Keeping Our Heads Up: Evolving Law and the Future of Policymaking to Address TBI in Youth Sports

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Why is sports injury a public health problem?

» >35 million kids play organized sports each year
» Innate risk of injury
» Kids specializing younger, younger “select” teams, ↑ overuse injuries?
» TBI/Concussion
Epidemiology of youth sports-related TBI

» Between 1.6 and 3.8 million sports-related concussions in U.S. every year

» For young people aged 15-24, sports are 2nd leading cause of TBI (after MVAs)

» Once an athlete has suffered a concussion, risk of second concussion is 3-6 times greater

» Risk greater for young, developing brains

» Girls have more symptoms and longer recovery time (Covassin, et al)
State Youth Sports Concussion Laws Enacted/Adopted by Year

- Laws effective in year indicated
- Total laws effective

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<th>Year</th>
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Shared Provisions of State Youth Sports Concussion Laws

1. Education for student athletes and their parents (with signed information form)
2. Immediate removal of concussed athlete
3. Return-to-play restrictions with medical evaluation

Lystedt Law’s “Key components”

Mandatory training for coaches and officials

Return-to-learn provisions

Other important provisions?
The laws passed...now what?

Implementation and Evaluation

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

Although the laws are very similar, they may be implemented very differently.
2011-12 Implementation Phone Interview Study

» Exploratory phone interviews of state officials and leaders of organizations named in state law and charged with implementation

» IRB waiver (UMD and Harvard SPH)

» Sent recruitment emails to contacts in 43 states and DC

» Response rate ~81% (36 respondents in 35 states)
Inhibiting Factors

**Overarching theme:** Implementers not involved in lawmaking process

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

Vagueness of statutory language

» Imprecise definition of youth, not clear which medical providers can authorize RTP, etc.

» Do “return to play” restrictions include practice?

Source: www.hansgutknecht.com
Inhibiting Factors

Mismatch between text of law and organizational authority, existing principles or procedures

» Law covers middle school-aged kids, but high school AA charged with implementation

» Requirement for medical providers to be “qualified” in management of concussion, but state has no such qualification
Implementation challenges

Rural areas

» Less access to medical personnel authorized to make RTP determination (e.g., AK)

Barrow High School football field

Source: www.thewizofodds.com
“Because most of our schools in Alaska are small, remote communities with fewer than 50 students in the high school and few medical providers available, restricting the numbers who were willing to sign off made it even more difficult.”
Compliance challenges

Other activities

» 2010 CT federal court ruled cheerleading is not a “sport” under Title IX
» Unintended consequence for TBI law compliance…
Evaluation and Enforcement

Few state laws include evaluation or data collection

Few formal enforcement mechanisms

» Loss of eligibility, coaching permit
» Belief that threat of liability will ensure compliance

“Still, as the [Southbridge] Massachusetts game suggests, rules are only as effective as the adults charged with enforcing them.” –NY Times, 10/23/2012
The Future of Concussion Policy

Due to experience with and lessons from implementation, research developments, and emerging best practices…

» As of Aug 2014, 22 states have made substantive amendments to concussion laws since original passage (6 states more than once)

» Changes to state laws likely to continue with experience and evolving science
Expanding Coverage (7 states)

» **Arkansas** (2013)—expanded coverage to all recreational youth sports
» **Indiana** (2014) and **Virginia** (2014)—included recreational youth sports organizations using school property
» **California** (2013)—included charter and private schools
» **New Jersey** (2011)—expressly included cheerleading
Strengthening/Streamlining (19 states)

» **Alaska** (2012)—added ATs to list of individuals qualified to make RTP decisions and clarified that “return to play” includes return to practice

» **Connecticut** (2014) and **Vermont** (2013)—included provisions for concussion data collection and 24-hour parental notification

» **Nebraska** (2014) and **Virginia** (2014)—added “return-to-learn” provisions

» Several other states strengthened education/informed consent for parents and training for coaches and officials
Primary prevention/early detection (3 states)

» **Connecticut** (2014)—Coaches’ training must include efforts at reducing concussive and subconcussive hits

» **Vermont** (2013)—Coaches’ training must include best practices on # of games and appropriate minutes of full-contact practices and scrimmages

» **New Jersey** (2013)—Physical exam and concussion hx prior to athletic activity to identify students at > risk

» **California** (2014)—Limits full-contact practices to 2x/wk; limits full-contact portion of a practice to 90 min/day

» **Connecticut** (2014 bill)—Considered limiting full-contact practices to 90 min/wk; provision tabled in enacted version pending further study
Return-to-Learn Provisions (as of July 2014)

**Hawaii** *(2012 Hawaii Laws Act 197)*
- Physician clearance must include return to academics

**Maryland** *(MD Code, Education, § 7-432)*
- Appropriate accommodations

**Massachusetts** *(105 CMR 201.000 et seq.)*
- Clearance protocol to include return to academics; Written recovery plan with accommodations

**Nebraska** *(Neb.Rev.St. §71-9104)*
- Requires RTL protocol for concussed students

**New York** *(Ed. L § 305; NY PUB HEALTH § 206)*
- Must publish guidelines re: returning to school on Web site

**Vermont** *(16 V.S.A. § 1431)*
- Action plan must include RTL protocol

**Virginia** *(VA Code Ann. §22.1-271.5)*
- State BOE must add effects of concussion to guidelines/policies
Conclusions: The Future of Youth Sports Law

Sports are a critical factor in public health

» Role of law: minimize risks and facilitate benefits

Evaluation of concussion laws must take into account differences in implementation to:

» Capture change agents that are independent of statutory language
» Identify those provisions that have real impact;
» Revise laws in response to evolving science
Conclusions: The Future of Youth Sports Law

Continued regulation of concussion management

» Technology, best practices, research on etiology and safety, primary prevention

Beyond concussion: The door is open…

» Sudden Cardiac Death awareness and screening (e.g., PA and NJ); heat acclimatization

» Crumb rubber artificial turf
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