

Understanding accident causation in led outdoor activities: development of an accident analysis framework

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Background

In Australia, injury-causing accidents during led outdoor activities are currently problematic; however, the industry's understanding of accidents is limited and the surveillance systems required to enhance it do not exist.

Aims

The aim of this research was to develop a new accident analysis framework for led outdoor activities based on Rasmussen's (1997) Risk Management framework¹(Fig. 1).

Methods

Development of the framework was informed by three activities:

1. An analysis of existing led outdoor activity incident data;
2. A review of the accident causation literature; and
3. A review of existing accident analysis methods.

The framework was then tested through analysis of a series of led outdoor activity incidents.

Taxonomy

The newly developed accident analysis framework comprises a specification of the roles and responsibilities with the led outdoor activity domain (Fig. 2) and taxonomies of causal factors across the led outdoor activity 'system' levels (Fig. 3).

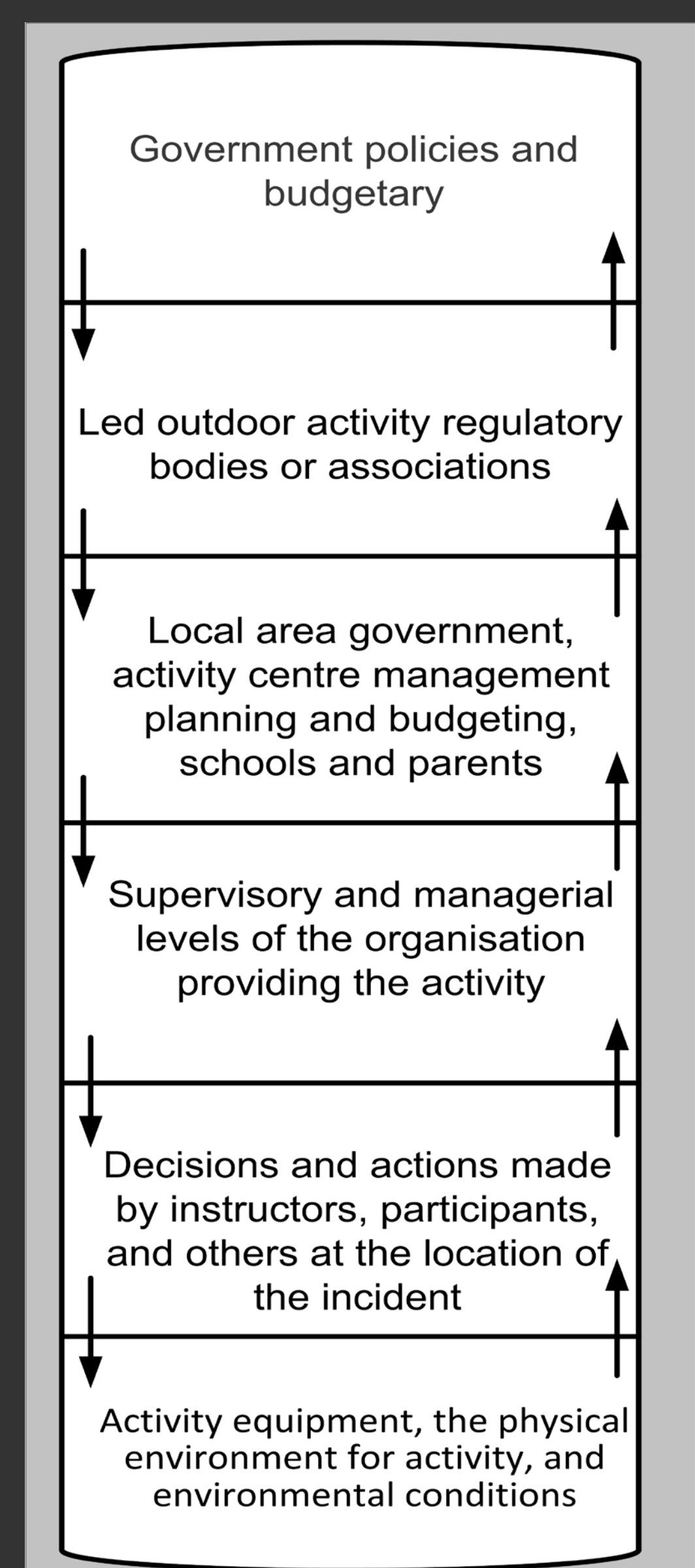


Fig. 1 Rasmussen's (1997) Risk Management Framework adapted to show the led outdoor activity system of work.

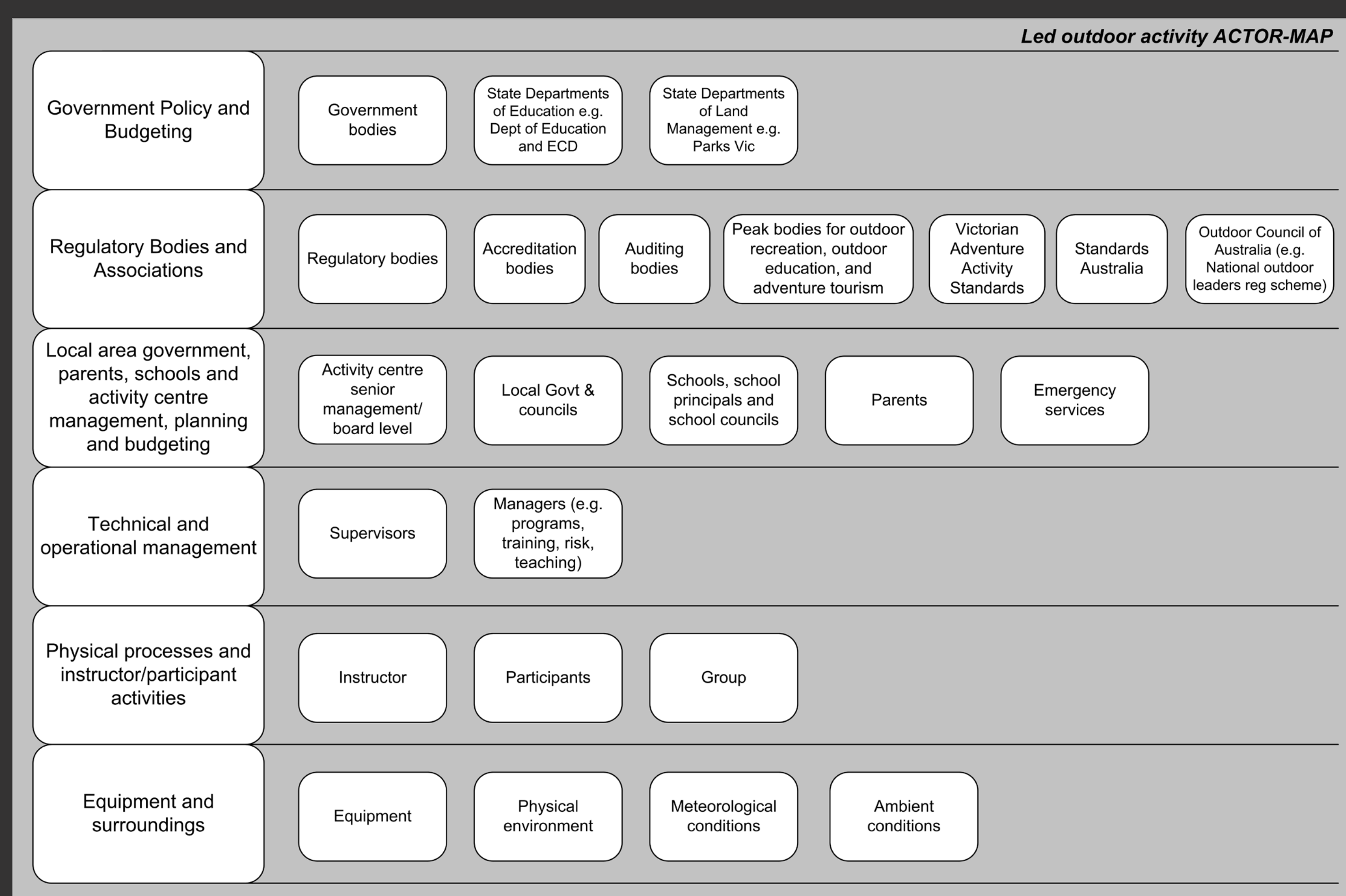


Fig. 2 Roles and responsibilities within the led outdoor activity domain

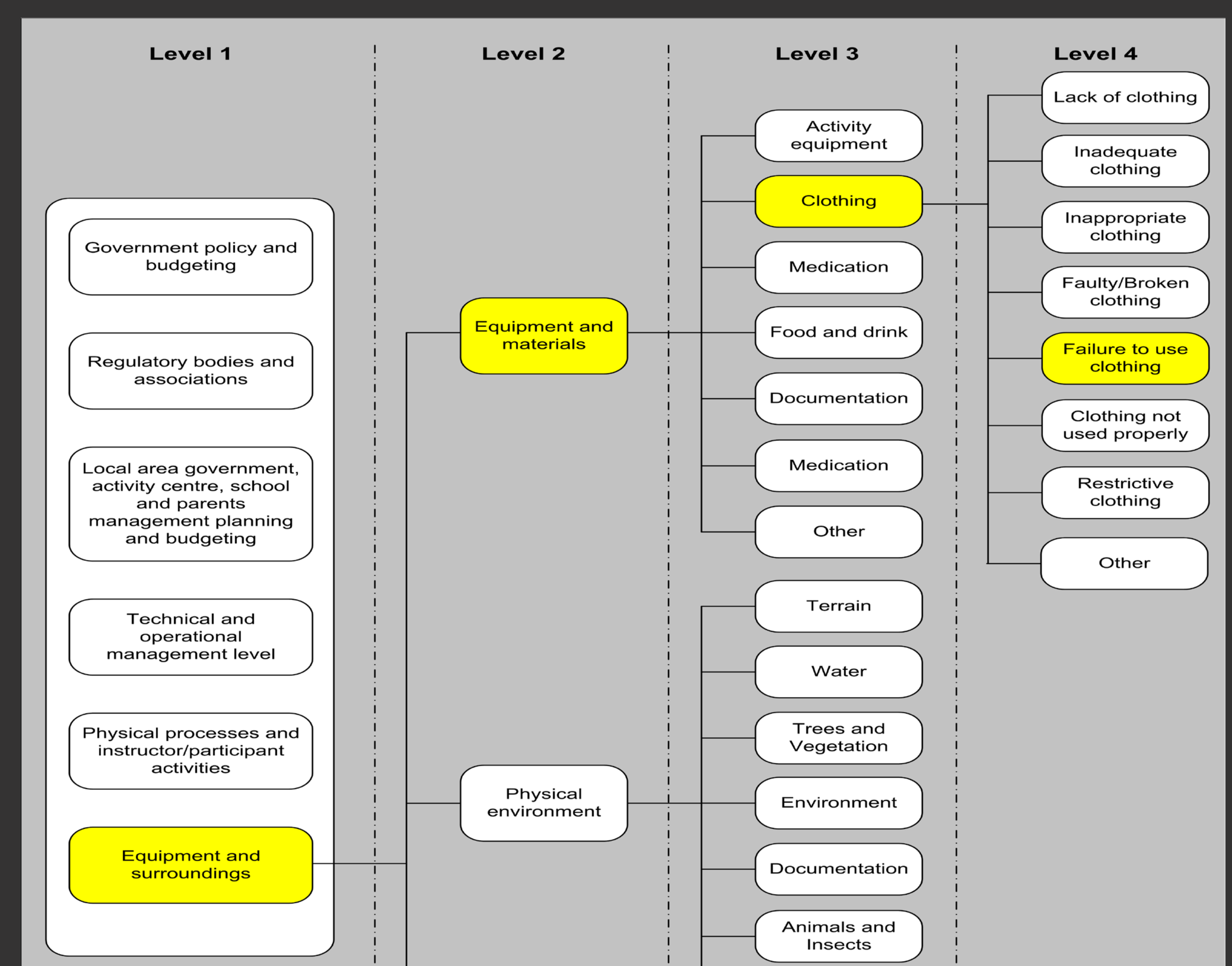


Fig. 3 Example classification of "(Participant) arrived back at camp after the tramp and took off his shoes. He then stepped on a wasp that stung him."

Contribution to the field

The new accident analysis framework provides a theoretically driven, structured methodology for analysing led outdoor activity accidents. Application of the framework will increase the sector's understanding of accidents, which in turn will support development of more informed and effective countermeasures. The long term contribution will therefore be a reduction in accident and injury rates.