

SUMMARY REPORT

**MICHIGAN HIGH SCHOOL ATHLETIC ASSOCIATION
HEAD INJURY REPORTING SYSTEM**

2019-2020 School Year

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I. Introduction & Methodology

1.1 Overview

Promotion of student-athlete health and safety is a core value of interscholastic athletics, and one of the guiding principles of the Michigan High School Athletic Association in its mission to increase participation and raise the quality of that experience for all involved in school sports in the state of Michigan. Over the past decade, few issues regarding the health of young student-athletes and the safety of school sports have generated as much concern as head trauma and concussions. Although equipment advancements, increases in coaches education, and safety-oriented changes to practice policies and game rules have made school sports safer than they have ever been, precise data on the frequency and severity of head injuries incurred during interscholastic athletic events is limited. Beginning in the 2015-16 school year, the MHSAA required all head injuries sustained during MHSAA sponsored activities be reported to the MHSAA through an online reporting system. The data generated from the MHSAA Head Injury Reporting System will establish a baseline, and eventually allow the MHSAA to determine progress year-to-year in Michigan school sports in this critical area of health and safety.

1.2 Aims

The specific objectives of the MHSAA Head Injury Reporting System are:

- A. Determine the incidence (total number) of head injuries sustained by athletes participating in MHSAA sponsored activities.
- B. Calculate and compare head injury prevalence rates using head injury report counts and participation data for MHSAA sponsored activities.
- C. Provide detailed information regarding head injuries sustained during MHSAA sponsored activities including athlete demographics, the circumstances of the injury event (date, practice or game, time during practice or game of injury, protective equipment worn, cause of injury event, initial examiner, etc.) as well as subsequent clearance/return to activity after the injury.

D. Use the collected data to identify any patterns across variables.

1.3 Design

Beginning with the 2015-16 school year, head injury reporting became mandatory for MHSAA member schools. Under the MHSAA Concussion Protocol, **member schools are required to complete and submit an online report designated by the MHSAA to record and track head injury events when they occur in all levels of all sports during the season in practices and competitions.** The reporting mechanism developed by the MHSAA is identified in this report as the MHSAA Head Injury Reporting System. Reporting by member schools required completion of two basic online report forms; the first report completed after the initial head injury event, and the second completed after the student has received clearance to return to activity after the head injury or the season in which the injury occurred has ended.

Definitions

The MHSAA Concussion Protocol and Head Injury Reporting System defined a head injury as:

An injury that occurred as a result of participation during an in-season practice, scrimmage, or game in one of the 28 sports for which the MHSAA provides a post season tournament – namely baseball, boys and girls basketball, boys and girls bowling, girls competitive cheer, boys and girls cross country, football (11-player and 8-player), boys and girls golf, girls gymnastics, ice hockey, boys and girls alpine skiing, boys and girls lacrosse, boys and girls soccer, softball, boys and girls swimming & diving, boys and girls tennis, boys and girls track & field, volleyball, and wrestling – **and** – required the athlete be withheld from activity after exhibiting signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion or balance problems).

The MHSAA Concussion Protocol and Head Injury Reporting System defined clearance as:

Written authorization from an M.D., D.O., Nurse Practitioner, or Physician's Assistant to return to unrestricted activity.

Population

All male and female students grades 9-12 of MHSAA member schools participating in MHSAA sponsored activities during the 2019-20 school year.

The MHSAA is an association of approximately 1500 individual public, private and parochial high schools and junior high/middle schools. At the start of the 2019-20 school year, member schools include 753 high schools of various enrollments and resources (188 schools with an enrollment greater than 863 students, 187 schools with an enrollment between 862-395 students, 187 schools with an enrollment between 394-189 students, and 191 schools with an enrollment less than 188 students) and 750+ member junior/middle schools*.

*Junior high/middle school head injury data is not part of this report. Injuries to 6th, 7th and 8th graders participating on high school teams (allowable under specific circumstance for schools and cooperative programs with fewer than 100 students) were included.

1.4 Data Collection

As MHSAA member schools vary widely with respect to school personnel and resources (not all schools employ an athletic trainer, or even a full-time athletic administrator), the MHSAA Head Injury Reporting System was designed for use by athletic trainers, school administrators, and coaches. The system was accessed through login to MHSAA.com. Only users identified within the system as athletic trainer, school administrator (i.e. athletic director, athletic department secretary, principal, or superintendent), or coach had the ability to access to the online system, and submit and review reports for the school(s) with which they are associated. The MHSAA Concussion Protocol does not specifically legislate who at the school must complete and submit the report, nor does it specify a time frame to submit the report after a head injury event – local schools were left to make those decisions and create their own reporting protocol based on their personnel and resources. However, reports were procured by the end of each season.

The MHSAA Head Injury Reporting System process consisted of two parts: 1) an initial head injury report, and 2) subsequent follow-up report. After a head injury event, the school was required to complete and submit an initial head injury report. This initial report was an online form designed to collect general information about the student (i.e., grade, gender, level, sport) and the injury event, including event date, whether injury event occurred in practice or game, time of injury event during practice or game, protective equipment worn on the head at the time of the event, cause of the event (i.e., person to person contact, person to object contact, person to ground contact, or unknown), surface type, initial examiner, and removal from play decision.)

After the initial head injury report was submitted, the report was assigned a unique seven-digit ID code and was saved in a report listing. This served as an electronic record of the head injury reports submitted by the school into the system and where the school accessed and completed a follow up report (details forthcoming). In addition to being saved in the report list, a PDF file of the report containing the ID code was generated and sent via email to the school. No personally identifiable information was included on the report in order to protect student privacy. Schools were instructed to print the PDF copy and record the injured student's name or student ID number as a means to link the report with the specific student so that report could be referenced for completion of the second part of the reporting process: the follow-up report.

The final part of the reporting process required completion of a follow-up report. The follow-up is a second online report form linked to the initial head injury report designed to collect general information regarding the student's return to activity after the head injury, including the official diagnosis of the head injury event, the date the student was authorized to return to activity, medical examiner authorizing return to activity, facility in which the student was seen by the authorizing medical examiner, conditions to return, and missed school as a result of injury event. The follow-up report was to be completed once the student received authorization to return to activity or the season ended.

1.5 Data Management

Initial head injury reports were reviewed by members of the MHSAA staff on a daily basis. The school was contacted if a clear reporting error or anomaly was identified during review. As schools were not given the ability to edit reports once submitted, all changes or removal of reports were handled by the MHSAA staff.

Follow-up reports were also reviewed on a weekly basis. Schools were contacted approximately three weeks after the reported injury date and then each week in the two

to three weeks prior to the end of the season. If the head injury report remained unresolved, reminders were sent for completion of the follow-up report once the student received appropriate clearance or the season in which the injury occurred ended.

Head injury reports not diagnosed as concussions, and confirmed as no concussion in the follow-up report were marked and excluded from this report. Head injury reports with no follow-up report completed were included, however.

Schools with no head injury reports for a season (Fall, Winter, and Spring) were required to report this at the conclusion of each season by attesting to this information in the Head Injury Reporting System. Follow-up continued each season with all schools who had not reported concussion or zero concussion until data was received by no less than 99% of MHSAA member high schools.

1.6 Data Analysis

The data contained in this report is largely a summary of the data gather by the MHSAA Head Injury Reporting System by sport.

Head injury prevalence rates were calculated by dividing head injury reports count by participation. For instance:

$$\text{Girls Soccer Head Injury Prevalence Rate} = \frac{\text{\# girls soccer head injury reports}}{\text{girls soccer participation \#}}$$

In order to more easily compare head injury prevalence rates between sports, the head injury prevalence rate was also expressed per 1,000 participants. Head injury prevalence rate per 1,000 participants was found by placing the head injury prevalence ratio (injury reports/participation) on one side of an equation and placing the ratio (X / 1,000 participants) on the other side of the equation and solving algebraically for X. Essentially, the head injury prevalence rate per 1,000 participants for each sport was found by multiplying the head injury prevalence rates by 1,000 and then rounding to the nearest whole number.

II. Overall Head Injury Reports

Table 2.1 Reported Head Injuries by Sport, MHSAA Head Injury Reporting System, 2019-20 School Year

Baseball**	Varsity	2	Boys Golf*	Varsity	0	Softball**	Varsity	4
	Junior Varsity	0		Junior Varsity	0		Junior Varsity	0
	Freshman	0		Freshman	0		Freshman	0
	TOTAL	2		TOTAL	0		TOTAL	4
Boys Basketball*	Varsity	90	Girls Golf*	Varsity	2	Boys Swimming & Diving*	Varsity	21
	Junior Varsity	64		Junior Varsity	0		Junior Varsity	0
	Freshman	32		Freshman	0		Freshman	0
	TOTAL	186		TOTAL	2		TOTAL	21
Girls Basketball*	Varsity	158	Girls Gymnastics*	Varsity	7	Girls Swimming & Diving	Varsity	38
	Junior Varsity	126		Junior Varsity	0		Junior Varsity	1
	Freshman	35		Freshman	0		Freshman	0
	TOTAL	319		TOTAL	7		TOTAL	39
Boys Bowling	Varsity	0	Ice Hockey*	Varsity	95	Boys Tennis	Varsity	1
	Junior Varsity	0		Junior Varsity	8		Junior Varsity	0
	Freshman	0		Freshman	0		Freshman	0
	TOTAL	0		TOTAL	103		TOTAL	1
Girls Bowling	Varsity	0	Boys Lacrosse**	Varsity	0	Girls Tennis**	Varsity	0
	Junior Varsity	0		Junior Varsity	0		Junior Varsity	0
	Freshman	0		Freshman	0		Freshman	0
	TOTAL	0		TOTAL	0		TOTAL	0
Girls Competitive Cheer	Varsity	109	Girls Lacrosse**	Varsity	0	Boys Track & Field**	Varsity	1
	Junior Varsity	26		Junior Varsity	1		Junior Varsity	0
	Freshman	2		Freshman	0		Freshman	0
	TOTAL	137		TOTAL	1		TOTAL	1
Boys Cross Country	Varsity	3	Boys Skiing	Varsity	4	Girls Track & Field**	Varsity	0
	Junior Varsity	1		Junior Varsity	0		Junior Varsity	0
	Freshman	0		Freshman	0		Freshman	0
	TOTAL	4		TOTAL	4		TOTAL	0
Girls Cross Country	Varsity	1	Girls Skiing	Varsity	11	Volleyball	Varsity	90
	Junior Varsity	1		Junior Varsity	1		Junior Varsity	78
	Freshman	0		Freshman	0		Freshman	44
	TOTAL	2		TOTAL	12		TOTAL	212
11-Player Football	Varsity	675	Boys Soccer	Varsity	140	Wrestling	Varsity	160
	Junior Varsity	542		Junior Varsity	46		Junior Varsity	54
	Freshman	206		Freshman	8		Freshman	2
	TOTAL	1423		TOTAL	194		TOTAL	216
8-Player Football	Varsity	49	Girls Soccer**	Varsity	4			
	Junior Varsity	7		Junior Varsity	1			
	Freshman	0		Freshman	0			
	TOTAL	56		TOTAL	5			
TOTAL REPORTS								2951

*Winter sports still in tournament play when activity was stopped due to the COVID-19 pandemic

**Spring sports that had begun practice but not competition when activity was stopped due to the COVID-19 pandemic

Table 2.2 Head Injury Prevalence Rates by Sport, MHSAA Head Injury Reporting System, 2019-20 School Year

SPORT	Boys*				Girls			
	PARTICIPANTS	HEAD INJURY REPORTS	HEAD INJURY REPORT PREVALENCE RATE	HEAD INJURY REPORTS PER THOUSAND PARTICIPANTS	PARTICIPANTS	HEAD INJURY REPORTS	HEAD INJURY REPORT PREVALENCE RATE	HEAD INJURY REPORTS PER THOUSAND PARTICIPANTS
Baseball	16,459	2	0.01%	0	-	-	-	-
Basketball	21,016	186	0.89%	9	15,133	319	2.11%	21
Bowling	4,495	0	0.00%	0	3,134	0	0.00%	0
Competitive Cheer	-	-	-	-	6,567	137	2.09%	21
Cross Country	9,468	4	0.04%	0	8,066	2	0.02%	0
Football - 11-player	32,728	1,423	4.35%	43	-	-	-	-
8-player	1,611	56	3.48%	35	-	-	-	-
Golf	5,861	0	0.00%	0	3,610	2	0.06%	1
Gymnastics	-	-	-	-	666	7	1.05%	11
Ice Hockey	3,272	103	3.15%	31	-	-	-	-
Lacrosse	5,319	0	0.00%	0	3,224	1	0.03%	0
Skiing	919	4	0.44%	4	786	12	1.53%	15
Soccer	14,264	194	1.36%	14	12,492	5	0.04%	0
Softball	-	-	-	-	12,657	4	0.03%	0
Swimming & Diving	5,059	21	0.42%	4	5,474	39	0.71%	7
Tennis	6,339	1	0.02%	0	8,621	0	0.00%	0
Track & Field	21,650	1	0.00%	0	16,274	0	0.00%	0
Volleyball	-	-	-	-	19,248	212	1.10%	11
Wrestling	9,777	216	2.21%	22	-	-	-	-

*Boys participation and head injury data includes both males AND females playing on primarily male teams

Winter sports still in tournament play when activity was stopped due to the COVID-19 pandemic

Spring sports that had begun practice but not competition when activity was stopped due to the COVID-19 pandemic

Table 2.3 Head Injuries by Grade - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
6th	0	0.0%	0	0.0%	0	0.0%
7th	0	0.0%	0	0.0%	0	0.0%
8th	1	0.0%	1	0.1%	2	0.1%
9th	620	28.5%	258	33.3%	878	29.8%
10th	625	28.7%	228	29.4%	853	28.9%
11th	481	22.1%	171	22.1%	652	22.1%
12th	449	20.6%	117	15.1%	566	19.2%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.4 Head Injuries by Level of Competition - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Freshman	247	11.4%	82	10.6%	329	11.1%
Junior Varsity	705	32.4%	252	32.5%	957	32.4%
Varsity	1224	56.3%	441	56.9%	1665	56.4%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.5 Head Injuries by Type of Exposure - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Practice	700	32.2%	336	43.4%	1036	35.1%
Competition	1476	67.8%	439	56.6%	1915	64.9%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.6 Head Injuries by Time during Practice or Competition of Injury Event - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Start of practice	67	9.6%	39	11.6%	106	10.2%
Middle of practice	369	52.7%	167	49.7%	536	51.7%
End of practice	264	37.7%	130	38.7%	394	38.0%
PRACTICE TOTAL	700	100.0%	336	100.0%	1036	100.0%
Start of competition	142	9.6%	53	12.1%	195	10.2%
Middle of competition	739	50.1%	184	41.9%	923	48.2%
End of competition	595	40.3%	202	46.0%	797	41.6%
COMPETITION TOTAL	1476	100.0%	439	100.0%	1915	100.0%

Table 2.7 Activity Type for All Head Injury Events during Practice – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
During a drill	497	71.0%	257	76.5%	754	72.8%
During simulated competition-scrimmage	181	25.9%	68	20.2%	249	24.0%
Not specified	22	3.1%	11	3.3%	33	3.2%
TOTAL	700	100.0%	336	100.0%	1036	100.0%

Table 2.8 Head Injuries by Cause of Injury Event - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Person to person contact	1411	64.8%	273	35.2%	1684	57.1%
Person to object contact (e.g. wall, equipment)	144	6.6%	215	27.7%	359	12.2%
Person to playing surface contact	413	19.0%	258	33.3%	671	22.7%
Uncertain as to the cause of the event	208	9.6%	29	3.7%	237	8.0%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.9 Head Injuries by Initial Examiner - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Athletic trainer	1347	61.9%	377	48.6%	1724	58.4%
Coach	326	15.0%	215	27.7%	541	18.3%
Sideline emergency personnel	8	0.4%	2	0.3%	10	0.3%
Other appropriate health care professional	36	1.7%	22	2.8%	58	2.0%
DO	6	0.3%	2	0.3%	8	0.3%
MD	47	2.2%	10	1.3%	57	1.9%
PA	2	0.1%	3	0.4%	5	0.2%
NP	2	0.1%	1	0.1%	3	0.1%
Athletic director	14	0.6%	9	1.2%	23	0.8%
Multiple examiners	388	17.8%	134	17.3%	522	17.7%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.10 Athlete Removal from Activity at the Time of Injury Event – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Removed	1793	82.4%	627	80.9%	2420	82.0%
Not removed*	383	17.6%	148	19.1%	531	18.0%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 2.11 Athletes Reporting Previous Concussion after Head Injury Event – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Reported at least one previous concussion	393	18.1%	127	16.4%	520	17.6%
No reported previous concussions	1783	81.9%	648	83.6%	2431	82.4%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.12 Most Recent Concussion for Athletes Reporting Previous Concussion after Head Injury Event – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Within last month	16	4.1%	2	1.6%	18	3.5%
Within one to six months	38	9.7%	18	14.2%	56	10.8%
Within six months to one year	78	19.8%	29	22.8%	107	20.6%
Over one year	261	66.4%	78	61.4%	339	65.2%
TOTAL	393	100.0%	127	100.0%	520	100.0%

Table 2.13 Number of Previous Concussions for Athletes Reporting Previous Concussion after Head Injury Event – All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
1 concussion	281	71.5%	96	75.6%	377	72.5%
2 concussions	77	19.6%	15	11.8%	92	17.7%
3 concussions	24	6.1%	9	7.1%	33	6.3%
≥4 concussions	10	2.5%	5	3.9%	15	2.9%
Not specified	1	0.3%	2	1.6%	3	0.6%
TOTAL	393	100.0%	127	100.0%	520	100.0%

Table 2.14 Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Event Occurred - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Received written authorization to return by the end of season	1740	80.0%	633	81.7%	2373	80.4%
Did not receive written authorization to return by the end of season	299	13.7%	62	8.0%	361	12.2%
Follow-up Report not completed	137	6.3%	80	10.3%	217	7.4%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.15 Head Injuries by Medical Examiner Authorizing Return to Activity - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
MD	942	43.3%	317	40.9%	1259	42.7%
DO	365	16.8%	140	18.1%	505	17.1%
PA	219	10.1%	78	10.1%	297	10.1%
NP	214	9.8%	98	12.6%	312	10.6%
Medical examiner data not available*	436	20.0%	142	18.3%	578	19.6%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.16 Head Injuries by Facility where Medical Examiner Authorized Return to Activity - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Hospital	59	2.7%	27	3.5%	86	2.9%
Urgent or Ready Care business	139	6.4%	43	5.5%	182	6.2%
Primary care physician or pediatrician's office	1170	53.8%	465	60.0%	1635	55.4%
Neurologist's office	147	6.8%	31	4.0%	178	6.0%
Team doctor	225	10.3%	67	8.6%	292	9.9%
Medical facility data not available*	436	20.0%	142	18.3%	578	19.6%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.17 Head Injuries by Clearance Return to Activity Conditions - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
Unconditional return	1532	70.4%	576	74.3%	2108	71.4%
Conditions to return	208	9.6%	57	7.4%	265	9.0%
Return to activity data not available*	436	20.0%	142	18.3%	578	19.6%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.18 Head Injuries by Missed School Days after Injury Event Date - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
0 Days	1164	53.5%	381	49.2%	1545	52.4%
1-2 Days	420	19.3%	181	23.4%	601	20.4%
3-6 Days	122	5.6%	53	6.8%	175	5.9%
7-9 Days	13	0.6%	6	0.8%	19	0.6%
10-20 Days	17	0.8%	10	1.3%	27	0.9%
≥21 Days	4	0.2%	2	0.3%	6	0.2%
Missed school data not available*	436	20.0%	142	18.3%	578	19.6%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

Table 2.19 Head Injuries by Time between Injury Event Date and Authorization Date to Return - All MHSAA High School Sports Included, MHSAA Head Injury Reporting System, 2019-20 School Year

	Boys		Girls		Overall	
	n	%	n	%	n	%
1-2 Days	34	1.6%	17	2.2%	51	1.7%
3-5 Days	172	7.9%	39	5.0%	211	7.2%
6-10 Days	520	23.9%	199	25.7%	719	24.4%
11-15 Days	539	24.8%	176	22.7%	715	24.2%
16-20 Days	206	9.5%	84	10.8%	290	9.8%
≥21 Days	235	10.8%	106	13.7%	341	11.6%
Data not available**	470	21.6%	154	19.9%	624	21.1%
TOTAL	2176	100.0%	775	100.0%	2951	100.0%

217 Missing Follow-up Reports*

361 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

46 Data entry errors**

III. Baseball Head Injury Reports*

**It should be noted the 2019-20 Baseball season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 3.1 Head Injury Prevalence Rate for Baseball, MHSAA Head Injury Reporting System, 2019-20 School Year

Baseball Participation	16,459
All Baseball Head Injuries	2
Baseball Head Injury Prevalence Rate (reported head injuries/total participants)	0.01%
Baseball Head Injury Prevalence Rate Per Thousand Participants	0

Table 3.2 Baseball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	2	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	2	100.0%

Table 3.3 Baseball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	2	100.0%
Competition	0	0.0%
TOTAL	2	100.0%

Table 3.4 Baseball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	2	100.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	2	100.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 3.5 Activity Type for All Baseball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	2	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	2	100.0%

Table 3.6 Baseball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	1	50.0%
Person to object contact (e.g. wall, equipment)	1	50.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	2	100.0%

Table 3.7 Person to Playing Surface Contact Baseball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Natural grass	0	0.0%
Dirt	0	0.0%
TOTAL	0	0.0%

Table 3.8 Baseball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	1	50.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	50.0%
TOTAL	2	100.0%

Table 3.9 Baseball Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	2	100.0%
Not removed*	0	0.0%
TOTAL	2	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 3.10 Baseball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	2	100.0%
TOTAL	2	100.0%

Table 3.11 Most Recent Concussion for Baseball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 3.12 Number of Previous Concussions for Baseball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 3.13 Baseball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	1	50.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	1	50.0%
TOTAL	2	100.0%

Table 3.14 Baseball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	1	50.0%
NP	0	0.0%
Medical examiner data not available*	1	50.0%
TOTAL	2	100.0%

Table 3.15 Baseball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	1	50.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	1	50.0%
TOTAL	2	100.0%

Table 3.16 Baseball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	1	50.0%
Conditions to return	0	0.0%
Return to activity data not available*	1	50.0%
TOTAL	2	100.0%

Table 3.17 Baseball Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	1	50.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	1	50.0%
TOTAL	2	100.0%

Table 3.18 Baseball Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	1	50.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	1	50.0%
TOTAL	2	100.0%

1 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

IV. Boys Basketball Head Injury Reports*

**It should be noted the 2019-20 Boys Basketball season extended from November 18, 2020 to March 12, 2020. The MHSAA post season tournament was suspended and ultimately cancelled in response to the COVID-19 pandemic. Approximately two (2) weeks of competition – District Finals, Regionals Semifinals, Regional Finals, State Quarterfinals, State Semifinals, and State Finals set to be held from March 13 through March 28, 2020 remained in the MHSAA postseason tournament at the time activity was halted.*

Table 4.1 Head Injury Prevalence Rate for Boys Basketball, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Basketball Participation	21,016
All Reported Boys Basketball Head Injuries	186
Boys Basketball Head Injury Prevalence Rate (reported head injuries/total participants)	0.89%
Boys Basketball Head Injury Prevalence Rate Per Thousand Participants	9

Table 4.2 Boys Basketball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	90	48.4%
Junior Varsity	64	34.4%
Freshman	32	17.2%
TOTAL	186	100.0%

Table 4.3 Boys Basketball Head Injuries by Gender, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Male	183	98.4%
Female	3	1.6%
TOTAL	186	100.0%

Table 4.4 Boys Basketball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	65	34.9%
Competition	121	65.1%
TOTAL	186	100.0%

Table 4.5 Boys Basketball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	6	9.2%
Middle of practice	41	63.1%
End of practice	18	27.7%
PRACTICE TOTAL	65	100.0%
Start of competition	9	7.4%
Middle of competition	60	49.6%
End of competition	52	43.0%
COMPETITION TOTAL	121	100.0%

Table 4.6 Activity Type for Boys Basketball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	37	56.9%
During simulated competition-scrimmage	27	41.5%
Not specified	1	1.5%
TOTAL	65	100.0%

Table 4.7 Boys Basketball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	102	54.8%
Person to object contact (e.g. wall, equipment)	16	8.6%
Person to playing surface contact	58	31.2%
Uncertain as to the cause of the event	10	5.4%
TOTAL	186	100.0%

Table 4.8 Person to Playing Surface Contact Boys Basketball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Wooden gym floor	49	84.5%
Basketball court	8	13.8%
Multipurpose floor	1	1.7%
TOTAL	58	100.0%

Table 4.9 Boys Basketball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	100	53.8%
Coach	49	26.3%
Sideline emergency personnel	1	0.5%
Other appropriate health care professional	2	1.1%
DO	0	0.0%
MD	6	3.2%
PA	0	0.0%
NP	0	0.0%
Athletic director	2	1.1%
Multiple examiners	26	14.0%
TOTAL	186	100.0%

Table 4.10 Athlete Removal from Activity at the Time of Injury Event – Boys Basketball Head Injuries, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	165	88.7%
Not removed*	21	11.3%
TOTAL	186	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 4.11 Boys Basketball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	46	24.7%
No reported previous concussions	140	75.3%
TOTAL	186	100.0%

Table 4.12 Most Recent Concussion for Boys Basketball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	1	2.2%
Within one to six months	8	17.4%
Within six months to one year	9	19.6%
Over one year	28	60.9%
TOTAL	46	100.0%

Table 4.13 Number of Previous Concussions for Boys Basketball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	30	65.2%
2 concussions	8	17.4%
3 concussions	5	10.9%
≥4 concussions	3	6.5%
Not specified	0	0.0%
TOTAL	46	100.0%

Table 4.14 Boys Basketball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	151	81.2%
Did not receive written authorization to return by the end of season	7	3.8%
Follow-up Report not completed	28	15.1%
TOTAL	186	100.0%

Table 4.15 Boys Basketball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	89	47.8%
DO	26	14.0%
PA	19	10.2%
NP	17	9.1%
Medical examiner data not available*	35	18.8%
TOTAL	186	100.0%

Table 4.16 Boys Basketball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	6	3.2%
Urgent or Ready Care business	11	5.9%
Primary care physician or pediatrician's office	110	59.1%
Neurologist's office	10	5.4%
Team doctor	14	7.5%
Medical facility data not available*	35	18.8%
TOTAL	186	100.0%

Table 4.17 Boys Basketball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	137	73.7%
Conditions to return	14	7.5%
Return to activity data not available*	35	18.8%
TOTAL	186	100.0%

Table 4.18 Boys Basketball Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	87	46.8%
1-2 Days	42	22.6%
3-6 Days	16	8.6%
7-9 Days	3	1.6%
10-20 Days	2	1.1%
≥21 Days	1	0.5%
Missed school data not available*	35	18.8%
TOTAL	186	100.0%

Table 4.19 Boys Basketball Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	3	1.6%
3-5 Days	16	8.6%
6-10 Days	65	34.9%
11-15 Days	35	18.8%
16-20 Days	11	5.9%
≥21 Days	19	10.2%
Data not available**	37	19.9%
TOTAL	186	100.0%

28 Missing Follow-up Reports*

7 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

2 Data entry errors**

V. Girls Basketball Head Injury Reports*

**It should be noted the 2019-20 Girls Basketball season extended from November 11, 2019 to March 12, 2020. The MHSAA post season tournament was suspended and ultimately cancelled in response to the COVID-19 pandemic. Approximately one (1) week of competition – Regional Finals, State Quarterfinals, State Semifinals, and State Finals set to be held from March 12 to March 21, 2020 remained in the MHSAA postseason tournament at the time activity was halted.*

Table 5.1 Head Injury Prevalence Rate for Girls Basketball, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Basketball Participation	15,133
All Reported Girls Basketball Head Injuries	319
Girls Basketball Head Injury Prevalence Rate (reported head injuries/total participants)	2.11%
Girls Basketball Head Injury Prevalence Rate Per Thousand Participants	21

Table 5.2 Girls Basketball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	158	49.5%
Junior Varsity	126	39.5%
Freshman	35	11.0%
TOTAL	319	100.0%

Table 5.3 Girls Basketball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	76	23.8%
Competition	243	76.2%
TOTAL	319	100.0%

Table 5.4 Girls Basketball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	12	15.8%
Middle of practice	30	39.5%
End of practice	34	44.7%
PRACTICE TOTAL	76	100.0%
Start of competition	20	8.2%
Middle of competition	108	44.4%
End of competition	115	47.3%
COMPETITION TOTAL	243	100.0%

Table 5.5 Activity Type for Girls Basketball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	50	65.8%
During simulated competition-scrimmage	25	32.9%
Not specified	1	1.3%
TOTAL	76	100.0%

Table 5.6 Girls Basketball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	140	43.9%
Person to object contact (e.g. wall, equipment)	47	14.7%
Person to playing surface contact	123	38.6%
Uncertain as to the cause of the event	9	2.8%
TOTAL	319	100.0%

Table 5.7 Person to Playing Surface Contact Girls Basketball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Wooden gym floor	104	84.6%
Basketball court	15	12.2%
TOTAL	123	100.0%

Table 5.8 Girls Basketball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	184	57.7%
Coach	75	23.5%
Sideline emergency personnel	1	0.3%
Other appropriate health care professional	8	2.5%
DO	2	0.6%
MD	1	0.3%
PA	1	0.3%
NP	0	0.0%
Athletic director	5	1.6%
Multiple examiners	42	13.2%
TOTAL	319	100.0%

Table 5.9 Girls Basketball Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	249	78.1%
Not removed*	70	21.9%
TOTAL	319	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 5.10 Girls Basketball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	58	18.2%
No reported previous concussions	261	81.8%
TOTAL	319	100.0%

Table 5.11 Most Recent Concussion for Girls Basketball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	2	3.4%
Within one to six months	7	12.1%
Within six months to one year	15	25.9%
Over one year	34	58.6%
TOTAL	58	100.0%

Table 5.12 Number of Previous Concussions for Girls Basketball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	44	75.9%
2 concussions	8	13.8%
3 concussions	3	5.2%
≥4 concussions	2	3.4%
Not specified	1	1.7%
TOTAL	58	100.0%

Table 5.13 Girls Basketball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	268	84.0%
Did not receive written authorization to return by the end of season	13	4.1%
Follow-up Report not completed	38	11.9%
TOTAL	319	100.0%

Table 5.14 Girls Basketball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	131	41.1%
DO	62	19.4%
PA	30	9.4%
NP	45	14.1%
Medical examiner data not available*	51	16.0%
TOTAL	319	100.0%

Table 5.15 Girls Basketball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	6	1.9%
Urgent or Ready Care business	16	5.0%
Primary care physician or pediatrician's office	205	64.3%
Neurologist's office	8	2.5%
Team doctor	33	10.3%
Medical facility data not available*	51	16.0%
TOTAL	319	100.0%

Table 5.16 Girls Basketball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	247	77.4%
Conditions to return	21	6.6%
Return to activity data not available*	51	16.0%
TOTAL	319	100.0%

Table 5.17 Girls Basketball Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	162	50.8%
1-2 Days	78	24.5%
3-6 Days	22	6.9%
7-9 Days	3	0.9%
10-20 Days	3	0.9%
≥21 Days	0	0.0%
Missed school data not available*	51	16.0%
TOTAL	319	100.0%

Table 5.18 Girls Basketball Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	8	2.5%
3-5 Days	19	6.0%
6-10 Days	85	26.6%
11-15 Days	75	23.5%
16-20 Days	34	10.7%
≥21 Days	43	13.5%
Data not available**	55	17.2%
TOTAL	319	100.0%

38 Missing Follow-up Reports*

13 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

4 Data entry errors**

VI. Boys Bowling Head Injury Reports

Table 6.1 Head Injury Prevalence Rate for Boys Bowling, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Bowling Participation	4,495
All Reported Boys Bowling Head Injuries	0
Boys Bowling Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Boys Bowling Head Injury Prevalence Rate Per Thousand Participants	0

Table 6.2 Boys Bowling Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 6.3 Boys Bowling Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 6.4 Boys Bowling Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 6.5 Activity Type for Boys Bowling Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 6.6 Boys Bowling Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 6.7 Person to Playing Surface Contact Boys Bowling Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Wooden floor	0	0.0%
TOTAL	0	0.0%

Table 6.8 Boys Bowling Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 6.9 Boys Bowling Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 6.10 Boys Bowling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 6.11 Most Recent Concussion for Boys Bowling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 6.12 Number of Previous Concussions for Boys Bowling Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 6.13 Boys Bowling Head Injuries by Athlete Clearance to Return to Activity Before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 6.14 Boys Bowling Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 6.15 Boys Bowling Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	0	0.0%

Table 6.16 Boys Bowling Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 6.17 Boys Bowling Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 6.18 Boys Bowling Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

VII. Girls Bowling Head Injury Reports

Table 7.1 Head Injury Prevalence Rate for Girls Bowling, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Bowling Participation	3,134
All Reported Girls Bowling Head Injuries	0
Girls Bowling Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Girls Bowling Head Injury Prevalence Rate Per Thousand Participants	0

Table 7.2 Girls Bowling Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 7.3 Girls Bowling Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 7.4 Girls Bowling Head Injuries by Time During Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 7.5 Activity Type for Girls Bowling Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 7.6 Girls Bowling Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 7.7 Person to Playing Surface Contact Girls Bowling Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Wooden floor	0	0.0%
TOTAL	0	0.0%

Table 7.8 Girls Bowling Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 7.9 Girls Bowling Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 7.10 Girls Bowling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 7.11 Most Recent Concussion for Girls Bowling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 7.12 Number of Previous Concussions for Girls Bowling Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 7.13 Girls Bowling Head Injuries by Athlete Clearance to Return to Activity Before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 7.14 Girls Bowling Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 7.15 Girls Bowling Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	0	0.0%

Table 7.16 Girls Bowling Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 7.17 Girls Bowling Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 7.18 Girls Bowling Head Injuries by Time Between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

VIII. Competitive Cheer Head Injury Reports

Table 8.1 Head Injury Prevalence Rate for Competitive Cheer, MHSAA Head Injury Reporting System, 2019-20 School Year

Competitive Cheer Participation	6,567
All Reported Competitive Cheer Head Injuries	137
Competitive Cheer Head Injury Prevalence Rate (reported head injuries/total participants)	2.09%
Competitive Cheer Head Injury Prevalence Rate Per Thousand Participants	21

Table 8.2 Competitive Cheer Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	109	79.6%
Junior Varsity	26	19.0%
Freshman	2	1.5%
TOTAL	137	100.0%

Table 8.3 Competitive Cheer Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	112	81.8%
Competition	25	18.2%
TOTAL	137	100.0%

Table 8.4 Competitive Cheer Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	6	5.4%
Middle of practice	63	56.3%
End of practice	43	38.4%
PRACTICE TOTAL	112	100.0%
Start of competition	2	8.0%
Middle of competition	6	24.0%
End of competition	17	68.0%
COMPETITION TOTAL	25	100.0%

Table 8.5 Activity Type for Competitive Cheer Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	92	82.1%
During simulated competition-scrimmage	15	13.4%
Not specified	5	4.5%
TOTAL	112	100.0%

Table 8.6 Competitive Cheer Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	69	50.4%
Person to object contact (e.g. wall, equipment)	7	5.1%
Person to playing surface contact	52	38.0%
Uncertain as to the cause of the event	9	6.6%
TOTAL	137	100.0%

Table 8.7 Person to Playing Surface Contact Competitive Cheer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Cheer mat	26	50.0%
Wrestling-type mat	19	36.5%
Rubberized gym floor	3	5.8%
Carpeted floor	2	3.8%
Athletic mat	1	1.9%
Indoor tile type floor	1	1.9%
TOTAL	52	100.0%

Table 8.8 Competitive Cheer Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	62	45.3%
Coach	39	28.5%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	3	2.2%
DO	0	0.0%
MD	5	3.6%
PA	0	0.0%
NP	1	0.7%
Athletic director	0	0.0%
Multiple examiners	27	19.7%
TOTAL	137	100.0%

Table 8.9 Competitive Cheer Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	109	79.6%
Not removed*	28	20.4%
TOTAL	137	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 8.10 Competitive Cheer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	21	15.3%
No reported previous concussions	116	84.7%
TOTAL	137	100.0%

Table 8.11 Most Recent Concussion for Competitive Cheer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	5	23.8%
Within six months to one year	5	23.8%
Over one year	11	52.4%
TOTAL	21	100.0%

Table 8.12 Number of Previous Concussions for Competitive Cheer Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	13	61.9%
2 concussions	4	19.0%
3 concussions	3	14.3%
≥4 concussions	1	4.8%
Not specified	0	0.0%
TOTAL	21	100.0%

Table 8.13 Competitive Cheer Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	109	79.6%
Did not receive written authorization to return by the end of season	17	12.4%
Follow-up Report not completed	11	8.0%
TOTAL	137	100.0%

Table 8.14 Competitive Cheer Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	57	41.6%
DO	20	14.6%
PA	14	10.2%
NP	18	13.1%
Medical examiner data not available*	28	20.4%
TOTAL	137	100.0%

Table 8.15 Competitive Cheer Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	4	2.9%
Urgent or Ready Care business	5	3.6%
Primary care physician or pediatrician's office	78	56.9%
Neurologist's office	9	6.6%
Team doctor	13	9.5%
Medical facility data not available*	28	20.4%
TOTAL	137	100.0%

Table 8.16 Competitive Cheer Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	97	70.8%
Conditions to return	12	8.8%
Return to activity data not available*	28	20.4%
TOTAL	137	100.0%

Table 8.17 Competitive Cheer Head Injuries by Missed School Days After Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	66	48.2%
1-2 Days	30	21.9%
3-6 Days	10	7.3%
7-9 Days	2	1.5%
10-20 Days	0	0.0%
≥21 Days	1	0.7%
Missed school data not available*	28	20.4%
TOTAL	137	100.0%

Table 8.18 Competitive Cheer Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	2	1.5%
3-5 Days	4	2.9%
6-10 Days	30	21.9%
11-15 Days	28	20.4%
16-20 Days	17	12.4%
≥21 Days	27	19.7%
Data not available**	29	21.2%
TOTAL	137	100.0%

11 Missing Follow-up Reports*

17 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

1 Data entry errors**

IX. Boys Cross Country Head Injury Reports

Table 9.1 Head Injury Prevalence Rate for Boys Cross Country, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Cross Country Participation	9,468
All Reported Boys Cross Country Head Injuries	4
Boys Cross Country Head Injury Prevalence Rate (reported head injuries/total participants)	0.04%
Boys Cross Country Head Injury Prevalence Rate Per Thousand Participants	0

Table 9.2 Boys Cross Country Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	3	75.0%
Junior Varsity	1	25.0%
Freshman	0	0.0%
TOTAL	4	100.0%

Table 9.3 Boys Cross Country Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	3	75.0%
Competition	1	25.0%
TOTAL	4	100.0%

Table 9.4 Boys Cross Country Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	2	66.7%
End of practice	1	33.3%
PRACTICE TOTAL	3	100.0%
Start of competition	1	25.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	1	25.0%

Table 9.5 Activity Type for Boys Cross Country Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	1	33.3%
During simulated competition-scrimmage	1	33.3%
Not specified	1	33.3%
TOTAL	3	100.0%

Table 9.6 Boys Cross Country Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	1	25.0%
Person to object contact (e.g. wall, equipment)	2	50.0%
Person to playing surface contact	1	25.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	4	100.0%

Table 9.7 Person to Playing Surface Contact Boys Cross Country Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Blacktop	1	100.0%
TOTAL	1	100.0%

Table 9.8 Boys Cross Country Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	1	25.0%
Coach	1	25.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	2	50.0%
TOTAL	4	100.0%

Table 9.9 Boys Cross Country Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	4	100.0%
Not removed*	0	0.0%
TOTAL	4	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 9.10 Boys Cross Country Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	1	25.0%
No reported previous concussions	3	75.0%
TOTAL	4	100.0%

Table 9.11 Most Recent Concussion for Boys Cross Country Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	1	100.0%
TOTAL	1	100.0%

Table 9.12 Number of Previous Concussions for Boys Cross Country Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	1	100.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 9.13 Boys Cross Country Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	3	75.0%
Did not receive written authorization to return by the end of season	1	25.0%
Follow-up Report not completed	0	0.0%
TOTAL	4	100.0%

Table 9.14 Boys Cross Country Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	2	50.0%
DO	1	25.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	1	25.0%
TOTAL	4	100.0%

Table 9.15 Boys Cross Country Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	1	25.0%
Primary care physician or pediatrician's office	2	50.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	1	25.0%
TOTAL	4	100.0%

Table 9.16 Boys Cross Country Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	3	75.0%
Conditions to return	0	0.0%
Return to activity data not available*	1	25.0%
TOTAL	4	100.0%

Table 9.17 Boys Cross Country Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	2	50.0%
1-2 Days	0	0.0%
3-6 Days	1	25.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	1	25.0%
TOTAL	4	100.0%

Table 9.18 Boys Cross Country Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	3	75.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	1	25.0%
TOTAL	4	100.0%

0 Missing Follow-up Reports*

1 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

X. Girls Cross Country Head Injury Reports

Table 10.1 Head Injury Prevalence Rate for Girls Cross Country, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Cross Country Participation	8,066
All Reported Girls Cross Country Head Injuries	2
Girls Cross Country Head Injury Prevalence Rate (reported head injuries/total participants)	0.02%
Girls Cross Country Head Injury Prevalence Rate Per Thousand Participants	0

Table 10.2 Girls Cross Country Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	1	50.0%
Junior Varsity	1	50.0%
Freshman	0	0.0%
TOTAL	2	100.0%

Table 10.3 Girls Cross Country Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	2	100.0%
Competition	0	0.0%
TOTAL	2	100.0%

Table 10.4 Girls Cross Country Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	2	100.0%
PRACTICE TOTAL	2	100.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 10.5 Activity Type for Girls Cross Country Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	2	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	2	100.0%

Table 10.6 Girls Cross Country Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	1	50.0%
Person to playing surface contact	1	50.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	2	100.0%

Table 10.7 Person to Playing Surface Contact Girls Cross Country Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Dirt trail	1	100.0%
TOTAL	1	100.0%

Table 10.8 Girls Cross Country Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	1	50.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	1	50.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	2	100.0%

Table 10.9 Girls Cross Country Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	2	100.0%
Not removed*	0	0.0%
TOTAL	2	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 10.10 Girls Cross Country Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	2	100.0%
TOTAL	2	100.0%

Table 10.11 Most Recent Concussion for Girls Cross Country Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 10.12 Number of Previous Concussions for Girls Cross Country Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 10.13 Girls Cross Country Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	2	100.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	2	100.0%

Table 10.14 Girls Cross Country Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	1	50.0%
PA	0	0.0%
NP	1	50.0%
Medical examiner data not available*	0	0.0%
TOTAL	2	100.0%

Table 10.15 Girls Cross Country Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	2	100.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	2	100.0%

Table 10.16 Girls Cross Country Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	2	100.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	2	100.0%

Table 10.17 Girls Cross Country Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	1	50.0%
1-2 Days	1	50.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	2	100.0%

Table 10.18 Girls Cross Country Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	50.0%
11-15 Days	1	50.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	2	100.0%

0 Missing-follow Up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XI. 11-Player Football Head Injury Reports

Table 11.1 Head Injury Prevalence Rate for 11-Player Football, MHSAA Head Injury Reporting System, 2019-20 School Year

11-Player Football Participation	32,728
All Reported 11-Player Football Head Injuries	1,423
11-Player Football Head Injury Prevalence Rate (reported head injuries/total participants)	4.35%
11-Player Football Head Injury Prevalence Rate Per Thousand Participants	43

Table 11.2 11-Player Football Head Injuries by Gender, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Male	1416	99.5%
Female	7	0.5%
TOTAL	1423	100.0%

Table 11.3 11-Player Football Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	675	47.4%
Junior Varsity	542	38.1%
Freshman	206	14.5%
TOTAL	1423	100.0%

Table 11.4 11-Player Football Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	488	34.3%
Competition	935	65.7%
TOTAL	1423	100.0%

Table 11.5 11-Player Football Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	49	10.0%
Middle of practice	260	53.3%
End of practice	179	36.7%
PRACTICE TOTAL	488	100.0%
Start of competition	88	9.4%
Middle of competition	456	48.8%
End of competition	391	41.8%
COMPETITION TOTAL	935	100.0%

Table 11.6 Activity Type for 11-Player Football Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	366	75.0%
During simulated competition-scrimmage	111	22.7%
Not specified	11	2.3%
TOTAL	488	100.0%

Table 11.7 11-Player Football Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	1052	73.9%
Person to object contact (e.g. wall, equipment)	24	1.7%
Person to playing surface contact	192	13.5%
Uncertain as to the cause of the event	155	10.9%
TOTAL	1423	100.0%

Table 11.8 Person to Playing Surface Contact 11-Player Football Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Natural grass	107	55.7%
Artificial turf	81	42.2%
Football field	2	1.0%
Wooden gym floor	2	1.0%
TOTAL	192	100.0%

Table 11.9 11-Player Football Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	937	65.8%
Coach	167	11.7%
Sideline emergency personnel	4	0.3%
Other appropriate health care professional	24	1.7%
DO	2	0.1%
MD	30	2.1%
PA	0	0.0%
NP	1	0.1%
Athletic director	7	0.5%
Multiple examiners	251	17.6%
TOTAL	1423	100.0%

Table 11.10 11-Player Football Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	1170	82.2%
Not removed*	253	17.8%
TOTAL	1423	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 11.11 11-Player Football Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	235	16.5%
No reported previous concussions	1188	83.5%
TOTAL	1423	100.0%

Table 11.12 Most Recent Concussion for 11-Player Football Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	8	3.4%
Within one to six months	19	8.1%
Within six months to one year	45	19.1%
Over one year	163	69.4%
TOTAL	235	100.0%

Table 11.13 Number of Previous Concussions for 11-Player Football Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	164	69.8%
2 concussions	53	22.6%
3 concussions	12	5.1%
≥4 concussions	5	2.1%
Not specified	1	0.4%
TOTAL	235	100.0%

Table 11.14 11-Player Football Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	1151	80.9%
Did not receive written authorization to return by the end of season	218	15.3%
Follow-up Report not completed	54	3.8%
TOTAL	1423	100.0%

Table 11.15 11-Player Football Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	621	43.6%
DO	248	17.4%
PA	143	10.0%
NP	139	9.8%
Medical examiner data not available*	272	19.1%
TOTAL	1423	100.0%

Table 11.16 11-Player Football Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	35	2.5%
Urgent or Ready Care business	97	6.8%
Primary care physician or pediatrician's office	758	53.3%
Neurologist's office	104	7.3%
Team doctor	157	11.0%
Medical facility data not available*	272	19.1%
TOTAL	1423	100.0%

Table 11.17 11-Player Football Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	1006	70.7%
Conditions to return	145	10.2%
Return to activity data not available*	272	19.1%
TOTAL	1423	100.0%

Table 11.18 11-Player Football Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	779	54.7%
1-2 Days	275	19.3%
3-6 Days	75	5.3%
7-9 Days	8	0.6%
10-20 Days	11	0.8%
≥21 Days	3	0.2%
Missed school data not available*	272	19.1%
TOTAL	1423	100.0%

Table 11.19 11-Player Football Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	19	1.3%
3-5 Days	110	7.7%
6-10 Days	315	22.1%
11-15 Days	383	26.9%
16-20 Days	139	9.8%
≥21 Days	161	11.3%
Data not available**	296	20.8%
TOTAL	1423	100.0%

54 Missing Follow-up Reports*

218 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

24 Data entry errors**

XII. 8-Player Football Head Injuries Reports

Table 12.1 Head Injury Prevalence Rate for 8-Player Football, MHSAA Head Injury Reporting System, 2019-20 School Year

8-Player Football Participation	1,611
All Reported 8-Player Football Head Injuries	56
8-Player Football Head Injury Prevalence Rate (reported head injuries/total participants)	3.48%
8-Player Football Head Injury Prevalence Rate Per Thousand Participants	35

Table 12.2 8-Player Football Head Injuries by Gender, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Male	56	100.0%
Female	0	0.0%
TOTAL	56	100.0%

Table 12.3 8-Player Football Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	49	87.5%
Junior Varsity	7	12.5%
Freshman	0	0.0%
TOTAL	56	100.0%

Table 12.4 8-Player Football Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	14	25.0%
Competition	42	75.0%
TOTAL	56	100.0%

Table 12.5 8-Player Football Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	1	7.1%
Middle of practice	10	71.4%
End of practice	3	21.4%
PRACTICE TOTAL	14	100.0%
Start of competition	0	0.0%
Middle of competition	29	69.0%
End of competition	13	31.0%
COMPETITION TOTAL	42	100.0%

Table 12.6 Activity Type for 8-Player Football Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	9	64.3%
During simulated competition-scrimmage	4	28.6%
Not specified	1	7.1%
TOTAL	14	100.0%

Table 12.7 8-Player Football Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	40	71.4%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	5	8.9%
Uncertain as to the cause of the event	11	19.6%
TOTAL	56	100.0%

Table 12.8 Person to Playing Surface Contact 8-Player Football Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Natural grass	3	60.0%
Artificial turf	0	0.0%
TOTAL	5	100.0%

Table 12.9 8-Player Football Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	12	21.4%
Coach	21	37.5%
Sideline emergency personnel	2	3.6%
Other appropriate health care professional	1	1.8%
DO	0	0.0%
MD	2	3.6%
PA	1	1.8%
NP	0	0.0%
Athletic director	3	5.4%
Multiple examiners	14	25.0%
TOTAL	56	100.0%

Table 12.10 8-Player Football Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	51	91.1%
Not removed*	5	8.9%
TOTAL	56	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 12.11 8-Player Football Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	8	14.3%
No reported previous concussions	48	85.7%
TOTAL	56	100.0%

Table 12.12 Most Recent Concussion for 8-Player Football Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	1	12.5%
Within one to six months	0	0.0%
Within six months to one year	3	37.5%
Over one year	4	50.0%
TOTAL	8	100.0%

Table 12.13 Number of Previous Concussions for 8-Player Football Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	6	75.0%
2 concussions	1	12.5%
3 concussions	1	12.5%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	8	100.0%

Table 12.14 8-Player Football Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	33	58.9%
Did not receive written authorization to return by the end of season	13	23.2%
Follow-up Report not completed	10	17.9%
TOTAL	56	100.0%

Table 12.15 8-Player Football Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	13	23.2%
DO	5	8.9%
PA	7	12.5%
NP	8	14.3%
Medical examiner data not available*	23	41.1%
TOTAL	56	100.0%

Table 12.16 8-Player Football Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	8	14.3%
Urgent or Ready Care business	1	1.8%
Primary care physician or pediatrician's office	23	41.1%
Neurologist's office	0	0.0%
Team doctor	1	1.8%
Medical facility data not available*	23	41.1%
TOTAL	56	100.0%

Table 12.17 8-Player Football Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	25	44.6%
Conditions to return	8	14.3%
Return to activity data not available*	23	41.1%
TOTAL	56	100.0%

Table 12.18 8-Player Football Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	20	35.7%
1-2 Days	8	14.3%
3-6 Days	3	5.4%
7-9 Days	0	0.0%
10-20 Days	2	3.6%
≥21 Days	0	0.0%
Missed school data not available*	23	41.1%
TOTAL	56	100.0%

Table 12.19 8-Player Football Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	1	1.8%
6-10 Days	9	16.1%
11-15 Days	12	21.4%
16-20 Days	5	8.9%
≥21 Days	5	8.9%
Data not available**	24	42.9%
TOTAL	56	100.0%

10 Missing Follow-up Reports*

13 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

1 Data entry errors**

XIII. Boys Golf Head Injury Reports*

**It should be noted the 2019-20 Boys Golf season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 13.1 Head Injury Prevalence Rate for Boys Golf, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Golf Participation	5,861
All Boys Golf Head Injuries	0
Boys Golf Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Boys Golf Head Injury Prevalence Rate Per Thousand Participants	0

Table 13.2 Boys Golf Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 13.3 Boys Golf Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 13.4 Boys Golf Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 13.5 Activity Type for Boys Golf Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 13.6 Boys Golf Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 13.7 Person to Playing Surface Contact Boys Golf Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
n/a	0	0.0%
TOTAL	0	0.0%

Table 13.8 Boys Golf Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 13.9 Boys Golf Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 13.10 Boys Golf Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 13.11 Most Recent Concussion for Boys Golf Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 13.12 Number of Previous Concussions for Boys Golf Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 13.13 Boys Golf Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 13.14 Boys Golf Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 13.15 Boys Golf Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	1	50.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	1	50.0%
TOTAL	2	100.0%

Table 13.16 Boys Golf Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 13.17 Boys Golf Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 13.18 Boys Golf Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XIV. Girls Golf Head Injury Reports*

**It should be noted the 2019-20 UP Girls Golf season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 14.1 Head Injury Prevalence Rate for Girls Golf, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Golf Participation	3,610
All Reported Girls Golf Head Injuries	2
Girls Golf Head Injury Prevalence Rate (reported head injuries/total participants)	0.06%
Girls Golf Head Injury Prevalence Rate Per Thousand Participants	1

Table 14.2 Girls Golf Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	2	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	2	100.0%

Table 14.3 Girls Golf Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	1	50.0%
Competition	1	50.0%
TOTAL	2	100.0%

Table 14.4 Girls Golf Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	1	50.0%
PRACTICE TOTAL	1	50.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	1	100.0%
COMPETITION TOTAL	1	100.0%

Table 14.5 Activity Type for Girls Golf Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	1	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 14.6 Girls Golf Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	2	100.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	2	100.0%

Table 14.7 Person to Playing Surface Contact Girls Golf Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Natural grass	0	0.0%
TOTAL	0	0.0%

Table 14.8 Girls Golf Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	1	50.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	50.0%
TOTAL	2	100.0%

Table 14.9 Girls Golf Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	1	50.0%
Not removed*	1	50.0%
TOTAL	2	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 14.10 Girls Golf Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	2	100.0%
TOTAL	2	100.0%

Table 14.11 Most Recent Concussion for Girls Golf Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 14.12 Number of Previous Concussions for Girls Golf Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 14.13 Girls Golf Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	2	100.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	2	100.0%

Table 14.14 Girls Golf Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	1	50.0%
PA	1	50.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	2	100.0%

Table 14.15 Girls Golf Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	1	50.0%
Neurologist's office	0	0.0%
Team doctor	1	50.0%
Medical facility data not available*	0	0.0%
TOTAL	2	100.0%

Table 14.16 Girls Golf Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	1	50.0%
Conditions to return	1	50.0%
Return to activity data not available*	0	0.0%
TOTAL	2	100.0%

Table 14.17 Girls Golf Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	2	100.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	2	100.0%

Table 14.18 Girls Golf Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	50.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	1	50.0%
Data not available**	0	0.0%
TOTAL	2	100.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XV. Gymnastics Head Injury Reports*

**It should be noted the 2019-20 Gymnastics season extended from October 28, 2019 to March 12, 2020. The MHSAA post season tournament was suspended and ultimately cancelled in response to the COVID-19 pandemic. The State Finals event set to be held on March 13-14, 2020 was all that remained in the MHSAA postseason tournament at the time activity was halted.*

Table 15.1 Head Injury Prevalence Rate for Gymnastics, MHSAA Head Injury Reporting System, 2019-20 School Year

Gymnastics Participation	666
All Reported Gymnastics Head Injuries	7
Gymnastics Head Injury Prevalence Rate (reported head injuries/total participants)	1.05%
Gymnastics Head Injury Prevalence Rate Per Thousand Participants	11

Table 15.2 Gymnastics Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	7	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	7	100.0%

Table 15.3 Gymnastics Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	6	85.7%
Competition	1	14.3%
TOTAL	7	100.0%

Table 15.4 Gymnastics Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	4	66.7%
End of practice	2	33.3%
PRACTICE TOTAL	6	100.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	1	100.0%
COMPETITION TOTAL	1	100.0%

Table 15.5 Activity Type for Gymnastics Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	3	50.0%
During simulated competition-scrimmage	3	50.0%
Not specified	0	0.0%
TOTAL	6	100.0%

Table 15.6 Gymnastics Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	7	100.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	7	100.0%

Table 15.7 Person to Playing Surface Contact Gymnastics Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Wrestling-type mat	2	28.6%
Gymnastics mat	3	42.9%
Gymnastics flooring	2	28.6%
TOTAL	7	100.0%

Table 15.8 Gymnastics Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	4	57.1%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	1	14.3%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	2	28.6%
TOTAL	7	100.0%

Table 15.9 Gymnastics Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	5	71.4%
Not removed*	2	28.6%
TOTAL	7	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 15.10 Gymnastics Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	7	100.0%
TOTAL	7	100.0%

Table 15.11 Most Recent Concussion for Gymnastics Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 15.12 Number of Previous Concussions for Gymnastics Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 15.13 Gymnastics Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	6	85.7%
Did not receive written authorization to return by the end of season	1	14.3%
Follow-up Report not completed	0	0.0%
TOTAL	7	100.0%

Table 15.14 Gymnastics Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	4	57.1%
DO	2	28.6%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	1	14.3%
TOTAL	7	100.0%

Table 15.15 Gymnastics Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	4	57.1%
Neurologist's office	1	14.3%
Team doctor	1	14.3%
Medical facility data not available*	1	14.3%
TOTAL	7	100.0%

Table 15.16 Gymnastics Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	5	71.4%
Conditions to return	1	14.3%
Return to activity data not available*	1	14.3%
TOTAL	7	100.0%

Table 15.17 Gymnastics Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	4	57.1%
1-2 Days	2	28.6%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	1	14.3%
TOTAL	7	100.0%

Table 15.18 Gymnastics Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	4	57.1%
11-15 Days	2	28.6%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	1	14.3%
TOTAL	7	100.0%

0 Missing Follow-up Reports*

1 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XVI. Ice Hockey Head Injury Reports*

**It should be noted the 2019-20 Ice Hockey season extended from November 4, 2019 to March 12, 2020. The MHSAA post season tournament was suspended and ultimately cancelled in response to the COVID-19 pandemic. The MHSAA State Semifinals and Finals set to be held on March 12-14, 2020 was all that remained in the MHSAA postseason tournament at the time activity was halted.*

Table 16.1 Head Injury Prevalence Rate for Ice Hockey, MHSAA Head Injury Reporting System, 2019-20 School Year

Ice Hockey Participation	3,272
All Reported Ice Hockey Head Injuries	103
Ice Hockey Head Injury Prevalence Rate (reported head injuries/total participants)	3.15%
Ice Hockey Head Injury Prevalence Rate Per Thousand Participants	31

Table 16.2 Ice Hockey Head Injuries by Gender, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Male	102	99.0%
Female	1	1.0%
TOTAL	103	100.0%

Table 16.3 Ice Hockey Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	95	92.2%
Junior Varsity	8	7.8%
Freshman	0	0.0%
TOTAL	103	100.0%

Table 16.4 Ice Hockey Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	6	5.8%
Competition	97	94.2%
TOTAL	103	100.0%

Table 16.5 Ice Hockey Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	4	66.7%
End of practice	2	33.3%
PRACTICE TOTAL	6	100.0%
Start of competition	11	11.3%
Middle of competition	54	55.7%
End of competition	32	33.0%
COMPETITION TOTAL	97	100.0%

Table 16.6 Activity Type for Ice Hockey Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	6	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	6	100.0%

Table 16.7 Ice Hockey Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	54	52.4%
Person to object contact (e.g. wall, equipment)	29	28.2%
Person to playing surface contact	13	12.6%
Uncertain as to the cause of the event	7	6.8%
TOTAL	103	100.0%

Table 16.8 Person to Playing Surface Contact Ice Hockey Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Ice	13	100.0%
TOTAL	13	100.0%

Table 16.9 Ice Hockey Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	61	59.2%
Coach	18	17.5%
Sideline emergency personnel	1	1.0%
Other appropriate health care professional	1	1.0%
DO	2	1.9%
MD	1	1.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	19	18.4%
TOTAL	103	100.0%

Table 16.10 Ice Hockey Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	84	81.6%
Not removed*	19	18.4%
TOTAL	103	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 16.11 Ice Hockey Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	32	31.1%
No reported previous concussions	71	68.9%
TOTAL	103	100.0%

Table 16.12 Most Recent Concussion for Ice Hockey Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	1	3.1%
Within one to six months	1	3.1%
Within six months to one year	6	18.8%
Over one year	24	75.0%
TOTAL	32	100.0%

Table 16.13 Number of Previous Concussions for Ice Hockey Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	27	84.4%
2 concussions	3	9.4%
3 concussions	2	6.3%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	32	100.0%

Table 16.14 Ice Hockey Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	90	87.4%
Did not receive written authorization to return by the end of season	5	4.9%
Follow-up Report not completed	8	7.8%
TOTAL	103	100.0%

Table 16.15 Ice Hockey Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	52	50.5%
DO	23	22.3%
PA	8	7.8%
NP	7	6.8%
Medical examiner data not available*	13	12.6%
TOTAL	103	100.0%

Table 16.16 Ice Hockey Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	1	1.0%
Urgent or Ready Care business	2	1.9%
Primary care physician or pediatrician's office	59	57.3%
Neurologist's office	8	7.8%
Team doctor	20	19.4%
Medical facility data not available*	13	12.6%
TOTAL	103	100.0%

Table 16.17 Ice Hockey Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	83	80.6%
Conditions to return	7	6.8%
Return to activity data not available*	13	12.6%
TOTAL	103	100.0%

Table 16.18 Ice Hockey Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	64	62.1%
1-2 Days	15	14.6%
3-6 Days	11	10.7%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	13	12.6%
TOTAL	103	100.0%

Table 16.19 Ice Hockey Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	3	2.9%
3-5 Days	11	10.7%
6-10 Days	31	30.1%
11-15 Days	22	21.4%
16-20 Days	11	10.7%
≥21 Days	11	10.7%
Data not available**	14	13.6%
TOTAL	103	100.0%

8 Missing Follow-up Reports*

5 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

1 Data entry errors**

XVII. Boys Lacrosse Head Injury Reports*

**It should be noted the 2019-20 Boys Lacrosse season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 17.1 Head Injury Prevalence Rate for Boys Lacrosse, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Lacrosse Participation	5,319
All Boys Lacrosse Head Injuries	0
Boys Lacrosse Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Boys Lacrosse Head Injury Prevalence Rate Per Thousand Participants	0

Table 17.2 Boys Lacrosse Head Injuries by Gender, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Male	0	0.0%
Female	0	0.0%
TOTAL	0	0.0%

Table 17.3 Boys Lacrosse Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 17.4 Boys Lacrosse Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 17.5 Boys Lacrosse Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 17.6 Activity Type for Boys Lacrosse Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 17.7 Boys Lacrosse Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 17.8 Person to Playing Surface Contact Boys Lacrosse Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Artificial turf	0	0.0%
Natural grass	0	0.0%
TOTAL	0	0.0%

Table 17.9 Boys Lacrosse Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 17.10 Boys Lacrosse Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 17.11 Boys Lacrosse Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 17.12 Most Recent Concussion for Boys Lacrosse Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 17.13 Number of Previous Concussions for Boys Lacrosse Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 17.14 Boys Lacrosse Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 17.15 Boys Lacrosse Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 17.16 Boys Lacrosse Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	0	0.0%

Table 17.17 Boys Lacrosse Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 17.18 Boys Lacrosse Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 17.19 Boys Lacrosse Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XVIII. Girls Lacrosse Head Injuries*

**It should be noted the 2019-20 Girls Lacrosse season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 18.1 Head Injury Prevalence Rate for Girls Lacrosse, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Lacrosse Participation	3,224
All Girls Lacrosse Head Injuries	1
Girls Lacrosse Head Injury Prevalence Rate (reported head injuries/total participants)	0.03%
Girls Lacrosse Head Injury Prevalence Rate Per Thousand Participants	0

Table 18.2 Girls Lacrosse Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	1	100.0%
Freshman	0	0.0%
TOTAL	1	100.0%

Table 18.3 Girls Lacrosse Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	1	100.0%
Competition	0	0.0%
TOTAL	1	100.0%

Table 18.4 Girls Lacrosse Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	1	100.0%
End of practice	0	0.0%
PRACTICE TOTAL	1	100.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 18.5 Activity Type for Girls Lacrosse Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	1	100.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 18.6 Girls Lacrosse Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	1	100.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	1	100.0%

Table 18.7 Person to Playing Surface Contact Girls Lacrosse Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Artificial turf	0	0.0%
Natural grass	0	0.0%
Indoor tile type floor	0	0.7%
TOTAL	0	0.0%

Table 18.8 Girls Lacrosse Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	1	100.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	1	100.0%

Table 18.9 Girls Lacrosse Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	1	100.0%
Not removed*	0	0.0%
TOTAL	1	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 18.10 Girls Lacrosse Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	1	100.0%
TOTAL	1	100.0%

Table 18.11 Most Recent Concussion for Girls Lacrosse Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 18.12 Number of Previous Concussions for Girls Lacrosse Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 18.13 Girls Lacrosse Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	1	100.0%
TOTAL	1	100.0%

Table 18.14 Girls Lacrosse Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	1	100.0%
TOTAL	1	100.0%

Table 18.15 Girls Lacrosse Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	1	100.0%
TOTAL	1	100.0%

Table 18.16 Girls Lacrosse Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	1	100.0%
TOTAL	1	100.0%

Table 18.17 Girls Lacrosse Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	1	100.0%
TOTAL	1	100.0%

Table 18.18 Girls Lacrosse Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	1	100.0%
TOTAL	1	100.0%

1 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XIX. Boys Skiing Head Injury Reports

Table 19.1 Head Injury Prevalence Rate for Boys Skiing, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Skiing Participation	919
All Reported Boys Skiing Head Injuries	4
Boys Skiing Head Injury Prevalence Rate (reported head injuries/total participants)	0.44%
Boys Skiing Head Injury Prevalence Rate Per Thousand Participants	4

Table 19.2 Boys Skiing Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	4	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	4	100.0%

Table 19.3 Boys Skiing Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	3	75.0%
Competition	1	25.0%
TOTAL	4	100.0%

Table 19.4 Boys Skiing Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	2	66.7%
Middle of practice	1	33.3%
End of practice	0	0.0%
PRACTICE TOTAL	3	100.0%
Start of competition	1	100.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	1	100.0%

Table 19.5 Activity Type for Boys Skiing Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	2	66.7%
During simulated competition-scrimmage	1	33.3%
Not specified	0	0.0%
TOTAL	3	100.0%

Table 19.6 Boys Skiing Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	4	100.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	4	100.0%

Table 19.7 Person to Playing Surface Contact Boys Skiing Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Snow/ice covered ground	4	100.0%
TOTAL	4	100.0%

Table 19.8 Boys Skiing Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	3	75.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	25.0%
TOTAL	4	100.0%

Table 19.9 Boys Skiing Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	4	100.0%
Not removed*	0	0.0%
TOTAL	4	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 19.10 Boys Skiing Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	1	25.0%
No reported previous concussions	3	75.0%
TOTAL	4	100.0%

Table 19.11 Most Recent Concussion for Boys Skiing Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	1	100.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	1	100.0%

Table 19.12 Number of Previous Concussions for Boys Skiing Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	1	100.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 19.13 Boys Skiing Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	3	75.0%
Did not receive written authorization to return by the end of season	1	25.0%
Follow-up Report not completed	0	0.0%
TOTAL	4	100.0%

Table 19.14 Boys Skiing Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	1	25.0%
DO	0	0.0%
PA	1	25.0%
NP	1	25.0%
Medical examiner data not available*	1	25.0%
TOTAL	4	100.0%

Table 19.15 Boys Skiing Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	1	25.0%
Primary care physician or pediatrician's office	2	50.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	1	25.0%
TOTAL	4	100.0%

Table 19.16 Boys Skiing Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	3	75.0%
Conditions to return	0	0.0%
Return to activity data not available*	1	25.0%
TOTAL	4	100.0%

Table 19.17 Boys Skiing Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	2	50.0%
1-2 Days	1	25.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	1	25.0%
TOTAL	4	100.0%

Table 19.18 Boys Skiing Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	1	25.0%
6-10 Days	1	25.0%
11-15 Days	1	25.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	1	25.0%
TOTAL	4	100.0%

0 Missing Follow-up Reports*

1 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XX. Girls Skiing Head Injury Reports

Table 20.1 Head Injury Prevalence Rate for Girls Skiing, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Skiing Participation	786
All Reported Girls Skiing Head Injuries	12
Girls Skiing Head Injury Prevalence Rate (reported head injuries/total participants)	1.53%
Girls Skiing Head Injury Prevalence Rate Per Thousand Participants	15

Table 20.2 Girls Skiing Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	11	91.7%
Junior Varsity	1	8.3%
Freshman	0	0.0%
TOTAL	12	100.0%

Table 20.3 Girls Skiing Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	6	50.0%
Competition	6	50.0%
TOTAL	12	100.0%

Table 20.4 Girls Skiing Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	5	83.3%
End of practice	1	16.7%
PRACTICE TOTAL	6	100.0%
Start of competition	1	16.7%
Middle of competition	4	66.7%
End of competition	1	16.7%
COMPETITION TOTAL	6	100.0%

Table 20.5 Activity Type for Girls Skiing Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	1	16.7%
During simulated competition-scrimmage	5	83.3%
Not specified	0	0.0%
TOTAL	6	100.0%

Table 20.6 Girls Skiing Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	12	100.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	12	100.0%

Table 20.7 Person to Playing Surface Contact Girls Skiing Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Snow/ice covered ground	12	100.0%
TOTAL	12	100.0%

Table 20.8 Girls Skiing Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	10	83.3%
Sideline emergency personnel	1	8.3%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	8.3%
TOTAL	12	100.0%

Table 20.9 Girls Skiing Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	12	100.0%
Not removed*	0	0.0%
TOTAL	12	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 20.10 Girls Skiing Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	3	25.0%
No reported previous concussions	9	75.0%
TOTAL	12	100.0%

Table 20.11 Most Recent Concussion for Girls Skiing Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	1	33.3%
Over one year	2	66.7%
TOTAL	3	100.0%

Table 20.12 Number of Previous Concussions for Girls Skiing Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	3	100.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	3	100.0%

Table 20.13 Girls Skiing Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	10	83.3%
Did not receive written authorization to return by the end of season	1	8.3%
Follow-up Report not completed	1	8.3%
TOTAL	12	100.0%

Table 20.14 Girls Skiing Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	4	33.3%
DO	1	8.3%
PA	2	16.7%
NP	3	25.0%
Medical examiner data not available*	2	16.7%
TOTAL	12	100.0%

Table 20.15 Girls Skiing Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	1	8.3%
Urgent or Ready Care business	2	16.7%
Primary care physician or pediatrician's office	5	41.7%
Neurologist's office	1	8.3%
Team doctor	1	8.3%
Medical facility data not available*	2	16.7%
TOTAL	12	100.0%

Table 20.16 Girls Skiing Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	8	66.7%
Conditions to return	2	16.7%
Return to activity data not available*	2	16.7%
TOTAL	12	100.0%

Table 20.17 Girls Skiing Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	5	41.7%
1-2 Days	5	41.7%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	2	16.7%
TOTAL	12	100.0%

Table 20.18 Girls Skiing Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	1	8.3%
6-10 Days	5	41.7%
11-15 Days	1	8.3%
16-20 Days	0	0.0%
≥21 Days	3	25.0%
Data not available**	2	16.7%
TOTAL	12	100.0%

1 Missing Follow-up Reports*

1 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXI. Boys Soccer Head Injury Reports

Table 21.1 Head Injury Prevalence Rate for Boys Soccer, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Soccer Participation	14,264
All Reported Boys Soccer Head Injuries	194
Boys Soccer Head Injury Prevalence Rate (reported head injuries/total participants)	1.36%
Boys Soccer Head Injury Prevalence Rate Per Thousand Participants	14

Table 21.2 Boys Soccer Head Injuries by Gender, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Male	192	99.0%
Female	2	1.0%
TOTAL	194	100.0%

Table 21.3 Boys Soccer Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	140	72.2%
Junior Varsity	46	23.7%
Freshman	8	4.1%
TOTAL	194	100.0%

Table 21.4 Boys Soccer Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	20	10.3%
Competition	174	89.7%
TOTAL	194	100.0%

Table 21.5 Boys Soccer Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	1	5.0%
Middle of practice	11	55.0%
End of practice	8	40.0%
PRACTICE TOTAL	20	100.0%
Start of competition	16	9.2%
Middle of competition	83	47.7%
End of competition	75	43.1%
COMPETITION TOTAL	174	100.0%

Table 21.6 Activity Type for Boys Soccer Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	9	45.0%
During simulated competition-scrimmage	9	45.0%
Not specified	2	10.0%
TOTAL	20	100.0%

Table 21.7 Boys Soccer Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	103	53.1%
Person to object contact (e.g. wall, equipment)	56	28.9%
Person to playing surface contact	25	12.9%
Uncertain as to the cause of the event	10	5.2%
TOTAL	194	100.0%

Table 21.8 Person to Playing Surface Contact Boys Soccer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Natural grass	17	68.0%
Artificial turf	7	28.0%
Asphalt track	1	4.0%
TOTAL	25	100.0%

Table 21.9 Boys Soccer Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	119	61.3%
Coach	34	17.5%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	4	2.1%
DO	1	0.5%
MD	4	2.1%
PA	1	0.5%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	31	16.0%
TOTAL	194	100.0%

Table 21.10 Boys Soccer Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	155	79.9%
Not removed*	39	20.1%
TOTAL	194	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 21.11 Boys Soccer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	24	12.4%
No reported previous concussions	170	87.6%
TOTAL	194	100.0%

Table 21.12 Most Recent Concussion for Boys Soccer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	1	4.2%
Within one to six months	1	4.2%
Within six months to one year	5	20.8%
Over one year	17	70.8%
TOTAL	24	100.0%

Table 21.13 Number of Previous Concussions for Boys Soccer Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	15	62.5%
2 concussions	4	16.7%
3 concussions	3	12.5%
≥4 concussions	2	8.3%
Not specified	0	0.0%
TOTAL	24	100.0%

Table 21.14 Boys Soccer Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	164	84.5%
Did not receive written authorization to return by the end of season	21	10.8%
Follow-up Report not completed	9	4.6%
TOTAL	194	100.0%

Table 21.15 Boys Soccer Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	92	47.4%
DO	30	15.5%
PA	22	11.3%
NP	20	10.3%
Medical examiner data not available*	30	15.5%
TOTAL	194	100.0%

Table 21.16 Boys Soccer Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	3	1.5%
Urgent or Ready Care business	15	7.7%
Primary care physician or pediatrician's office	118	60.8%
Neurologist's office	13	6.7%
Team doctor	15	7.7%
Medical facility data not available*	30	15.5%
TOTAL	194	100.0%

Table 21.17 Boys Soccer Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	145	74.7%
Conditions to return	19	9.8%
Return to activity data not available*	30	15.5%
TOTAL	194	100.0%

Table 21.18 Boys Soccer Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	105	54.1%
1-2 Days	48	24.7%
3-6 Days	7	3.6%
7-9 Days	2	1.0%
10-20 Days	2	1.0%
≥21 Days	0	0.0%
Missed school data not available*	30	15.5%
TOTAL	194	100.0%

Table 21.19 Boys Soccer Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	6	3.1%
3-5 Days	19	9.8%
6-10 Days	57	29.4%
11-15 Days	47	24.2%
16-20 Days	17	8.8%
≥21 Days	15	7.7%
Data not available**	33	17.0%
TOTAL	194	100.0%

9 Missing Follow-up Reports*

21 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

3 Data entry errors**

XXII. Girls Soccer Head Injury Reports*

**It should be noted the 2019-20 Girls Soccer season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 22.1 Head Injury Prevalence Rate for Girls Soccer, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Soccer Participation	12,429
All Girls Soccer Head Injuries	5
Girls Soccer Head Injury Prevalence Rate (reported head injuries/total participants)	0.04%
Girls Soccer Head Injury Prevalence Rate Per Thousand Participants	0

Table 22.2 Girls Soccer Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	4	80.0%
Junior Varsity	1	20.0%
Freshman	0	0.0%
TOTAL	5	100.0%

Table 22.3 Girls Soccer Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	4	80.0%
Competition	1	20.0%
TOTAL	5	100.0%

Table 22.4 Girls Soccer Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	3	75.0%
End of practice	1	25.0%
PRACTICE TOTAL	4	100.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	1	100.0%
COMPETITION TOTAL	1	100.0%

Table 22.5 Activity Type for Girls Soccer Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	3	75.0%
During simulated competition-scrimmage	1	25.0%
Not specified	0	0.0%
TOTAL	4	100.0%

Table 22.6 Girls Soccer Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	2	40.0%
Person to object contact (e.g. wall, equipment)	2	40.0%
Person to playing surface contact	1	20.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	5	100.0%

Table 22.7 Person to Playing Surface Contact Girls Soccer Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Natural grass	0	0.0%
Artificial turf	1	100.0%
Wooden gym floor	0	0.0%
Court	0	0.0%
Unknown	0	0.0%
TOTAL	1	100.0%

Table 22.8 Girls Soccer Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	1	20.0%
Coach	4	80.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	5	100.0%

Table 22.9 Girls Soccer Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	5	100.0%
Not removed*	0	0.0%
TOTAL	5	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 22.10 Girls Soccer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	1	20.0%
No reported previous concussions	4	80.0%
TOTAL	5	100.0%

Table 22.11 Most Recent Concussion for Girls Soccer Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	1	100.0%
TOTAL	1	100.0%

Table 22.12 Number of Previous Concussions for Girls Soccer Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	1	100.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 22.13 Girls Soccer Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	1	20.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	4	80.0%
TOTAL	5	100.0%

Table 22.14 Girls Soccer Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	1	20.0%
NP	0	0.0%
Medical examiner data not available*	4	80.0%
TOTAL	5	100.0%

Table 22.15 Girls Soccer Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	1	20.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	4	80.0%
TOTAL	5	100.0%

Table 22.16 Girls Soccer Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	1	20.0%
Return to activity data not available*	4	80.0%
TOTAL	5	100.0%

Table 22.17 Girls Soccer Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	1	20.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	4	80.0%
TOTAL	5	100.0%

Table 22.18 Girls Soccer Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	1	20.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	4	80.0%
TOTAL	5	100.0%

4 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXIII. Softball Head Injury Reports*

**It should be noted the 2019-20 Softball season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 23.1 Head Injury Prevalence Rate for Softball, MHSAA Head Injury Reporting System, 2019-20 School Year

Softball Participation	12,657
All Softball Head Injuries	4
Softball Head Injury Prevalence Rate	0.03%
Softball Head Injury Prevalence Rate Per Thousand Participants	0

Table 23.2 Softball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	4	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	4	100.0%

Table 23.3 Softball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	4	100.0%
Competition	0	0.0%
TOTAL	4	100.0%

Table 23.4 Softball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	4	100.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	4	100.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 23.5 Activity Type for Softball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	4	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	4	100.0%

Table 23.6 Softball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	4	100.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	4	100.0%

Table 23.7 Person to Playing Surface Contact Softball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Natural grass	0	0.0%
Infield dirt	0	0.0%
TOTAL	0	0.0%

Table 23.8 Softball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	1	25.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	3	75.0%
TOTAL	4	100.0%

Table 23.9 Softball Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	4	100.0%
Not removed*	0	0.0%
TOTAL	4	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 23.10 Softball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	3	75.0%
No reported previous concussions	1	25.0%
TOTAL	4	100.0%

Table 23.11 Most Recent Concussion for Softball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	3	100.0%
Over one year	0	0.0%
TOTAL	3	100.0%

Table 23.12 Number of Previous Concussions for Softball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	3	100.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	3	100.0%

Table 23.13 Softball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	4	100.0%
TOTAL	4	100.0%

Table 23.14 Softball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	4	100.0%
TOTAL	4	100.0%

Table 23.15 Softball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	4	100.0%
TOTAL	4	100.0%

Table 23.16 Softball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	4	100.0%
TOTAL	4	100.0%

Table 23.17 Softball Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	4	100.0%
TOTAL	4	100.0%

Table 23.18 Softball Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	4	100.0%
TOTAL	4	100.0%

4 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXIV. Boys Swimming & Diving Head Injury Reports*

**It should be noted the 2019-20 Boys Swimming and Diving season extended from November 11, 2019 to March 12, 2020. The MHSAA post season tournament was suspended and ultimately cancelled in response to the COVID-19 pandemic. The MHSAA State Finals event set to be held on March 13-14, 2020 was all that remained in the MHSAA postseason tournament at the time activity was halted.*

Table 24.1 Head Injury Prevalence Rate for Boys Swimming & Diving, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Swimming & Diving Participation	5,059
All Reported Boys Swimming & Diving Head Injuries	21
Boys Swimming & Diving Head Injury Prevalence Rate (reported head injuries/total participants)	0.42%
Boys Swimming & Diving Head Injury Prevalence Rate Per Thousand Participants	4

Table 24.2 Boys Swimming & Diving Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	21	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	21	100.0%

Table 24.3 Boys Swimming & Diving Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	14	66.7%
Competition	7	33.3%
TOTAL	21	100.0%

Table 24.4 Boys Swimming & Diving Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	3	21.4%
Middle of practice	4	28.6%
End of practice	7	50.0%
PRACTICE TOTAL	14	100.0%
Start of competition	2	28.6%
Middle of competition	4	57.1%
End of competition	1	14.3%
COMPETITION TOTAL	7	100.0%

Table 24.5 Activity Type for Boys Swimming & Diving Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	11	78.6%
During simulated competition-scrimmage	2	14.3%
Not specified	1	7.1%
TOTAL	14	100.0%

Table 24.6 Boys Swimming & Diving Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	2	9.5%
Person to object contact (e.g. wall, equipment)	10	47.6%
Person to playing surface contact	8	38.1%
Uncertain as to the cause of the event	1	4.8%
TOTAL	21	100.0%

Table 24.7 Person to Playing Surface Contact Boys Swimming & Diving Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Water	5	62.5%
Pool	1	12.5%
Pool deck	1	12.5%
Pool wall	1	12.5%
TOTAL	8	100.0%

Table 24.8 Boys Swimming & Diving Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	7	33.3%
Coach	8	38.1%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	1	4.8%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	5	23.8%
TOTAL	21	100.0%

Table 24.9 Boys Swimming & Diving Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	15	71.4%
Not removed*	6	28.6%
TOTAL	21	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 24.10 Boys Swimming & Diving Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	5	23.8%
No reported previous concussions	16	76.2%
TOTAL	21	100.0%

Table 24.11 Most Recent Concussion for Boys Swimming & Diving Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	5	100.0%
TOTAL	5	100.0%

Table 24.12 Number of Previous Concussions for Boys Swimming & Diving Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	4	80.0%
2 concussions	1	20.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	5	100.0%

Table 24.13 Boys Swimming & Diving Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	18	85.7%
Did not receive written authorization to return by the end of season	2	9.5%
Follow-up Report not completed	1	4.8%
TOTAL	21	100.0%

Table 24.14 Boys Swimming & Diving Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	12	57.1%
DO	3	14.3%
PA	2	9.5%
NP	1	4.8%
Medical examiner data not available*	3	14.3%
TOTAL	21	100.0%

Table 24.15 Boys Swimming & Diving Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	17	81.0%
Neurologist's office	0	0.0%
Team doctor	1	4.8%
Medical facility data not available*	3	14.3%
TOTAL	21	100.0%

Table 24.16 Boys Swimming & Diving Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	17	81.0%
Conditions to return	1	4.8%
Return to activity data not available*	3	14.3%
TOTAL	21	100.0%

Table 24.17 Boys Swimming & Diving Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	15	71.4%
1-2 Days	3	14.3%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	3	14.3%
TOTAL	21	100.0%

Table 24.18 Boys Swimming & Diving Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	3	14.3%
6-10 Days	7	33.3%
11-15 Days	5	23.8%
16-20 Days	2	9.5%
≥21 Days	1	4.8%
Data not available**	3	14.3%
TOTAL	21	100.0%

1 Missing Follow-up Reports*

2 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXV. Girls Swimming & Diving Head Injury Reports

Table 25.1 Head Injury Prevalence Rate for Girls Swimming & Diving, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Swimming & Diving Participation	5,474
All Reported Girls Swimming & Diving Head Injuries	39
Girls Swimming & Diving Head Injury Prevalence Rate (reported head injuries/total participants)	0.71%
Girls Swimming & Diving Head Injury Prevalence Rate Per Thousand Participants	7

Table 25.2 Girls Swimming & Diving Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	38	97.4%
Junior Varsity	1	2.6%
Freshman	0	0.0%
TOTAL	39	100.0%

Table 25.3 Girls Swimming & Diving Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	27	69.2%
Competition	12	30.8%
TOTAL	39	100.0%

Table 25.4 Girls Swimming & Diving Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	4	10.3%
Middle of practice	17	43.6%
End of practice	6	15.4%
PRACTICE TOTAL	27	69.2%
Start of competition	3	25.0%
Middle of competition	6	50.0%
End of competition	3	25.0%
COMPETITION TOTAL	12	100.0%

Table 25.5 Activity Type for Girls Swimming & Diving Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	25	92.6%
During simulated competition-scrimmage	1	3.7%
Not specified	1	3.7%
TOTAL	27	100.0%

Table 25.6 Girls Swimming & Diving Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	3	7.7%
Person to object contact (e.g. wall, equipment)	23	59.0%
Person to playing surface contact	12	30.8%
Uncertain as to the cause of the event	1	2.6%
TOTAL	39	100.0%

Table 25.7 Person to Playing Surface Contact Girls Swimming & Diving Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Water	10	83.3%
Pool Wall	1	8.3%
Indoor tile type floor	1	8.3%
TOTAL	12	16.7%

Table 25.8 Girls Swimming & Diving Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	11	28.2%
Coach	20	51.3%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	1	2.6%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	7	17.9%
TOTAL	39	100.0%

Table 25.9 Girls Swimming & Diving Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	31	79.5%
Not removed*	8	20.5%
TOTAL	39	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 25.10 Girls Swimming & Diving Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	5	12.8%
No reported previous concussions	34	87.2%
TOTAL	39	100.0%

Table 25.11 Most Recent Concussion for Girls Swimming & Diving Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	1	20.0%
Within six months to one year	0	0.0%
Over one year	4	80.0%
TOTAL	5	100.0%

Table 25.12 Number of Previous Concussions for Girls Swimming & Diving Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	3	60.0%
2 concussions	0	0.0%
3 concussions	1	20.0%
≥4 concussions	1	20.0%
Not specified	0	0.0%
TOTAL	5	100.0%

Table 25.13 Girls Swimming & Diving Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	33	84.6%
Did not receive written authorization to return by the end of season	6	15.4%
Follow-up Report not completed	0	0.0%
TOTAL	39	100.0%

Table 25.14 Girls Swimming & Diving Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	13	33.3%
DO	11	28.2%
PA	5	12.8%
NP	4	10.3%
Medical examiner data not available*	6	15.4%
TOTAL	39	100.0%

Table 25.15 Girls Swimming & Diving Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	1	2.6%
Primary care physician or pediatrician's office	25	64.1%
Neurologist's office	2	5.1%
Team doctor	5	12.8%
Medical facility data not available*	6	15.4%
TOTAL	39	100.0%

Table 25.16 Girls Swimming & Diving Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	32	82.1%
Conditions to return	1	2.6%
Return to activity data not available*	6	15.4%
TOTAL	39	100.0%

Table 25.17 Girls Swimming & Diving Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	22	56.4%
1-2 Days	9	23.1%
3-6 Days	1	2.6%
7-9 Days	0	0.0%
10-20 Days	1	2.6%
≥21 Days	0	0.0%
Missed school data not available*	6	15.4%
TOTAL	39	100.0%

Table 25.18 Girls Swimming & Diving Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	1	2.6%
3-5 Days	2	5.1%
6-10 Days	10	25.6%
11-15 Days	9	23.1%
16-20 Days	2	5.1%
≥21 Days	6	15.4%
Data not available**	9	23.1%
TOTAL	39	100.0%

0 Missing Follow-up Reports*

6 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

3 Data entry errors**

XXVI. Boys Tennis Head Injury Reports*

**It should be noted the 2019-20 UP Boys Tennis season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 26.1 Head Injury Prevalence Rate for Boys Tennis, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Tennis Participation	6,339
All Reported Boys Tennis Head Injuries	1
Boys Tennis Head Injury Prevalence Rate (reported head injuries/total participants)	0.02%
Boys Tennis Head Injury Prevalence Rate Per Thousand Participants	0

Table 26.2 Boys Tennis Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	1	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	1	100.0%

Table 26.3 Boys Tennis Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	0	0.0%
Competition	1	100.0%

Table 26.4 Boys Tennis Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	1	100.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	1	100.0%

Table 26.5 Activity Type for Boys Tennis Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 26.6 Boys Tennis Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	1	100.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	1	100.0%

Table 26.7 Person to Playing Surface Contact Boys Tennis Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Tennis court	0	0.0%
TOTAL	0	0.0%

Table 26.8 Boys Tennis Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	1	100.0%
TOTAL	1	100.0%

Table 26.9 Boys Tennis Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	1	100.0%
Not removed*	0	0.0%
TOTAL	1	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 26.10 Boys Tennis Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	1	100.0%
TOTAL	1	100.0%

Table 26.11 Most Recent Concussion for Boys Tennis Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 26.12 Number of Previous Concussions for Boys Tennis Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 26.13 Boys Tennis Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	1	100.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	1	100.0%

Table 26.14 Boys Tennis Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	1	100.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	1	100.0%

Table 26.15 Boys Tennis Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	1	100.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	1	100.0%

Table 26.16 Boys Tennis Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	1	100.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	1	100.0%

Table 26.17 Boys Tennis Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	1	100.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	1	100.0%

Table 26.18 Boys Tennis Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	1	100.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	1	100.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXVII. Girls Tennis Head Injury Reports*

**It should be noted the 2019-20 Girls LP Tennis season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 27.1 Head Injury Prevalence Rate for Girls Tennis, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Tennis Participation	8,621
All Girls Tennis Head Injuries	0
Girls Tennis Head Injury Prevalence Rate	0.00%
Girls Tennis Head Injury Prevalence Rate Per Thousand Participants	0

Table 27.2 Girls Tennis Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 27.3 Girls Tennis Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 27.4 Girls Tennis Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 27.5 Activity Type for Girls Tennis Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 27.6 Girls Tennis Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 27.7 Person to Playing Surface Contact Girls Tennis Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Tennis court	0	0.0%
TOTAL	0	0.0%

Table 27.8 Girls Tennis Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 27.9 Girls Tennis Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 27.10 Girls Tennis Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 27.11 Most Recent Concussion for Girls Tennis Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 27.12 Number of Previous Concussions for Girls Tennis Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 27.13 Girls Tennis Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 27.14 Girls Tennis Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 27.15 Girls Tennis Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	0	0.0%

Table 27.16 Girls Tennis Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 27.17 Girls Tennis Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 27.18 Girls Tennis Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXVIII. Boys Track & Field Head Injury Reports*

**It should be noted the 2019-20 Boys Track & Field season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 28.1 Head Injury Prevalence Rate for Boys Track & Field, MHSAA Head Injury Reporting System, 2019-20 School Year

Boys Track and Field Participation	21,650
All Boys Track and Field Head Injuries	1
Boys Track and Field Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Boys Track and Field Head Injury Prevalence Rate Per Thousand Participants	0

Table 28.2 Boys Track & Field Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	1	100.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	1	100.0%

Table 28.3 Boys Track & Field Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	1	100.0%
Competition	0	0.0%
TOTAL	1	100.0%

Table 28.4 Boys Track & Field Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	1	100.0%
PRACTICE TOTAL	1	100.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 28.5 Activity Type for Boys Track & Field Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	1	100.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	1	100.0%

Table 28.6 Boys Track & Field Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	1	100.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	1	100.0%

Table 28.7 Person to Playing Surface Contact Boys Track & Field Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Track	1	100.0%
TOTAL	1	100.0%

Table 28.8 Boys Track & Field Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	1	100.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	1	100.0%

Table 28.9 Boys Track & Field Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	1	100.0%
Not removed*	0	0.0%
TOTAL	1	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 28.10 Boys Track & Field Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	1	100.0%
TOTAL	1	100.0%

Table 28.11 Most Recent Concussion for Boys Track & Field Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 28.12 Number of Previous Concussions for Boys Track & Field Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 28.13 Boys Track & Field Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	1	100.0%
Follow-up Report not completed	0	0.0%
TOTAL	1	100.0%

Table 28.14 Boys Track & Field Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	1	100.0%
TOTAL	1	100.0%

Table 28.15 Boys Track & Field Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	1	100.0%
TOTAL	1	100.0%

Table 28.16 Boys Track & Field Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	1	100.0%
TOTAL	1	100.0%

Table 28.17 Boys Track & Field Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	1	100.0%
TOTAL	1	100.0%

Table 28.18 Boys Track & Field Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	1	100.0%
TOTAL	1	100.0%

0 Missing Follow-up Reports*

1 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXIX. Girls Track & Field Head Injury Reports*

**It should be noted the 2019-20 Girls Track & Field season extended from March 9, 2020 to March 13, 2020. The Spring season was suspended and ultimately cancelled five (5) days after start of practice in response to the COVID-19 pandemic.*

Table 29.1 Head Injury Prevalence Rate for Girls Track & Field, MHSAA Head Injury Reporting System, 2019-20 School Year

Girls Track and Field Participation	16,274
All Girls Track and Field Head Injuries	0
Girls Track and Field Head Injury Prevalence Rate (reported head injuries/total participants)	0.00%
Girls Track and Field Head Injury Prevalence Rate Per Thousand Participants	0

Table 29.2 Girls Track & Field Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	0	0.0%
Junior Varsity	0	0.0%
Freshman	0	0.0%
TOTAL	0	0.0%

Table 29.3 Girls Track & Field Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	0	0.0%
Competition	0	0.0%
TOTAL	0	0.0%

Table 29.4 Girls Track & Field Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	0	0.0%
Middle of practice	0	0.0%
End of practice	0	0.0%
PRACTICE TOTAL	0	0.0%
Start of competition	0	0.0%
Middle of competition	0	0.0%
End of competition	0	0.0%
COMPETITION TOTAL	0	0.0%

Table 29.5 Activity Type for Girls Track & Field Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	0	0.0%
During simulated competition-scrimmage	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 29.6 Girls Track & Field Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	0	0.0%
Person to object contact (e.g. wall, equipment)	0	0.0%
Person to playing surface contact	0	0.0%
Uncertain as to the cause of the event	0	0.0%
TOTAL	0	0.0%

Table 29.7 Person to Playing Surface Contact Girls Track & Field Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Track	0	0.0%
TOTAL	0	0.0%

Table 29.8 Girls Track & Field Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	0	0.0%
Coach	0	0.0%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	0	0.0%
DO	0	0.0%
MD	0	0.0%
PA	0	0.0%
NP	0	0.0%
Athletic director	0	0.0%
Multiple examiners	0	0.0%
TOTAL	0	0.0%

Table 29.9 Girls Track & Field Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	0	0.0%
Not removed*	0	0.0%
TOTAL	0	0.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 29.10 Girls Track & Field Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	0	0.0%
No reported previous concussions	0	0.0%
TOTAL	0	0.0%

Table 29.11 Most Recent Concussion for Girls Track & Field Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	0	0.0%
Within six months to one year	0	0.0%
Over one year	0	0.0%
TOTAL	0	0.0%

Table 29.12 Number of Previous Concussions for Girls Track & Field Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	0	0.0%
2 concussions	0	0.0%
3 concussions	0	0.0%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	0	0.0%

Table 29.13 Girls Track & Field Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	0	0.0%
Did not receive written authorization to return by the end of season	0	0.0%
Follow-up Report not completed	0	0.0%
TOTAL	0	0.0%

Table 29.14 Girls Track & Field Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	0	0.0%
DO	0	0.0%
PA	0	0.0%
NP	0	0.0%
Medical examiner data not available*	0	0.0%
TOTAL	0	0.0%

Table 29.15 Girls Track & Field Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	0	0.0%
Urgent or Ready Care business	0	0.0%
Primary care physician or pediatrician's office	0	0.0%
Neurologist's office	0	0.0%
Team doctor	0	0.0%
Medical facility data not available*	0	0.0%
TOTAL	0	0.0%

Table 29.16 Girls Track & Field Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	0	0.0%
Conditions to return	0	0.0%
Return to activity data not available*	0	0.0%
TOTAL	0	0.0%

Table 29.17 Girls Track & Field Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	0	0.0%
1-2 Days	0	0.0%
3-6 Days	0	0.0%
7-9 Days	0	0.0%
10-20 Days	0	0.0%
≥21 Days	0	0.0%
Missed school data not available*	0	0.0%
TOTAL	0	0.0%

Table 29.18 Girls Track & Field Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	0	0.0%
3-5 Days	0	0.0%
6-10 Days	0	0.0%
11-15 Days	0	0.0%
16-20 Days	0	0.0%
≥21 Days	0	0.0%
Data not available**	0	0.0%
TOTAL	0	0.0%

0 Missing Follow-up Reports*

0 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

0 Data entry errors**

XXX. Volleyball Head Injury Reports

Table 30.1 Head Injury Prevalence Rate for Volleyball, MHSAA Head Injury Reporting System, 2019-20 School Year

Volleyball Participation	19,248
All Reported Volleyball Head Injuries	212
Volleyball Head Injury Prevalence Rate (reported head injuries/total participants)	1.10%
Volleyball Head Injury Prevalence Rate Per Thousand Participants	11

Table 30.2 Volleyball Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	90	42.5%
Junior Varsity	78	36.8%
Freshman	44	20.8%
TOTAL	212	100.0%

Table 30.3 Volleyball Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	79	37.3%
Competition	133	62.7%
TOTAL	212	100.0%

Table 30.4 Volleyball Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	9	11.4%
Middle of practice	34	43.0%
End of practice	36	45.6%
PRACTICE TOTAL	79	100.0%
Start of competition	26	19.5%
Middle of competition	54	40.6%
End of competition	53	39.8%
COMPETITION TOTAL	133	100.0%

Table 30.5 Activity Type for Volleyball Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	62	78.5%
During simulated competition-scrimmage	14	17.7%
Not specified	3	3.8%
TOTAL	79	100.0%

Table 30.6 Volleyball Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	41	19.3%
Person to object contact (e.g. wall, equipment)	127	59.9%
Person to playing surface contact	36	17.0%
Uncertain as to the cause of the event	8	3.8%
TOTAL	212	100.0%

Table 30.7 Person to Playing Surface Contact Volleyball Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Wooded gym floor	30	83.3%
Volleyball court	3	8.3%
TOTAL	36	100.0%

Table 30.8 Volleyball Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	99	46.7%
Coach	52	24.5%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	8	3.8%
DO	0	0.0%
MD	2	0.9%
PA	2	0.9%
NP	0	0.0%
Athletic director	3	1.4%
Multiple examiners	46	21.7%
TOTAL	212	100.0%

Table 30.9 Volleyball Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	177	83.5%
Not removed*	35	16.5%
TOTAL	212	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 30.10 Volleyball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	33	15.6%
No reported previous concussions	179	84.4%
TOTAL	212	100.0%

Table 30.11 Most Recent Concussion for Volleyball Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	0	0.0%
Within one to six months	5	15.2%
Within six months to one year	4	12.1%
Over one year	24	72.7%
TOTAL	33	100.0%

Table 30.12 Number of Previous Concussions for Volleyball Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	27	81.8%
2 concussions	3	9.1%
3 concussions	1	3.0%
≥4 concussions	1	3.0%
Not specified	1	3.0%
TOTAL	33	100.0%

Table 30.13 Volleyball Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	172	81.1%
Did not receive written authorization to return by the end of season	21	9.9%
Follow-up Report not completed	19	9.0%
TOTAL	212	100.0%

Table 30.14 Volleyball Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	93	43.9%
DO	37	17.5%
PA	21	9.9%
NP	21	9.9%
Medical examiner data not available*	40	18.9%
TOTAL	212	100.0%

Table 30.15 Volleyball Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	16	7.5%
Urgent or Ready Care business	15	7.1%
Primary care physician or pediatrician's office	119	56.1%
Neurologist's office	9	4.2%
Team doctor	13	6.1%
Medical facility data not available*	40	18.9%
TOTAL	212	100.0%

Table 30.16 Volleyball Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	156	73.6%
Conditions to return	16	7.5%
Return to activity data not available*	40	18.9%
TOTAL	212	100.0%

Table 30.17 Volleyball Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	94	44.3%
1-2 Days	53	25.0%
3-6 Days	18	8.5%
7-9 Days	1	0.5%
10-20 Days	5	2.4%
≥21 Days	1	0.5%
Missed school data not available*	40	18.9%
TOTAL	212	100.0%

Table 30.18 Volleyball Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	6	2.8%
3-5 Days	9	4.2%
6-10 Days	57	26.9%
11-15 Days	51	24.1%
16-20 Days	24	11.3%
≥21 Days	21	9.9%
Data not available**	44	20.8%
TOTAL	212	100.0%

19 Missing Follow-up Reports*

21 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

4 Data entry errors**

XXXI. Wrestling Head Injury Reports

Table 31.1 Head Injury Prevalence Rate for Wrestling, MHSAA Head Injury Reporting System, 2019-20 School Year

Wrestling Participation	9,777
All Reported Wrestling Head Injuries	216
Wrestling Head Injury Prevalence Rate (reported head injuries/total participants)	2.21%
Wrestling Head Injury Prevalence Rate Per Thousand Participants	22

Table 31.2 Wrestling Head Injuries by Gender, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Male	194	89.8%
Female	22	10.2%
TOTAL	216	100.0%

Table 31.3 Wrestling Head Injuries by Level of Competition, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Varsity	160	74.1%
Junior Varsity	54	25.0%
Freshman	2	0.9%
TOTAL	216	100.0%

Table 31.4 Wrestling Head Injuries by Type of Exposure, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Practice	102	47.2%
Competition	114	52.8%
TOTAL	216	100.0%

Table 31.5 Wrestling Head Injuries by Time during Practice or Competition of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Start of practice	7	6.9%
Middle of practice	46	45.1%
End of practice	49	48.0%
PRACTICE TOTAL	102	100.0%
Start of competition	14	12.3%
Middle of competition	59	51.8%
End of competition	41	36.0%
COMPETITION TOTAL	114	100.0%

Table 31.6 Activity Type for Wrestling Head Injury Events during Practice, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
During a drill	67	65.7%
During simulated competition-scrimmage	29	28.4%
Not specified	6	5.9%
TOTAL	102	100.0%

Table 31.7 Wrestling Head Injuries by Cause of Injury, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Person to person contact	72	33.3%
Person to object contact (e.g. wall, equipment)	8	3.7%
Person to playing surface contact	120	55.6%
Uncertain as to the cause of the event	16	7.4%
TOTAL	216	100.0%

Table 31.8 Person to Playing Surface Contact Wrestling Head Injuries by Surface Type, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Wrestling-type mat	118	98.3%
Indoor tile type floor	1	0.8%
Wooden gym floor	1	0.8%
TOTAL	120	100.0%

Table 31.9 Wrestling Head Injuries by Initial Examiner, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Athletic trainer	125	57.9%
Coach	34	15.7%
Sideline emergency personnel	0	0.0%
Other appropriate health care professional	5	2.3%
DO	1	0.5%
MD	4	1.9%
PA	0	0.0%
NP	1	0.5%
Athletic director	3	1.4%
Multiple examiners	43	19.9%
TOTAL	216	100.0%

Table 31.10 Wrestling Athlete Removal from Activity at the Time of Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Removed	172	79.6%
Not removed*	44	20.4%
TOTAL	216	100.0%

*Not indicating the injury was mismanaged at the time of the event; athlete may not have reported injury, symptoms may not have presented until after the event, etc.

Table 31.11 Wrestling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Reported at least one previous concussion	44	20.4%
No reported previous concussions	172	79.6%
TOTAL	216	100.0%

Table 31.12 Most Recent Concussion for Wrestling Athletes Reporting Previous Concussions after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Within last month	3	6.8%
Within one to six months	9	20.5%
Within six months to one year	11	25.0%
Over one year	21	47.7%
TOTAL	44	100.0%

Table 31.13 Number of Previous Concussions for Wrestling Athletes Reporting Previous Concussion after Head Injury Event, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1 concussion	35	79.5%
2 concussions	7	15.9%
3 concussions	2	4.5%
≥4 concussions	0	0.0%
Not specified	0	0.0%
TOTAL	44	100.0%

Table 31.14 Wrestling Head Injuries by Athlete Clearance to Return to Activity before the End of Season in which the Injury Occurred, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Received written authorization to return by the end of season	155	71.8%
Did not receive written authorization to return by the end of season	33	15.3%
Follow-up Report not completed	28	13.0%
TOTAL	216	100.0%

Table 31.15 Wrestling Head Injuries by Medical Examiner Authorizing Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
MD	74	34.3%
DO	34	15.7%
PA	20	9.3%
NP	27	12.5%
Medical examiner data not available*	61	28.2%
TOTAL	216	100.0%

Table 31.16 Wrestling Head Injuries by Facility where Medical Examiner Authorized Return to Activity, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Hospital	6	2.8%
Urgent or Ready Care business	14	6.5%
Primary care physician or pediatrician's office	105	48.6%
Neurologist's office	13	6.0%
Team doctor	17	7.9%
Medical facility data not available*	61	28.2%
TOTAL	216	100.0%

Table 31.17 Wrestling Head Injuries by Clearance to Return to Activity Conditions, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
Unconditional return	139	64.4%
Conditions to return	16	7.4%
Return to activity data not available*	61	28.2%
TOTAL	216	100.0%

Table 31.18 Wrestling Head Injuries by Missed School Days after Injury Event Date, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
0 Days	113	52.3%
1-2 Days	31	14.4%
3-6 Days	10	4.6%
7-9 Days	0	0.0%
10-20 Days	1	0.5%
≥21 Days	0	0.0%
Missed school data not available*	61	28.2%
TOTAL	216	100.0%

Table 31.19 Wrestling Head Injuries by Time between Head Injury Event Date and Authorization Date to Return, MHSAA Head Injury Reporting System, 2019-20 School Year

	n	%
1-2 Days	3	1.4%
3-5 Days	13	6.0%
6-10 Days	37	17.1%
11-15 Days	43	19.9%
16-20 Days	28	13.0%
≥21 Days	28	13.0%
Data not available**	64	29.6%
TOTAL	216	100.0%

28 Missing Follow-up Reports*

33 Did not receive clearance to return to activity before the end of season (thus no follow-up data)*

3 Data entry errors**

XXXII. Five Year Comparison

Table 32.1 Head Injury Reports by Sport and Year, MHSAA Head Injury Reporting System, 2019-20 School Year

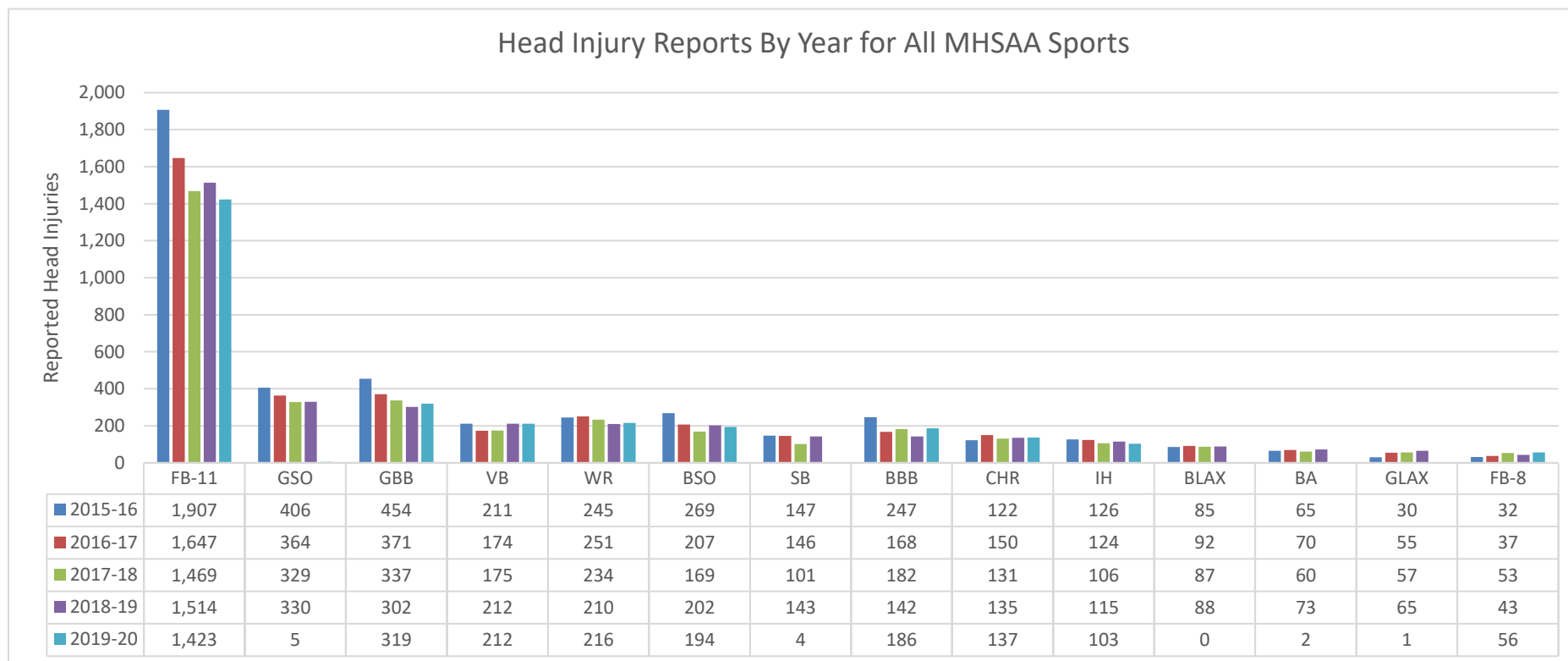
SPORTS	Boys*					Girls				
	2015-16	2016-17	2017-18	2018-19	2019-20	2015-16	2016-17	2017-18	2018-19	2019-20
Baseball	65	70	60	73	2	-	-	-	-	-
Basketball	247	168	182	142	186	454	371	337	302	319
Bowling	1	0	0	1	0	0	0	0	0	0
Competitive Cheer	-	-	-	-	-	122	150	131	135	137
Cross Country	4	1	1	3	4	4	6	3	7	2
Football - 11-Player	1,907	1,647	1,469	1,514	1,423	-	-	-	-	-
8-Player	32	37	53	43	56	-	-	-	-	-
Golf	1	1	0	2	0	2	1	0	0	2
Gymnastics	-	-	-	-	-	8	8	11	7	7
Ice Hockey	126	124	106	115	103	-	-	-	-	-
Lacrosse	85	92	87	88	0	30	55	57	65	1
Skiing-Alpine	3	3	5	5	4	6	2	1	2	12
Soccer	269	207	169	202	194	406	364	329	330	5
Softball	-	-	-	-	-	147	146	101	143	4
Swimming & Diving	14	11	14	19	21	31	33	25	26	39
Tennis	0	4	3	2	1	6	6	7	8	0
Track & Field	4	11	9	10	1	22	15	11	20	0
Volleyball	-	-	-	-	-	211	174	175	212	212
Wrestling	245	251	234	210	216	-	-	-	-	-

*Boys head injury data includes both males AND females playing on primarily male teams

Winter sports still in tournament play when activity was stopped due to the COVID-19 pandemic during the 2019-20 school year

Spring sports that had begun practice but not competition when activity was stopped due to the COVID-19 pandemic during the 2019-20 school year

Figure 32.1 Head Injury Reports by Sport and Year – Higher Incidence Sports, MHSAA Head Injury Reporting System, 2019-20 School Year



ABBREVIATIONS

Baseball – BA
 Competitive Cheer – CHR
 Boys Golf – BGO
 Girls Lacrosse – GLAX
 Softball – SB
 Boys Track & Field – BTR

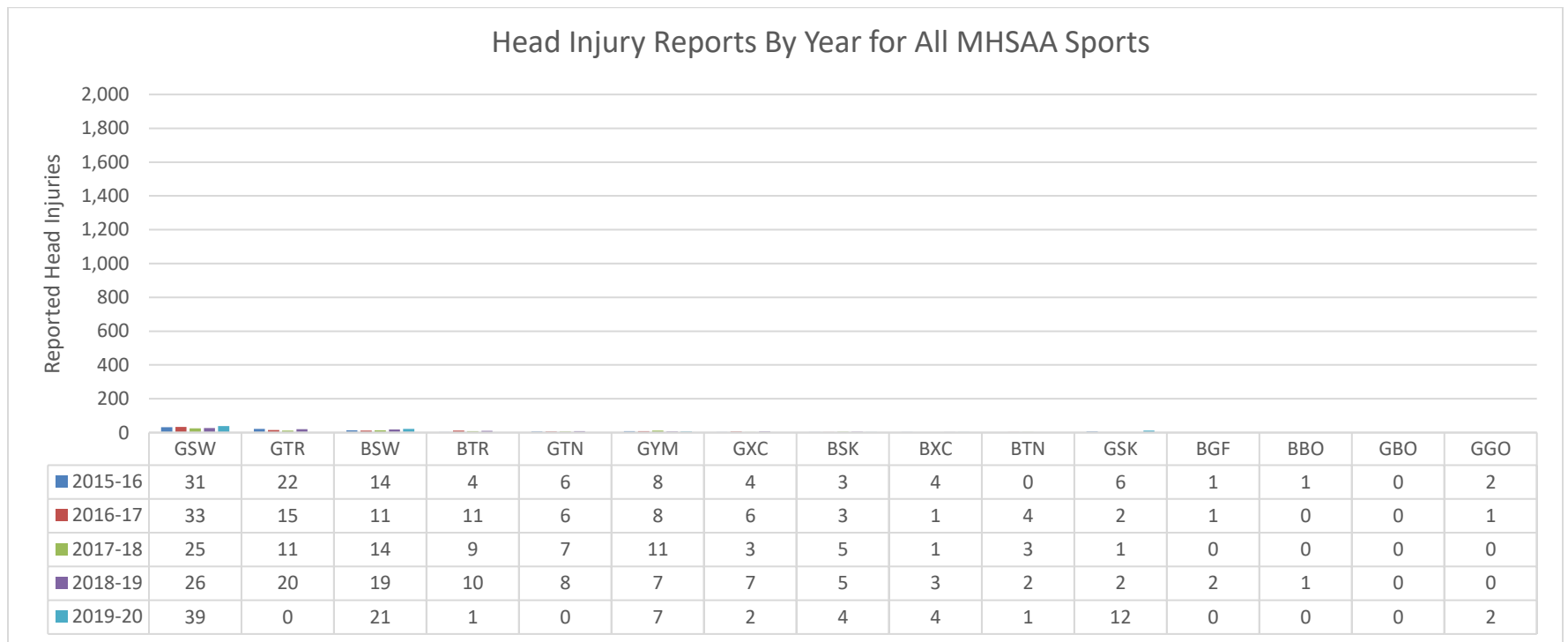
Boys Basketball – BBB
 Boys Cross Country – BXC
 Girls Golf – GGO
 Boys Skiing – BSK
 Boys Swimming & Diving – BSW
 Girls Track & Field – GTR

Girls Basketball – GBB
 Girls Cross Country – GXC
 Gymnastics – GYM
 Girls Skiing – GSK
 Girls Swimming & Diving – GSW
 Volleyball – VB

Boys Bowling – BBO
 Football – 11-Player – FB-11
 Ice Hockey – IH
 Boys Soccer – BSO
 Boys Tennis – BTN
 Wrestling – WR

Girls Bowling – GBO
 Football – 8-Player – FB-8
 Boys Lacrosse – BLAX
 Girls Soccer – GSO
 Girls Tennis – GTN

Figure 32.2 Head Injury Reports by Sport and Year – Lower Incidence Sports, MHSAA Head Injury Reporting System, 2019-20 School Year



ABBREVIATIONS

Baseball – BA
 Competitive Cheer – CHR
 Boys Golf – BGO
 Girls Lacrosse – GLAX
 Softball – SB
 Boys Track & Field – BTR

Boys Basketball – BBB
 Boys Cross Country – BXC
 Girls Golf – GGO
 Boys Skiing – BSK
 Boys Swimming & Diving – BSW
 Girls Track & Field – GTR

Girls Basketball – GBB
 Girls Cross Country – GXC
 Gymnastics – GYM
 Girls Skiing – GSK
 Girls Swimming & Diving – GSW
 Volleyball – VB

Boys Bowling – BBO
 Football – 11-Player – FB-11
 Ice Hockey – IH
 Boys Soccer – BSO
 Boys Tennis – BTN
 Wrestling - WR

Girls Bowling – GBO
 Football – 8-Player – FB-8
 Boys Lacrosse – BLAX
 Girls Soccer – GSO
 Girls Tennis - GTN

Table 32.2 Head Injury Reports per 1,000 Participants by Sport and Year, MHSAA Head Injury Reporting System, 2019-20 School Year

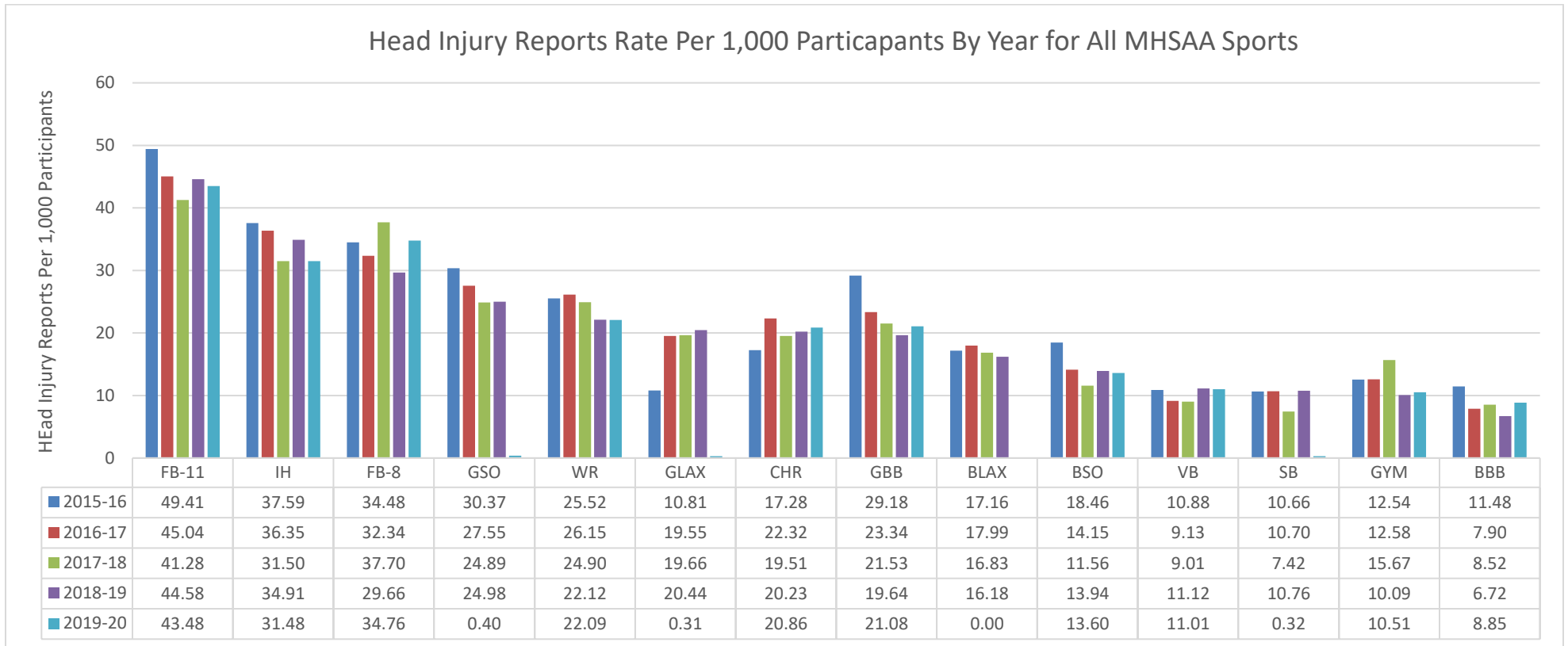
SPORTS	Boys*					Girls				
	2015-16	2016-17	2017-18	2018-19	2019-20	2015-16	2016-17	2017-18	2018-19	2019-20
Baseball	3.58	3.89	3.39	4.24	0.12	-	-	-	-	-
Basketball	11.48	7.90	8.52	6.72	8.85	29.18	23.34	21.53	19.64	21.08
Bowling	0.26	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Competitive Cheer	-	-	-	-	-	17.28	22.32	19.51	20.23	20.86
Cross Country	0.43	0.11	0.10	0.31	0.42	0.48	0.71	0.34	0.86	0.25
Football - 11-Player	49.41	45.04	41.28	44.58	43.48	-	-	-	-	-
8-Player	34.48	32.34	37.70	29.66	34.76	-	-	-	-	-
Golf	0.16	0.16	0.00	0.32	0.00	0.58	0.28	0.00	0.00	0.55
Gymnastics	-	-	-	-	-	12.54	12.58	15.67	10.09	10.51
Ice Hockey	37.59	36.35	31.50	34.91	31.48	-	-	-	-	-
Lacrosse	17.16	17.99	16.83	16.18	0.00	10.81	19.55	19.66	20.44	0.31
Skiing-Alpine	4.17	3.58	6.02	5.41	4.35	9.20	2.68	1.30	2.62	15.27
Soccer	18.46	14.15	11.56	13.94	13.60	30.37	27.55	24.89	24.98	0.40
Softball	-	-	-	-	-	10.66	10.70	7.42	10.76	0.32
Swimming & Diving	2.96	2.21	2.75	3.80	4.15	5.76	5.89	4.36	4.49	7.12
Tennis	0.00	0.66	0.49	0.32	0.16	0.69	0.67	0.77	0.86	0.00
Track & Field	0.18	0.47	0.38	0.42	0.05	1.32	0.88	0.64	1.15	0.00
Volleyball	-	-	-	-	-	10.88	9.13	9.01	11.12	11.01
Wrestling	25.52	26.15	24.90	22.12	22.09	-	-	-	-	-

*Boys head injury data includes both males AND females playing on primarily male teams

Winter sports still in tournament play when activity was stopped due to the COVID-19 pandemic during the 2019-20 school year

Spring sports that had begun practice but not competition when activity was stopped due to the COVID-19 pandemic during the 2019-20 school year

Figure 32.3 Head Injury Reports per 1,000 Participants by Sport and Year – Higher Incidence Sports, MHSAA Head Injury Reporting System, 2019-20 School Year



ABBREVIATIONS

Baseball – BA
 Competitive Cheer – CHR
 Boys Golf – BGO
 Girls Lacrosse – GLAX
 Softball – SB
 Boys Track & Field – BTR

Boys Basketball – BBB
 Boys Cross Country – BXC
 Girls Golf – GGO
 Boys Skiing – BSK
 Boys Swimming & Diving – BSW
 Girls Track & Field – GTR

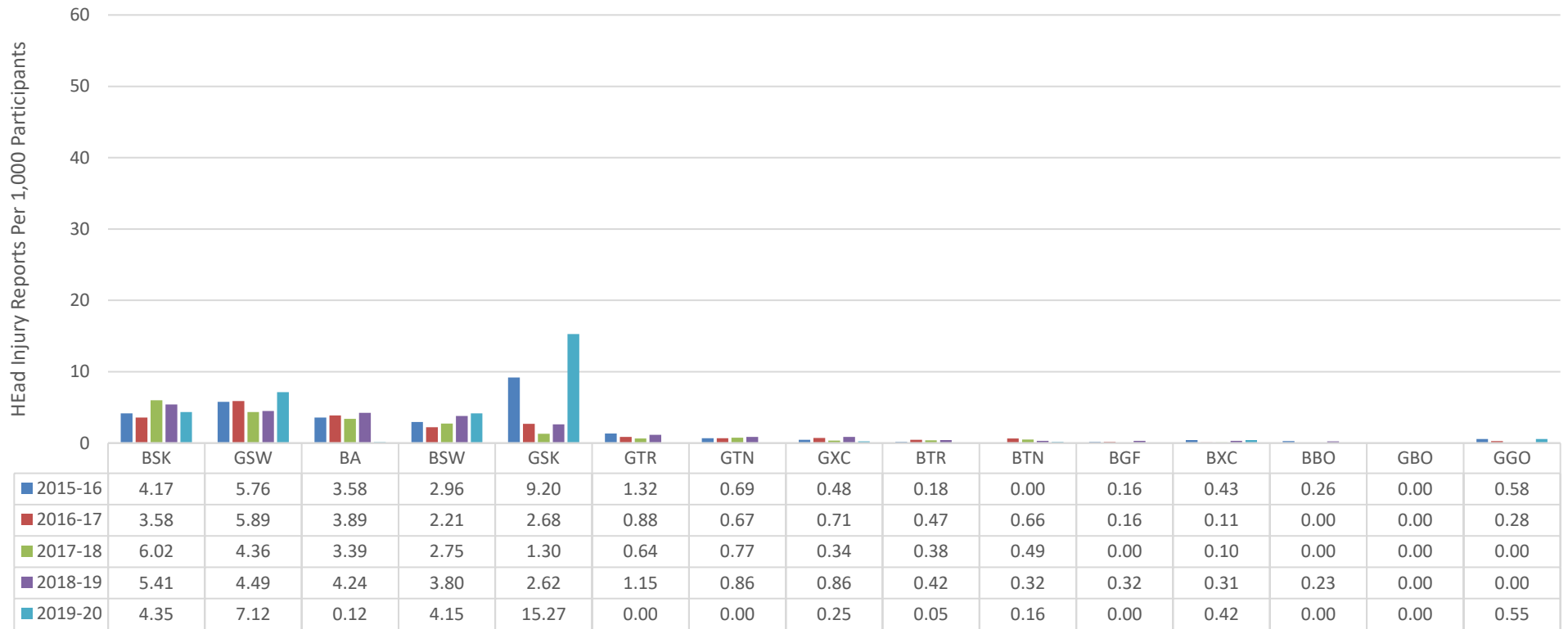
Girls Basketball – GBB
 Girls Cross Country – GXC
 Gymnastics – GYM
 Girls Skiing – GSK
 Girls Swimming & Diving – GSW
 Volleyball – VB

Boys Bowling – BBO
 Football – 11-Player – FB-11
 Ice Hockey – IH
 Boys Soccer – BSO
 Boys Tennis – BTN
 Wrestling - WR

Girls Bowling – GBO
 Football – 8-Player – FB-8
 Boys Lacrosse – BLAX
 Girls Soccer – GSO
 Girls Tennis - GTN

Figure 32.4 Head Injury Reports per 1,000 Participants by Sport and Year – Lower Incidence Sports, MHSAA Head Injury Reporting System, 2019-20 School Year

Head Injury Reports Rate Per 1,000 Participants By Year for All MHSAA Sports



ABBREVIATIONS

Baseball – BA
 Competitive Cheer – CHR
 Boys Golf – BGO
 Girls Lacrosse – GLAX
 Softball – SB
 Boys Track & Field – BTR

Boys Basketball – BBB
 Boys Cross Country – BXC
 Girls Golf – GGO
 Boys Skiing – BSK
 Boys Swimming & Diving – BSW
 Girls Track & Field – GTR

Girls Basketball – GBB
 Girls Cross Country – GXC
 Gymnastics – GYM
 Girls Skiing – GSK
 Girls Swimming & Diving – GSW
 Volleyball – VB

Boys Bowling – BBO
 Football – 11-Player – FB-11
 Ice Hockey – IH
 Boys Soccer – BSO
 Boys Tennis – BTN
 Wrestling - WR

Girls Bowling – GBO
 Football – 8-Player – FB-8
 Boys Lacrosse – BLAX
 Girls Soccer – GSO
 Girls Tennis - GTN

XXXIII. Executive Summary

33.1 Introduction

In May of 2015, the Representative Council of the Michigan High School Athletic Association approved two long-term additions to the history of efforts by MHSAA's member schools to promote and protect participant health.

- Concussion care “gap” insurance was provided by the MHSAA without cost to member schools or students' families, covering practices and competition for all levels of all MHSAA sports, 7th through 12th grades. The coverage was extended to 6th-graders in 2016-17. That coverage continued in 2017-18, 2018-19 and, 2019-20 school years and will continue in 2020-21.
- Concussion reporting was required for all MHSAA member high schools at practices and during competition in all levels of all MHSAA sports. That requirement continues.

The purpose of the mandated concussion reporting is not to identify areas of the state or individual schools or teams that are above or below average in terms of the number of concussions reported. The intended purpose is to help identify the significant broad themes and questions that might be researched to help point school-sponsored sports leadership toward policies and procedures that will tend to improve the experience of students in interscholastic athletic programs of Michigan and beyond.

This Executive Summary is based on confirmed Head Injury Reports submitted for MHSAA supported sports sponsored and conducted at the MHSAA's member high schools during the 2015-16, 2016-17, 2017-18, 2018-19, and 2019-20 school years.

33.2 Ranking

SPORT	PARTICIPANTS	HEAD INJURY REPORTS	HEAD INJURY REPORTS PER THOUSAND PARTICIPANTS	HEAD INJURIES PER THOUSAND PARTICIPANTS RATE RANK OUT OF ALL MHSAA SPORTS
Football - 11 player	32,728	1,423	43	1
Football 8-player	1,611	56	35	2
Ice Hockey	3,272	103	31	3
Wrestling	9,777	216	22	4
Girls Basketball	15,133	319	21	5
Competitive Cheer	6,567	137	21	6
Girls Skiing	786	12	15	7
Boys Soccer	14,264	194	14	8
Volleyball	19,248	212	11	9
Gymnastics	666	7	11	10
Boys Basketball	21,016	186	9	11
Girls Swimming & Diving	5,474	39	7	12
Boys Skiing	919	4	4	13
Boys Swimming & Diving	5,059	21	4	14
Girls Golf	3,610	2	1	15
Boys Cross Country	9,468	4	0	16
Girls Soccer	12,492	5	0	17
Softball	12,657	4	0	18
Girls Lacrosse	3,224	1	0	19
Girls Cross Country	8,066	2	0	20
Boys Tennis	6,339	1	0	21
Baseball	16,459	2	0	22
Boys Track & Field	21,650	1	0	23
Boys Bowling	4,495	0	0	24
Boys Golf	5,861	0	0	24
Boys Lacrosse	5319	0	0	24
Girls Bowling	3,134	0	0	24
Girls Tennis	8,621	0	0	24
Girls Track & Field	16,274	0	0	24

Winter sports still in tournament play when activity was stopped due to the COVID-19 pandemic during the 2019-20 school year
 Spring sports that had begun practice but not competition when activity was stopped due to the COVID-19 pandemic during the 2019-20 school year

33.3 Observations of Year #5 (2019-20)

- During the 2019-20 school year, 3,403 suspected concussion reports were entered by MHSAA member schools into the Head Injury Reporting System:
 - 10 duplicate reports were entered and subsequently deleted
 - 10 reports were not included because of obvious entry error
 - 184 reports were for injury events that either took place out of season or in a non-MHSAA event (sideline cheerleading, club sport, gym class, car accident, etc.)
 - 180 reported head injuries were not diagnosed as concussions and not included in the 2018-19 Summary Report
 - 68 reports were middle school athletes participating in middle school athletic events – because middle school reporting is voluntary and remains low, middle school data was not included in the 2019-20 Summary Report

With the above deletions and exclusions, **2,951** head injury reports were included in the 2019-20 Summary Report.

- 2,951 total head injury reports is down 17.6% from the 3,580 reports for the 2018-19 school year. The cancellation of remainder of the 2019-20 Winter and Spring sport seasons in response to the COVID-19 pandemic is almost certainly the primary factor in this 17.6% decrease in total reports. Several Winter sports – boys basketball, girls basketball, girls gymnastics, ice hockey, and boys swimming & diving – were all in post season tournament play at the time all MHSAA games were suspended on March 12, 2020. Similarly, all Spring sports – baseball, boys golf, UP girls golf, boys lacrosse, girls lacrosse, girls soccer, softball, UP boys tennis, LP girls tennis, boys track & field, and girls track & field – were only five days into the season when all MHSAA sport activity was halted on March 13, 2020. With this cease in activity, potential exposure to head injury events was decreased in 16 of the 28 MHSAA sponsored sports.

The timing of actions taken in response to the COVID-19 pandemic likely impacted school personnel and their ability to submit head injury reports as well. Numerous schools typically wait until the end of each season to submit reports. At the time of the Michigan Governor's executive order closing school buildings, the MHSAA had yet to receive notification from a significant number of schools regarding head injury reporting for the 2019-20 Winter season. While 96% of schools eventually met the head injury reporting requirement by either submitting

reports for injured athletes or attesting for the season, it is not unreasonable to consider that reporting was not a principle concern as schools and their personnel were making efforts to transition to online education and deal with the other aspects of the COVID-19 situation. Additionally, with the school buildings closed, school personnel may have been left without the necessary resources and/or access to documentation needed to enter reports.

Although it is difficult to explicitly quantify, both the decrease in potential exposure to head injury events and possible reporting issues that resulted from actions taken in response to the COVID-19 pandemic had a significant impact on head injury reporting for the 2019-20 school year. Consequently, these factors must be considered when comparing data from 2019-20 school year to data from the previous four years of collection.

- 2019-20 head injury reporting rates in all Fall sports remain consistent with data from the previous four years.
- Even with the interruptions cause by the COVID-19 pandemic, 2019-20 head injury reporting rates for the vast majority of Winter sports remained consistent with data from the previous four years, including girls gymnastics, boys swimming & diving, ice hockey, girls basketball and boys basketball, which were still in tournament play at the time the Winter season was suspended suggesting the slightly shortened seasons did not appear to have a significant impact on head injury reporting for the 2019-20 Winter season.

Head injury report rates per 1,000 participants:

SPORT	2015-16	2016-17	2017-18	2018-19	2019-20
Girls Gymnastics	13	13	16	10	11
Boys Swimming & Diving	3	2	3	4	4
Ice Hockey	38	36	32	35	32
Girls Basketball	29	23	22	20	21
Boys Basketball	11	8	9	7	9

- As the 2019-20 Spring season was suspended and ultimately cancelled five days after the start of the season, there is essentially no head injury reporting data for any MHSAA Spring sports that could be used for meaningful analysis or comparison with previous data.

- 11-player football, 8-player football, ice hockey, wrestling and girls basketball continue to have the highest rate of head injury reports – these five sports have been in the top six with regard to head injury reports per 1,000 participants in each of the past five years. Girls soccer had previously been in the top six for highest incidence of head injury reports in each of the first four years of data collection, but obviously dropped in the 2019-20 school year as a result of the cancellation of the 2019-20 Spring season.
- Head injury reports in girls alpine skiing increased from 3 per 1,000 participants in 2018-19 to 15 per 1,000 participants in 2019-20 – this increase is the largest increase observed in any MHSAA sponsored sport since data collection began in 2015-16 and annual changes in head injury reporting rates could be calculated.
- As in the previous three years, approximately two-thirds of reported concussions occur during competition (64.9%). Looking at each sport individually, about two-thirds or more of all reported concussions occur during competition with the exception of competitive cheer (81.8% in practice; 18.2% in competition), girls alpine skiing (50.0% in practice; 50.0% in competition) and wrestling (47.2% in practice; 52.8% in competition). Competitive cheer continues to be the only sport with a reasonably large sample size of head injury reports in which more concussions were sustained during practice.
- The 2019 football season marked the fifth season since the institution of MHSAA policies reducing contact during practices. Over these five years, the incidence (percentage of reports) of head injuries incurred during practice have remained consistent:

11-Player Football – 35.4% in 2015; 37.5% in 2016; 37.0% in 2017; 36.0% in 2018; 34.3% in 2019

8-Player Football – 15.6% in 2015; 18.9% in 2016; 18.0% in 2017; 18.6% in 2018; 25.0% in 2019

Similarly, overall head injury reports per 1,000 participants in both 11-Player Football and 8-Player Football have also remained consistent:

11-Player Football – 49 in 2015; 45 in 2016; 41 in 2017; 45 in 2018; 43 in 2019

8-Player Football – 34 in 2015; 32 in 2016; 38 in 2017; 30 in 2018; 35 in 2019

- The majority of injured athletes are initially examined by an athletic trainer (58.4%). That proportion is likely higher as 17.7% of athletes were reported as having been initially looked at by multiple examiners. 18.3% were initially examined only by the coach.
- 18.0% of athletes determined to have a concussion were not removed from activity at the time of the injury. This is by no means an indication the injury was mismanaged at the time of the event; the athlete may not have reported the injury, symptoms may not have presented until after the event, or any number of different situations may have led to the athlete not being removed at the time of injury. The percentage of athletes later determined to have a concussion but were not removed from activity at the time of the injury has remained consistent over the four years this data has been collected:

16.4% in 2016-17; 16.5% in 2017-18; 18.5% in 2018-19; 18.0% in 2019-20

- 70.0% of concussions caused athletes to be withheld from activity for 6 days or more, which suggests that a degree of caution is being exercised in most cases following removal from play.
- Male vs female injury prevalence rates in 11-Player Football, Ice Hockey, and Wrestling if head injury and participation numbers separated for calculations:

11-Player Football

7 reported athletes were female / 100 females participating
7.0% or 70 head injuries per 1,000 participants

1,416 reported athletes were male / 32,628 males participating
4.3% or 43 head injuries per 1,000 participants

Ice Hockey

1 reported athlete was female / 11 females participating
9.1% or 90 head injuries per 1,000 participants

102 reported athletes were male / 3,261 males participating
3.1% or 31 head injuries per 1,000 participants

Wrestling

22 reported athletes were female / 401 females participating
5.5% or 55 head injuries per 1,000 participants

194 reported athletes were male / 9,376 males participating
2.1% or 21 head injuries per 1,000 participants

- At the time of this summary, Online Follow-up Reports were not completed for 217 (7.4%) of the 2,951 reports.
- The MHSAA has received 1,031 Return to Activity and Post-Concussion Consent Forms (30.3% of the 3,403 reported head injuries for which a clearance should have been received). This is the fourth year in a row the percentage has declined – in 2016-17, the MHSAA received clearance documentation in 46.0% of suspected head injuries; 40.5% in 2017-19; and 37.9% in 2018-19.
- In the Fall season, 531 schools reported concussions – 198 schools reported 0 concussions for the season – 21 schools did not have any Fall sports – 3 schools did not submit any response.
- In the Winter season, 444 schools reported concussions – 263 schools reported 0 concussions for the season – 15 schools did not have any Winter sports – 31 schools did not submit any response.
- In the Spring season, 29 schools reported concussions – 18 schools reported 0 concussions for the season – 29 schools did not have any Spring sports – *677 schools did not submit any response.

**It should be noted that the head injury reporting requirement for schools was waived for the Spring season in response to the cancellation of the season and other administrative issues related to the COVID-19 pandemic.*

33.4 Emerging Inquires for Year #5 (2019-20)

- A. For an 11-week period from mid-March to the start of June, normal sport and physical activity in the state of Michigan was disrupted by the COVID-19 pandemic. Although the Michigan Governor's stay-at-home order was ended June 1, 2020 making some organized sport activity and training allowable, all indoor facilities including gyms, weight rooms, ice arenas, training centers, workout areas, wrestling rooms, fitness centers, bowling alleys, natatoriums and exercise studios remained closed.

Effective June 10, 2020, the Michigan Governor's MI Safe Start Plan allowed some limited use of indoor facilities for training, but only in the Upper Peninsula and northwest Lower Peninsula.

At the time of publication of this summary (early August 2020), only the Upper Peninsula and northwest Lower Peninsula are still the only regions are in Phase 5 of the MI Safe Start Plan, which allow for limited indoor activity. The majority of the state remains in Phase 4 and therefor unable to host indoor training, practice or competition as efforts and measures to quell the spread COVID-19 continue.

Regardless of when facilities open and normal activities resume across all parts of the state, athletes will not have had access to typical training and facilities for an extended period of time prior to the 2020-21 school year. Typical pre-season conditioning and acclimatization models assume that athletes decondition over the summer months, but the COVID-19 pandemic will have left athletes unable to participate in school sports related activities for four to five months, if not more. It is unclear what impact this extended layoff from typical training and limited access to facilities may have with regard to the incidence of head injury sustained in MHSAA activities.

Similarly, it is unknown how head injury report rates may be affected by any subsequent interruptions in normal athletic activity that are likely with recurrent outbreaks this coming Fall and Winter, and possibly beyond.

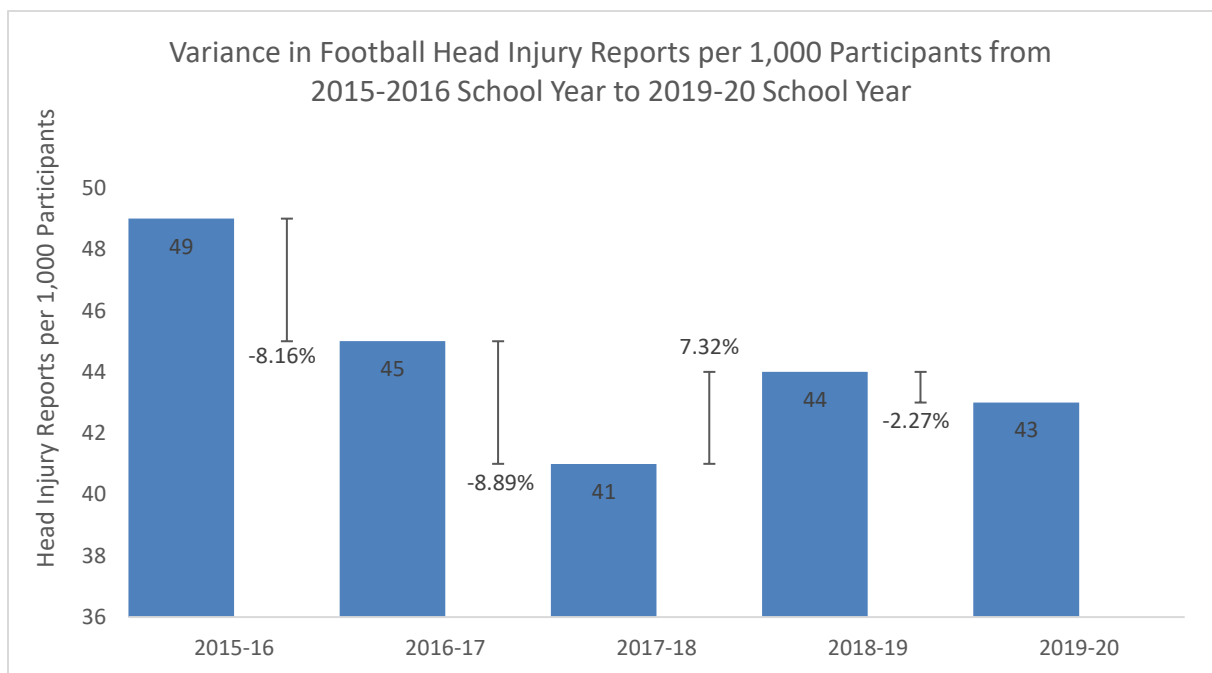
One thing is clear – the MHSAA will have to closely monitor all data for the 2020-21 school year to see if any changes in head injury reporting that may be associated with the response to the COVID-19 pandemic can be discerned.

- B. The 2019 football season marked the sixth since MHSAA policies reducing contact during practices have been in effect, and the fifth year the MHSAA has been collecting data related to head injuries. During that time, we have closely monitored

the head injury reporting data for both 11-player and 8-player football in an effort to determine whether or not reduced contact during practice, accompanied by more awareness and use of non-contact methods of teaching blocking and tackling, could potentially lead to lower occurrences of concussions in football.

In the two seasons following the initial MHSAA football practice policies instituted in the 2014-15 school year, football head injuries per thousand participants (i.e., 11-player and 8-player football head injury reports and participation data combined) decreased approximately 17% (see figure below). The decrease was promising, but unfortunately with no data prior to the 2015-16 school year for comparison and football head injury reports increasing from 41 per 1,000 in 2017-18 to 44 per 1,000 in 2018-19, it seemed the variances observed could simply be the result of year-to-year fluctuations.

Taking effect in the 2019-20 school year, an additional MHSAA football policy limits collision contact during practice to no more than 6 hours in a week during the first two weeks of practice before the first contest, and 30 total minutes of collision contact in any week after the first regular-season game. In its first year of adoption, football head injury reports per thousand participants dropped 2.27%. Although these changes may simply be the result of year-to-year fluctuations, it will be interesting to observe what impact the practice limitations may have on the incidence of head injuries in the 2020-21 school year and beyond. It is clear we must continue to examine closely the data related to football and try to identify where risks for injury are real and can be reduced.



- C. Head injury reports in girls alpine skiing increased from 3 per 1,000 participants in 2018-19 to 15 per 1,000 participants in 2019-20. This increase is the largest increase observed in any MHSAA sponsored sport since data collection began in 2015-16 and annual changes in head injury reporting rates could be calculated.

It should be noted that girls alpine skiing consistently ranks 27th out of 28 MHSAA sponsored sports in terms of participation and has had very few head injuries reported over the first five years of data collection (6 reported concussions in 2015-16, 2 in 2016-17, 1 in 2017-18, 2 in 2018-19, and 12 in 2019-20). With such a relatively small sample size in terms of participation and reported concussions in comparison with other sports, small changes in head injury reports can lead to large variations in any type of statistical analysis from year to year.

In any event, the increase is remarkable and certainly deserves further investigation and close monitoring in 2020-21.

- D. This reporting initiative by the MHSAA requires attention by member schools that is sometimes delayed or incomplete, which suggests the continued need to investigate and widely discuss procedures that will improve compliance, especially:
1. Prompt submission of initial reports.
 2. Timely submission of follow-up reports.
 3. Consistent submission of Return to Activity documentation.

33.5 Next Steps

The 2015-16 school year report raised some initial themes while the 2016-17 report may have started the identification of trends. The 2017-18, 2018-19, and 2019-20 data has helped to refine our understanding of those trends and also continues to raise new questions.

Understanding questions does not demand that all actions must be delayed. It is not too soon to experiment with more head protection and modified play and practice rules in football, ice hockey, soccer, wrestling and lacrosse – all of which rank in the top ten sports in terms of number of injuries per thousand participants.

Moreover, efforts must be made to continue to educate players, parents and coaches and encourage everyone to report the signs and symptoms of concussion that they experience or that they see in others.

The 2020-21 school year will begin with the expectations that, again, nearly 100 percent of MHSAA member high schools will submit initial and follow-up reports of head injuries for every level of every MHSAA sport they sponsor. Furthermore, each MHSAA Sport Committee will examine the 2019-20 concussion data in their sport to assist in the health and risk management of the participants. In addition, the MHSAA Sports Medicine Advisory Committee will review the data to provide additional educational resources and address emerging issues.

Meanwhile, the MHSAA invites colleges, universities and health care system of Michigan, as well as the National Federation of State High School Associations, to consider how they may assist in addressing developing issues and any other questions suggested by this data.

Interested representatives of these entities are invited to contact:

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