Fact Sheets: Maternity Care and Liability Findings on Topics of Interest to Policy Makers and Others

To foster broad access to key findings from the *Maternity Care and Liability* report, this document presents summary fact sheets on topics of interest to maternity care stakeholders. The authors encourage readers to reproduce the fact sheets and widely share them with policy makers, maternity care clinicians, employers, hospitals and health plan administrators, liability insurers, childbearing women and families, and other stakeholders.

Fact Sheet topics are as follows:

- 1. Policy Framework for Improving the Liability Environment for Women and Newborns, Maternity Care Providers, and Payers
- 2. Affordability of Liability Insurance Premiums to Maternity Care Providers
- 3. Occurrence of Negligent Injury and of Claims and Payouts in Maternity Care
- 4. Defensive Practice in Maternity Care
- 5. Liability-Associated Distress Among Maternity Care Providers: Sources and Solutions
- 6. Impact of Caps on Non-Economic Damages and other Tort Reforms in Maternity Care
- 7. Interventions that are Unlikely to Foster Substantive Liability Solutions in Maternity Care
- 8. Substantive Solutions for Preventing and Responding to Injury in Maternity Care
- 9. Impact of Maternity Care Quality Improvement Programs on Liability
- 10. Maternity Care and Liability: Gaps in Knowledge



1. Policy Framework for Improving the Liability Environment for Women and Newborns, Maternity Care Providers, and Payers

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: The liability system poorly serves maternity care providers, childbearing women and families, and those who pay for maternity care. Traditional liability reforms have prioritized interests of maternity care providers and insurers (e.g., trying to reduce liability insurance premium levels by limiting access to courts and the size of payouts), but not those of women and newborns and maternity care payers. Even with respect to the narrow aims, compelling evidence about the effectiveness of traditional reforms in maternity care is lacking.

Report findings: To meet the needs of all key stakeholder groups, it is important to go beyond the narrow aims of traditional liability reforms. Our review of the impact of the liability environment in maternity care led us to develop a multi-stakeholder framework with seven criteria for a high-functioning liability system in maternity care. Effective policy interventions should:

- Promote safe, high-quality maternity care that is consistent with best evidence and minimizes avoidable harm
- Minimize maternity professionals' liability-associated fear and unhappiness
- Avoid incentives for assurance and avoidance defensive maternity practice
- Foster access to high-value liability insurance policies for all maternity caregivers without restriction or surcharge for care supported by best evidence
- Implement effective measures to address immediate concerns when women and newborns sustain injury, and provide rapid, fair, efficient compensation
- Assist families with responsibility for costly care of infants or women with long-term disabilities in a timely manner and with minimal legal expense
- Minimize the costs associated with the liability system.

Takeaways: The *Maternity Care and Liability* report identifies many ways that the current liability system is failing to protect interests of key stakeholder groups. Despite widespread implementation of reforms over many decades, troubling problems persist. Narrow aims, such as reduction of liability insurance premiums, cannot be expected to address the breadth of problems. Needed progress requires a broader vision.

The proposed framework has the potential to move discourse and policy forward. When options for reform are held up to criteria in the proposed framework, many that have been widely implemented do not appear to meet any of the criteria. By contrast, other reforms have the potential to be win-win-win solutions for maternity care providers, childbearing women and families, and those who pay for their care. Promising reforms warrant piloting and evaluation by states, health systems, or other appropriate entities.

The report found that the effectiveness of reforms in maternity care may differ from their impact in medicine overall or in other clinical areas. For example, combined tort reforms or caps on non-economic damages appear to be marginally effective at best in maternity care but more effective in medicine overall and in other clinical areas. To help maternity care stakeholders, the proposed framework should be applied within this clinical area.



2. Affordability of Liability Insurance Premiums to Maternity Care Providers

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: The cost of obstetrician-gynecologists' liability insurance premiums tends to be higher than premiums for most other specialties. High premium levels and the potential for steep increases trouble many obstetrician-gynecologists. As a result, many have strongly advocated for tort reforms with the hope of reducing premium levels.

Report findings: The report examines the cost of liability insurance premiums in the context of typical obstetrician-gynecologist payments and expenses. While liability premiums are an especially salient practice expense, studies have found that premium costs amount to a relatively small and declining portion of total obstetrician-gynecologist practice expenses. In addition to premium increases, premium costs are also impacted by less salient premium declines or stability in soft phases of liability cycles, premium discounts, and inflation. Further, large group practices, hospitals, and health systems generally provide liability insurance for the clinicians they employ. The increasing proportion of clinicians working within these models likely does not pay for liability insurance premiums.

Moreover, obstetrician-gynecologists have above-average incomes among medical specialties. The incorporation of liability premium costs into physician payments may be a factor. The Resource-Based Relative Value Scale, which sets a national standard for physician payment through its fee schedule, includes for each service code components for liability premiums and for other practice expenses, which are calibrated by specialty and geographic area and are periodically adjusted.

Despite strong interest in limiting payouts to plaintiffs as a way to keep malpractice premiums in check, the relationship between the two is weak at best. Tort reforms that aim to limit payouts, including much-advocated caps on non-economic damages, have not been found to be an effective strategy for keeping maternity care provider premium levels in check. They also raise concerns about unfairness to those who are injured, supported by about one-fifth of states that have struck down caps on non-economic damages as unconstitutional (see fact sheet 6).

Takeaways: Liability insurance is generally affordable and available to obstetrician-gynecologists. Tort reforms have limited potential to reduce premium costs and have not been shown to benefit childbearing women and newborns and those who pay for their care. By contrast, a series of recent reports clarify that rigorous quality improvement programs are effective in bringing liability premium levels down. This win-win-win strategy reduces liability for maternity care professionals, improves care and outcomes in childbearing women and newborns, and increases value for those who pay for this care (see fact sheet 9).

^{*} Learn more: Sakala C, Yang YT, Corry MP. Maternity Care and Liability: Pressing Problems, Substantive Solutions. New York: Childbirth Connection, January 2013. Available at http://transform.childbirthconnection.org/reports/liability/. See also open access "Maternity Care and Liability" articles in Women's Health Issues 2013;23(1) at http://www.whijournal.com/issues.



3. Occurrence of Negligent Injury and of Claims and Payouts in Maternity Care

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: In comparison with most other clinical areas, maternity care providers are at elevated risk for liability claims and legal proceedings, and many believe that non-meritorious claims are widespread. These are sources of deep discontent.

Report findings: A large carefully conducted state-level study with random samples found that about 0.6% of childbearing women and about 0.2% of newborns sustained negligent injury while receiving care in U.S. hospitals. That and a replication study in two additional states found that the negligent injury rate in hospital labor and delivery units ranged from 0.8% to 1.8%. While childbearing women may be several times as likely as newborns to sustain negligent injury, newborn injuries overall are more severe. Across ten clinical areas in the initial study, childbearing women had the highest rate of negligence among adverse events, at 38.3%. Subsequent research clarified that these landmark studies greatly underestimated rates of harm, but replications in maternity care have not taken place. The patient safety movement has identified extensive opportunity to improve safety, especially in hospitals.

Tracking the initial cases that experts identified as meeting the legal standard of malpractice and not separately reporting maternity-specific data, investigators found that from 1.5% to 2.5% of patients who sustained negligent injury filed a claim. Tracking claims from the initial study to closure, investigators found that less than 1% of those with negligent injury received compensation. A recent closed claims analysis from five insurance companies in four regions of the country, including 23% with maternity-related claims, found that 54% of all compensation payments (and 78% when claims involved harmful errors) went to lawyers, experts, and courts, with a minority going to plaintiffs.

The closed claim analysis found that about 13% to 16% of dollars expended were associated with non-meritorious claims. The legal system does a fairly good job of sorting these out. Dr. Steven Clark, Medical Director for Women's and Children's Clinical Services within the nation's largest hospital system, reports that defense teams have repeatedly found that about 75% of paid claims in maternity care involved substandard care.

Takeaways: One of the two widely accepted objectives of the liability system is to attend to the needs of those who are injured as a result of negligence. Available evidence, not separately available for maternity care, suggests that the present liability system fails in about 99% of cases to compensate people who are injured as a result of medical error. Those who are compensated following injuries due to error may retain for their own needs about one-quarter of the money awarded.

The estimated 25% of paid claims in maternity care that are non-meritorious is substantial but is dwarfed by the roughly three-quarters associated with substandard care. Claims involving negligent injury appear to involve disproportionately greater legal costs.

The report found that in the practice of an average obstetrician-gynecologist, negligent injury of mothers and newborns appears to occur more frequently than any claim (warranted or not, obstetric or gynecologic), and far more frequently than any payout or trial.



4. Defensive Practice in Maternity Care

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: Defensive clinical practice — deviating from sound practice primarily to reduce one's risk of liability rather than to benefit the patient — is believed to be widespread in maternity care. Defensive practice encompasses two types of clinical behavior with different implications for those who receive and pay for care. "Avoidance" behaviors include curtailing high-risk care and dropping maternity care altogether, which may reduce access to care. "Assurance" behaviors include providing unnecessary tests, procedures, and referrals, which increases the cost of care, reduces efficiency, and may expose women and babies to unnecessary harm.

Report findings: Surveys and commentaries of maternity professionals raise troubling concerns about extensive avoidance and assurance defensive behavior in maternity care. However, many do not consider diverse drivers of practice decisions and have very low response rates, limiting the value of these studies. Studies that examine diverse drivers of decisions such as to carry out a cesarean section or to cease maternity care practice found that they are multifactorial.

Three investigations to corroborate reports of extensive *avoidance* behavior in maternity care found sporadic concerns in selected settings; did not substantiate reported levels of relocation, discontinuation of maternity services, or retirement; and/or identified liability as one factor among many others in practice changes. Six formal national studies and and six state-level studies were consistent with these: various measures of liability pressure (e.g., premium levels, professional designation as "crisis" or "red alert" states, hard versus soft phases of liability cycles) were not associated with avoidance behavior or had an association under limited circumstances (e.g., older physicians in rural areas).

Six formal national studies and seven state-level studies investigated whether some portion of cesarean sections can be attributed to *assurance* behaviors during the present or previous liability cycle. Most used premium or claim levels as a measure of liability pressure. Results ranged from no relationship to a small positive one, with most studies finding a small positive relationship. At most, the association accounts for a small portion of the substantial increase in the cesarean section rate since the mid-1990s. The few studies of use of other maternity practices found similar results.

Takeaways: Decisions about limiting maternity care practice are multi-factorial. Liability pressure appears to have a modest role at best. Other considerations that have been identified include: having a more balanced lifestyle, fulfilling family duties, needing access to backup, getting adequate reimbursement, being available for ambulatory patients, and carrying out retirement plans. Other factors that have been cited in decisions to close maternity practices or birth centers include: fewer childbearing women in the area, inadequate reimbursement, restrictions on scope of practice, inability to compete with higher salaries offered by other employers, and difficulty securing collaborative practice relationships.

Decisions about whether to perform cesareans are also multi-factorial. A major factor in the recent steep increase appears to be a lowering of the bar for carrying out this procedure, with increased rates for all demographic groups regardless of risk level, along with some growth in the number of higher-risk groups such as older women and women with twins and triplets. Total payments for maternity care with cesareans are about 50% higher than total payments with vaginal births, providing incentives for the surgical pathway, which, especially when scheduled, is beneficial to physicians and hospitals.



5. Liability-Associated Distress Among Maternity Care Providers: Sources and Solutions

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: The vulnerability to legal claims and the cost and volatility of liability premiums are troubling for many obstetrician-gynecologists. Among dozens of medical specialties, obstetrician-gynecologists rank near the bottom in recent studies of professional satisfaction; preliminary investigations suggest that liability-related discontent may play a role.

Report findings: The professional discourse about maternity care and liability of some outspoken leaders suggests great distress, e.g.: "condition critical" and "obstetric litigation is asphyxiating our maternity services" and "although health care has never been safer for the woman and her fetus, it has never been more dangerous to the physician." Available research suggests that general obstetrician-gynecologists are more dissatisfied, overall and with respect to liability concerns, than perinatologists/neonatologists, family practice physicians, midwives, and physicians in gynecology-only practices.

The *Maternity Care and Liability* report identifies many liability-related aspects of professional practice that may be confusing, uncertain, ambiguous, misunderstood, and/or anxiety arousing to health professionals. These stressors, which may disproportionately impact maternity care clinicians, include:

- discrepancies between legal clinician standards and practice consistent with best evidence
- ambiguity about the respective responsibilities of clinicians and childbearing women in clinical decision making
- confusion about the safety of practices that are supported by best evidence but discouraged by terms of liability insurance policies
- perception that the cost of liability insurance premiums is onerous for maternity care providers
- beliefs about the likelihood of experiencing a claim, payout, or trial
- beliefs about the likelihood of being responsible for injuring a woman or newborn
- beliefs about the frequency of non-meritorious claims and payouts for them
- · uncertainty about whether a claim will be filed on behalf of a child years after providing maternal-newborn care
- tension between traditional denial of harm and evolving standards of disclosure
- uncertainty about the integrity of expert witnesses and whether juries and judges are qualified to make determinations about clinical questions
- concern about the tort system as a source of assistance to parents facing long-term expenses of caring for injured newborns when injuries were not due to medical error.

Takeaways: A clear understanding of current evidence about these matters is a starting point for easing professional distress and addressing conditions that give rise to these stressful situations. The considerable evidence about effects of caps on non-economic damages in maternity care (see fact sheet 6) and rational thinking suggest that this most-advocated reform is unlikely to be effective in addressing any of the above-named stressors. However, the report identifies numerous interventions that do show potential for alleviating many of these common stressors, with potential as well for improving care for women and newborns and value for payers. Interventions to alleviate the underlying sources of professional distress warrant the attention of health professionals and policy makers.

Research is needed to understand whether liability-related distress adversely impacts professional satisfaction, professional behavior, and maternity care quality.



6. Impact of Caps on Non-Economic Damages and Other Tort Reforms in Maternity Care

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: To modify the way state court systems function when handling claims of medical malpractice, tort reforms have generally aimed to limit access of potential plaintiffs to courts, reduce the size of awards to plaintiffs, or otherwise alter liability rules. Caps on non-economic damages — i.e., a fixed ceiling on awards for "pain and suffering" and other injuries that are difficult to monetize — have raised concerns about fairness to women and newborns; about one state in five has found them to be unconstitutional. As this and other tort reforms have been the most advocated and widely implemented of liability reforms, it is important to understand their empirical record and plausible effects in achieving liability system aims.

Report findings: The report considered eight tort reforms and the collective impact of combined tort reforms in maternity care, and held these up to a framework (see fact sheet 1) of seven broad aims of a high-functioning liability system for maternity care. Tort reforms prioritize clinician interests relative to the multi-stakeholder framework that includes interests of women and newborns and of those who pay for their care. In nearly all cases, well conducted national studies have evaluated the impact of these reforms in the context of maternity care. Nine national maternity-specific studies have evaluated the impact of the most-advocated tort reform, caps on non-economic damages. In contrast to evidence in health care generally and in some other clinical areas, the effect in maternity care of both collective tort reforms and of caps on non-economic damages is modest at best for physician supply (combined and caps) and for premium levels, award levels, availability of hospital maternity services, use of interventions, and health outcomes (non-economic caps). Similar to evidence in health care generally, the maternity-specific studies of other tort reforms (attorney fee limits, collateral source rule, expert witness rule, joint and several liability rule, periodic payment of awards, and pretrial screening) provided no compelling support for their use. Despite strong interest in limiting payouts as a strategy for keeping malpractice premiums in check, the relationship between the two appears to be weak at best.

Takeaways: The effect of caps on non-economic damages has been well studied within maternity care, with studies finding modest and narrow impact at best. A smaller number of studies have examined effects of several other traditional tort reforms within maternity care, with generally disappointing results.

It is important to consider other strategies that might be more effective in improving the functioning of the liability system for all of the key stakeholder groups. Fortunately, several possible approaches appear to offer win-win-win opportunities for clinicians, women and newborns, and purchasers (see fact sheet 8). The strategy of implementing rigorous quality improvement programs has an impressive maternity care track record in this regard (see fact sheet 9).



7. Interventions that are Unlikely to Foster Substantive Liability Solutions in Maternity Care

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: A high-functioning liability system in maternity care would meet the needs of clinicians, women and newborns, and payers. It is important to understand which strategies for improvement have been shown, or are likely, to do this, and which are not.

Report findings: The *Maternity Care and Liability* report held 25 strategies that have been proposed and, in many cases, implemented to address persistent liability problems up to a multi-stakeholder framework (see fact sheet 1) for a high-functioning liability system. Fifteen strategies were found to have overly narrow aims and lacked evidence of meaningful effectiveness in maternity care. These included tort reforms collectively and eight specific tort reforms, which, with one exception, have been evaluated in the context of maternity services:

- attorney fee limits restricting the portion of awards that compensate lawyers
- caps on non-economic damages, providing a compensation ceiling for harms that cannot be monetized
- collateral source rule, to prevent a plaintiff from "double-dipping" from multiple sources of compensation
- expert witness rule, to impose standards for expert witnesses
- joint and several liability rule, to limit the defendants who can be named as having had responsibility for harm
- periodic payment of awards, spreading out over time payments to plaintiffs for damages
- pretrial screening, to judge whether claims of plaintiffs are meritorious
- statute of limitations, to limit the time after possible injury when a claim can be filed.

Five liability insurance reforms have limited evidence and limited plausible impact across the seven aims. They are:

- joint underwriting associations, to increase access to liability insurance
- liability insurance investment and rate regulation, to keep insurance companies solvent and stabilize rates
- liability insurance premium subsidy, to encourage continued provision of maternity care
- patient compensation funds, to limit the liability levels of traditional policies.

Joint underwriting associations may, if evaluated, be shown to play an important role in access to liability insurance for midwives and birth centers. The single premium subsidy program reported for maternity care was ineffective in retaining maternity care providers. In addition, there is as yet little support for the "tort alternative" strategies of arbitration and mediation in medical liability generally and none in maternity care, though mediation may have a role in combination with some promising strategies (see fact sheet 8).

Takeaways: The reform strategies described above have limited aims. When evaluated in maternity care, impact has been modest at best. Strategies that have been shown to meet or would likely meet the needs of multiple stakeholders are good candidates for implementation and evaluation in states, health plans, or other appropriate entities (see fact sheet 8).



8. Substantive Solutions for Preventing and Responding to Injury in Maternity Care

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: Tort reforms, the traditional strategies for improving the medical liability system, have narrow aims (e.g., limiting access of plaintiffs to courts and reducing payouts for injury), and do not prioritize needs and interests of childbearing women and newborns and maternity care payers and purchasers. Empirical studies have consistently found that they do not alleviate liability stressors of maternity care providers or offer other potential benefits in maternity care (see fact sheet 6). Strategies that address the needs and interests of all core stakeholder groups are required.

Report findings: The report held 25 improvement strategies up to a multi-stakeholder framework (see fact sheet 1) of seven aims for a high-functioning liability system in maternity care. Six strategies to prevent injury and four strategies to respond to injury or claims of injury have demonstrated or plausible effectiveness across multiple aims.

Promising strategies for preventing injury, in order of ratings across the seven aims, are:

- rigorous clinical quality improvement programs
- enterprise liability liability located exclusively or partially in organizations that provide care
- leveraging improvement through health care, accreditation, credentialing, and other processes
- shared decision making between women and maternity care providers
- aligning legal standards for care and for admission of evidence with best evidence
- regulating the coverage of liability insurance policies.

Promising strategies for addressing injury, in order of ratings across the seven aims, are:

- programs of disclosure, empathy, apology, and offer of compensation as warranted
- specialized health courts for handling medical malpractice claims
- administrative compensation systems as a replacement for the tort system
- high-low award limit agreements between plaintiffs and defendants.

These strategies have potential to offer benefits to clinicians, women and newborns, and payers. The highest-rated prevention and redress strategies do not require statutory or regulatory action or new major infrastructure and can proceed with strong leadership. Rigorous quality improvement programs have a growing, impressive body of evidence in maternity care, with benefits for all major stakeholder groups (see fact sheet 9). Evaluations of disclosure and apology programs in maternity care are not yet available, but this strategy has shown significant promise in health care overall.

Takeaways: Tort reforms, which have traditionally enjoyed strong clinician and policy maker support, have narrow aims and lack compelling support in maternity care. However, numerous strategies do offer potential for multi-stakeholder improvement. These warrant piloting, evaluation, refinement, and spread as appropriate.



9. Impact of Maternity Care Quality Improvement Programs on Liability

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: The cost and volatility of liability premiums and vulnerability to legal claims are troubling for many obstetrician-gynecologists. There are also concerns about the priority of improving the quality and safety of maternity care and reducing associated costs. Competing views about these matters and about best solutions have impeded progress.

Report findings: The report reviewed 25 strategies that have been proposed and, in many cases, piloted to address persistent liability problems. The most promising strategy overall for preventing harm and reducing liability, with a growing impressive track record in maternity care, is implementation of rigorous multi-faceted quality improvement (QI) programs with strong leadership within hospitals, health systems, and other entities.

The report summarizes results of seven maternity care QI programs that have recently achieved major gains in the quality and outcomes of care and plummeting measures of liability, including claims, payouts, premiums, and payment reserves.

For example, a rigorous QI program implemented in maternity units across 21 states in the nation's largest hospital system with about 220,000 births annually improved maternity outcomes, reduced the primary cesarean section rate, reduced the obstetric malpractice claim rate by two-thirds, and brought its cost of claims below the level of the category "accidents on hospital grounds" over the first decade of this system-wide QI program.

The report identifies and provides references for a broad range of strategies that are currently being used or explored to improve maternity care safety and quality, including quality collaboratives, performance measurement, payment reform, programs for high-reliability practice, programs for team-building and –training, safety and emergency preparedness courses, and opportunities that harness health information technology. It is a priority to understand whether implementation of these strategies can reduce measures of liability.

Takeaways: Dr. Steven Clark, the leader of the most extensive maternity care QI program to date, encourages maternity care providers to focus especially on the roughly 75% of paid claims that defense teams consistently associate with substandard care, over which maternity care providers have control, versus the 25% not associated with malpractice. He and his team concluded, "we are absolutely confident that adoption of our approach on a national level could, within 5 years, both dramatically reduce adverse perinatal outcomes and to a large extent eliminate the current obstetric malpractice crisis."

Implementing rigorous QI programs is a health care system strategy rather than a legal or liability insurance system strategy for addressing liability concerns. It had been shown to have a favorable impact on multiple aims of a high-functioning liability system, including: improved care quality, reduced liability costs, reduced unwarranted practice variation, and reduced clinician distress. It has the potential to favorably impact two other aims: appropriate response to injury and liability insurance coverage that is consistent with high-quality evidence about best practice.



10. Maternity Care and Liability: Gaps in Knowledge

Fact Sheet for Stakeholders from Maternity Care and Liability Report*

Problem: Despite a growing body of empirical legal studies and health services research illuminating the impact of the liability environment in maternity care, many key liability-related questions have not been studied adequately or at all in this clinical context.

Report findings: A lengthy appendix in the *Maternity Care and Liability* report identifies key knowledge gaps and describes any preliminary evidence in the context of the current or previous liability cycle. Major gaps in knowledge about the impact of liability issues within maternity care include the following:

- Many basic questions are poorly understood with respect to maternal-fetal medicine specialists, family physicians, midwives, and birth centers, relative to general obstetrician-gynecologists and hospitals.
- There is virtually no research to characterize the functioning of the liability system in disparity populations and among safety net providers and settings.
- There is no research to clarify the extent to which corporate entities are responsible for paying for liability insurance of maternity care providers, and implications of this individual-to-corporate transition for all stakeholders.
- There is no national research to clarify the extent to which liability insurance policies interfere with clinical decision making, and implications of those strictures.
- Updates are needed to clarify the extent to which childbearing women and newborns experience negligent injury, and initial research is needed to understand the experience of that group with respect to subsequent care and compensation.
- Research is needed to understand the distribution of damages payments among maternal or newborn plaintiffs, attorneys, legal experts, and other administrative costs, and to understand whether plaintiffs receive adequate compensation.
- Research is needed to compare maternity care professionals' understanding of their likelihood of causing injury due to error and of experiencing various types of legal action relative to the actual likelihood of these occurrences.
- Apart from the well-studied matter of mode of birth, research is needed to understand the extent to
 which maternity tests, treatments, and referrals involve defensive "assurance" behavior and may be
 used primarily to demonstrate caution.
- Research is needed to clarify relationships, if any, among liability-associated stress of maternity care providers and their professional satisfaction, behavior, and care quality.
- Research is needed to understand the relationship between the liability system and health outcomes
 of childbearing women and newborns.

Takeaways: Despite a growing body of informative research about the impact of the liability system within maternity care, many gaps in knowledge remain. Policy makers and other stakeholders would benefit from clearer answers to many basic questions. Promising interventions for improvement should include evaluation components.

