PARADOX of PRESCRIBING

2. Define DEPRESCRIBING and its PROCESSES

3. Discuss the evidence of EFFICACY of DEPRESCRIBING

4. Describe instances for DEPRESCRIBING CONSIDERATION

5. List BARRIERS to DEPRESCRIBING

6. Describe FUTURE RESEARCH of DEPRESCRIBING
Evidence

Benefit

Risk

Uncertainty

More good than harm

More harm than good

Even the best interventions may do harm

An ineffective intervention will do no good apart from the placebo effect and may do harm

ARR’s NNT

AR’s NNH

Benefit

Risk
Fundamental Paradox

- Baby Boomers and Shortage of trained workforce
- Drug safety concerns tend to be greatest in vulnerable populations - ELDERLY
- Drug prescribing guidance remains deficient
- Most clinical trials exclude vulnerable patient populations
- Industry has little incentive to study at risk groups
- FDA has limited power to require enhanced safety and efficacy data in the vulnerable populations (i.e. older adults)
The single most important “cited barrier” to appropriate prescribing in the elderly is:

1. Lack of time in the office schedule
2. Lack of formal education
3. Patient’s request to maintain a specific medication
4. Patient taking a large number of medications
5. Difficulty communicating with other prescribers

(n=89, 45% response rate, 25% elderly practice, 75% confident, 31%-%<5 out of 8 vignettes)
Polypharmacy Predicament

POOR CLINICAL OUTCOMES

- Mortality
- Falls
- Disability
- Frailty

1-WAY DRUG-DRUG INTERACTIONS

<table>
<thead>
<tr>
<th>No. of medicines</th>
<th>Probability of interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>20+</td>
<td>100%</td>
</tr>
<tr>
<td>15-19</td>
<td>92%</td>
</tr>
<tr>
<td>10-14</td>
<td>81%</td>
</tr>
<tr>
<td>5-9</td>
<td>50%</td>
</tr>
</tbody>
</table>

COMPLEX DRUG-DRUG INTERACTIONS

No. of possible interactions vs. No. of medicines taken

www.nps.org.au/older-people
As a provider, do you have “prescriptive authority” to make medication treatment decisions for a patient?

1. No

2. Yes, as a prescriber

3. Yes, only under collaborative practice agreements or institutional protocols
As a provider, how comfortable would you be being involved in “de-prescribing” medication treatment decisions for a patient?

1. Very comfortable
2. Somewhat comfortable
3. Neither comfortable nor uncomfortable
4. Somewhat uncomfortable
5. Very uncomfortable
As a provider, how willing would you be to discuss discontinuing medications of limited benefit with a patient, family member or loved ones?

1. Very willing
2. Somewhat willing
3. Neither willing nor unwilling
4. Somewhat unwilling
5. Very unwilling
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Deprescribing

“The process of withdrawal of an inappropriate medication, supervised by a health care professional with the goal of managing polypharmacy and improved outcomes.”

“Primum non nocere”

Prescribing Process

Patient symptoms and signs or diagnosis → Initial prescribing decision → Evidence and guidelines

Patient education and activation
Educate and activate patient to understand and report medication-related problems

Follow-up prescribing decision
Maintain drug
Change dose, frequency, form
Discontinue drug
Substitute drug
Add new drug

Monitor
Monitor side effects
Monitor effectiveness
Monitor adherence
Assess whether drug still needed

Evidence and guidelines
Patient preferences and feasibility
General Approach to De-Prescribing

1. No benefit
   - Significant toxicity OR no indication OR obvious contraindication OR cascade prescribing?
   - Yes → Stop drug therapy
   - No → 2. Harm outweighs benefit

2. Harm outweighs benefit
   - Adverse effects outweigh symptomatic effect or potential future benefits?
   - Yes → Stop drug therapy
   - No → 3. Symptom or disease drugs

3. Symptom or disease drugs
   - Symptoms stable or nonexistent?
   - Yes → Stop drug therapy
   - No → 4. Preventive drugs

4. Preventive drugs
   - Potential benefit unlikely to be realized because of limited life expectancy?
   - Yes → Stop drug therapy
   - No → Continue drug therapy

- Withdrawal symptoms or disease recurrence likely if drug therapy discontinued?
  - Yes → Taper dose and monitor for adverse drug withdrawal effects
  - No → Continue drug therapy

- Symptoms stable or nonexistent?
  - Yes → Restart drug therapy
  - No → Continue drug therapy
When and for Whom is deprescribing appropriate?

**WHO?**
- Any older person with a change in health
- Frail older people
- People with kidney disease or impaired function
- People with multiple prescribers

**WHEN?**
- At points of change in health
- At transitions in care
- When new symptoms emerge

**HOW?**
- Ask people to bring in their medicines (e.g. brown bag audit)
- Encourage people to keep a medicines list that is current and regularly updated
- Document a plan that people (e.g. clinicians and patients) can act on

**WHAT?**
- Support from pharmacists and nurses

Which of the following should be considered when thinking about deprescribing a particular medication?

1. Efficacy
2. Safety
3. Patient specific goals therapy
4. All of the above
David Lawrence Sackett, MD
November 17, 1934 - May 13, 2015
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Evidence of Efficacy of Deprescribing

- N=15 RCT’s, N=16 observational, >65 years and older, targeted deprescribing
- Antihypertensives (n=7,636)
- Psychotrophic and benzodiazepines classes (n=1184)
- Discontinuation rates without harm
  - 20% - 85% of patients remained normotensive off medication @ 6 months and 5 years
- Reduced falls and improvement in cognitive and psychomotor function in the CNS medication categories
  - + impact of cessation of psychotropic agents on falls and cognition replicated

Drug Withdrawal Trial
Systematic review (n=31 trials, n=8,972 subjects)

Drug Withdrawal Trial
(n=7 trials)
Falls, cognitive impairment and end-of-life
Evidence of Efficacy of Deprescribing

- Demonstrated 37% of participants remained normotensive 1 year after targeted drug withdrawal
  - +predictors
    - Lower “on treatment” SBP, younger age, 2 week success, and single treatment
- Cessation of inappropriate antihypertensive agents for 5 years was 20%
- Fewer cardiovascular events and deaths over the 5 year follow-up period
  - + predictors – monotherapy, low doses, lower SBP

Drug Withdrawal Trial
Australian Blood Pressure Study Cohort
(N=503, 65-84yo
169 General Practices)

Drug Withdrawal Trial
(5-year follow-up, N=333, 70-84yo)
Sweden
Evidence of Efficacy of Deprescribing

- N=9 RCT’s, (7 nursing homes, 1 outpatient, 1 both)
- dementia and antipsychotic use >65 years and older, targeted deprescribing
- Demonstrated safety of withdrawing antipsychotic agents that had been used continuously in > 80% of patients with dementia
- Note: non-significant increase in mortality in people who continued antipsychotics use @ 12 months (5%-8%) vs. placebo

Drug Withdrawal Trial
N=606, 9 trials

Proportion of Older Adult Medicare Part D Enrollees Outside of the Nursing Home Diagnosed with Dementia Who Were Prescribed an Antipsychotic in 2012

- Of all enrollees outside of the nursing home, proportion with dementia:
  - Without dementia: 93.9% (18,954,465)
  - With dementia: 6.1% (1,226,719)
- Of enrollees outside of the nursing home with dementia, proportion with an antipsychotic prescription:
  - Without antipsychotic prescription: 86.1% (1,056,433)
  - With antipsychotic prescription: 13.9% (170,266)

Source: GAO analysis of Centers for Medicare & Medicaid Services (CMS) Medicare Part D data | GAO-15-211
Note: GAO excluded individuals diagnosed with schizophrenia or bipolar disorder because the Food and Drug Administration (FDA) has approved certain antipsychotic drugs for the treatment of these conditions.
Evidence of Efficacy of Deprescribing

Direct to consumer detailing targeting benzodiazepine discontinuation or dose reduction (≥25% sustained for ≥ 3 months) in adults >65 years and older

62% of consumer’s shared information with prescriber (SHARED DECISION MAKING)

@ 6 months

- 27% vs. 5% achieved complete discontinuation
- 11% vs. 6% achieved dose reduction

42% experienced ADWE’s, 5% were prescribed an additional medication

**Drug Withdrawal Trial**


**EMPOWER Cluster RCT**

(N=148 vs 155 controls)
Canada

**Drug Withdrawal Trial**

D-PRESCRIBE Trial
(in progress)
(NSAIDs, sulfonylureas, antihistamines, benzodiazepines)

(N=450)
Canada
Evidence of Efficacy of Deprescribing

- **N=70 community dwelling elderly – ADVANCED DISEASE**
  - Avg. age 83yo, 61% had 3 or more and 26% had 5 or more comorbidities, mean # of meds 7.7, avg. 4.4 meds discontinued per patient
  - Follow-up period approx. 19 months
  - 311 medications in 64 patients were recommended to discontinue
    - 2% - restarted due reoccurrence of original indication
    - 14% died @ mean follow-up 13 months
  - 81% successful discontinuation achieved
  - No deaths or adverse events attributed to medication withdrawal
  - 88% reported global improvement in health

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**Polypharmacy**

**FP referral to CGA clinic**

**Good Palliative-Geriatric Practice algorithm**
Most non-palliative medications should be discontinued in patients with a terminal illness:

1. Strongly Agree
2. Agree
3. Neither Agree nor Disagree
4. Disagree
5. Strongly Disagree
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The primary goals of deprescribing include:

1. ↓ polypharmacy; ↑ adverse events
2. ↓ polypharmacy; ↑ (+) patient outcomes
3. ↓ medication adherence; ↑ adverse events
4. ↓ medication adherence; ↓ (-) patient outcomes
MCC – CASE

71 yo presents with cough, SOB and likely COPD exacerbation

Problem List: (n=14)

HTN, CAD, CVA 2011, RLE weakness, COPD, DM, Osteoporosis, Osteoarthritis, GERD, Anxiety, Insomnia, Allergic Rhinitis, Glaucoma, >50 pack years

Medications: (n=21)

14 chronic, 7 PRN
## Deciding Which Therapies Can Be Discontinued

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Dose/Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steroid/LABA 160/4.5mcg</td>
<td>2 puffs BID</td>
</tr>
<tr>
<td>Albuterol nebs/inhaler</td>
<td>Q4H prn</td>
</tr>
<tr>
<td>Prochlorperazine 5mg</td>
<td>TID Prn</td>
</tr>
<tr>
<td>Meclizine 25mg</td>
<td>TID Prn</td>
</tr>
<tr>
<td>Acetaminophen 500mg</td>
<td>Q4H Prn</td>
</tr>
<tr>
<td>Diclofenac 1% Gel</td>
<td>QID Prn</td>
</tr>
<tr>
<td>Alendronate 70mg</td>
<td>1X weekly</td>
</tr>
<tr>
<td>Omeprazole 40mg</td>
<td>QAM</td>
</tr>
<tr>
<td>Insulin glargine 13U</td>
<td>QAM</td>
</tr>
<tr>
<td>Insulin aspart 2U</td>
<td>AC TID</td>
</tr>
<tr>
<td>Sitagliptin 100mg</td>
<td>Daily</td>
</tr>
<tr>
<td>Mirtazapine 7.5mg</td>
<td>QHS</td>
</tr>
<tr>
<td>Amlodipine 10mg</td>
<td>Daily</td>
</tr>
<tr>
<td>Trazodone 100mg</td>
<td>QHS Prn</td>
</tr>
<tr>
<td>Zolpidem 10mg</td>
<td>QHS</td>
</tr>
<tr>
<td>Estrogen Cream</td>
<td>2X weekly</td>
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<tr>
<td>Tramcinolone Cream</td>
<td>BID</td>
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<tr>
<td>Diphenhydramine 25mg</td>
<td>BID</td>
</tr>
<tr>
<td>Fluticasone Nasal</td>
<td>BID Prn</td>
</tr>
<tr>
<td>Dorzolamide/Timolol</td>
<td>BID</td>
</tr>
<tr>
<td>Latanoprost</td>
<td>QHS</td>
</tr>
</tbody>
</table>
Deciding Which Therapies Can Be Discontinued

<table>
<thead>
<tr>
<th>Rank</th>
<th>Drug</th>
<th>Number of participants (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Benzodiazepines</td>
<td>43/47 (91%)</td>
</tr>
<tr>
<td>#2</td>
<td>Atypical antipsychotics</td>
<td>38/47 (81%)</td>
</tr>
<tr>
<td>#3</td>
<td>Statins</td>
<td>22/47 (47%)</td>
</tr>
<tr>
<td>#4</td>
<td>Tricyclic antidepressants</td>
<td>21/47 (45%)</td>
</tr>
<tr>
<td>#5</td>
<td>Proton-pump inhibitors</td>
<td>20/47 (43%)</td>
</tr>
<tr>
<td>#6</td>
<td>Urinary anticholinergics</td>
<td>17/47 (36%)</td>
</tr>
<tr>
<td>#7</td>
<td>Typical antipsychotics</td>
<td>16/47 (34%)</td>
</tr>
<tr>
<td>#8</td>
<td>Cholinesterase inhibitors</td>
<td>16/47 (34%)</td>
</tr>
<tr>
<td>#9</td>
<td>Opioids</td>
<td>12/47 (26%)</td>
</tr>
<tr>
<td>#10</td>
<td>Selective serotonin reuptake inhibitors</td>
<td>9/47 (19%)</td>
</tr>
<tr>
<td>#11</td>
<td>Bisphosphonates</td>
<td>8/47 (17%)</td>
</tr>
<tr>
<td>#12</td>
<td>Anticonvulsants</td>
<td>7/47 (15%)</td>
</tr>
<tr>
<td>#13</td>
<td>Beta-blockers</td>
<td>3/47 (6%)</td>
</tr>
<tr>
<td>#14</td>
<td>Antiplatelets</td>
<td>3/47 (6%)</td>
</tr>
</tbody>
</table>

PLoS ONE 10(4):e012246
(n=65 Canadian Geriatric Experts- 36 pharmacists, 19 MDs, 10 NP’s)
3 round delphi, 67% response
Deciding Which Therapies Can Be Discontinued

Figure 1. Estimated Rates of Emergency Hospitalizations for Adverse Drug Events in Older U.S. Adults, 2007–2009.
Strategies to Facilitate Deprescribing in Clinical Practice

**Tools**
- Beer’s
- Anticholinergic Risk (ARS)
- Drug Burden index
- OBRA Guidelines
- TRIM
- Country specific:
  - START/STOPP, Ireland
  - ARMOR, Britain, NHS
  - Geriatric-Palliative method, Israel
  - PRISCUS, Germany
  - PIEA, Australia
  - Sweden, France, Norway, Italy

**System-Level**
- Professional Societies
  - Choosing Wisely Campaign
- Universities and Research
- Clinical Guideline Developers
- Government & Statutory Bodies

**References**
- JAMA Intern Med 2015;175(5):829
- CMAJ 2014;186(18):1372
Pressures for Safer Prescribing

Institute of Medicine (IOM)

Institute of Health Care Improvement (IHI)

Centers for Medicare & Medicaid (CMS)

Agency for Health Care Research (AHRQ)

DEcIDE/CERTs – UIC

Institute for Safe Medication Practices (ISMP)

Rand Corporation - ACOVE Project

Hartford & Reynolds Foundations

Professional Organizations
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Barriers to Routine Deprescribing

Myths and Pressures
- Diagnostics, drug company, marketing and for profit pressures

Prescribers’ fears, restraints and frustrations
- Lack of evidence in EBM movement
- Fear of legal system, superiors, colleagues, peers, patients and families

Patient / family role and pressure
- Give me something attitude
- “Expert prescribed” who are you to question
- Underappreciation of the scope drug related problems
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Areas Requiring More Research

• To what extent does standardized deprescribing affect clinical outcomes?

• Under what circumstances could deprescribing confer negative irreversible effects?

• What is the most effective, practical approach to deprescribing in routine clinical practice?

• How can treatment benefit-harm estimates be presented within prescriber-patient encounters in ways that optimally inform decisions?

*Ther Adv Drug Saf 2015;6(6):212-233*
As a provider, how comfortable would you be being involved in “de-prescribing” medication treatment decisions for a patient?

1. Very comfortable
2. Somewhat comfortable
3. Neither comfortable nor uncomfortable
4. Somewhat uncomfortable
5. Very uncomfortable
As a provider, how willing would you be to discuss discontinuing medications of limited benefit with a patient, family member or loved ones?

1. Very willing
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4. Somewhat unwilling
5. Very unwilling
Appropriate De-Prescribing CHALLENGE

• Don’t let the perfect be the enemy of the good
  • CLINICAL JUDGEMENT & PATIENT CONTEXT

• Target initiatives to high prevalence/high severity meds
  – Based on your location, practice setting
  – Consider team based approaches (i.e. nurse, pharmacist)

• Stopping meds should to be done with same consideration as starting --- Adverse Drug Withdrawal Reactions

• Criteria = Patient-centered care vs. Population care
  – Aim to stop at least one drug and monitor
“It is an art of no little importance to administer medicines properly: but it is an art of much greater and more difficult acquisition to know when to suspend or altogether to omit them.”

-Philippe Pinel, 1745-1826

18th Century Asylum reforms created the foundation for widespread clinical and pathological observations on mental disorders

Alois Alzheimer, MD
June 14, 1864 – December 19, 1915
Resource of Interest


