Strategies to Support Multi-Institutional, Cross-Conference Research Collaborations

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Agenda

- Why traumatic brain injury and sports-related concussion?
- Big Ten/CIC and Ivy League TBI Research Collaboration
- Collaborative activities
- Collaborative approaches
- Challenges and solutions
- Success indicators
- Future directions
- Keys to success
- Questions
Why Focus on Traumatic Brain Injury?
Sports-related Concussion Crisis

• Dearth of rigorous, empirical evidence to inform current medical practice
• All clinical trials have failed
• 3 million sports- or recreation-related concussions annually
  • Leading cause of death for individuals 45 or younger
• Invisible, silent condition

• Media attention
  • NFL: 1 in 3 players more likely to suffer from dementia and/or Parkinson’s
  • NCAA: Michigan example
• Major public health issue and burden
  • Treatment and rehabilitation costs $30 billion annually
Big Ten/CIC-Ivy League TBI Research Collaboration

- 23 Big Ten/CIC and Ivy League member institutions
- 17,000+ student-athletes
- 500+ TBI researchers
- 600+ team physicians and athletics trainers
- **Goal**: improved prevention, detection, and treatment strategies
Big Ten/CIC-Ivy League TBI Research Collaboration

• Objectives
  • Improved student-athlete well-being by leveraging scientific resources across disciplines, institutions, and conferences
  • Improved TBI prevention, detection, and treatment strategies
  • Foster collaborations through shared data and focus on standardized research approaches
  • Larger sample sizes
  • Evidence-based clinical protocols
Big Ten/CIC-Ivy League TBI Research Collaboration

• Oversight by two athletic conferences; one academic consortium; and presidents/chancellors, provosts, and VPRs
• Nine-member project board
• Two advisors: research and research development
• Seven working groups:
  • Assessment
  • Data collection
  • Education and outreach
  • Funding
  • IRB
  • Protocol
  • Research
Committee on Institutional Cooperation (CIC)

• Brief CIC history
• New, two-year project coordinator position
• Financial support provided by athletic conferences
• Purpose:
  • Connect
  • Organize
  • Identify
  • Support
  • Facilitate
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- Culture of collaboration
- Strong partnership between athletics and academics
- State-of-the-art facilities
- Strong institutional commitment
Collaborative Activities

• Design and implementation of three surveys
  • **Research Laboratory Survey**
    • Results show TBI tests, approaches, and research infrastructure vary widely
    • Most researchers focus on psychological/neurological responses to concussion and effects of multiple concussions
    • Collection/analysis of samples for biomarker ID uncommon
  • **Certified Athletics Trainer (ATC) survey**
    • Practices and approaches vary widely
    • Most ATCs conduct baseline concussion assessment for women’s basketball, soccer, softball, and volleyball and men’s basketball, football, baseball, and wrestling
    • Most ATCs also conduct baseline balance and neurocognitive testing, obtain symptom scores, and contribute to TBI research
Collaborative Activities

• **Partnership Survey**
  • Designed to inventory current research connection and funding status
  • Respondents identified 22 research collaboration, including 12 funded efforts (e.g., NCAA-DoD, GE-NFL Head Health Challenge, NIH, etc.)
  • Half of respondents indicated interest in developing new TBI research partnerships
Collaborative Approaches

• Annual TBI Summit
  • 2013 – Chicago (75 participants)
  • 2014 – Philadelphia (82 participants)
  • 2015 – Chicago (July 15th-16th)
• TBI Collaboration listserv
  • Deliver updates, share funding opportunities, promote engagement opportunities
• Working group conference calls and webinars
• Interaction with public and private stakeholders
• Special issue of Developmental Neuropsychology
Challenges and Solutions

• Maintaining communication and coordination
• Fostering participation of and buy-in from athletics
• Obtaining funds for preliminary or proof-of-concept studies
• Increasing competition for limited federal funds
• Balancing tension between collaboration and competition
• Relationship building and networking
Success Indicators

• Teams pursuing research funding
  • **Biomarkers and Recovery in Sports-Related Concussions**
    • Includes Dartmouth, Indiana, Iowa, Michigan State, Nebraska, Penn State, and Princeton
    • Large-scale, multi-site R01 (resubmission in July, 2015)
    • Goal is to identify concussion biomarkers using imaging, electrophysiology, and neuropsychological testing and characterize post-injury recovery patterns across gender and race/ethnicities
  • **Concussion Neuroimaging Consortium**
    • Includes Michigan State, Nebraska, Northwestern, Ohio State, Penn State, and Purdue
    • Will use imaging data to develop three types of student-athlete and soldier treatment and rehabilitation protocols: 1) return-to-play or -duty, 2) return-to-play or -training, and 3) transition to workforce or civilian life
Success Indicators

• Teams conducting funded research
  • **Concussion Assessment, Research and Education (CARE) Consortium**
    • Includes Michigan, Nebraska, Princeton, and Wisconsin plus four military academies and four other athletic conferences
    • Funded through a $30M initiative launched by NCAA and DoD
    • Provides a roadmap for comprehensive pre-season and post-injury concussion evaluation for *all* NCAA athletes
  • **Ivy League and Big Ten Concussion Surveillance Study**
    • Developed and deployed by Ivy League – expanded to Illinois, Indiana, Iowa, Maryland, and Nebraska
    • Conference provides financial support for data collection and entry
    • Tracks concussion incidence and characteristics of injury events

• Increased campus funding/support
Future Directions

• Capitalize on current and emerging Big Ten/CIC-Ivy collaborations
• Identify, document, and share evidence-based best practices
• Explore strategies to support research standardization
• Pursue TBI research funding from public and private sponsors
• Explore additional collaborative opportunities (e.g., international partnerships)
Keys to Success

• Do not underestimate the importance of relationship building
• Understand and respect cultural contexts and norms
• Robust stakeholder communication plan is key
• Create coherence through focus on common goals: avoid the noise
• Effective collaborative process result in better collaborative products
Questions?

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