



JOHNS HOPKINS  
SCHOOL *of* MEDICINE

# Deprescribing concepts and context

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# Ms. H

- 93 years old
- Advanced dementia, chronic obstructive pulmonary disease, hypertension, diabetes, neuropathy, anxiety, falls
- Unable to answer questions or to stand without assistance
- 14 medications, up to 25 doses per day

## The New York Times

By Paula Span – June 7, 2021



# Ms. H's daily medications

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Sitagliptin 100 mg daily

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Insulin glargine 15 u nightly

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Hydrochlorothiazide 12.5 mg daily

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Albuterol/ipratropium nebulizer q6h PRN

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Fluticasone/salmeterol 1 puff BID

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Oxybutynin 5 mg daily

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Cranberry supplement 450 mg BID

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Escitalopram 10 mg daily

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Lidocaine patch daily

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Zolpidem 5 mg nightly PRN

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Diclofenac gel q6h PRN

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Tramadol 50 mg BID PRN

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Gabapentin 300 mg TID

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Esomeprazole 40 mg daily

# Why does polypharmacy occur?

The “unintended consequence of good health care”

Boyd JAMA 2005

**Table 3.** Treatment Regimen Based on Clinical Practice Guidelines for a Hypothetical 79-Year-Old Woman With Hypertension, Diabetes Mellitus, Osteoporosis, Osteoarthritis, and COPD\*

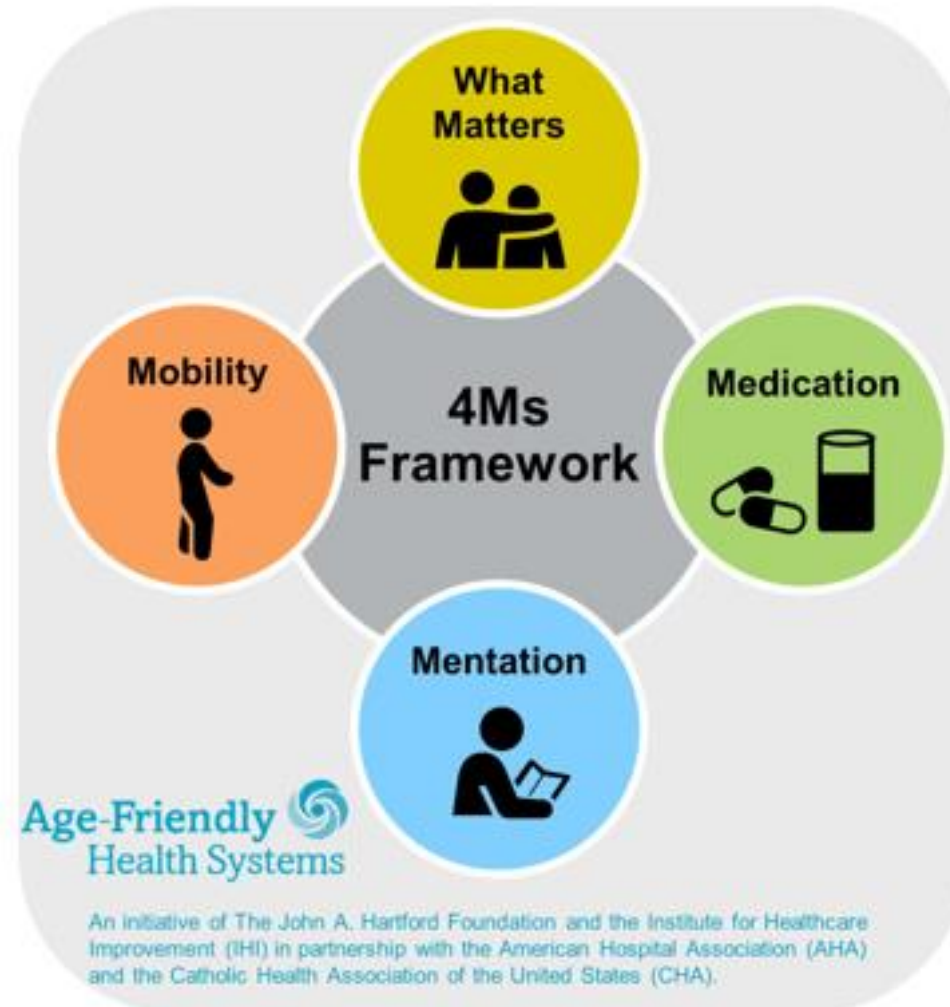
Time	Medications†	Other
7:00 AM	Ipratropium metered dose inhaler 70 mg/wk of alendronate	Check feet Sit upright for 30 min on day when alendronate is taken Check blood sugar
8:00 AM	500 mg of calcium and 200 IU of vitamin D 12.5 mg of hydrochlorothiazide 40 mg of lisinopril 10 mg of glyburide 81 mg of aspirin 850 mg of metformin 250 mg of naproxen 20 mg of omeprazole	Eat breakfast 2.4 g/d of sodium 90 mmol/d of potassium Low intake of dietary saturated fat and cholesterol Adequate intake of magnesium and calcium Medical nutrition therapy for diabetes‡ DASH‡
12:00 PM		Eat lunch 2.4 g/d of sodium 90 mmol/d of potassium Low intake of dietary saturated fat and cholesterol Adequate intake of magnesium and calcium Medical nutrition therapy for diabetes‡ DASH‡
1:00 PM	Ipratropium metered dose inhaler 500 mg of calcium and 200 IU of vitamin D	
7:00 PM	Ipratropium metered dose inhaler 850 mg of metformin 500 mg of calcium and 200 IU of vitamin D 40 mg of lovastatin 250 mg of naproxen	Eat dinner 2.4 g/d of sodium 90 mmol/d of potassium Low intake of dietary saturated fat and cholesterol Adequate intake of magnesium and calcium Medical nutrition therapy for diabetes‡ DASH‡
11:00 PM	Ipratropium metered dose inhaler	

Needed:  
Paradigm shift in caring for  
older adults with multiple  
chronic conditions – from  
narrow biomedical focus  
to holistic, person-  
centered care

One strategy:  
**Medication stewardship  
(deprescribing)**



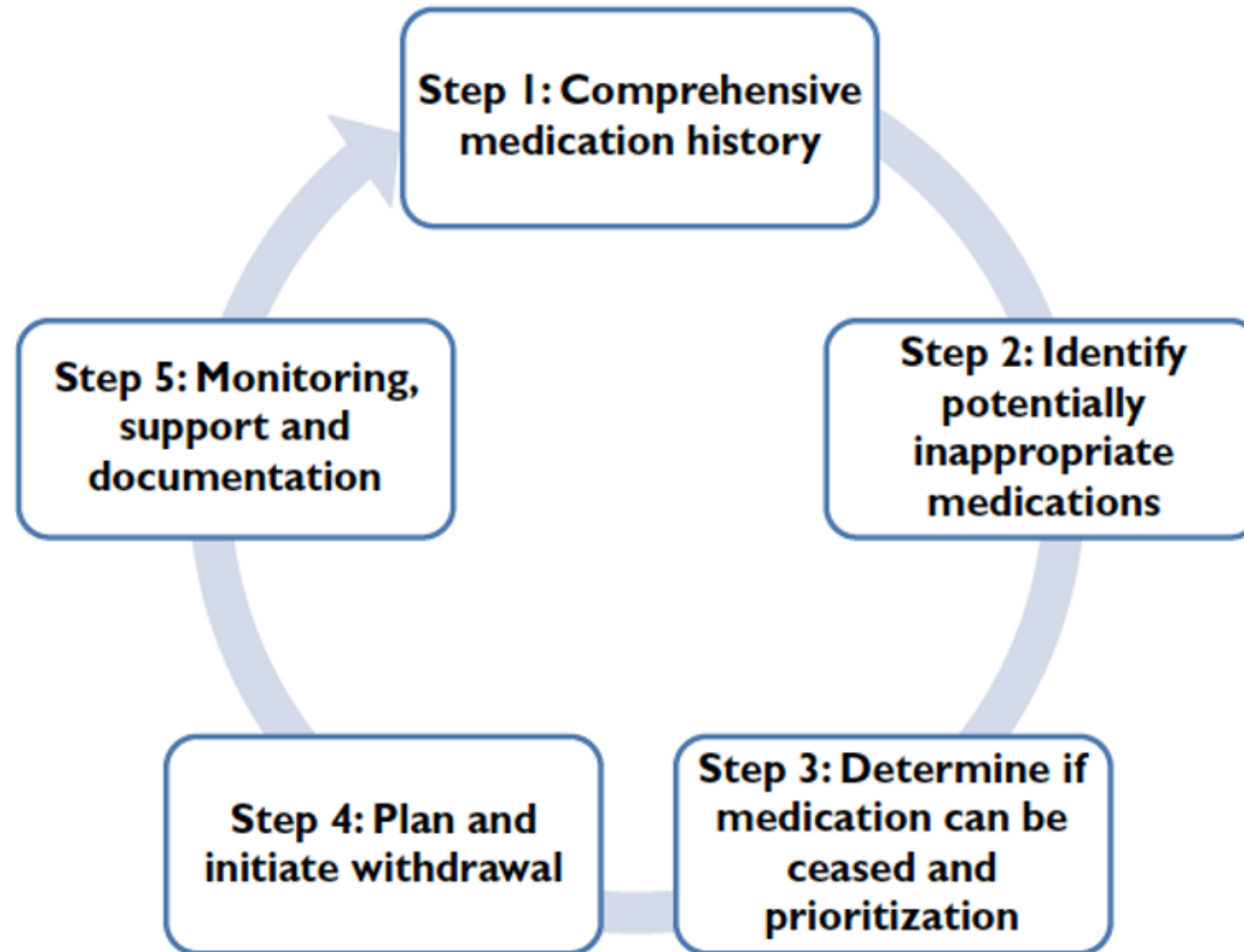
# Key component of high-quality care



# Definition and key elements

- Proactive, structured cessation or reduction of medications whose potential harms outweigh benefits in context of person's clinical status, goals and preferences
  - Positive intervention to improve health outcomes and quality of life
  - Not reactive (i.e., after an obvious adverse event)
  - Key: Evidence-informed, shared decision-making

# Multi-step process



# Not just prescribing in reverse

- Requires different considerations and skills
- Psychological barriers:
  - Cognitive biases
  - Can signal giving up
  - Concerns about liability
  - Behavioral therapies are hard

Weeks	Weaning Schedule							✓
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	
1 and 2	●	●	●	●	●	◐	●	
3 and 4	●	◐	●	◐	●	◐	●	
5 and 6	◐	◐	◐	◐	◐	◐	◐	
7 and 8	◐	◐	◐	◐	◐	◑	◐	
9 and 10	◐	◑	◐	◑	◐	◑	◐	
11 and 12	◑	◑	◑	◑	◑	◑	◑	
13 and 14	◑	◑	◑	◑	◑	○	◑	
15 and 16	◑	○	◑	○	◑	○	◑	
17 and 18	◑	○	○	◑	○	○	◑	
19	○	○	○	◑	○	○	○	
20	○	○	○	○	○	◑	○	
21	○	○	○	○	○	○	◑	
22	○	○	○	○	○	○	○	

**Legend**

● Full dose   ◐ Half dose   ◑ Quarter of a dose   ○ Specific Aims and Research

# Why deprescribing in guidelines?



- Guidance on **how and when** to de-escalate medication, not just add
- Trusted source of information for clinicians, health systems
- Foster development of quality metrics that promote high-quality care
- Ultimate goal: “Just right” medication use tailored to individuals (Goldilocks)