



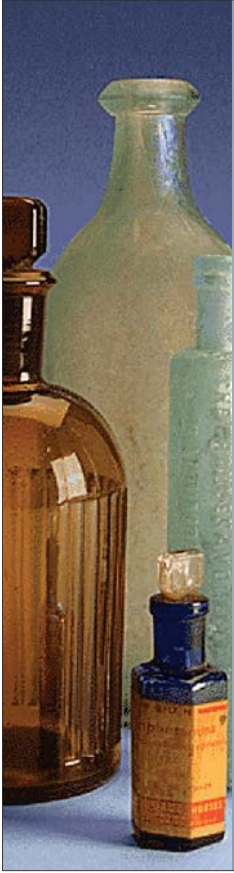
# Reconciled

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## Financial Disclosures:

› None To Report




## Disclaimer:

- › Gathered information from multiple sources
- › Some information could be opinion



## Reconciled

- › Restore friendly relations between
- › Cause to coexist in harmony
- › Make or show to be compatible



## Joint Commission on Accreditation of Healthcare Organizations

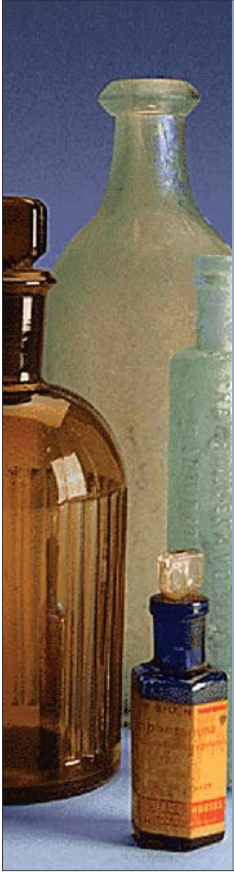
- › Patient Safety Goal #3 Medication Safety
- › Maintain and communicate accurate patient medication information



## Objectives

- › Develop a renewed spirit in medication management
- › Inspire to discontinue medications without a clear diagnosis
- › Strategies to reduce polypharmacy
- › Improve consideration of adverse drug events





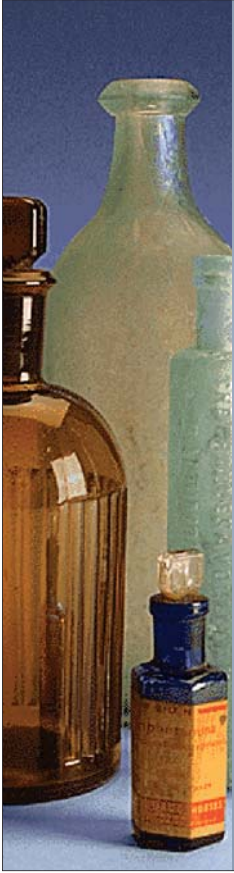
## Polypharmacy

- › The use of multiple medications by a patient
- › Usually defined as ingesting 5 or more medications
- › This includes OTC's and Herbals
- › Using medications without clear indication or diagnosis



## Health Risk of Polypharmacy

- › Drug Interactions: If taking 3 medications there is a 100% chance of drug interaction
- › Medicare spends 1.33 for complications every 1 dollar spend on medications in the United States.
- › United States consumes 85% of opiates produced in the world and is 5 percent of the world population
- › People 65 years and older consume 30% of all medications and 40% of the OTC medications.
- › Polypharmacy increases morbidity and mortality



## Case 1

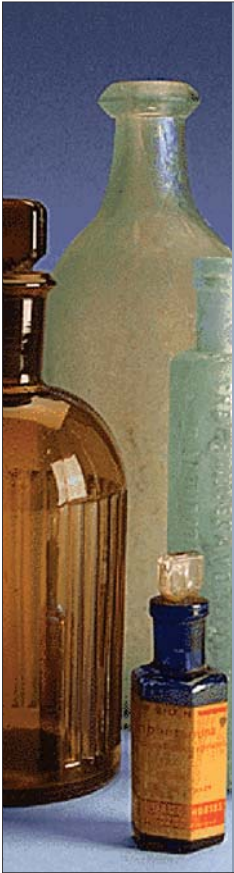
- › 85 y/o female is transferring care to you.
- › Widowed 13 months ago
- › Lives alone
- › Family support with daughter present at the visit
- › Current medical history is Hypertension
- › Dementia 7 months ago
- › Reports sleep issues with two falls
- › One fall related to going from sitting to standing



## Case 1

- › She has allergies
- › Bladder control issues
- › Hospitalization 2 days in the last 5 months
- › Montreal Cognitive Test MoCA 24/30
- › Requires help with checkbook
- › Not driving based on prior recommendation
- › Blood pressure in the office 120/70
- › Gait a bit unstable

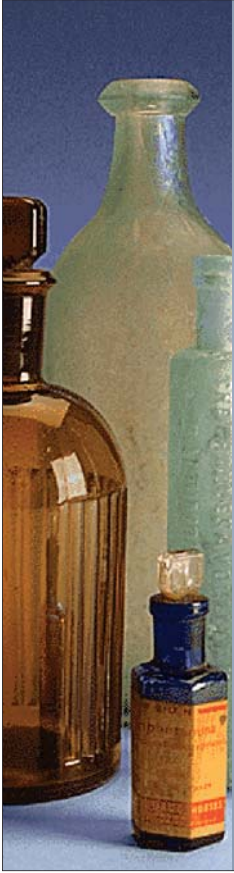




## Case 1

- › Otherwise appears well and not remarkable
- › Medication List: MVI with Iron, Lasix 20mg daily, Lisinopril 20mg bid, ASA 81mg daily, Aricept 10mg daily, Oxybutynin 5mg tid, Tylenol PM at bedtime, Prilosec/Omeprazole 20mg daily, Diphenhydramine 25mg bid
- › She has heard greater than 9 medications could be too many
- › She would like to reduce her medication use.





## Polypharmacy

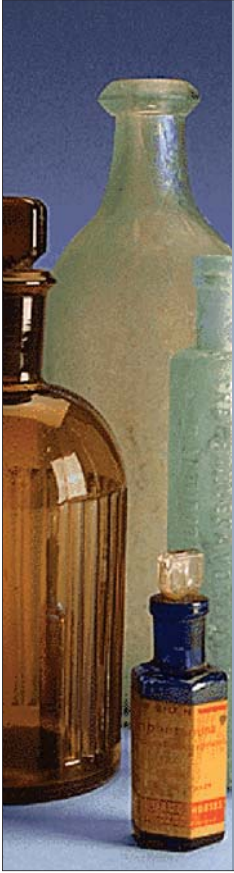
- › Leads to 28% of hospitalizations
- › Polypharmacy is the 6<sup>th</sup> leading cause of death
- › Obesity rates associated with polypharmacy
- › More providers per patient increased medications
- › Sick Care and fractured Healthcare in the United States



## Healthcare Bias

- › Doctors have a pill for everything
- › Patient shift responsibility for health to providers
- › Lifestyle does not cause or contribute to medical care
- › Capitalistic standard: Pharmaceutical driving



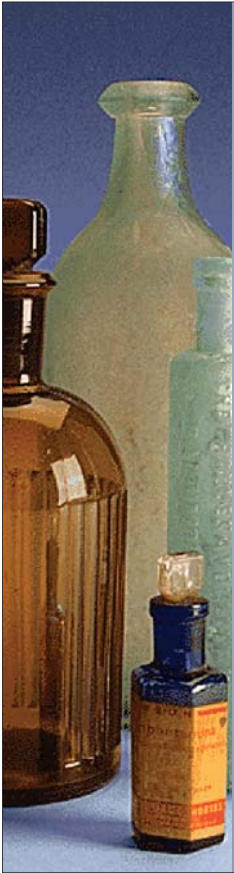


## Overprescribing

- › The United States has a bias to treatment
- › We are Physicians trained to make diagnosis and treat to make people better
- › Patient and Family expect a medication for treatment
- › Politics/Capitalist Society: Fees are for Diagnosis and Treatment
- › Pharmaceutical Industry: Commercials and Money

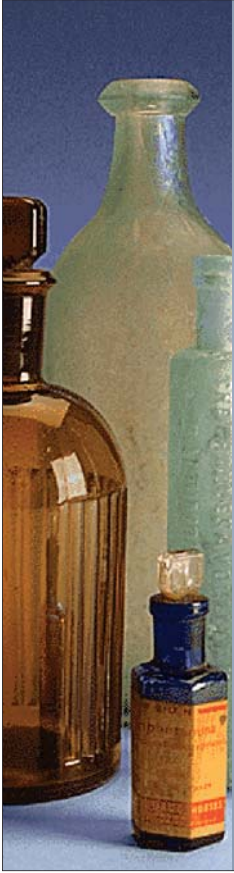






## Pharmaceutical Bias

- › 2016 8.19 Billion dollars to Physicians
- › General Payments 2.78 Billion to Physicians
- › Research Payments 4.37 Billion dollars
- › Value of Ownership 1.03 Billion dollars
- › Total payment 631,000 payments
- › [openpaymentsdata.cms.gov](http://openpaymentsdata.cms.gov)



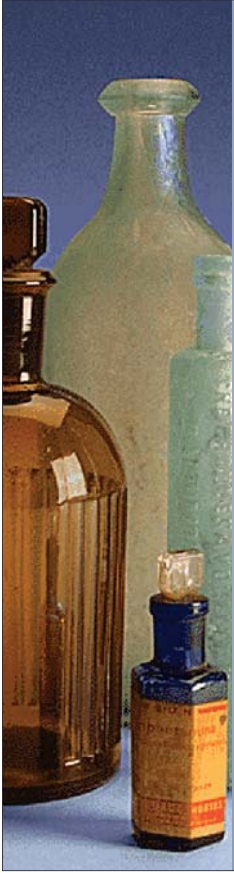
## Over Prescribing

- › 425 Billion in medications 2016
- › Addiction opiate use spent 100 Billion
- › Taxpayers cost 193 Billion in lost productivity



## Health Way Forward

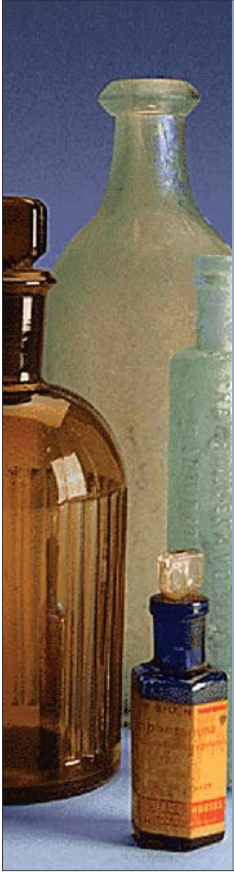
- › Health is a Lifestyle
- › Personal habits and nutrition can help improve ailments
- › Health does not come from a bottle
- › Medications can cause symptoms
- › More medications = greater risk of harm
- › Choices can lead to chronic disease states



## Hippocrates

› Let food be thy medicine and medicine be thy food.





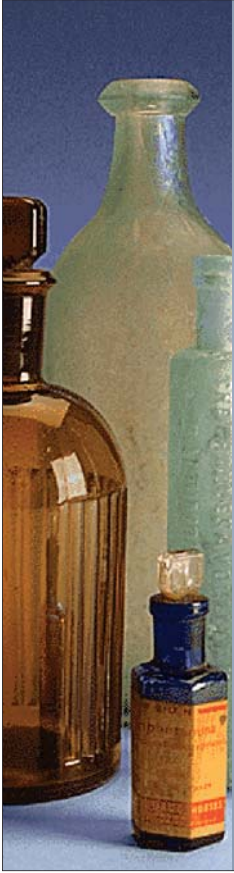
## Risk of Medications

- › > 5 medications there is a 50% chance of Adverse Drug Events
- › > 8 medications there is 100% chance of Adverse Drug Reaction
- › Fish Oil and anticoagulation



## Cognitive Impairment

- › < 6 medications risk 22%
- › 6 to 9 medications 33%
- › > 9 medications 54%



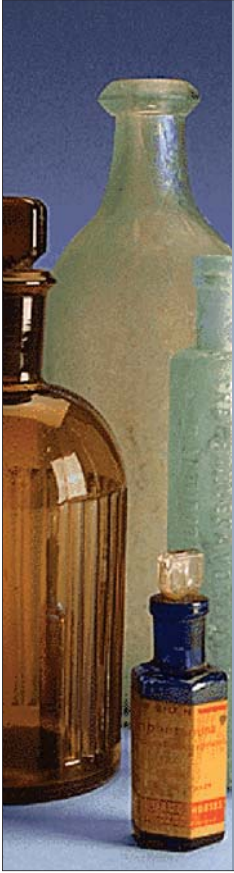
## NonAdherence

- › 43 to 100% in the community
- › 4 or more medications 35% adherence
- › Patients over 65 y/o only 40% had 100% concordance with medication review and pharmacy records



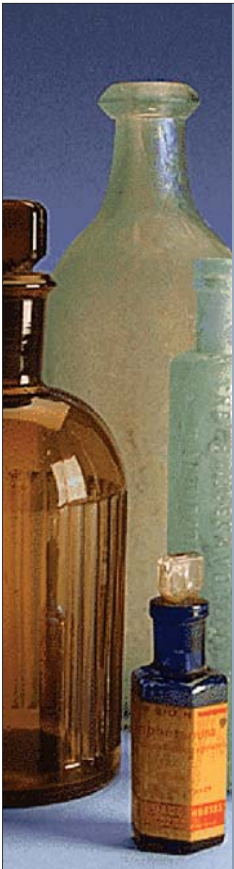
## Medications with Great Risk

- › Anticholinergics
- › Anticoagulates and Antiplatelets
- › Diabetic Medications
- › Cardiovascular Medications
- › NSAIDS
- › 2<sup>nd</sup> Generation Antipsychotics



## Pharmacokinetics (changes in the body)

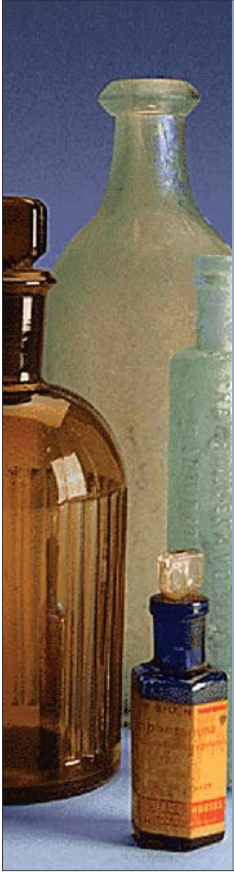
- › Absorption: gi effects. blood flow and interactions
- › Distribution: as we age more fat and less muscle and less water
- › Metabolism: liver reduced, reduced enzymes and blood flow
- › Elimination: Kidney (most important) serum creatinine. Use Cockcroft-Gault equation. Drug dosing overestimated with low muscle mass



## Pharmacodynamics (body response to drugs)

- › Decreased baroreceptor response (stiff vessels poor response leads to falls with fractures) diuretics, BPH medications, Cardiac meds, and ED meds
- › Increased anticholinergic affects on the CNS: dry mouth, urinary retention, constipation, confusion, delirium.
- › Antihistamines, Bladder meds, TCA's, and Muscle relaxers





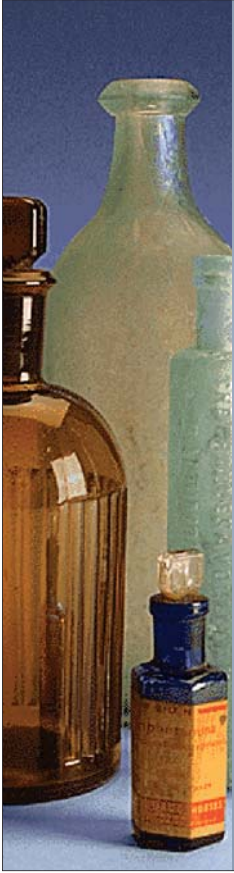
## Medication Safety Checks

- › Beers Criteria
- › STOPP – Screening Tool of the Older Person's Prescriptions
- › <http://www.agingbraincare.org/tools>
- › FORTA: Fit For the Aged



## Question

- › Percentage of older patients following orthopedic surgery have delirium?



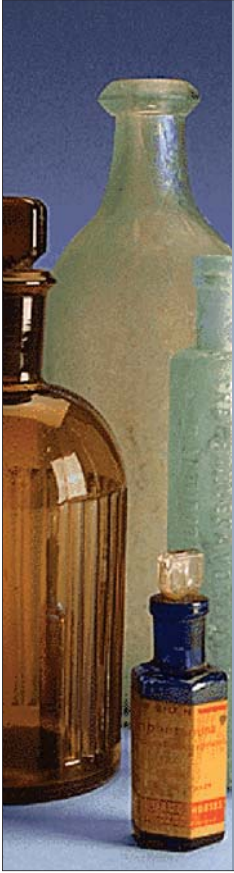
## Prescribing Cascade

- › A new drug is prescribed to treat or address symptoms arising from an unrecognized adverse event related to an existing therapy or medication
- › Example cholinesterase inhibitor (Aricept/Donpezil) creating urine incontinence and then adding anticholinergic therapy (oxybutynin/Ditropan)
- › Example NSAIDS hypertensive then adding BP medication



## Deprescribing

- › Planned and supervised process of dose reduction or stopping of a medication that is causing side effects or harm.
- › Medication that is no longer providing a benefit
- › Evidence based process includes a group
- › Medication guidelines provide direction to start and add medications but no direction on tapering to discontinue
- › Example Keppra (levetiracetam)
- › <http://www.deprescribing.org>



## Adverse Drug Reaction

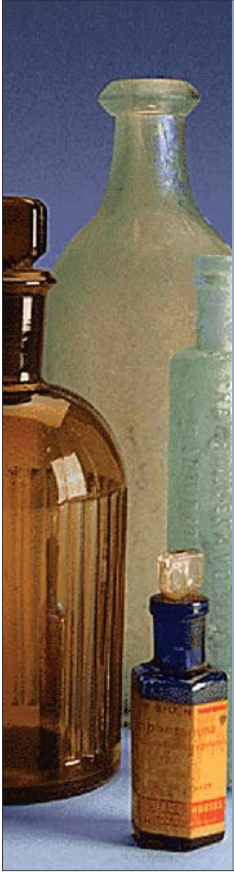
- › What am I doing to this patient? Elderly patient with status change until proven otherwise it should be assumed to be a medication issue.



## Adherence and Understanding

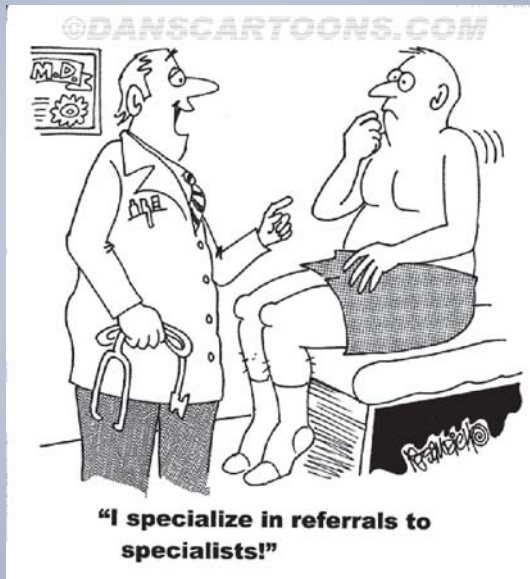
- › Medication Calendar
- › Medication Education
- › Adherence Tools
- › Functional
- › Reminders
- › Expense of Medications
- › <http://www.mymedschedule.com>

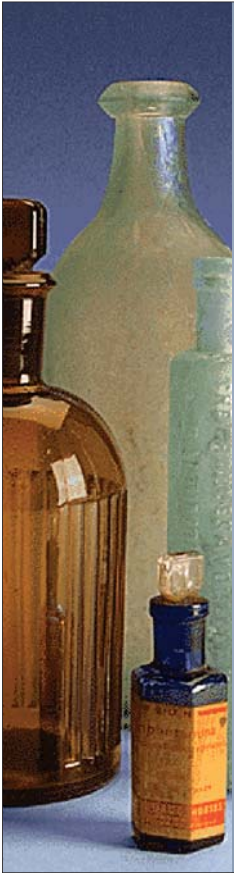




## Improve Medication Safety

- › Accurate list generic and trade name dose, frequency, and route with indication
- › Regular medication review with Brown Bag
- › Education sound alike, look alike, and combinations
- › Medication organizers
- › Single pharmacy
- › Collaboration of all providers





# BOHEMIAN POLYPHARMACY



A PARODY OF THE CLASSIC QUEEN SONG  
BOHEMIAN RHAPSODY