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# Development and validation of an insulin proficiency assessment tool for insulin self-management in adults with type 2 diabetes mellitus

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# Development and validation of an insulin proficiency assessment tool for insulin self-management in adults with type 2 diabetes mellitus

## **Keywords**

diabetes, 2, type, adults, management, self, tool, mellitus, assessment, development, proficiency, insulin, validation

## **Disciplines**

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## **87 Development and validation of an insulin proficiency assessment tool for insulin self-management in adults with type 2 diabetes mellitus**

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### *Aims and rationale*

Approximately 30% of Australian patients with type 2 diabetes mellitus (T2DM) use insulin. Research has identified gaps in knowledge and skills in patients with T2DM insulin self-management, which can lead to dangerous complications including hypoglycaemia and death; along with sub-optimal diabetes control. With increased community-based management of insulin use in T2DM there is an urgent need for validated tools to assist practice teams to identify problem areas in patient insulin self-administration and guide focused education. This paper describes the development of such a tool and initial pilot results.

### *Methods*

The 26 items in the tool were developed from the literature in five core domains. Face validation was undertaken by an expert review panel. Item scoring was developed with expert psychometrician input. Readability and interpretability was assessed using a peer read-a-loud process and the items revised appropriately. The tool was piloted with 12 patients and scored by the researcher at the time of administration. The interviews were recorded and transcribed verbatim for qualitative analysis.

### *Findings*

Scoring of the 12 interviews using the tool resulted in 58% of participants demonstrating a 'critical fail', indicating severe deficits in hypoglycaemia self-management. These findings were supported by the recorded interviews.

### *Implications of research*

The tool demonstrates promise in aiding practice teams target diabetes education to improve patient safety. Further development of the tool will be undertaken with an inter-rater reliability study. Preliminary results underscore the importance of regular review of insulin skills and knowledge.

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*Dianna Fornasier is the chief research investigator on a current research project at the University of Wollongong in implementation of a insulin self-management tool to assess the skill and knowledge in insulin self-management of a patient who has type 2 diabetes mellitus. Research is currently under way. Dianna is a registered nurse and a credentialled diabetes educator.*