



## Implementation of State Youth Concussion Laws: Perspectives from the Frontlines

**Speakers:** Kerri McGowan Lowrey, J.D., M.P.H. | Carlene Pavlos, M.T.S., | Paula Hudson Hildebrand, MHD, R.H.Ed. | Gary Matthews

**Moderator:** Cindy Rodgers, M.S.P.H.

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# Polls



# Our Presenters



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Lowrey, J.D., M.P.H.



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Gary Matthews



**Moderator:**

Cindy Rodgers, M.S.P.H.



# Implementation of State-Level Concussion Laws in Youth Sports: Lessons, Strategies, and Best Practices

**Kerri McGowan Lowrey, JD, MPH** *Deputy Director, Network for Public Health Law-Eastern Region*

**Stephanie Morain, MPH**

*Doctoral Candidate, Interfaculty Initiative in Health Policy, Harvard University*

# Epidemiology of head injury in youth sports

- » CDC estimates between 1.6 and 3.8 million sports-related concussions in U.S. every year
- » For young people aged 15-24, sports are 2<sup>nd</sup> leading cause of TBI (after MVAs)
- » Once an athlete has suffered a concussion, risk of second concussion is 3-6 times greater
  - \*Risk of secondary impact syndrome, chronic traumatic encephalopathy
- » Risk greater for young, developing brains

# Epidemiology of head injury in youth sports

» Concussion rates per 1,000 athletic exposures, regardless of time played (*Lincoln, et al.*):

**Football—0.60**

**Girls' soccer—0.35**

**Boys' lacrosse—0.30**

**Girls' lacrosse—0.20**

**Boys' wrestling—0.17**

**Girls' basketball—0.16**



» Girls have more symptoms and longer recovery time (*Covassin, et al*)

## Junior Seau had degenerative brain disease when he committed suicide

*The National Institutes of Health says in a study that Seau, one of the greatest linebackers in NFL history, had chronic traumatic encephalopathy when he shot himself in May. More than 2,000 former players are suing the NFL over the issue of head injuries.*

**January 10, 2013** | By Sam Farmer and Rosie Mestel

## Institute of Medicine to study youth sports concussions

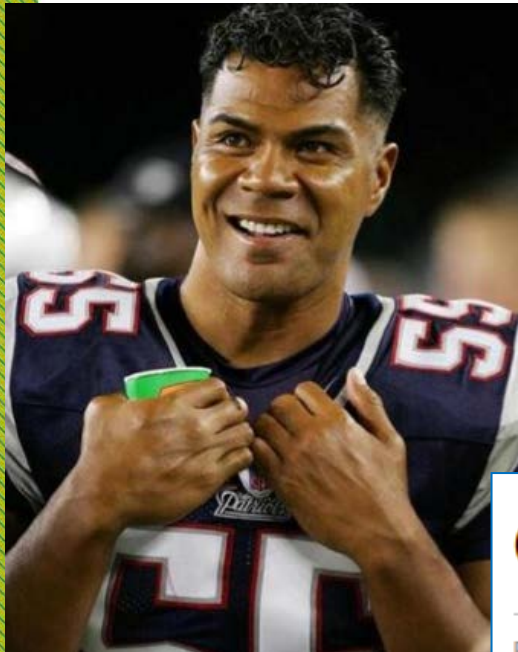
By Ian Simpson, Reuters

WASHINGTON - The Institute of Medicine launched on Monday a sweeping study of rising sports-related concussions among U.S. youth, amid concerns that the injuries may have contributed to the

## CTE found in living ex-NFL players

By [Steve Fainaru](#) and [Mark Fainaru-Wada](#) | ESPN.com

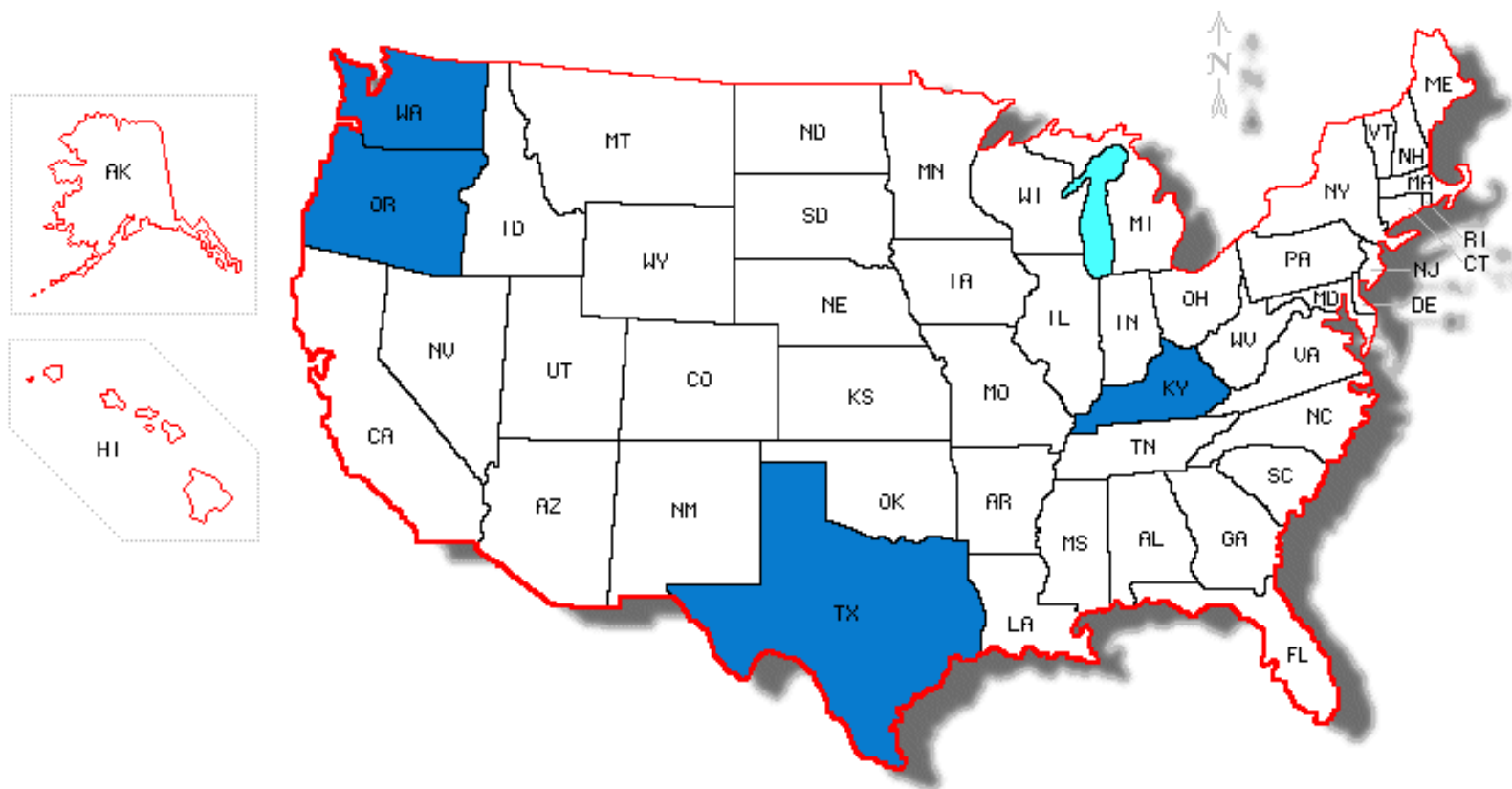
Updated: January 22, 2013, 4:19 PM ET





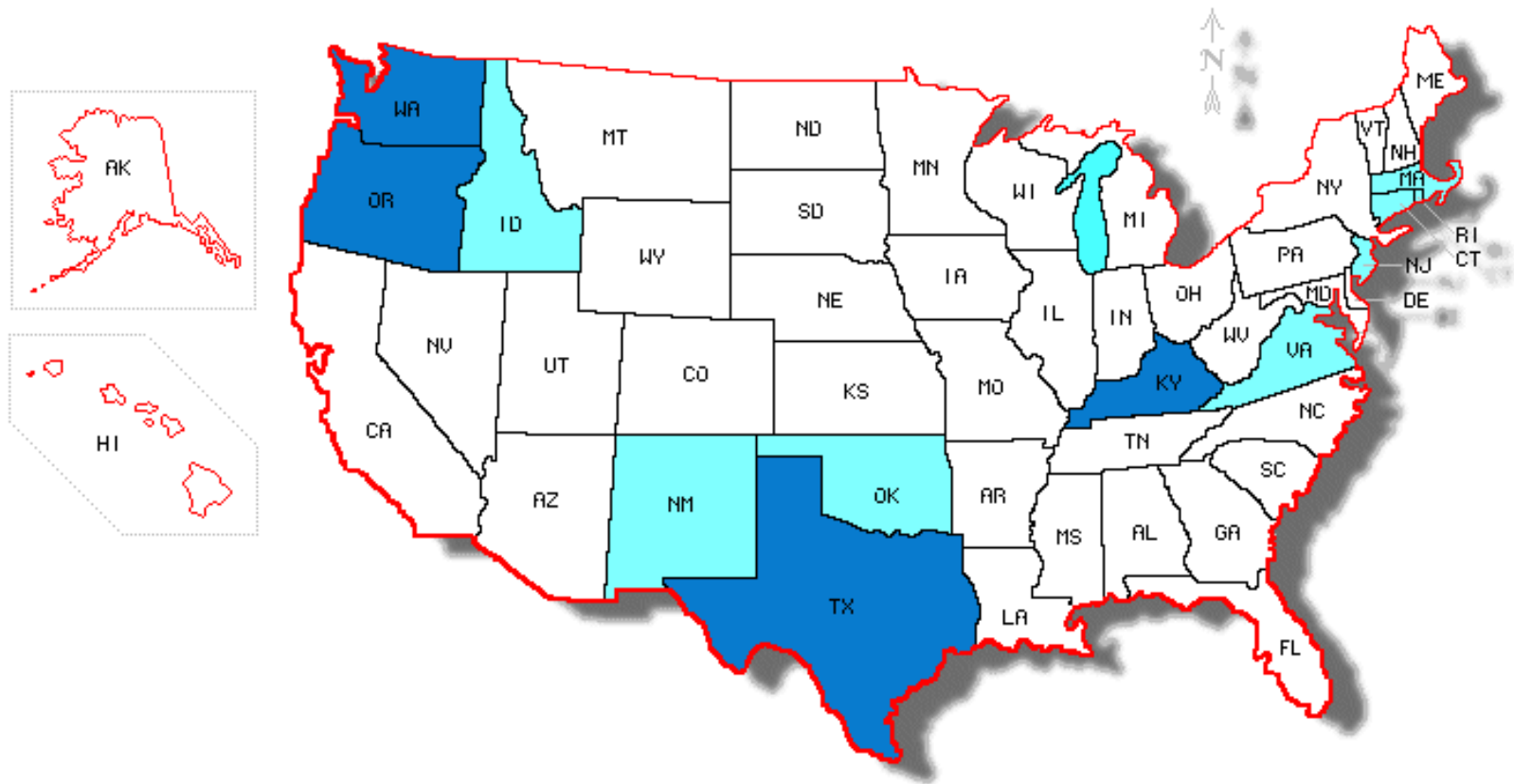
## States with Laws Addressing Youth Concussion—2009

● - 2009 (Effective)



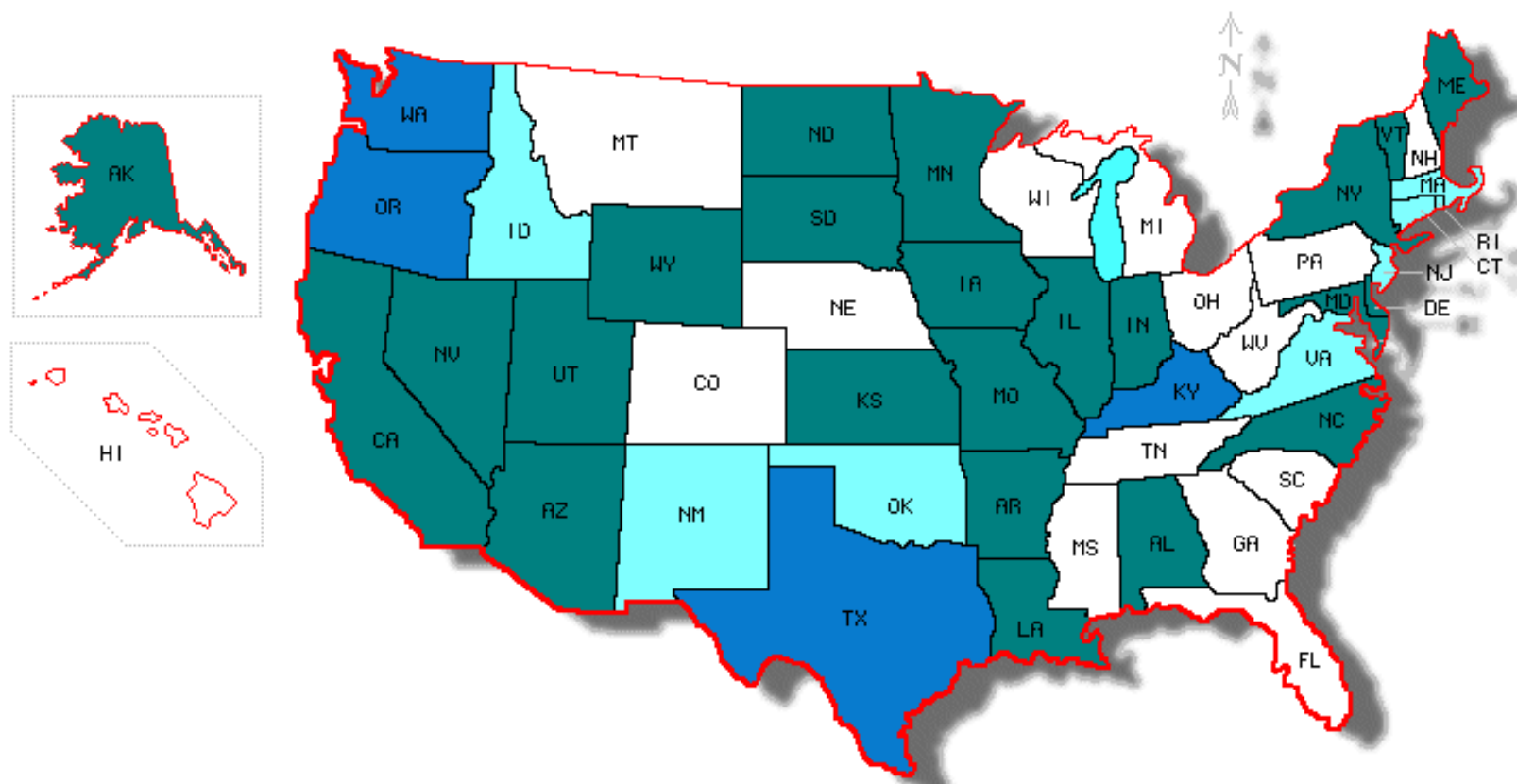
## States with Laws Addressing Youth Concussion—2009–2010

- - 2009 (Effective)
- - 2010 (Effective)



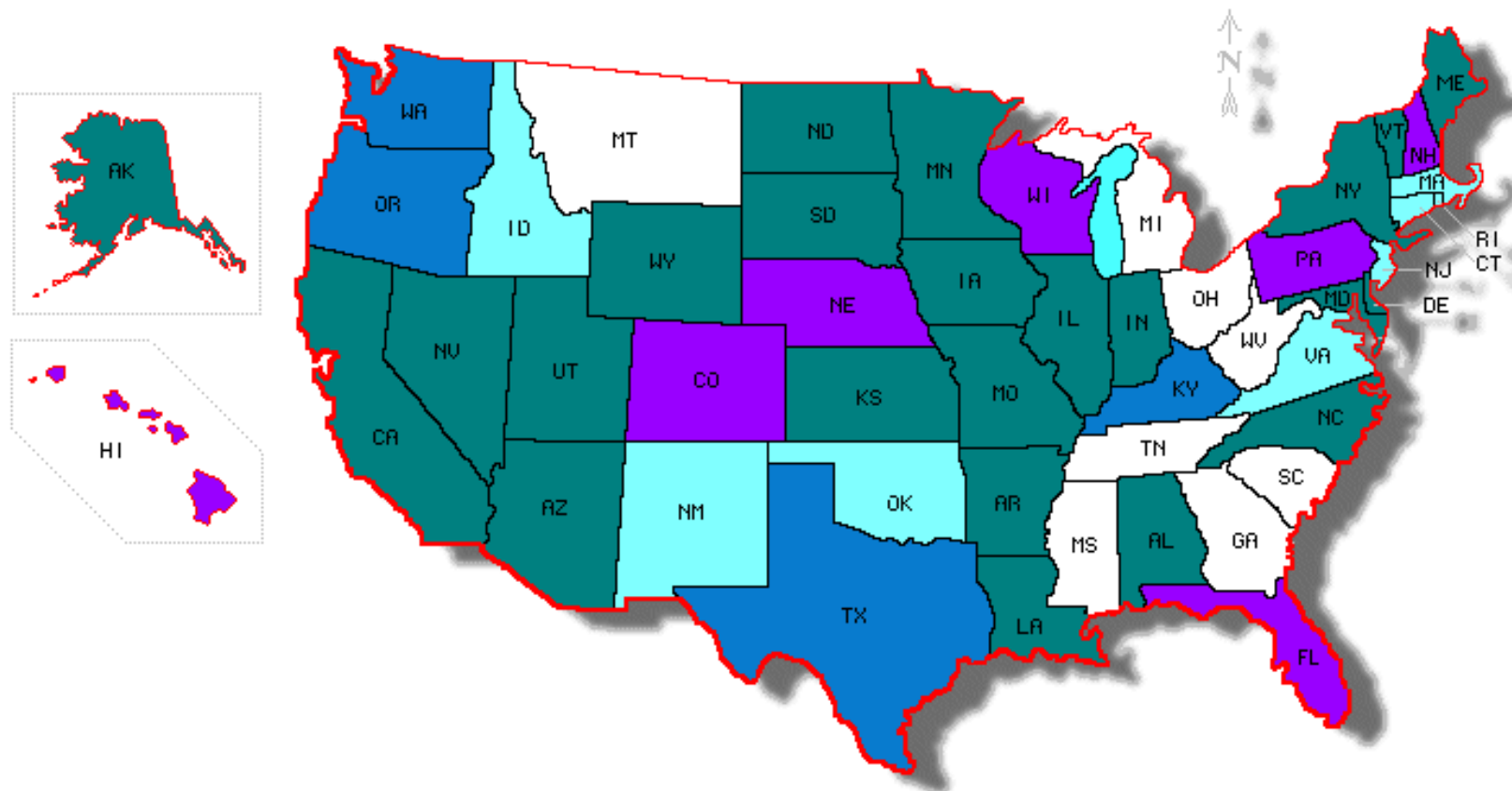
## States with Laws Addressing Youth Concussion--2009-2011

- - 2009 (Effective)
- - 2010 (Effective)
- - 2011 (Effective)



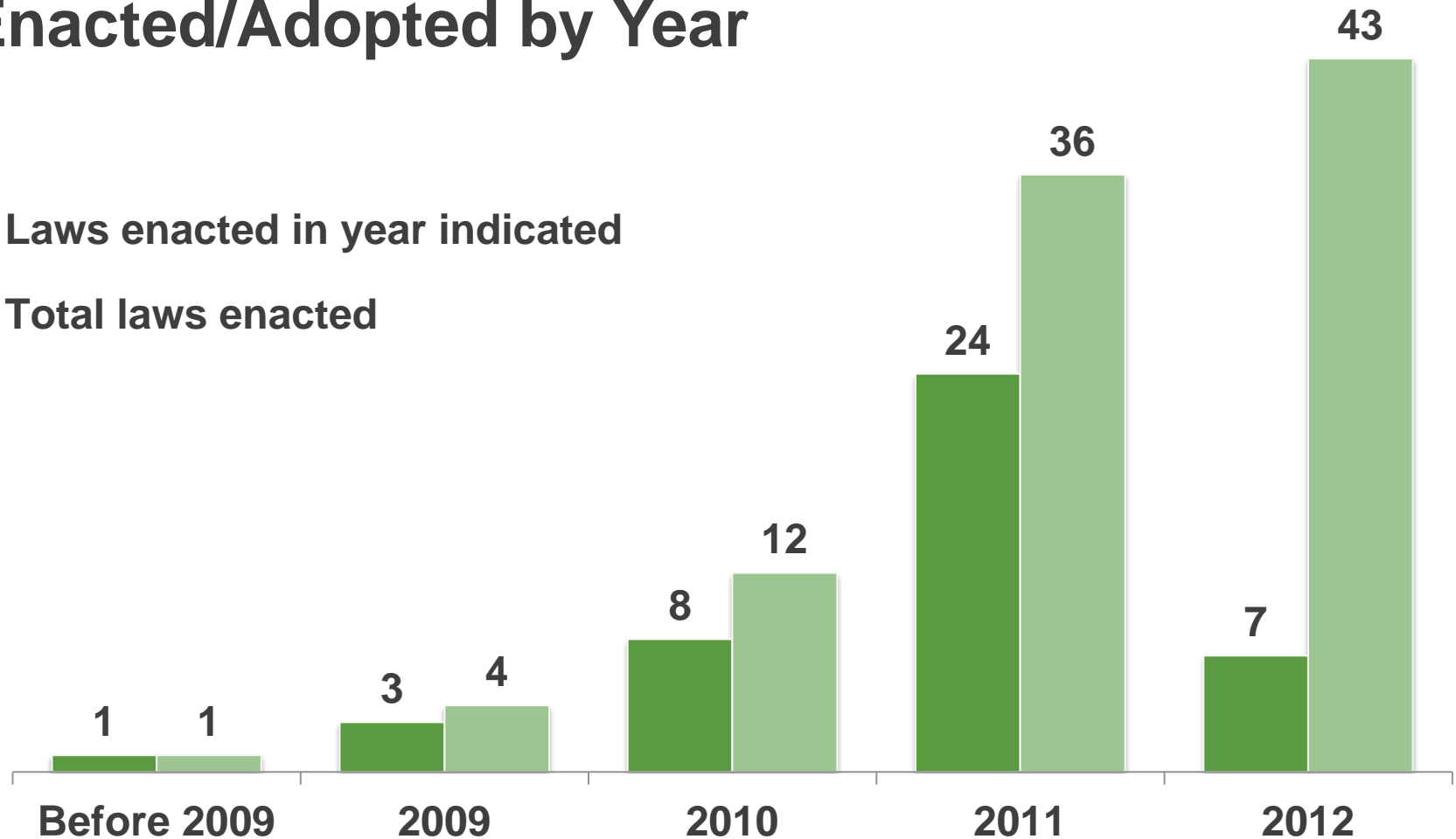
## States with Laws Addressing Youth Concussion--2009 through 2012

- - 2009 (Effective)
- - 2010 (Effective)
- - 2011 (Effective)
- - 2012 (Effective)



# State Youth Sports Concussion Laws Enacted/Adopted by Year

- Laws enacted in year indicated
- Total laws enacted



# Common provisions of state sports concussion laws

- ✓ Education for student athletes and their parents (with signed information form)
- ✓ Immediate removal of concussed athlete
- ✓ Return-to-play restrictions with medical evaluation
- ✓ Training for coaches and officials
- ✓ Return-to-learn provisions

Lystedt Law  
“Key  
components”

# The law passed...now what?

- » Policy evaluation—do they “work”?
- » Too early to see long-term outcomes (e.g., CTE, early-onset dementia, suicide risk)
- » Lay groundwork for future policy evaluation studies by first studying how the laws are being implemented

Although the laws are very similar, they may be implemented very differently.

## Study Aims




1. Describe coverage of the laws
  - » *Does “law on books” = “law on streets” ?*
2. Identify promoting and inhibiting factors to successful implementation
3. Describe evaluation mechanisms
  - » *“What gets measured gets changed.”*
4. Characterize enforcement mechanisms

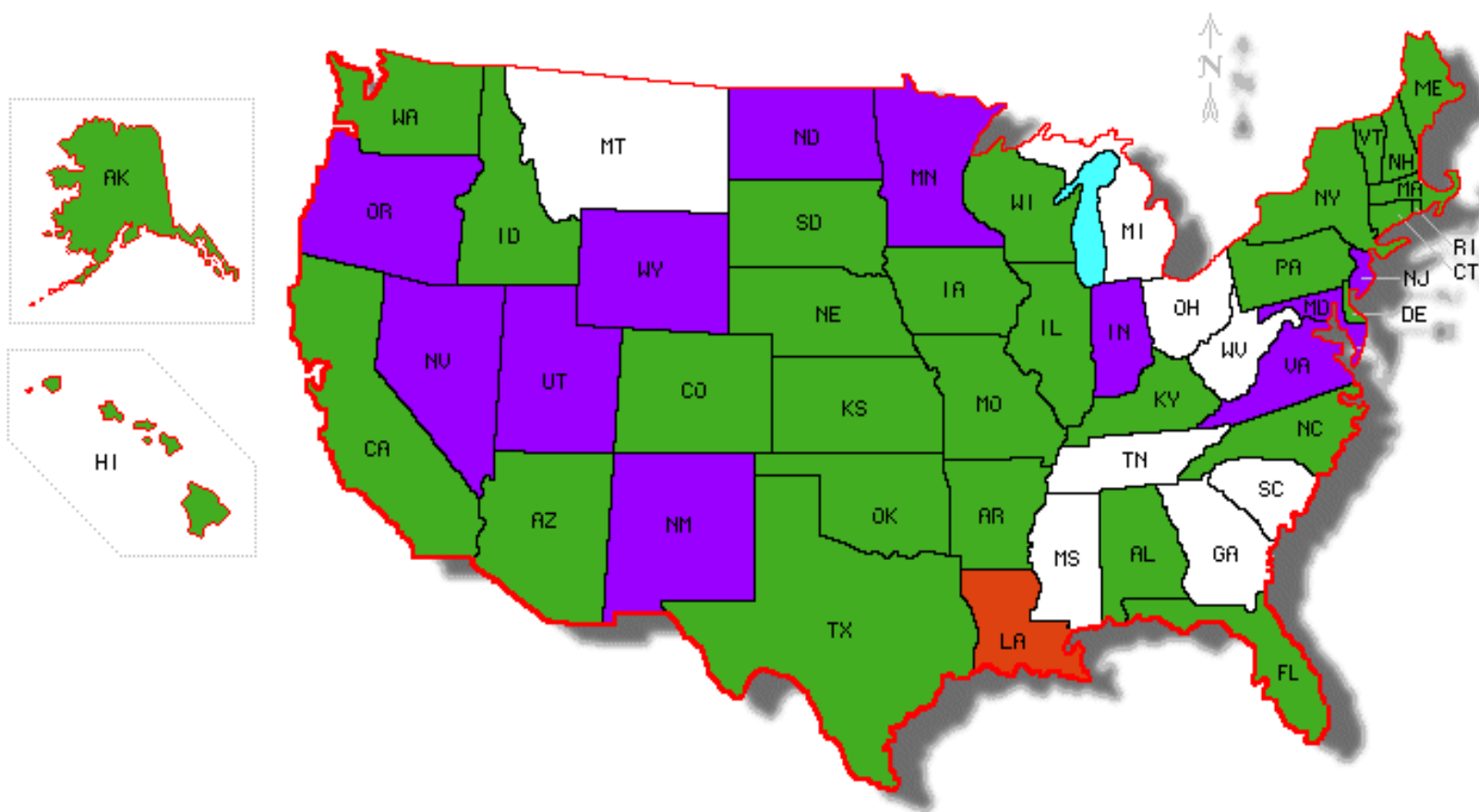


# Methodology

- » Semi-structured phone interviews
- » E-mail recruitment
- » 72.1% response rate to date (31:42 states)
- » Interview length: 15-25 minutes

## States participating in youth sports concussion law survey

-  - Participated
-  - Refused
-  - Pending



## Preliminary findings: Coverage of the law

Many voluntarily increasing coverage of law

» Recreational sports, middle schools, etc.

Some *primary* prevention initiatives have emerged

» Requiring rules re: less dangerous play



Source: [www.technorati.com/sports](http://www.technorati.com/sports)

# Preliminary findings: Greatest impact

## Awareness

- » Almost universal belief that greatest impact of the law will derive from increased awareness and “culture change” in sports

## Standardized RTP protocol



# Preliminary findings: Promoting Factors

Implementers involved in lawmaking process

- » Associations/agencies that were involved in process reported fewer barriers to implementation

Clear delegation of responsibility in law

Preexisting resources and partnerships

- » Reported fewer concerns with cost and ease of implementation

Grants, data collection programs

Local NFL team, brain injury association, universities

# Preliminary findings: Promoting Factors

Prior state-level activity re: youth concussions

*“I need to underscore that we, like many states, have been working on this issue **before** the law. This law didn't just “flip a switch,” people have been doing this work for years.”*

Media attention

» Particularly re: athlete and parent “buy in”

# Preliminary findings: Inhibiting Factors

Vagueness of statutory language

» Definition of *youth*, which medical providers can authorize RTP, etc.

Limited time to comply (emergency legislation or immediate effective date)

*“Football had already started, so we had to scramble to get all the schools in compliance.”*

Decentralized nature of recreational sports

# Preliminary findings: Inhibiting Factors

“Unfunded mandate”

Mismatch between text of law and implementing organization’s purview

» “Unworkable law”

E.g., Middle school-aged kids covered by law, but *high school* association charged with implementation.





# Preliminary findings: Compliance challenges

## Rural areas

- » Rural areas have less access to medical personnel authorized to make RTP determination

## Parents

- » “Doctor shopping” (Some reported this problem beginning to wane over past year)

## Recreational sports

- » Decentralized

## Differing levels of awareness of risk by sport

# Preliminary findings: Enforcement

*“Still, as the [Southbridge] Massachusetts game suggests, rules are only as effective as the adults charged with enforcing them.”*  
—NY Times, 10/23/2012



Little-to-no formal enforcement mechanisms

- » Loss eligibility, coaching permit
- » Belief that threat of liability will ensure compliance
- » Unclear delegation of enforcement authority

# Preliminary findings: Evaluation

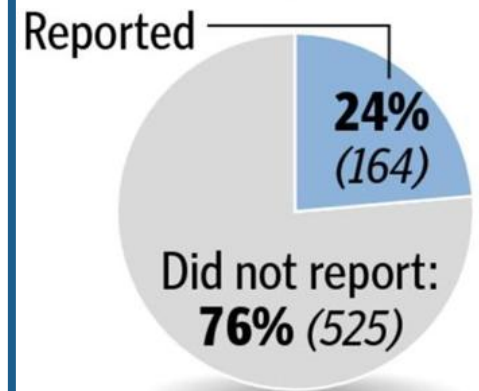
7 of 31 states collecting data

- » Incidence (expect increase)
- » Compliance (e.g., schools reporting, trainings completed)
- » Awareness measures (e.g., Web site “hits”)

States with partnerships more likely to collect data (brain injury associations, universities)

## PERCENTAGE OF SCHOOLS REPORTING HEAD INJURIES

Required to report: 689\*



\* Includes all public middle and high schools and private middle and high schools affiliated with MIAA.

SOURCE: Dept. of Public Health

JAMES ABUNDIS/GLOBE STAFF

Source: [www.bostonglobe.com](http://www.bostonglobe.com)

# Preliminary findings: Evaluation

Some schools not reporting

Barriers reported include:

- » Time (another thing schools have to do)
- » Few personnel and \$ resources



# Webinar Participant Poll

# Preliminary findings: “Wish list” provisions

“Return to learn”

» Guidance, provisions for helping student return to classroom

Training of parents, officials, and students

Broader coverage

» Extending coverage to middle schools, recreational/community sports

Better definition of providers authorized for RTP

Funding for implementation

# Acknowledgments

## Research Team

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**Allison Bogsted**

JD Candidate, '13

University of Maryland Carey School of Law

## Funders

RWJF and Harvard Catalyst

# Table summary of state youth sports concussion laws

[www.networkforphl.org](http://www.networkforphl.org)

Click on “Network Resources”



# References

Covassin T, Elbin RJ, Harris W, Parker T, and Kontos A. The role of age and sex in symptoms, neurocognitive performance, and postural stability in athletes after concussion. *Am J Sports Med.* 2012; 40(1231)

Meehan WP, d'Hemecourt P, Collins C, Comstock RD, Assessment and management of sport-related concussions in United States high schools. *Am. J. Sports Med.* 2011;20(10)

Lincoln A, Caswell S, Almquist J, Dunn R, Norris J, Hinton R. Trends in Concussion Incidence in High School Sports: A Prospective 11-Year Study. *Am. J Sports Med.* 30(10) (2011)



# Implementing the Massachusetts Sports Concussion Law: Lessons Learned

**Carlene Pavlos, Director  
Division of Violence and Injury Prevention  
Massachusetts Department of Public Health  
[carlene.pavlos@state.ma.us](mailto:carlene.pavlos@state.ma.us); 617 624-5491**

# The Law in Massachusetts

In July 2010, Governor Patrick signed into law *An Act Relative to Safety Regulations for School Athletic Programs*

Law went into effect on  
July 19, 2010



# Components of the Law

- Applies to extracurricular interscholastic sports for **public middle and high schools** and **all MIAA member schools**
- Does *not* apply to town or club sports (Little League, Pop Warner, etc.)



# Components of the Law

- DPH Division of Violence and Injury Prevention named in law and responsible for identifying **annual training program** for: athletic directors, coaches, trainers, parents and students, other school staff/volunteers
- Injured athlete *suspected of concussion* must be **removed from play** until written clearance by licensed health professional



# Components of the Law

- All students must **disclose history of head injuries** at start of each season
- **Recordkeeping** by schools
- Allows establishment of **penalties for noncompliance**
- DPH must develop **regulations** to implement law



The "Sports Related Concussions and Head Injuries" site is:

<http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/injury-prevention/sports-related-concussions-and-head-injuries.html>

# Regulations

- Drafted for public comment in January 2011
- Promulgated June 2011

The Massachusetts concussion regulations can be found at:

<http://www.lawlib.state.ma.us/source/mass/cmr/cmrtxt/105CMR201.pdf>



# Key Provisions of the Regulations

Address 7 areas:

1. School Policies and Procedures
2. Annual Training
3. Participation Requirements for Students & Parents
4. Exclusion from Play
5. Medical Clearance and Return to Play – including graduated reentry to sports and academics
6. Roles and Responsibilities of Key School Personnel
7. Record Maintenance and Reporting



# Where We Are: Work Since the Regulations

- Support and T/A to Schools: conference calls, presentations, phone consultations, model policies, meetings with stakeholders
- Annual Training:
  - two, free, on-line training programs approved
  - Criteria for in person trainings developed and 3 organizations approved to provide
- Clinician Awareness and Training:
  - Clinical Advisories issued
  - Finalizing criteria for clinical trainings

The Clinical Advisory to Pediatricians and Emergency Physicians can be found at:  
<http://www.mass.gov/eohhs/docs/dph/com-health/injury/concussion-clinical-advisory-pediatric-providers.pdf>

# School Reporting

- School compliance with policy requirement: vast majority of schools have submitted confirmation that they have policies in place
- Number of concussions being reported: many schools did not report the first year
- Information from the field

Model School Policies can be found at:

<http://www.mass.gov/eohhs/docs/dph/commhealth/injury/head-injury-reg-guide-acc.pdf>



# What We Have Learned: Partnerships are All-Important

- Clinical Advisory Group: they have lent their time and expertise every time we have asked
- Development an effective, collaborative relationship with MIAA
- MassPINN members – started the work and are still active
- Internally, the DPH Medical Director and School Health Unit have been essential

# What We Have Learned

- This was way more work than we expected
- Unfunded mandates limit what you can do
- Public health and organized sports have two very different cultures (state and local level)
- This work is about culture shift, but the pushback comes from unexpected corners
- When you don't have total control of the legislative language, you may get something you didn't ask for (or didn't think about!)

# What we've Learned: Schools and Concussions

- It isn't just returning to play, but returning to academics
- Everyone must be in on the reentry plan: parents, teachers, students, guidance counselors, coaches, certified athletic trainers, etc.
- Many clinicians do not have the most up to date information and need training
- School nurses are invaluable
- Standard forms important and provide consistency
- Schools need time to develop formal policies – have model guidance/policies ready early

# The Road Ahead/Ongoing Challenges

- Schools are where the rubber meets the road
  - Uneven resources and expertise
  - Chose to emphasize programmatic support rather than penalties for lack of compliance and/or significant reporting requirements
- Better access for parents w/ limited English proficiency
- Who makes the call on the field?



# Questions?

<http://www.mass.gov/dph/injury>



# **Gfeller-Waller Concussion Awareness Act**

## **NC Legislation on Traumatic Brain Injury**

Paula Hudson Hildebrand, Chief Health and Community Relations Officer, NCDPI

Les Spell, Health/Physical Education/Athletics Consultant, NCDPI



# Gfeller-Waller

**Matthew Gfeller**



R. J. Reynolds High School  
Winston-Salem, North Carolina

**Jaquan Waller**



J. H. Rose High School  
Greenville, North Carolina

# What is the Gfeller-Waller Concussion Awareness Act?

- A law that was implemented to protect the safety of student-athletes in the state of North Carolina
- Areas of focus:
  - Education
  - Emergency action and post-concussion protocol implementation
  - Clearance and return-to-play after concussion

# Gfeller-Waller Concussion Awareness Act

## Implications & Considerations For Schools

# Compliance Information and Checklist



# Student-Athlete Education & Statement Form



# Adult Education & Statement Form



# Guidelines for an Emergency Action Plan



# Sample Emergency Action Plan





# Post-concussion Protocol



# Return to Play Written Clearance Form

**CLEARANCE**

# Poll

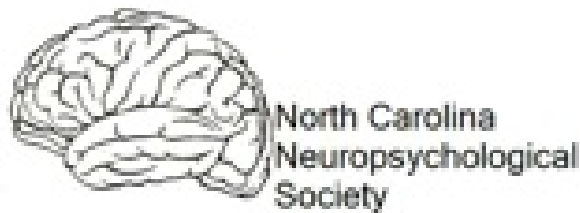
# **A culture shift has been set in motion, and North Carolina is making a difference.**

- Concussion education is key
- Know “red flags” for a situation turning catastrophic
- Establish an objective comprehensive evaluation & standardized RTP protocol (graduated exertional exercises)
- Think beyond the acute trauma
- Equipment safety & behavior modification
- State laws will make a difference!

# Stakeholders



Public Schools of North Carolina  
**State Board of Education**  
**Department of Public Instruction**



# Resources

**Matthew Gfeller Sport-Related TBI Research Center**

[http://tbicenter.unc.edu/MAG\\_Center/Home.html](http://tbicenter.unc.edu/MAG_Center/Home.html)

**Sports Concussion Toolkit**

<http://www.aan.com/go/practice/concussion>

**Concussion in Sports**

<http://www.cdc.gov/concussion/sports/>

**Heads Up to Clinicians**

<http://www.cdc.gov/concussion/headsup/clinicians.html>

**PACE – Protecting Athletes Through Concussion Education**

<https://www.mydickssportinggoods.com/pace/default.aspx>

# Contact Information

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## Gary Matthews, Executive Director, Alaska School Activities Association

13                    **Sec. 14.30.142. Concussions in student athletes: prevention and reporting.**

14                    (a) The governing body of a school district shall consult with the Alaska School  
15                    Activities Association to develop and publish guidelines and other information to  
16                    educate coaches, student athletes, and parents of student athletes regarding the nature  
17                    and risks of concussions. Guidelines developed under this section must include a  
18                    description of the risks of return to play and standards for return to play, including the  
19                    procedures required under (c) and (d) of this section.

20                    (b) A school shall annually provide to a student and the parent or guardian of a  
21                    student who is under 18 years of age written information on the nature and risks of  
22                    concussions. A student may not participate in school athletic activities unless the  
23                    student and the parent or guardian of a student who is under 18 years of age have  
24                    signed a verification of receipt of the information required under this subsection.

25                    (c) A student who is suspected of having sustained a concussion during a  
26                    practice or game shall be immediately removed from the practice or game.



## SPORTS MEDICINE MENU

- › [Sports Medicine – Home](#)
- › [SMAC Members](#)
- › [SMAC Meeting Schedule](#)
- › [Physical Exam Forms](#)
- › [Position Statements](#)

## CONCUSSION MANAGEMENT

- › [Policy Components](#)
- › [Concussion Education](#)
- › [Concussion Checklist](#)
- › [Concussion Forms](#)
- › [Healthcare Provider List](#)
- › [CDC Website Links](#)
- › [Concussion Legislation](#)

# Sports Medicine

## MISSION

The mission of the Sports Medicine Advisory Committee is to ensure that all athletes from ASAA member schools are provided with sound and consistent medical expertise to enhance the safety of their athletic experience.

## PURPOSE

The purpose of the Sports Medicine Advisory Committee is to review proposals and make recommendations to ASAA's board of directors on all issues related to the health, wellness and injury reduction of member schools' student-athletes.

OBJECTIVES – The objectives of the Sports Medicine Advisory Committee are to:

1. Gather current data on health and safety related issues.
2. Educate, interpret, monitor and disseminate materials to students, coaches and administrators concerning medical issues related to sport.
3. Assist ASAA in researching sports medical issues and/or concerns.
4. Assist in the development of guidelines related to sports medicine, in an effort to assist ASAA member schools with making informed decisions.
5. Proactively address new health and safety concerns.
6. Develop a network of medical professionals dedicated to providing member schools with appropriate sports medical education and care.

## COMPOSITION

The committee will be composed of medical professionals, a coach, a referee and a school administrator. A staff member will serve as liaison to the committee.

Chair – a physician – Cary Keller, MD FACSM (Fairbanks)

Other medical – Don Lehmann, MD FACSM (Sitka) | Jeff Brand, MD, Pediatrician, Referee, (Anchorage) | Lynne Young, ACT (Anchorage) | David Head, MD (Nome)

Coach – Rus Schreckenghost

ASAA Liaison – Gary Matthews

# **ASAA**

## **Policy Components, Procedures and Forms Relating to the Management of Concussions in Student Athletes**

**Adopted  
April 2012**

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## **Page 3 Rationale for Policy and Procedures**

## **Page 4 Policy Components**

- Coaches Education
- Student and Parent/Guardian Education and Notification
- Risks and Standards for Return to Play (RTP)
- Risks

## **Page 5-6 Standards for Return to Play (RTP)**

- Sideline Decision Making
- Steps to Return to Play (RTP)
- Symptomatic Period
- Return to Play Protocol

## **Page 7 Gradual Return to Play Protocol**

## **Page 8-9 Concussion Care Plan**

- Resources
- On-Line Educators Resources
- On-Line Coaches Education
- Student and Parent/Guardian Education

## **Page 10 Other Resources**

- House Bill 15
- Senate Bill 119
- CDC Website

## **Page 10-11 Forms**

- ASAA Parent and Student Verification of Receipt of Information Concerning Concussions Form
- ASAA Medical Release for Student Athlete with Suspected or Actual Concussion Form

# Healthcare Provider List Registration Form

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## Rationale

ASAA shall maintain a list of those healthcare providers in Alaska who self-verify that they meet the requirements stated in [ASAA's policy](#) (see pages 5 and 6) and are qualified under AS 14.30.142 (see enclosed House Bill 15 and Senate Bill 119), and are available to evaluate and manage student athletes with suspected or actual concussions. This list is provided for the convenience of student-athletes, their parents, and their coaches who are seeking concussion care.

## PROFESSIONAL DESIGNATION

## NAME

First

Last

## BUSINESS ADDRESS

Street Address

Address Line 2

City

State / Province / Region

Zip / Postal Code

## Disclaimer

The Healthcare Provider List is not intended to be all-inclusive and does not imply endorsement or verification of qualifications by ASAA or its Sports Medicine Advisory Committee (SMAC).



# Discussion

**Please use the chat to ask the presenters your questions.**

We'd love your feedback! Please take a moment to take our survey on your experience:

[http://www.surveymonkey.com/s/csnpolicy\\_012412](http://www.surveymonkey.com/s/csnpolicy_012412)