Implementing Return to Play:

Learning from the Experiences of Early Implementers

National Center for Injury Prevention and Control
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Background

During the last decade, emergency department visits for sports and recreation-related traumatic brain injuries (TBIs) among youth, including concussions, increased by 62%[1]. Team and contact sports such as football and ice hockey have the highest incidence of concussion, followed by soccer, wrestling, basketball, field hockey, baseball, softball, and volleyball, however concussions can also occur in individual sports such as gymnastics and diving. The risk of concussion is highest in the 15 to 19-year-old age group nationally, regardless of gender.

In May 2009, the State of Washington passed the "Zackery Lystedt Law" (Washington House Bill 1824) to address concussion management in youth athletics. The Washington law was the first state law to require a "removal and clearance for Return to Play" among youth athletes. Between 2009 and 2012, at least 42 additional states and the District of Columbia passed similar laws.

Although these laws cover a range of issues and content, all of the laws will be collectively referred to as "Return to Play" throughout this document for ease of use. The hope is that these types of laws will successfully reduce the impact of youth sports- and recreation-related concussions. However, further research is needed to expand the evidence base around the impact of these types of laws, identify best practices for implementation, and identify any unintended consequences of Return to Play laws.

The requirements of Return to Play laws vary but typically include some combination of the following:

- Mandatory removal from play.
- Mandatory bench times.
- Required medical clearance.
- Required training/education for coaches, parents, and athletes.
- Informed consent of parents and athletes.

1 Gilchrist J, Thomas KE, Xu L, McGuire LC, Coronado VG. Nonfatal sports and recreation related traumatic brain injuries among children and adolescents treated in emergency departments in the United States, 2001-2009. MMWR 2011: 60(39); 1337-1342.

Methodology

In order to assess the implementation of Return to Play laws, the National Center for Injury Prevention and Control (NCIPC) conducted a case study evaluation on the Return to Play implementation efforts in two states: Washington and Massachusetts. These two states were selected because they were both early adopters of Return to Play and because their laws varied on several important dimensions, including the role of the health department and other stakeholder groups. The evaluation was designed to assess implementation efforts, including related challenges and successes in implementation. Interviews with several stakeholders at state (state health departments and statewide Interscholastic Athletic Associations) and school levels (athletic directors and coaches) were conducted.

Interview results were analyzed (within and between the two states) to identify common themes and unique ideas between and across stakeholder groups and to synthesize the opinions and experiences expressed by interviewees. In addition, a brief environmental scan examining the content of Return to Play laws across a number of different states was conducted to inform content comparisons.

The purpose of this report is to present the lessons learned and suggestions regarding the implementation of Return to Play. Except where explicitly noted otherwise, the information presented is based on information gained from the case study evaluation. By presenting the experiences of these early implementers, other states can improve the implementation of their Return to Play laws.

Limitations

It should be noted that the evidence presented in this guide is preliminary and presents information based only on the implementation of Return to Play from these two early adopters. The information presented does not reach the standard of 'best-practice' or 'evidence-based' because Washington and Massachusetts are in the early stages of implementing Return to Play. In addition, because the evaluation focused on implementation and not impact, this document does not provide recommendations or guidance on the effectiveness of specific components in Return to Play laws. It only offers suggestions around planning the implementation of existing laws. The information presented is based on the experiences of a limited number of schools in two states, so these findings may not generalize

to other schools or to other states with similar laws. States can use the information provided in this document to guide comprehensive discussions with key stakeholders to develop an implementation plan tailored to their state.

Organization of Guide

Return to Play laws include a variety of different components that can be complicated to implement, such as removal from play, collection of concussion histories, required training for different stakeholders, etc. Additionally, Return to Play laws do not always provide specific guidance on how each of the components of the laws should be carried out. Some laws identify a specific entity, such as a state agency, to develop regulations and other laws are less specific. As a result, implementers are sometimes required to make decisions after the law has passed that can have an impact on successful implementation. Thoroughly considering the logistics of implementation and engaging in a robust planning process can help increase the consistency and quality of implementation.

Based on the experiences of the stakeholders interviewed in Massachusetts and Washington, there are a number of key considerations for the implementation of Return to Play. The following sections of the guide present considerations, as well as lessons learned from state stakeholders and potential barriers to implementation, in the following areas:

- Stakeholder Roles and Responsibilities
- Implementation Requirements
- Knowledge and Awareness
- Medical Clearance
- Supporting and Monitoring Implementation
- Planning Ahead to Evaluate the Impact of Return to Play

Stakeholder Roles and Responsibilities

Inviting stakeholders to the table. Those responsible for implementation in Washington and Massachusetts found it helpful to engage appropriate stakeholders early in planning the implementation of Return to Play. They identified stakeholders at both state and local levels

and included representatives from health departments, state athletic association recreational leagues, professional athletic teams, medical institutions, school nursing staff, athletic directors, athletic trainers, coaches, and parents. Implementers in Massachusetts and Washington also found it helpful to approach each type of stakeholder group differently and independently so as to understand their barriers and facilitators for implementation. For example, school nurses had a different perspective and role than parents and were approached based on their unique role and perspective. Massachusetts used a number of different mechanisms to engage stakeholders including, but not limited to: the development of an expert clinical advisory group; a public comment process for regulations; periodic conference calls with various school staff; and consultation with state level stakeholders such as the Massachusetts Interscholastic Athletic Association (MIAA), Department of Elementary and Secondary Education, Athletic Trainers of Massachusetts, and the Brain Injury Association of Massachusetts.

LESSON LEARNED Value stakeholder input. A robust set of key stakeholders who provide a variety of perspectives and assistance during the implementation planning process can greatly improve your outreach and education efforts. Interviewees from both states emphasized the importance of engaging a wide-range of stakeholders early during the implementation process.

LESSON LEARNED Build in time for planning. A key lesson from both Massachusetts and Washington is not to underestimate or undervalue the time between the passing of the law and anticipated implementation of the law. Implementers from these two states noted that it is critical to develop a thorough and comprehensive implementation plan as soon as possible in the process. Without a comprehensive implementation planning process, implementation of the law may be inconsistent and incomplete.

Defining Roles and Responsibilities.
Return to Play laws may or may not identify required roles and responsibilities associated with implementation. For example, in Massachusetts, the Return to Play law specifically identified the Department of Public Health as responsible for overseeing implementation of the law including development of regulations for implementation, development or identification of required training, and the development of required forms. However, in Washington, the law was not as specific, stating simply that each school district board of directors must work in concert with the Washington Interscholastic Activities Association (WIAA) to develop guidelines, information, and forms. If specific roles and responsibilities are not assigned in the law, consider having a discussion about who is responsible for:

- Overseeing Return to Play implementation.
- Providing training and guidance on Return to Play implementation.
- Implementing Return to Play at the school level.
- Evaluating the implementation and impact of Return to Play.

Implementation Requirements

Regulations and Informal Guidelines. In Massachusetts, the Return to Play law included the development of regulations by Department of Public Health's Division of Violence and Injury Prevention to guide implementation. In Washington the law stated that schools must work with the WIAA to develop their protocol. In both circumstances stakeholder requirements and available resources needed to be considered within the overall goal of meeting the legislative intent. Massachusetts noted that although the development of regulations was an involved process that required staff time and resources, it also provided an opportunity to gain important clarity and specificity around implementation logistics. In Massachusetts, the Department of Elementary and Secondary Education was one of many key stakeholders involved in the regulation development. The regulatory development process allowed the state health department to identify areas of the implementation plan that might create unnecessary burden for school staff. Massachusetts and Washington both found that obtaining partner and public input helped improve the feasibility and receptivity of the regulations or implementation guidelines.

Return to Play Requirements at the School Level. While planning implementation of Return to Play, both Washington and Massachusetts considered the amount and types of information necessary to provide school guidance. In Massachusetts, regulations require 17 specific items in each school's Return to Play protocol, such as procedures for medical review of all concussion history forms and plans for gradual Return to Play following injury. However, in Washington, school districts work with the WIAA to develop guidelines for implementing Return to Play in their district. There are no specific requirements for the content of those guidelines. Massachusetts also requires schools to establish their own implementation team and specifies the types of stakeholders that should be included

LESSON LEARNED Consider a comprehensive approach to preventing injury. Interviewees suggested incorporating or recommending strategies for preventing concussions and other injuries among student athletes while developing your implementation guidance or regulations. Specific suggestions included educating student athletes on proper blocking techniques, requiring student athletes to perform proper warm up techniques, and ensuring student athletes use appropriate protective gear. Interviewees also mentioned that schools should consider adopting Return to Play protocols for other types of injuries that are potentially debilitating such as anterior cruciate ligament (ACL) injuries or serious heat related injuries/illnesses.

LESSON LEARNED Be specific about details of implementation. Being early adopters, both Massachusetts and Washington found that the complexity and relative novelty of Return to Play made for implementation challenges at both the state and school level. They found that being clear from the beginning about the details of implementation helped to increase consistency in implementation across schools. Interviewees suggested including a checklist for schools to ensure they are fully implementing all components of the state's specific Return to Play law.

(e.g. school administrator, certified athletic trainer, school nurse).

Knowledge and Awareness

Training Requirements. The environmental scan of Return to Play laws across multiple states documented a wide variety of training requirements. For example, Massachusetts required a much broader range of stakeholders to receive training, whereas in Washington only coaches and athletic trainers were required to receive training. Interviewees from both states felt it was important to include a variety of stakeholders in training while still considering ways to minimize unnecessary burden for stakeholders and schools. States can discuss:

Stakeholders training requirements. Identifying the types of stakeholders that are required to participate in training based on the content of the law/regulation, and how often, can be an important step in implementation. Although this is sometimes determined by the content of the law, it is important to clearly understand when, and for whom, training is required. For example, Washington requires training for coaches only. Massachusetts requires annual training for ten stakeholder groups: coaches, athletic trainers, volunteers, physicians and nurses employed by or volunteering for a school, athletic directors, marching band directors, student athletes, and parents or legal guardians. In both states, stakeholders were required to complete training on an annual basis, and some interviewees from each state indicated that they might prefer more or less strict requirements. The range of stakeholders and frequency of training that is required may impact the resources and mechanism for providing training selected. When planning the implementation of training requirements, Massachusetts and Washington considered the available resources and mechanisms of training to ensure that all required stakeholders received training in a timely and effective manner. Interviewees also stressed the importance of making sure the training can be provided at low to no-cost.

Type(s) of training provided. There are a number of pre-existing education and training materials available (see Resources section). Washington chose to develop their own online video training for coaches, whereas Massachusetts required stakeholders to take one of two approved online training courses that already existed. Both states considered whether or not to use curricula

POTENTIAL IMPLEMENTATION BARRIER Awareness about Return to Play laws. Massachusetts and Washington found it helpful to increase awareness of the Return to Play law among all relevant stakeholders at the state and local levels. This included athletes and parents in addition to school staff. Massachusetts and Washington reported that increasing awareness of the law among coaches, parents, and athletes reduced resistance to implementation. In order to increase awareness and the likelihood that Return to Play is implemented as intended, it may be helpful for stakeholders to have clarity on the purpose, intent, and requirements of the law or regulations.

tailored to the type of stakeholder being trained. Currently, Massachusetts is developing a specific training for medical professionals. This training will be very different from the training received by the other stakeholder groups. The states also had to consider how to make any training accessible to targeted stakeholders (e.g. language, online accessibility).

Provide extensive outreach and education. A number of interviewees in both Massachusetts and Washington stated that they could have improved implementation through outreach and education to groups such as healthcare professionals, parents, referees, and recreational league coaches. Interviewees also suggested that outreach and education materials be tailored to the target audience.

Medical Clearance

Collecting Student Concussion History. Return to Play laws across the country differ in how and when to collect student concussion history. There is a requirement in Massachusetts that parents complete a concussion history form for each sport prior to each athletic season (an athlete might therefore complete a concussion history form multiple times a year). Although Washington does not require a concussion history form several of those interviewed mentioned they would like to have concussion histories on student athletes. When laws require the collection of student concussion history, it is important to consider how and when this information will be collected if this is not specified in the law.

Medical Clearance Requirements. Return to Play laws also differ in terms of the types of medical professionals that can provide medical clearance and any required processes or forms. The Massachusetts regulation is very specific in its requirements. Massachusetts requires

LESSON LEARNED Provide access to resources regarding return to play strategies to recreational leagues. Return to Play laws often covers only school athletic teams or, in certain situations, any athletic teams that practice on school grounds. In many cases, no specific guidelines or requirements for Return to Play in private recreational leagues exist. Interviewees in Washington reported increased communication and collaboration between the school and private recreation league sports after the Return to Play law was implemented. States may want to be prepared to provide access to information about Return to Play and guidelines for private recreation leagues if requested. This can also be achieved by providing public access to resources and information developed for implementation.

POTENTIAL IMPLEMENTATION BARRIER Student resistance to reporting symptoms. In both states, coaches noted that some students are hesitant to report symptoms because they do not want to risk being pulled out of a game. In addition, coaches reported pressure from parents to keep children in the game. Interviewees suggested that increasing student and parent awareness of the severe consequences of subsequent injury might have helped to decrease this resistance.

medical clearance from a doctor, nurse practitioner, certified athletic trainer, or neuropsychologist, whereas Washington allows medical clearance from a "licensed healthcare professional". The experiences of Washington and Massachusetts indicated that clearly stating who is able to provide medical clearance could eliminate confusion and inconsistency in implementation. Massachusetts formed an expert clinical advisory group to guide the development of medical clearance requirements. The group included experts in the field of neuropsychology, pediatrics, and sports medicine and training. The input of the group resulted in a standard Medical Clearance Form that has increased physician awareness of best practices in concussion management.

Massachusetts and Washington found that stakeholder input during this discussion was important because available resources vary so much throughout their states. Interviewees felt it was important to consider that schools in urban and/or wealthy areas may have access to more resources to implement Return to Play at a school level than schools that are in more rural and/or less wealthy areas. Interviewees suggested that the barriers faced by parents and athletes seeking concussion assessment and management services may be different in urban versus rural areas.

LESSON LEARNED Keep up with the science. An interviewee in Massachusetts pointed out that the medical science behind the diagnosis and management of concussions is constantly evolving. For example, there are as many as 22 different published guidelines for grading concussion severity and determining Return to Play. One interviewee suggested that involving stakeholders with current knowledge of diagnosis and management guidelines will increase the likelihood that implementation is based on the best available science.

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Access to adequate healthcare services. Some coaches and athletic directors reported that athletes sometimes had difficulty accessing appropriate health care after a potential concussion. Some interviewees also stated that not all medical health professionals are aware of best practices in concussion assessment and management. States can explore mechanisms for making services accessible locally through identification of local professionals that have received adequate training in concussion management. For example, the Seattle Sports Concussion Program was created to provide athletes with concussion examinations regardless of their insurance status. Unfortunately, it is sometimes difficult for athletes in other parts of the state to travel to the program site for an examination. Interviewees in both Massachusetts and Washington mentioned the importance of improving access to appropriate healthcare for assessment and management of concussions by athletes in all areas of their states.

Supporting and Monitoring Implementation

Without monitoring implementation at the state level, stakeholders in both states found it challenging to document or evaluate the degree of implementation or the impact of the law. Some suggestions include:

LESSON LEARNED Consider the importance of "Return to Academics." Although the focus of the laws are on Return to Play, both Massachusetts and Washington, acting within the scope of the Return to Play laws, considered it important to address the challenges associated with return to academics after a concussion. Through its regulations, Massachusetts requires schools to include the return to academics in their protocols. Several interviewees also suggested that brief training be provided for teachers on the symptoms and management of concussions to increase their understanding of the issue.

Establish a process for monitoring compliance with the law. In Massachusetts, the Return to Play law stated that the State Department of Public Health would be responsible for monitoring the law. Although in Washington the law did not specify what entity is responsible for monitoring, it directs school districts to "work in concert with the Washington interscholastic activities association" to develop guidelines and forms. If the law does not specify who will be responsible for monitoring the implementation, states may want to consider talking with key stakeholders to determine who will take on this responsibility. Consider which of the stakeholders may have the resources and capacity to carry out this role or consider ways to obtain the necessary monitoring and evaluation services or resources.

Determine which data are required to ensure monitoring. Several interviewees in Massachusetts and Washington discussed the importance of thinking through the types of data required to assess compliance and monitor implementation. They also discussed the importance of balancing the need to collect data for monitoring compliance with excessive burden on the implementers and student athletes. In Massachusetts, the state requires each school district to confirm to the Department of Public Health that they have developed and implemented protocol. Schools are also required to provide the state with data about the number of concussion reporting forms received during the school year. Although the state would have liked to have additional data, they chose to collect a minimum amount of data because of the level of documentation already required in the regulations and to minimize the burden on the schools.

Identify possible incentives and supports for compliance. Neither Massachusetts nor Washington specified penalties for noncompliance as of the time of the evaluation. However, some interviewees suggested considering potential incentives or special recognition for schools that demonstrate compliance with Return to Play. Massachusetts specifically has worked on identifying specific reasons for noncompliance in order to improve guidance and support for implementation. For example, charter schools have had more difficulty in meeting state requirements, so the state is considering ways to target specific technical assistance and training toward those schools.

Provide training or technical assistance to schools or school districts around implementation.

In order for school districts to implement the law, it is helpful to have an understanding of the requirements. Training and technical assistance is one method of increasing awareness and understanding of requirements. Massachusetts provided schools with examples of "model policies" to consider when developing their own protocol. The Department of Public Health also collaborated with MIAA and the Department of Elementary and Secondary Education to hold three teleconferences for school leaders and other stakeholders to discuss how the regulations affect school athletic, nursing, and academic staff.

POTENTIAL IMPLEMENTATION BARRIER Resources for implementation, monitoring, evaluation. When planning their implementation of Return to Play, Massachusetts and Washington had to consider the resources that would be required to implement, monitor and evaluate Return to Play laws at a state level. These resources included staff time, stakeholder capacity, or financial resources. They also had to consider the resources available at the school level. Interviewees in Massachusetts and Washington reported that these resources varied greatly and made implementation a significant challenge for certain schools. A number of interviewees noted the increased burden on school staff as a result of implementation (including time spent on paperwork, etc.). Massachusetts specifically mentioned that involving implementers in implementation planning can help to identify ways to decrease the staff's burden while still ensuring appropriate implementation.

Planning Ahead to Evaluate the Impact of Return to Play Laws

Although stakeholders in Massachusetts and Washington were both planning to evaluate the impact of Return to Play, neither state had evaluation results at the time of the interviews. In order to measure the impact of Return to Play it is important to plan ahead to ensure appropriate data is collected and relevant stakeholders are involved. It is also important to clearly identify the questions that are most pertinent. This will influence the methodology selected and the data required.[2] To help states start planning an evaluation of Return to Play, they may consider the following facets of policy evaluation.

Types of evaluation to conduct. States may choose to evaluate the implementation of the Return to Play law to understand the various components of the law and how each of the components is actually implemented, including differences between planned and actual implementation.[3] One example of an implementation evaluation would be an evaluation of the quality of the implementation efforts by examining the content of school level protocol.

States may also choose to evaluate the impact of the Return to Play law. States can consider

2 Newcomer, K. E. (2009). Enhancing the usefulness of evidence: Addressing pitfalls to research in real world settings. [NCCOR Obesity-Related Policy Evaluation Webinar Series]. Retrieved from http://www.nccor.org/downloads/Webinar_3.pdf

3 Centers for Disease Control and Prevention. (2008). Introduction to Process Evaluation in Tobacco Use Prevention and Control. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Retrieved from http://www.cdc.gov/tobacco/publications/index.htm

examining short-term and intermediate outcomes as well as long-term impacts of the law.[4] Interviewees in both Massachusetts and Washington pointed out that because the focus of the law is increasing appropriate diagnosis and management of concussions, the number of diagnosed concussions might actually increase after the implementation of Return to Play. Therefore, collecting data on key indicators other than numbers of diagnosed concussions (such as the number of subsequent concussions, time to recover or complications resulting from unidentified concussions, coaches/players/parents knowledge and behaviors around concussions) may provide a better sense of the impact of the law.

Resources available for conducting the evaluation. States may consider the resources available (including staff time and capacity) to conduct the evaluation including alternative sources of funding or support from a variety of organizations, including nearby universities or colleges, local affiliates of American Evaluation Association, and other organizations interested in concussions, youth sports, or public education. Ensuring that the evaluation plan is realistic given the available resources will make it more likely that the evaluation plan will be successfully implemented.[5]

Data needed to conduct the evaluation. Consider beginning discussion about evaluation early in order to identify required data elements and mechanisms for data collection prospectively rather than trying to obtain data retrospectively. When discussing the sources of data, states can consider administrative databases as well as data collected for monitoring. When identifying data to be collected, states can be realistic and specific when selecting data to reduce unnecessary burden on schools.

4 MacDonald G, Starr G, Schooley M, Yee SL, Klimowski K, Turner K. Introduction to Program Evaluation for Comprehensive Tobacco Control Programs. Atlanta (GA): Centers for Disease Control and Prevention; 2001.

5 HM Treasury. (2011). The Magenta book: Guidance for Evaluation. London, UK. Retrieved November 10, 2011, from http://www.hm-treasury.gov.uk/data_magentabook_index.htm

Additional Resources

NCIPC Traumatic Brain Injury Information Page: http://www.cdc.gov/concussion/

Massachusetts Return to Play Website: http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/dvip/injury-prevention/sports-related-concussions-and-head-injuries.html

Washington Return to Play Website: http://www.wiaa.com/subcontent.aspx?SecID=623

NFL Health and Safety Resources: http://www.nflevolution.com/

NCSL Traumatic Brain Injury Laws: http://www.ncsl.org/issues-research/health/traumatic-brain-injury-legislation.aspx

American Evaluation Association: http://www.eval.org/

Free Online Training Courses

CDC Heads Up Online Training Courses: http://www.cdc.gov/concussion/HeadsUp/online_training.html

CDC & NFL Heads Up to Clinicians Training Course: http://preventingconcussions.org/

National Federation of State High School Associations Training Courses: http://www.nfhslearn.com/index.aspx