Traumatic Brain Injury Surveillance at the Centers for Disease Control and Prevention (CDC)

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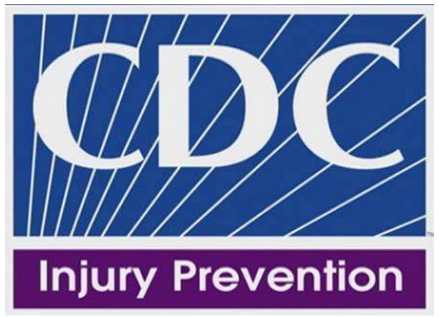
The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

CDC's Priority Areas for TBI

TBI Priority Areas

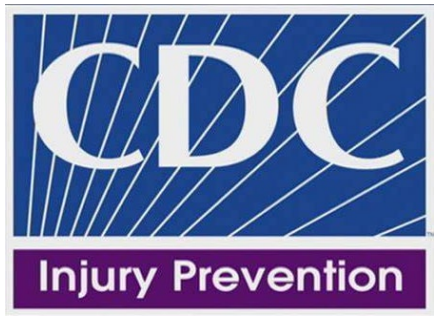
1. Identify effective strategies to prevent youth sports- and recreation-related TBI
2. **Identify and test methods to improve the measurement of TBI burden**
3. Characterize TBI-related disparities and identify strategies to increase health equity
4. Determine effective strategies to improve the diagnosis and management of TBI

TBI BURDEN



TBI surveillance

- Understand public health burden
- Monitor trends in incidence
- Identify groups at greatest risk



TBI surveillance

- Highlights groups experiencing disproportionate impact
- Aids in the development of specialized TBI-focused interventions
- Informs creation of mechanism-based TBI prevention efforts

Hospitalizations

Approximately 214,000 TBI-related hospitalizations in 2020

Deaths

Approximately 69,000 TBI-related deaths in 2021

Source: Centers for Disease Control and Prevention (2023). Traumatic Brain Injury and Concussion. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. https://www.cdc.gov/traumaticbraininjury/index.html. Accessed April 24, 2023.

National Concussion Surveillance System (NCSS) Pilot: Overview & Future Directions

Rationale and support for NCSS

- 2014 National Academies Report recommendation
- Gaps in previous methods of surveillance
- 2018 reauthorization of TBI Act
- December 2022: first appropriation from Congress for concussion surveillance
  - The omnibus agreement provides an increase of $1 million to initiate concussion surveillance, particularly among children and youth.

Overview of Fielding of NCSS Pilot

- Primary aims: test methodology + TBI case definition
- Computer-assisted telephone interviews
- Sample:
    - Adults aged 18+
    - Proxy interviews from parents of children aged 5-17
    - Adolescents aged 13-17

Content + Data Collected from NCSS Pilot Survey

- Interviewed about head injuries they experienced in last 12 months
    - Also, signs and symptoms of head injuries, demographics, mechanism of injury, care-seeking, and post-injury functioning

- Data collected between Sept. 2018 – Sept. 2019
    - 10,130 adults
    - 3,557 children via adult proxy
    - 198 adolescents

Preliminary Conclusions of Pilot

Past 12 month reporting of TBI

- As expected, NCSS data found a higher percentage of respondents reporting TBI than other surveys
- Approximately 12% of adults and 10% of children reported experiencing a TBI

Survey complexity

- Asking about multiple injuries in multiple people may be burdensome

Direct adolescent reporting

- Difficulty gaining consent to interview

Proposed Next Steps for NCSS

- Utilize address-based sampling methodology
- Survey will interview adults about themselves and a randomly selected child
- Complete survey via web or telephone
- Utilize revised TBI case definition to determine prevalence and incidence
- Modify survey based on results of pilot
- Three-year project, with first two years focused on laying groundwork

What would we be able to learn from NCSS?

- National prevalence and incidence of TBI in the United States
- Most common mechanisms of injury (causes) of TBI
- Outcomes of TBI
  - Symptoms experienced
  - Time out of work/school
  - Care received
- Who is most at risk of sustaining TBI

While we plan and lay groundwork for the potential NCSS…

Other CDC-led TBI surveillance sources

- National Health Interview Survey (NHIS)
  - Fielding five questions
  - Two years of data
- Behavioral Risk Factor Surveillance System (BRFSS)
  - Fielded every year
  - State-based surveys
  - Content varies by state

Thank you!

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