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# To develop and trial a new warfarin education program

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**To develop and trial a new warfarin education  
program**

**A thesis submitted in partial fulfilment of the requirements for the  
award of the degree**

**Doctor of Philosophy**

**from**

**UNIVERSITY OF WOLLONGONG**

**by**

**JUDY MULLAN, BPharm, FSHPA, BA.**

**GRADUATE SCHOOL OF PUBLIC HEALTH**

**2005**

I, Judy Mullan, declare that this thesis, submitted in partial fulfillment of the requirements for the award of Doctor of Philosophy, in the Graduate School of Public Health, University of Wollongong, is wholly my own work, unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Judy R Mullan

21 June 2005

## **ABSTRACT**

The principal purpose of this study was to identify, develop and trial a new warfarin education program to enhance warfarin knowledge, management and compliance in a wider patient population, inclusive of the 'high risk' group. This 'high risk' group included patients who were elderly, had low literacy skills and came from non-English speaking backgrounds.

Effective patient education is a central part of the practice of all health professionals because it helps to ensure safe and effective warfarin management. With recent increases in warfarin prescribing and warfarin-related adverse drug events the need for an effective patient warfarin education program is more apparent.

The study aims to improve currently available warfarin education programs delivered to warfarin prescribed patients in a home-based setting. The new program is conceptually based on five key elements: improved health professional/patient communication and partnerships; improved warfarin compliance; simple, easy-to-read warfarin information, improved continuity of care between hospital and community settings; and improved patient follow-up. Unfortunately, during the course of the study, many similar strategies and interventions targeting these key elements were incorporated into the customary program, as well as the new program, which may have impacted on the final results of the study.

The study was conducted from February 2003 to February 2004, on consenting patients who were prescribed warfarin and admitted to Illawarra Health's The Ambulatory Care Team (TACT). This prospective study included 50 intervention patients receiving the new warfarin education program, and 52 control patients receiving the customary warfarin education program offered to TACT patients. Many of these patient participants also came from the 'high risk' group, which included; the elderly, those with low literacy skills and those from non-English speaking backgrounds.

The evaluation phase of the study involved comparing and contrasting the effectiveness of the new warfarin education program against the customary

warfarin education program, in terms of the patients' warfarin knowledge, management and compliance. The patients' satisfaction with the information received and their therapeutic outcomes (therapeutic INR scores, healthcare visits and warfarin-related adverse drug events) were also compared and contrasted between the two programs.

The findings of this study suggest that the new warfarin information booklet (APPENDIX 12) was written in a better quality, easier-to-read format, than was the Boots warfarin information booklet (2003). Overall, the trend in the results suggested that the new warfarin education program more effectively educated patients, including the 'high risk' patients, about their warfarin therapy, as compared to the customary warfarin education program. The patients receiving the new warfarin education program were more knowledgeable about their warfarin, more confidently managed and complied with their warfarin therapy at home, and achieved better therapeutic outcomes, than did patients who received the customary warfarin education program. Interestingly, both the new and the customary warfarin education programs used in this study appeared to be more effective than other available warfarin education programs, achieving better warfarin knowledge scores and therapeutic outcomes, with fewer warfarin-related adverse drug events and healthcare visits.

The implications of this study are that by targeting the five key elements of an effective warfarin education program we can help to improve warfarin knowledge, management and compliance in many patients, including those from the 'high risk' group. Education based on the five key elements empowers patients to make educated decisions about their warfarin therapy; which in turn help to optimise their warfarin-related therapeutic outcomes and minimise warfarin-related adverse drug events.

One of the major benefits of this research, is that the five key elements of an effective patient education program, used in this new warfarin education program, can be generically applied to other patient medication education programs.

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