Variations in State Laws Governing School Reintegration Following Concussion

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abstract

OBJECTIVE: We sought to examine the prevalence, scope, and specificity of provisions governing school reintegration in current state concussion laws.

METHODS: State concussion laws as of May 2016 were independently assessed and classified by 2 trained coders. Statutes were classified as "Return-to-Learn" (RTL) laws if they contained language mandating institutional action at the state, district, or school level related to academic reintegration of youth who have sustained a concussion. All statutes classified as RTL laws were further analyzed to determine scope, required actions, and delineation of responsibility.

RESULTS: RTL laws were uncommon, present in only 8 states. Most (75%) of these laws held schools responsible for RTL management but mandated RTL education for school personnel was less frequent, present in only one-quarter of the laws. None of the RTL laws provided guidance on support of students with persistent postconcussive symptoms, and only 1 recommended an evidence-based standard for RTL guidelines.

CONCLUSIONS: Our review of state concussion laws indicates scant and vague legal guidance regarding RTL. These findings suggest an opportunity for legislative action on the issue of RTL, and reveal the need for better integration of laws and research, so that laws reflect existing best-practice recommendations and remain current as the evidence base develops.

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Ms Thompson designed the study, participated in data collection and analysis, and drafted the initial manuscript; Ms Lyons contributed to the iterative process of study design, participated in data collection and analysis, and reviewed and revised drafts of the manuscript; Ms McCart contributed to the literature review and design phases of the project, providing vital information regarding structures of RTL management outside of the legal realm, and she also revised and reviewed drafts of the manuscript; Dr Herring critically reviewed the manuscript; Dr Rivara conceptualized the study in conjunction with Dr Vavilala, contributed to the iterative process of study design, and critically reviewed the manuscript; Dr Vavilala conceptualized the study in conjunction with Dr Rivara, contributed to the iterative process of study design, and critically reviewed the manuscript; and all authors approved the final manuscript as submitted.

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WHAT'S KNOWN ON THIS SUBJECT: Studies suggest that implementing RTL guidelines may improve communication and promote the provision of appropriate academic accommodations to injured students, but these strategies have not been widely adopted at the school level.

WHAT THIS STUDY ADDS: This study is the first in-depth review of provisions governing academic reintegration in current state concussion laws.

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Propelled by burgeoning public concern, research in the area of pediatric concussion management has increased significantly in the last decade.[1,2] Despite promising advances in concussion education, identification, assessment, and treatment, the social and legal changes associated with this shift have been narrowly focused, revolving around the issue of safe return to physical activity, colloquially known as "Return-to-Play" (RTP).[3,4] Although concussion is clinically understood as a complex pathophysiological injury with emotional, behavioral, cognitive, and physical dimensions, this understanding has not translated to multifaceted state guidelines for the return of injured youth to school and educational activities.[2,3]

Since 2009, all 50 states have passed laws governing RTP after concussion, but few have laws regulating the school reintegration process.[5,6] The issue of return-to-learn (RTL) is often similarly neglected at the school level. Although studies reveal that implementing RTL guidelines may improve communication and promote the provision of tailored, timely academic accommodations, these strategies have not been widely adopted.[7–9] In a recent survey of school principals, written concussion plans addressing academic adjustments and accommodations were reported present in less than 25% of high schools.[10] Coupled with insufficient education of community health care providers and school personnel, this absence of protocol diffuses responsibility and fragments care.[8,10–15] In more than one-fifth of schools, there is no clearly designated person managing RTL, and coordination among educators after injury is reported absent in nearly 80% of cases.[8,10,15] To align school procedures with best-practice recommendations, national variability in RTL practices should be reduced and a minimum standard of care established.[2,16–20]

One potential avenue for catalyzing these needed changes may be the revision of state concussion laws to include RTL guidance, as research suggests that state laws governing school health issues can influence patterns of behavior, resource allocation, and student outcomes.[21–25] However, to our knowledge, the legal landscape with respect to RTL has not been comprehensively assessed, and the degree and nature of RTL regulation through this mechanism is not known. We sought to address this gap by examining the prevalence, scope, and specificity of RTL provisions in current state concussion laws.

METHODS

We sought the assistance of Dr Fan who is Professor of Law at the University of Washington's Jackson School of Law, and attorneys J. Patrick Gunning, JD, and Bob Bonaparte, JD, to vet the process for identification of state laws and interpretation of legal language, to assess the statute language according to our definition of RTL law to verify our classifications of borderline exclusions/inclusions, as well as to verify legal accuracy of our summary codes. State concussion laws passed between April 2012 and April 2015 were identified by using the LawAtlas Surveillance Dataset "Youth Sports Traumatic Brain Injury Laws."[26] This data set was created through a rigorous, multisource structured search by the Robert Wood Johnson Foundation's Public Health Law Research program. The complete Public Health Law Research protocol for data collection and maintenance can be found elsewhere.[27]

To identify RTL-related amendments that were adopted after April 2015, two coders searched the LexisNexis Injury Prevention Database jointly maintained by the National Conference of State Legislatures and the Centers for Disease Control and Prevention (CDC).[28] This database contains all bills related to injury prevention introduced in a state legislature in 2015 or 2016, searchable by features including state, bill status, and 8 topic categories. All bills introduced in state legislatures between May 2015 and May 2016 within the topic category "traumatic brain injury," as specified by the databases' search terms,[27] were collated and marked for further review.

The 2 coders (L.L.T. and L. Balsamo [research assistant]) assessed all bills and statutes identified during the database searches, examining each for evidence of guidance on the issue of RTL. Statutes were defined as RTL laws if they contained language mandating institutional action at the state, district, or school level related to academic reintegration in the event of a concussion. State laws containing RTL recommendations with nonmandatory language (ID, HI) were noted but excluded from this definition. Failed and pending bills related to RTL were also excluded. All items classified as RTL laws were independently evaluated by the 2 coders, who noted scope, required actions, and delineation of responsibility. Stipulations in binding state regulations directly affiliated with RTL laws were included in this evaluation. There were no discrepancies in content assessment. These descriptive observations were condensed, and compiled into a summary table (Table 1).

The first 10 states to implement a RTP law were defined as having an "early" RTP law. To explore the relationship between RTL legislation and progressive legal action regarding RTP, early RTP laws and RTL laws were mapped by state (Fig 1). The distributions of early RTP laws and RTL laws were compared.

TABLE 1 Content of RTL Laws

State	Entities Responsible for RTL	Required RTL Education of School Personnel	Required RTL Policy	Specified Standards for RTL Protocol	Other Actions Related to RTL Mandated by Law	Does the Statute Apply to All Students?
IL	School and district	No	Yes; established by schools	Yes; protocol must be based on peer-reviewed scientific evidence consistent with CDC guidelines	Schools must establish concussion oversight team and designate RTL coordinator	Yes; applies to all students regardless of concussion mechanism or setting
MA	School and district	No	Yes; established by schools and school districts	Yes; protocol must include physical and cognitive rest "as appropriate." Must also include plan for communication between school, health care providers, and family	Schools must designate RTL coordinator. For each injured student, school personnel, and primary health care provider must develop a written academic reentry plan	No; statute's scope is student-athletes.
MD	State	Yes; for school coaches only	Yes; established by state Department of Education	No	No	Yes; scope not clearly delineated but appears to apply to students with diagnosed head injury
ME	School and state	No	Yes; established by state Commissioner of Education	No	No	Unclear; statute mandates management of concussive and other head injuries in "school activities and athletics." Unclear whether student's mechanism of injury would also need to be in this context
NE	School	No	Yes; established by schools	Yes; protocol must recognize that injured students may need informal or formal accommodations, and monitoring by medical or academic staff	No	Unclear; statute mandates establishment of RTL protocol for "students" without qualifiers: but this mandate given within the context of a section on school duties regarding student-athletes.
NY	School and state	Yes; for coaches, nurses, and school athletic personnel	Yes; established by state Commissioners of Education and Health	No	Schools and state departments of health and education must provide access to RTL guidelines	Yes; applies to all students regardless of concussion mechanism or setting
VA	District, state	No	Yes; by school districts and state Board of Education	Yes; protocol must require schools to accommodate a gradual reentry on the basis of the primary health care provider's recommendation	No	No; statute mandates insertion of RTL protocol into school policies for concussions in student-athletes.
VT	School	No	Yes; by schools	No	No	No; scope is student-athletes

RESULTS

Overall, RTL laws were uncommon, present in only 8 states (16%; Fig 1). They were also distributed unevenly, with half occurring in the Northeast Census Region. The distributions of states with RTL laws and early RTP laws had little overlap. Comparing states with an early RTP law to states that passed an RTP law in subsequent years, the prevalence of RTL laws within both groups was ~20% (Fig 1).

As of May 2016, existing RTL laws varied in their scope, specificity, and delineation of responsibility (Table 1). Nearly half of the laws were restricted to student-athletes, excluding students who sustained concussions through nonsport-related mechanisms. Although all 8 state laws required the establishment of an RTL protocol, only 4 included any standards for the content of the protocol, and these standards were often vague, with no specified mechanism to assess efficacy or outcomes. Both Virginia and Massachusetts mandated school accommodations as deemed appropriate by the injured

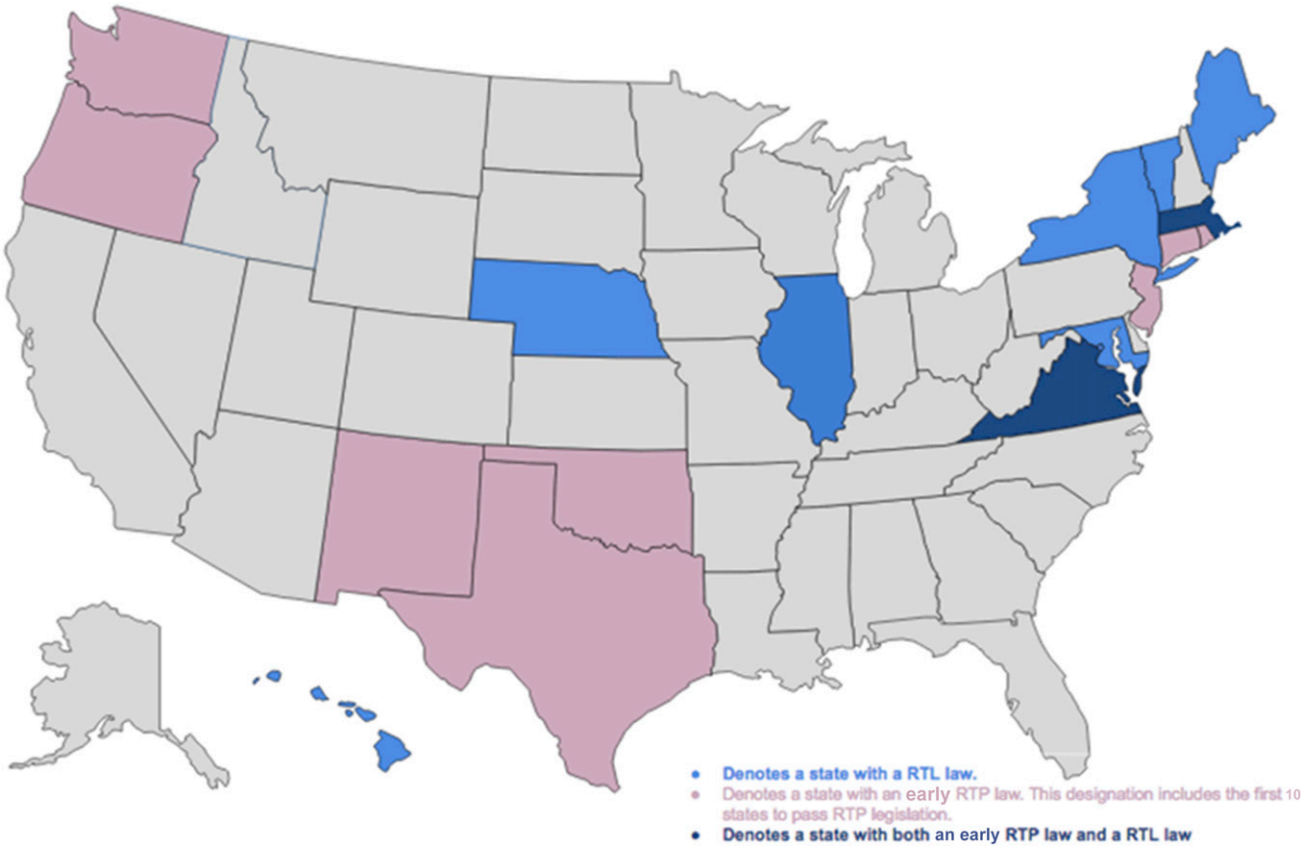

FIGURE 1
RTL laws by state in 2016.

student's health care provider, a poor "standard" given existing variability in concussion knowledge among primary care providers.[12] Nebraska's law stated only that an RTL protocol had to "recognize" the potential need for accommodations and monitoring by school staff, providing no further details about management of these processes. Of all the state laws, only Illinois' specified an evidence-based standard consistent with CDC guidelines for RTL protocol development. None of the laws provided guidance on management of students with persistent postconcussive symptoms or the timing of accommodation removal.

Mandated RTL education for school personnel was rare, present in only 2 of the 8 state laws (MD, NY). In these laws, compulsory RTL education was either solely (MD), or primarily (NY), restricted to school athletic personnel. Despite the dearth of RTL education requirements, most laws (87.5%) still held schools responsible for establishing an RTL management plan. Details regarding application and utilization of these management plans were scant; only 2 state laws (IL, MA) required the appointment of an RTL coordinator. No data could be found on the extent to which laws in these 8 states have been implemented at the district or school level.

DISCUSSION

Annually, ~1.1 to 1.9 million children incur a sport- or recreation-related concussion and must negotiate school reentry, simultaneously grappling with the physical, cognitive, emotional, and sleep-related sequelae of their injury.[17,19,29,30] The process is challenging for most recovering students, with 90% reporting 1 or more symptom-related academic issues upon return to school.[17] This population is at risk for depression and anxiety, particularly in the absence of timely, individualized supports.[31–33] Given that less than 25% of schools have a formal RTL management plan, there is a pressing need for institutional change.[10]

Laws have the potential to improve concussion management, as reflected in the transformation of RTP practices in the last 5 years. However, our review of state RTL laws indicates that legislation has not been widely used to improve systems of support for injured children returning to school. The distribution of early RTP laws and current RTL laws also suggests that political and legal momentum around the issue of RTP has not been fully leveraged. Although it is promising

that 7 additional states (FL, ID, IN, MO, MN, NJ, OK) have considered legislation related to RTL since 2015, only 8 currently have a RTL law in place.[28] Of the existing 8 state laws, many are missing key elements including robust protocol standards, required RTL education for school personnel, and a designated RTL coordinator. Only 1 state requires that schools use an evidence-based policy to manage RTL, heightening the risk that well-intentioned policies will not provide optimal structure to injured students. Increasingly, the what gooevidence suggests that in many youth with persistent postconcussive symptoms, preexisting psychosocial problems play a more important role than acute brain injury in shaping the trajectory of recovery.[34] Thus, schools need appropriate plans for removing prolonged accommodations that may be inappropriate or at worst, harmful to academic success. The etiology of concussion is diverse, and given that only a small proportion of all youth concussions occur in school sports, the restricted and ambiguous scope of many of the RTL laws may deprive students with concussion of necessary resources.[30] These findings indicate the need for better integration of laws and research, so that laws reflect existing best-practice recommendations and remain up-to-date as the evidence base continues to evolve. Finally, states might consider adopting laws that aim for students to RTL before RTP.

Interestingly, 3 states (OR, PA, CO) have strong RTL programs in place that receive public funds, but have no RTL law.[35–37] The existence of these programs reflects the varied interplay between government entities, school systems, and community organizations with respect to RTL, an ongoing process mediated by a patchwork of state and federal law.[38] The role of state law in addition to relevant federal legislation, and state-developed programs, could be to insure that states have appropriate evidence-based programs in place and that there is responsibility and accountability for these programs. The routes to this may be passage of new laws or modification of the existing concussion laws in all states.

Our study has some limitations. First, we only examined RTL efforts at the level of state laws. RTL efforts by local and community organizations were not explored. Second, given the dearth of outcomes research, we were unable to quantitatively assess the influence of RTL laws at the level of individuals or schools.

CONCLUSIONS

Our review of state concussion laws indicates scarce and vague legal guidance regarding RTL. These findings indicate the need for legislative action on the issue of RTL and improved integration of laws and research, so that laws reflect existing best-practice guidelines. Future research in this realm should evaluate the interplay between state RTL law, implementation, and individual outcomes, as at present there is a dearth of outcomes research to guide change.[2,39] Future research should also seek to develop the evidence base with respect to RTL addressing access to health care and school services after concussion, need for imaging, and best practices for academic reintegration, as the current guidelines for management of school reintegration have limited empirical support.[2,20,39]

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ABBREVIATIONS

CDC: Centers for Disease Control and Prevention
RTL: return-to-learn
RTP: return-to-play

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