PROMOTING HEALTH EQUITY THROUGH DE-IMPLEMENTATION RESEARCH

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Ensuring equitable access to quality health care historically has focused on gaps in care, where patients fail to receive the high-value care that will benefit them, something termed underuse. But providing high-quality health care sometimes requires reducing low-value care that delivers no benefit or where known harms outweigh expected benefits. These situations represent health care overuse. The process involved in reducing low-value care is known as de-implementation. In this article, we argue that de-implementation is critical for advancing equity for several reasons. First, medical overuse is associated with patient race, ethnicity, and socioeconomic status. In some cases, the result is even double jeopardy, where racial and ethnic minorities are at higher risk of both overuse and underuse. In these cases, more traditional efforts focused exclusively on underuse ignore half of the problem. Second, overuse of preventive care and screening is often greater for more socioeconomically advantaged patients. Within insured populations, this means more socioeconomically disadvantaged patients subsidize overuse. Finally, racial and ethnic minorities may have different experiences of overuse than Whites in the United States. This may make efforts to de-implement overuse particularly fraught. We therefore provide several actions for closing current research gaps, including: adding subgroup analyses in studies of medical overuse; specifying and measuring potential mechanisms related to equity (eg, double jeopardy vs thermostat models of overuse); and testing de-implementation strategies that may mitigate bias. *Ethn Dis.* 2019;29(Suppl 1):93-96; doi:10.18865/ed.29.S1.93.

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BACKGROUND

Equity, Underuse, and Overuse

Efforts to ensure equity in access to quality health care have historically focused on gaps in care where patients fail to receive high-value health care that will benefit them.[1] But sometimes poor health care quality occurs because patients receive low-value health care that provides no benefit or that carries an increased risk of harm that outweighs any expected benefit. Patients with chronic obstructive pulmonary disease (COPD), for example, are often prescribed supplemental oxygen in the belief that it helps counteract the effects of their diminished pulmonary oxygenation. But a randomized controlled trial demonstrated that most patients with COPD (ie, all except a subset of the highest risk patients) derive no benefit from the oxygen—not in terms of survival, hospital admissions, or quality of life.[2] At the same time, oxygen significantly increases the risk of burns for patients;[3] it is costly to the patient;[4] and it is a burden that the patient literally has to carry that impairs their ability to socialize.[4] Other well-publicized examples of low-value care include hormone replacement therapy to prevent cardiovascular events among perimenopausal women;[5] antibiotics to treat viral upper-respiratory infections; and diagnostic imaging for simple lower-back pain.[6]

In each of these examples, research evidence demonstrates that care provides no benefits or potential benefits are outweighed by known harms. Providing such care may also distract providers from delivering more effective care that has a greater potential to benefit the patient. And it expends valuable, often limited resources. The literature refers to this type of low-value health care in aggregate as overuse.

The process of systematically targeting and reducing health care overuse has been referred to as de-implementation.[7] In this article, we argue that de-implementation is critical for advancing equity for three reasons: 1) sometimes health care overuse adds harms on top of harms from underuse, something termed double jeopardy; 2) health care overuse is greater by Whites among insured populations, and this overuse is subsidized by minority members;[8] and 3) experiences of overuse differ by patient subgroups, which requires us, as researchers, to approach studying and communicating about overuse differently than how we approach underuse. We provide some ideas for how researchers can address these challenges.

CHALLENGES PRESENTED BY OVERUSE

Double Jeopardy from Health Care Overuse and Underuse

In some cases, patients from racial and ethnic minorities are at higher risk of both underuse and overuse, what some researchers term double jeopardy. For example, in an analysis of Medicare data from 2006-2011, Schpero and colleagues found African Americans and Hispanics were often significantly more likely to experience overuse.[9] Examples included the use of feeding tubes among patients with advanced dementia, cardiac testing prior to cataract surgery, and imaging for benign prostatic hypertrophy. In cases where racial and ethnic minorities receive lower quality of care both in terms of failing to receive high-value care and receiving higher levels of low-value care, efforts to improve health equity that focus exclusively on promoting high-value care ignore half of the problem.

Even when racial and ethnic minorities are found to receive both less high-value and less low-value care, which appears to be common,[10] it is not known if efforts to improve equity inadvertently increase use of both low-value and high-value care. In these cases, our efforts to improve equity could have an unintended, offsetting effect of increasing low-value care.

Health Care Overuse as a Subsidy

Overuse of preventive care and screening is often greater for more socioeconomically advantaged patients. Consequently, within insured populations, this means more socioeconomically disadvantaged patients subsidize overuse by more affluent patients.[8,10] For example, in an analysis of Medicare data, Xu and colleagues (2017) found that the highest income women received a net subsidy of $18.84 for low-value mammograms relative to poor women, and the size of this subsidy increased over time. Across a range of low-value screening tests, the result was that 10%-15% of the sample received a negative subsidy, and these patients were primarily the socioeconomically disadvantaged. And those figures do not account for follow-up care and downstream costs caused by low-value screening.

This is particularly salient in the age of personalized medicine as new and expensive genetic tests become available with dubious benefits.[11,12] The widespread use of these tests could contribute to higher insurance premiums whose financial impact weighs more significantly among disadvantaged communities, including racial and ethnic minorities.[13]

Patients' Experiences of Health Care Overuse

Patients often struggle to understand how receiving health care could lead to harm, particularly tests, images and screening,[14-17] and this creates challenges for tackling overuse. This may be compounded by differences among patient subgroups in their experiences and perceptions of both overuse and underuse, making efforts to de-implement overuse particularly fraught. We have some evidence that racial and ethnic minorities have different experiences of overuse and underuse, and different perceptions of the extent of the problem of overuse and underuse.[18,19] African Americans and Hispanics are more likely to be concerned with underuse (ie, failing to receive the care they need) than White Americans, while also being more likely to report personal experience with cost-related overuse (ie, having received care from their doctor when they felt less expensive options were available).[19] Women were also more likely to be concerned about underuse than men, but no different in concerns about overuse. Patients with different experiences of and perceptions of overuse and underuse may respond very differently to the same message or the same effort to de-implement a particular example of low-value care.

SOLUTIONS

By taking several actions we may be able to close current research gaps: by subgroup analyses; specifying and measuring potential mechanisms; testing de-implementation strategies that may mitigate bias; and developing partnerships, as we describe below.

Subgroup Analyses

First, we need to better understand how different types of health care overuse vary by racial, ethnic, socioeconomic groups, and other vulnerable patient subgroups. Few studies of medical overuse include analyses by these subgroups. We consequently have limited understanding of how these factors relate to overuse. And, yet, an understanding of these factors is the first step toward identifying the underlying reasons for inequities in health care and developing effective strategies for de-implementation. One action to take in studies of overuse is to include subgroup analyses to understand the association with racial, ethnic or socio-economic subgroups. Sub-group analyses would be particularly helpful in studies of patients' experiences and perceptions of overuse and efforts to de-implement overuse.[19]

Specifying and Measuring Potential Mechanisms

By specifying and measuring potential mechanisms related to equity, notably the double-jeopardy model vs thermostat model of overuse, we can better understand how overuse influences health disparities. While the double-jeopardy model, explained above, places vulnerable groups at risk of less needed care and more unneeded care,[9] the thermostat model is one in which racial and ethnic minorities and other vulnerable subgroups of patients receive less care, both appropriate and inappropriate.[10]

The question isn't which model is valid. It is fairly clear that both are true at least sometimes: for some health care, in certain settings, racial and ethnic minorities receive less appropriate care and more inappropriate care;[9] and for other health care, in other settings, racial and ethnic minorities receive less appropriate care but also less inappropriate care.[10] The question is under what conditions and why does the double jeopardy model prevail and under what conditions and why does the thermostat model prevail?

Testing De-implementation Strategies That May Mitigate Bias

Relatively few studies have tested de-implementation strategies[20,21]; and even fewer assess the role of health disparities. There may be de-implementation strategies that mitigate bias, for example, by using the electronic health record to proactively identify all patients at risk of overuse irrespective the frequency or location of their contact with the health care system. It may be important to design de-implementation strategies that consider differences in patients' experiences and perceptions of overuse,[19] and tailor communication about why to curtail a low-value practice. This might entail direct engagement with patient representatives from racial and ethnic minority populations through steering groups for de-implementation campaigns[16] and ensuring adequate representation of racial and ethnic minority patients in study populations when developing shared-decision making tools.[15]

When designing interventions, such as using electronic patient portals to improve patient awareness of and engagement in curbing overuse or forming accountable care organizations to create financial incentives to reduce low-value care, studies need to assess whether the interventions themselves have associated disparities. For example, there are racial and ethnic disparities in the use of electronic patient portals,[22] and accountable care organizations with higher proportions of racial and ethnic minorities appear to have poorer track records in achieving quality targets.[23] This could lead to de-implementation strategies exacerbating—not attenuating—disparities in overuse. But researchers can anticipate and measure this, and seek ways to address it, such as building in strategies to expand use of an electronic patient portal among patients from racial and ethnic subgroups, or to ensure equitable distribution of patients across accountable care organizations.

Partnerships

To successfully promote health equity through de-implementation, researchers will need to develop and sustain strategic partnerships. These partners include: the funding agencies that sponsor research; community stakeholders; patient advocacy groups; and media, which represent the views of patients and communicate de-implementation research to patients; government health care and public health agencies at the local, state, and federal levels, which often establish policies and provide care affecting the most vulnerable members of our communities; and large health delivery systems and accountable care organizations that pioneer efforts to curb low-value care but may not be sensitized to how de-implementation intersects with efforts to promote health equity.

Limitations

We have focused on racial and ethnic disparities, but there are many other vulnerable and disadvantaged patient subgroups that are affected by health care overuse and may have different experiences and challenges with it, including patients who are socioeconomically disadvantaged; patients living in rural areas; patients with physical and cognitive disabilities; and patients who experience language and cultural barriers.

We have also focused on overuse in health care, but overuse is also an issue in public health and social services,[24] and those services are important to health and wellbeing outcomes and may be more important than health care for improving quality of life for racial and ethnic minorities.

A corollary to the first limitation: the intersection of some patient subgroups may be the most profound. For example, overuse of health care may be higher for both women and African Americans, but the two relationships could be largely driven by extreme outcomes for African American women. By focusing on women, in general, and African Americans, in general, we may miss the most important story: the intersection of the two.

CONCLUSION

To achieve equity in the provision of quality health care and health outcomes, we will need to better understand how to effectively reduce low-value care. De-implementation of low-value care is just one piece of a much broader, on-going effort to close gaps in timely, safe, patient-centered, and effective health care for vulnerable groups of patients,[25] but many fundamental questions about the intersection of de-implementation and health equity need to be answered. We believe researchers can produce findings that help us understand and address health care overuse as a source of health disparities.

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DISCLAIMER

The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States Government.

CONFLICT OF INTEREST

No conflicts of interest to report.

AUTHOR CONTRIBUTIONS

Research concept and design: Helfrich, Hartmann, Parikh, Au; Manuscript draft: Helfrich, Hartmann, Parikh, Au; Administrative: Hartmann, Parikh, Au; Supervision: Helfrich

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