NJAMHAA
Champions for Healthcare

“Leadership for Improving Health”

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David B. Nash, MD, MBA
Dean
Jefferson College of Population Health
901 Walnut Street, 10th Floor
Philadelphia, PA 19107

(215) 955-6969 (Office)  (215) 923-7583 (Fax)
david.nash@jefferson.edu  jefferson.edu/populationhealth/
blogs.jefferson.edu/nashhealthpolicy.com
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Sacred Cows Make the Best Hamburgers

Yummy!!!
... all hospitals are accountable to the public for their degree of success...

If the initiative is not taken by the medical profession, it will be taken by the lay public.

1918 Am Coll Surg
The United States is among the wealthiest nations in the world, but it is far from the healthiest. Although Americans’ life expectancy and health have improved over the past century, these gains have lagged behind those in other high-income countries. This health disadvantage persists even though the United States spends far more per person on health care than any other nation. To gain a better understanding of this problem, the National Institutes of Health (NIH) asked the National Research Council and the Institute of Medicine to convene a panel of experts to investigate potential reasons for the U.S. health disadvantage and to assess its larger implications. The panel’s findings are detailed in its report, U.S. Health in International Perspective: Shorter Lives, Poorer Health.

A Pervasive Pattern of Shorter Lives and Poorer Health

The report examines the nature and strength of the research evidence on life expectancy and health in the United States, comparing U.S. data with statistics from 16 “peer” countries—other high-income democracies in western Europe, as well as Canada, Australia, and Japan. (See Table.) The panel relied on the most current data, and it also examined historical trend data beginning in the 1970s. Most statistics in the report are from the late 1990s through 2008.

The panel was struck by the gravity of its findings. For many years, Americans have been dying at younger ages than people in almost all other high-income countries. This disadvantage has been getting worse for three decades, especially among women.
‘Deaths of Despair’ Take Toll Across U.S.

By Betty McKay
AND RENEE RUGGIO

A grim tally of “years of life lost” shows that substance abuse, suicides and diabetes drove a rise in premature deaths in nearly half of the U.S., according to researchers who mapped variations in death rates among people 20 to 55 years old.

The research offers a detailed look at the trends pulling down life expectancy among young and middle-aged Americans in recent years. “Deaths of despair,” including drug overdoses, have been on the rise, especially among white Americans, according to recent studies.

The new analysis, published Tuesday in the Journal of the American Medical Association, shows wide variation in where people ages 20 to 55 are at highest risk, and in what diseases or conditions afflict them. The risk of dying young declined in Minnesota, California and New York between 1990 and 2016, the study found. Yet it rose in 21 states, including West Virginia and New Mexico.

“We get this very divergent pattern in that middle-age area,” said Christopher J.L. Murray, director of the Institute for Health Metrics and Evaluation at the University of Washington, who led the analysis. “We’re seeing how different it is by state.”

The examination of health by U.S. state between 1990 and 2016 is part of IHME’s continuing Global Burden of Disease epidemiological study, which assesses illnesses and death from major diseases and conditions globally using multiple data sources.

While the two leading causes of death for Americans of all ages nationwide—heart disease and lung cancer—remained the same for those years, “years of life lost” for several others soared, reflecting the ills of young and middle-aged adults. That calculation involves multiplying the number of deaths at each age by a standard life expectancy at that age, according to IHME.

Substance use, mental-health issues, cirrhosis and diabetes accounted for most of the increases in premature death among people 20 to 55, Dr. Murray said. That shows a lack of progress in fighting obesity and addressing mental-health problems, he said.

Death rates went down for several cancers, as prevention and treatment have improved, as well as for motor-vehicle crashes, the result of more safety features in cars and certain changes in traffic laws, health experts said.
The U.S. is an anomaly in health and social spending patterns

Source: OECD

http://www.vox.com/2014/7/7/5877227/the-giant-problem-american-health-care-ignores
Variation In Health Outcomes: The Role Of Spending On Social Services, Public Health, And Health Care, 2000-09

Abstract
Although spending rates on health care and social services vary substantially across the states, little is known about the possible association between variation in state-level health outcomes and the allocation of state spending between health care and social services. To estimate that association, we used state-level repeated measures multivariable modeling for the period 2000-09, with region and time fixed effects adjusted for total spending and state demographic and economic characteristics and with one- and two-year lags. We found that states with a higher ratio of social to health spending (calculated as the sum of social service spending and public health spending divided by the sum of Medicare spending and Medicaid spending) had significantly better subsequent health outcomes for the following seven measures: adult obesity; asthma; mentally unhealthy days; days with activity limitations; and mortality rates for lung cancer, acute myocardial infarction, and type 2 diabetes. Our study suggests that broadening the debate beyond what should be spent on health care to include what should be invested in health—not only in health care but also in social services and public health—is warranted.

The high cost of health care remains a pressing concern for state policy makers and taxpayers. During the period 1999-2009, health care costs increased faster than inflation, and in many states Medicaid inflation-adjusted spending has had a compound annual growth rate of more than 5 percent since 2000. Such increased spending may reflect greater insurance coverage and access to health care for the population. Nevertheless, greater investments in health care without equivalent economic and tax revenue growth may result in fewer resources for state-funded social services, such as housing, nutrition, and income support programs—which themselves may influence health outcomes in states.

The potential for social services to be crowded out to some degree by rising health care costs is of particular concern given health policy makers' growing interest in the role of social determinants in influencing the health of individuals and populations. Extensive evidence demonstrates a clear relationship between a variety of social determinants and health outcomes. Poor environmental conditions, low incomes, and inadequate education have consistently been associated with poorer health in a diverse set of populations. Taken together, social, behavioral, and environmental factors are estimated to contribute to more than 70 percent of some types of cancer cases, 80 percent of cases of heart disease, and 90 percent of cases of stroke. Furthermore, several studies have aimed to
Short Distances to Large Gaps in Health

PHILADELPHIA, PENNSYLVANIA

Follow the discussion
#CloseHealthGaps

FAIRMOUNT PARK

TEMPLE UNIVERSITY

CENTER CITY

LIBERTY BELL

Life expectancy at birth (years):

Shorter  Longer

1 mile
DATAWATCH

Few Americans Receive All High-Priority, Appropriate Clinical Preventive Services

As of 2015, only 8 percent of US adults ages thirty-five and older had received all of the high-priority, appropriate clinical preventive services recommended for them. Nearly 5 percent of adults did not receive any such services. Further delivery system-level efforts are needed to increase the use of preventive services.

Receiving recommended clinical preventive services can help maintain good health and save lives. Most prior assessments have focused on the receipt of specific services (such as rates of colorectal cancer screening or flu vaccination)1-2 or domain-specific composite measures (such as cancer screenings or cardiovascular care).3-4 These measures fail to take into account the multiple domains of preventive services that each person needs.

We developed a composite measure and a new survey designed to foster a systems approach to population health improvement. The measure and survey capture the use of all high-priority, appropriate clinical preventive services recommended for US adults. We found that as of 2015, only 8 percent of adults ages thirty-five and older had received all of the services recommended for them (exhibit 1).

EXHIBIT 1

Percentages of US adults ages thirty-five and older receiving all recommended high-priority, appropriate clinical preventive services, by sex, 2015

SOURCE Authors’ analysis of data from the Preventive Services Self-Administered Questionnaire portion of the 2014 Medical Expenditure Panel Survey (fielded in 2015). NOTES Adults are noninstitutionalized civilians. The fifteen services are discussed in the text and listed by age-sex group in appendix B (see note 6 in text). Differences are not significant (men versus women: p = 0.72; by age among men: p = 0.65; by age among women: p = 0.13). Selected 95% confidence intervals and p values are in the text.
Cumulative Increases in Health Insurance Premiums, Workers’ Contributions to Premiums, Inflation, and Workers’ Earnings, 1999-2015

Historical & Current Fee-For-Service

Value-Based Payment & Population Health Management
The Dream of Value-Based Care

David B. Nash, MD, MBA
Editor-in-Chief, American Health & Drug Benefits
Founding Dean, Jefferson College of Population Health, Philadelphia, PA

had the privilege of delivering the plenary address at the third annual KLAS Keystone Summit in 2016, which was held outside Salt Lake City, UT. As many readers may know, KLAS is an organization that is focused on evaluating and grading vendors in the health information technology (HIT) marketplace. KLAS holds an annual event that brings together vendors and customers on neutral territory to improve the quality of offerings in the healthcare marketplace. Admittedly, this is an unusual methodology, and I was asked to set the intellectual table for this important event that was focused on population health. What follows is an edited version of my plenary address.

“Thank you for the opportunity to address this amazing group of vendors and customers today. I am not a vendor of anything and believe it is crucial that we move forward.

Several key stumbling blocks and potholes exist on the road to implementing the 1981 vision. The most important stumbling block is the poor evidentiary basis of our work. Researchers recognize that approximately 20% of the time, we have evidence from randomized controlled clinical trials to support our decision-making. In other words, approximately 80% of the time we are practicing the ‘art of medicine.’ That art of medicine, extant since Maimonides, is now readily recognized as a source of waste and error.

Second, unexplained clinical variation and its attendant waste is a major cultural problem, completely baked into our current healthcare system. Physicians do what they’re trained to do, and in the absence of closure of the feedback loop, I find it difficult to see how we will overcome this problem in a short time frame.

The new paradigm holds that we need to study what we’re doing—our patients, our strategies, our systems—and work to improve what we do—our patients, our strategies, our systems. This is the dream of value-based care. We’ve reached the moment of truth, and I think it is a moment where we can see the end of the road and not get stuck in the potholes along the way.”
Exhibit 19: Framework for categorizing the VBR landscape

Sampling of major programs and categories

- **Medicare ACOs**
  - Advance Payment ACO
  - Pioneer ACO
  - Medicare shared-savings program

- **Commercial ACOs**
  - NexusACO (UNH)
  - Cleveland Clinic Cigna ACO
  - Tenet Healthcare & Humana
  - Advantage Health Network

- **Episode-based programs**
  - Bundled Payments for Care Improvement (BPCI)
  - Hospital Readmission Reduction
  - Comprehensive Care for Joint Replacement Model (CCJR)
  - Comprehensive Primary Care Plus (CPC+)
  - End-State Renal Disease (ESRD) Quality Initiative Program

- **State programs/Medicaid**
  - Arkansas Health Care Payment Improvement
  - Integrated Health Partnerships (MN)

- **Provider sponsored health plans**
  - Kaiser
  - UPMC
  - Geisinger
  - Healthfirst
  - MDwise

Source: CMS, Company data, IQVIA, Goldman Sachs Global Investment Research
Hospitals look to profit by keeping patients away

facilities rewarded in host of ways to keep more people healthy

Jayne O’Donnell
@jayneodonnell
USA TODAY

As asked about his health issues, Anthony Tramonte of New Castle, Del., says, “Do you have about an hour?”

It’s no wonder. The former postal worker, 72, is on dialysis, has diabetes, heart disease, high blood pressure and eye problems. He’s been hospitalized three times for heart failure in the past few years and was blind for a while due to his diabetes.

Tramonte’s wife of 50 years, Phyllis, is his full-time caregiver, but she’s got help in high places — the Christiana Care health system near their home. There, pharmacist Kelly Ann Steeves is his “care coordinator” after Tramonte is hospitalized to make sure he gets all the medical and social support he needs to avoid a return visit. A monitor checks his heart beat at home and notifies his doctor if it’s irregular, which Phyllis says has saved his life twice.

“I sleep easier knowing he’s got that care,” she says.

Tramonte is one of about 75,000 patients in a Christiana program called Care Link that’s funded by a variety of federal grants through the Centers for Medicare and Medicaid Services. Patients have care coordinators such as Steeves who link them with a nurse, pharmacist and social worker. Similar projects around the U.S. are federally funded and share the goal of keeping people healthy and out of the hospital, at least for preventable reasons.

Under the Affordable Care Act, hospitals now get penalized when Medicare patients are re-admitted within 30 days of a visit, but there are a host of other ways they get rewarded when they keep people healthy. Some are funded through CMS’ innovation center, such as a reimbursement plan that gives hospitals a set amount for, say, a knee replacement. They get more if they treat the patient for less and lose mon-
How many contemporary medical practices are not any better than or are worse than doing nothing or doing something else that is simpler or less expensive? This is an important question, given the negative repercussions for patients and the healthcare system of continuing to endorse futile, inefficient, expensive, or harmful interventions, tests, or management strategies. In this issue of Mayo Clin Proc, Prasad et al describe the frequency and spectrum of medical reversals determined from a review of all the articles published over a decade (2001-2010) in New England Journal of Medicine (NEJM). Their work extends a previous effort that had focused on data from a single year and had suggested that almost half of the established medical practices that are tested are found to be no better than a less expensive, simpler, or easier therapy or approach. The results from the current larger sample of articles are consistent with the earlier estimates: 27% of the original articles relevant to medical practices published in NEJM over this decade persisted to testing established practices. Among them, reversal and reaffirmation studies were approximately equally common (40.2% vs 38%). About two-thirds of the medical reversals were recommended on the basis of randomized trials. Even though no effort was made to evaluate systematically all evidence on the same topic (eg, meta-analyses including all studies published before and after the specific NEJM articles), the proportion of medical reversals seems alarmingly high. At a minimum, it poses major questions about the validity and clinical utility of a sizable portion of everyday medical care.

Are these figures representative of the medical literature and evidence base at large? The sample assembled by Prasad et al is highly impressive, but it accounts for less than 1% of all randomized trials published in the same decade (an estimated >10,000 per year) and an even more infinitesimal portion of other types of study designs. One could extrapolate from this sample by proportion, perhaps there have been several tens of thousands of medical reversal studies across all 23 million articles entered to date in PubMed. One has to be cautious with extrapolations, however. New England Journal of Medicine is clearly different from other journals in many ways besides having the highest impact factor among the list of 155 general and internal medicine journals. It is widely read, and it has high visibility and impact both on the mass media and on medical practitioners. In this regard, the collection of 146 medical reversals reviewed by Prasad et al is a compendium of widely known, visible examples, and thus it can make excellent reading for medical practitioners and researchers, teachers, and trainees. At the same time, this characteristic is also a disadvantage: the articles published by NEJM are a highly selected sample, probably susceptible to publication and selective outcome reporting bias.

There is substantial empirical evidence that the effect sizes of randomized trials published in NEJM, Lancet, or JAMA (the top 3 general and internal medicine journals in terms of impact factor) are markedly inflated, in particular for small trials; conversely, the effect sizes for large trials are similar to those seen in large trials on the same topic in other journals. The interpretation of the results in NEJM is also likely to be more exaggerated compared with other journals because authors may feel pressured to claim that the results are impressive in order to get their work published in such a
Waste in US Healthcare

Opportunities to eliminate wasteful spending in healthcare add up to $1.2 trillion of the annual $2.2 trillion spent nationally; these categories overlap

![Diagram showing categories of waste in healthcare]

- Total Waste $1.2 Trillion
  - Behavioral $303B to $493B
  - Clinical $312B
  - Operational $126B to $315B

- Obesity/overweight $200B
- Smoking $567M to 191B
- Non-adherence $100B
- Alcohol Abuse $2B
- Claims processing $21B to 210B
- Ineffective use of IT $81B to 88B
- Staffing turnover $21B
- Paper prescription $4B
- Defensive medicine $210B
- Preventable hospital readmin $25B
- Poorly managed diabetes $22B
- Medical errors $17B
- Unnecessary ER visits $14B
- Treatment variations $10B
- Hospital acquired infections $3B
- Over-prescribing antibiotics $1B

Waste cannot be eliminated immediately. However, by viewing waste in these baskets, the size of opportunities can be prioritized and rewarded. Like health spending itself, these categories overlap. Reducing one basket can affect the size of the others.

Source: Analysis by PwC's Health Research Institute based on published studies on inefficiencies in healthcare.
$1 TRILLION WASTED

Nearly one-third of the United States' $3.2 TRILLION in annual health care spending is chalked up as waste.¹

Practices and treatments once considered routine are now seen as overused, unnecessary and costly. Although there's no definitive list of the top money wasters, there are a few areas in which physician leaders can hold their teams accountable.²

**IMAGING:** Avoid for low-back pain within the first six weeks, unless red flags are present.

**VITAMIN D TESTING:** Avoid ordering routinely in otherwise healthy children.

**REPEITIVE CBC AND LABS:** Order only in response to specific clinical questions.

**INPATIENT BLOOD USE:** No need to routinely transfuse stable, asymptomatic, hospitalized patients with hemoglobin levels greater than 7-8 grams.

**PAP TESTS:** Annual cervical cytology screening not recommended for women 30-65 years of age.

**BENZODIAZEPINES:** Avoid these and sedative-hypnotics in adults 65+ older as first choice for insomnia, agitation or delirium.

**PREOPERATIVE TESTING:** Skip EKGs for preoperative/peroperative assessment of patients with no history or symptoms of heart disease.

**TELEMETRY:** Continuous monitoring outside of ICU usually isn't necessary without specific protocols.

**ANTIBIOTICS:** Discontinue after 72 hours for hospitalized patients without clear evidence of infection.

**DEXA SCAN:** Typically, not needed more than once every two years.
Medical error—the third leading cause of death in the US

Medical error is not included on death certificates or in rankings of cause of death. Martin Makary and Michael Daniel assess its contribution to mortality and call for better reporting

Martin A Makary professor, Michael Daniel research fellow
Department of Surgery, Johns Hopkins University School of Medicine, Baltimore, MD 21287, USA

The annual list of the most common causes of death in the United States, compiled by the Centers for Disease Control and Prevention (CDC), informs public awareness and national research priorities each year. The list is created using death certificates filled out by physicians, funeral directors, medical examiners, and coroners. However, a major limitation of the death certificate is that it relies on assigning an International Classification of Disease (ICD) code to the cause of death. As a result, causes of death not associated with an ICD code, such as human and system factors, are not captured. The science of safety has matured to describe how communication breakdowns, diagnostic errors, poor judgment, and inadequate skill can directly result in patient harm and death. We analyzed the scientific literature on medical error to identify its contribution to US deaths in relation to causes listed by the CDC.

Death from medical care itself

Medical error has been defined as an unintended act (either of omission or commission) or one that does not achieve its intended outcome, the failure of a planned action to be completed as intended (an error of execution), the use of a wrong plan to achieve an aim (an error of planning), or a deviation from the process of care that may or may not cause harm to the patient. Patient harm from medical error can occur at the individual or system level. The taxonomy of errors is expanding to better categorize preventable factors and events. We focus on preventable lethal events to highlight the scale of potential for improvement.

The role of error can be complex. While many errors are non-consequential, an error can end the life of someone with a long life expectancy or accelerate an imminent death. The case in the box shows how error can contribute to death. Moving away from a requirement that only reasons for death with an ICD code can be used on death certificates could better inform healthcare research and awareness priorities.

How big is the problem?

The most commonly cited estimate of annual deaths from medical error in the US—a 1999 Institute of Medicine (IOM) report—is limited and outdated. The report describes an incidence of 44 000–98 000 deaths annually. This conclusion was not based on primary research conducted by the institute but on the 1984 Harvard Medical Practice Study and the 1992 Utah and Colorado Study. But as early as 1993, Leape, a chief investigator in the 1984 Harvard study, published an article arguing that the study’s estimate was too low, contending that 78% rather than 51% of the 180 000 iatrogenic deaths were preventable (some argue that all iatrogenic deaths are preventable). This higher incidence (about 140 000 deaths due to error) has been supported by subsequent studies which suggest that the 1999 IOM report underestimated the magnitude of the problem. A 2004 report of inpatient deaths associated with the Agency for Healthcare Quality and Research Patient Safety Indicators in the Medicare population estimated that 573 000 deaths were caused by medical error between 2000 and 2002, which is about 195 000 deaths a year (table 1). Similarly, the US Department of Health and Human Services Office of the Inspector General examining the health records of hospital inpatients in 2008, reported 180 000 deaths due to medical error a year among Medicare beneficiaries alone. Using similar methods, Classen et al described a rate of 1.13%. If this rate is applied to all registered US hospital admissions in 2013 it translates to over 400 000 deaths a year, more than four times the IOM estimate.

Similarly, Landrigan et al reported that 0.6% of hospital admissions in a group of North Carolina hospitals over six years (2002-07) resulted in lethal adverse events and conservatively estimated that 63% were due to medical errors. Extrapolated nationally, this would translate into 134 581 inpatient deaths a year from poor inpatient care. Of note, none of the studies captured deaths outside inpatient care—those resulting from errors in care at home or in nursing homes and in outpatient care such as ambulatory surgery centers.
“Unexplained Clinical Variation”

• Major roadblock to:
  • Lowering costs
  • Improving quality
  • Establishing accountability
Is Population Health the Answer?

1. What’s the question?

2. Where are we now?

3. Where are we going in the future?
Population Health: Conceptual Framework

**Health outcomes** and their distribution within a population

- Morbidity
- Mortality
- Quality of Life

**Health determinants** that influence distribution

- Medical care
- Socioeconomic status
- Genetics

**Policies and interventions** that impact these determinants

- Social
- Environmental
- Individual
Social determinants of health

Contribution to premature death


**NUTRITION**
- Nearly 40% of American adults are obese.*
- 24% of all Americans have at least one diet-related medical condition.*

Consumers want more nutritional advice from health care resources:
- 79% want advice from physicians.
- 59% want advice from pharmacists.*

**HOUSING**
- People receiving federal housing assistance from the Department of Housing and Urban Development had lower rates of uninsurance and unmet medical need due to cost, compared with that of a control group.**

**VIOLENCE**
- Proactive and reactive violence response efforts cost U.S. hospitals and health systems $2.7 billion in 2016. This includes:
  - $280 million related to preparedness and prevention to address community violence.
  - $852 million in unreimbursed medical care for victims of violence.
  - $1.1 billion in security and training costs to prevent violence within hospitals.
  - $429 million in medical care, staffing, indemnity and other costs as a result of violence against hospital employees.***

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* Top Health Industry Issues of 2017: A seat of uncertainty and opportunities,” PWC’s Health Research Institute, December 2016
**Dataphraphic - Health Equity,” Health Affairs, June 2007
***Cost of community violence to hospitals and health systems,” HI-Van Den Bos et al., Milken Research Report, July 2017
Episodic vs. Population Health Models – transitioning from *volume to value*

**Episodic Model**
- Patient Schedules Appointment
- PCP Provides Care
- PCP Bills Medicare

**Population Health Model**
- Financial Responsibility
- Cost & Quality Outcomes
- Coding Accuracy: MRA
- Patient Experience
- Predictive Modeling/ Mbr Stratification
- Mbr Gaps in Care ID & Closure

**Specialists: Referrals & Provider Network Mgmt**
- Hospital: Acute / Post-Acute Coordination
- Patient Access: Telemed, eVisits, Remote Monitoring
- Prevention & Wellness
- Chronic Care Mgmt: In-home & telephonic

**IT Enablement & Support: HIE Connectivity**
- Provider Coordination and Workflow

**Humana**
A Guide to Measuring the Triple Aim:
Population Health, Experience of Care, and Per Capita Cost
Population Health Measurement

Many population health measures and a variety of core sets exist, such as...

- IOM Vital Signs Core Metrics
- County Health Rankings Measures
- HHS Leading Health Indicators
- RWBJ Culture of Health Measures
- NQF-endorsed Health & Well-Being Measures

...but this can make it challenging for groups in the field to choose specific measures and be able to compare results.
Better Health

...He’s back!
What Percentage of Adult Americans do the Following?

1. Exercise 20 minutes 3 x week
2. Don’t smoke
3. Eat fruits and vegetables regularly
4. Wear seatbelts regularly
5. Are at appropriate BMI

Annals Int Med
April 2006
Impact of Healthy Lifestyle Factors on Life Expectancies in the US Population

BACKGROUND: Americans have a shorter life expectancy compared with residents of almost all other high-income countries. We aim to estimate the impact of lifestyle factors on premature mortality and life expectancy in the US population.

METHODS: Using data from the Nurses’ Health Study (1980–2014; n=78,865) and the Health Professionals Follow-up Study (1986–2014; n=44,354), we defined 5 low-risk lifestyle factors as never smoking, body mass index of 18.5 to 24.9 kg/m², ≥30 min/d of moderate to vigorous physical activity, moderate alcohol intake, and a high diet quality score (upper 40%). and estimated hazard ratios for the association of total lifestyle score (0–5 scale) with mortality. We used data from the NHANES (National Health and Nutrition Examination Surveys; 2013–2014) to estimate the distribution of the lifestyle score and the US Centers for Disease Control and Prevention WONDER database to derive the age-specific death rates of Americans. We applied the life table method to estimate life expectancy by levels of the lifestyle score.

RESULTS: During up to 34 years of follow-up, we documented 42,167 deaths. The multivariable-adjusted hazard ratios for mortality in adults with 5 compared with zero low-risk factors were 0.26 (95% confidence interval [CI], 0.22–0.31) for all-cause mortality, 0.35 (95% CI, 0.27–0.45) for cancer mortality, and 0.18 (95% CI, 0.12–0.26) for cardiovascular disease mortality. The population-attributable risk of nonadherence to 5 low-risk factors was 60.7% (95% CI, 53.6–66.7) for all-cause mortality, 51.7% (95% CI, 37.1–62.9) for cancer mortality, and 71.7% (95% CI, 58.1–81.0) for cardiovascular disease mortality. We estimated that the life expectancy at age 50 years was 29.0 years (95% CI, 28.3–29.8) for women and 25.5 years (95% CI, 24.7–26.2) for men who adopted all 5 low-risk factors. In contrast, for those who adopted all 5 low-risk factors, we projected a life expectancy at age 50 years of 43.1 years (95% CI, 41.3–44.9) for women and 37.6 years (95% CI, 35.8–39.4) for men. The projected life expectancy at age 50 years was on average 14.0 years (95% CI, 11.8–16.2) longer among female Americans with 5 low-risk factors compared with those with zero low-risk factors; for men, the difference was 12.2 years (95% CI, 10.1–14.2).

CONCLUSIONS: Adopting a healthy lifestyle could substantially reduce premature mortality and prolong life expectancy in US adults.
Determinants of Health

1. Smoking
2. Unhealthy diet
3. Physical inactivity
4. Alcohol use

Together, these account for 40% of all deaths.
Reforming Health Care or Reforming Health?

1. US spends under 2% of its health dollars on population health

2. Chronic Diseases, which comprise 80% of total disease burden, have no dedicated federal funding stream
Pennsylvania Health Outcomes Ranks by County
The
Tipping Point
How Little Things Can Make a Big Difference
Malcolm Gladwell
Summary: The Priorities

ACTION PRIORITIES
- Pay for value
- Empower people
- Activate communities
- Connect care

ESSENTIAL INFRASTRUCTURE NEEDS
- Measure what matters most
- Modernize skills
- Accelerate real-world evidence
- Advance science
ESSENTIAL INFRASTRUCTURE NEEDS

Measure what matters most: use consistent core metrics to sharpen focus

- Focus reliably and consistently on factors most important to better health and health care
- Create the national capacity to identify, standardize, implement, and revise core measures

Modernize skills: train the workforce for 21st century health care and biomedical science

- Invest in the science of performance measurement
- Reform health workforce training to emphasize teams, innovation, and continuous improvement
- Create new education and training pathways to maintain a robust science workforce

NATIONAL ACADEMY OF MEDICINE

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE
How am I doing in the care of my patients?

Specifically for my patients with CHF, D.M., COPD, CAD
How do I stack up?

Where can I improve?

What are realistic goals?
Choosing Wisely: Compliance and Opportunities

EBM Rule: Patients with low back pain should not have imaging studies unless there are specific indications.

Compliance Rate and Number of EBM Opportunities by Practice & PCP
Evidence that electronic health records can promote physician counseling for healthy behaviors

Jaeyong Bae
Jason M. Hockenberry
Kimberly J. Rask
Edmund R. Becker

Background: Health behavior counseling services may help patients manage chronic conditions effectively and slow disease progression. Studies show, however, that many providers fail to provide these services because of time constraints and inability to tailor counseling to individual patient needs. Electronic health records (EHRs) have the potential to increase appropriate counseling by providing pertinent patient information at the point of care and clinical decision support.

Purpose: This study estimates the impact of select EHR functionalities on the rate of health behavior counseling provided during primary care visits.

Methodology: Multivariable regression analyses of the 2007-2010 National Ambulatory Medical Care Survey were conducted to examine whether eight EHR components representing four core functionalities of EHR systems were correlated with the rate of health behavior counseling services. Propensity score matching was used to control for confounding factors given the use of observational data. To address concerns that EHR may only lead to improved documentation of counseling services and not necessarily improved care, the association of EHR functionalities with prescriptions for smoking cessation medications was also estimated.

Findings: The use of an EHR system with health information and data, order entry and management, result management, decision support, and a notification system for abnormal test results was associated with an approximately 25% increase in the probability of health behavior counseling delivered. Clinical reminders were associated with more health behavior counseling services when available in combination with patient problem lists.
“Population Health Intelligence” (Registry “function” 2.0)

- Identifying pre-diabetic patients
- Identifying patients with social determinants that impact care
- Determining treatment failures in the ambulatory setting
“Population Health Intelligence” 
(Registry “function” 3.0)

Early identification of sepsis risk

Early identification of chemotherapy failure

Case finding of all kinds i.e. metastatic melanoma
hen 67-year-old Maureen Kelly, complaining of abdominal pain, was wheeled into the emergency room of Beth Israel Deaconess Medical Center in Boston in the winter of 2015, the medical staff immediately typed her name, date of birth, and address into a terminal connected to the hospital’s electronic health record system—and to the state health information exchange, which aggregates information on patients throughout Massachusetts.

Doctors soon thought they knew why Kelly was weak and confused. The computerized records showed she was diabetic and had only one kidney. They feared she was suffering from diabetic complications or had renal disease, which is often linked to diabetes.

They considered giving her insulin to keep her blood sugar from spiking. But as they reviewed her records, they became confused themselves. Notes from one recent medical visit suggested that Kelly wasn’t diabetic, and another notation mentioned that both her kidneys were unremarkable and functioning normally. (Some details of the case, related by hospital officials and including the patient’s exact name, have been changed for her privacy.)

Fortunately, Maureen Kelly recovered. But hers was far from an isolated case. In the past decade, electronic records have become the norm in medical facilities around the nation, but there has been no national system to ensure that an individual record matches an individual patient. Birthdates often help but are far from guarantees: A hospital district in Houston has found 2,488 records for patients named Maria Garcia—and 231 of them shared the same birthday.

And sometimes it’s not mismatched records that cause problems and lead to safety concerns, but how medical providers interact with electronic systems. For example, a 16-year-old patient in California was inadvertently given 38 times the appropriate amount of an antibiotic. The physician didn’t realize that the default setting in the system automatically adjusted the dosage based on the patient’s weight. As a result of the massive overdose, the patient suffered a near-fatal grand mal seizure.

Another safety threat can come from “alert fatigue.” Electronic records send automatic alerts that pop up on the computer screen, warning of potentially dangerous drug interactions or drug allergies. This feature has saved lives. But in some cases, these warnings are repetitive and pop up so often that doctors reflexively dismiss them from the screen. As a result, they may unintentionally ignore new and important warnings, endangering patients.

A hospital district in Houston has found 2,488 records for patients named Maria Garcia—and 231 of them shared the same birthday.

As the ER doctors kept scrolling through the records, they realized something else: The system included records for five Maureen Kellys, all with the same birthdate and living in the same ZIP code, a largely Irish-American neighborhood in South Boston.

The Beth Israel staff members later reported that they had no idea what information in the electronic records system was correct for the Maureen Kelly in their emergency room—or how many of the electronic system’s five Maureen Kellys with the same birthdate might actually be the same person with duplicate records. So the team fell back on the most fundamental lesson of medical training: The Hippocratic injunction to first do no harm. They treated her based on her symptoms, and on lab tests they ordered.

In the past decade, nearly every hospital and health system in the country has made the shift from old-fashioned handwritten charts and scrawled, frequently illegible prescription orders to electronic health records and medication orders placed through computers.

Overall, this shift has dramatically improved the safety of most patients—but it also created a new source of error that poses its own set of risks, says Jacob Reider, former acting national coordinator of health information technology for the U.S. Department of Health and Human Services. The new record systems virtually eliminated certain kinds of errors, he says, such as giving patients drugs they are allergic to, or dispensing the wrong drug because a pharmacist misread a handwritten prescription.

“Health information technology has significantly enhanced the safety of humans whose information is stored in this system,” Reider says. “We are much safer because of this change. But the technology also introduced new safety hazards, and we have to learn how to mitigate them.”

The effort to manage these risks and to help the health care industry realize the full potential of electronic health records has emerged as a key public health concern. Pew’s health information technology project is working with partners in industry and
Lucky 7
Population Health TO DO LIST

1. What about your own associates? (HRAs, Wellness & Prevention)
2. Keep the well, well
3. PCMH’s (who will lead?)
4. Registries
5. Retail clinics (Walgreens, CVS)
6. Managed Care Partners
7. Leadership Training
What Does This All Mean?

Major Themes Moving Forward

1. Transparency
2. Accountability
3. No outcome, No income
How Might We Get There?

Change the Culture

1. Practice based on evidence
2. Reduce unexplained clinical variation
3. Reduce slavish adherence to professional autonomy
4. Continuously measure and close feedback loop
5. Engage with patients across the continuum of care
If only changing patient behavior were this easy.
Yelp Reviews Of Hospital Care Can Supplement And Inform Traditional Surveys Of The Patient Experience Of Care

ABSTRACT Little is known about how real-time online rating platforms such as Yelp may complement the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey, which is the US standard for evaluating patients' experiences after hospitalization. We compared the content of Yelp narrative reviews of hospitals to the topics in the HCAHPS survey, called domains in HCAHPS terminology. While the domains included in Yelp reviews covered the majority of HCAHPS domains, Yelp reviews covered an additional twelve domains not found in HCAHPS. The majority of Yelp topics that most strongly correlate with positive or negative reviews are not measured or reported by HCAHPS. The large collection of patient- and caregiver-centered experiences found on Yelp can be analyzed with natural language processing methods, identifying for policy makers the measures of hospital quality that matter most to patients and caregivers. The Yelp measures and analysis can also provide actionable feedback for hospitals.

Since 2006, patient-reported experiences after hospitalization have been collected using the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey. HCAHPS survey results are publicly reported on the Centers for Medicare and Medicaid Services Hospital Compare website, which rates all US hospitals that receive Medicare payments on a variety of quality measures. HCAHPS survey scores now drive 25 percent of the financial incentives in the Medicare value-based purchasing program, which will eventually penalize hospitals with poor performance by up to 2 percent of their Medicare payments. The HCAHPS survey is the current standard for patient-experience-of-care data, but its development dates back to 2002. In the fourteen years since the survey first appeared, the indications for and experiences of hospitalization have changed greatly. Perhaps more importantly, more than a decade ago patients were not spontaneously publishing their opinions about health care facilities on social media sites where opinions reach the members of the public, who are increasingly comfortable in using them to inform their own decisions.

Evaluations such as the HCAHPS survey are the products of years of measurement research, are fielded and interpreted systematically, and have collected a large number of patient responses per hospital. However, they are expensive to deploy, they suffer from low response rates, and there may be significant delays between hospitalization and public reporting of results. Even if the evaluations can give an overall indication of patient satisfaction, they rarely identify the source of perceived problems.

Reviews on social media sites are organic, largely unstructured, and essentially uncurated but are both seemingly haphazard and subject to gaming. Yet the testimonials on social media
THE BEAT

COOL TOOL

Fur Real
A Brown-Hasbro team is designing smart robotic pets to assist seniors.

The health benefits of pet ownership are well documented. But a cat or dog who can help you find your keys or remember to take your pills would take that companionship to a new level.

Researchers from Brown and the Warren Alpert Medical School are partnering with the toy company Hasbro to design smart (and cuddly) robots that

PET UPGRADE: Mary Derr, 93, of South Kingstown, RI, with her robot cat, Buddy. Derr has mild dementia, so her daughter purchased the Hasbro cat earlier this year to keep her mother company.
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...And helping define the next generation of health markets

Health Market 2.0

Rise of Retail

Mobile monitoring

Tech - big data

Technology Attack

Advanced DX & precision medicine

Health shopping

Exchanges

Social communities

Consumer Markets

Retail

Food and grocery

PHM enablement

Smart care teams PHM

Mobile health/home hubs

Engagement & navigation platforms

Health Ecosystems

© Oliver Wyman
“It’s always better to have them in the tent pissing out, than outside the tent pissing in.”

President, L.B. Johnson
“The institutionalization of leadership training is one of the key attributes of good leadership.”

John P. Kotter,
Harvard Business School