

CASE AND COMMENTARY

When Should Iatrogenic Polypharmacy Be Considered a Disease?

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Abstract

This case of an elderly patient taking 17 medications, who presents with new neurological symptoms, raises multiple philosophy of medicine questions, including, What is a disease? And what would it mean to treat iatrogenic polypharmacy? Polypharmacy can obscure whether a patient like the one in this case has a neurological disease. I argue that, insofar as polypharmacy is likely to have caused, or at least contributed to, this patient's symptoms, her physician should treat it as a disease.

Case

Ms M and her daughter, Ms J, present to Dr R's neurology office for an initial evaluation. Ms J is concerned that her 83-year-old mother might be developing Parkinson's or another neurodegenerative disease and has sought out Dr R's expertise.

Ms J has noticed that her mother has been moving much more slowly recently, has had numerous falls, and looks depressed. Her mother, who had always been full of energy, now spends the day watching TV and sleeping. Her mother has been slurring some of her words lately and has even developed a tremor. Dr R reviews Ms M's exam. She has no cogwheel rigidity, but her gait is wide based and she wobbles as she turns. She has mild ataxia and an intention tremor. Her concentration is poor, as is her 3-object recall. She agrees that she is not herself and is worried she is developing Parkinson's disease, a condition from which her uncle suffered before his death.

Dr R reviews her history and notes that her symptoms have worsened in the setting of a few recent hospitalizations for heart failure, chronic obstructive pulmonary disease (COPD) exacerbations, and a gastrointestinal bleed. During her most recent hospitalization, she was initiated on amiodarone and a beta blocker, a selective serotonin reuptake inhibitor (SSRI) and trazodone for sleep, as well as albuterol nebulizers every 4 to 6 hours. During a previous hospitalization, she was placed on 2 new medications for gastroparesis and initiated on a more intensive, insulin-based diabetes regimen. Prior to that, she was placed on 2 diuretics for severe volume overload. In discussing her regimen with Ms J, Dr R notes that Ms M is currently taking 17 medications for her numerous medical conditions including heart failure, atrial fibrillation, COPD, diabetes complicated by gastroparesis, and hypertension. While Ms M has difficulty remembering which

medications she takes, her daughter has been very diligent about ensuring that she takes her medications as prescribed.

Dr R reviews Ms M's illness history. Ms M was hospitalized 10 times last year for heart failure or COPD exacerbations, but, looking at her long medication list, she realizes she is not sure what is making her sick—her illnesses or the medications to treat them.

Commentary

Rather than making a broad pronouncement on whether iatrogenesis—defined literally by its Greek roots as *physician generated* or as inadvertent harm induced by medical care—should always be classified as a disease, the scope of this commentary will be limited to the question of whether Dr R should consider effects of polypharmacy to be a disease in this case. Before responding to this question and arguing that polypharmacy should be *treated* as a disease in this case, this essay begins with a brief overview of some philosophical considerations related to judgments about disease and concepts relevant to the case. This essay will conclude by calling for further critical examination of polypharmacy as a clinical practice that can generate iatrogenesis.

Philosophy of Medicine Considerations

The first question concerns how *disease* should be characterized. Naturalist and normative accounts of this concept provide the main philosophical responses to this question. Naturalist positions contend that disease exists in nature and that it is possible to make objective judgments regarding what counts as a disease entity without reference to social or personal values. Importantly, naturalists are not necessarily tied to the claim that applications of disease concepts are independent of values. For example, philosopher Christopher Boorse, an advocate of naturalism regarding disease, notes that an oncologist's assessment that a cancer is inoperable "involves the value judgment that the results of operating will be worse than leaving the disease alone."¹ Normativists, on the other hand, maintain that we make decisions about which sorts of somatic or mental states are considered diseases and that these choices inevitably involve value judgments, even at the theoretical level.²

There are at least 2 types of normativists with regard to disease: weak and strong normativists.¹ The former hold that judgments about health and disease are simultaneously descriptive and normative, while the latter view them as solely normative.¹ In other words, strong normativists suggest that judgments about what constitutes a disease are indicative of our social values without describing anything about the objects to which they are applied. Some weak normativists claim that naturalism and normativism are compatible under the umbrella concept of social constructivism.³ Although there are numerous iterations of social constructivism, the central claim is that social processes play an important role in shaping concepts or entities. Philosopher Rachel Cooper maintains that the phenomena we refer to as

diseases exist in nature, independently of our judgments about them (a naturalist position), but that the concept of disease itself involves social values (a normative position).³ There are additional approaches to characterizing disease, but they will not be discussed here. While naturalist, normativist, and social constructivist accounts present useful considerations to keep in mind, the purpose here is not to advocate for one of these theoretical approaches. Rather, this essay prioritizes one of the key points of the preceding discussion: personal and social values expressed in clinical practice can and do influence judgments about disease.

In practice, clinicians must go beyond theoretical concerns related to disease in order to determine when and what types of medical interventions are appropriate. Boorse distinguishes between “theoretical and practical uses of the health vocabulary.”¹ He implores the reader to “always remember that a dual commitment to theory and practice is one of the features that distinguish [sic] a clinical discipline.”¹ Thus, even if a given condition can theoretically be considered a disease, a clinical assessment must be made with regard to whether it is appropriate to *treat* the condition as a disease, ie, to offer an intervention for the condition. Philosopher H. Tristram Engelhardt makes the stronger claim that calling a condition a disease is equivalent to being committed to providing medical intervention for that condition.⁴ Cooper advances a similar but more nuanced position, asserting that a condition must at least have the potential to be medically treated in order to count as a disease.⁵ Rather than assuming that disease diagnosis entails commitment to or availability of medical intervention, this discussion will use the phrase *treating a condition as a disease* to refer to a disease in need of medical intervention, leaving open the possibility that there are diseases without treatments or that are best left untreated. The remainder of this commentary will focus primarily on the question of whether adverse effects of polypharmacy should be considered a disease and whether medical intervention is appropriate.

Polypharmacy and iatrogenesis

A few working definitions follow to launch this inquiry. Recall that physician-generated illness or injury is called *iatrogenesis*. Medical errors and adverse effects not resulting from errors are examples of iatrogenesis.⁶ Polypharmacy has been variously defined as the use of multiple drugs, prescription of more drugs than are medically necessary,⁷ or “concomitant ingestion of four or more” medications in the last 3 months.⁸ Some authors distinguish between polypharmacy and polyprescription, with the former referring to patients ingesting multiple medications and the latter referring to clinicians prescribing multiple medications to a patient.⁹ When polyprescription leads to illness or injury, it would be considered iatrogenesis. Potential for [drug interactions](#) arises with as few as 2 concurrent medications, and risk of iatrogenic harm increases with the number of medications.¹⁰ Whether such interactions will occur and their severity is often unknowable in advance.¹¹

This brings us to the case of Ms M. She has reduced energy level and reports that she “is not herself.” In addition to previously being diagnosed with heart failure, atrial fibrillation, COPD, diabetes, and hypertension, Ms M exhibits numerous new symptoms including but not limited to flat affect, poor concentration, slurred speech, ataxia, and a tremor. Both the patient and her daughter are distressed by these new symptoms and worried that Parkinson’s disease could be the cause. While many of Ms M’s symptoms seem to fall clearly into the aforementioned disease categories, whether her recent symptoms should be collectively treated as a disease remains an open question.

Ancillary questions follow from this central question. First, should Dr R consider Ms M’s new symptoms—which are likely caused or at least exacerbated by the number of prescriptions she is taking—to be symptoms of Parkinson’s or another neurodegenerative disease? Second, what should she do—is (further) medical intervention warranted? Given that the patient is currently taking 17 medications, it is not possible for Dr R to get a clear picture of whether her new symptoms are caused by individual medications, interactions among medications, or a neurodegenerative disease. Even in an otherwise healthy patient, diagnosis of Parkinson’s disease, in particular, can be challenging given the lack of a definitive diagnostic test.⁷ In order to gain clarity, some physicians proceed by prescribing medications such as carbidopa and levodopa in order to observe whether and how a patient’s symptoms respond to treatment.¹² If they do, then a physician might diagnose the patient with Parkinson’s disease. In the case of Ms M, it seems inadvisable for Dr R to attempt making a diagnosis of a neurodegenerative disease, especially if doing so would involve introducing new medications. Since prescribing additional medications could do more harm than good due to the potential for drug interactions, a [different type of medical intervention](#) is warranted instead: in consultation with physicians in relevant specialties—and, ideally, Ms M’s primary care physician—Dr R ought to determine which medications are necessary and beneficial for her and discontinue the others. In this way, her new symptoms would be collectively treated as a disease, but she would not be given a definitive diagnosis such as Parkinson’s or another neurodegenerative disease. By taking a smaller number of medications, Ms M’s symptoms might be ameliorated, as it stands to reason that the risk and severity of drug interactions would likely decrease. Dr R also would stand a better chance of being able to make an accurate diagnosis, and, hopefully, she would be able to help Ms M to feel like herself again.

Polypharmacogenic iatrogenesis

It is important to consider the plight of Ms M and Dr R within the broader context of prescribing practices and the clinical research that informs them. Polypharmacy is a practice involving individuals and social institutions. There are a few factors that make it a clinically and ethically troubling phenomenon worthy of further attention by bioethicists and philosophers of medicine.

One of the ways that polypharmacy occurs is that some patients receive prescriptions solely from specialists practicing in isolation from a patients' other clinicians, perhaps during hospitalizations. In addition, while clinicians might be aware of common interactions among medications, little research has been done to date that considers the large numbers of prescriptions elderly patients take on a daily basis.^{11,13} More research needs to be done that is responsive to actual prescribing practices so that, in turn, clinicians can make more informed decisions when weighing potential benefits and risks of adding medications to a patient's existing drug regimen. While it seems inevitable that clinicians will need to prescribe multiple medications to some patients in order to manage their conditions, better health outcomes are likely when polyprescribing involves careful coordination among clinicians, avoids unnecessary medications, and is informed by an evidence base that takes into consideration the reality that many patients take multiple medications.

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Editor's Note

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