

Evidence to Practice

Calculating Health Care Waste in Washington State

First, Do No Harm

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Source of Review

The Washington Health Alliance recently published a report documenting the frequency of 47 low-value care practices.¹

Background

Low-value services are defined as medical tests and procedures that have been shown to provide little clinical benefit and have the potential to cause harm.¹ Harm may be categorized as physical (a medical intervention that causes ≥ 1 negative consequences for the patient including infection, overexposure to radiation through unnecessary imaging, or an unneeded or duplicative test), emotional (worry and anxiety caused by a medical intervention such as being prescribed tests that are known to produce high rates of false-positive results), or financial. Harm is particularly troublesome when it is the result of health care that was unnecessary.

Objectives

The objectives of this review were to (1) summarize the current estimates of low-value care in Washington state and (2) identify how physicians, health care systems, and patients can decrease low-value care.

Summary of Findings

A portion of the All-Payer database in Washington State (the 2.4 million commercially insured people excluding Medicare, Medicaid, and workers compensation) from July 2015 to June 2016 was analyzed using the MedInsight Waste Calculator (Milliman). This software quantifies overused health care services as defined by national initiatives such as the Choosing Wisely campaign and the US Preventive Services Task Force. The algorithmic analysis examines claims data assessing the frequency of common treatment approaches such as prescribing medications, screening, diagnostic testing, preoperative evaluation, and routine monitoring and follow-up known to be overused. This analysis categorized 1.52 million services into 3 categories: necessary (likely appropriate care), likely wasteful (a need to very seriously question appropriateness), and wasteful (very likely unnecessary and should not have occurred).

Forty-four percent of services were determined to be wasteful, equating to \$258 million (33%) of the total \$785 million spent on health care services (Table). Furthermore, 1% of services were determined to be likely wasteful and the remaining 54% were determined to be necessary (Table). Almost all of the wasted expenditure was driven by 11 of the 47 low-value care practices identified (frequent cervical cancer screening, preoperative baseline laboratory studies prior to low-risk surgery, unnecessary imaging for eye disease, annual electrocardiograms or cardiac screening in low-risk asymptomatic individuals, prescribing antibiotics for acute upper respiratory tract and ear infections, prostate-specific antigen screening, population-based screening for 25-hydroxyvitamin D deficiency, imaging for uncomplicated low back pain in the first 6 weeks,

Table. Summary of the Services by Care Category

Category of Care	No. (%)	Total Budget, \$ Millions
	Services	
Necessary: likely appropriate care	825 677 (54)	502.8 (64)
Likely wasteful: a need to very seriously question appropriateness	19 694 (1)	23.9 (3)
Wasteful: very likely unnecessary and should not have occurred	674 227 (44)	258.0 (33)

preoperative electrocardiograms, chest x-ray and pulmonary function testing prior to low-risk surgery, cardiac stress testing and imaging for uncomplicated headache). Similar findings have been reported in other states and nationally within the United States,² Canada,³ and Australia.⁴

Implications for Practice and the Health Care System

The overuse of low-value services developed and continues to occur in a fee-for-service environment that, in many settings, considers more care to be better care, physician judgment and historical precedent to be inviolate, and any attempts at limiting care tantamount to rationing and exposing patients to the risks and consequences of missed diagnoses and undertreatment.⁵

The Washington Health Alliance proposed a number of steps to address overuse including making overuse central to discussions of health care value in Washington State, imploring clinical leaders to incorporate reduction of overuse into local practice culture, making "choosing wisely" and shared decision making the bedrock of clinician-patient communications, transitioning from paying for volume to paying for value in health care, and including measures of overuse in addition to measures of access and underuse of evidence-based care in clinician contracts. There are currently few data and no consensus on the best practices to reduce use of low-value services. Interventions may be broadly divided into those affecting patient demand for care (demand side) and those addressing clinician supply of care (supply side). Demand-side interventions include patient cost sharing, patient education, both direct and collaborative, and clinician report cards whereas supply-side interventions include pay-for-performance, risk sharing, clinical decision support, clinician education, and clinician feedback.⁶ A recent systematic review identified clinical decision support, clinician education, patient education, and combinations of approaches as the most effective interventions. Medication overuse was the most commonly studied intervention target, and the hospital was the most common setting. However, of the 84 studies identified, most were conducted at a single center and publication bias favoring publication of studies reporting that the intervention was effective likely exists.⁶ The durability of even successful interventions is unknown. Thus,

the science of how to change practice to reduce low-value care (deimplementation) is in its infancy. Almost certainly, successful interventions will require tailoring to the specific type and context of low-value care being addressed, as well as the culture of the environment.

Conclusions

The excessive use of low-value health care services may be too deeply ingrained in medical and training culture to be sustainably reduced by the available interventions applied in an environment that is geared to doing more testing and treatment.^{7,8} Furthermore, development and testing of interventions takes time during which evidence or practice can change. Thus, changing the culture of medical care will likely be required to reduce overuse of existing low-value services and prevent the adoption of new low-value services. Culture change should start with

the education of medical students and continue into residency and fellowship. Educators need to understand and teach the risks and benefits for diagnostic tests and treatments and include the potential harms and downstream consequences to patients, populations, and society in the calculation. Questioning the value of medical tests and treatments needs to become an integrated, positively reinforced part of medical training, modeled every day, rather than relying on ex post facto interventions to undo a practice that should never have developed.⁷ Thus, despite the misaligned incentive structure, development of a physician workforce conversant in the principles of value-driven health care, including both clinical effectiveness and cost-effectiveness,⁹ in combination with engaged health care systems that pay for value rather than volume along with a research agenda to develop effective deimplementation strategies would appear to offer the best hope to reduce the use of low-value health services.

ARTICLE INFORMATION

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Correction: This article was corrected on September 4, 2018, to add a middle initial to the byline for David Brown.

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