

# 3. WASTEFUL SPENDING

*Of total health care spending in Massachusetts, an estimated 21 to 39 percent (\$14.7 to \$26.9 billion in 2012) could be considered wasteful.*

Wasteful spending in health care is important because it represents spending that does not return value and in some cases causes harm. According to the Organization for Economic Co-operation and Development (OECD), the United States spends approximately two-and-a-half times as much on health care per capita as other industrialized nations without a corresponding gain in outcomes.<sup>1</sup>

Experts define “wasteful spending” in many ways. In this chapter, we define wasteful spending as spending in the provision of health services that could be eliminated without harming consumers or reducing the quality of care people receive.

We first estimate the proportion of health care spending that can be considered wasteful. The results offer a sense of the magnitude of potential savings that could be achieved without any decrease in the quality of care. We then examine a number of specific wasteful spending ar-

eas and for each provide an estimate of the dollars wasted.

### 3.1 Estimate of wasteful spending in the system

A variety of approaches have been used to estimate how much spending is wasteful in the U.S. health care system (Table 3.1).<sup>2,3,4,5,6,7</sup> The various approaches all estimate several categories of waste: spending on services that lack evidence of producing better health outcomes compared with less-expensive alternatives; the provision of duplicative or unnecessary health care goods and services; the underuse of preventive care; and spending to treat avoidable medical injuries and illnesses.

Using a similar approach, we estimate that wasteful spending in Massachusetts was \$14.7 to \$26.9 billion in 2012, representing 21 to 39 percent of total health care spending (see **Technical Appendix A3: Wasteful Spend-**

**Table 3.1: Estimates of wasteful spending in the U.S. health care system**

Percent of U.S. health care spending in year of estimate

	Year	Estimate	Types of wasteful spending examined	Approach
PricewaterhouseCoopers	2005	54%	Behavioral, clinical, and operational inefficiencies	Literature review, interviews with health industry executives and government officials, and survey of 1,000 US consumers
RAND Corporation	2008	50%	Administrative, operational, and clinical	Meta-analysis of research on waste
McKinsey Global Institute	2008	31%	Spending in excess of expected level of spending based on national wealth	Comparison of health care spending and income by country
Institute of Medicine	2012	30%	Unnecessary services, delivery inefficiencies, high prices, unnecessary administrative costs, missed prevention opportunities, and fraud and abuse	Meta-analysis of literature; expert interviews
Berwick and Hackbarth JAMA article	2011	27%	Overtreatment, failures of care delivery, failures of care coordination, pricing failures, administrative complexity, and fraud and abuse	Meta-analysis of literature
NEHI	2008	27%	Emergency department overuse, antibiotic overuse, patient medication non-adherence, vaccine underuse, hospital readmissions, hospital admissions for ambulatory care sensitive conditions, and medical errors	Meta-analysis of expert interviews, case studies, and a review of relevant literature

SOURCE: PricewaterhouseCoopers; RAND Corporation; McKinsey & Company; Institute of Medicine; Journal of the American Medical Association; NEHI; HPC analysis

Table 3.2: Selected examples of wasteful spending in Massachusetts

Dollars

	Estimate of wasteful spending	Year	Definition of category
<i>Opportunities for coordinated action across care settings</i>			
Preventable acute hospital readmissions	\$700M	2009	Hospital readmissions that could have been prevented through quality care in the initial hospitalization, adequate discharge planning, adequate post-discharge follow-up, or improved coordination between inpatient and outpatient health care teams
Unnecessary ED visits	\$550M	2010	Visits to the emergency room that could have been avoided with timely and effective primary care
<i>Opportunity for hospital action</i>			
Health care-associated infections	\$10 to \$18M	2011	Infections contracted while patients are in a hospital receiving health care treatment for other conditions
<i>Opportunities for physician and patient action</i>			
Early elective inductions	\$3 to \$8M	2012	Elective inductions before 39 weeks, which increase the health risks for newborn babies and dramatically raise the likelihood of those infants being admitted to neonatal intensive care
Inappropriate imaging for lower back pain	\$1 to \$2M	2011	Diagnostic imaging (X-rays, CT scans, and MRIs) used against clinical guidelines in office visits for lower back pain

SOURCE: Massachusetts Division of Health Care Finance and Policy; Massachusetts Department of Public Health; Massachusetts All-Payer Claims Database; Choosing Wisely; Leapfrog Group, American Journal of Obstetrics and Gynecology; Journal of the American Medical Association Internal Medicine; HPC analysis

ing). This estimate, which includes both clinical activities and structural characteristics that contribute to wasteful spending, was based on national estimates augmented with Massachusetts-specific data where available.

### 3.2 Opportunities identified for wasteful spending reduction

Our estimate of wasteful spending in Massachusetts suggests significant opportunities for reducing spending. To provide guidance on how to capture these opportunities, we identify specific measurable types of wasteful spending in the Massachusetts health care system. This analysis has two goals:

- Cataloguing instances of wasteful spending and their relative size to support the health care industry in prioritizing areas for waste-reduction efforts
- Developing an evidence-based foundation for policy efforts to support reducing wasteful spending

We selected five examples based on their prevalence in policy discussions and research, insight from experts in the field, and the availability of data (Table 3.2). These five examples span three categories: large opportunities requiring coordinated action across care settings, opportunities addressable by hospitals, and opportunities addressable by individual physicians and patients. The estimates presented here are based on a review of previously pub-

lished estimates and on our analyses of newly available data. Each example represents an opportunity not only to reduce spending, but also to improve the quality of care delivered.

#### 3.2.1 Preventable acute hospital readmissions

A readmission occurs when a patient is admitted to a hospital within a defined period of time after being discharged from an index hospitalization. Readmissions are often viewed as failures of either care delivery (such as incomplete treatment or poor care of the underlying problem) or care coordination (such as incomplete discharge planning or inadequate access to post-acute care).<sup>8</sup> Readmissions are important not only because they are indicators of lower quality, but also because each additional hospital admission is expensive.<sup>9</sup> The federal government has estimated spending on readmissions for Medicare patients alone at \$26 billion annually, of which more than \$17 billion, or 65 percent, is preventable.<sup>10</sup>

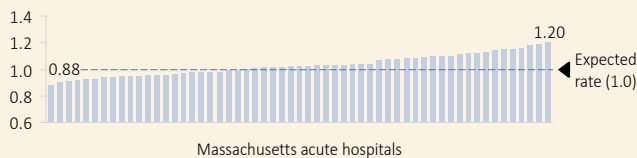
The Massachusetts average readmission rate is higher than the national rate in the Medicare population for major conditions.<sup>i</sup> Moreover, the Massachusetts Medicare average excess readmissions ratio<sup>ii</sup> is higher than the national average.<sup>11</sup> Within Massachusetts, readmissions rates

<sup>i</sup> Readmissions measures cover three conditions: acute myocardial infarction, heart failure, and pneumonia.

<sup>ii</sup> The excess readmissions ratio is a measure of observed readmissions relative to those expected based on a hospital's case mix.

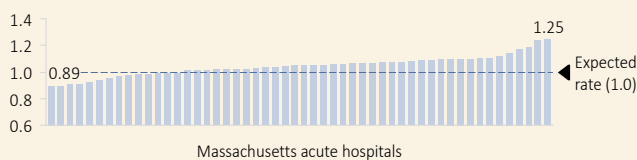
**Figure 3.1: Readmissions within 30 days for acute myocardial infarction for Massachusetts acute hospitals**

Risk-standardized excess readmission ratio for Medicare beneficiaries by hospital, 2009-2011



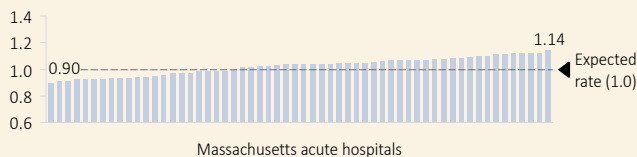
**Figure 3.2: Readmissions within 30 days for heart failure for Massachusetts acute hospitals**

Risk-standardized excess readmission ratio for Medicare beneficiaries by hospital, 2009-2011



**Figure 3.3: Readmissions within 30 days for pneumonia for Massachusetts acute hospitals**

Risk-standardized excess readmission ratio for Medicare beneficiaries by hospital, 2009-2011



SOURCE: Centers for Medicare & Medicaid Services

vary, with some hospitals below the U.S. average (**Figures 3.1, 3.2, 3.3**).

Readmissions can be categorized based on whether they are preventable.<sup>iii</sup> One widely used definition of a preventable readmission is “if there was a reasonable expectation that it could have been prevented by one or more of the following: (1) the provision of quality care in the initial hospitalization, (2) adequate discharge planning, (3) adequate postdischarge follow-up, or (4) improved coordination between inpatient and outpatient health care teams.”<sup>10</sup> For example, the expected readmission rate for surgical procedures is quite low, implying that many readmissions of this type may be preventable.<sup>10</sup> In 2011, a CHIA study found that 8.9 percent of all hospitalizations in Massachusetts resulted in a potentially preventable readmission, with performance varying significantly by hospital (rates ranging from 5.6 to 13.9 percent).<sup>12</sup> The study

<sup>iii</sup> Not all readmissions are preventable or undesirable. Even with high-quality, evidence-based care, some patients discharged from the hospital can be expected to encounter medical issues in the month after discharge that will require another hospitalization.

estimated that these potentially preventable readmissions represented \$704 million of spending in FY2009.<sup>12</sup>

A number of efforts are under way to reduce all types of preventable hospital readmissions at the federal and the state level. In 2012, for example, CMS launched the Readmissions Reduction Program, which financially penalizes hospitals that have excess readmissions based on their 30-day readmission rates for acute myocardial infarction, heart failure, and pneumonia.

In Massachusetts, the State Action on Avoidable Rehospitalizations (STAAR) Initiative has been working since 2009 to reduce avoidable readmissions and improve care transitions for patients and families.<sup>13</sup> A multi-state, multi-stakeholder approach, the STAAR Initiative has led to the formation of over 50 cross-continuum teams in Massachusetts, with hospitals, long-term care facilities, home health agencies, and physician offices committing to provide increased transparency into readmission rates and to drive improvement.<sup>13</sup> Another Massachusetts innovation in readmissions reduction is the Re-Engineered Discharge (RED) system, developed by researchers at the Boston University Medical Center. This set of activities and materials for improving the discharge process has proven to be effective in reducing readmissions and post-discharge ED visits.<sup>14</sup> Other Massachusetts stakeholders are working with nursing facilities to tailor and disseminate the INTERACT II (Interventions to Reduce Acute Care Transfers) toolkit, a set of clinical and educational resources that are intended to improve care within nursing facilities and to minimize transfers to the acute hospital that are potentially avoidable.<sup>15</sup> Many other efforts, such as the Delivery System Transformation Initiatives (DSTI), the Community-based Care Transitions Program (CCTP), and MassHealth’s preventable readmissions policy, are also under way in Massachusetts.

### 3.2.2 Unnecessary emergency department visits

Visits to emergency departments (ED), which provide a wide range of health care services regardless of people’s ability to pay or the severity of their condition, are another source of wasteful spending, specifically ED overuse. According to a 2012 CHIA report, ED overuse is defined as ED visits that are preventable or avoidable with timely and effective primary care.<sup>16</sup> Such visits can be classified into three types of categories:

- Non-emergent care,

- Emergent care that could have been treated in a primary care setting, and
- Emergent care that requires an ED setting but that could have been prevented or avoided through earlier intervention.

These three categories of overuse account for approximately half of the total ED visits in Massachusetts. Effective interventions are needed to reduce the estimated \$558 million in spending associated with preventable ED visits in Massachusetts in 2012.<sup>16</sup>

A number of potential interventions may reduce unnecessary ED utilization. Some of these involve increased access to primary care, through efforts like scope of practice changes, expansion of limited service clinics, workforce development, and development of patient-centered medical homes.<sup>iv</sup> Other interventions involve better management of those with chronic conditions who experience acute exacerbations requiring urgent attention. Accountable care models that promote better population health management, reward care coordination, and provide for better transitions of care have the potential to reduce this segment of ED use.

### 3.2.3 Health care-associated infections

Patients can sometimes contract an infection while they are in a hospital receiving health care treatment for other conditions – often referred to as nosocomial or health care-associated infections (HAIs).<sup>17</sup> In the United States, an estimated 1.7 million hospital patients – 4.5 out of every 100 admissions – experience HAIs, which cause or contribute to the deaths of nearly 100,000 people annually.<sup>17</sup> The most frequent type of HAI in the United States is urinary tract infection (36 percent of all HAIs), followed by surgical site infection (20 percent), and central line-associated bloodstream infection and ventilator-associated pneumonia (both 11 percent).<sup>17</sup> These HAIs can greatly harm the health of patients, sometimes requiring years of follow-up treatment, multiple surgeries, and permanent disability.

The ideal benchmark for HAIs is zero. While reduction efforts have successfully brought the occurrences of HAIs

in Massachusetts down over the past few years, hundreds of these infections are still reported annually.<sup>18</sup> We estimate that these HAIs represented \$10 to \$18 million of wasteful spending in 2011.

### 3.2.4 Elective induction of labor before 39 weeks

When a woman is nearing the end of a pregnancy, she may have her labor induced rather than waiting for it to begin on its own. Labor induction is *indicated* when there are health concerns for the mother and/or child. But when the reason is non-medical, such as matters of convenience or preference, it is an *elective* labor induction. Evidence shows that elective inductions before 39 weeks increase the health risks for newborn babies and dramatically raise the likelihood of those infants being admitted to neonatal intensive care. In addition to these health concerns, early elective inductions also generate higher medical expenditures due to increased rates of costly Cesarean sections (C-sections) and neonatal intensive care unit (NICU) stays.<sup>19</sup>

5.9 percent of all births in Massachusetts were early elective inductions in 2012.<sup>20</sup> Although this rate is significantly improved from prior performance due to concerted efforts around the nation and in Massachusetts, there is still further room for improvement. We estimate that reducing this rate could save \$3 to \$8 million per year from a corresponding decrease in NICU stays.

Evidence from interventions piloted in certain hospitals suggests lower rates are feasible. A 2010 study of hospitals that implemented programs to reduce elective inductions found it possible to achieve rates of 1.7 to 4.3 percent, depending on whether the hospital implemented a “soft stop” policy – in which physicians were discouraged from elective inductions, but compliance was not enforced – or a “hard stop” policy barring any elective induction.<sup>21</sup>

### 3.2.5 Overuse of diagnostic imaging for acute lower back pain

Nationally, acute lower back pain is the second-most common symptomatic reason for office visits to primary care physicians, and it is the most common reason for office visits to orthopedic surgeons, neurosurgeons, and occupational medicine physicians.<sup>22</sup> In many of these visits, patients receive an x-ray, CT scan, or MRI to diagnose the issue. But evidence shows that, within six weeks, 90 percent of episodes will resolve effectively regardless of whether patients receive an imaging test. Furthermore, these tests often trigger unnecessary interventions and

<sup>iv</sup> Chapter 224 includes a number of reforms to improve access to primary care. The law expands the definition of primary care provider to include nurse practitioners and physician assistants and broadens the scope of practice for nurse practitioners in limited service clinics. In addition, it includes three programs to develop a broader primary care workforce: loan forgiveness for providers who care for underserved populations; grants to promote residency programs at community health centers; and grants for providers serving at a community health center. Chapter 224 also charges the Commission with the certification of patient-centered medical homes.



lead to additional procedures that complicate recovery.<sup>23</sup>

Our analysis of claims data shows that 21 percent of Massachusetts patients with uncomplicated lower back pain received imaging studies against guidelines.<sup>v</sup> Inappropriate imaging studies for these diagnoses represent \$1 to \$2 million in annual spending. The cost of unnecessary care that can follow an imaging study may generate additional wasteful spending. Moreover, inappropriate imaging for other conditions may represent additional opportunities.

### 3.3 Conclusion

Analysis of wasteful spending in Massachusetts suggests that the magnitude of waste is 21 to 39 percent of personal health care expenditures, or \$14.7 to \$26.9 billion in 2012. Reducing wasteful spending represents an important opportunity to slow the growth in health care expenditures for Massachusetts residents. Already, many efforts are under way across the nation to identify and address specific areas of clinical waste.<sup>vi</sup> As these efforts take shape, it will be important to ensure that investments made generate a sufficient return in the form of lower spending and that the savings generated translate into lower premiums, shared with the households and businesses that purchase health care.

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<sup>v</sup> Based on analysis of Medicare and commercial claims in the All-Payer Claims Database. Inappropriate imaging for lower back pain was identified using Optum's Evidence-Based Medicine (EBM) algorithms.

<sup>vi</sup> Examples include efforts led by the National Priorities Partnership, the ABIM Choosing Wisely Campaign, the Institute for Clinical Systems Improvement (ICSI), and the Institute for Healthcare Improvement (IHI). These groups produce guidelines and lists of medical services and treatments that do not represent evidence-based practice.

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