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Evaluation of the Avaluator™ decision-support tool for Canadian accidents: 1997-2009

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The Avaluator™ is a rule-based avalanche decision-support tool for amateur backcountry recreationists, published by the Canadian Avalanche Centre. It consists of a Trip Planner (TP) for choosing appropriate backcountry destinations, and a slope assessment tool called the 'Obvious Clues Method'© (OCM) for use in the field. Evaluating a decision aid with historic avalanche accident records is crucial for assessing its effectiveness. While the TP component of the Avaluator was examined with respect to Canadian accidents during its development, the OCM component was validated using only U.S. accident data. The goal of the current study is to provide the first evaluation of the Avaluator™ using only Canadian accident data. Significant effort was made to compile a complete record for each fatal avalanche accident that occurred in Canada in the seasons 1997 to 2009; however, missing data remain a significant challenge in the evaluation. Unfortunately, no simple and consistent treatment was available to handle missing data in the analysis. Therefore, accident prevention values were calculated under several assumptions regarding missing data to provide insights on the limits of possible values, and allow the direct comparison with values calculated from the U.S. data. The analysis showed that clue presence in Canadian accidents was not significantly different from that published in the Avaluator™, although the Avaluator™ values may be similar to the upper limit for the Canadian dataset. The main conclusion of this study is that further investigation of each accident record would reduce missing data, and allow a much more reliable evaluation.