



# Improving Medication Use, Deprescribing, and Recognizing Adverse Drug Events in Older Adults

*NASEM Workshop: Advancing Diagnostic Excellence for Older Adults*

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# Disclosures

- Co-chair, American Geriatrics Society Beers Criteria Update Panel
- Author, UpToDate
- National Institute on Aging

# Overview

- Starting and stopping medications as a diagnostic test
- Diagnosis and misdiagnosis of adverse drug events
- Pitfalls and opportunities

# Starting and stopping medications as a diagnostic test

- When etiology of symptoms or signs are elusive, clinicians often use response to therapy as a diagnostic test
- Acute: Chest pain → sublingual nitroglycerin
- Chronic: Lightheadedness → stop blood pressure medication

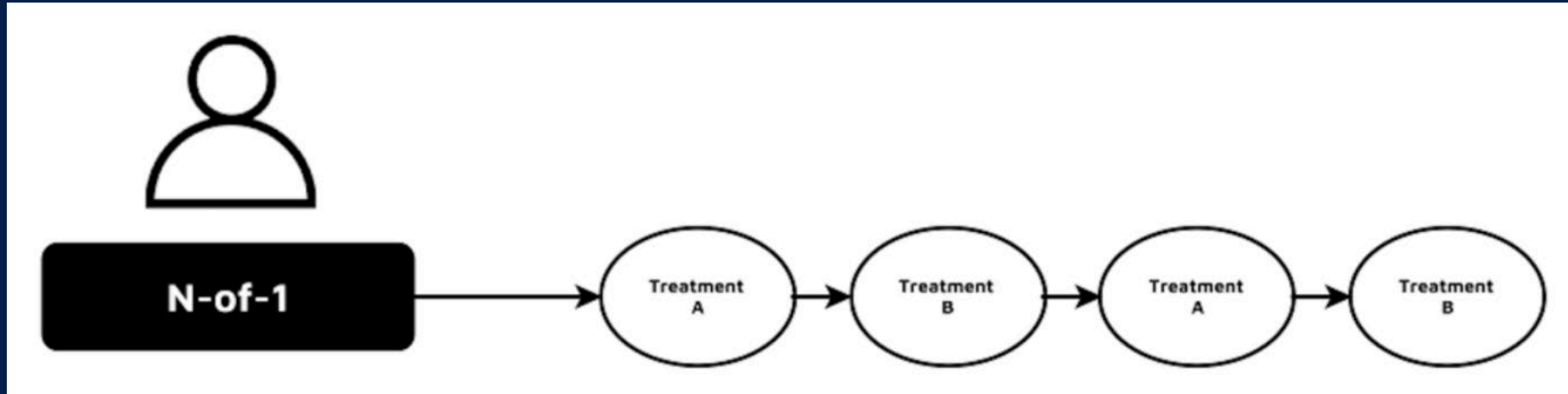
# Starting and stopping medications as a diagnostic test

- May be useful – but....
- Falsely presumes direct and specific pathophysiological effect
- Does not account for placebo effect
- Does not account for natural history of disease
- Several common scenarios - insufficiently sensitive and specific

*Henrikson Ann Intern Med 2003; Pope Headache 2008*

# Starting and stopping medications as a diagnostic test

- N of 1 trials



*Goyal Br J Clin Pharmacol 2022*

# Misdiagnosing adverse drug reactions

- Adverse drug reactions common (~1/3 of older adults)
- Symptoms and signs of ADRs commonly not recognized as being due to ADRs
  - Misinterpreted as due to other chronic conditions, “getting old”
  - Aging amplifies risk of misinterpretation
    - multiple chronic conditions, medications, prescribers
  - Prescribing cascades

*Weingart Arch Intern Med 2005; Gandhi NEJM 2003; Gurwitz JAMA 2003; Qato JAMA 2016, Savage JAMA Intern Med 2021*

# Misdiagnosing adverse drug reactions

- Smarter integration of medication data into EHRs

- Structured monitoring and follow-up

- Awareness

- Patients
- Clinicians



*“Any symptom in an older adult is an adverse drug effect until proven otherwise”*

*Garabedian JAMA Netw Open 2019; Steinman J Amer Geriatr Soc 2011*



# Conclusions

- Common pitfalls and mistakes with medications and diagnosis
  - Starting and stopping medications as a diagnostic test
  - Misdiagnosis of adverse drug events
- Opportunities
  - Structured processes
    - Medication monitoring, N of 1 trials
  - Clinician and patient awareness