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Case Study

Overprescribed: Polypharmacy and why it's a Problem

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I entered the exam room to find Mrs. Beach peering over her glasses as she pulled prescription bottles from her purse. She squinted to examine the labels, then identified them, declaring, "for my sugar diabetes", "for my blood pressure", "for my cholesterol" and so on as she set them on the counter onebyone. The worry lines on her forehead seemed to increase in number with each bottle that was set down. "Doctor," she asked, shifting her purse on her lap and touching my hand, "Is this too many damned pills?"

The bottles totaled 14, not including the supplements and over-the-counter meds she'd left at home and was taking on an as-needed basis. After 25 years of practicing medicine and regularly encountering the long lists of medications patients were taking, I was not surprised by this but sighed with exhaustion nonetheless. I couldn't help but feel this represented a disaster waiting to happen and that Mrs. Beach was, on some level, also aware of this. "We'll see what can be eliminated," I assured her, weighing risks and benefits as I spoke those words. Because deprescribing medications may feel

like lifting a weight off a patient's shoulders but doing so could then expose them to the lethality of their chronic diseases. There must be a way to find a happy medium.

Polypharmacy is defined as a patient chronically taking 5 or more medications daily. According to the Canadian Institute for Health Information, 1 in 4 older adults (over 65) are prescribed 10 or more medications while 44% are taking 5 or more. Over the past 2 decades, the proportion of older adults prescribed multiple medications has increased 300%. What is behind this trend and why is it a problem?

One might argue that such is the manner of deriving the health benefits of traditional Western medicine. Take the mountain of pills, control your heart disease and diabetes, live longer. But does it really turn out that way? Are overmedicated American seniors living longer than their foreign counterparts? Take Italy, for example, which has the eighth-highest life expectancy of any country and ranks fourth among Western nations (after Monaco, Lichtenstein, and Switzerland). Italians can expect to live 84 years on average. The prevalence of taking multiple prescription there is at 31.7% among persons over 65. Yet despite a polypharmacy rate of 44% here in the US, our average life expectancy is at a dismal 77 years. Notwithstanding other complicating factors and differences, prescription medications aren't, by comparison, extending our lives. So why do we take so many of them? US healthcare expenditures are among the highest in the world, but we aren't getting much of a return on that investment. That leaves one to believe that lifestyle, not medications, might hold the answer. Diet, exercise, sleep, avoiding unhealthy habits, and social factors could be playing the greater role in promoting a long, healthy life.

But when Mrs. Beach visits the doctor, she's looking for a solution to her knee pain, not longevity advice. Furthermore, if she arrives with a blood pressure of 170/100 and labs showing LDL of 190, it's malpractice for a doctor *not* to treat that. Health insurance companies and medical societies increasingly "grade" doctors on their ability to keep their patients' numbers in check and can issue (or withhold) payment based upon a physician's performance score. Doctors may face litigation if a patient suffers a heart attack, stroke, or death due to an untreated or undertreated chronic illness. So rather than asking "why do doctors prescribe so many pills?" we might ask, "why do older Americans have so many chronic illnesses

that necessitate prescription treatment?"

The answer to that question is as multifaceted as is our American society. Chalk it up to the obesity epidemic (as of 2024, three out of four individuals in the US are either overweight or obese), the Standard American Diet, "S.A.D.", (which consists of 70% processed foods), and a sedentary lifestyle (which over 25% of Americans admit to having). These factors by themselves contribute to a host of chronic illnesses, but when you add smoking, excess alcohol, and mental illness or stress to the picture, then it's no surprise that chronic disease permeates in our society.

Physicians cannot be expected to take on the insurmountable task of eliminating all of society's chronic disease in one doctor visit. Rather, we can take baby steps to reduce the risks posed by patients taking multiple medications and we can seek out safe non-prescription solutions for patients that might work. For example, I might write a cholesterol-lowering statin prescription while at the same time ask a patient to bring in a food diary to determine what could be contributing to their elevated LDL level. I might refer a patient to a registered nutritionist or dietitian instead of adding another diabetes medication for an elevated A1C. Many physicians are now writing exercise prescriptions for their sedentary patients, whether or not they are overweight or obese, since a sedentary lifestyle can have deleterious effects upon patients of any size. Sometimes a relationship with a good psychologist or therapist will circumvent the need for an antidepressant medication, in patients with mild depression or anxiety. Paying attention to sleep, sunlight exposure, even water intake can be problem-solving for many patients, without the need for a prescription.

I'll never forget the sweet 90-year-old frail, underweight woman whom I admitted to our inpatient hospice service recently. She suffered from dementia, multiple recent falls, osteoporosis and vitamin D deficiency. Despite a systolic blood pressure in the low 90s, dizzy spells and falls she was, remarkably, still taking blood pressure medication. No doubt her blood pressure had been too high at some point in her life, but there was simply no need for a diuretic or beta blocker anymore. After stopping the diuretic and gradually weaning her off of the beta blocker, her confusion, mobility, and low blood pressure all improved significantly. Thanks to these changes, along with good nutrition and hydration, she improved enough that she was able to disenroll from hospice services.

Thus, sometimes it's not the panoply of medications causing the problem, but a lack of oversight or close monitoring.

Who is ultimately responsible for this oversight? Typically, a person's primary care physician (PCP) takes the lead, but other members of a patient's health care team, including specialists, pharmacists, and even family members, should also be reviewing the medications lists for necessity, accuracy, or duplicity. This is especially important when patients might have a long wait to see their PCP, might be in-between PCPs for whatever reason, or might not be diligent about making or keeping appointments with their PCP. More than once I have encountered patients who were inadvertently taking two of the same type of medications. They might have misunderstood their doctor's instructions to replace one pill with the other and instead began taking them concurrently. I've met with patients who never received or misunderstood the hospital's discharge instructions to stop taking a medication. A lack of health literacy or a language barrier can further complicate the morass of medication confusion many patients are faced with. In short, we should all be paying closer attention to the data and the details when it comes to prescription medications, if we want to simplify treatment regimens for seniors.

For Mrs. Beach, I suggested physical therapy and acupuncture for her arthritis pain, in the hope of eliminating some pain meds. I recommended reduced sodium and Oolong tea for her elevated blood pressure. A nutritionist referral was made to address high blood sugar and cholesterol. But the medications couldn't be eliminated with a hand swipe across the table, as the disease processes, as of yet, had not been eliminated. But we've all heard stories of people who made drastic lifestyle changes and were subsequently able to rid themselves of many, if not all, of the medications they were taking. Lifestyle matters!

It should then come as no surprise that Lifestyle Medicine, a burgeoning field of medicine now offering certification, has been growing in popularity. The American Board of Lifestyle Medicine (ABLM) defines itself as "a medical specialty that uses therapeutic interventions as a primary modality to treat chronic conditions…" The six pillars of lifestyle medicine include "a whole-food, plant-predominant eating pattern, physical activity, restorative sleep, stress management, avoidance of risky substances and positive social connections."

But does it work? Many patients are well-aware of what is required for health maintenance, but long work hours, family obligations, mental illness or even a lack of motivation might get in the way. What about the patients who can't fit lifestyle changes into their day or aren't motivated to do so? Techniques proposed have included motivational interviewing, following the Transtheoretical Model of Behavior Change (a five-step model of change to help health care providers better understand their patients' readiness for change), identifying barriers to change, and providing simplified, not complex, lifestyle change advice. In other words, let's not put the expectation on patients that they'll make all the necessary changes all at once. Baby steps. But the conversation has to happen at every patient encounter, with disease-ridden and healthy patients alike. We're in the field of health so we need to seek methods of optimizing our patients' health status in every way, not just the pharmaceutical way.

So yes, Mrs. Beach, it's too many damned pills. It's risky, expensive, complicated and aggravating. But the diabetes didn't happen overnight, nor did the high blood pressure. The medications, likewise, won't disappear in an instant. As much as I would love to wipe the slate clean, I know that rebound hypertension could happen, which is a dangerous blood pressure spike in the absence of a long-prescribed blood pressure med. Hyperglycemia from diabetes, in the absence of treatment, could put her at risk for infections, organ damage, or cardiovascular events. It's my first visit with Mrs. Beach so as of yet I'm unaware of her dietary habits, unaware of her sleep habits, uncertain of her level of motivation. "But," I tell her, convinced we can, as a team, begin implementing the necessary changes, "here's the plan…"

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