Background

• Sports injury surveillance provides the ability to monitor and identify risk factors related to sport participation.
• Surveillance systems at the collegiate level have historically been limited by lack of standardization, scale, and access.
• The Pac-12 Health Analytics Program (HAP) standardizes injury metrics across all Pac-12 institutions and provides unprecedented database access to sports medicine researchers.
• This proof-of-concept study aims to demonstrate the role the HAP might play in identifying trends in sports injuries among NCAA Division I student-athletes.

Methods

• Retrospective epidemiological study utilizing a deidentified HAP dataset.
• Time period covered: 2017-2020
• Lower extremity (LE) musculoskeletal (MSK) injury variables characterized:
  - Gender
  - Sport/Team
  - Days elapsed from injury date to exam date
  - Body part injured
  - Type of injury
  - Onset of symptoms
  - General mechanism of injury
  - Season
  - Event order of occurrence
  - Injury outcome

Results

• 9444 student-athletes followed across 4 years
• 13316 LE MSK injuries characterized from 33432 total injuries (38.83% of total injuries)
• 41 types of injury characterized across 31 varsity sports
• 20 general mechanisms of injury characterized
• Most common: running (2187 injuries, 16.42% of total injuries), contact with other player (1558, 11.70%) and cutting/change of direction (1106, 8.31%)

Conclusions

• Findings of this scale suggest that the HAP can characterize injuries sustained by collegiate student-athletes to a degree not previously demonstrated in collegiate-level sports medicine.
• Follow-up investigations analyzing injuries sustained during specific events may elucidate activity-specific relative risk factors and form the foundation for developing effective injury prevention strategies at the national or even global level.

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