HIMSS Central & Southern Ohio Chapter

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May 8, 2009

FORECASTING HEALTHCARE OF 2014: Opportunities, Challenges, and Reform

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MEDICAL SCIENCE: NEW KNOWLEDGE

- Different concepts of diagnosis and treatment
- Personalized, predictive (molecular, genetic) medicine
  - From “one-size-fits-all” to “each patient is unique”

GEN Genetic Engineering & Biotechnology News

2/15/05

The Promise of Pharmacogenomics: Matching the Right Therapeutic to the Right Patient Population

"Personalized medicine, matching the right therapeutic to the right patient population based on a molecular understanding of the disease and the patient's genetic profile, has gained significant momentum....

The availability of high-speed technologies has launched the field of pharmacogenomics, which seeks to identify the variant genes responsible for an individual's response to drugs....

Traditional drug therapy treats all patients with the same disease as one large group, indifferent to individual differences to drug response...

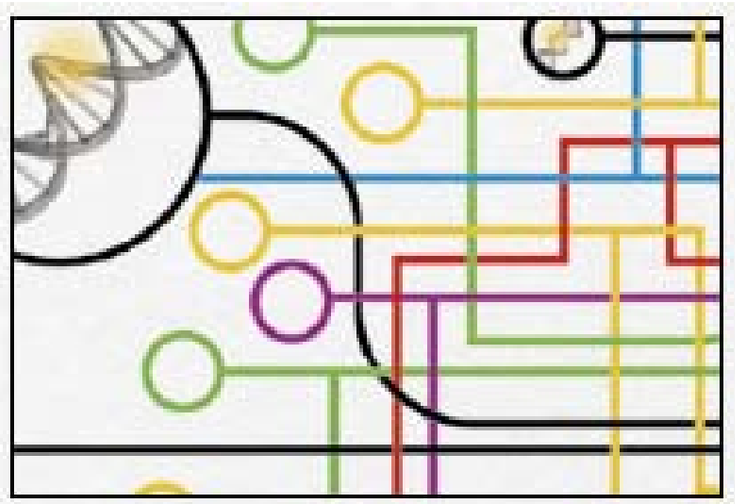
Pharmacogenomics should help focus therapies on smaller patient populations, which exhibit the same disease phenotype but are characterized by different genetic profiles..."

SCIENTIFIC AMERICAN DIGITAL

February, 2007

Mapping the Cancer Genome

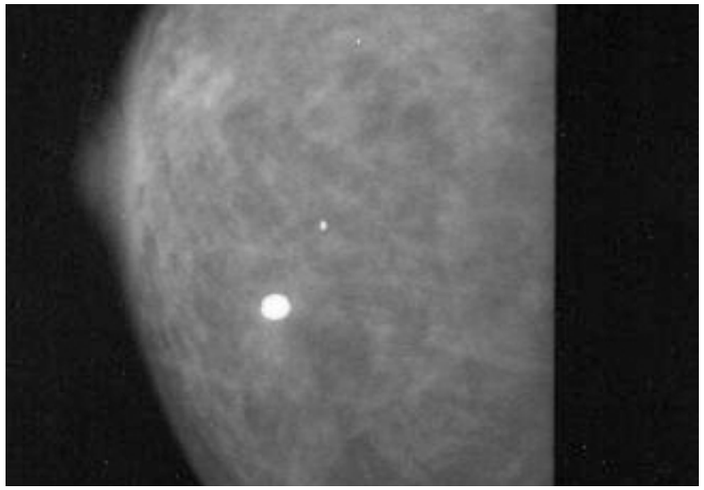
Pinpointing the genes involved in cancer will help chart a new course across the complex landscape of human malignancies



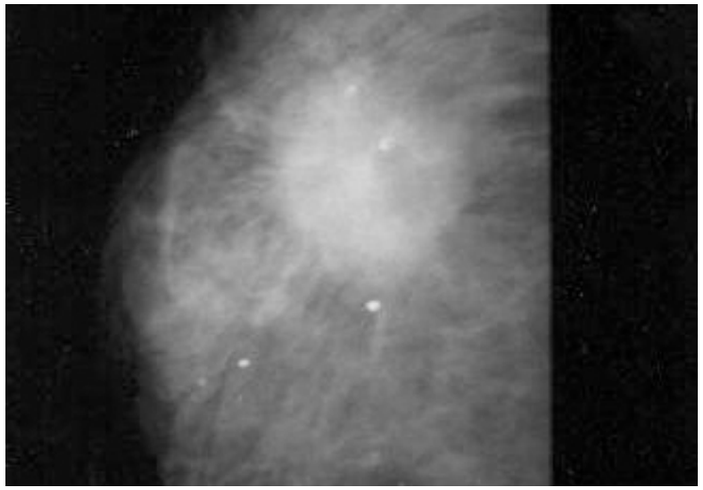
By Francis S. Collins and Anna D. Barker

Many different possible combinations of mutations can transform a normal cell into a cancer cell. Therefore, even among patients with cancers of the same body organ or tissue, the genetic profile of each individual's tumor can differ greatly.

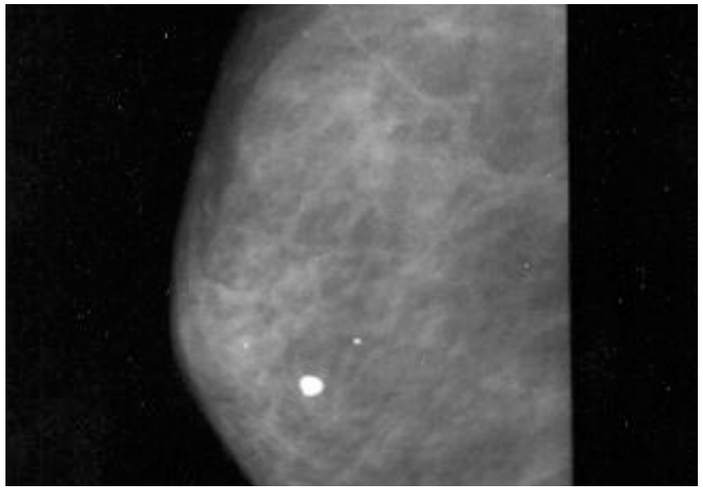
RADIOLOGY



Breast Mass

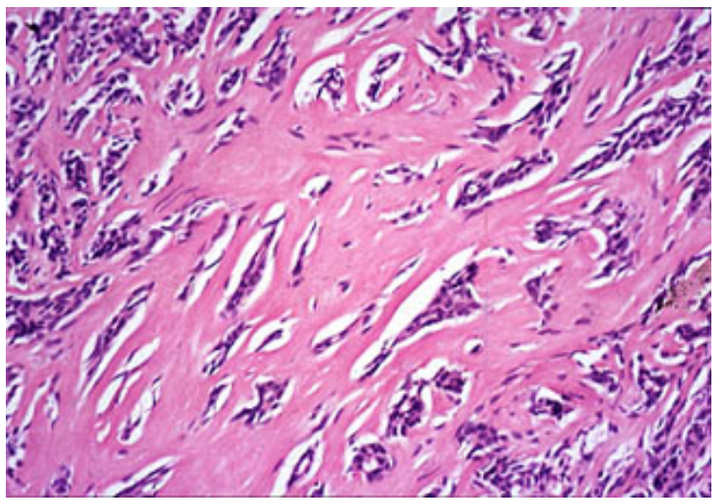


Breast Mass

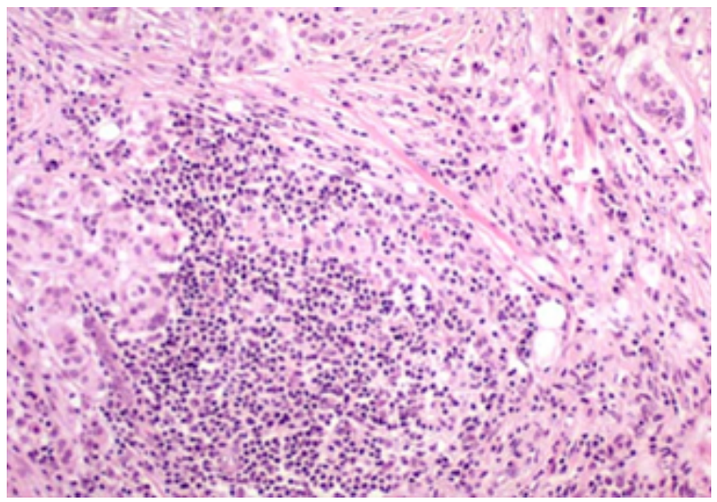


Breast Mass

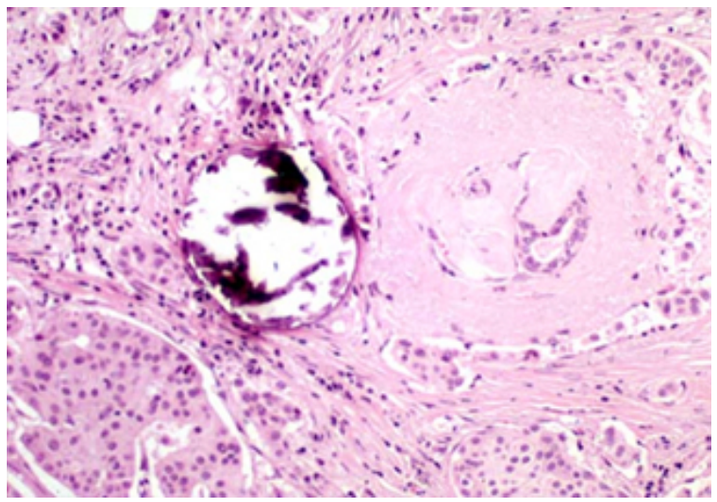
PATHOLOGY



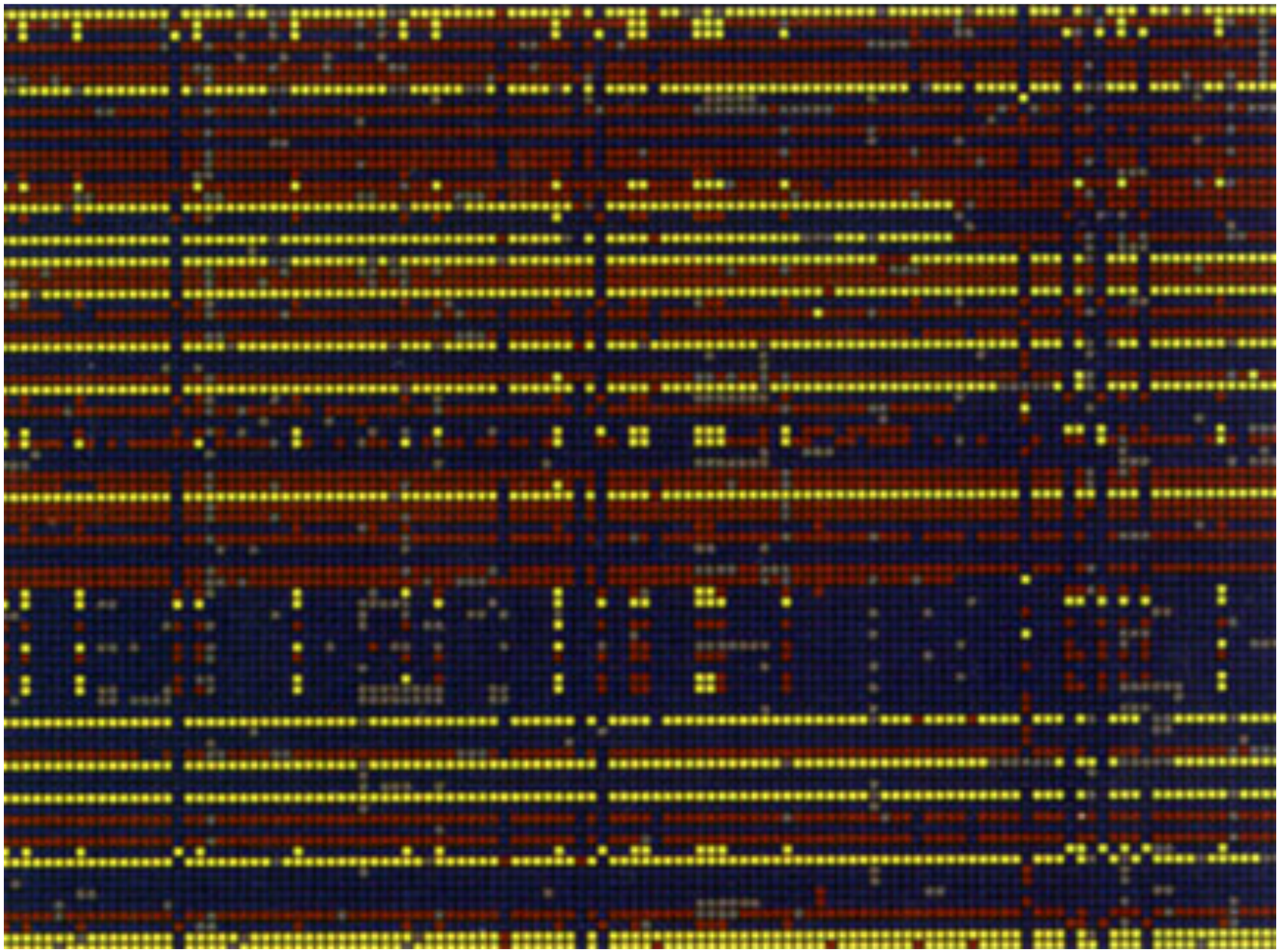
Carcinoma of Breast



Breast Cancer [100x]

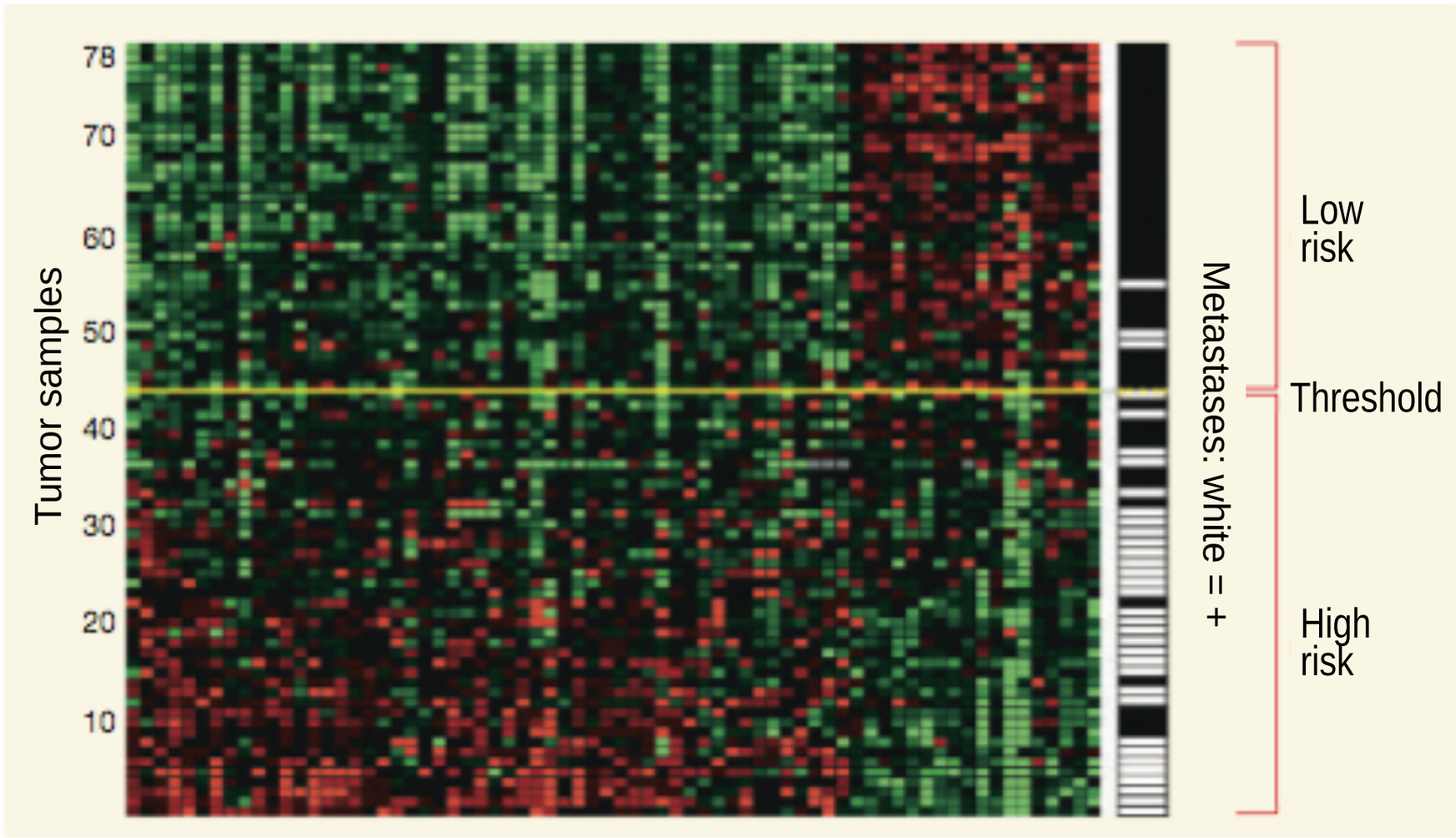


Breast Cancer [100x]



All-American gene.
This "visual genotype" for the breast cancer gene *BRCAT* shows common variations in 90 people representing the U.S. population.

Source: Science, April 25, 2003



Genetic tests, such as this one for breast cancer, can help to tune treatments.

Genetics Research May Help Pick Patients' Best Cancer Drugs

Aid for Physicians May Narrow Market For Blockbusters

THE WALL STREET JOURNAL WSJ.com

By RON WINSLOW and MARILYN CHASE
June 2, 2008

Companies are beginning to accept a smaller market for some medicines in return for a better chance that those who use them will have a good result.

Although many of the new drugs target specific cancer genes, under current practice doctors administer these expensive targeted drugs without knowing whether the patient has the right type of cancer genes.

Genetics May Bring New Life to Failed Drugs

By SHIRLEY S. WANG
March 24, 2008

As pharmaceutical makers find it increasingly difficult to bring new drugs to market, they are turning to genetic tools to seek uses for medicines that failed to make it out of the development pipeline.

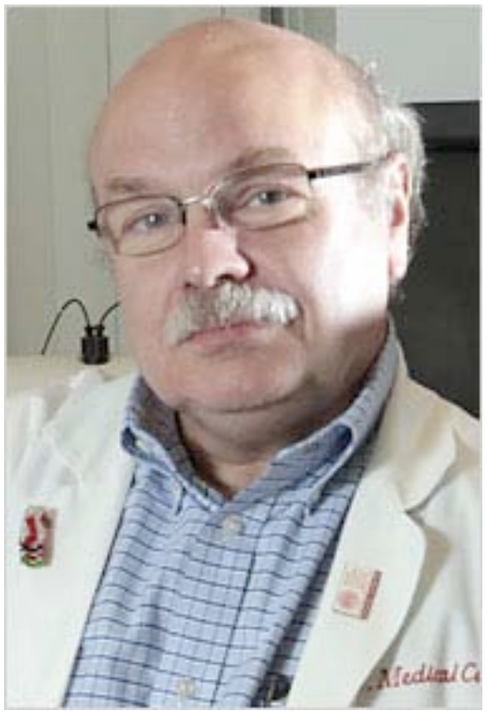
The discovery of new links between genes and diseases can help not only to design new treatments, but to salvage drugs that are shelved when they come up short in clinical trials.

The idea is “to take some of these compounds, capitalize on past investments sitting idle, and now selectively accelerate them in the development process,” says Terry Hisey, a pharmaceutical-industry strategist at the consultancy Deloitte

The New York Times

Patient’s DNA May Be Signal to Tailor Medication

By ANDREW POLLACK
Published: December 29, 2008



A.J. Mast for The New York Times

Dr. David Flockhart discovered how the body converted the medication tamoxifen.

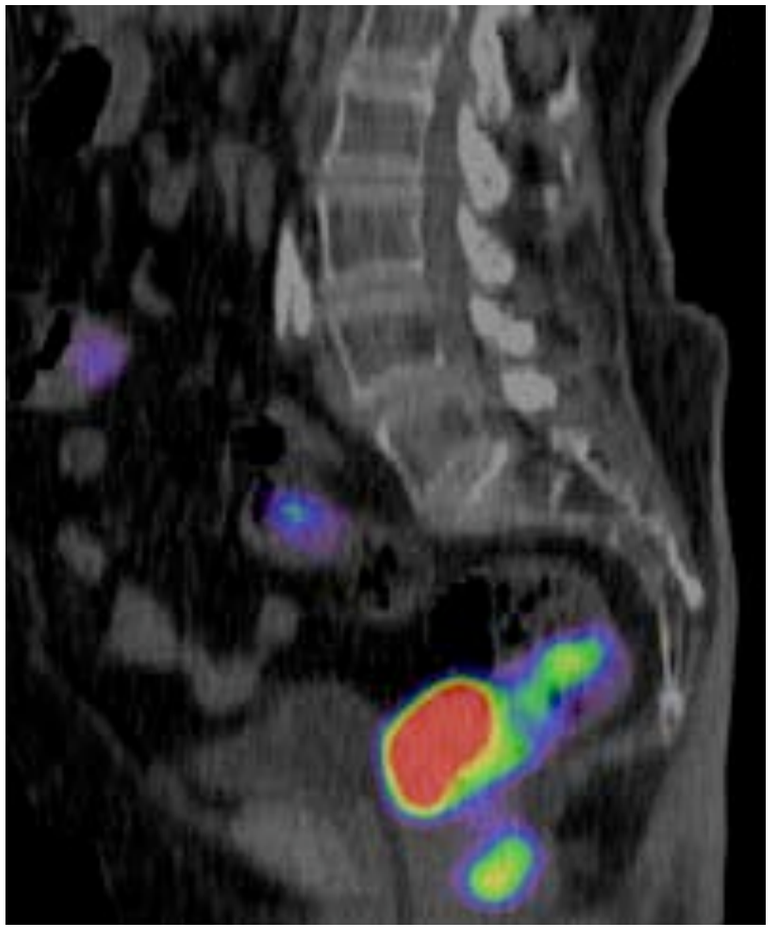
Experts say that most drugs, whatever the disease, work for only about half the people who take them. Not only is much of the nation’s approximately $300 billion annual drug spending wasted, but countless patients are being exposed unnecessarily to side effects.

No wonder so much hope is riding on the promise of “personalized medicine,” in which genetic screening and other tests give doctors more evidence for tailoring treatments to patients, potentially improving care and saving money.

Molecular Imaging: A Brave New World

Health Imaging News | October 22, 2007 | RSNA 360

By Jonathan Batchelor



Nuclear medicine, once dismissed as “unclear medicine,” has moved to the cutting-edge of diagnostic healthcare in the past few years with the introduction of fusion molecular imaging modalities such as PET/CT and SPECT/CT, which provide anatomic clarity to the discipline’s functional focus. In addition, groundbreaking research in radiopharmaceuticals holds the promise of new imaging agents for a wider variety of disease as well as therapeutics designed to provide targeted treatments at the molecular level.

Developers are set to introduce new software tools that utilize advanced visualization technologies to further expand the diagnostic capabilities of PET, PET/CT, SPECT and SPECT/CT.

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MEDICAL SCIENCE: NEW KNOWLEDGE

- Different concepts of diagnosis and treatment
- Personalized, predictive (molecular, genetic) medicine
  - From “one-size-fits-all” to “each patient is unique”
- Decision support and team approaches to safety and best practices

top trends:
redefining
health care
for the
21st century

MEDICAL SCIENCE: NEW KNOWLEDGE

- Growing emphasis on team management of chronic diseases

  - Medical home model (primary care)

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Medical "home" plan cut hospital admissions: study

Wed Sep 10, 2008 12:02am EDT

By Maggie Fox, Health and Science Editor

WASHINGTON (Reuters) - A new system that assigned a medical "home" to patients, usually a primary care practice, cut hospital admissions by 20 percent and costs by 7 percent, according to a report published on Wednesday.

The program at the privately-held Geisinger Health System in Pennsylvania could serve as a model for U.S. health care reform, researchers reported in the journal Health Affairs.

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TECHNOLOGY: NEW TOOLS

- Integrated networks
  (universal connectivity; multiple platforms, interfaces, multi-media)

- Asynchronous care delivery
  (replacing “hands on” face-to-face care)

  - From “hands on presence”
    to “virtual reality”

top trends:
redefining
health care
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TECHNOLOGY: NEW TOOLS

TELEMEDICINE is the combined use of telecommunications and computer technologies to improve the efficiency and effectiveness of health care services by *liberating caregivers and patients from traditional constraints of place and time.*

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Patient Premise Devices

ND telepharmacy project expands across country

Posted 9/12/2008 6:47 AM

Kathy Nelson, owner of the drug store in Arthur, N.D., demonstrates the computer and camera that pharmacy technicians use to communicate with pharmacists on prescriptions. Aug. 31, 2008. (AP Photo/Dave Kolpack)

By Dave Kolpack, Associated Press Writer

ARTHUR, N.D. — As recently as three years ago, many elderly residents in this part of southeastern North Dakota were forced to order their medications by mail.

These days, customers have a real drugstore and can talk to a real person about their health needs -- albeit via the Internet.

Thanks to the virtual pharmacy system that has been tested on the frozen prairie, the days of walking down to the general store for prescription drugs are returning to rural America.

"It's perfect," said Jim Williams, a longtime Arthur resident. "You can walk down there and it's done in a few minutes."

Most telepharmacies are staffed with registered pharmacy technicians, who usually need about two years of schooling and earn about $15 an hour in North Dakota. Some registered nurses also have been trained for the job.

TENNESSEAN.COM

Telemedicine project will serve rural women

By Bill Poovey • ASSOCIATED PRESS • January 27, 2009

CHATTANOOGA — Expanding a medical video network in Tennessee will allow small-town doctors who treat pregnant women to consult electronically with obstetrics specialists in Knoxville and Chattanooga when there are serious problems.

The telemedicine project launched Monday will serve women at 11 rural sites: Winchester, Tullahoma, McMinnville, Cooke ville, Livingston, Crossville, Jellico, Morristown, Newport, Sevierville and Athens.

Dr. Joseph Kipikasa looks at an ultrasound of a Tullahoma patient while demonstrating the capabilities of a new telehealth project at the Regional Obstetrical Consultants office in Chattanooga. ANGELA LEWIS / CHATTANOOGA TIMES FREE PRESS

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TECHNOLOGY: NEW TOOLS

E-HEALTH is the customized application of the tools of Web- and Internet-based commerce to the business of health care, creating new products and complementing the delivery of care (i.e., telemedicine) with coordinated services that add value for customers, improve efficiency for providers, and *enhance exchange relationships.*

- Hospital at home model
  (high intensity, basic technology)

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TECHNOLOGY: NEW TOOLS

- Productivity enhancement (response to labor shortages)

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PAGE ONE

As Doctors Get a Life, Strains Show

Quest for Free Time Reshapes Medicine; A Team Approach

THE WALL STREET JOURNAL WSJ.com

By JACOB GOLDSTEIN
April 29, 2008

DOCTORS' PROGNOSIS

- **New Generation:** Young doctors are pushing to balance work and family life.
- **Changing Medicine:** Practices are adapting by creating new, more flexible schedules.
- **For Patients:** Doctors may be less exhausted, but also less familiar.

U.S. medicine is in the middle of a cultural revolution, as young physicians intent on balancing work and family challenge the assumption that a doctor should be available to treat patients around the clock.

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TECHNOLOGY: NEW TOOLS

- Productivity enhancement
  (response to labor shortages)

  - Informatics
    (digital transformation of work processes)

  - Robotics
    (remote presence care delivery)

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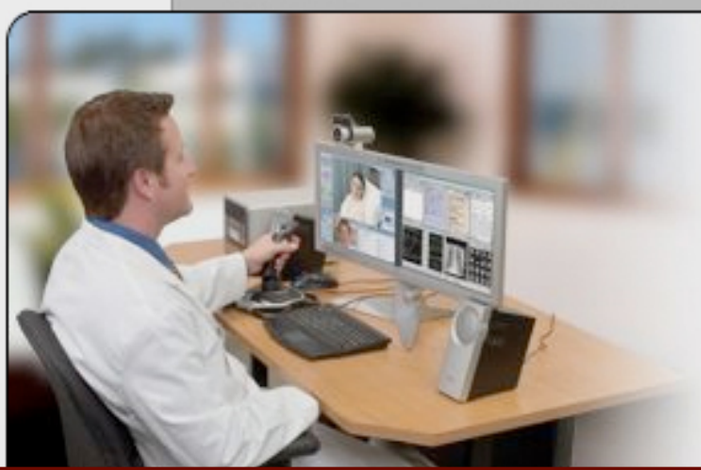
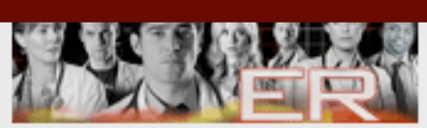


Re-engineering the patient care process

Patients can now return home sooner

InTouch Health
Increased throughput

Remote Presence is the ability to project yourself from one location to another to hear, see, talk and move around as though you were there.



January 25, 2007
"Robo-doc rolls into action at hospital - with video news report"
Livingston Daily

Remote Presence

Remote Presence is the ability to project yourself from one location to another to hear, see, talk and move around as though you were there.

Using telecommunications and mobile robotic technology, a physician can visit more often with

To **request password access**, please click here.

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JAMA
The Journal of the American Medical Association
Vol. 293 No. 2, January 12, 2005
Medical News & Perspectives

Physician-Robot Makes the Rounds

Paul D. Thacker

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TECHNOLOGY: NEW TOOLS

- Productivity enhancement
  (response to labor shortages)

  - Informatics
    (digital transformation of work processes)

  - Robotics
    (remote presence care delivery)

  - Simulation (training)

DENVERPOST.com

April 17, 2006

business

Birthing dummy delivers

By Paul Elias,
The Associated Press

Students Anne Gersbach, left, and Eric Lobez treat a pregnant robot patient at a Vallejo, Calif., Kaiser Permanente hospital. The robot, in use at hospitals internationally, can be programmed for various birth complications. (AP / Jeff Chiu)

Vallejo, Calif. - Noelle has given birth in Afghanistan, California and dozens of points in between. She's a lifelike, pregnant robot used in increasing numbers of medical schools and hospital maternity wards.

The full-sized, blond, pale mannequin is in demand because medicine is rapidly abandoning centuries-old training methods that used patients as guinea pigs, turning instead to high-tech simulations. It's better to make a mistake on a $20,000 robot than on a live patient.

The Institute of Medicine, an arm of the National Academy of Sciences, estimates that as many as 98,000 U.S. patients die annually from preventable medical errors.

"We're trying to engineer out some of the errors," said Dr. Paul Preston, an anesthesiologist at Kaiser Permanente and the architect of the hospital chain's 4-year-old pregnancy-care training program in which Noelle plays a starring role.

"We steal shamelessly from everybody and everywhere that has good training programs," he said.

Noelle, from Miami-based Gaumard Scientific Co. Inc., is used in most of Kaiser's 30 hospitals nationwide, and other hospitals are putting in orders. The Northwest Physicians Insurance Co. is sponsoring similar training programs in 22 hospitals in Oregon and Idaho.

July 20, 2007, 3:41 pm

Won’t You Be My Little Baby?

Posted by Jacob Goldstein

About to deliver a baby for the first time? If a dress rehearsal would ease your nerves — and you happen to have $34,995 to spare — you can pick up NOELLE S575, pictured at left.

A compressor pushes the simulated baby out, everything is way computerized, and you can make just about anything you want go wrong with the delivery ahead of time to see how you would hold up in a crisis. Do everything right, and you’ll be the proud deliverer of a fake infant, like the one pictured at right.

Simulations, increasingly paired with experiments, are being successfully and routinely used by computational biologists to understand and predict the quantitative behavior of complex systems, and to drive new experiments.

Vol 443|5 October 2006|doi:10.1038/nature05127 nature

REVIEWS

From *in vivo* to *in silico* biology and back

Barbara Di Ventura[1]*, Caroline Lemerle[1]*, Konstantinos Michalodimitrakis[1] & Luis Serrano[1]

The massive acquisition of data in molecular and cellular biology has led to the renaissance of an old topic: simulations

familiarize experimentalists with this exciting multidisciplinary endeavour so they might consider complementing their current tools with computational ones. As recent progress in the field has shown, computational biology can successfully assist experimentalists in unravelling the principles and operation of complex systems.

Modelling and simulation of biological systems

Biologists commonly use the term 'model' for verbal or graphical descriptions of a mechanism underlying a cellular process. Less often do they use it to refer to a set of equations expressing in a formal and exact manner the relations among variables that characterize the state of a biological system. The approach of biologists towards knowledge building has been mostly empirical (following 'intuition'), but experimental facts remain 'blind' without laws or principles derived from them. Conversely, theoretical approaches used by modellers have often failed to relate to real systems, such that theoretical concepts encapsulated in these studies are equally 'empty'. Instead, theory and experiments need to be viewed in close interplay.

Mathematical models are more rigorous and powerful than descriptive ones. In some cases, concepts derived from engineering—

[1]European Molecular Biology Laboratory, Meyerhofstrasse 1, 69117 Heidelberg, Germany.
*These authors contributed equally to this work.

interactions of highly connected proteins could be omitted; details such as the cell-cycle regulation of a certain protein could be temporarily set aside; abundant species such as ATP or ribosomes might be represented as constant pools; or transcription and translation events might be lumped together.

With quantitative information often being both incomplete and of non-uniform quality, many modelling tools that are tailor-made to qualitative data are available (in addition to sometimes better known quantitative modelling approaches), some of which also give rise to quantitative predictions (for example, constraint-based modelling approaches). Given the limitations of any single modelling approach (mathematical tools applicable, data types allowed, and so on), it is often worthwhile trying a combination of them[12], and there are indeed a variety of diverse formalisms to choose from including some increasingly promising ones, such as Petri nets[13] and concurrency-theory-derived methods[14], inherited from computer science.

Qualitative modelling

The majority of current experimental techniques, including high-throughput ones, yield only qualitative or semiquantitative data. For

simulations tools to be applied and useful in drawing non-obvious conclusions, the analysis of such data needs to allow, as a minimum, the formulation of logical statements describing, for instance, causal relationships between events involving model components. As an example, computer science algorithms used to perform code checks can assess the logical consistency of a set of statements: that is, check that no subset of statements is in contradiction with any other[15]. Automated tools such as these and others used in qualitative reasoning approaches become indispensable if logical inferences are to be made on very large sets of experimental observations. In qualitative modelling, kinetic processes[16] are simulated by tracking over discrete time the state of the system, defined in terms of a coarse range for each va… conserves compute… behaviours; moreo… a whole family of… loops or the range… Although simulati… exploration of para… the system increas… resources and meti…

In so far as biol… fluctuations and p… correctly a system's… only two states[18], t… the other hand, sim… that are far away fr…

Constraint-base…

Many biological s… environment acting… the concentration … of the reactions (re… much on specific… stoichiometries a… capacities) as they…

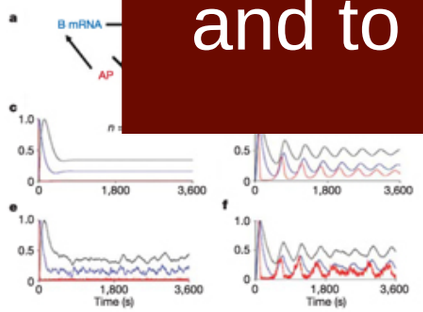

Figure 1 | Simulation of a simple network using different mathematical formalisms. **a**, Diagram of the negative feedback network used in the simulations. *n*, the number of B molecules in the active complex. **b**–**f**, Time courses of activator protein AP (red), *B* mRNA (blue) and B protein (black). The *y* axis represents the number of molecules, normalized for each species by the maximum value reached, except in **b**, in which it represents presence or absence of the molecules. Simulation of discrete time boolean model (**b**) with synchronous update. Deterministic (**c**, **d**) and stochastic[37] (**e**, **f**) simulations using specified parameters (see Supplementary Fig. 2), with B monomer (**c**, **e**) or octamer (**d**, **f**). Oscillations predicted by the boolean model are obtained in the deterministic/stochastic model only when B oligomerization is included.

Quantitative mod… most popular form… equations (ODEs) … referred to as partial… a set typically repre… concentration as a s… (typically law of m… power laws[27], and so… on such concentrati… in a deterministic m… solutions seldom e… puted (once for eac… explored). A word… principle, wrong so… length for the integ… cause divergence o… (numerical instabil… related issues a stro… suited to capturing … dant and reaction e… pathways, for exam… acceptably approxi…

…ellular beha… …ges[28]. Indeed, …by cells—for …nges[29] or to …. To model …l. The first …DEs; derived …he solutions …puting many …their prob… …ures (such as …imposed on …

predictions. For instance, assuming that the degradation rate of a protein is the same whether alone or in a complex is often unjustified, because complex formation can readily affect protein stability. In general, the common practice of assigning 'default' values to generic reactions (degradation rates, transcription activity, and so on) is acceptable only as a first approach and begs further refinement. The precise order in which a series of reactions occurs can be consequential, yet is frequently disregarded. For example (Fig. 2), if the formation of active dimers of a certain species is known to trigger downstream events, and, as an additional assumption, if such a dimer is only active when both monomers are activated (for example, by phosphorylation), one could formulate a general model considering all …ation reac… …e order of …wo of total …imerization …dependence …to different …n running a …es might be …division on …

…s can arise …system. To …of a simple …ltimers and …nscription) …f graininess …istic model …he discrete… …ns (Fig. 1b).

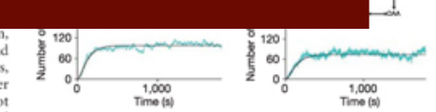

Figure 2 | Example of mathematical-formalism-independent pitfalls in modelling. If protein M is active as a post-translationally modified dimer DAA, the formation of DAA can be modelled differently, depending on assumptions made regarding the order of events and the nature of the active dimer. Here we assume that both monomers must be modified to form an active dimer. **a**, The scheme shows all reactions compatible with the experimental observations. M, monomer; MA, modified monomer; D, dimer; DA, dimer with one modified monomer; DAA, active dimer (both monomers modified). Each horizontal arrow corresponds to a reversible activation reaction and each vertical arrow corresponds to a reversible dimerization reaction. The two slanted arrows, together with the central vertical arrow, represent dimerization of a modified monomer with an unmodified one. **b**–**d**, Simulation runs for three different orders of events—respectively, 'activate then dimerize', 'dimerize then activate' and 'dimerize and activate together independently'—showing the deterministic (black) and stochastic (cyan) temporal evolution of DAA molecules (see Supplementary Fig. 3 for parameters used in the simulation and a mathematical derivation of the steady-state solution).

…our system, …u know and …parameters, …in the earlier …n does not …y conceptual …dictions. …ndent of the …an be intro… …g parameter …ronment of a …ironment of …o interacting …ro owing to …y, bulk esti… …ocal concen… …ear the cell …electrostatic …and experi… …in vivo that …letely wrong

unexpected results of the 2008 election

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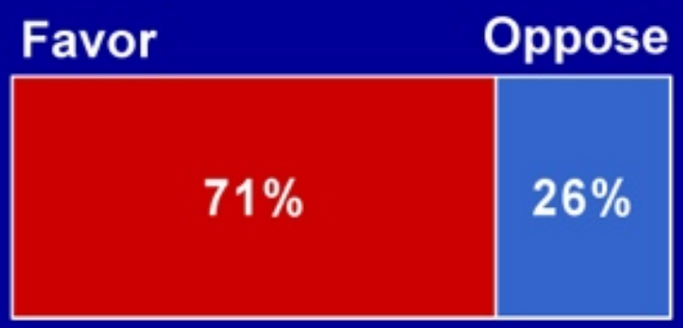
unexpected results of the 2008 election

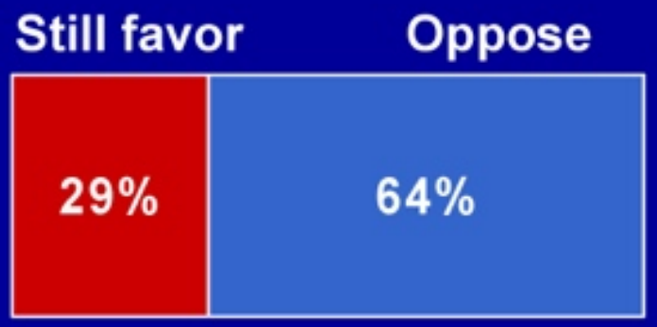
- Health reform sidetracked as a deciding issue
  - Candidates' health plans a political diversion
  - Proposals never implemented as proposed
  - No viable mechanism to assure purchase of insurance

Mandates Popular but not Immune to Challenges

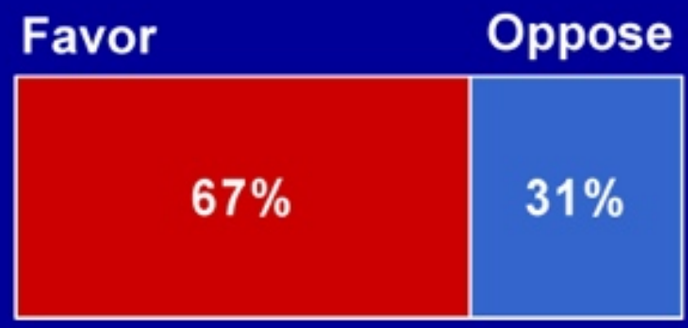
Would you favor or oppose requiring employers to either offer health insurance or pay money into a government pool?



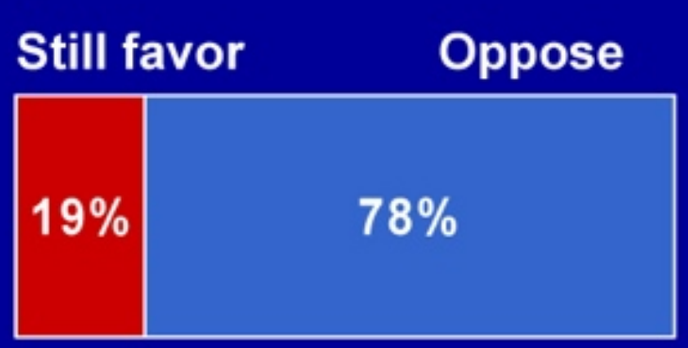
What if you heard that paying for this may cause some employers to lay off some workers?



Would you favor or oppose requiring all Americans to have health insurance with help for those who cannot afford it?



What if you heard that this could mean that some people would be required to buy health insurance that they find too expensive or did not want?



Note: Follow up question asked of those who initially favored. Responses shown on bottom graphs are based on total, where opposed includes those who initially opposed and those who opposed after follow up.
"Don't know/Refused" responses not shown.
Source: KFF/HSPH *The Public's Health Care Agenda for the New President and Congress* (conducted Dec. 4-14, 2008)

THE HENRY J. KAISER FAMILY FOUNDATION
HARVARD School of Public Health

unexpected results of the 2008 election

- Health reform sidetracked as a deciding issue
  - Candidates' health plans a political diversion
  - Proposals never implemented as proposed
  - No viable mechanism to assure purchase of insurance
  - Insurance does not guarantee access to practitioners

unexpected results of the 2008 election

- Health reform sidetracked as a deciding issue
  - Access does not guarantee good medical care
  - Lower cost, higher quality, and universal access are mutually exclusive

unexpected results of the 2008 election

- Health reform now confined by recession and recovery
  - Crisis of unknown extent or duration
  - Total costs of recovery not known
  - Need to understand problems before they can be solved

The New York Times

Governors See Slow Recovery, Even With Stimulus Funds

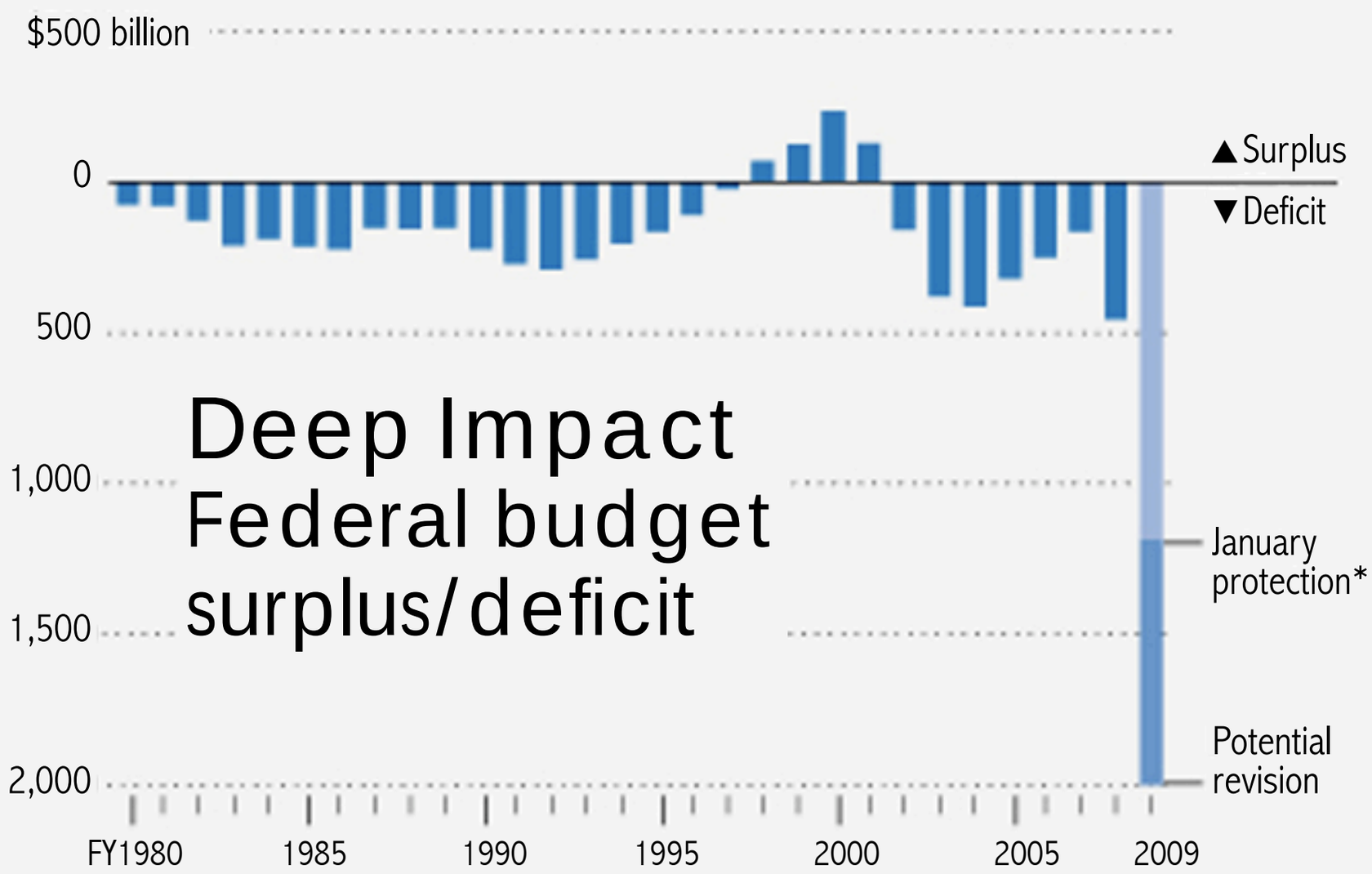
By ROBERT PEAR and J. DAVID GOODMAN
Published: February 23, 2009

WASHINGTON — While state aid provided by the $787 billion stimulus bill might help avert draconian budget cuts, governors of both parties said, they did not expect to see signs of an economic recovery until late this year or early 2010. And for some Republican governors, out in force on the Sunday talk shows, debate continued to rage over just how much of the stimulus money to accept. The governors, here for the winter meeting of the National Governors Association, are poring over the new stimulus law, which cuts taxes and provides billions of dollars to the states for education, transportation, Medicaid and energy and environmental projects.

With state budgets teetering, Gov. Arnold Schwarzenegger of California, who supported the stimulus bill, stressed the need for Republicans in state houses and in Congress to be “team players” in facing the economic crisis and not to hold fast to their party orthodoxies. “You’ve got to go beyond just the principles,” he told George Stephanapolous on ABC’s “This Week.”

unexpected results of the 2008 election

- Health reform now confined by recession and recovery
  - Crisis of unknown extent or duration
  - Total costs of recovery not known
  - Need to understand problems before they can be solved
  - Probable impact of unprecedented deficit spending



Deep Impact
Federal budget surplus/deficit

Note: Fiscal year ends Sept. 30 *CBO outlook
Sources: Congressional Budget Office; Office of Management and Budget

unexpected results of the 2008 election

- Update on economic situation and recovery
  - Key economic statistics

APRIL 18, 2009

Jobless Rate Climbs in 46 States, With California at 11.2%

By STU WOO and SUDEEP REDDY

March unemployment rates, state-by-state.

California and North Carolina in March posted their highest jobless rates in at least three decades, as unemployment increased in all but a handful of states during the month, the Labor Department said Friday.

California's unemployment rate jumped to 11.2% in March, while North Carolina rose to 10.8%, the highest for both since the U.S. government began a comprehensive tally of state joblessness in 1976.

THE WALL STREET JOURNAL. | REAL ESTATE

APRIL 15, 2009

Banks Ramp Up Foreclosures

Increase Poses Threat to Home Prices; Delinquent Borrowers Face New Scrutiny

By RUTH SIMON

Bloomberg News

A foreclosure-auction sign in front of a home in San Jose, Calif., on April 3. Some of the nation's largest mortgage companies have lifted internal moratoriums on foreclosures and have begun determining which troubled borrowers are eligible for federal help and which to foreclosure on.

Some of the nation's largest mortgage companies are stepping up foreclosures on delinquent homeowners. That will likely lead to more Americans losing their homes just as the Obama administration's housing-rescue plan gets into gear.

J.P. Morgan Chase & Co., Wells Fargo & Co., Fannie Mae and Freddie Mac all say they have increased foreclosure activity in recent weeks. Those companies say they have lifted internal moratoriums which temporarily halted foreclosures.

APRIL 15, 2009

Retail-Sales Fall Damps Hope That Rebound Is Near

By SUDEEP REDDY

More

March Retail Sales

Autos	2.3% ▼
Clothing	1.8% ▼
Food/beverage	0.5% ▲
Gas stations	1.6% ▼
Health	0.4% ▲
Total	**1.1%** ▼

Vs. Feb., seasonally adjusted

Economists React: "Quite Weak" Spending Ahead

Econ Blog: Recessions and Violent Crime

MarketBeat: Retail Sales and the Future

Econ Newsletter: Click here to sign up

- **Tax Refunds' Boost May Peter Out**

WASHINGTON -- Retail sales tumbled in March as job losses and tight credit left consumers cautious and constrained, damping hopes for a rapid economic turnaround.

After some improvement earlier this year from a dismal autumn, retail sales in March fell 1.1% from February, the Commerce Department said Tuesday. Credit turmoil continued to hit automobile sales especially hard, but the declines also came in most major categories, from appliances to furniture to clothing stores. Retail sales, a broad tally that also includes food services, were down more than 9% from the same month a year ago.

unexpected results of the 2008 election

- Update on economic situation and recovery
  - Key economic statistics
  - Economic forecasts

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The New York Times

OP-ED COLUMNIST

Green Shoots and Glimmers

By PAUL KRUGMAN
Published: April 16, 2009

Ben Bernanke, the Federal Reserve chairman, sees “green shoots.” President Obama sees “glimmers of hope.” And the stock market has been on a tear.

So is it time to sound the all clear? Here are four reasons to be cautious about the economic outlook.

1. Things are still getting worse. Industrial production just hit a 10-year low. Housing starts remain incredibly weak. Foreclosures, which dipped as mortgage companies waited for details of the Obama administration’s housing plans, are surging again.

The most you can say is that there are scattered signs that things are getting worse more slowly — that the economy isn’t plunging quite as fast as it was.

unexpected results of the 2008 election

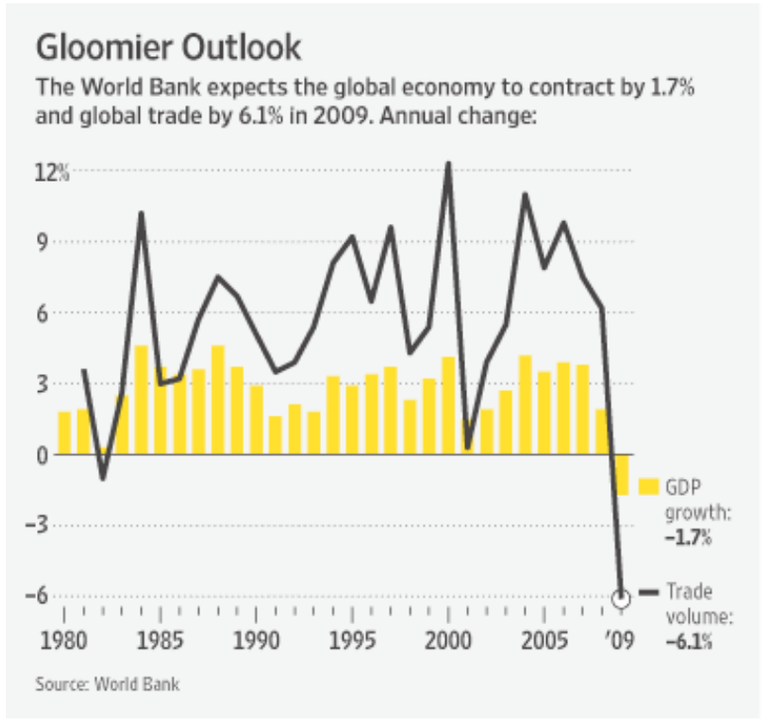
- Update on economic situation and recovery
  - Key economic statistics
  - Economic forecasts
  - Global perspectives

APRIL 1, 2009

Global Slump Seen Deepening

New Forecasts of Contraction, Trade Drop Cause Worry on the Eve of G-20 Summit

By MARCUS WALKER, JOELLEN PERRY and KELLY EVANS



All together, the world economy will shrink by 2.75% this year, the Organization for Economic Cooperation and Development said. The 30 industrialized countries it tracks now face a far bigger slump than it forecast just four months ago, the OECD said, at 4.3%

unexpected results of the 2008 election

- Update on economic situation and recovery
  - Key economic statistics
  - Economic forecasts
  - Global perspectives
  - Economic recovery programs
    - American Recovery and Reinvestment Act of 2009
    - Health Information Technology (HITECH, Section XIII)

unexpected results of the 2008 election

- General observations on HITECH
  - Rush to do something prevailed over deliberation
  - Fatigued staff using rough notes and hazy recollections
  - Major compromises made to meet symbolic deadline
  - Significant concessions made to Senator Specter (shifting $40b)
  - Law passed on party lines without time for reading or amendments

unexpected results of the 2008 election

- General observations on HITECH
  - Hodge-podge of legislative mandates and delegated powers
  - Imposition of very tight deadlines
  - Conditions of funding can change unexpectedly
  - Law has many inconsistencies and ambiguities
  - Technical corrections will be needed

unexpected results of the 2008 election

- General observations on HITECH
  - Changes in law will not necessarily be improvements
  - HIMSS qualifiers (“Ideally,” “If things work out as hoped...”)
  - Brand-new Secretary of HHS (Gov. Sebelius, KS) with other pressing concerns
  - Mixed signals from new National Coordinator (Dr. David Blumenthal)

unexpected results of the 2008 election

- General observations on HITECH
  - HITECH funding is reimbursement for meaningful use of certified systems
  - “Meaningful” to be defined and certification subject to change
  - Systems must be installed and operational to qualify for funds
  - HITECH does not provide seed money to get started
  - Grants and appropriations are the alternatives

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unexpected results of the 2008 election

- General observations on HITECH
  - Carrots are “iffy” and not very big
  - $11m maximum per hospital, spread over 4 years
  - Complicated formulas for determining HIT reimbursement
  - Net value of funding reduced by costs of compliance
  - Many strings to be attached...

The New York Times

Some Banks, Feeling Chained, Want to Return Bailout Money

By STEPHEN LABATON
Published: March 10, 2009

WASHINGTON — The list of demands keeps getting longer.

Financial institutions that are getting government bailout funds have been told to put off evictions and modify mortgages for distressed homeowners. They must let shareholders vote on executive pay packages. They must slash dividends, cancel employee training and morale-building exercises, and withdraw job offers to foreign citizens.

As public outrage swells over the rapidly growing cost of bailing out financial institutions, the Obama administration and lawmakers are attaching more and more strings to rescue funds.

The conditions are necessary to prevent Wall Street executives from paying lavish bonuses and buying corporate jets, some experts say, but others say the conditions go beyond protecting taxpayers and border on social engineering.

Some bankers say the conditions have become so onerous that they want to return the bailout money. The list includes small banks like the TCF Financial Corporation of Wayzata, Minn., and Iberia Bank of Lafayette, La., as well as giants like Goldman Sachs and Wells Fargo.

unexpected results of the 2008 election

- General observations on HITECH
  - Sticks are likely to be big
  - 1% update penalties for not using HIT start in 2015
  - $36b authorization
  - $2b for Secretary and ONC to implement law (including possible development of government system)
  - $17b Medicare and Medicaid reductions tied to HIT savings

H.R.1

One Hundred Eleventh Congress of the United States of America

AT THE FIRST SESSION

Begun and held at the City of Washington on Tuesday, the sixth day of January, two thousand and nine

An Act

Making supplemental appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization, for the fiscal year ending September 30, 2009, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "American Recovery and Reinvestment Act of 2009".

H.R. 1

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unexpected results of the 2008 election

- Update on prospects for reforms in health care
  - State child health insurance programs (SCHIP)
  - Medicaid subsidies
  - Universal access (rising cost due to rising unemployment)
  - Comparative effectiveness research
  - Medicare and Medicaid “savings” (reductions)
    - Subsidies for private plans

unexpected results of the 2008 election

- Update on prospects for reforms in health care
  - Other considerations
    - Senate focused on cost containment and quality
    - House focused on expanded access and coverage
    - General agreement on budget neutrality (“pay go”)
    - Intense competition from other national needs (education, energy and environment, defense)

unexpected results of the 2008 election

- General observations on evolution of recovery programs and policies
  - Considerable implementation authority to states
  - Impact of early leadership vacuum at Dept. of Health and Human Services
  - Complications created by divisions within Democratic Party
  - Lack of real consensus on health reform

MiamiHerald.com

WH budget director grilled on health plan details

BY ERICA WERNER

ASSOCIATED PRESS WRITER

WASHINGTON -- President Barack Obama's budget director rebuffed congressional demands for specifics on the administration's multibillion-dollar plans for health care, telling lawmakers that deciding how the money is spent is largely up to them.

That response from Peter Orszag, director of the White House Office of Management and Budget, frustrated Republicans and a few Democrats on Tuesday as the Senate Finance Committee held the first of many hearings on overhauling the nation's health care system. The president's budget calls for a 10-year, $634 billion "down payment" on extending coverage to 48 million uninsured Americans.

"Let me just note immediately, so that perhaps we can avoid the typical Washington game of gotcha, the administration has been very clear that we put a significant down payment on the table," Orszag said.

"But on exactly what the administration does and does not favor on the benefits and coverage side, you should not expect and you will not be receiving definitive answers from me," he said.

unexpected results of the 2008 election

- General observations on evolution of recovery programs and policies
  - Distractions of correcting and amending stimulus laws
  - Dealing with ambiguity, contradictions, and missed deadlines
  - Pre-positioning for 2010 and 2012 elections

unexpected results of the 2008 election

- Forecast for “reform” (public spending on health care, adjusted for inflation)

Increased spending	10%
No change	30%
Decreased spending	60%

unexpected results of the 2008 election

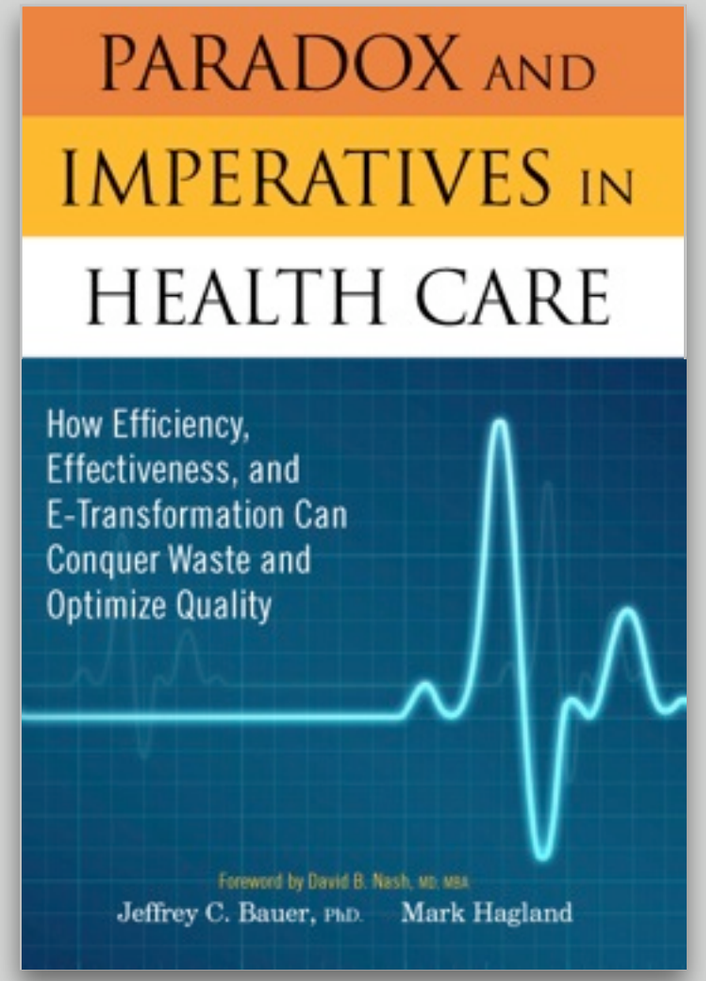
- Options for providers
  - Wait and see (business as usual)
  - Consolidation (mergers and acquisitions)
  - Closure
  - Strategic program planning (clinical focus and trade-offs, not across-the-board cuts)
  - Partnerships (other providers, payers, purchasers, patients)
  - Internal performance improvement

Quotes from —

Bauer, Jeffrey C. and Mark Hagland

Paradox and Imperatives in Health Care: How Efficiency, Effectiveness, and E-Transformation Can Conquer Waste and Optimize Quality

(Productivity Press, 2008)



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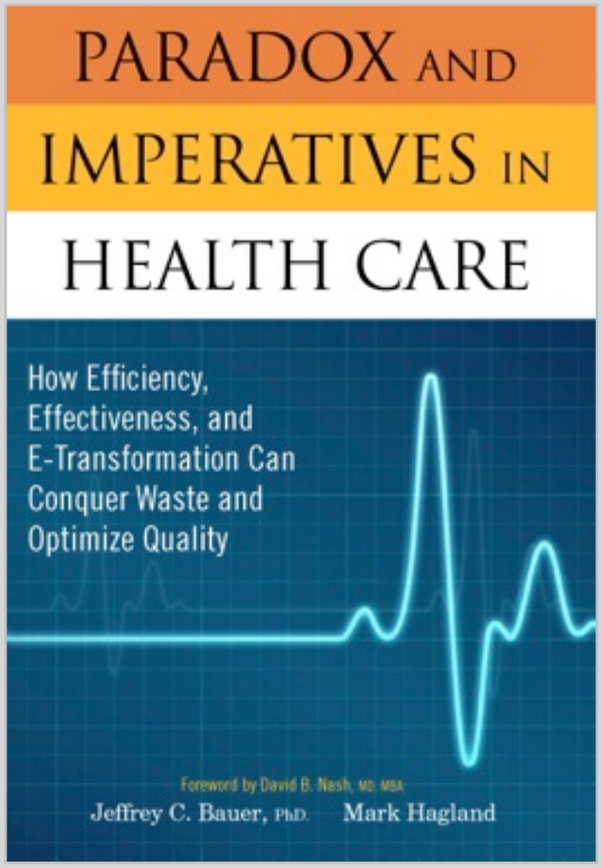


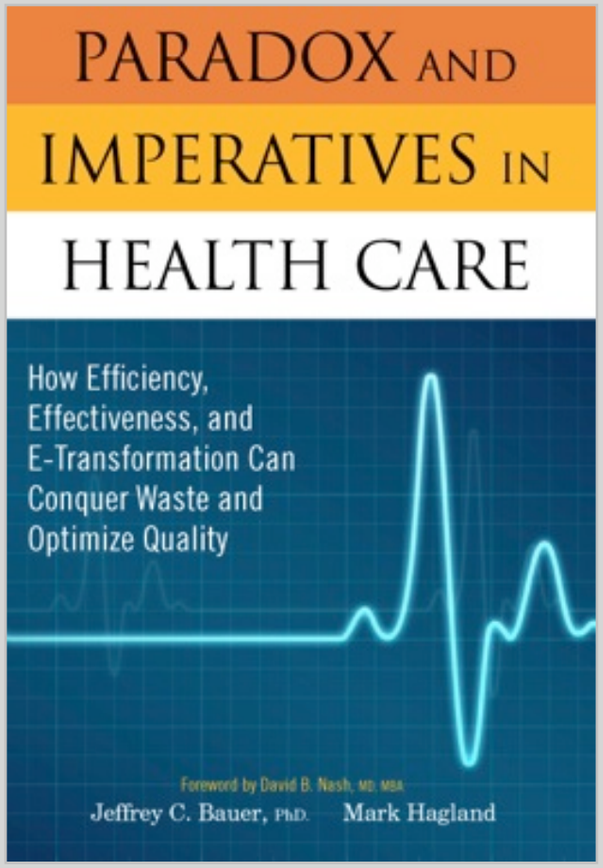
EFFICIENCY

Maximum output for a fixed budget

An outcome where managers have determined the combination of inputs that produces the greatest quantity of a good or service for a given amount of money (for example, finding the combination of nurses, physicians, treatment spaces, and technologies that yields the maximum number of annual visits to an emergency department for an annual operating budget of five million dollars). From this perspective, efficiency is the highest output you can produce for a specific number of dollars.

(p. 27)

leading change: strategies for survival and growth



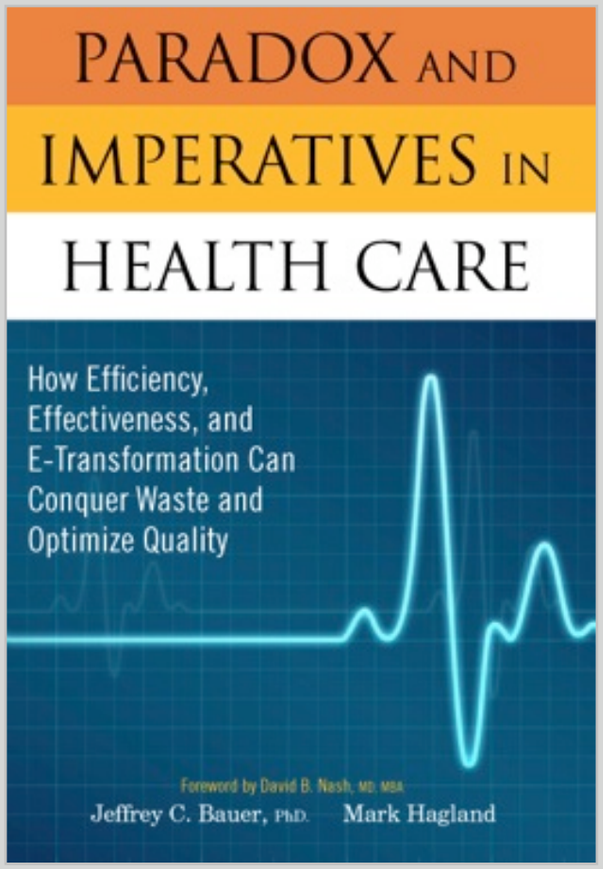
EFFICIENCY

Minimum cost for a fixed output

An outcome where managers have determined the combination of inputs that produces the greatest quantity of a good or service at the least-expensive cost (for example, finding the lowest annual budget that is needed to buy the resources necessary to produce 50,000 annual visits to an emergency department). From this perspective, efficiency is the minimum number of dollars needed to meet a predetermined production goal.

(p. 28)

leading change: strategies for survival and growth



EFFICIENCY

Either way,

efficient = no waste

"Estimates of waste range between one-fifth (20%) and one-third (33%) of national health care expenditures."

(p. 33)

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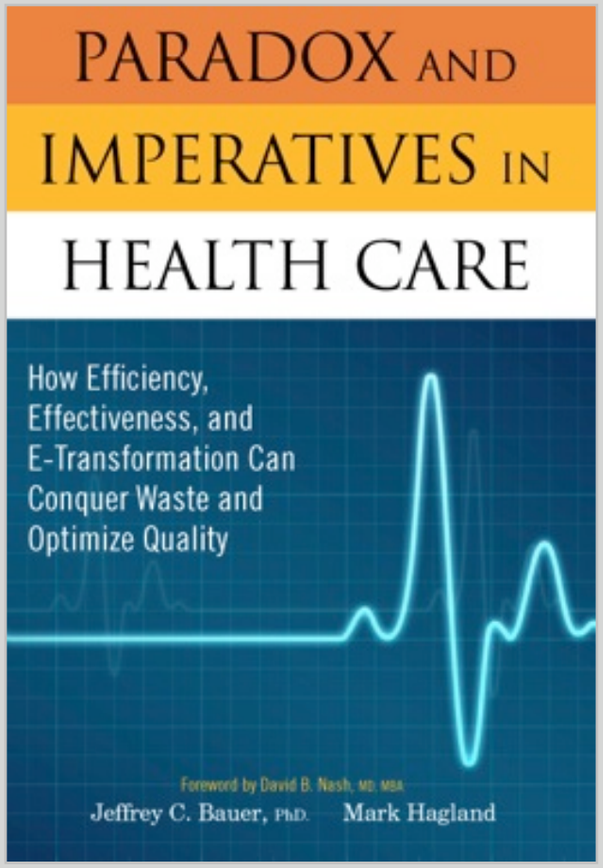

EFFICIENCY

- Widespread use of unproductive or counterproductive clinical interventions
- Failure to use least-expensive resources to achieved desired outputs
- Poor utilization of personnel and facilities
- Redundant reimbursement procedures with perverse incentives
- Inappropriate balance between acute care, disease management, and prevention


VISAO

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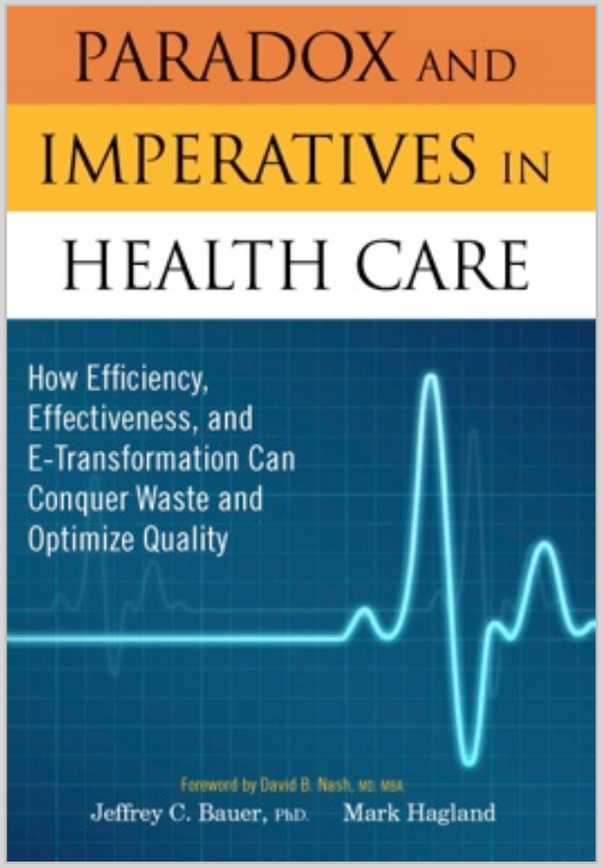
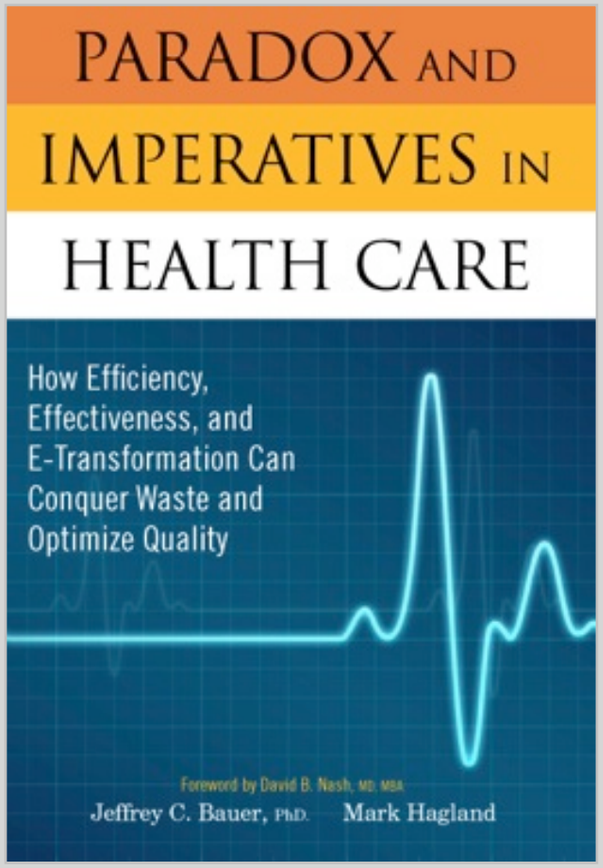


EFFECTIVENESS

Effectiveness is a measure of the relative compliance with objective specifications of expected performance. If a good or service does everything that it was designed to do, it is 100% effective (regardless of its cost of production or price). If it performs below specified expectations, it is correspondingly less effective.

(p. 36)

leading change: strategies for survival and growth



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Effective = no unexplained variation

(p. 36)

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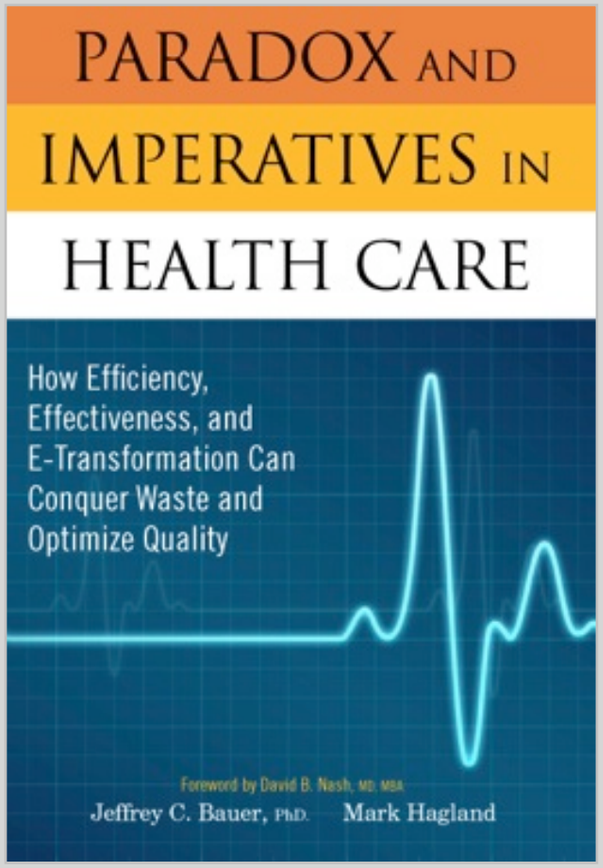
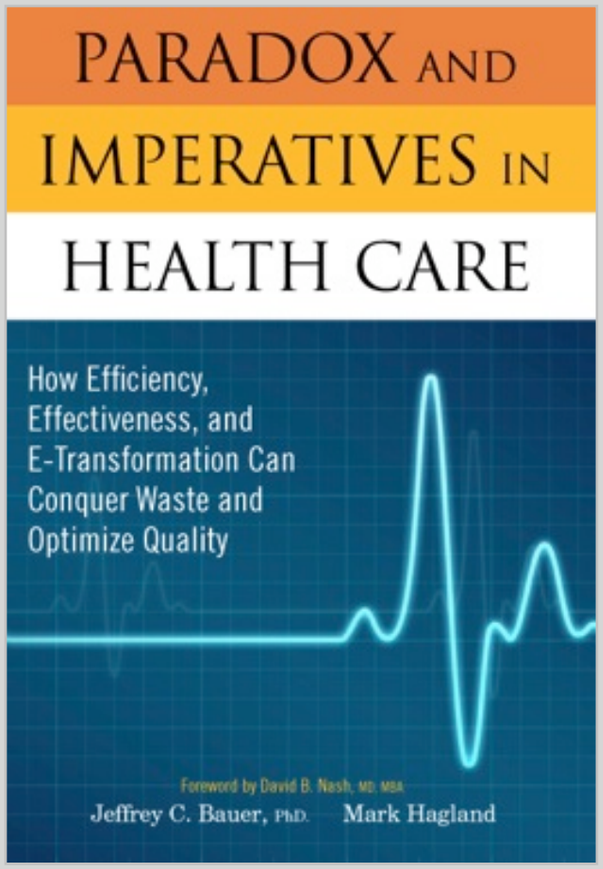


SELECTING THE VARIABLE TO MAXIMIZE

"Only one variable can be maximized or minimized in a system with limited resources. A goal of producing the highest possible quality of care at the lowest possible price "does not compute." Therefore, health care's strategic decision makers must decide whether efficiency or effectiveness is the variable to be optimized by their organization."

(p. 46)

leading change: strategies for survival and growth



SELECTING THE VARIABLE TO MAXIMIZE

"To save money, would you be willing to get your health care from a provider that publicly admits its care is not always as good as it could be? Most people wouldn't be any more willing to patronize this hospital or medical group than they would be to fly on an airline that admits it gets them (not just their luggage) to their destination most of the time. Hence, providers that accept the imperatives of efficiency and effectiveness must adopt the following goal for their mission statements: ***Doing it right all the time, as inexpensively as possible!*** This statement should be in every strategic plan."

(pp. 51-52)

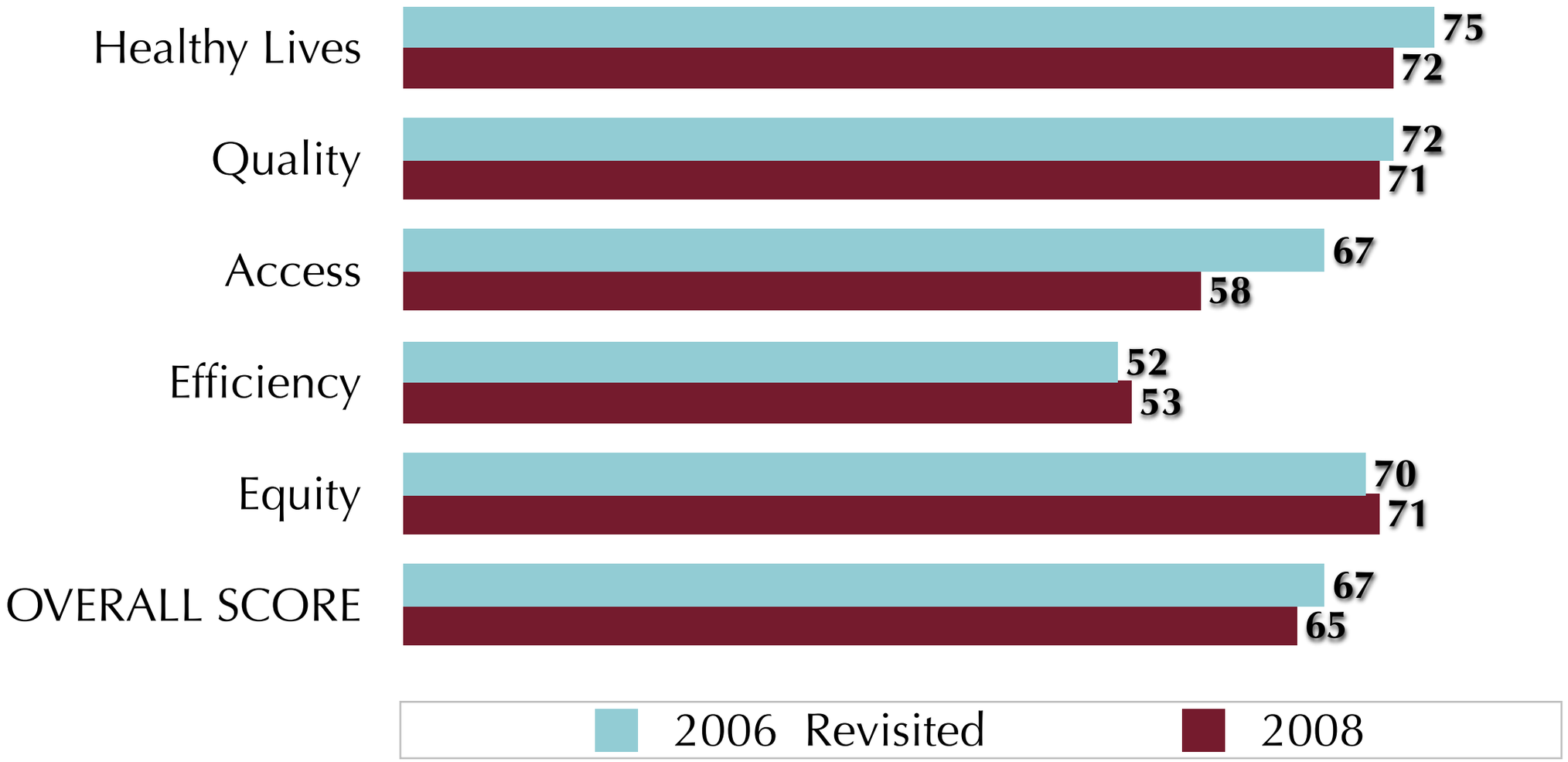
Why Not the Best?

Results from the National Scorecard on U.S. Health System Performance, 2008

The Commonwealth Fund Commission on a High Performance Health System

JULY 2008

Scores: Dimensions of a High Performance Health System



Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2008

leading change: strategies for survival and growth

Factors compelling process improvement (PI), clinical transformation (CT) & information technology (IT)

- Imperative to do new things, not old things in new ways
- Quantity of management information exceeding human capabilities
- Rising costs of human error (clinical and operational)
- Pay-for-performance becoming non-payment for non-performance

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Factors compelling process improvement (PI), clinical transformation (CT) & information technology (IT)

- Demonstrated superiority of electronic medical records
- Validation from other industries transformed by PI and IT

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Proven foundations for performance improvement and clinical transformation

- Lean management
- Six Sigma
- Toyota Production System
- Plan-Do-Check-Act/Balanced Scorecard

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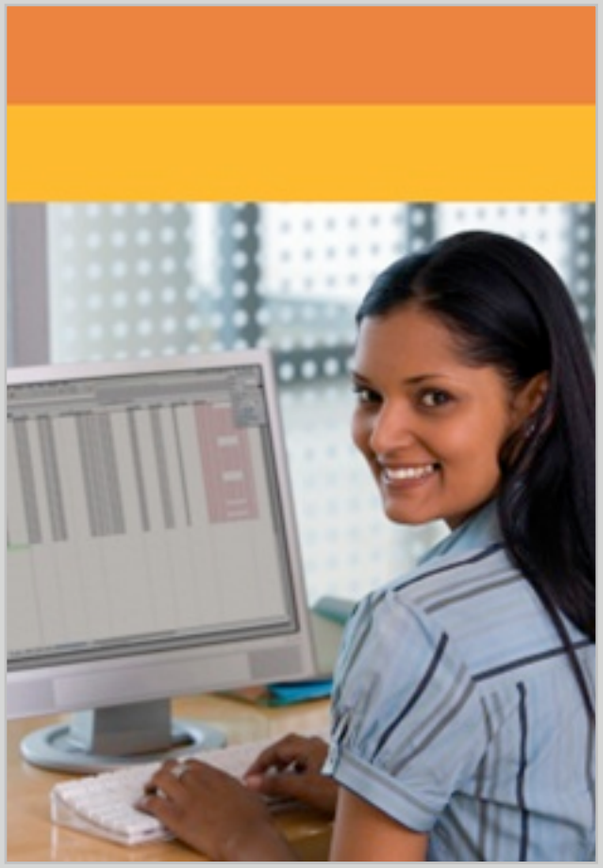

Common characteristics of good performance improvement tools

- Quantification and analytics
  (roadblocks in present state)
- Process change
  (clear roadmaps to future state)
- Employment education and empowerment
  (responsibility, authority, resources)
- Standardization
  (elimination of unexplained variation)

leading change: strategies for survival and growth

Common characteristics of successful health care provider organizations

Representative Case Studies from Paradox and Imperatives

BRONSON

IOWA HEALTH SYSTEM

JOHNS HOPKINS MEDICINE

Duke Children's HOSPITAL & HEALTH CENTER

ALLEGHENY GENERAL HOSPITAL

NORTH MISSISSIPPI MEDICAL CENTER

Crystal Run Healthcare

BRIGHAM AND WOMEN'S HOSPITAL
A Teaching Affiliate of Harvard Medical School

Hill Physicians
Your health. It's our mission.

PARTNERS HEALTHCARE

HACKENSACK UNIVERSITY MEDICAL CENTER

VIRGINIA MASON

VCU Health System

BAYLOR Health Care System

Memorial Sloan-Kettering Cancer Center

GEISINGER

FAIRVIEW

leading change: strategies for survival and growth

Common characteristics of successful health care provider organizations

STANDARDIZATION

- Elimination of variability
- Clinician-driven process

FLEXIBILITY

- Ongoing process reflecting changes in medical science and technology
- Staff with permanent assignments to update processes

leading change: strategies for survival and growth

Common characteristics of successful health care provider organizations

INTEGRATION

- Fully integrated information technology
- Enterprise scaled for efficiency (including partnerships and outsourcing)

ALIGNMENT

- All stakeholders pursuing same operational objectives and strategic goals
- Predominance of employed medical staff

leading change: strategies for survival and growth

Common characteristics of successful health care provider organizations

LEADERSHIP

- Sustained commitment of trustees, senior managers, and medical staff leaders
- Willingness to continue through “tough times”

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Common characteristics of successful health care provider organizations

ACCOUNTABILITY

- Data-driven analytical processes for continuous improvement
- Expectation and acceptance of transparency

CREATIVITY

- Belief in value of efficiency and effectiveness
- Desire to do things better

leading change: strategies for survival and growth

Health care's challenge from the 2008 election: Accountable modernization

- Preparing for difficult, unprecedented, and uncertain economic circumstances
- Positioning health reform as a national priority
  - Competing for #2 (with energy, infrastructure, education, and military)
- Accepting dramatic and progressive change as a precondition for public support

leading change: strategies for survival and growth

Health care's challenge from the 2008 election: Accountable modernization

- Preparing for difficult, unprecedented, and uncertain economic circumstances
  - Eliminating internal divisions that will aid competing sectors
- Shifting debate from eliminating waste to doing great things with existing resources
- Focus on perpetual and pervasive process improvement, not pay-for-performance

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