Letter to the Editor

The UPLOADS Project: Development of an Australian National Incident Dataset for Led Outdoor Activities

To the Editor:

Since 2011, the authors have been engaged in a major program of research to address the lack of information available on the epidemiology and causes of incidents associated with led outdoor activities in Australia (The UPLOADS Project; uploadsproject.org). The goal was to develop a system that allows organizations to collect and analyze their own incident and participation data, and contribute the data to the UPLOADS National Incident Dataset, which is regularly analyzed and reported on by the research team. At the start of the project, the steering committee decided that the system should collect data on injuries, illnesses, equipment damage, environmental damage, social/psychological impacts, and “near misses,” as these outcomes all have the potential to impact participation in activities. The resulting system is primarily aimed at organizations that facilitate supervised or instructed “led” outdoor activities, such as schools, outdoor education providers, commercial outdoor recreation and adventure facilitators, school camps, and outdoor therapy providers. The project is funded and supported by in-kind contributions from these organizations, peak bodies, and government departments (see Acknowledgments).

The project has involved a number of studies (Figure) that have contributed to the development of data collection and incident coding tools, and a domain-specific accident analysis method. The accident analysis method was developed to ensure that contributing factors, and the relationships between them, can be reliably identified from the qualitative data collected (both by organizations analyzing their own data and by the research team). The method is underpinned by a systems theory model of accident causation,¹ and consists of taxonomy for coding the qualitative descriptions of incidents and a framework for representing the system of factors identified (see Goode et al²). This approach ensures that all epidemiological data reporting the rate and type of incidents is accompanied by detailed analyses of the contributing factors involved.

The trial of the prototype system involved 15 organizations collecting incident and participation data from June to December 2013. Five organizations were commercial enterprises, 5 were not-for-profit organizations, 2

were schools, 2 were registered training organizations, and 1 was a government agency/public sector organization. The prototype system included a software tool for collecting and coding incident data; paper-based report forms; an incident severity scale; a spreadsheet for recording participation data; and video- and paper-based training. In addition to storing the data, the software tool allowed users to code the qualitative data in the reports using the prototype accident analysis method. Severity was rated using the scale developed by the New Zealand National Incident Database for outdoor activities. The codes used to classify injury type and location were adapted from the International Classification of Diseases, 10th edition. Participation data were captured in terms of the total number of participants, the total number of participation hours (duration of activity), and the total number of participation days (number of days participants were exposed to the activity) for each activity type conducted in a month. At the end of each month, participants were asked to contribute their participation and deidentified incident data by e-mail.

The level of participation in the prototype trial was quite low. Only 5 organizations responded to requests for data every month of the trial, and 2 organizations did not respond at all. The organizations gave a number of reasons for not contributing data, including the following: overwhelmed by workload ($n = 2$); staff shortages ($n = 2$); not time efficient to use current incident reporting system and UPLOADS ($n = 1$); and lack of support from management ($n = 1$). One organization had significant technical difficulties with their operating system and only contributed data for the first month.

Despite these challenges, 184 incident reports were collected with accompanying participation data. The reports included information on 120 injuries, 31 illnesses, 5 social or psychological impacts, 2 cases of equipment damage, and 25 near misses. Of these reports, 152 had been coded using the accident analysis method. The majority of the fields within the reports were completed; however, many reports were lacking demographic details for the person ill or injured (eg, age, role, experience in activity). The participation data included details on 59 different activities. Records of the number of participants and participation days were complete; however, reporting of participation hours was inconsistent.

Several lessons were learned from the trial. First, some organizations reported that they did not run enough

Figure. Overview of studies conducted to develop the data collection and incident coding tools and the accident analysis method.

activities or have enough incidents to warrant the use of the analysis tools. Second, the collection of participation data needed to be simplified. Third, some organizations had high staff turnover, and the training of new staff to use the system was problematic. Fourth, some organizations had minimal information technology infrastructure and support, and installing software updates was a significant barrier to participation. Finally, many organizations indicated that monthly data collection was an unreasonable expectation.

Based on these findings and the usability studies, we developed 2 different data collection tools: UPLOADS Software Tool and UPLOADS Lite. The UPLOADS Software Tool allows organizations to record incident and participation data; analyze their own incidents using the accident analysis method; generate automatic reports on the data they collect; and contribute deidentified data to the National Incident Dataset. The software tool is compatible with any computer that can run the Chrome Web browser. Organizations are asked to contribute deidentified data (ie, names removed) to the project every 3 months. All training material is now delivered online, and links to the training and definitions for key terms are embedded in the software. UPLOADS Lite is designed for organizations who only want to contribute data to the National Incident Dataset. An online survey allows organizations to contribute anonymous incident reports; organizations are also able to save the reports they enter for their own records. Participation data are

contributed by e-mail using a spreadsheet. In addition to developing 2 parallel systems, we also reduced the number of mandatory reporting fields, removed the requirement to report the number of participation hours, and revised the incident severity scale.

The trial of the revised system will run for 12 months, from May 2014 to May 2015, although it is expected that data collection will be ongoing. Currently, we have 43 organizations participating in the project. We have just produced the first report on the first 6 months of the trial (see uploadsproject.org). Although there is work to do to enhance the uptake of the system and, indeed, the quality of the data reported, it is clear that UPLOADS will be an important tool in the sectors' delivery of safe led outdoor activities. It is intended that the continued analysis and dissemination of the UPLOADS National Incident Dataset will contribute to Australian efforts to reduce incidents during led outdoor activities.³

Acknowledgments

This project is supported by the Australia Research Council (ARC) in partnership with the Australian Camps Association, Outdoor Educators' Association of South Australia, United Church Camping, Outdoors Victoria, Outdoor Council of Australia, Recreation South Australia, Outdoor Recreation Industry Council, Outdoors WA, YMCA Victoria, Outdoor Education Group, Girl Guides

Australia, Queensland Outdoor Recreation Federation, Christian Venues Association, Parks Victoria, Victoria Department of Planning and Community Development, Outdoor Education Australia, and the Department of National Parks, Recreation, Sport and Racing Australia. Caroline Finch was supported by a National Health and Medical Research Council Principal Research Fellowship (ID 565900). The Australian Centre for Research into Injury in Sport and its Prevention (ACRISP) is one of the international research centers for prevention of injury and protection of athlete health supported by the International Olympic Committee. Paul Salmon's contribution was funded by an ARC Future Fellowship (FT140100681).

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