NEPHO Pharmacy Utilization:

Polypharmacy & Deprescribing Strategies

- 2015 Pharmacy costs increased 9.5% vs. 6% nationally
- Minimize polypharmacy / drug interactions
- Improve outcomes / adherence
- Reduce costs for the patient
- Health system – ER Visits / Hospital Admissions

Case

88 yo female had recent episodes of dizziness; 2 falls within last 6 months; 10 lb weight loss over last year.

PMH: Type 2 DM, HTN, Atrial Fib, Hyperlipidemia, Osteoporosis, Periodic Back spasms

Labs: HbA1c: 9.1%, SCr: 1.3 mg/L, Potassium 4.0, Sodium: 134, CA 9.0 mg/dl, Cl 100 mEq/L, LDL 90, INR 2.1

Meds: (10 meds)

Glyburide 10 mg BID

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Polypharmacy

- **Number of medications** is the single most important predictor medication related problems (MRP) both prescription and OTC.
- **> 5 medications** - incidence of a drug interaction or another MRP is >50%. (*41% elderly take ≥ 5 meds)*
- 25% men & 33% elderly women prescribed inappropriate meds
- > $200 billion dollars annual preventable medication related costs (*50% due to medication non-adherence*)
- Up to 17% hospital admissions due to adverse drug reactions (>30% of which are preventable – so ~ 5% preventable medication-related admissions).

Prescribing Cascades

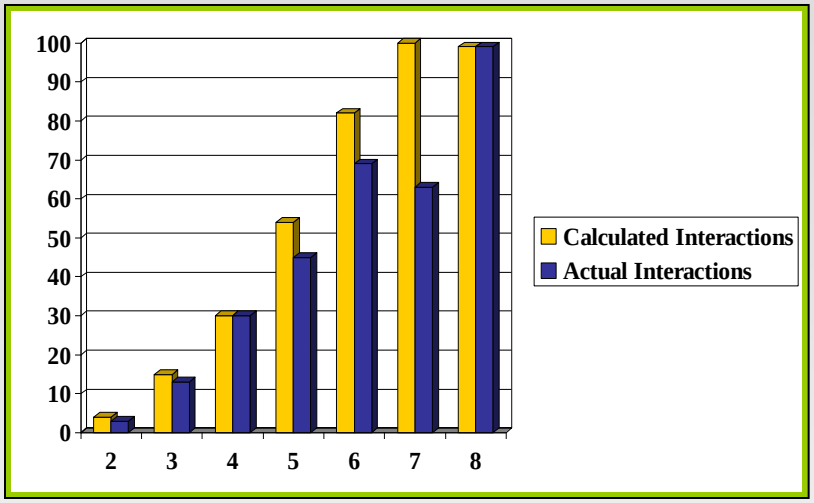
Initial drug therapy	Adverse drug event	Subsequent drug therapy
Antipsychotics	Extrapyramidal signs and symptoms	Antiparkinsonian therapy
Cholinesterase inhibitors	Urinary incontinence	Incontinence treatment
Thiazide diuretics	Hyperuricemia	Gout treatment
NSAIDs	Increased blood pressure	Antihypertensive therapy

Impact of Number of Medications Medication Related Problems (MRP)

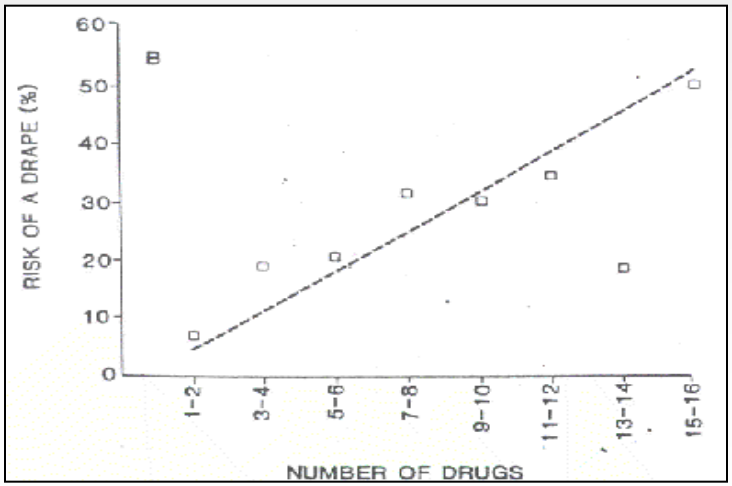
Table 5. Crude and Multivariate Predictors of Medication Discrepancy*

Factor	Any Discrepancy: Crude OR (95% CI)	Any Discrepancy: Adjusted OR (95% CI)	Discrepancy for Prescription Medications Only†, Adjusted OR (95% CI)
Age, 10-y increment	1.36 (1.16-1.60)	1.60 (1.14-2.24)	1.47 (1.08-2.00)
Sex	0.98 (0.58-1.65)	1.73 (0.83-3.58)	1.05 (0.58-1.93)
Physician being internist	0.40 (0.24-0.69)	0.44 (0.12-1.65)	0.61 (0.18-2.10)
Participation of another physician	3.11 (1.51-6.40)	1.45 (0.63-3.38)	2.49 (1.14-5.44)
No. of recorded medications	1.21 (1.10-1.33)	2.28 (1.47-3.53)	1.74 (1.20-2.53)

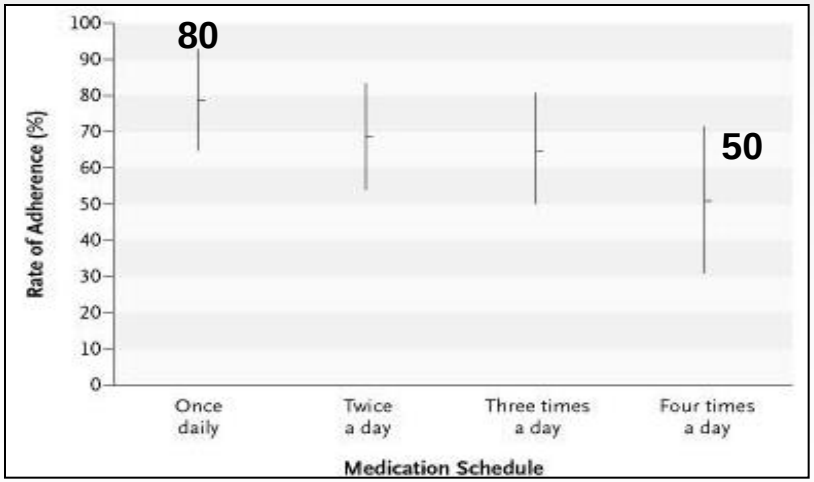
ADR



Interactions



Errors



Adherence

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What is Deprescribing

- Patient-centric process of **tapering or stopping drugs**
  - minimize polypharmacy
  - improve outcomes
- **Reduction in dosage** with *or* without discontinuation (*deintensification*)
- **Individualized systematic process** requiring planning, communication and coordination: *(time)*
  - Include patient, caregiver, and other healthcare providers
  - Communicate: What to expect/intent; Instructions, e.g., how to taper *(if indicated)*
  - Monitor & follow-up:
    - Withdrawal reactions
    - Exacerbation of underlying conditions

When to Deprescribe

- Med lacks a current indication
- Harm outweighs benefit
- Minimal or no effectiveness
- Low-priority relative to other meds and desire to reduce polypharmacy
- Discussion reveals medication is no longer desired or required by the patient *(shared decision making)*
- Care transitions *(e.g. hospital, SNF discharge)*
- Annual/semiannual medication review *(e.g/ annual wellness visit)*
- Before starting a new medication

What *medications*

PPIs: DC after "short-term" use: GERD (not refractory); Stress ulcer prophylaxis ***(DC at discharge/transition unless another indication)***; healed/resolved gastric, duodenal ulcers, H. Pylori

- Drug interactions: decreased absorption of calcium, B12, Iron & Mg
- C. Difficile: 0.2% incidence if on PPI in hospital *but* 42% reoccurrence w/in 90 days when on PPI
- Fractures: long-term use; 25% increase overall fxs; 47% increase spinal fx. postmenopausal women
- ?? CV events, dementia, CKD

BENZODIAZEPINES: treatment of anxiety and short-term for insomnia

- associated with increased risk of falls, and impaired cognition / function

OPIOIDS IN CHRONIC NON-CANCER PAIN:

- when adverse events present and/or there is no improvement in function.

?? STATINS: Clinical guidelines "virtually mandate" lifetime use of statins once started. Reduce risk of MI stroke & CVD mortality by 25%-30%; 2013 ACC/ AHA Guidelines advise high-intensity statins.

- evidence suggests low body mass risk factor of statin intolerance
- data supports use in pts with CVD
- limited data in older subjects; SAGE (ages 65 to 85) & PROSPER (ages 65 to 85) trials found similar benefits to treatment in younger people; RCTs needed to evaluate statin use in elderly > 75 yrs (80+)

OTHERS: non-statins (Zetia); bisphosphonates, antiallergy (seasonal), H_2 antagonists, cholinesterase inhibitors, and memantine, iron, antipsychotics, and antidepressants

Who is candidate for deprescribing

- **Should be individualized**
- **Elderly:**

  Increased risk of medication-related problems (MRP) including drug interactions, medication burden, shortened life expectancy, frailty and changing priorities all give reason to reassess and reduce unnecessary polypharmacy when possible.

- **End of life / palliative care patients**: as patients near the end of life, the emphasis often shifts toward optimizing comfort and quality of life. Medications that have been used for primary prevention of disease may be tapered and/or discontinued. It is usually appropriate to aim for less intensive management of conditions such as hypertension & diabetes, where the time-to-benefit falls into a longer timeframe. Consider Deprescribing the following meds in these patients:
  - ASA, statins; possibly warfarin for atrial fibrillation
  - Iron, vitamins, herbal/natural products
  - Bisphosphonates (unless used for hypercalcemia with malignancy)
  - Hormone therapy
  - Anti-hypertensives and anti-hyperglycemics

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Pharmacy Consult / Referral

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GE Phone Note Routing

978 236 1774

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