Summary of UPLOADS Prototype Trial Results

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The goal of the UPLOADS (Understanding and Preventing Led Outdoor Accidents Data System) project is to develop a standardised approach to incident reporting for the outdoor education and recreation sector in Australia, and a corresponding national incident dataset. This report summarises the results from the first trial of a prototype incident reporting system. The study involved organisations using the prototype to collect incident and participation data for a 6 month period. The lessons learnt from the trial were used to refine the system.

The report first describes the sample that participated in the study, followed by details on the level of participation by organisations in the trial over the six month period. An overview of the participation and incident data that was collected during the trial is then presented. Finally, an analysis of bushwalking incidents, which was the activity most frequently associated with incidents within the dataset, is presented to demonstrate how data on specific activities might inform risk management in the sector.

1. Sample

15 organisations participated in the trial. Five organisations operated in New South Wales, 4 in Queensland, 4 in Victoria, 1 in South Australia, 1 in Tasmania and 1 in Western Australia. Five organisations were commercial enterprises, 5 were not-for-profits, 2 were schools, 2 were registered training organisations and 1 was a government agency/public sector. On average organisations operated from 3 locations (SD = 2.07, range 1 to 7). 11 organisations were members of outdoor education/recreation industry bodies and 3 were not (1 missing).

Organisations were asked to nominate a system administrator to manage the UPLOADS database. System administrators tended to be male (14 male, 1 female), and had on average 15 years’ experience in the outdoor education/recreation sector (SD = 8.14, range 1 to 25). All but one held a management role within the organisation. 10 system administrators led activities as part of their role and 3 did not (2 missing).

2. Level of participation by organisations in the trial over the 6 month period

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Organisations were asked to contribute participation and incident data on a monthly basis. Participants either: contributed data; informed us that no activities or incidents had occurred during the month; or did not respond to the request.

Fig. 1 shows the number of organisations that contributed participation data over the six month trial. Five organisations contributed participation data or let us know that no activities had been conducted every month of the trial. Four organisations did not respond to any requests for data.

Fig. 2 shows the number of organisations that contributed incident data over the six month trial. Five organisations contributed incident data or let us know that no incidents had occurred every month of the trial. Two organisations did not respond to any requests for data.

2.1 Reasons for not contributing incident and participation data

The system administrators from each organisation gave a number of different reasons for not contributing data. Of those that did not contribute data at all or infrequently they stated that they: were overwhelmed by their workload and had no time to use the system (n = 2); had staff shortages (n = 2); already had an incident reporting system and it was not time efficient to use both (n = 1); and lacked support from management (n = 1).
One organisation had significant technical difficulties installing and running the system due to their operating system. They contributed data for the first month, but despite significant efforts were unable to on subsequent months.

3. Overview of data collected

3.1 Participation data

The participation data included details on 59 different activities. In order to aid comparisons across organisations and similar activity types, activities were grouped into 16 categories. For example, the category walking/running outdoors includes bushwalking, orienteering and adventure races. The category “river activities” includes canoeing, rafting and kayaking. Fig. 3 shows the number of participation days by activity type for all organisations across the six months of the trial. Camping indoors was by far the most frequently undertaken activity, with 50307 reported participation days.

![Participation days by activity type](image)

3.2 Incident data

During the six month trial period, 184 incidents were reported. This included 157 incidents associated with adverse outcomes and 25 near misses (2 missing classification). The reporter was present at the scene of 176 incidents (6 not present, 2 missing classification).

3.3 Adverse outcomes

Of the incidents associated with adverse outcomes, there were 115 injuries, 31 illnesses, 5 social or psychological impacts and 2 cases of equipment damage. No reported incidents involved missing or overdue people, or environmental damage.
3.4 Incident severity

Adverse outcomes were rated in terms of their actual impact, while near misses were rated in terms of their potential impact. The incidents associated with adverse outcomes were on average rated as 2.89 (SD = 1.43) in actual severity. According to the severity scale this represents a “short term impact on individual/s that doesn’t have large effect on participation.” Near misses were on average rated as having a potential severity of 5.88 (SD = 2.86). This represents a “medium impact on individual/s that may prevent participation in the activity / programme for a day or two.”

3.5 Incidents by activity type

The incidents reported that were collected involved 31 different activities (in comparison to the 59 activities recorded in the participation data). These activities were then recoded into the 16 categories used to classify the participation data. Fig. 4 shows the number of incidents per activity type. The activity type most frequently associated with incidents was walking/running outdoors (71 incidents). The primary activity in this category is bushwalking, accounting for 70 incidents.

3.6 People involved in the activity prior to the incident

Reporters were asked for details regarding the people involved in the activity prior to the incident. Of the 184 incident reports, 181 involved participants, 171 involved instructors, 88 involved other supervisory staff and 23 involved volunteers. On average, 22.39 (SD = 24.81, range 1 - 202) participants were involved in the activity prior to the incident, 1.22 (SD = 1.22, range 0 - 15) volunteers, 2.32 (SD = 2.57, range 1 - 27) instructors and 2.22 (SD = 2.57, range 0 - 12) other supervisory staff.
3.7 Injury details

Fig. 5 shows the type of injuries sustained according to body location. In addition to those shown on the diagram, 3 injuries were to multiple body regions (classified as superficial injuries), 4 were to unspecified parts of truck, limb or body regions (classified as 4 open wounds, 1 other and unspecified effects of external causes and 2 superficial) and 1 was missing classification of body location.

All but one of the people reported injured were not employees of the participating organisations. Of the 115 persons injured, 80 were female and 30 male (5 unclassified). On average, people injured were 15 years of age (SD = 4.27, range 8 to 41, n = 49). In terms of their role, 1 was classified as an instructor and 50 as participants (64 unclassified).
3.8 Illness details

Fifteen different illness types were reported across 31 incidents. The most common illness type was “abdominal problem” (n = 9) followed by allergic reaction (n = 3). Only two illnesses were classified as “unknown”.

All people reported as ill were not employees of the participating organisations. Of the 31 people reported as ill, 21 were female and 8 were male (2 unclassified). On average, they were 14.94 years of age (SD = 3.21, range 11 – 25, n = 17). In terms of their role, 24 were classified as participants (7 unclassified).

3.9 Causal factors

System administrators were asked to code the causal factors and relationships evident in each report using the causal factor taxonomy. 109 different causal factors were identified across 152 reports. On average, 2 causal factors were identified per report (SD = 3, range 1 to 24). Fig. 6 shows the causal factors identified across the reports. Fig.7 shows the relationships between factors that were identified. 52 relationships were identified in 37 reports. On average, 1 relationship was identified per report (SD = 1, range 1 to 4).
Fig. 6 Causal factors identified within the reports, numbers in brackets indicate the frequency of occurrence across incidents ($n = 155$). Causal factors identified in more than one report are shaded in grey.
Fig. 7 Relationships between causal factors identified across the reports, presented in the context of Rasmussen’s (1997) Risk Management Framework (n = 37). Relationships identified in more than one report are numbered and are represented by a thicker line.
4. Bushwalking incidents only

Bushwalking was the activity most frequently associated with incidents within the dataset. The below analysis is provided to demonstrate how data on specific activities might inform risk management.

4.1 Incident data

During the six month trial period, 70 bushwalking incidents were reported. This included 67 incidents associated with adverse outcomes and 3 near misses. The reporter was present at the scene of 69 incidents and not present at one.

4.2 Adverse outcomes

Of the incidents associated with adverse outcomes, there were 59 injuries, 8 illnesses, and 1 case of equipment damage. No reported incidents involved social or psychological impacts, missing or overdue people, or environmental damage.

4.3 Incident severity

Adverse outcomes were rated in terms of their actual impact, while near misses were rated in terms of their potential impact. The incidents associated with adverse outcomes were on average rated as 2.57 in actual severity (SD = 1.27, range 1 to 6). Near misses were on average rated as having a potential severity of 2.67 (SD = 1.53, range 1 to 4). According to the severity scale this means that all incidents were rated as having a “short term impact on individual/s that doesn’t have large effect on participation.”

4.4 People involved in the activity prior to the incident

Reporters were asked for details regarding the people involved in the activity prior to the incident. According to the reports, 69 activities involved participants, 68 involved instructors, 24 involved other supervisory staff and none involved volunteers. On average, 17.78 participants were involved in the activity prior to the incident (SD = 18.67, range 6 to 168), 1.84 instructors (SD = 1.11, range 1 - 10) and 1.58 other supervisory staff (SD = 1.84, range 1 to 10).

4.5 Injury details

Fig. 8 shows the type of injuries sustained according to body location. In addition to those shown on the diagram, 4 injuries were to multiple body regions (classified as 2 superficial injuries and 2 other and unspecified effects of external causes), 1 were to unspecified parts of trunk, limb or body regions (classified as 1 superficial injury) and 1 was missing classification of body location.

All persons reported injured were not employees of the participating organisations. Of the 59 people injured, 50 were female and 7 male (2 unclassified). On average, people injured were 15.65 years of age (SD = 5.73, range 8 to 41, n = 23). In terms of their role, 22 were classified as participants (37 unclassified). In terms of prior experience bushwalking, 7 people had some prior experience, 49 were classified as “unknown prior experience” and 3 were unclassified.
4.6 Illness details

Seven different illness types were reported across 8 incidents. All people reported as ill were not employees of the participating organisations. Of the 8 people reported as ill, 5 were female and 3 were male. On average, they were 15.80 years of age (SD = 1.79, range 15 - 19, n = 5). In terms of their role, 6 were classified as participants (2 unclassified). In terms of prior experience bushwalking, 2 had some prior experience, 5 were classified as “unknown prior experience” and 1 was unclassified.

4.7 Causal factors and relationships

System administrators were asked to code the causal factors and relationships evident in each report using the causal factor taxonomy. 71 different causal factors were identified across 59 reports. On average, 2 causal factors were identified per report (SD = 3, range 1 to 24). Fig. 9 shows the causal factors, and their frequencies, identified across the reports in the context of Rasmussen’s (1997) Risk Management Framework. 23 relationships were identified across 15 reports. Fig. 10 shows the relationships between the factors identified, again presented in the context of Rasmussen’s (1997) Risk Management Framework.
**Fig. 9** Frequency of causal factors identified across the reports, presented in the context of Rasmussen’s (1997) Risk Management Frameworks (n = 59). Causal factors identified in more than one report are shaded in grey.
Fig. 10 Relationships between causal factors identified across the reports, presented in the context of Rasmussen's (1997) Risk Management Framework (n = 15)
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