



## A DECADE OF CHANGE IN THE PHARMACEUTICAL INDUSTRY

Research & Development		R&D Spending		
Time to develop a drug	10-15 years	Year	PhRMA Members	Total Industry
Development Costs - 10 years of change				
Cost to develop a drug				
2005	\$1.3 billion	2009	\$45.8 billion	\$65.3 billion
2001	\$802 million		(est.)	(est.)
1987	\$318 million	2008	\$47.4 billion	\$63.7 billion
1975	\$138 million			
Cost to develop a biologic				
2005	\$1.25 billion	2007	\$47.9 billion	\$63.2 billion
Medicines in Development		2006	\$43.4 billion	\$56.1 billion
2010	950 compounds			
1999	800 compounds	2005	\$39.9 billion	\$51.8 billion
Sales				
Generic Share of Market		2004	\$37.0 billion	\$47.6 billion
2009	74%			
2000	49%	2000	\$26.0 billion	Not available

Source: PhRma; PharmaVOICE, March 2011

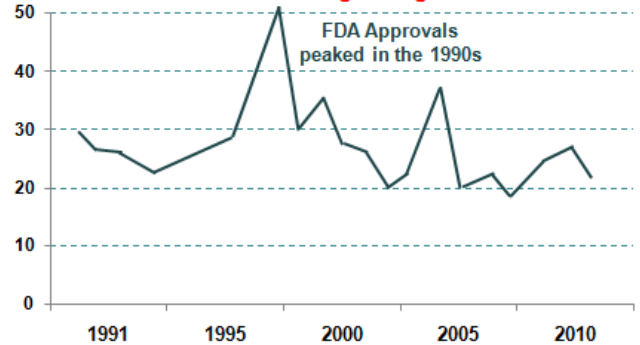
It could be described as the Best of Times or the Worst of Times to paraphrase Charles Dickens. Major changes have occurred in the pharmaceutical industry over the last 10 years. Some of those trends include a decline in the innovative pipeline; increase in regulatory pressures slowing drug approval; and blockbusters losing patent exclusivity resulting in a shift to generics. In fact, 3 out of 4 prescriptions are now generic. The blockbuster drug is quickly becoming a thing of the past, which is why costs are rising. Lipitor, the last branded drug among the 15 most used medicines in the U.S., goes off patent in 2011, marking an end of the Blockbuster Era. The graphs and data provide a snap shot of the pharmaceutical industry in 2011

### Incredible Shrinking Pharma Companies

	Pfizer	Merck
2010 Sales	\$68 billion	\$45 billion
2015 Projected Sales	\$60 billion	\$44 billion
2010 Top Product	Lipitor \$11 billion	Singulair (Allergies) \$6 billion
2015 Top Product	Prevnar (Vaccine) \$6 Billion	Remicade (Autoimmune) \$4 billion

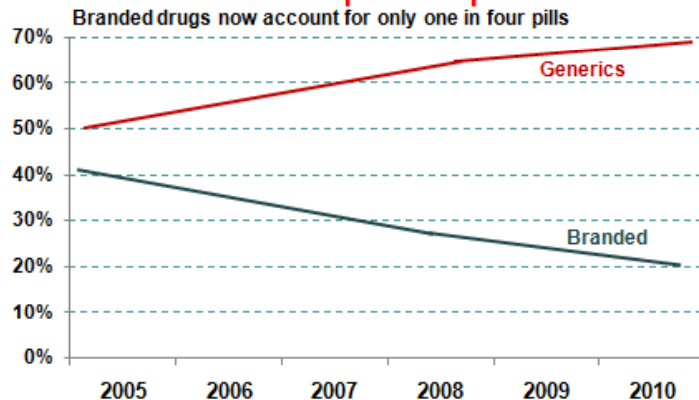
Source: Bernstein Research; IMS Health; Forbes, 4/25/11

### The New Drug Drought



Source: FDA, Innthink

### Generic Prescriptions Dispensed



Source: IMS Health

### The Most Popular Pills

Of the most used drugs only Lipitor is a branded medicine. It goes generic in November.

#### PRESCRIPTIONS

Vicodin and Equivalent (Pain)	128 Million
Simvastatin (High Cholesterol)	83
Lisinopril (High Blood Pressure)	81
66	Levothyroxine SOD (Thyroid Hormone)
53.8	Azithromycin (Antibiotic)
52.0	Metformin HCL (Diabetes)
51.5	Lipitor (High Cholesterol)
50.9	Amlodipine Besy (High Blood Pressure)
49.2	Amoxicillin (Antibiotic)
47.1	Hydrochlorothiazide High Blood Pressure

Source: FDA, Innthink; Forbes, 4/25/11

This may be why you might pay less for your medications, although of concern is the fact that there is a new drug drought.

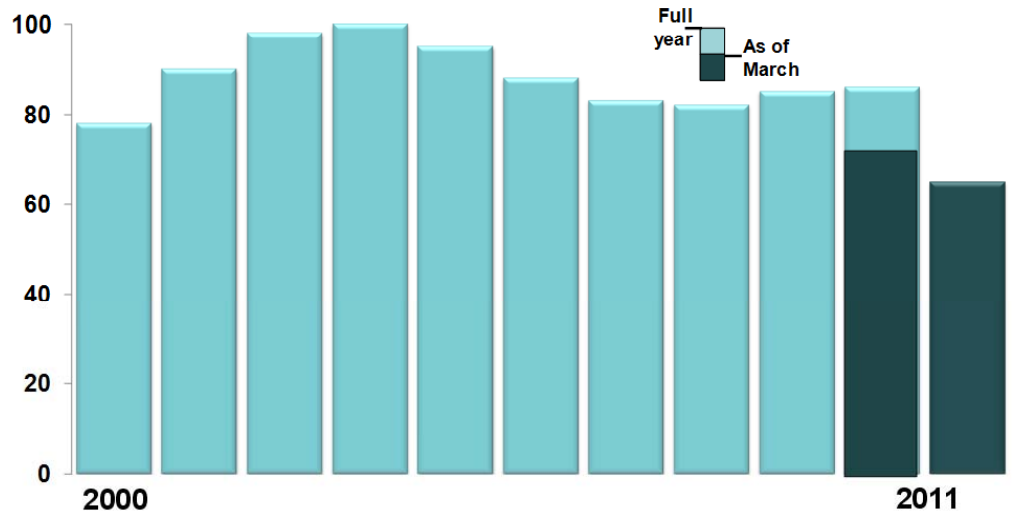




## LAW SCHOOL APPLICATIONS FALL

### Law-school applicants for the fall of each year, in thousands

There has been much attention given to the fact that there are shortages for certain professionals and ancillary service personnel within healthcare. Of note is the fact that student applications to law schools are down sharply this year, as college seniors grow leery of a degree that promises certain debt and uncertain job prospects – perhaps good news for healthcare – provided people understand that the focus is somewhat different.

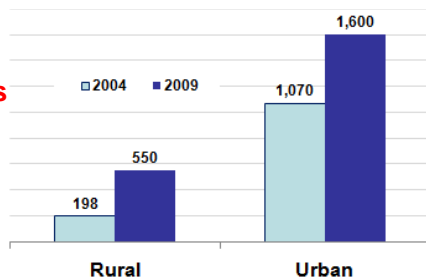


Source: Law School Admission Council; *Wall Street Journal*, 3/17/11

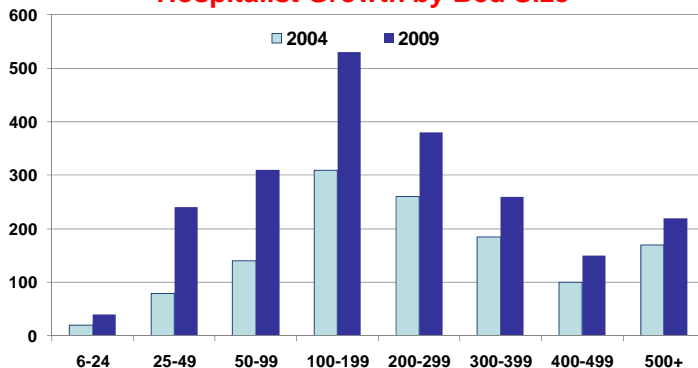
## HOSPITALIST PROGRAMS CONTINUE TO GROW

Hospitals are increasingly using hospitalists to manage inpatient care and eliminate the need for on-call physicians. The Society for Hospital Medicine reports that the term “hospitalists” was first used in 1996; today it estimates that over 30,000 hospitalists are practicing in more than 3,000 institutions. The graphs provide a composite of the current hospitalist landscape.

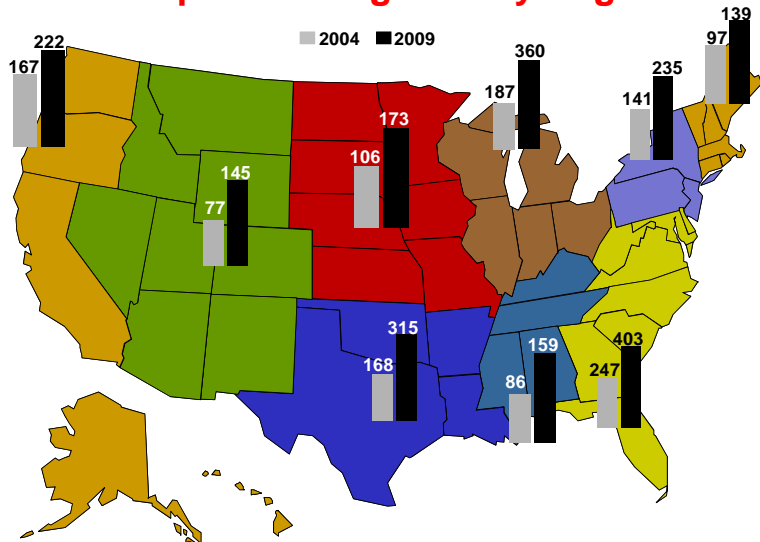
### Hospitalist Growth in Rural and Urban Areas



### Hospitalist Growth by Bed Size



### Hospitalist Programs by Region



Source: AHA Annual Survey of Hospitals (FY 2009), *Trustee*, January 2011



# Mediscene Newsletter

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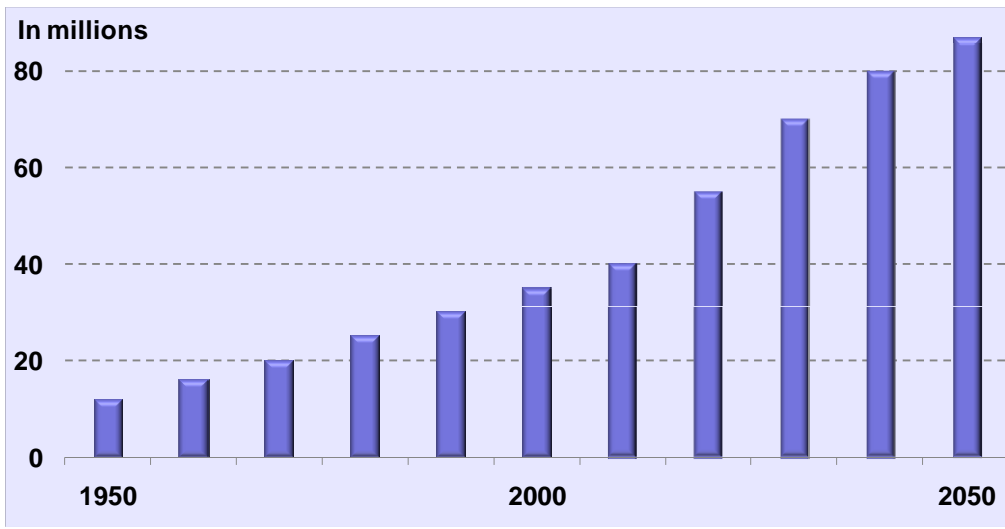


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## DEMOGRAPHICS

U. S. population aged 65 and older\*



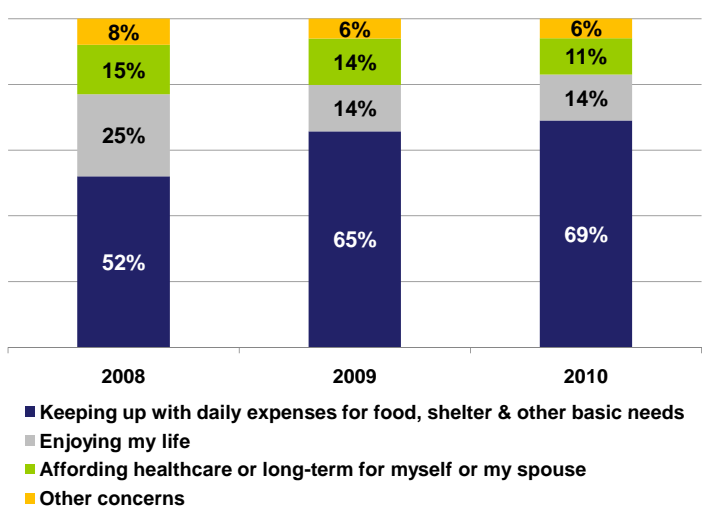
\*2010 est., 2011 and later, projections

Source: U.S. Census Bureau, Wall Street Journal, 2/5/11

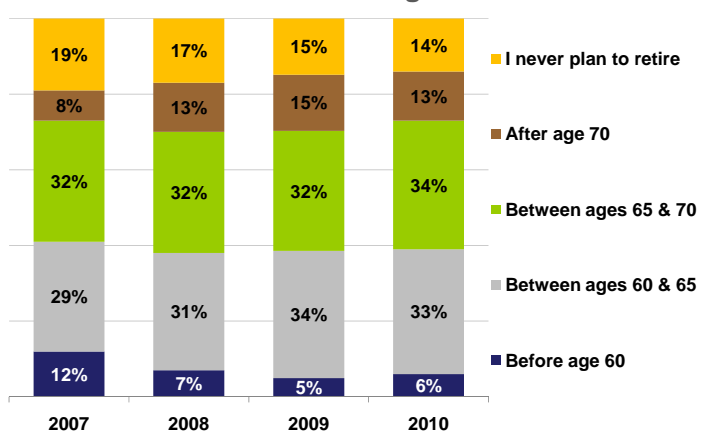
One of the greatest market drivers impacting the healthcare industry, as well as many other industries, is demographics. This is fueling a significant amount of redesign in healthcare as a large volume of older patients seek opportunities to improve their healthcare both in and outside the hospital. Of note is the fact that how one markets to this population is challenging. Many are computer literate but not social networking literate. Hospitals, health systems and medical practices are beginning to address various facets of connecting with this rapidly increasing number of potential customers.

This group of older people are beginning to show different financial expectations as a consequence of the recent recession. The financial retirement goals are shifting, meaning living expenses appear to be increasingly the top concern for retirees, even if it means working longer.

The Shift in Financial Priorities



The Shift in Retirement Age



Source: The Hartford Investment & Retirement Study, 2010



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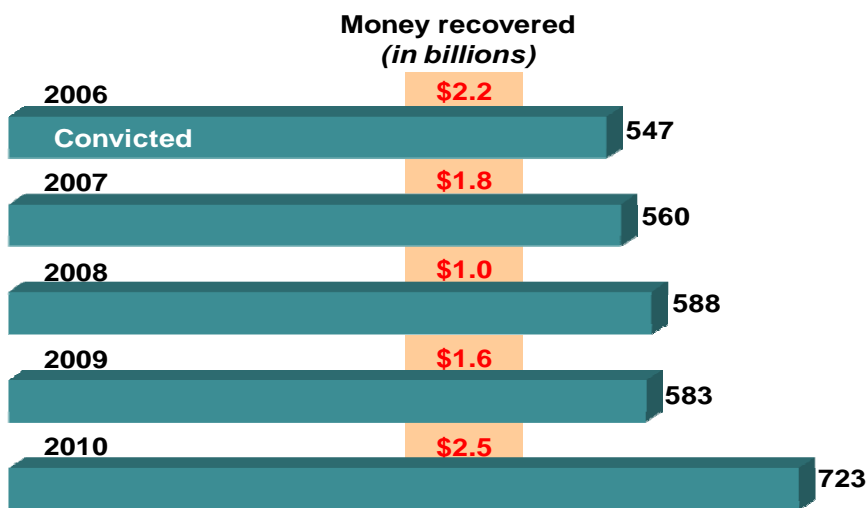
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## HEALTHCARE FRAUD

One of the ways people are talking about funding some of healthcare reform is by focusing more on healthcare fraud. Federal agents recovered \$2.5 billion from healthcare fraud judgments in the budget year that ended in September 2010. This was a record-breaking amount that they credit to whistle blowers. Overall the government recovered \$4 billion, including \$1.4 billion in administrative findings.

### Medicare Fraud Convictions



Sources: Department of Health and Human Services & Department of Justice; USA Today, 1/24/11

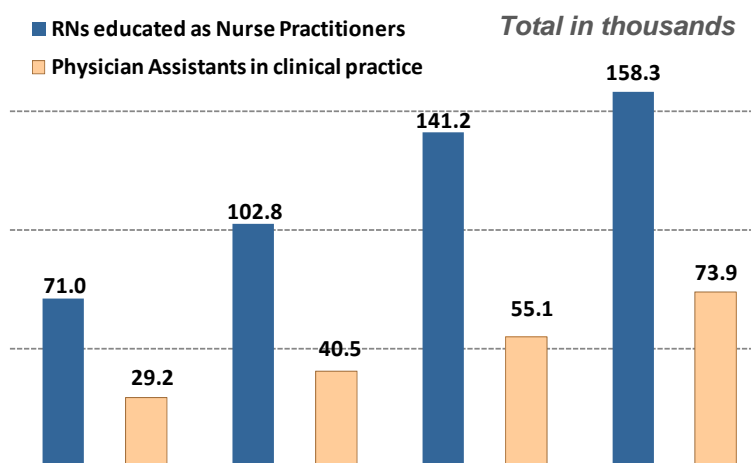
## MIDLEVEL PROVIDER NUMBERS UP SHARPLY

More medical practices are talking about hiring these health practitioners to extend the activities of physicians. Many practices and healthcare organizations are only now learning how to appropriately use these important healthcare providers.

State laws concerning Nurse Practitioners (NPs) and Physician Assistants (PAs) are different. NPs can prescribe in all 50 states, but can prescribe controlled substances in only 47. PAs are generally supervised by a doctor. NPs are more likely to work in collaboration with a physician and can practice independently in 16 states, as of this writing.

Some states require a physician to audit a percentage of the charts seen by NPs or PAs. Others require written supervision or a collaboration plan either on file with the state agency or held at the practice. NPs are usually regulated by the state Board of Nursing and PAs by the states' Medical Board.

### Number of Mid-Level Providers



Sources: American Academy of Physician Assistants, Health Resources & Services Administration; American Medical News, 1/17/11

Most NPs and PAs are on straight salary, although compensation is increasingly being linked to productivity and quality much like a growing number of compensation plans for physicians. Some are paid on a percentage of receipts or charges or a per visit fee.



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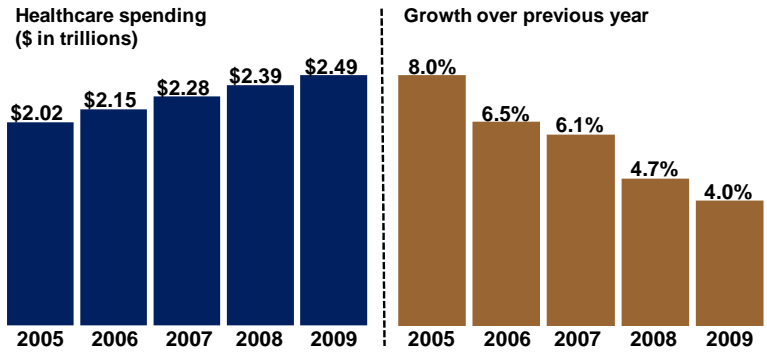


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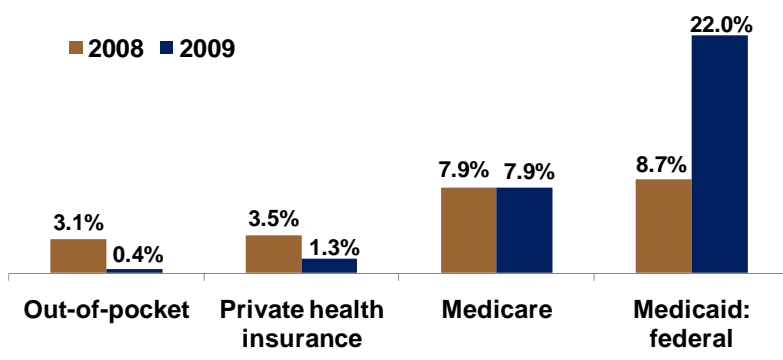
## SLOWDOWN IN HEALTHCARE SPENDING

Healthcare spending cooled to its slowest rate of growth in 50 years, as the recession dragged on in 2009.



Source: CMS; Modern Healthcare, 1/10/11

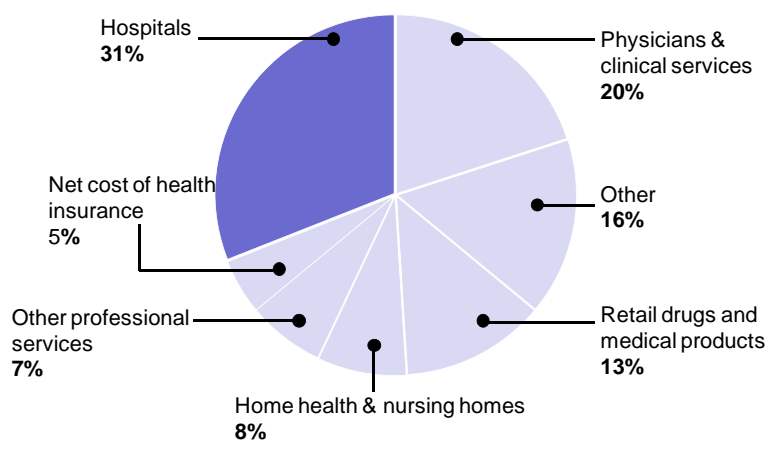
Federal spending on safety-net care spiked as private insurance and household spending decreased.



Source: CMS; Modern Healthcare, 1/10/11

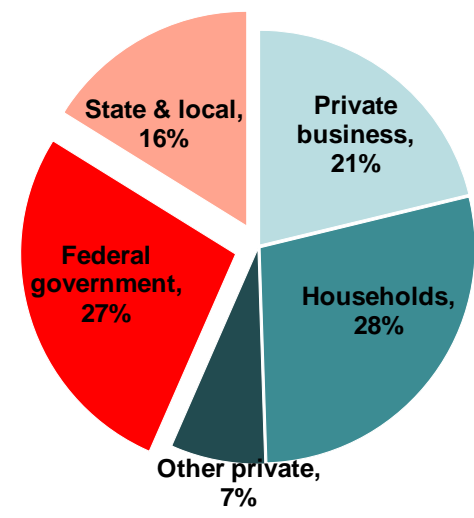
## NATIONAL HEALTH EXPENDITURES

Of note is the fact that hospitals account for the largest share of \$2.49 trillion in healthcare spending.



Source: CMS; Modern Healthcare, 1/10/11

The National Health Expenditures (NHE) by type of sponsor in 2009.



Source: CMS; Modern Healthcare, 1/10/11



## DID YOU KNOW?

- **The Patient Experience** – In recent surveys, 1/3 of the general practitioners said they would honor a patient's request to be treated at a hospital that provided a superior nonclinical experience but care that was clinically inferior to that of another nearby hospital. Patients themselves said the nonclinical experience is twice as important as the clinical reputation in making hospital choices (McKinsey Quarterly, 2007; Grote, et al) Recent research also found that an improvement in amenities cost hospitals more than improvement in the quality of care, but improved amenities have a greater effect on hospital volume (National Bureau of Economic Research, 2008; Goldman, et al). Under the new health reform, as Medicare begins to pay hospitals on the basis of value, the patient experience will continue to play a larger role in the financial health of the hospital.
- **Coronary Artery Bypass Volume vs. Performance** – Several studies have examined the relationships between volume and Coronary Artery Bypass Graft (CABG) mortality. In a most recent study of Harvard Medical School in Boston, colleagues looked at the association of CABG volume with processes of care, mortality and morbidity in the STS database (*Journal of Thoracic Cardiovascular Surgery* 2010, Vol. 363, Pages 1593-1595.) Of the 737 centers that were included in the STS voluntary reports in 2007, 18% performed fewer than 100 procedures and 38% performed fewer than 150 procedures. The surgical mortality varied from 2.6% in the low volume centers to 1.7% (a highly significant difference) in centers performing 450 procedures or more. Previous studies have reported a variable relationship between volume and mortality.

In some states much of the development of new open heart surgery programs are driven by both the perception and the requirement that in some states surgical backup is necessary in order to perform PCI (Primary Coronary Intervention). In many states, however, the availability of surgical backup is no longer a requirement. In the setting of better stents and intervascular support technology the need for availability of open heart surgical programs on site may no longer be relevant. The other driving force for the development of cardiosurgical programs is the marketing cachet for community hospitals in view of intense competition. Nonetheless, most open heart surgery today is elective. The development of improved technology and increased skills of interventional programs have led to much more aggressive PCI, resulting in those who are referred to surgery having more complex pathology. It remains reasonable to question the advisability of the initiation and continuation of low volume centers, especially since a vast majority of cardiovascular care can be rendered without cardiac surgery on the premises.

- **Emergency Room Coverage** – Inadequate coverage by a surgical specialist is prevalent at many U.S. Emergency Room Departments according to a study published in the *Journal of Academic Emergency Medicine*. In a survey the authors believed is the first poll of a national sample of emergency department directors, 74% responded that they experienced inadequate on-call coverage by specialists. The percentage was lower among teaching hospitals (68%) and geographically highest in the South (81%). More than 60% of respondents reported losing around-the-clock coverage in at least one specialty in the past four years; the problem was most common at hospitals in the Northeast (75%) and the South (66%). The specialists hardest to secure were trauma surgeons, neurosurgeons, plastic surgeons and hand surgeons.



## DID YOU KNOW?

Hospitals nationwide achieved a 58% decrease in the number of central line associated bloodstream infections in ICUs. They also slashed the rate at which these infections occur.

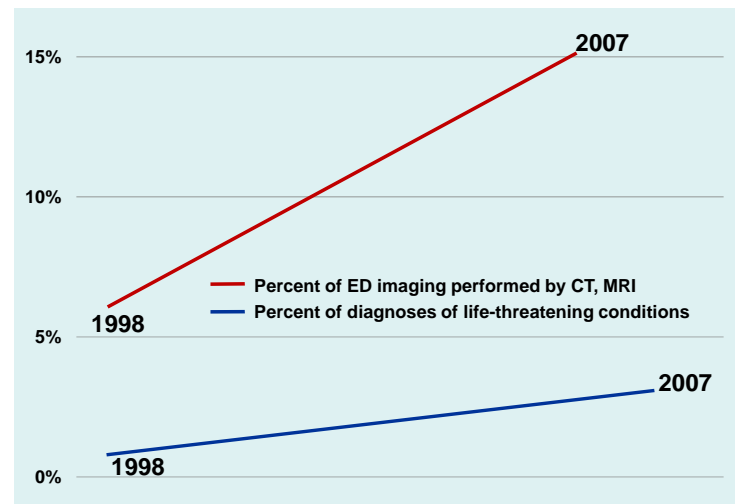
	2001	2009
<b>Total ICU central line-associated infections</b>	<b>43,000</b>	<b>18,000</b>
<b>ICU Infections per 1,000 central-line days</b>	<b>3.64</b>	<b>1.65</b>

- ICU Central-Line Infections Dropped Nationwide** – Intensive care units across the U.S. have cut central-line-associated bloodstream infections by about 60% over nearly a decade, saving an estimated 27,000 lives and avoiding up to \$1.8 billion in medical costs, according to a report from the Centers for Disease Control and Prevention. In 2002 the CDC issued guidelines on preventing bloodstream infections related to central line. As reported in an article by Peter J. Pronovost, MD, PhD in the December 28, 2006, *New England Journal of Medicine*, ICUs virtually eliminated these bloodstream infections by implementing better hand hygiene, using full-barrier precautions when inserting central venous catheters, cleaning the skin with chlorhexidine, avoiding the femoral site for catheter insertion and removing unnecessary catheters.

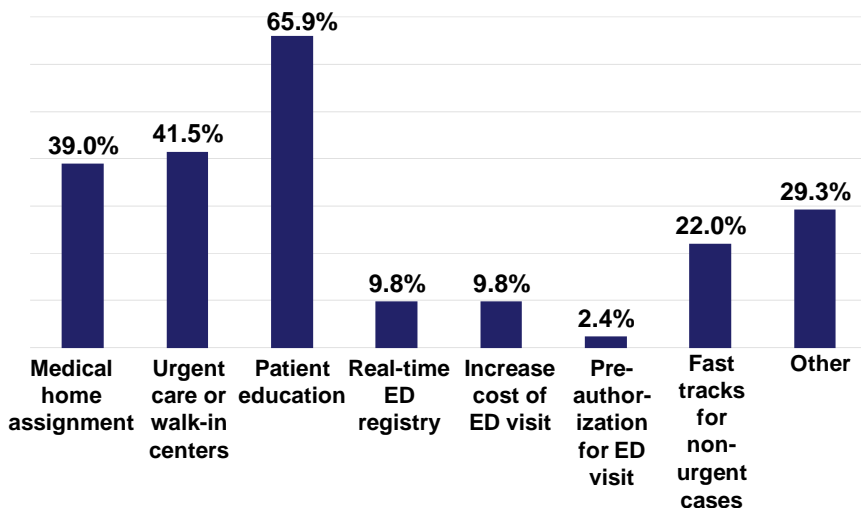
Source: "Vital Signs: Central-Line-Associated Blood Stream Infections – U.S., 2001, 2008 and 2009," *Morbidity and Mortality Weekly Report*, Centers for Disease Control and Prevention, 3/4/2011; *American Medical News*, 3/26/11

- ED Scans Up** – CT and MRI use in hospital emergency departments climbed nearly threefold in a decade without apparent production of significant increase in diagnoses of life-threatening conditions, according to a report in the *Journal of the American Medical Association*, October 6, 2010. It should be remembered that many imaging studies are undertaken to rule out processes or to protect against liability concerns.

Source: *Journal of the American Medical Association*, 10/6/10



Source: *Journal of American Medical Association*, 10/6/10



- Attempts to Promote Avoidable ER Usage** – The top tactics to reduce avoidable usage are shown here.

Source: *Journal of the American Medical Association*, 10/6/10



## DID YOU KNOW?

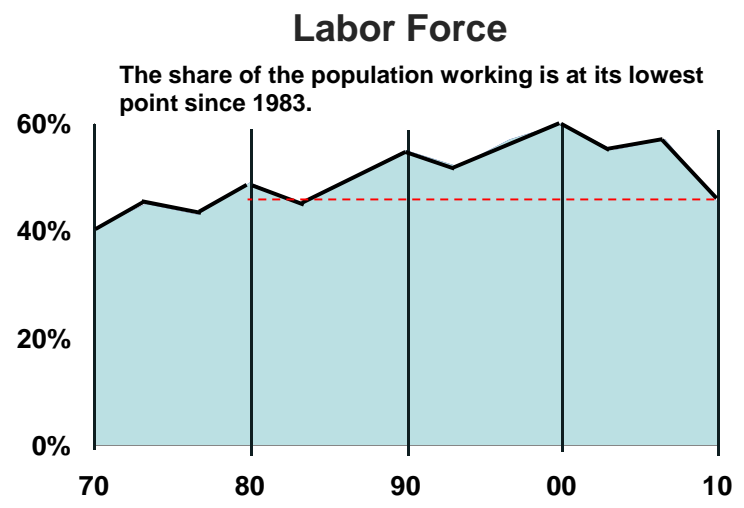
- Residencies in Primary Care** – More than 15,000 U.S. medical school seniors participated in the match concerning their internship assignments. For the second year in a row, more of them decided to train for primary care. U.S. seniors filled 1,301 family medicine positions, up 11.3% from 1,169 in 2010, according to the National Resident Matching Program. This year's U.S. medical school graduates filled 48% of available family medical slots, up from 44.8% in 2010.

Internal medicine matches for U.S. seniors rose 8% , to 2,940 from 2,722 in 2010. This year's class of U.S. graduates filled 57.4% of available internal medicine slots, up from 54.5% in 2010. A greater percentage of Internal and Family Medicine slots were filled by U.S. seniors even as the overall number of available positions increased.

Residencies not filled by U.S. seniors went to past medical school graduates, foreign graduates of international medical schools and American citizens who attended medical school abroad. The number of U.S. seniors entering pediatric internships rose 3.3% to 1,768 in 2011 from 1,711 in 2010.

- 51 Died Under The State of Washington's Assisted-Suicide Law** – 51 patients in Washington died after taking lethal medication prescribed by doctors in the first year of the state's aid-in-dying law, according to a state health department report released in March 2010. 68 physicians wrote life-ending prescriptions for 87 patients, 51 of whom took the medication and died. The physician-assisted suicide total represents a 42% rise from the 36 doctor-aided deaths in 2009, although the law didn't take effect until March of that year. In Oregon, the only other state with a law authorizing physician-assisted suicide, 65 patients died last year after taking life-ending medication prescribed by their doctors. In 2009, the Montana Supreme Court ruled physician-assisted suicide legal. However, there is no law authorizing or regulating the practice there and no required reporting.

- The Working Class** – The share of the population that is working fell to its lowest level last year since women started entering the workforce in large numbers three decades ago, according to a recent analysis. Only 45.4% of Americans had jobs in 2010, the lowest rate since 1983 and down from a peak of 49.3% in 2000. Last year, just 66.8% of men had jobs, the lowest on record. The bad economy, an aging population and a plateau in women working are contributing to changes that pose serious challenges for financing the nation's social programs.

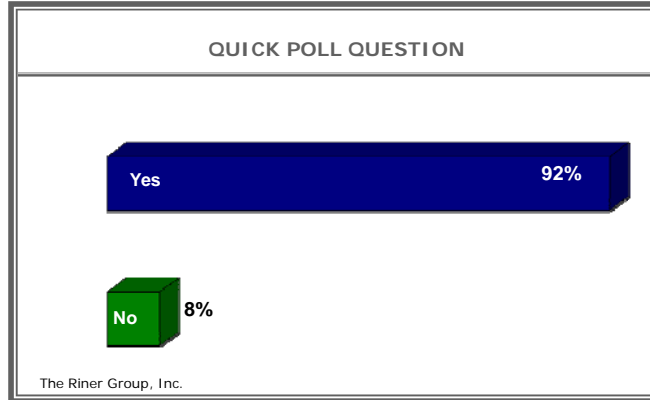




## OUR QUICK POLL RESULTS

The following question was posted on the Riner Group Website for the months December-March 2010.

**“ Do you feel physicians order imaging studies such as CT Scans, MRIs and other laboratory studies out of fear of malpractice accusations?”**

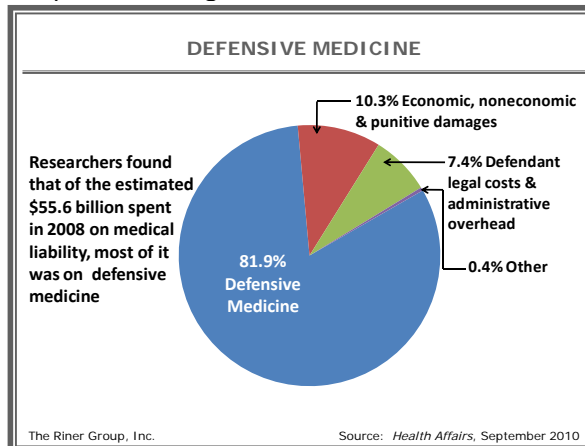


**Perspective:** The evidence would suggest that physicians do fear being sued. That fear is costing the healthcare system more than \$45 billion each year, and state level tort reform seems to have little impact on reducing the practice of “defensive medicine.”

Harvard researchers have estimated that the nation’s medical liability system accounted for \$55.6 billion – or 2.4% of total healthcare spending in 2008 – with almost \$45.6 billion of that figure being spent on the practice of “defensive medicine,” which includes ordering tests and procedures or avoiding high-risk patients in an effort to avoid being sued. This information was found in a study detailing the calculation of those figures in a recent issues of the journal, *Health Affairs*. The research indicates that focusing on money alone may not do enough to curb the use of defensive medicine. It is a well appreciated fact from a physician’s perspective, or any professional’s perspective, being sued for \$50,000 is the same as \$500,000 or larger amounts. What is on the line in a malpractice suit is the reputation, self confidence, the belief that you can help patients, and years of training that allow you to serve your patients.

Differences could be found among specialties, with the Emergency physicians and Obstetricians/Gynecologists scoring higher on the “malpractice concern scale,” while General Pediatricians and Psychiatrists worry less.

Last summer, the American Medical Association released results of a survey of 5,825 physicians conducted in 2007 and 2008. The findings showed that 42.2% of the respondents said they’ve been sued at least once, and more than 20% had been sued at least twice. Of respondents age 55 and older, 60.5% said they’ve been sued once and 39.2% had been sued at least twice.





## SPEAKING ENGAGEMENTS

Dr. Riner and his colleagues frequently speak at events across the U. S. The topics offer interesting perspectives on healthcare issues for you to share with your colleagues or to strategize for the future of your practice or healthcare organization. Some examples of recent presentations include, but are not limited to:

- So You're Going to Start an Accountable Care Organization (ACO) – Really?
- How Best to Position Your Small Business to Take Advantage of ACO Rules and Regulations
- Strategic Positioning of the Single Specialty Practice in Reference to Your Hospital
- The Infrastructure Needed for Shared Value Payment Mechanisms
- “Meaningful Use” from an IT Vantage Point and from a Clinical Vantage Point
- The Necessity for Growth Strategies in Our Current Healthcare Environment
- Growth Teamwork – Easier Said than Done – But Oh So Necessary!
- Referral Science in 2011
- What the Board Needs to Know About Quality Outcomes Reporting, Value Based Purchasing and Growth Strategies

**Contact us at 800-965-8485 to discuss a speaking engagement with us on a topic pertinent to your organization.**

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## OUR FOCUS

With over 30 years of business experience in healthcare, we have worked with physician practices, hospitals, health systems, academic medical centers and healthcare businesses throughout the United States with a focus on strategy, new business development and performance improvement. We specialize in integrating the business and clinical aspects of healthcare.

**Our PRIORITY ... excellence in the business and the science of medicine.  
Our SPIRIT ... superb patient care.**