



Date: January 31, 2024

Source of Report:

[LD 104](#) (PL 2021 Chapter 12) An Act To Protect the Health of Student Athletes by Requiring the Department of Education To Report on the Incidence of Concussions (MRS, [Title 20-A, §254, sub-§17](#))

Topic: Concussion Incidence in Maine Schools

Context

LD 104, An Act To Protect the Health of Student Athletes by Requiring the Establishment of Procedures To Report Concussions, directs the Commissioner of Education, in consultation with an organization representing school principals, to annually report to the Joint Standing Committee on Education and Cultural Affairs any available data on the incidence of concussions sustained by student-athletes in the State. In addition, the report must also include recommendations on best practices for the collection of such data.

The Department of Education (DOE) has continued to work collaboratively with the Maine Principals' Association and other stakeholders to create this report on the available data on the incidence of concussions sustained by student-athletes in the State using existing or new data collection systems.

Background

Various terms have been used when referring to concussion. A concussion is an injury to the brain itself. The injury impacts the way a person's brain works and is sometimes referred to as a traumatic brain injury (TBI). Using precise language will improve communication related to increased awareness, prevention, and management of injuries. The Concussion Workgroup recommends using the term concussion or TBI which aligns with established best practices.

Pursuant to MRS, Title 20-A, §254, sub-§17, as enacted by PL 2011, c. 688, §1, the DOE was directed to develop a model policy on the management of concussions in school activities and athletics. It further required the DOE to establish a working group to complete this task. Membership in the group has varied over time but has consistently included a representative from the Maine Principals' Association, Maine Athletic Trainers Association, Maine Association of School Nurses, Maine Interscholastic Athletic Administrators Association, Maine Concussion Management Initiative (MCMI), and the Brain Injury Association of America - Maine Chapter.

The makeup of the current Workgroup is listed here:

Name	Role
Emily Poland, MPH, RN, NCSN	School Nurse Consultant Maine Department of Education
Paul Berkner, DO	Medical Director, Student Health Services, University of New England

	Founding member of the Maine Concussion Management Initiative
Katie Stephenson, Ph.D.	Post-Doctoral Fellow, University of New England Post-Doctoral Research Fellow, Department of Physical Medicine and Rehabilitation, Harvard Medical School Coordinator, Maine Concussion Management Initiative
Gerry Durgin	Executive Director Maine Interscholastic Athletic Administrators' Association
Michael Burnham	Executive Director, Interscholastic Division Maine Principals' Association
John Ryan, EdD, LAT, ATC, RAA Head Athletic Trainer South Portland High School	President, Maine Athletic Trainers Association National Athletic Trainers Association Board of Directors
Steve Wade, MBA	Brain Injury Association of America, Maine Chapter
Penny Townsend, MPH, CHES	School Based Health Center Coordinator Maine Department of Health and Human Services

Actions

During this past year, the Concussion Workgroup has met bi-monthly to review updates in best practices, barriers to local data collection, and discuss emerging legislative initiatives as they arise. Maintaining current resources for management of concussions in Maine schools is work that is ongoing as best practices are updated as new research is published. The International Conference on Concussion Sport convened in the fall of 2022 and recently published its 6th consensus statement and summary of the latest research. It is included at the end of this report.

There is crossover in the membership of the Concussion Workgroup and the Maine Principals' Association Sports Medicine Advisory Committee. Members communicate and collaborate to provide quality care to students regardless of their zip code. The work of collecting and analyzing the data to make recommendations for improved management of concussions in schools is ongoing.

It cannot be understated that all students in schools are at risk for concussion regardless of how it is sustained. When a student sustains a concussion, it impacts their education. With that in mind, the Workgroup's continued efforts relate to improving concussion awareness and management for all students.

Trainings and Resources Provided to the Field

- Concussion Management Basics Training provided at New School Nurse Orientation, August 16, 2023.
- Reviewed and updated the [Maine DOE Concussion Management Resources](#)

Data

The use of any data tracking platform external to a school's own documentation system has been difficult to implement. Duplicative documentation is likely the largest barrier to implementing a tracking platform specifically for concussions. Staff members from schools involved in the concussion data collection report that it is difficult to maintain this level of documentation.

Although the workgroup did request it, due to unexpected staffing changes at our partner, the University of New England, we were unable to access the Maine Concussion Management Initiative Head Injury Tracker data that we included in this report last year.

The Workgroup requested data from the University of Southern Maine team that serves as the evaluator for Maine CDC funded school-based health centers (SBHC). This is not data they generally report out, but they were able to provide the following. For the 2022-2023 mid-year period, SBHC in Maine reported 27 unique users who received a concussion diagnosis during a total of 62 visits (any diagnosis code beginning with 'S06.0'). These include concussions from 5 different SBHC sites (Wheeler, 2023). There is no statistical analysis or conclusions that can be made with this data. It is simply for awareness of Maine concussion data that is available.

The National Federation of High School Sports, which is the national governing body of the Maine Principals' Association has been collecting data on concussion incidence since 2004 through its National High School Sports Related Injury Surveillance Study, also known as High School RIO™. Certified Athletic Trainers throughout the nation report through this surveillance study. Through these efforts they have shown that the incidence of concussion related to high school athletic competitions has been relatively stable since about 2011 (Collins, 2023). This is illustrated in Table 1 of Appendix A. The most common injury sustained in high school sports, according to the RIO report is muscle strain/sprain and illustrated in Table 2 of Appendix A (Wheeler, 2023). According to a report released by the US CDC in 2020, 6.8% of children ever had symptoms of a concussion in their lifetime (Black & Zablotsky, 2020).

Recommendations

Recommendations of the workgroup were discussed with the Maine Principals' Association Sports Medicine Advisory Committee and are also supported by that group. These recommendations include continuing Concussion Workgroup meetings, on at least a quarterly basis, and for the DOE to maintain its concussion management toolkit for schools, including the most recent evidence-based materials.

One new recommendation includes investing in a statewide electronic health record system that is available to all publicly funded schools, to reduce the burden of data collection. This work is in progress through a grant program funded by the DOE in FY 2023-2024, where ten school administrative units (SAUs) have received funding of up to \$6,000 to adopt an electronic health record. Beyond the 23-24 school year, it will be up to individual SAUs to fund their own electronic health records.

A second new recommendation is to reduce the frequency of this report to the Education and Cultural Affairs Committee to once every five years. The rationale for this recommendation is that national data shows that the incidence of concussion is somewhat stable, and research that changes best practice is updated at around that interval. Additionally, without a good data collection system in Maine, it is not possible to draw relevant conclusions or advisable to make actionable changes that diverge from national best practices.

Finally, we recommend that any further legislation related to health data and research in Maine schools also include the Department of Health and Human Services, Maine Centers for Disease Control and Prevention.

References

1. Black LI, Zablotsky B. Concussions and brain injuries in children: United States, 2020. NCHS Data Brief, no 423. Hyattsville, MD: National Center for Health Statistics. 2021. doi: <https://dx.doi.org/10.15620/cdc:111174>
2. Kerr ZY, Roos KG, Djoko A, Dalton SL, Broglio SP, Marshall, SW, Dompier TP; Epidemiologic Measures for Quantifying the Incidence of Concussion in National Collegiate Athletic Association Sports. *Journal of Athletic Trainers*, 1 March 2017; 52 (3): 167–174. doi: <https://doi.org/10.4085/1062-6050-51.6.05>
3. Collins, Christy. Brief Summary Report: 2022/23 National High School Sports-Related Injury Surveillance Study. National Federation of High School Sports, August 2023.
4. Wheeler T, Baker M, Burke M. (2023). 2022-23 Maine School-Based Health Center Mid-Year Data. Catherine Cutler Institute for Health and Social Policy, University of Southern Maine.

Contact

Emily Poland, MPH, RN, NCSN (she/her)
School Nurse Consultant
Coordinator – Coordinated School Health
Office of School and Student Supports
Email: emily.poland@maine.gov
Phone: 207-592-0387

The preparation of this report utilized approximately 10 staff hours, and was prepared by the following participants:

- School Nurse Consultant Coordinator, Office of School and Student Supports
- Legislative and Constituent Services Specialist, Policy and Government Affairs
- Director, Policy and Government Affairs

Appendix
The National High School Sports-related Injury Surveillance Study: High School RIO™

TABLE 1. Concussion Rates per 10,000 Athlete exposures: 9 Original Sports*, 2005/06-2022/23

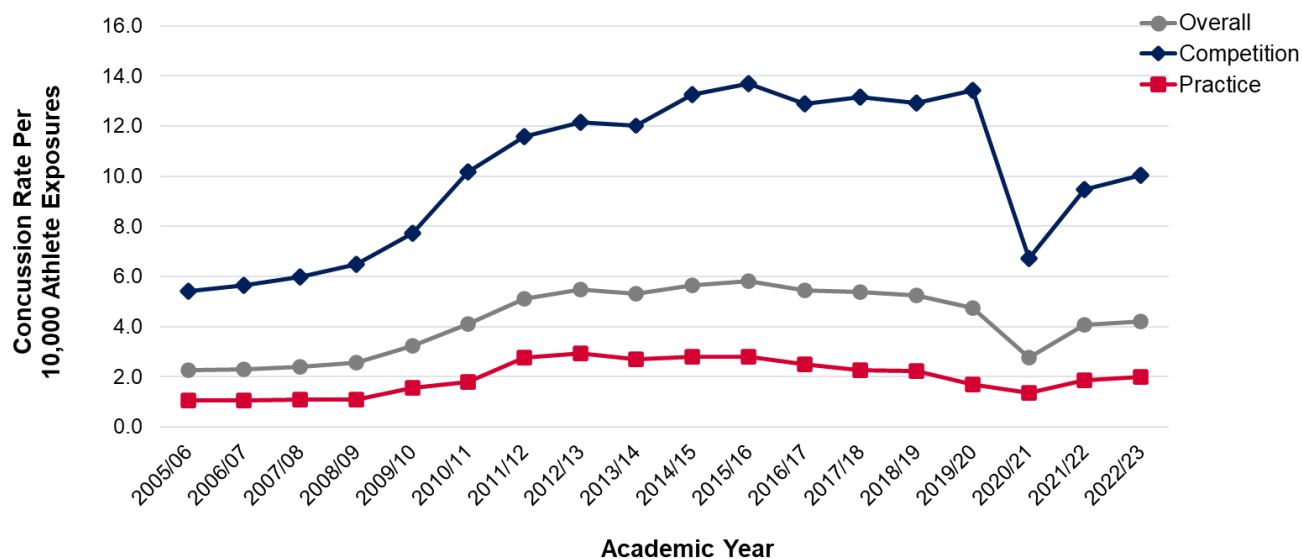


TABLE 2. Changing Injury Patterns: % of All Injuries, 9 Original Sports*

Most Common High School Sports Injuries in 9 Original Sports Under Surveillance	2005/06	2015/16	2022/23
Body Sites			
Ankle	20.9%	16.5%	18.1%
Head/Face	12.3%	26.6%	19.7%
Knee	14.7%	14.5%	15.0%
Diagnoses			
Strain/Sprain	50.7%	40.0%	44.6%
Concussion	9.0%	24.0%	16.7%

Fracture	10.2%	9.6%	9.0%
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*Boys' football, soccer, basketball, wrestling, and baseball and girls' soccer, volleyball, basketball, and softball

Collins, Christy. Brief Summary Report: 2022/23 National High School Sports-Related Injury Surveillance Study. National Federation of High School Sports, August 2023.

