

Non-clinical Prevention Opportunities and Waste in the U.S. Healthcare System



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The National Academy of Medicine (formerly known as the Institute of Medicine) estimated in 2010 that wasteful healthcare spending cumulatively totaled approximately \$765 billion per year, or nearly one third of all healthcare spending.¹ Adjusting to 2016 healthcare expenditure totals,² unnecessary medical spending costs the average American more than \$3,400 per year. Yet, the authors argue that even this sizable figure understates the magnitude of healthcare waste as it excludes a large array of missed upstream prevention opportunities.

The National Academy of Medicine identified six major categories of waste across the healthcare system: unnecessary services (\$210 billion); excess administrative costs (\$190 billion); inefficiently delivered services (\$130 billion); prices that are too high (\$105 billion); fraud (\$75 billion); and missed prevention opportunities (\$55 billion).¹ This final category is especially relevant to preventive medicine, yet it is an imperfect and narrow snapshot of the extent of waste extant in this portion of the American healthcare system. When calculating the magnitude of the financial impacts of “missed prevention opportunities” on the U.S. healthcare system, the National Academy of Medicine included only the impacts of missed clinical prevention opportunities by clinicians, directly and indirectly through clinician-ordered screening and disease management services.

Absent from the National Academy of Medicine’s estimate are the opportunities for prevention that occur outside of clinical settings. Non-clinical prevention opportunities could include services such as disease management at home or services outside of the traditional healthcare sector, such as efforts to provide or stabilize housing conditions. [Table 1](#) defines both clinical and non-clinical prevention opportunities and provides examples to help distinguish these two types of prevention. The waste attributable to missed non-clinical prevention opportunities is not included in the National Academy of Medicine calculation or in several other estimates of waste in the U.S. healthcare

system.^{3–5} A narrow lens of prevention limited only to clinical prevention omits the impacts of missed opportunities outside of clinical settings and all interventions that address public health and the social determinants of health. The resulting downstream impact is more preventable illnesses, unnecessary healthcare utilization, and excess healthcare spending. It is therefore likely that the National Academy of Medicine’s estimate of the magnitude of waste generated by “missed prevention opportunities” understates the true effect size.

Prevention services not provided within the four walls of a clinic and social determinants of health can dramatically impact health outcomes and behaviors. Indeed, shortfalls in medical care are estimated to be responsible for only 10%–15% of early deaths in the U.S.^{6,7} The aggregate impacts of behavioral factors, social conditions, and environmental factors are thought to drive the majority of premature mortality.^{6,7}

Housing and transportation are two frequently cited determinants of population health outcomes where upstream intervention has the potential to mitigate downstream healthcare utilization.⁸ In Oregon, for example, policymakers have cited the story of an older Medicaid patient with congestive heart failure living in an apartment without air conditioning.⁹ A hot summer day strained her cardiovascular system, exacerbating her medical condition and sending her to a hospital.¹⁰ The state’s Medicaid plan would reimburse tens of thousands of dollars for the ambulance ride and any necessary hospital services.¹⁰ Yet a relatively simple and affordable intervention could have prevented the episode altogether: a \$200 window air conditioner. At a system level,

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Table 1. Clinical Versus Non-clinical Prevention

Variable	Description	Examples
Clinical prevention (included in NAM waste estimate)	Interventions that take place within the clinical setting to avert the occurrence of disease, detect disease prior to symptom manifestation, or slow the progression of existing disease	Behavioral counseling and disease screening by clinicians; immunizations; rehabilitative services
Non-clinical prevention (not included in NAM waste estimate)	Patient-, community-, or policy-based interventions that transcend the clinical setting to inhibit the incidence of environmental, economic, social, and behavioral conditions known to exacerbate disease	Improving neighborhood and housing conditions; increasing the availability and accessibility of transportation; soda and sugary drink taxes; child restraint laws

NAM, National Academy of Medicine (formerly known as the Institute of Medicine).

this is a wasteful approach to providing for the health of Americans. However, because purchase and installation of an air conditioner is not a clinical preventive service, this would not qualify as a missed prevention opportunity and would therefore not be included in calculations of waste in the U.S. healthcare system.

Transportation also represents a substantial barrier to care in the U.S. Estimates suggest that approximately 3.6 million adults miss or delay non-emergency healthcare visits each year simply because they have no means of getting to their appointments,¹¹ costing the healthcare system more than \$150 billion annually.¹² The story of a diabetic man from Virginia demonstrates the impact of this problem.¹³ After losing his job and without access to a car or public transportation, he was unable to make the trips to his doctor’s office to manage his condition. He later developed peripheral neuropathy, and eventually required amputation of two toes—a hospitalization for which Medicare reimbursement averages \$47,000.¹³ Those missed appointments could have been avoided through care coordination efforts that employ affordable ridesharing services, but arranging consistent transportation coverage for those who cannot access or afford it is not yet common across the U.S. healthcare system. Again, modest spending on this non-clinical preventive service could have averted sizable healthcare spending. Yet this is not included in existing estimates of waste in the healthcare system.

Addressing missed non-clinical prevention opportunities has become a priority in some settings. Oregon, for example, took legislative action in 2013 to allow coordinated care organizations to fund non-clinical preventive interventions, such as air conditioners.⁹ Elsewhere, New York is one of 12 early innovator states that has launched statewide Medicaid accountable care organization¹⁴ programs that includes a Housing First program to address issues including homelessness and mold abatement to alleviate respiratory issues.¹⁵ Advanced alternative payment models under Medicare Access and Children’s Health Insurance Plan Reauthorization Act also incentivize providers to design

and implement non-clinical prevention strategies by tying reimbursements to population outcomes.¹⁶ Additionally, the Centers for Medicare and Medicaid Services has awarded grants to more than 30 hospitals and health systems to participate in the Accountable Health Communities Model to improve population health by systematically addressing unmet social needs of Medicare and Medicaid beneficiaries. Though federal policy can enable states to use Medicaid funds for these purposes, it is primarily up to states to make coverage decisions for their respective Medicaid programs.

A continuing challenge for financing non-clinical prevention opportunities under new payment models is to determine what works for improving health outcomes.^{8,17,18} Non-clinical prevention, like clinical prevention and clinical treatment, comes in many different forms, and any specific service may not be equally effective for all individuals. One important issue is the level to which the non-clinical service is implemented in the relevant population. As one example, a recent study found that simply offering all patients free Lyft rides to their provider did little to reduce the rate of missed appointments, in large part because uptake of the service was low.¹⁹

Clinical preventive services are held to high standards when determining coverage under Medicare²⁰; absent a paradigm shift, non-clinical prevention opportunities seem likely to face similar prospects for widespread coverage and use. As it stands, individual states are making progress legislatively or through large, purposeful modifications to public insurance plans. Non-clinical prevention opportunities are often made available through a patchwork of policies or programs that vary across states. This complicates assessment of their value in improving health and program cost effectiveness. Although cost effectiveness has not traditionally been used as a criterion in determination of coverage for specific clinical services by federal programs, such considerations may come into play in determining how to best allocate spending across a more expansive set of

programmatic options in furtherance of a goal of improved health outcomes.²¹

When viewed at the system level, the overt willingness to pay for downstream healthcare utilization with limited regard for cost cannot be reconciled with the unwillingness to pay for upstream prevention opportunities. Until recently,²² the thought of a health insurance plan paying for an air conditioner or taxi would have seemed far-fetched and beyond the scope of healthcare providers and payers. Yet these same stakeholders do not hesitate to pay for the healthcare bills that may result from poor access to non-clinical prevention opportunities. Although further research is necessary to identify the most effective and applicable upstream interventions, this siloed approach to healthcare and its analogue with respect to social services represents an obviously inefficient approach to producing better population health outcomes.

Attributing this form of waste to the healthcare sector may initially seem unfair to healthcare professionals. After all, neither the hospital team caring for the older woman with congestive heart failure nor the surgical team performing a multi-toe amputation on the man with unmanaged diabetic neuropathy can be expected to single-handedly address all social determinants of health facing their patients. Nonetheless, these encounters serve as a reminder that at least some health outcomes clearly could have been prevented had appropriate non-clinical prevention opportunities been employed.

Providers play a pivotal role in advocating for their patients' access to preventive services. As the ultimate recipient of the dollars spent on these entirely preventable services, the healthcare sector's acknowledgment and advocacy in this arena can play a powerful role in moving the needle to ensure that fewer non-clinical prevention opportunities are missed.

One significant challenge, however, is that the healthcare system does not operate under the same budget constraints as most other publicly funded sectors. A school's or housing agency's fiscal year budget may lack resources to deliver even low-cost interventions that benefit the health of populations. Yet if failure to provide such services ultimately results in the need for healthcare services, money is found to pay resulting bills. This anachronism fuels a misalignment of resources. A reinvestment of the savings from addressing pre-existing inefficiencies and unnecessary expenditures in healthcare could feasibly eclipse the costs of the non-clinical interventions discussed here and many more.²³

While attempting to address escalating healthcare costs by closely examining waste, it is critical to understand what remains missing from widely cited estimates of that waste. The authors argue that the U.S. consideration of healthcare system waste should be expanded to reflect

opportunities for delivering prevention services outside of clinical settings. Previous estimates of healthcare waste should likewise be expanded by quantifying and incorporating the costs of non-clinical prevention excluded from many prior estimates. The authors acknowledge the difficulty in making these additions, but with the evolving understanding of the importance of non-clinical prevention, the time has come for progress on this front. Even partial incorporation may help to improve the accuracy of waste estimates and may make even clearer the system-level impacts that this approach to providing healthcare and social services may be yielding. Advocacy from providers and other stakeholders for preventive services delivered outside of traditional healthcare settings could be a powerful force in helping to ensure that fewer non-clinical prevention opportunities are missed. In this way, healthcare system stakeholders may be better equipped with the tools necessary to address the unmet social needs of the constantly changing population in the U.S. The systematic underinvestment in the social determinants of health is an under-recognized cause of healthcare waste, and accurately accounting for the wasteful priorities offers a potential step toward rectification.

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