State of Maryland
Department of Health and Mental Hygiene

John M. Colmers
Chairman

Herbert S. Wong, Ph.D.
Vice-Chairman

George H. Bone, M.D.

Stephen F. Jencks, M.D., M.P.H.

Jack C. Keane

Bernadette C. Loftus, M.D.

Thomas R. Mullen

Health Services Cost Review Commission
4160 Patterson Avenue, Baltimore, Maryland 21215
Phone: 410-764-2605 · Fax: 410-358-6217
Toll Free: 1-888-287-3229
hscrc.maryland.gov

Donna Kinzer
Executive Director

Stephen Ports
Principal Deputy Director
Policy and Operations

David Romans
Director
Payment Reform and Innovation

Gerard J. Schmith
Deputy Director
Hospital Rate Setting

Sule Calikoglu, Ph.D.
Deputy Director
Research and Methodology

Joint Work Group Meeting on the Cost of Defensive Medicine

Agenda

January 9, 2015
8:30 a.m.
Krongard Room
University of Maryland Carey School of Law
500 W. Baltimore Street
Baltimore, Maryland 21201

I. 8:30 – 8:40 Introductions and Background

Steve Ports, Principal Deputy Director, HSCRC

II. 8:40 – 9:40 Summary of Draft Report and Questions

Dianne Hoffman, JD, MS, Director, Law and Health Care Program, University of Maryland Carey School of Law

Bradley Herring, PhD, Associate Professor of Health Economics, Johns Hopkins Bloomberg School of Public Health

III. 9:40-10:30 Panel and Public Comments

Presentation on Defensive Medicine

January 9, 2015

Diane E. Hoffmann, JD, MS
Professor of Law
Director, Law & Health Care Program
University of Maryland Carey School of Law

Bradley Herring, PhD
Associate Professor of Health Economics
Department of Health Policy and Management
Johns Hopkins Bloomberg School of Public Health

Prepared for the Maryland Health Services Cost Review Commission

Project Background

- Legislation (HB 298/Ch. 263) required workgroup or workgroups established by the Commission to plan for implementation under the new All-Payer model to consider the impact and implications that defensive medicine has on hospital costs and goals of the All-Payer contract.
- MOU – start date – December 1, 2014

Scope of Work

- Research – conduct a literature review
- Report and Analysis
  - Define defensive medicine
  - Examine:
    - Extent to which health care (with a focus on hospital) costs related to defensive medicine
    - Extent to which tort reform impacts hospital costs related to defensive medicine
    - Service lines that incur higher or lower defensive medicine costs
    - How DM may or may not impact the growth in the cost and quality of hospital care in Maryland and implications for the Commission's ability to manage cost growth under the New All-Payer model.

Presentation Outline

- Context/Approach
- Literature Review
  - OTA Report – Starting point - 1994
  - Studies over last 20 years (1995-2014)
- Factors that affect practice of defensive medicine
  - Defensive medicine in specialty areas
- Defensive Medicine in Maryland

Background/context/approach

- Controversial nature of issue
  - Often tied to tort reform
- In part, explains varying results; range of estimates of cost of defensive medicine to health care system
- Our approach – looked to reports by government agencies, peer reviewed articles in recognized academic journals
- Screened out potentially biased studies and studies that were poorly designed and unlikely to yield reliable results
- Collected available data – Maryland ADR Office, NPDB
- Interviews with hospital medical malpractice insurers

OTA Report

- Defensive Medicine and Medical Malpractice
- 1994
- Prepared in response to request by the House Committee on Ways and Means and the Senate Committee on Labor and Human Resources

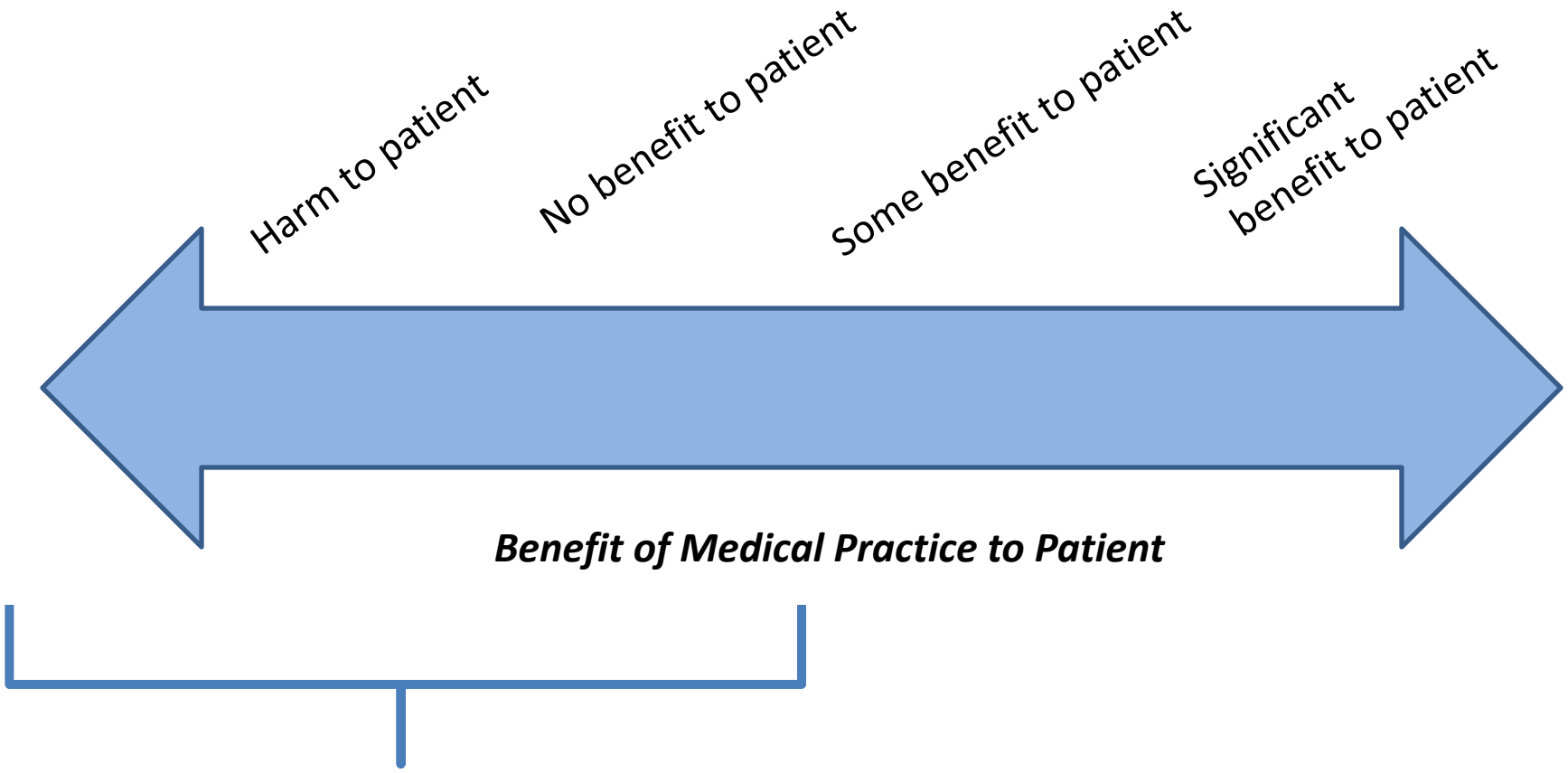
What is defensive medicine?

- OTA Definition: Defensive medicine occurs when doctors order tests, procedures, or visits, or avoid certain high-risk patients or procedures, primarily (but not necessarily solely) because of concern about malpractice liability.
  - Positive defensive medicine (assurance)
  - Negative defensive medicine (avoidance)

Definitional issues

- Conscious vs unconscious practices
- Primary vs sole motivation
- No benefit/harmful v. minor/marginal benefit - Not all defensive medicine is bad (e.g. unnecessary or harmful). Much of it lowers risk of being wrong where medical consequences of being wrong are severe.

Defensive Medicine – Definitional Issues



OTA Report: Questions

- What are the causes of defensive medicine?
- How widespread is defensive medicine today?
- What effect will current proposals for malpractice reform have on the practice of defensive medicine?
- What are the implications of other (non malpractice) aspects of health care reform for the practice of defensive medicine?

Measuring Defensive Medicine

- Three methodological approaches to measuring cost and impact of defensive medicine:
  - (A) Direct physician surveys, e.g., Does fear or threat of malpractice liability influence whether you use additional diagnostic or therapeutic procedures?
  - (B) Physician clinical scenario surveys, e.g., give physicians a clinical scenario and ask them to choose specified clinical actions and then ask them what influenced their choices
  - (C) Statistical analyses of the impact of malpractice liability risk on utilization of one or more procedures –e.g. caesarean sections, often multivariate analyses are used to control for other factors that influence physician behavior

- Source: OTA Report, p. 41

OTA Report

- Found that results of direct physician surveys conducted by national, state and specialty medical societies were "*highly suspect . . . Because they invariably prompt[ed] responding physicians to consider malpractice liability as a factor in their practice choices.*"
- Focused on prior studies with strong research designs
- Initiated several new studies including hypothetical case scenarios, and utilization of health care services or changes in practice based on level of malpractice risk.

OTA Report – Selected findings

- Physicians are very conscious of the risk of being sued and tend to overestimate that risk. A large number of physicians believe that being sued will adversely affect their professional, financial and emotional status.

- Defensive medicine is a real phenomenon that has a discernible influence in certain select clinical situations. E.g., Caesarian deliveries in childbirth and the management of head injuries in emergency rooms.*

OTA Report – Selected Findings

- Overall, a small percentage of diagnostic procedures – certainly less than 8 %- is likely to be caused by conscious concern about malpractice liability.**
- It is impossible to accurately measure the overall level and national cost of defensive medicine.
  - Limits to methods of measurement*

OTA Report – Selected Findings

- Tort Reform
  - Do changes in direct malpractice costs* affect practice of defensive medicine?
- Traditional Tort Reforms
  - Caps on non-economic damages (P&S)
  - Caps on punitive damages
  - Caps on total damages
  - Collateral Source reform
  - Joint and Several liability reform*
  - Periodic Payment reform*
  - Attorney fee limits
  - Certificate of Merit/pretrial screening
  - Statutes of limitations reform

OTA Report

- Looked at six prior studies on impact of certain tort reforms
  - Shortening statutes of limitation
  - Limiting attorneys' contingency fees
  - Requiring or allowing pretrial screening
  - Caps on economic and noneconomic damages
  - Amendment to collateral source rule
  - Periodic payment of damages

OTA Report – Selected Findings

- Across all studies “only caps on damages and amending the collateral source rule consistently reduced one or more indicators of direct malpractice costs”
- The effects of other tort reforms “may have only modest effects on direct malpractice costs.”
- Effects on DM “are largely unknown and are likely to be small.” To the extent that these reforms “do reduce defensive medicine, they do so without differentiating between defensive practices that are medically appropriate and those that are wasteful or very costly in relation to their benefits.”

OTA Report – selected findings

- The fee-for-service system "both empowers and encourages physicians to practice very low risk medicine."

- Health care reform may change financial incentives toward doing fewer rather than more tests and procedures.

- Studies during last 20 years (1995 -2014)

What is the Current Consensus?

- CBO's 2009 Letter (synthesizing literature)
  - A package of federal tort reforms is likely to reduce healthcare spending by 0.5%, comprised from a 0.2% reduction in malpractice premiums and a 0.3% reduction in defensive medicine
- Mello et al.'s 2010 *Health Affairs*
  - Defensive medicine is about 2.0% of spending (2008$: $45.6B; $38.8B hospital, $6.8B physician)
- Both heavily rely on a seminal paper by Kessler and McClellan in 1996 *QJE*
- *How has this research literature evolved?*

Two Main Methodological Approaches

- Qualitative surveys (for overall amount of DM):
  - Direct questionnaires of defensive medicine
  - Case studies presenting clinical scenarios and follow-up questions for rationale
- Econometric analyses (for changes in DM):
  - Outcome (e.g., spending, utilization, mortality) as a function of a measure malpractice risk (e.g., premiums, claims frequency, award size)
  - Outcome influenced by indicators of new state laws (i.e., “difference in difference” “natural experiment”)

Period: Prior to 1996

- OTA's 1994 Report
  - "A relatively small proportion of all diagnostic procedures – certainly less than 8% - is likely to be caused primarily by conscious concern about malpractice liability risk." (via clinical scenarios)
  - "Traditional tort reforms…reduce malpractice insurance premiums, but their effects on defensive medicine are largely unknown and are likely to be small." (dearth of rigorous econometric analyses)
  - "It is impossible to accurately measure the overall level and national cost of defensive medicine."

Period: 1996 to 2005

- Kessler and McClellan's 1996 *QJE*
  - *Sample*: Medicare patients with heart disease from 1984, 1987, and 1990
  - *Methods*: Multivariate regressions for (a) individual-level inpatient spending and (b) all-cause cardiac mortality on indicators for state reforms
  - *Results*: "Malpractice reforms that directly reduce provider liability pressure lead to reductions of 5 to 9 percent in medical expenditures without substantial effects on mortality." But also *smaller increases* in Medicare spending related to elimination of joint and several liability

Period: 2006 to 2008

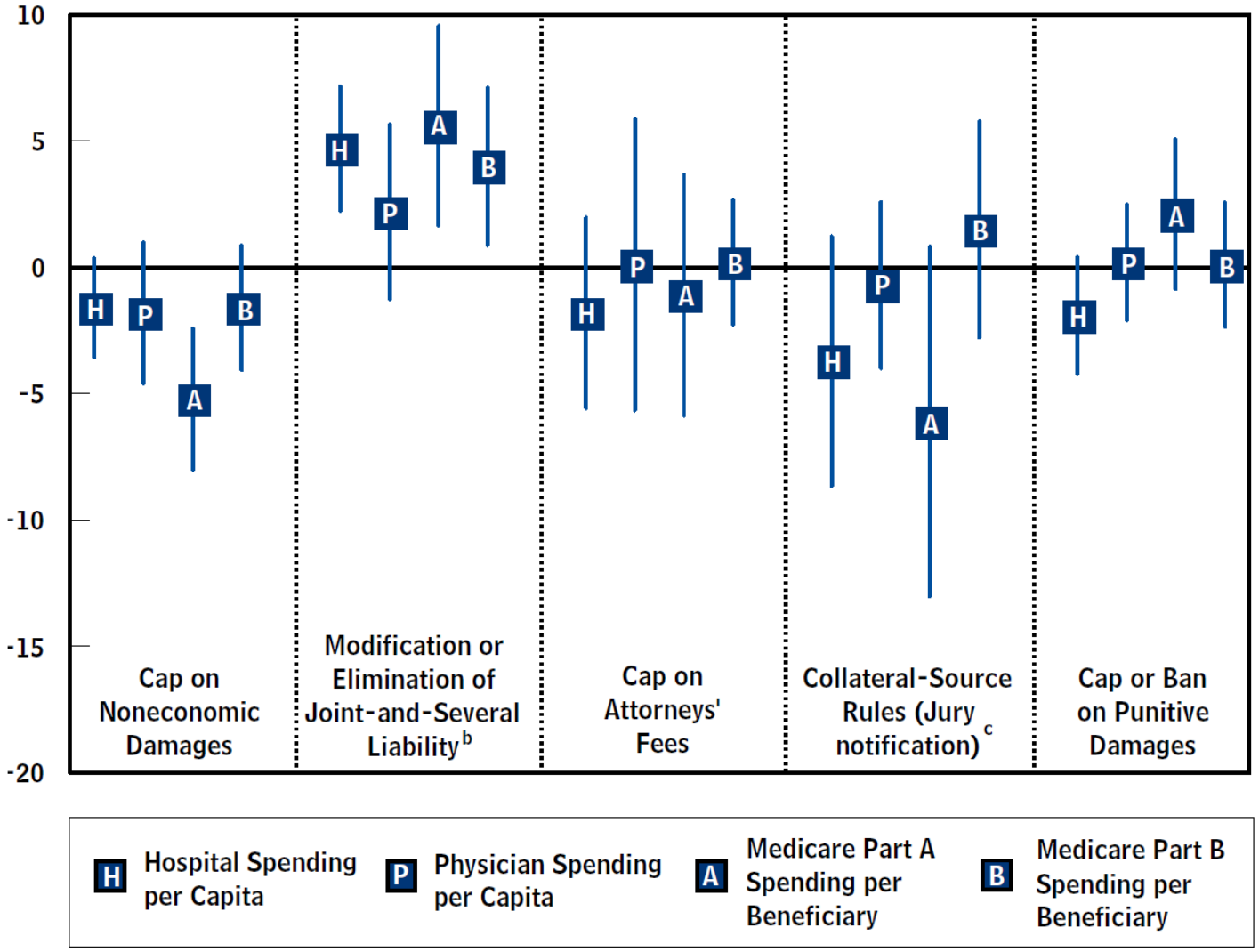
- CBO's 2006 Background Paper
  - Goal of extending Kessler and McClellan's analyses
  - Extend to all Medicare inpatient spending (rather than just inpatient spending for heart disease)
  - Extend to Medicare physician/outpatient spending and observe effect for overall Medicare spending
  - Extend to overall healthcare spending per capita, including both inpatient and outpatient separately
  - Include more controls, specification checks, etc.

Period: 2006 to 2008 (cont.)

- CBO's 2006 Background Paper (cont.)
  - *Samples*: state-level spending for 1980 through 2003 (All vs. Medicare / Total vs. Inpatient vs. Physician)
  - *Methods*: Multivariate regression for state-level spending on indicators for state reforms
  - *Results* (for caps on noneconomic damages): Insignificant -1.4% reduction in overall spending, with reductions concentrated in Medicare inpatient
  - *Results* (for modifying Joint-and-Several Liability): Significant 4.0% increase in overall spending, (initially counterintuitive)

Summary of Findings on Tort Limits

(Percentage impact of tort limit on per capita spending)[a]



Source: Congressional Budget Office.

Period: 2006 to 2008 (cont.)

- CBO's 2006 Background Paper (cont.)
  - What might explain the effect of modifying Joint-and-Several Liability on *increased* defensive medicine? With JSL, physicians may have believed the malpractice risk was concentrated on hospitals (with JSL referred to as the "deep pockets rule"), but with JSL reforms, physicians face *increased* liability
  - CBO's overall message to policymakers: while tort reform would likely reduce malpractice premiums (as discussed in CBO's 2004 Issue Brief), evidence is "weak or conclusive" that tort reform could reduce defensive medicine

Period: 2009 to Present

- CBO's October 2009 Letter to Senator Hatch
  - Followed up with two December 2009 Letters to Senator Rockefeller and Representative Braley
  - "Because of mixed evidence about whether tort reform affects the utilization of health care services, past analyses by CBO have focused on the impact of tort reform on premiums for malpractice insurance. However, *more recent research* [emphasis added] has provided additional evidence to suggest that lowering the cost of medical malpractice tends to reduce the use of health care services."

CBO's Three New Studies

- Baicker, Fisher, & Chandra's 2007 *Health Affairs* paper found that higher malpractice awards and premiums were associated with higher state-level Medicare spending for 1993-2001
- Lakdawalla and Seabury's 2012 *IRLE* paper (2009 NBER WP) found that higher jury awards were associated with higher county-level healthcare spending (but reductions in mortality) for 1990-2003
- Avraham, Dafny, and Schanzenbach's 2012 *JELO* paper (2009 NBER WP) found that state tort reforms were associated with lower self-insured employer premiums for 1998-2006 (and the effect was concentrated in HMOs)

Period: 2009 to Present (cont.)

- CBO's 2009 Letter to Senator Hatch (cont.)
  - "CBO now estimates…that if a package of proposals…was enacted, it would reduce total national health care spending by about 0.5%.
  - "The sum of the direct reduction in spending of 0.2% from lower medical liability premiums…and an additional indirect reduction of 0.3% from slightly less utilization of health care services."
  - Package: $250K cap on noneconomic damages; $500K cap on punitive damages, modification of the "collateral source" rule; statute of limitations from injury; and replacement of joint-and-several liability.

Period: 2009 to Present (cont.)

- CBO's 2009 Letter to Senator Hatch (cont.)
  - Why is this 0.3% reduction in overall healthcare spending driven by reduced defensive medicine from this hypothetical federal package of reforms so low?
- Three main reasons for a small effect:
  - Underlying effect of reform (especially caps) on reducing defensive medicine is modest
  - Replacing Joint-and-Several Liability is actually expected to *increase* defensive medicine
  - Many, if not most, states have already passed these tort reforms (some data for US and Maryland later)

Period: 2009 to Present (cont.)

- Despite CBO's evolved stance on defensive medicine in 2009, the literature is still mixed:
- Rigorous economics papers finding either no or little effect of malpractice risk on DM:
  - Baicker and Chandra's 2005 *FHEP*
  - Currie and MacLeod's 2008 *QJE*
  - Morrissey et al.'s 2008 *HSR*
  - Sloan and Shadle's 2009 *JHE*

Incentives and Payment Models

- OTA's 1994 Report:
  - "Defensive medicine…evolved in the context of a fee-for-service health care system in which physicians for the most part faced little or no financial penalty and sometimes were financially rewarded when they ordered or performed extra tests and procedures."

Incentives and Payment Models (cont.)

- Kessler and McClellan's 2002 *JPubEcon*
  - Using 1996 *QJE* methods, the effects of state tort reforms on Medicare heart disease patients' inpatient spending were concentrated in areas with low managed care enrollment, with them concluding that "managed care and liability reform are substitutes"
- Avraham et al.'s 2012 *JLEO*
  - "These reductions [of state reforms on healthcare premiums] are concentrated in PPOs rather than HMOs, suggesting that HMOs can reduce 'defensive' healthcare costs even absent tort reform."

Implications for Maryland: Incentives and Payment Models

- What are the implications regarding Maryland's all-payer CMS waiver towards global budgets?
- Literature indicates that managed care is at least as effective as tort reform in reducing DM; HMOs can reduce DM even absent tort reform
- Are these effects on DM by managed care driven more by capitated payments to providers or other managed care techniques (e.g., utilization review)?
- If it's the payment model, then Maryland's shift from a FFS model (with no volume constraint) to an overall global budgets ought to reduce DM

.

Factors that Affect Practice of Defensive Medicine

- Clinical factors:
  - Patient symptoms
  - Seriousness of suspected disease
  - Degree of certainty about diagnosis
  - Accuracy of the available diagnostic test
  - Risks and benefits of treatment
- Non-clinical (in addition to potential malpractice liability)
  - Availability of technology
  - Physician specialty and training
  - Practice organization (solo, group, hospital, etc)
  - Familiarity with patient
  - Awareness of and sensitivity to test costs
  - Financial incentives
  - Patient expectations
  - Insurance status of patient

Source: OTA report, p. 41

Other Factors that Affect Practice of Defensive Medicine

- Technology
  - Plays key role in DM
  - Specialists report using technology to pacify demanding patients, bolster their own self confidence, or create a trail of evidence*
  - Defensive use of technology is self reinforcing
    - "The more physicians order tests or procedures with low predictive values or perform aggressive tx for low risk conditions, the more likely such practices are to become the standard of care."

Source: Studdert, et.al. Defensive Medicine Among High Risk Specialist Physicians in a Volatile Malpractice Environment, JAMA, 2005)*

Specialties thought to be at high risk for malpractice

- Emergency physicians
- Ob-gyns
- Surgeons
  - General
  - Orthopedic
  - Neuro
- Radiologists

In Hospital – nursing may be an area of high risk due to ulcers, falls, medication errors, alarm fatigue

Studies of high risk specialties

- Large majority of studies based on direct surveys of specialists
  - Do you practice defensive medicine?
  - How often does concern about malpractice affect your decision to . . .?
  - Given a scenario, would you order a given test? Is that decision based on malpractice concerns?
- Subject to concerns of bias (leading questions), lack of recall, definitional problems (primary, partly or sole motivation)

Studies of Ob-Gyns

- Reason for high rate of litigation/high payouts in obstetrics:
  - Two patients not just one
  - Not always clear whether disabilities of child after birth are prenatal or perinatal in origin
  - If injury to baby, damages include care for a life time
- C-section is the most common major surgical procedure performed in the U.S.
- Rate of cesarean deliveries in the US rose from 20.7 to 31.1% between 1996 and 2006.*
- Hypothesized reason for high rate of c-sections: “Virtually every suit involving intrapartum care alleges that an earlier delivery would have changed the outcome.” (Schifrin & Cohen, 2013)

Studies of Ob-Gyns

- Yang, et. al. (*Med Care*, 2009)
- Dubay, et. al.(*J. Health Econ.,* 1999)
- Tussing & Wojtowycz (*Med Care,*1997)
  - Found that a higher malpractice claims risk, as measured through obstetricians malpractice premiums and or claim frequency, correlated with an increased rate of cesarean sections.
- Sloan & Hassan (*J. of Health Econ,*1997)
- Baldwin, et. al. (*JAMA,* 1995)
  - Found no relationship between malpractice lawsuit activity and c-sections.

Defensive Medicine in Maryland

- No specific studies of defensive medicine in Maryland
- How does Maryland compare in terms of medical malpractice claims (frequency and severity) when compared to other states?

Frequency and Severity of Claims

- Anecdotal reports from Maryland hospital and physician insurer:
  - Decline in the number of malpractice claims in last few years in Maryland and nationwide
  - Severity of payouts is higher
  - Value of injuries went up in Maryland and Nationally in FYs 11, 12 and 13
    - Mostly due to LTC related to catastrophic injuries, e.g. birth injuries

Maryland Health Care Alternative Dispute Resolution Office

	FY10	FY11	FY12	FY 13	FY14
Director Dismissed	36	141	96	75	73
Dismissed by parties	58	74	74	56	51
For the H.C. Provider	1	2	3	NA	NA
For the Claimant	NA	NA	NA	NA	1
Settled	NA	1	NA	NA	1
Waived	529	722	524	534	462
Total Cases	624	940	697	665	588

Mean payouts in Maryland

Year	Maryland	US (all states)
2003	$331,070	$289,092
2006	$347,477	$309,358

Maryland Tort Reforms

- 1986 Maryland implemented package of tort reforms:
  - Requirement that a certificate of merit be obtained within 90 days of filing a malpractice claim
  - $350,000 cap on non-economic damages 1986- 1994*; $500,000 cap thereafter to increase by $15,000/year (subsequently amended to limit cap to $650,000 between 1/1/05 and 12/31/08 thereafter to increase by $15,000/yr.)
  - Provision for periodic payment of damages

Maryland's Tort Reforms Compared to the U.S.

Source: Professor Ronen Avraham's Database of State Tort Law Reforms

Reform in Place During 2012	In Maryland	No. States
Caps on Noneconomic Damages	**Yes**	**22**
Caps on Punitive Damages	No	25
Caps on Total Damages	No	6
Split Recovery Reform	No	8
Collateral Source Reform	No	34
Periodic Payments Reform	Yes	31
Contingency Fee Reform	No	19
Joint and Several Liability Reform	**No**	**40**
Patient Compensation Fund Reform	No	13

Implications for Maryland: Tort Reform

- Maryland is among states with cap on noneconomic damages and has not changed Joint and Several Liability rule
- Based on studies of impact of tort reform on DM Maryland may have lower levels of DM
  - Caveat – prior studies do not distinguish amount of cap

Conclusions

- There are no reliable estimates of the baseline costs of DM to the health care system
- Tort reforms have a small impact on health care spending
  - CBO 2006 study - found reforms would reduce hospital spending 2.9% on average (but varies by type of reform)
  - CBO 2009 – estimated reforms would reduce total health care spending by .5%

Conclusions

- There is no data in Maryland to show that its physicians are unique in their practice of DM
- Given tort reforms implemented in Maryland, DM practices may already have been reduced
- If the effect of managed care on DM is due to financial incentives of payment model, then all payer global budget arrangement should reduce DM in Maryland

Panel Comments

on

The Cost of Defensive Medicine

The Cost of Defensive Medicine

Maryland Hospital Association

Health Care Liability Cost Burden

- About $46 billion each year—national costs of defensive medicine, or the fear of malpractice litigation
- 13 percent—of hospital costs result from defensive orders
- $54 billion—amount by which CBO estimates medical tort reform would reduce the federal budget deficit

Sources: CBO letters to the Hons. Bruce L. Braley and Orrin G. Hatch, 2009; National Costs of the Medical Liability System — Health Affairs, 2010; The Cost of Defensive Medicine on Three Hospital Medicine Services — JAMA Internal Medicine, 2014

Maryland's Liability Costs Top the List

- Ranked 7th in nation—per capita medical malpractice payouts in 2013
- Ranked as the 4th largest increase in malpractice payout amount—from 2012 to 2013, a $26 million spike
- One of eight states—with more than $100 million in payouts in 2013

Sources: Diederich Healthcare, Medical Malpractice Payout Analysis, 2014 based on data recorded by the National Practitioner Data Bank

Malpractice Fears Drive Physician Behavior

- Percentage of physicians reporting that they would perform a procedure that may not be medically warranted because of malpractice fears

In Maryland, 10% of total hospital charges were outpatient ED visits

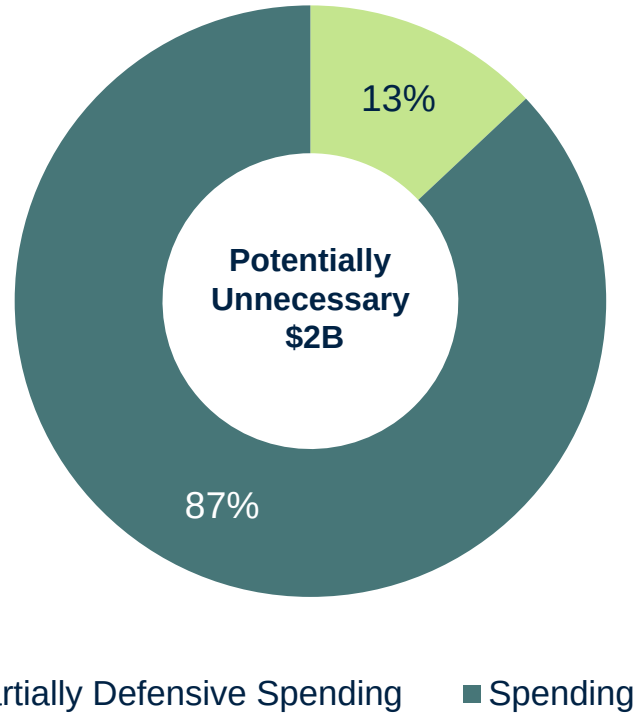
In Maryland, orthopedic related charges were 7.5% of total hospital charges

Neurology	27%	OB/GYN & Women's Health	19%
Emergency Medicine	**26%**	Nephrology	19%
Radiology	25%	HIV/AIDS	19%
Pathology	24%	Pulmonary Medicine	19%
Gastroenterology	24%	General Surgery	18%
Anesthesiology	23%	Oncology	18%
Cardiology	23%	Ophthalmology	18%
Dermatology	22%	Rheumatology	18%
Urology	22%	Hematology	18%
Allergy & Immunology	21%	Critical Care	17%
Plastic Surgery	21%	Psychiatry & Mental Health	16%
Orthopedics	**20%**	Diabetes & Endocrinology	16%
Family Medicine	20%	Pediatrics	15%
Internal Medicine	19%		

Sources: Medscape Ethics Report 2014, Part 2: Money, Romance, and Patients, 2014

Impact of Defensive Medicine in Maryland

- 13 percent—hospital costs judged to be at least partially defensive
- $2 billion—potentially unnecessary Maryland hospital spending



Source: The Cost of Defensive Medicine on Three Hospital Medicine Services — JAMA Internal Medicine, 2014

REPORT TO HSCRC re "DEFENSIVE MEDICINE" Comments

January 9, 2015

Scott A. Spier, M.D.
Mercy Health Services

MAGNITUDE OF EFFECT

- Personal / professional impact
- The claim not the compensation

METHODOLOGIC ISSUES

- Human motivation research
- Downstream ED effects
- Review of tort reform options
  - Caps
  - Costs in lower premium states
  - No review of nontraditional tort reform
    - Eg Florida, Virginia
    - Administrative adjudication eg health courts

PARTICULAR SPECIALTIES OF CONCERN

- Emergency Department
- Obstetrics
- Surgery – particularly certain specialties
- Radiology

OBSTETRIC EXPERIENCE

- Life care plans
- Mercy perspective
- Access issues
  - Public health concern
  - Philadelphia experience and potential financial ramifications

VENUE ISSUES

- Recruitment / access
- Self insurance trust regulator experience
- Partnering concerns

CONCLUSION COMMENTS

- No mitigating effect of global budget
- Magnitude of cost impact

Panel Comments

on

The Cost of Defensive Medicine