Reducing Waste in Healthcare: Impact of IT

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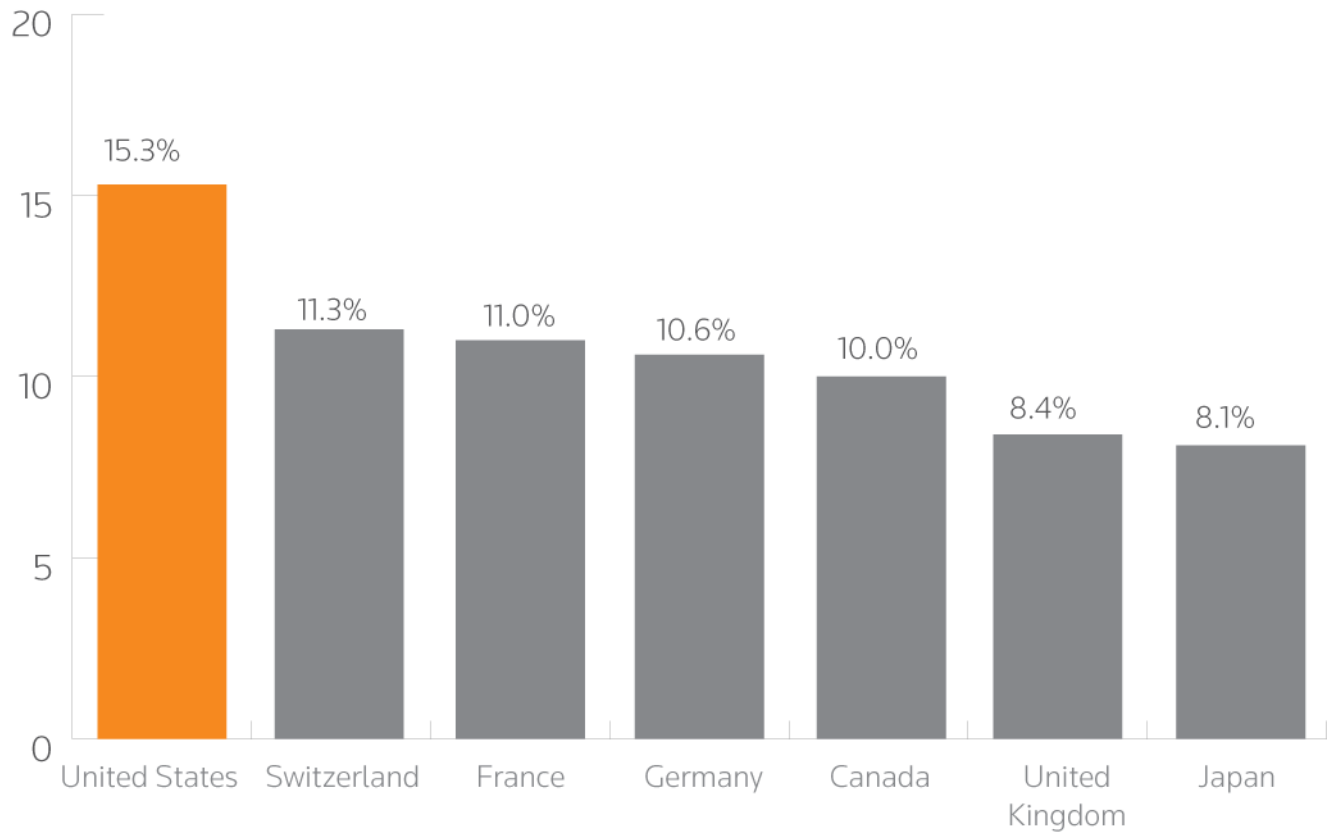
THE COST OF HEALTHCARE WASTE

- "Estimates suggest that as much as $700 billion a year in healthcare costs do not improve health outcomes. They occur because we pay for more care rather than better care."
  - Peter Orszag, director of the White House Office of Management and Budget, May 2009 interview with NPR

- "… up to one-third of the over $2 trillion that we now spend annually on healthcare is squandered…"
  - Jack Wennberg of Dartmouth's Center for the Evaluative Clinical Sciences

- Compared to peers in the Organization for Economic Cooperation and Development (OECD), the U.S. spent nearly $650 billion more on healthcare.
  - The McKinsey Global Institute, 2006 study

HEALTHCARE SPENDING SHARE OF GDP, 2006



Source: Kaiser Family Foundation, Trends in Healthcare Costs and Spending, March 2009.

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Is such a large estimate of healthcare system waste reasonable ?

Can such an estimate be supported by research and informed expert opinion on specific types of waste ?

WHAT IS HEALTHCARE SYSTEM WASTE?

The New England Healthcare Institute (NEHI) has defined waste in healthcare as "Healthcare spending that can be eliminated without reducing the quality of care."

IMPORTANT TERMS IN CONSIDERING WASTE

- **Cost containment:** controlling the high rate of increase in overall costs or “bending the curve”
- **Rationing:** when need exceeds availability, decisions must be made on the merit of individual patient needs
- **Misuse, overuse, and underuse:** use of a service that is inappropriate, not expected to provide value, or fails to diagnose or treat an illness in the early stages
- **Unwarranted or unexplained variation in care:** variation in the use of specific procedures with no discernible difference in outcomes

SIX TYPES OF WASTE

1. Administrative System Inefficiencies
2. Provider Inefficiency and Errors
3. Lack of Care Coordination
4. Unwarranted Use
5. Preventable Conditions and Avoidable Care
6. Fraud and Abuse

ADMINISTRATIVE SYSTEM INEFFICIENCIES ($100-$150 BILLION)

- The serious fragmentation of providers, the large number of payers, and resulting disparate systems and procedures significantly add to provider and payer administrative costs
- The average U.S. hospital spends 1/4 of its budget on billing and administration, nearly twice the average in Canada *(NEJM)*
- American physicians spend nearly eight hours per week on paperwork and employ 1.66 clerical workers per doctor, far more than in Canada *(NEJM)*

PROVIDER INEFFICIENCY AND ERRORS ($75-$100 BILLION)

- Operational inefficiencies
  - Inefficient use of nurse practitioners and physician assistants
  - Inefficient use of facilities and equipment
  - Unnecessary hospital admissions and extended stays
  - Over-utilization of in-hospital testing
  - Over-utilization of intensive care units

- Inefficiencies due to avoidable errors
  - Extended stay to treat avoidable complications or procedure-related injuries
  - Readmission to respond to an avoidable escalation
  - Acute care required to treat complications from an outpatient procedure
  - Treatment for adverse drug events

PROVIDER INEFFICIENCY AND ERRORS ($75-$100 BILLION)

- If all hospitals reduced their operating costs to match the costs of the most efficient 10%, operating costs would be reduced by $73 billion per year *(Thomson Reuters)*
- Adverse events account for at least 5% of total healthcare spending or $100 billion per year *(Harvard Medical School)*
- Between 5-10% of patients admitted to acute care hospitals acquire an infection, resulting in $4.5-$5.7 billion per year *(New England Healthcare Institute)*

LACK OF CARE COORDINATION ($25-$50 BILLION)

When care is not coordinated, inefficiencies occur in the form of duplicate tests, use of the ER for non-emergent conditions, avoidable hospitalizations for nursing home patients, and ADEs due to a lack of communication regarding a patient's medications

- Roughly 530,000 medication errors occur among Medicaid recipients in outpatient clinics. *(LA Times)*
- Eliminating avoidable ED use could save at least $21.4 billion per year. *(NEHI)*
- The cost of avoidable hospitalizations for nursing home patients is $7.5 billion annually. *(The Milbank Quarterly)*

UNWARRANTED USE ($250-$325 BILLION)

Provides no or only marginal value to effective diagnosis or treatment

- Diagnostic lab or imaging tests to protect against malpractice exposure
- A surgical procedure with a patient-preferred medical treatment alternative (Dartmouth's "preference-sensitive care")
- A high-cost diagnostic procedure used for patients at low risk
- A diagnostic test with no expected impact on the course of treatment
- The inappropriate use of an antibiotic for an upper respiratory viral infection
- Intensive non-palliative end-of-life treatment (Dartmouth's "supply-sensitive care")
- Brand name drug prescribed when generic or therapeutic alternatives are available
- Failure to follow conservative treatment protocol or follow a recommended course of successive treatment escalation

UNWARRANTED USE ($250-$325 BILLION)

- The costs of variation between high and low utilizing regions approaches 30 percent of total healthcare spending *(Dartmouth)*
- More than 95 million high-tech scans are done each year…but as many as 20-50% did not help diagnose ailments or treat patients *(New York Times)*
- Up to 55% of antibiotics are medically unnecessary, resulting in an annual savings of $1.1 billion if avoided *(NEHI)*
- At least $3 billion could be saved each year by prescribing less expensive but equally effective and safe medication choices *(NEHI)*

PREVENTABLE CONDITIONS AND AVOIDABLE CARE ($25-50 BILLION)

Timely access to quality outpatient care can prevent the need for hospitalization or other acute care

- 7.2 hospital admissions per every 10,000 people (aged 18 to 64) in the United States are for uncontrolled diabetes *(AHRQ)*
- 36% of hypertension patients were treated inappropriately, at a total national cost of $1.3 billion *(Clinical Therapy)*
- Total national costs in 2005 associated with avoidable hospitalizations was $29.6 billion *(AHRQ)*

FRAUD AND ABUSE ($125-$175 BILLION)

Most fraudulent practices simply add cost with no value, but some actually expose patients to risk.

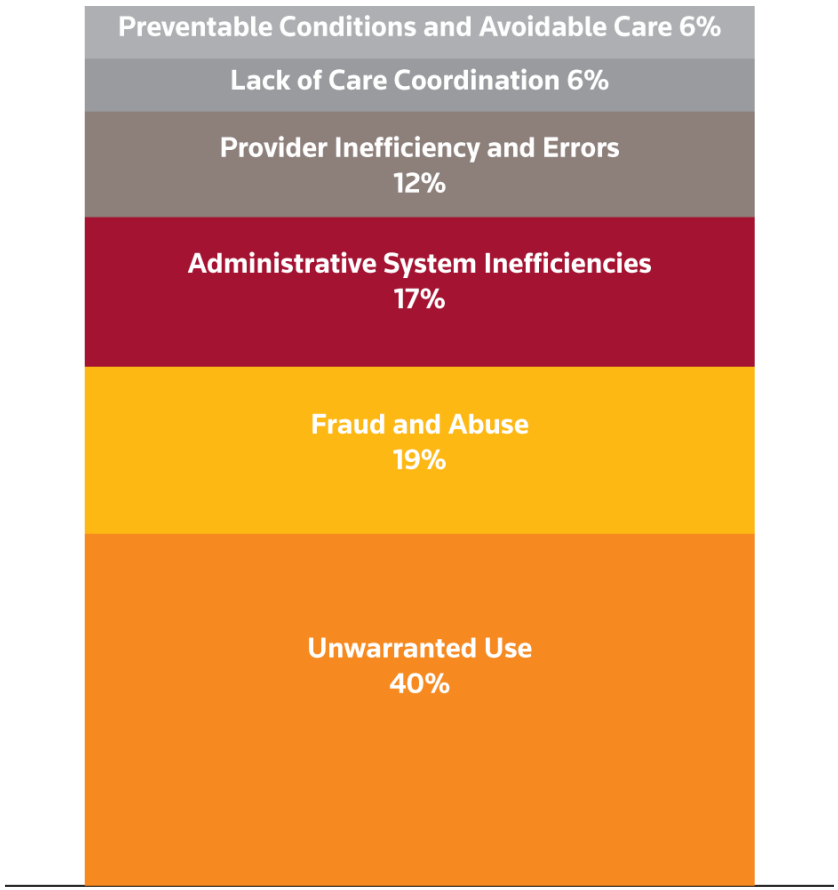
- In 2007, fraud was estimated to reach as much as 10 percent of annual healthcare spending, or $220 billion *(HealthLeaders Media)*
- The National Healthcare Anti-Fraud Association estimates that at least 3% of spending, or $60 billion, is lost to fraud every year *(NEJM)*
- The federal government made $98 billion in improper payments in fiscal 2009 *(Office of Management and Budget)*

SHOULD THESE BE CONSIDERED WASTE ?

- Increased disease due to modifiable behaviors
  - Experts agree that many conditions could be avoided by engaging in a healthier lifestyle
  - Is the system responsible for reducing these excess costs ?
- High price of medical services
  - The U.S. healthcare system charges higher prices than other countries for services such as specialist procedures, hospital stays, and prescription drugs
  - Some of this cost may be associated with system inefficiencies previously described
  - Result of complicated market relationships between payers and providers

TOTAL COST OF WASTE

1. Administrative Inefficiencies	$100-150
2. Provider Inefficiency and Errors	$75-100
3. Lack of Care Coordination	$25-50
4. Unwarranted Use	$250-325
5. Preventable Conditions	$25-50
6. Fraud and Abuse	$125-175
	$600-850



A FRAMEWORK FOR EVALUATING PROPOSED SOLUTIONS

Objective: Reduce healthcare system waste

Considerations:

- Any solution will have an intended impact on one or more categories of waste
- The complexity of the system may contribute to unintended effects
- These effects, either intended or unintended, may be positive for some categories while negative for others
- These effects may be immediate or long-term
- Ultimate value of the solution is the net of all these effects

INFORMATION TECHNOLOGY SOLUTIONS TO WASTE

General Value of IT Solutions:

- Useful and actionable information to make better decisions
  - Specific
  - Relevant
  - Organized
- Timely availability of that information
  - Appropriately prospective / real-time / retrospective
  - Easy access
  - Shared consistent and reliable sources
- Efficient management of the information function
  - Data collection and transmission
  - Data transformation to information
  - Communication

EVALUATING IT SOLUTIONS: AN EXAMPLE

Intended effects

	Admin Inefficiency	Inefficiency and Errors	Care Coordination	Unwarranted Use	Avoidable Care	Fraud	Lifestyle
EMR with Decision Support		•Alerts •Order sets					
PHR			Shared information	Patient decision support	Reminders for preventive care		Patient engagement in health status
HIE	Transmission standards		Shared information			Detection rules	

Possible unintended effects

	Admin Inefficiency	Inefficiency and Errors	Care Coordination	Unwarranted Use	Avoidable Care	Fraud	Lifestyle
EMR with Decision Support		False alerts					
PHR			Missing information				
HIE	Additional requirements						

SOLUTIONS REQUIRING IT SUPPORT

Many current or proposed initiatives with expected impact on quality of care and waste will depend on effective IT system support

- Bundled or episode payments
- Patient-centered medical home
- Clinical effectiveness research
- Care management
- Consumer directed health plans
- Patient decision-support
- Telemedicine