



Executive Summary

The U.S. spends more money on health care than any other nation in the world. According to Medicare actuaries, the U.S. will spend nearly \$2.3 trillion on medical care in 2007, representing approximately 16.7 percent of the nation's Gross Domestic Product (GDP). These National Health Expenditures are expected to grow to 20 percent of GDP by 2015. Many experts believe that a significant portion of our health care dollars are wasted, with estimates suggesting that up to 30 percent of total spending could be eliminated without reducing health care quality. Waste exists within three domains of the health care system; clinical care, health care finance and administration, and drug and device development and regulation.

How to identify and remove waste and inefficiency from the health care system has been a major area of research for the New England Healthcare Institute (NEHI). In 2006, NEHI began an investigation into two questions: how much waste is there and where does it exist?

NEHI first established a consensus definition of waste: **health care spending that can be eliminated without reducing the quality of care.** We began our research efforts by convening an expert panel in February 2006, and followed that with an extensive literature review. We considered 1,460 individual articles for inclusion in the study. Selected articles were grouped into condition-specific examples of waste whenever possible, and the examples were scored for relative strength of evidence and the potential cost savings that would result from correcting the underlying causes of waste. When considering examples with both strong relative strength of evidence and minimum potential annual savings of at least \$1 billion, six key findings emerged, which we have listed in order of greatest financial impact:

1. Unexplained variation in the intensity of medical and surgical services, including but certainly not limited to: end of life care, overuse of coronary artery bypass surgery (CABG) and overuse of percutaneous coronary procedures (PCI), with potential avoidable costs of up to \$600 billion;
2. Misuse of drugs and treatments, resulting in avoidable adverse effects of medical treatment that could save \$52.2 billion;
3. Overuse of non-urgent emergency department (ED) care that could save (conservatively) \$21.4 billion;
4. Underuse of generic antihypertensives, with potential savings of \$3 billion;
5. Underuse of controller medicines in pediatric asthma, particularly inhaled corticosteroids, with projected savings of \$2.5 billion; and
6. Overuse of antibiotics for respiratory infections, with potential savings of \$1.1 billion.

The root causes of each key finding were considered, yielding five systemic issues requiring further consideration:

1. Lack of compliance with clinical guidelines, raising issues of potential shortcomings in physician decision making;
2. Variation in the intensity of clinical care, suggesting a lack of evidence-based decisions;
3. Limited adoption of information technology in areas such as decision support and care coordination;
4. Underuse of cost effective diagnostic tests; and
5. Failure of the primary care system to meet access needs.

As a result of our work, NEHI is in the process of examining the following areas more extensively and developing a series of policy alternatives to decrease waste where feasible:

1. Investigating barriers to physician guideline compliance, understanding how physicians make decisions, and considering what can be done to decrease variation in evidence-based practice;
2. Examining the causes of emergency department overuse for non-urgent conditions, and the adequacy of the primary care system to offer alternatives;
3. Researching ways to improve current care practices through innovation, such as limiting antibiotic use in acute respiratory infections through point of service testing, or increasing controller medications in pediatric asthma through decision support systems;
4. Considering ways to advance the adoption of information technology to decrease medical errors, including decision support systems and e-prescribing in the outpatient setting;
5. Investigating suspected examples of waste that are not well documented, including the overuse of advanced imaging technologies and chemotherapy;
6. Examining the causes of geographic variation in clinical care; and
7. Building a national coalition to identify waste and illuminating best practices to eliminate it.

This report is presented in six parts. First, we discuss the magnitude of waste and inefficiency and the importance of successfully eliminating it. Next, we detail the NEHI research strategy and provide an overview of the methodology we



used. Our findings are then presented in both graphic and narrative form, and the supporting evidence is considered. Finally, we provide an analysis of root causes and conclude with a discussion of next steps for policy action. An interactive version of the entire compendium of waste articles can be accessed on the NEHI website at www.nehi.net.