Medication Overload: America's Other Drug Problem

How the drive to prescribe is harming older adults

EXECUTIVE SUMMARY

April 2019

LOWN INSTITUTE

Introduction: An Epidemic of Too Much Medication

In the last year, older adults in the U.S. sought medical care nearly 5 million times due to serious side effects from one or more medications. More than a quarter million of these visits resulted in hospitalizations, at a cost of $3.8 billion (see Appendix A in the full report).

These numbers point to a rapidly growing epidemic of medication overload among older Americans. Over the last decade, adults age 65 and older have been hospitalized for serious drug side effects, called adverse drug events (ADEs), about 2 million times. To put this in context, there were 3.2 million opioid-related hospitalizations across the entire population during the same period.[1]

The trend of increasing ADEs is not propelled by drug abuse, but by the rising number of medications prescribed to older adults (called "polypharmacy" in the scientific literature). More than 40 percent of older adults take five or more prescription medications a day, a three-fold increase over the past two decades.[2,3] The greater the number of medications—most of which are prescribed for legitimate reasons—the greater the risk for serious adverse reactions in older patients.

Medication overload is causing widespread yet unseen harm to our parents and our grandparents. It is every bit as serious as the opioid crisis, yet its scope remains invisible to many patients and health care professionals. While some clinicians are trying to reduce the burden of medications on their individual patients, no professional group, public organization, or government agency to date has formally assumed responsibility for addressing this national problem.

If current trends continue, we estimate that medication overload will be responsible for at least 4.6 million hospitalizations between 2020 and 2030. It will cost taxpayers, patients and families an estimated $62 billion. Over the next decade, medication overload is expected to cause the premature death of 150,000 older Americans.

In this report, the Lown Institute calls for the development of a national strategy to address medication overload and help older people avoid its devastating effects on the quality and length of their lives. A subsequent National Action Plan for Addressing Medication Overload will lay out a national strategy to address the epidemic of prescribing and ensure the safety of millions of older adults who are now at risk of preventable harm and premature death.

Polypharmacy

A term used in the scientific literature to describe the condition of taking multiple medications. Usually the threshold for polypharmacy is five or more medications, although the cutoff varies because there is not a single agreed upon definition. Polypharmacy can be helpful or harmful, depending on the patient's conditions and the specific medications.

Medication Overload

The use of multiple medications for which the harm to the patient outweighs the benefit. There is no strict cutoff for when the number of medications becomes harmful, but the greater number of medications a person is taking, the greater their likelihood of experiencing harm, including serious adverse drug events

Scope of the Epidemic

Researchers generally define polypharmacy as taking five or more drugs. Not every person on five or more drugs will suffer a serious side effect—people with multiple chronic conditions may require multiple medications. However, the more medications a person takes, the greater their risk of debilitating, sometimes even deadly side effects.

Polypharmacy has become alarmingly common, especially among older people. Nearly 20 million older adults in the U.S. are taking five or more prescription medications. Including over-the-counter medications and supplements, 67 percent of older adults take five or more drugs.[2,5]

The cumulative effect of so many drugs can be devastating. Serious drug reactions include internal bleeding, heart attacks, strokes, and even death. Older people are particularly vulnerable to confusion, dizziness, insomnia, and incontinence, and even a mild reaction can have serious consequences. For example, taking four or more medications significantly increases the risk of falling.[6] Falls can result in a head injury or broken hip, which in turn may cause of premature death.

Older adults taking five or more medications are at least 88 percent more likely to seek medical attention for an ADE compared to those taking one or two medications.[7] As the rate of polypharmacy rises, so has the rate of polypharmacy-related harm. The rate of ADEs among older adults in the U.S. has more than doubled since 2000, with an estimated one in five experiencing an ADE in 2018.

The potential ill effects of excessive prescribing go beyond ADEs and hospitalization. People can be confused and overwhelmed by having to keep track of numerous medications—when they should be taken, how they should be taken, what they're for, reducing the quality of their lives and increasing the risk for ADEs.

Impact of Adverse Drug Events in Older Adults, 2018

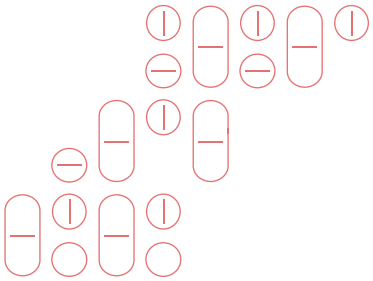
10 million experiences of adverse drug events

4.8 million outpatient visits

660,000 Emergency Department visits

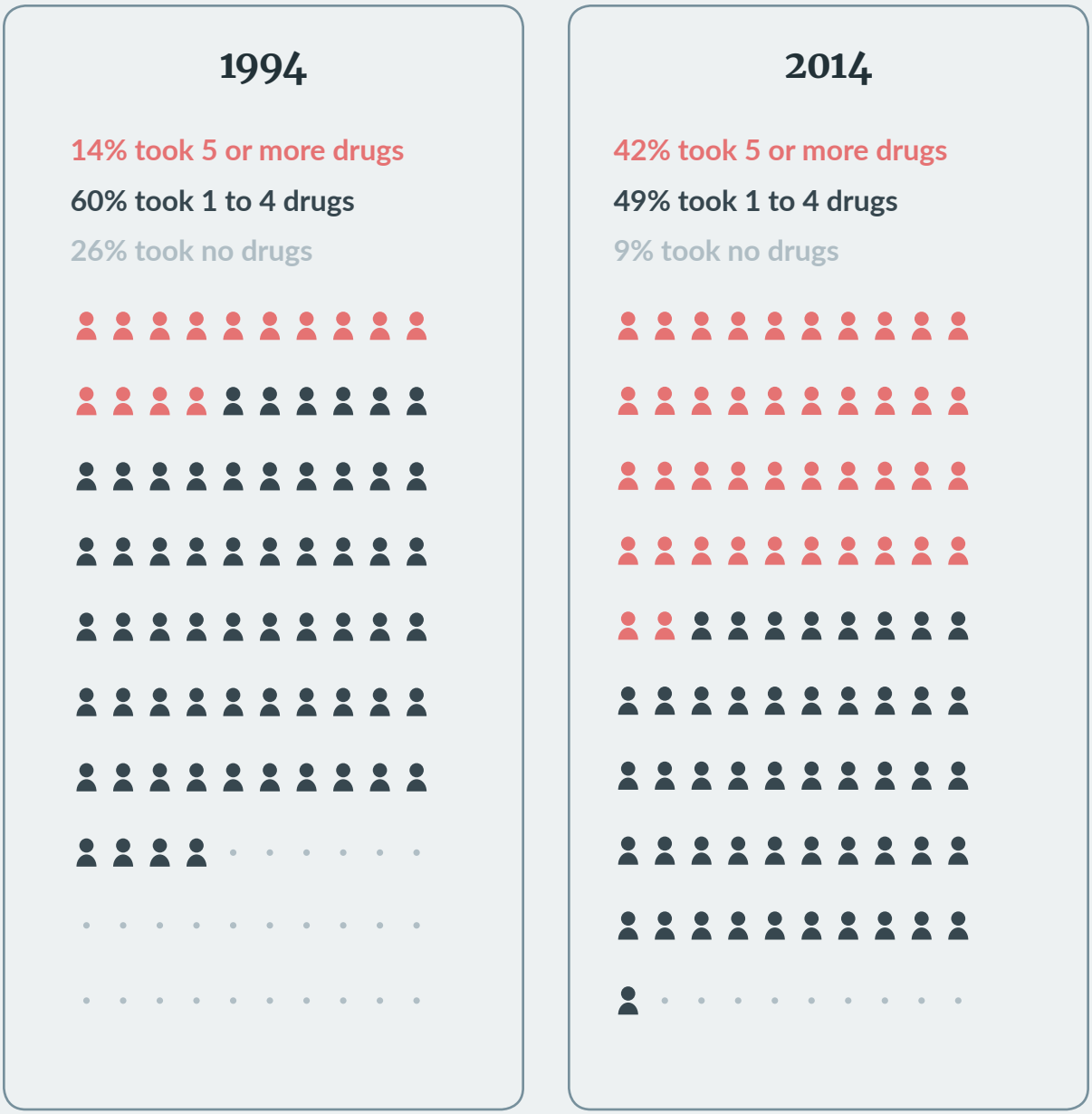
280,000 hospitalizations

9000 deaths



The Increasing Prevalence of Polypharmacy

From 1994 to 2014, the proportion of older adults taking five or more drugs tripled, from 13.8 percent to 42.4 percent. [2,4]



Drivers of Medication Overload

No single cause explains the dramatic rise in the number of medications older people are taking. Rather, a broad array of forces is at work, with three overarching aspects of our health care system contributing to the epidemic of medication overload:

Culture of Prescribing

Twenty years of advertisements linking prescription medications to happiness and health, the increased medicalization of normal human aging and experiences, the hurried pace of medical care, and a desire on the part of both health care professionals and patients and their families to "do something" have together fostered a shared expectation that there is a "pill for every ill." Both patients and clinicians have been oversold on the benefits of medications, to the point where a prescription is seen as caring, and withdrawal of medication connotes giving up on the patient.

Information & Knowledge Gaps

Clinicians and patients lack critical information and skills they need to appraise the evidence and make informed decisions regarding medications. From professional school to continuing education, nowhere is learning about the dangers of excessive prescribing a mandated, formal part of the curriculum for clinicians. Moreover, clinical guidelines, which doctors and other prescribers rely on in making decisions about medications, offer little information about how to adjust doses for older patients with multiple chronic conditions or how to stop a drug.

Fragmentation of Care

American health care suffers from a pervasive lack of coordination, or communication among a patient's various providers. In care transitions — between hospitals, rehab units, and long-term care facilities — additional medications may be prescribed with little information about the patient's current prescriptions. Often, more prescriptions are written to treat what appears to be a new condition, when in reality prescribers are treating a side effect of another drug. This "prescribing cascade" can lead to a cycle of debilitation and even death. EMRs have proved to be a poor solution to the overall lack of coordination across the system.

Numerous barriers stop clinicians from reducing or eliminating medications from a patient's regimen (a process called "deprescribing"). Patients may resist going off a drug they believe is keeping them healthy. Clinicians may fear a bad outcome from stopping a drug more than they fear a bad outcome from starting one. They often hesitate to take a patient off a drug that was prescribed by another clinician. Even clinicians who want to deprescribe do not know how to stop or taper drugs safely.

> "At the end of his life, Joe was taking over 20 medications and 31 pills a day, but not one physician saw this as a problem worth addressing."

Patient Story

Killed by a Prescription Cascade

How did Joe Esposito go from a man in remarkable health, effortlessly running half marathons in his 50s, to being debilitated and incapacitated, struggling at death's door, in just a few years? When Joe sought treatment for his mild to moderate Crohn's disease, his list of medications cascaded from one to six to twenty, as each new medication brought on a new side effect.

The steroids he was prescribed to treat Crohn's led to bone loss and anal fistulas. He was given antibiotics for the fistulas, which caused peripheral neuropathy in his feet. He couldn't sleep from the pain so he was prescribed benzodiazepines and Ambien for sleep, Lyrica for the nerve damage, and Tramadol for the pain. Several of the drugs gave him severe diarrhea. To treat his diarrhea, he was given opium drops, and other medications. Additional drugs weakened his kidneys, which in turn raised his blood pressure, so he was put on four blood pressure medications. And an experimental anti-inflammatory drug led to Joe contracting pericardial tuberculosis, which almost killed him.

At the end of his life, Joe was taking over 20 medications and 31 pills a day, but not one physician saw this as a problem worth addressing or even considered that his symptoms were caused by the drugs and not the Crohn's disease.

Story originally told by Joe's wife, Gayle Esposito

Interventions to Avoid Medication Overload

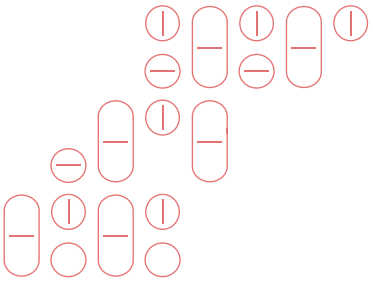
The medication overload afflicting millions of older adults is a complex problem, with many causes and agents and no easy fix. Addressing it will require a holistic, multi-pronged set of policies, regulations, and payment models, as well as changes in both the training and practice habits of health care professionals. A comprehensive set of solutions must include interventions to help prevent excessive prescribing as well as interventions to promote judicious discontinuation of medications that are inappropriate, potentially harmful, or no longer necessary.

As shown on the following page, solutions must address the three main drivers described previously: the culture of prescribing, information and knowledge gaps, and our fragmented health care system.

There is a critical need to increase awareness of medication overload among the public and providers alike, which will require public campaigns and targeted outreach. Awareness however, is only the first step. We need better information, better education for clinicians, and tighter regulations that would reduce the influence of the pharmaceutical industry on the public and the practice of medicine. Perhaps most importantly, we need to continue health care reforms that support the role of the primary care provider as the hub of the wheel in a fully coordinated care system.

The U.S. has had limited success with a handful of policies related to medication overload, but we continue to lag behind other high-income countries. Canada and Australia, for example, have established "deprescribing networks," made up of a diverse group of stakeholders who have come together to share information, draft strategies, and disseminate proven interventions to address this problem.

To catalyze action on this critical issue, the Lown Institute and a working group of expert clinicians, pharmacists, researchers, health policy advocates, and patients have undertaken a year-long effort to draft a National Action Plan for Addressing Medication Overload. This plan will focus on the most urgent actions needed to combat this epidemic and the paths to implementing them.



Impact and Feasibility of Interventions

Culture of Prescribing	Impact	Feasibility
Launch public service campaigns for both health professionals and non-professionals to increase awareness of medication overload	2	3
Empower patients and families by promoting the use of patient decision aids and shared decision making	3	2
Reduce pharmaceutical industry influence by limiting industry marketing to health professionals and direct-to-consumer advertising	3	1

Information and Knowledge Gaps	Impact	Feasibility
Ensure that clinical guidelines take into account patient age and comorbidities, and whenever possible, include recommendations for stopping medications	3	2
Further develop & disseminate deprescribing guidelines to help clinicians and pharmacists know how to deprescribe safely	2	2
Include training on appropriate prescribing and deprescribing for all students/trainees, as well as continuing medical education training for health professionals	3	1
Continue research on medication overload and deprescribing to fill research gaps	1	3

Fragmentation of Care	Impact	Feasibility
Implement team-based care models in hospitals and clinics, incorporating pharmacists into care teams when possible	2	1
Give primary care providers adequate time and information to do prescription checkups	3	1
Make electronic medical records more user-friendly and fully interoperable, so patients and providers can easily access a full list of patients' medications	2	1
Implement patient-centered prescription checkups periodically and during care transitions	3	2

Conclusion

The United States is in the grips of an unseen epidemic of harm from the excessive prescribing of medications. If nothing is done to change current practices, medication overload will lead to the premature deaths of 150,000 older Americans over the next decade and reduce the quality of life for millions more.

This report should serve as a clarion call to policymakers, regulators and legislators, along with health care providers and patient advocates, to come together to adopt a national strategy for addressing medication overload. Such a strategy can build on the recommendations in the National Action Plan for Addressing Medication Overload to create a thoughtful and inclusive framework for systemic change that will produce measurable and meaningful results.

Focusing on reducing inappropriate or unnecessary medications could save as much as $62 billion over the next decade in unnecessary hospitalization for older adults alone. As a nation, we would also save billions more on the cost of unnecessary drugs and visits to the emergency room and outpatient clinics. More important even than the associated costs, successfully tackling medication overload holds the promise of lessening disability, cognitive decline, and time in the hospital for patients. That translates into better lives for millions of people.

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