issues

Reducing medicine errors:
a multidisciplinary approach

Medicines are the most common treatment for managing and preventing health problems. However, medicine errors account for over 25% of all adverse events in Australian hospitals (Runciman et al 2003). Medicines identified as high risk carry the greatest chance of catastrophic harm and are involved in a large proportion of adverse medicine-related events (Cohen et al 2007).

Because of this risk, high risk medicines (HRM) are a significant concern for nurses who most commonly prepare and administer them. Despite the five R’s to guide the correct administration of medicines, adverse medicine-related events are common, preventable and occur at great cost to the patient, family and community. The personal and legal consequences for the nurse involved can also be devastating. In response to these concerns, the HRM working party, consisting of nurses, pharmacists, and medical and quality management staff, was established by the Quality Use of Medicines Program in 2006 to develop strategies to minimise risks associated with HRMs.

The working party adopted the acronym PINCH (P=potassium, I=insulin, N=narcotics, C=chemotherapy, H=heparin) which describes the focus for the development of strategies to reduce adverse outcomes associated with HRMs. HRM System factors were also considered, for example, appropriate equipment for administering medicines, and the use of TALLMAN lettering (Van de Vrede et al 2008) to differentiate medicines that look and sound alike (e.g. oxyCODONE and OxyCONTIN). A series of alerts and audit tools were developed in collaboration with other Australian states to enhance the safe use of HRMs.

Clinical experts developed each alert following a review of the literature and in consultation with health professionals from metropolitan, regional and rural Victoria. Audit tools that included recommendations, guidelines and action plans accompanied each alert to drive practice change, and highlighted gaps in best practice that could contribute to adverse medicine-related events.

The alerts are presented in a consistent format that includes documented common errors, contributing factors, recommendations for minimising risks and system issues. Case studies showing how seemingly simple errors led to potentially lethal outcomes are used to make the alert highly relevant and applicable to practice. For example, insulin errors were commonly related to incorrect dosing as a result of unclear prescribing. Recommendations include adhering to accepted terminology, abbreviations and symbols when prescribing, and for staff to question any confusing or potentially hazardous medicine orders.

As nurses most commonly prepare and administer HRMs, we urge nurses to routinely access the alerts, and follow the recommendations in the interest of preventing adverse medicine related errors that can have catastrophic consequences. The alerts, together with links to other HRM resources, are available online at the following site: http://www.health.vic.gov.au/qum/Initiatives/hrm.htm.

Alerts and audits developed to date relate to insulin, heparin, and wrong route administration of oral liquid medicines. These alerts have been distributed to nurses, doctors, pharmacists and chief executive officers across Victoria in addition to state and national Quality Use of Medicines partners. In 2009, the working party surveyed Victorian health professionals to evaluate the impact of the alerts and audit tools on the quality of medicines processes in health services. Ninety responses were received; 53% were from pharmacists and 31% were from nurses. Ninety percent of respondents considered the alerts to be effective in improving patient safety and 86% felt the alerts helped them identify areas for improvement, for example, revising insulin and heparin stock, protocols and charts, and identifying areas for future improvement, such as HRM infusions. Eighty percent of respondents indicated the alerts increased awareness of issues concerning HRMs, and 53% of respondents reported making changes to practice, such as using oral syringes to overcome the 'wrong route' administration of oral medicines.

Analysis of the qualitative responses in the survey of the alerts revealed three themes, which were a catalyst for change, a culture shift to facilitate change to routine clinical practice, and obstacles to their implementation (the largest theme). Obstacles included time constraints, adequate staff resources, excessive paperwork, difficulties standardising stocks and strengths of medicines, and competing priorities. Importantly, the analysis showed that nurses were very supportive of the alert initiatives and amenable to changing their practice. Additionally, the alerts and audit tools were used to bring HRMs to the attention to an interprofessional group for discussion and review of current practices and policies.

The HRM working party is currently considering the development of alerts on narcotics, chemotherapy, mental health and complementary medicines. The Quality Use of Medicines Program is collaborating with state and national organisations to develop an Australia-wide system of alerts. We would especially like to hear what nurses at the coalface of patient care think about the alerts to help us tailor future safety information to meet local needs. A short, confidential online survey is available at:

Dr Allison Williams is from the Melbourne School of Health Sciences, Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne.

Professor Trisha Dunning is Chair in Nursing at Deakin University and Barwon Health, Geelong, Victoria.

HeLEN LeACH is Program Manager in the Quality Use of Medicines Program in the Department of Health, Victoria.

This paper is a report from the High Risk Medicines Working Party, Quality Use of Medicines Program, Department of Health.

References

issues

Reducing medicine errors: a multidisciplinary approach

Medicines are the most common treatment for managing and preventing health problems. However, medicine errors account for over 25% of all adverse events in Australian hospitals (Runciman et al 2003). Medicines identified as high risk carry the greatest chance of catastrophic harm and are involved in a large proportion of adverse medicine-related events (Cohen et al 2007).

Because of this risk, high risk medicines (HRM) are a significant concern for nurses who most commonly prepare and administer them. Despite the five R’s to guide the correct administration of medicines, adverse medicine-related events are common, preventable and occur at great cost to the patient, family and community. The personal and legal consequences for the nurse involved can also be devastating. In response to these concerns, the HRM working party, consisting of nurses, pharmacists, and medical and quality assurance of medicine staff, was established by the Quality Use of Medicines Program in 2006 to develop safety strategies to minimise risks associated with HRMs.

The working party adopted the acronym FINCH (P=potassium, I=insulin, N=narcotics, C=chemotherapy, H=heparin) which describes the focus for the development of strategies to reduce adverse outcomes associated with HRMs. HRM System factors were also considered, for example, appropriate equipment for administering medicines, and the use of TALLMAN lettering (Van de Vree et al 2008) to differentiate medicines that look and sound alike (e.g. oxyCODONE and OxyCONTIN). A series of alerts and audit tools were developed in collaboration with other Australian states to enhance the safe use of HRMs.

Clinical experts developed each alert following a review of the literature and in consultation with health professionals from metropolitan, regional and rural Victoria. Audit tools that included recommendations, guidelines and action plans accompanied each alert to drive practice change, and highlighted gaps in best practice that could contribute to adverse medicine-related events. The alerts are presented in a consistent format that includes documented common errors, contributing factors, recommendations for minimising risks and system issues. Case studies showing how seemingly simple errors led to potentially lethal outcomes are used to make the alert highly relevant and applicable to practice. For example, insulin errors were commonly related to incorrect dosing as a result of unclear prescribing. Recommendations include adhering to accepted terminology, abbreviations and symbols when prescribing, and for staff to question any confusing or potentially hazardous medicine orders.

As nurses most commonly prepare and administer HRMs, we urge nurses to routinely access the alerts, and follow the recommendations in the interest of preventing adverse medicine related errors that can have catastrophic consequences. The alerts, together with links to other HRM resources, are available online at the following site: http://www.health.vic.gov.au/qum/initiatives/nm.htm

Alerts and audits developed to date relate to insulin, heparin, and wrong route administration of oral liquid medicines. These alerts have been distributed to nurses, doctors, pharmacists and chief executive officers across Victoria in addition to state and national Quality Use of Medicines partners. In 2009, the working party surveyed Victorian health professionals to evaluate the impact of the alerts and audit tools on the quality of medicine processes in health services. Ninety responses were received, 53% were from pharmacists and 31% were from nurses. Ninety percent of respondents considered the alerts to be effective in improving patient safety and 86% felt the alerts helped them identify areas for improvement, for example, revising insulin and heparin stock, protocols and charts, and identifying areas for future improvement, such as HRM infusions. Eighty percent of respondents indicated the alerts increased awareness of issues concerning HRMs, and 53% of respondents reported making changes to practice, such as using oral syringes to overcome the 'wrong route' administration of oral medicines.

Analysis of the qualitative responses in the survey of alerts revealed three themes, which were a catalyst for change, a culture shift to facilitate change to routine clinical practice, and obstacles to their implementation (the largest theme). Obstacles included time constraints, inadequate staff and resources, excessive paperwork, difficulties standardising stocks and strengths of medicines, and competing priorities. Importantly, the analysis showed that nurses were very supportive of the alert initiatives and amenable to changing their practice. Additionally, the alerts and audit tools were used to bring HRMs to the attention to an interprofessional group for discussion and review of current practices and policies.

The HRM working party is currently considering the development of alerts on narcotics, chemotherapy, mental health and complementary medicines. The Quality Use of Medicines Program is collaborating with state and national organisations to develop an Australia-wide system of alerts. We would especially like to hear what nurses at the coalface of patient care think about the alerts to help us tailor future safety information to meet local needs. A short, confidential online survey is available at: http://www.dhs.vic.gov.au/health/vmac/projects/nm.htm#high.

DR ALLISON WILLIAMS IS FROM THE MELBOURNE SCHOOL OF HEALTH SCIENCES, FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES AT THE UNIVERSITY OF MELBOURNE. PROFESSOR TRISHA DUNNING IS CHAIR IN NURSING AT COENH UNIVERSITY AND DARWON HEALTH, GEELONG, VICTORIA. HELEN LEACH IS PROGRAM MANAGER IN THE QUALITY USE OF MEDICINES PROGRAM IN THE DEPARTMENT OF HEALTH, VICTORIA.

This paper is a report from the High Risk Medicines Working Party, Quality Use of Medicines Program, Department of Health.

REFERENCES
