National Sports Injury Data Strategy

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About

This strategy aims to improve the availability of sport and active recreation injuries data in Australia by leveraging existing data sources, strengthening collection methods and standards, and creating a national sport and active recreation injury database.

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Findings from this report:

- There is limited national data on sport and active recreation injuries

- Access to more data on injuries can be used to improve safety in sport and active recreation

- Data collection from medical records and other administration platforms need improving

- Privacy, consent, and access arrangements need refining to ensure effective implementation of this strategy

Introduction

Participation in sport and active recreation has many health and social benefits, but it also carries a risk of injury. These injuries can lead to physical inactivity, which can contribute to poor health and wellbeing, as well as increased medical costs.

Despite the significance of sport and active recreation injuries, limited national data are available to inform the design and evaluation of injury prevention and management programs. To address this information gap, the Australian Institute of Health and Welfare (AIHW) and the Australian Sports Commission (ASC) developed the National Sports Injury Data Program.

An important part of this program is establishing the National Sports Injury Data Asset (NSIDA), a national database that will capture data on sport and active recreation injuries. It will include demographic details of the injured person (e.g. age, gender, cultural and linguistic background), the activity undertaken by the person when injured, cause of injury, whether protective equipment was used, type of injury, and treatment received. These data will:

- help individuals, organisations, researchers, and policymakers understand the risks of injury in sport and active recreation and how they differ across population groups
- identify injury prevention opportunities and evaluate prevention programs in the community
- measure the costs of sport and active recreation injuries to the health system and the benefits of prevention programs
- provide ongoing surveillance to identify emerging risks.

The National Sports Injury Data Strategy ("the strategy") outlines the plan for establishing the NSIDA by leveraging existing data sources and overcoming challenges in collecting and reporting on sport and active recreation injuries. A draft version of this strategy included a review of the data landscape and was put for public consultation in 2022 (AIHW 2022).

References

AIHW (Australian Institute of Health and Welfare) (2022) *National sports injury data strategy: Draft consultation report*, AIHW, Australian Government.

Understanding the strategy

The National Sports Injury Data Strategy logic model (Table 1) describes the strategy and its intended impact on the Australian population.

Table 1: The National Sports Injury Data Strategy logic model

Components	Key examples
Inputs	Funding AIHW staff Secure IT infrastructure Strong stakeholder partnerships Government strategies and initiatives
Activities	Stakeholder consultation and collaboration Development of data collection resources Analysis of existing injury data Investigate different injury data sources
Outputs	Endorsed national database Standardised data collection processes Injury data regularly shared with the AIHW Establish robust injury analysis methods Publish data findings in AIHW reports
Short-term outcomes	Improved availability of injury data Increased understanding of injury risks Improved sport and active recreation safety
Long-term outcomes	Reduced injury rates Reduced inequities in the burden of injury Increased participation in physical activities Improved population health and wellbeing

Inputs

The inputs list the resources required to achieve the strategy. The 2022-23 Budget provided the ASC with $2.8 million over four years to develop and progress the National Sports Injury Data Program in collaboration with the AIHW. The AIHW is the leading health and welfare statistics agency in Australia that has been securely and ethically managing national data for more than 30 years, so it is well placed to provide qualified and experienced staff to execute the strategy, and secure IT infrastructure to receive, store, and access data. The AIHW also has strong partnerships across the sport and active recreation sector, which will be critical to the success of the strategy and ensuring it aligns with current government strategies and initiatives on injury prevention.

Activities and outputs

The activities list the actions required to produce the strategy's outputs. Both activities and their outputs can be categorised into three streams:

1. Data development
2. Methodology development
3. Injury surveillance and reporting

Data development

Injury data development is focused on providing organisations with standardised methods and processes for collecting high-quality data on sport and active recreation injuries that will benefit the organisation and its participants, as well as contributing to the national understanding of sport and active recreation injuries.

The benefits that sporting and active recreation organisations get from collecting this data are better injury prevention and management programs that reduce the risk of injury, which will improve the performance and participation of its members. This could lead to increased revenue from memberships and reduced overheads due to lower insurance costs.

Data development resources, such as a data collection manual and an updated sports injury data dictionary will be developed and made available under the Data collection section of this report. These resources will be designed to help people who are reporting sport and active recreation injuries. The data collection manual will describe best-practice data collection processes, including information on consent, privacy, security, and data sharing. The data dictionary will provide more details on the different types of data that will be collected for the NSIDA.

All data development resources will be refined through consultation and collaboration with the sport and active recreation sector, other data providers and organisations, and experts in data and governance.

Methodology development

Methodology development relates to the methods used to analyse sport and active recreation injury data for public health and economic reports released by the AIHW. Experts are consulted when developing and refining these methods, which are then published to ensure rigour and reproducibility of findings.

The costs and benefits of physical activity will also be included when developing models to analyse sport and active recreation participation and injury data. This allows sufficient evidence to be gathered on injuries arising from sport and active recreation participation, and the potential population benefits achieved through improved injury prevention and management and increased physical activity.

Injury surveillance and reporting

Injury surveillance and reporting involves using data from the NSIDA to identify injury patterns and trends, injury prevention priorities, and evaluate the effectiveness of current prevention initiatives across communities. Data providers and users will be consulted for input on the interpretation of data findings, and whether the data requires further development.

Data findings will be published periodically through the AIHW, and potentially other channels, such as the Clearinghouse for Sport to increase the impact of these findings. Importantly, organisation-level summary reports will be made available directly to data providers on the data they provide to the asset.

Outcomes

The outcomes describe the short and long-term changes that could occur from delivering the strategy's outputs. Strengthening data collection processes and standards and making data collection a core business practice will ensure that sport and active recreation injury data is shared to the NSIDA on an ongoing basis. This will enable the AIHW to routinely report on data findings that will increase national understanding of injury risks and inform injury prevention strategies.

Implementing evidence-based prevention strategies will reduce injury rates in sport and active recreation and inequities that currently exist across population groups, allowing more Australians to engage in physical activity, which will lead to better health and wellbeing outcomes in the population.

Data collection

Data sources that have already been identified for inclusion in the NSIDA are the National Hospital Morbidity database (NHMD) and the National Coronial Information System (NCIS). As the NHMD and NCIS only represent a small fraction of all sport and active recreation injuries, it is important to investigate additional data sources for the NSIDA, such as emergency department data, sporting club incident reports, insurance data, survey data, school sport injury data, and general practice and allied health data.

Most sources of sport and active recreation injury data vary in the types and amounts of information being collected, quality (e.g. accuracy, completeness, consistency), and format. Consultation feedback on the draft National Sports Injury Data Strategy highlighted the need for resources to be developed to assist data collectors with expanding, improving, and standardising their data for inclusion in the NSIDA.

> Please note that the NSIDA is currently in development and not yet ready to receive data.

Data collection manual

The National Sports Injury Data Asset manual was developed to assist sport and active recreation organisations, individual clubs, sports medicine professionals, first aiders and researchers to understand what information will be collected as part of the NSIDA, as well as how and why this information is collected. Software vendors will also find this manual useful when developing or improving their digital platforms to assist users with collecting information required for the NSIDA.

This manual provides guidance on:

- key concepts and definitions that will be used in the NSIDA
- privacy, confidentiality and consent
- items that will be included in the NSIDA
- processes for collecting and submitting information for the NSIDA when it becomes available.

This manual should be used alongside the Australian Sports Injury Data Dictionary (ASIDD) to ensure that the NSIDA captures important information on injuries, in a consistent manner, across the sport and active recreation sector.

Sports injury data dictionary

The ASIDD provides an update to the 1998 Australian Sports Injury Data Dictionary created by the Australian Sports Injury Data Working Party in collaboration with the Australian Sports Injury Prevention Taskforce and Active Australia (Australian Sports Injury Data Working Party 1998). The ASIDD describes how sport and active recreation injury data will be defined, structured, and represented across Australia for the NSIDA. It provides strict descriptions on each unit of data (known as a data element) included in the NSIDA to ensure that data are collected in a consistent way across the different data sources, allowing comparisons to be made with the data.

A range of demographic data elements have been included in the updated ASIDD to capture information on priority population groups, such as Aboriginal and Torres Strait Islander (First Nations) people, who are disproportionately affected by injuries. Inequities need to be reflected in the data captured by the NSIDA to inform injury prevention strategies that reduce these disparities.

Technical details about the data that will be included in the NSIDA can be found on the AIHW's metadata online registry, METEOR.

> Please note that a METEOR account is required to access these details. To sign up for a free METEOR account, please click the 'Sign in' button in the top right-hand corner of the METEOR homepage.

A non-technical version of the ASIDD is also available below.

Reviewing data standards and collection methods

When data is shared for inclusion in the NSIDA, it will be assessed for suitability, ethical acceptability, compliance with standards described in the ASIDD, and missing data. Where data limitations exist, the AIHW will also work with committees, groups, and organisations to periodically review the NSIDA, as well as promote systematic improvements in how sport and active recreation injury data are collected.

Data linkage

Data linkage is a powerful process for identifying multiple appearances of people within one database and for combining information about people across different databases while still preserving privacy (and subject to ethical approval and permission from data providers). Linked data identifying a sports injury is currently limited to data sources such as the National Integrated Health Services Information Analysis Asset (NIHSIAA), which can link repeated hospitalisations and some other administrative datasets.

While the NSIDA will not collect identifying information on injured people (e.g. name, address, and date of birth), the demand for linked health data may require the AIHW to consider collecting identifiable data. This would allow the NSIDA to capture sport and active recreation injuries across the entire healthcare system.

Any changes made to the NSIDA would need to be communicated to data providers. Data collection resources would also need updating to accommodate changes to consent, collection, storage, privacy, and security.

References

Australian Sports Injury Data Working Party (1998) *Australian sports injury data dictionary*, SportSafe, accessed 18 March 2024.

Data governance

Data governance describes the source of authority for making decisions about data and the basis upon which those decisions are made (AIHW 2022). It can involve legislation, organisational structures, legal contracts, and various agreements, policies, and guidelines. Strong data governance is key in ensuring compliance with legal, privacy and ethical obligations, in ensuring accountability, and obtaining the trust of stakeholders.

Table 1 shows the different governance and advisory structures of the ASIDA, from high-level structures that apply to all AIHW-managed data to those specifically developed for the NSIDA.

Table 1: Asset governance and advisory structures

High level oversight of legislative requirements	AIHW Board	AIHW Ethics Committee	AIHW Risk, Audit and Finance Committee
Executive oversight of work program and operations	AIHW Data Governance Committee	AIHW Security Committee	AIHW ICT Strategy Committee
NSIDA specific	Steering Committee	Data Sub-group	Nil

AIHW Board

The AIHW Board is responsible for determining the AIHW's vision, purpose, and values, and sets the overall policy and strategic direction of the institute.

More information can be found on the AIHW Board webpage.

AIHW Ethics Committee

The AIHW Ethics Committee is responsible for providing advice on the ethical acceptability, or otherwise, of current or proposed health- and welfare-related activities of the institute, or bodies that the AIHW collaborate with.

More information can be found on the AIHW Ethics Committee webpage.

AIHW Risk, Audit and Finance Committee

The AIHW Risk, Audit and Finance Committee (RAFC) provides independent advice and assurance to the AIHW Board, on the integrity of the AIHW's financial reporting and its systems of risk management, performance management, compliance with laws and policies, and internal controls.

AIHW Data Governance Committee

The Data Governance Committee oversees data-related instruments and policy reviews and examines proposed new or changed data-related principles or approaches to data governance. The committee also sponsors the institute's internal data custodian forums and provides advice and recommendations on data governance-related project proposals and whole-of-government developments in data governance and management.

More information can be found on the AIHW data governance webpage.

AIHW Security Committee

The AIHW Security Committee provides assurance to the AIHW Executive Committee that security risks are identified and managed. It also ensures that effective information, data, personnel and protective security across the institute complies with relevant legislation and internal policies.

AIHW ICT Strategy Committee

The AIHW ICT Strategy Committee directs the development and implementation of the AIHW's ICT strategic vision. It also oversights strategic programs and delivery of projects with significant ICT components, risks related to ICT initiatives, and provides advice to the Executive Committee on enterprise technology decisions.

Steering Committee

In February 2020, the AIHW established the National Sports Injury Data Steering Committee to advise on the long-term work plan for the National Sports Injury Data Program and the implementation of the NSIDA. Committee members include researchers and key stakeholder group representatives.

Data Sub-group

In November 2023, the AIHW established a data sub-group to progress the development of the data dictionary and framework ahead of wider consultation with the sport and active recreation section. Outstanding data gaps are also identified and prioritised by the group for further development.

Data sub-group members have specialist knowledge of health information systems, clinical coding, data development, sport injury data, data governance and data collection management. They are data providers or representatives from different government and sporting organisations.

Technical advice is sought external to the sub-group as required.

References

AIHW (2022) *Data governance framework 2022*, AIHW, Australian Government, Viewed 8 February 2023.

Summary of consultation feedback on the draft strategy

The draft National Sports Injury Data Strategy was released on the AIHW Sports Injury web page on 18 February 2022 (AIHW 2022). Broad consultation on the draft strategy was sought to ensure the strategy can deliver data that benefits individuals, sport organisations and researchers. A consultation report summarising the feedback is published on the AIHW website (AIHW 2023).

Key themes from submissions highlighted:

- a high level of support for the strategy
- the need to leverage existing data sources through standardised reporting and improved access.
- data gaps and varying data quality.

Enablers for the strategy included:

- data sharing standards
- alignment with government strategies and initiatives on injury prevention and participation in sport and physical activity
- leadership by a national agency (AIHW).

Barriers to effective implementation of the strategy included:

- issues regarding privacy, consent, and access
- lack of systematic data collection
- governance and resourcing.

Consultation suggested further work to:

- refine governance, privacy, consent, security and access arrangements and provide education around recommended best practice
- consider resourcing requirements for data collection
- standardise data collection and reporting, to improve data quality and reduce data gaps
- explore incorporating standardised core sports injury items into existing platforms (such as medical, sports trainer, sports administration/registration, sports insurer and education incident management platforms)
- work with stakeholders to ensure that data is provided on platforms and in ways that is easy to access and understand
- work with stakeholders and data providers to minimise risks that data would be used out-of-context or frame a sport as 'dangerous'.

References

AIHW (2022) *National sports injury data strategy: Draft consultation report*, AIHW, Australian Government.

AIHW (2023) *Consultation report on the draft National Sports Injury Data Strategy*, AIHW, Australian Government.

Notes

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Related material

Resources

Related topics

- Injury
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