Drug and Therapeutics Committees: Studies in Australian hospitals

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Statement of originality

The research presented in this thesis was carried out under the supervision of **Prof Jo-anne Brien** (Chair of Clinical Pharmacy, The University of Sydney and St Vincent's Hospital) and **Prof Richard Day** (Director of the Department of Clinical Pharmacology and Toxicology, St Vincent's Hospital).

To the best of my knowledge and belief, the work presented in this thesis is original; except as acknowledged in the text. Full acknowledgement has been made where the work of others have been cited or used. This thesis has not been submitted in part or in whole for the award of any other degree or diploma at any university or institution.

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Abstract

Australia's policy on Quality Use of Medicines (QUM) aims to achieve appropriate use of medicines and improved health outcomes. Drug and Therapeutics Committees (DTCs) are educators, policy makers as well as financial gatekeepers in matters relating to medicine use. Increasingly, DTCs are also involved in risk management and clinical governance. As such, DTCs could be considered to be QUM advocates in the institutions in which they function. In a health care arena where there are escalating demands on high standards of clinical practice, quality assessment and improvement is essential in ensuring safe and effective patient care. Given the role DTCs play in safeguarding the interests of the stakeholders of the health care system, research into ways in which DTC performance could be enhanced is required.

Although indicators specific to DTCs exist, the literature does not seem to provide straightforward answers to the question of what is currently being done in terms of quality assessment and quality improvement of DTCs. In the absence of such data, an opportunity for research is clearly identified. The first aim of this research project was to gain insight into the current activities undertaken by, and challenges facing Australian DTCs. Following this, the second aim was to explore ways in which DTC performance could be augmented.

In addressing the first aim of this project, a national survey of Australian DTCs was conducted. These findings reinforce the evidence in the literature about the roles,

structure and stakeholder expectations of DTCs. Our research also documents DTCs' quality improvement initiatives and barriers to DTC activities. It appears that there is little support available to Australian DTCs. Further, a case study was undertaken in order to gain an understanding of the depth and detail of DTC operations. An audit of a DTC in an Australian hospital was conducted. This study revealed that DTC decisions are being implemented in an *ad hoc* manner. In fact, there were no strategies (or action) planned to implement the majority of their decisions. This could have an impact on DTC performance.

In view of this finding, qualitative methods were used to explore stakeholder opinions regarding the implementation of DTC decisions and policies. Stakeholders believed that strategies used to implement DTC policies should be targeted (to the audience as well as the type of decision/policy being implemented), timely, and delivered at the point of care. Face-to-face strategies were perceived to be more effective than printed materials, particularly when an influence on clinical practice was desired. Stakeholders also felt that the lack of resources was a significant barrier to DTC performance augmentation. This probably contributed to a lack of follow-up (or review) of implemented policies. According to stakeholders, other barriers to policy implementation include a lack of ownership of policies, low DTC profile, and an over-reliance on pharmacy to implement DTC decisions. Stakeholders felt one of the ways in which DTC performance could be improved was to prioritise DTC decisions for implementation.

In pursuit of a method to prioritise DTC decisions, a survey was conducted. Stakeholders identified patient safety, cost, and the practice of evidence-based medicine as domains of important DTC decisions. The results also suggest that

stakeholders recognise the need for the prioritisation of DTC decisions for implementation. Stakeholders implied that higher priority would be assigned to DTC decisions considered to be important. In a follow-up survey, stakeholders (including doctors, nurses, pharmacists, and DTC members) seemed to have agreement of the primary domains of DTC decisions. Higher levels of importance and higher priority were assigned to decisions involving the primary domains of patient safety and cost. However, level of importance and priority assignment were not consistently correlated.

The work presented in this thesis suggests that there are ways to improve DTC performance. Although conducted primarily on hospital-based DTCs, it is anticipated that the lessons learnt could be applied to state-based, or even, Area Health-based DTCs. In conclusion, this research found that there was a range of views regarding “importance” and prioritisation for implementation. Social, organisational, as well as environmental factors may contribute to this. Future research should examine other possible factors contributing to the importance and priority of DTC decisions, so that DTC policy could be appropriately implemented into practice.

Communications arising from this thesis

The work described in this thesis has been presented as follows:

PEER REVIEWED PUBLICATIONS

2003 Tan EL, Day RO, Brien JE. Improving decision outcomes of Drug and Therapeutics Committees. *J Pharm Pract Res* 2003; 33:65-7

2003 Tan EL, Day RO, Brien JE. Drugs and Therapeutics Committees – Potential to improve the Quality Use of Medicines. *Int J Pharm Pract* 2003; 11:175-81

2004 Tan EL, Day RO, Brien JE. Stakeholder opinions on the implementation of Drug and Therapeutics Committee decisions. *J Pharm Pract Res* 2004; 34:178-82

2005 Tan EL, Day RO, Brien JE. Perspectives on Drug and Therapeutics Committee (DTC) policy implementation. *Res Soc Adm Pharm* (in press)

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SCIENTIFIC PRESENTATIONS – Australasian Conferences

2001 Tan EL, Day RO, Melocco T, Brien JE. How to assess outcomes of Drug and Therapeutics Committees. Federal Conference of the Society of Hospital Pharmacists of Australia. Hobart

2001 Tan EL, Day RO, Brien JE. Drug and Therapeutics Committee (DTC) performance evaluation. Australian Pharmaceutical Sciences Association Conference. Melbourne

2002 Tan EL, Day RO, Brien JE. Use of performance indicators for Drug and Therapeutics Committees. National Medicines Symposium. Canberra

2002 Tan EL, Day RO, Brien JE. QUM and the Drug Committee: Current principle functions of DTCs. Society of Hospital Pharmacists of Australia (NSW Branch) Conference. Leura

2002 Tan EL, Day RO, Brien JE. Implementation of DTC decisions: Implementation to improve prescribing. Australasian Pharmaceutical Sciences Association Conference. Melbourne

2003 Tan EL, Day RO, Brien JE. From policy to practice: Improving the effectiveness of DTC decision implementation. Federal Conference of the Society of Hospital Pharmacists of Australia. Canberra

2004 Tan EL, Day RO, Brien JE. Barriers to Drug and Therapeutics Committee (DTC) policy implementation. National Medicines Symposium. Brisbane

2004 Tan EL, Day RO, Brien JE. What makes a decision of a Drug and Therapeutics Committee (DTC) "important"? Australasian Pharmaceutical Sciences Association Conference. Melbourne

2004 Tan EL, Day RO, Brien JE. Strategies to implement Drug and Therapeutics Committee (DTC) decisions. 4th College of Health Sciences Research Conference (The University of Sydney). Leura

SCIENTIFIC PRESENTATIONS – International Conferences

2002 Tan EL, Day RO, Brien JE. Current principal functions of Drug and Therapeutics Committees. International Social Pharmacy Workshop (ISPW). Sydney (Australia)

2003 Tan EL, Day RO, Campbell TJ, Melocco T, Brien JE. DTC decision implementation: Experience at a teaching hospital. 63rd World Congress of the International Pharmaceutical Federation (FIP). Sydney (Australia)*

2004 Tan EL, Day RO, Brien JE. Stakeholder opinions of Drug and Therapeutics Committee (DTC) policy implementation strategies. 8th World Conference on Clinical Pharmacology and Therapeutics (Incorporating the Annual Scientific Meeting of ASCEPT). Sydney (Australia)

2004 Tan EL, Day RO, Brien JE. A qualitative investigation of Drug and Therapeutics Committee (DTC) policy implementation. 33rd European Symposium on Clinical Pharmacy (ESCP). Prague (Czech Republic)

* Best presentation – Hospital Pharmacy Section

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Glossary of abbreviations

χ^2	chi-squared test
ABS	Australian Bureau of Statistics
ACHS	Australian Council on Healthcare Standards
ACSQHC	Australian Council on Safety & Quality in Health Care
ADEC	Australian Drug Evaluation Committee
ADR	Adverse Drug Reaction
ADRAC	Australian Drug Reactions Advisory Committee
AIHW	Australian Institute of Health and Welfare
APAC	Australian Pharmaceutical Advisory Council
APSF	Australian Patient Safety Foundation
ASHP	American Society of Hospital (now, Health-System) Pharmacists
AUD	Australian Dollars
CAP	community acquired pneumonia
CE	continuing education
CI	confidence interval
CMEC	Complementary Medications Evaluation Committee
DTC	Drug and Therapeutics Committees
DUE	drug usage evaluation
EBM	evidence-based medicine
EPOC	Effective Practice and Organization of Care group
GP(s)	General practitioner(s)
HREC	Human Research and Ethics Committee
IP address	Internet Protocol address
IV	intravenous
JCAHO	Joint Commission on Accreditation of Healthcare Organisations
MEC	Medication Evaluation Committee
NICS	National Institute of Clinical Studies
NMP	National Medicines Policy
NPS	National Prescribing Service
NSW	New South Wales
NSW ICE	New South Wales Institute for Clinical Excellence
NSW TAG	New South Wales Therapeutic Assessment (now Advisory) Group
OTC	Over-the-Counter

P&TC	Pharmacy and Therapeutics Committees
PBS	Pharmaceutical Benefits Scheme
PCP(s)	primary care physician(s)
PHARM	Pharmaceutical Health and Rational Use of Medicines
QI	quality improvement
QUM	Quality Use of Medicines
r	Spearman's rho (for ordinal data)
RACGP	Royal Australia College of General Practice
SA TAG	South Australian Therapeutic Advisory Group
SAC	severity assessment code
SHPA	Society of Hospital Pharmacists of Australia
SPSS	Statistical Package for the Social Sciences
SVH	St Vincent's Hospital, Sydney
TGA	Therapeutic Goods Administration
UK	United Kingdom
USA, US	United States of America
USD	American Dollars
VDUAC	Victorian Drug Usage Advisory Committee – subsequently VIC TAG
VIC TAG	Victorian Therapeutic Advisory Group
WA TAG	Western Australian Therapeutic Advisory Group
WHO	World Health Organisation

Preface

The work set out in this thesis investigates the little researched area of Drug and Therapeutics Committees (DTCs) within the Australian health care setting. Health care is concerned with ensuring the safe and efficacious use of medications to treat diseases and maintain health. The Australian health care system is considered to be among the best in the world.(1) One of the reasons for this may be because Australia has a national medicines policy on quality use of medicines.

DTC decisions may influence the types, ways, and amount of medications used in hospitals. DTCs play a pivotal role in ensuring value-for-money use of medicines within their institutions. Therefore, it could be argued that DTCs contribute to achieving rational drug use in their institutions.

Evidence based medicine has become an accepted paradigm for clinical decision making.(2, 3) DTCs frequently develop guidelines and policies regarding the use of medicines, based on evidence.(4) However, evidence-based guidelines and policies can be undermined if they are disregarded by practitioners and clinicians because of inconsistent, inappropriate and ineffective implementation. Evidence-based decisions need to be followed by evidence-based implementation. *Ad hoc* implementation could also contribute to a considerable gap between knowledge and practice. If DTCs are to contribute successfully to achieving quality use of medicines, then more needs to be done to ensure that the investment of time, expertise, effort and knowledge on DTC decisions is not wasted.

This research examines the current challenges facing drug committees in Australia and the ways in which DTC outcomes and performance could be improved. It is surprising to note that despite the importance of quality use of medicines for health outcomes in hospitals, little work has been conducted in this area of research previously.

This thesis is divided into three broad sections. In the first section, Chapters 1 and 2, a literature review is presented. A review of drug use is presented in Chapter 1. This includes an overview of the extent of drug use, problems relating to drug use, the need for quality in drug use as well as drug use in hospitals. The principles of quality use of medicines (QUM) are also outlined in Chapter 1. This review underpins the subsequent research in this thesis. In Chapter 2, a review of the literature is presented. The published literature relating to DTCs was reviewed with the purpose of understanding the representation, structure, roles and function of DTCs.

The second section, Chapters 3 and 4, describes two evaluations of DTCs in Australia. Chapter 3 reports a national survey of DTCs. This work adds to the current "macro-view" of Australian DTCs. This study also explores functions, representation, resources (how are Australian DTCs being supported), and performance (performance evaluation including influence on prescribing as determined by the DTCs). Chapter 4 presents a "micro-view" of a DTC in an Australian hospital. In this chapter, an audit of the DTC's decisions was conducted in order to investigate how decisions were being implemented.

The third section of this thesis, (Chapters 5 to 7) includes three studies. These studies explored strategies to improve DTC performance. Qualitative and quantitative methodologies were employed. A consistent theme from the results (in Chapters 3, 4 and 5) was that DTCs were functioning with scarce resources. This lack of resource has significant consequences on the implementation and follow-up of DTC decisions. A novel approach to decision implementation needed to be explored. However, there is an absence of information in the public domain as to what could be done.

In light of this, the prioritisation of DTC decisions for implementation was explored. This is described in the last section of the thesis. A chosen approach (based on the findings in Chapter 5) was to assign higher priority to those decisions which were considered more important. Chapter 6 details a survey of stakeholders undertaken to identify what were the criteria (or domains) used to determine important decisions. In Chapter 7, priority setting based on these "criteria of importance" was explored. Stakeholders' identification of the primary criteria (or domains) relating to DTC decisions was investigated. In this study, stakeholders' assignment of priority to decisions which they considered important was also examined.

The final chapter (Chapter 8) summarises major findings and draws some general conclusions and implications of this work.

Currently, DTCs function in an environment where much is expected of them, yet little is invested in them. It appears decisions are implemented, at best, in a

piecemeal fashion. The results of this work raise important issues concerning the ways in which DTCs function, as unimplemented decisions may diminish the possibility for quality use of medicines.