

Detecting and Preventing Prescription Based Medication Issues.

A Special Chemconsult® Report
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Chemconsult®
The Gold Standard in Medication Advice

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Executive Summary

Synopsis

Chemconsult® has identified and prevented a medication issue in approximately 1 in 3 consultations performed. Drawing from an Australian sample of more than 21,000 over 12 months, 39% were found to require pharmacist interventions to prevent potentially adverse outcomes for patients. Approximately 500,000 Australians experience adverse effects from medication each year, with an estimated 140,000 associated hospital admissions and one-half of these being considered avoidable. Chemconsult® could significantly contribute to decreasing these 70,000 avoidable hospital admissions for patients every year. Utilising the economic analysis from the Promise Trial, each individual pharmacy using Chemconsult® could potentially free up 93 days of hospital beds each year and save the health system more than \$120,000 per annum. Calculated across 5000 retail pharmacies nationally, potential hospital bed days released range from 460,000 – 1,400,000 per annum, with savings to the health system estimated between \$603 million - \$1.8 billion dollars annually.

This positive outcome of decreased adverse effects and hospital admissions for tens of thousands of patients each year is possible through the simple and highly effective Chemconsult® online medication management program administered by a qualified pharmacist.

Preface

Despite the advent of new and “improved” drugs, problems associated with the use of pharmaceutical drugs in society continue to grow as a significant public health burden. It has been estimated that sub-optimal drug use in Australia accounts for approximately 12% of all admissions to medical wards of hospitals, with about one-half of these admissions being considered avoidable. The profession of pharmacy has an enormous responsibility to

become a safety advocate for the patient and address the problem of adverse drug outcomes in the Australian community.

To ensure the future of the profession and adequately serve the public, the practice of pharmacy must add value to the provision of pharmaceuticals. The harsh reality is also that community pharmacy will only be able to survive if it demonstrably provides a service that is professional, unique and cost-effective. In addition, the profession needs to more adequately demonstrate how it adds value, through standardised documentation of our clinical services. There can only be acceptance of the pharmacists' role if the profession has documented evidence of its activities and their outcomes.

I congratulate the Health Information Pharmacy Group on the development of the Chemconsult[®] system and the results achieved to date. The medication safety checking and documentation system is helping to improve the outcomes of Australian consumers and navigate community pharmacy from a product-based profession to a patient-care, service-based profession.

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Purpose

Medication safety is a significant health problem in Australia, with approximately 500,000 people annually experiencing an adverse effect from a medication. It is estimated that around 140,000 hospital admissions each year are associated with problems with the use of medicines, including harmful side effects (ACSQHC 2001)¹. In addition, unsafe care is costly, with inappropriate use of medicines in Australia costing approximately \$380 million per year in the public hospital system alone (AIHW 2002a)². At present, the management and data collection of medication incidents and issues in the community is essentially non-existent, yet quality health care and safety cannot be adequately provided without documentation. Also, there can only be validation of the pharmacist's role if the profession has documented proof of its activities and their outcomes.

The Program

Chemconsult® is a web based consultation program performed in store by the pharmacist. Chemconsult® is a checklist documentation system which records and validates the delivery of medication and health advice that a pharmacist performs. Chemconsult® utilises the patient's medical history, drug information and the professional knowledge of the pharmacist to detect, record and prevent medication issues.

A Chemconsult® is performed when a patient presents a new prescription for dispensing or if the patient has any questions or concerns about their medication. The pharmacist is prompted to ask a series of questions to enable him or her to assess how the medication may affect the patient's medical history. This data is entered into the Chemconsult® database. The Pharmacist uses patient data, medication data, his or her professional knowledge and the Chemconsult® software program, which when combined, provides a medication safety checking system and a consistent level of advice for the patient. This advice includes explaining to the patient what the medication is used for, the dosage, potential interactions with other medications, potential side effects, interactions with food or alcohol and other information to help the patient recover more quickly. Any issues or problems with the prescribed medication and the particular patient are detected, recorded and prevented by the Chemconsult® program.

Chemconsult® is a free service to patients.

Methodology

The Health Information Pharmacy franchise group of 20 community pharmacies located primarily in Brisbane, Sydney and Melbourne has been using the Chemconsult® program for over 4 years and online for the past 12 months. Over the time period 1st August 2008 - 31st July 2009, 21,733 consults were conducted. Training and on site support was provided to all participating pharmacists.

Results

Total Chemconsults® performed 21,733 from 1st August 2008 - 31st July 2009.

Issue Detected	Number Detected	Percentage
Incorrect Dosing	6294	29%
Drug Interactions	1190	5.5%
Taking medication wrongly in regard to food	380	1.75%
Side Effect	272	1.25%
Improper Alcohol us	264	1.21%
Medication Allergies	124	0.57%
Total	8524	39.28%

Conclusions

In the first year of operation online, the Chemconsult® program has completed 21,733 consultations in 20 Pharmacies. The total number of Pharmacist interventions was 8524 or 39.28% of consultations performed; this includes the occurrence of a small number of multiple Pharmacist interventions during the one consultation. Taking this into account, it can be concluded a minimum of 1 in 3 consultations performed by the Chemconsult® process has resulted in a Pharmacist making a positive intervention.

The economic analysis within the Promise Trial (G Peterson et al 2005³) found that there is on average a \$283 saving per Pharmacist intervention and 0.22 hospital days prevented. Hence, a Pharmacy using the Chemconsult® process over a year may save the Health System \$120,615 and free up 93 hospital bed days according to the results of this study. The Promise Trial also determined that the results could be up to 3 times this amount with proactive programs like Chemconsult®.

If applied to the entire Pharmacy Industry in Australia of over 5000 retail outlets the savings per annum could be an estimated \$603m to \$1.809bn. Hospital bed day savings could be in the order of between 468,820 and 1,406,460 per annum.

Chemconsult® may also increase productivity in the economy with improved patient recovery and “back to work” rates and also reduced mortality, which was not measured by the Promise Trial report.

Acknowledgements

¹ First National Report on Patient Safety – Improving Medication Safety.
Safety and Quality Council July 2002

Second National Report on Patient Safety – Improving Medication Safety.
Safety and Quality Council July 2002

² Australia’s Health 2002. Australian Institute of Health and Welfare.

³ Promise Trial Report Phase One 2003 - 01 University Tasmania.

Promise Trial Report Phase Two 2003 - 02 University Tasmania.

Medication Safety in Australia: Status at November 2007. Discussion Paper. NPS
Sydney, 2008

Health Corporation Ltd (HEA) Chemconsult Australia P/L development owners

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