



# Best Practice

Evidence Based Practice Information Sheets for Health Professionals

## The Administration and Supply of Medications by Registered Nurses in Rural and Remote Areas

### Acknowledgment

This *Best Practice* Information Sheet has been based primarily on consensus from an expert review panel (Level IV). The following sources were used to guide panel opinion:

Queensland Nursing Council, 1998, Final report of the Scope of Nursing Practice Project, Brisbane;

Queensland Health & Royal Flying Doctor service of Australia (Qld). 1998, Primary Clinical Care Manual, Qld Health, Brisbane;

Queensland Health, 1997, Drug Therapy Protocols, Isolated Practice; and

Queensland Health, 1997, Health (Drugs and Poisons) regulation 1996.

### Purpose

The purpose of this best practice information sheet is to provide the best available evidence that defines the essential principles of initiation, administration and supply of medications by registered nurses in rural and remote practice.

### Introduction

Rural and remote area registered nurses must be prepared for an advanced practice role that can encompass a wide range of responsibilities.

At present some of these responsibilities exceed legal boundaries with the risk

### This Best Practice Information Sheet Covers the Following Concepts:

- Quality of Research
- Nurse Responsibility
- Employer Responsibility
- Others Responsibility
- Further Research

of compromising the safe care of clients. This situation may lead to the confusion, conflict and anxiety that is often experienced by some registered nurses working in these settings.

It is well recognised that many rural and remote registered nurses assume the responsibility for the ordering, possession, storage, initiation, administration, and supply, of medications as part of their normal duties. Although this practice was until recently in direct contradiction to existing legislation, regulating bodies worldwide are now recognising the need for policies which meet the needs

### Levels of Evidence

All studies were categorised according to the strength of the evidence based on the following classification system.

#### Level I

Evidence obtained from a systematic review of all relevant randomised controlled trials.

#### Level II

Evidence obtained from at least one properly designed randomised controlled trial.

#### Level III.1

Evidence obtained from well designed controlled trials without randomisation.

#### Level III.2

Evidence obtained from well designed cohort or case control analytic studies preferably from more than one center or research group.

#### Level III.3

Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments.

#### Level IV

Opinion of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

of both clients living in rural and remote regions and the registered nurses upon whom they rely for health care. Such policies aim to legitimise "accepted practice". Some policies justly recognise that the essential nature of rural and remote area nursing practice is collaborative practice - a model where nurses and other health professionals work together in a collegial way to maximise the health care delivered to rural and remote communities.

At the same time, nursing experts have long argued that the unique nature of rural and remote nursing requires the introduction of special protocols to address the issue of management of medications by nurses. Therefore, a systematic review was undertaken to determine what literature was available which addressed the effectiveness (as measured by client outcomes, satisfaction and cost) of nurse medication management protocols in rural and remote settings.

## Quality of Research

A systematic review of the literature uncovered a number of reports of registered nurses describing their medication management practice or rural/remote nursing practice in general, however the majority of these papers did not specifically address medication management practice in rural and remote areas. Only one study was found defining any sort of medication management protocol, and its effectiveness, for rural and remote nursing practice<sup>1</sup>.

In the absence of higher levels of evidence, the advice offered in this summary is primarily based upon newly designed protocols and level IV evidence (expert opinion). Further, in response to the results of the review, this best practice sheet provides guiding principles for medication management by rural and remote registered nurses. All discussion and recommendations contained within this best practice information sheet refer to the practise of registered nurses in rural and remote communities only.

## Nurse Responsibility

In assuming additional responsibilities for the initiation, administration and supply of medications, it must be understood that a nurse is not relieved of his/her legal responsibility or accountability for his/her own practice. Like duty of care, accountability for one's actions cannot be delegated.

Regardless of the setting, registered nurses are legally bound to provide the most reasonable or appropriate care

possible for their clients. Duty of care is owed by the nurse to their clients to prevent harm and the rural and remote area nurse is therefore bound by the standards of care set out by the nursing profession and by legislation. It is therefore essential that registered nurses be responsible for maintaining their competency to practise in their chosen setting at the highest possible standard. Following are the areas of responsibility that rural and remote registered nurses must accept if medication management is to become part of their legal practice.

### Educational and Competency requirements

#### 1) Knowledge of Medicines:

- a) Registered nurses should have contemporary knowledge of pharmacology for safe and appropriate nursing practice in rural and remote communities.
- b) The nurse must have sound knowledge and skills relating to medications in their facility's approved medication list.
- c) The nurse should have reasonable access to and familiarity with the resources available for collaboration, consultation/reference in regards to the use of medications.

#### Rationale:

Relevant and appropriate clinical educational preparation and competency assessment will support best practice in the administration and supply of medication by registered nurses in rural and remote settings.

#### 2) Knowledge of Law:

The nurse must have knowledge of the statutory and common laws, which govern medication use by registered nurses, for practice.

#### Rationale:

Civil laws, statutory acts and regulations establish the standard of the delivery of appropriate and safe care to patients. Knowledge of

the legislative requirements is essential to ensure registered nurses' practise within the law.

#### 3) Assessment of Competency:

The practice of initiating, administering and supplying medications in rural or remote areas should be confined to registered nurses who have demonstrated competency in these areas.

An assessment of competency should include:

- Knowledge and skills for patient assessment and diagnosis
- An examination of medication knowledge.
- A test of competency in medication calculations.
- Knowledge of the medication schedules as they impact on clinical practice.
- A clinical/practical assessment of compliance with protocols in the practice context.

#### Rationale:

Knowledge of clinical assessment and medication use is essential to enable the nurse to make an informed decision about the initiation of safe and appropriate treatment. Competency in medication/IV calculations may reduce the risk of dose/rate errors. It is the nurse's responsibility to have knowledge of current schedules to practise in accordance with the relevant legislation. Current literature indicates that a significant number of nursing students have serious numeracy skill deficits and that even if these skills are mastered, they can deteriorate if not continually exercised.<sup>2</sup>

#### Protocol for Practice

Appropriate medication should only be used to achieve intended patient outcomes. In order for safe use of medications by rural and remote registered nurses to occur, appropriately approved and authorised protocols explicitly describing practice must be in place. Furthermore, the effectiveness and

currency of these protocols must be continually examined. This is to ensure patients receive optimum health care with regards to medication therapy.

While medication practice protocols may be in place in numerous rural and remote practices, a systematic review by the Joanna Briggs Institute uncovered only one study, as mentioned above, that evaluated the effectiveness of a remote area nurse medication prescribing protocol<sup>1</sup>. The Wilcannia Nurse Practitioner Project involved a remote area hospital whose emergency department was staffed by registered nurses 24 hours per day, 7 days a week. In the absence of a resident doctor, two Royal Flying Doctor Service medical practitioners instituted standing orders for a number of specified medications (including prescription only medication). A protocol was written directing the nurse to administer medications as described in the protocol providing the standing order was signed within 24 hours. Results showed that registered nurses tended not to use this facility, as they knew they would be unable to obtain a doctor's signature within the allotted time. What practice the nurses then followed was not described in the report.

The result of this study illustrates that nurse initiated medication guidelines must be developed that can address all aspects of rural and remote nursing practice. Therefore the following recommendations have been forwarded by the expert review panel as to the registered nurses' responsibilities for developing and utilising protocols for rural and remote nursing practice.

Registered nurses should only initiate, administer and supply medications where current protocols are in place. Where protocols are needed for rural and remote nursing practice, they should be developed and available for use.

These protocols should:

- Incorporate the requirements of relevant legislation in regard to nursing practice.

- Be developed by inter-disciplinary teams including registered nurses, medical practitioners, pharmacists and possibly other (relevant) health professionals.
- Be based on the best available evidence.
- Detail requirements for clinical assessment and management including medication therapy, collaboration, referral and follow-up.
- Detail the minimum requirements for documentation in the client record.
- Allow for local adaptation.
- Be evaluated and updated by the interdisciplinary team at least biannually.
- Be endorsed by the employer.

The principles that apply to current protocols should be incorporated into the development of standing orders. It should be noted however, that protocols are not a substitute for nursing (or medical) care and will not include all health problems that a nurse encounters in clinical practice.

## Employer Responsibility

The manager of a health service has an obligation to manage the risks associated with the delivery of health care for both employees and clients. In this regard the employer should:

- 1) Provide a work environment and infrastructure that comply with the statute and common laws pertinent to the administration and supply of medications in rural and remote areas.
- 2) Ensure that registered nurses are safe and competent to practise in rural and remote areas in relation to medication use.

### Rationale:

Employers are providers of a health service and employ registered nurses to perform a designated role as part of that service. Hospitals and health services owe a non-delegable duty of care to their patients which also extends to their employees. Therefore the employer is responsible for a safe

system of work, which in a rural or remote setting is likely to include the supply, storage, security, initiation and administration of medications.

Further, employers carry indemnity insurance for employees. The costs and damages incurred, as a result of malpractice or negligence suits will be borne by the employer. Consequently it is in the employer's interest to take reasonable steps to ensure that registered nurses employed for work in rural and remote settings possess particular competencies required for this highly specialised work.

- 3) Ensure policies and protocols are in place for the administration and supply of medications. Such policies should be:
  - a) Written
  - b) Dated
  - c) Unambiguous
  - d) Endorsed by the institution
  - e) Readily accessible to registered nursing staff.
- 4) Develop written policies and protocols on the administration and supply of medications in rural and remote areas.
- 5) Clarify the lines of authority (level of delegation) and accountability in relation to the administration and supply of medications in rural and remote areas and reflect these policies in written, dated policies and protocols governing the initiation and use of medications.

### Rationale:

Published protocols, based on best practice, foster consistent practice between health care providers. In turn this reduces the likelihood of errors. Access to approved and authorised policies and protocols provide registered nurses with the necessary information to describe the extent of his/her responsibilities.

- 6) Develop the list of medications appropriate for inclusion in protocols used by registered nurses. This list should be developed using an interdisciplinary process that includes registered nurses, medical practitioners and pharmacists.

- 7) Establish a policy pertaining to the ordering, storage, transport and disposal of medicines which is consistent with statute laws and safe practice.
- 8) Supply secure storage places for all medications and pharmaceutical supplies consistent with statute laws.
- 9) Implement a process of stock control to aid in the monitoring of medication use.
- 10) Employers must provide structural support to ensure that nursing work responsibilities can be fulfilled in rural and remote areas.
- 11) The employer should ensure 24-hour access to an appropriate medical practitioner and appropriate access to pharmacy supply and advice.

#### Rationale:

In theory, all medications distributed by pharmacists, medical officers, or registered nurses should be able to be accounted for. Record keeping would enable practice related to the use of

medications to be audited in terms of accountability and quality control. It should be a required part of practice, which is supported by appropriate legislation.

In rural and remote communities medical practitioners and pharmacists are frequently not available on site. In these situations registered nurses are expected, by the employer and clients to assume additional responsibility. Therefore, it is essential that the employer ensure that nurses are competent and have the appropriate authority and medical back-up to safely perform these functions.

#### Others' Responsibility

In addition to registered nurses and their employers, medical practitioners and pharmacists also have a responsibility to ensure the safe use of medications in a practice setting.

Education providers should work in partnership with service providers to ensure that course content is consistent with contemporary best practice.

#### Rationale:

The effectiveness and safe use of medications by nurses for client care depends upon a collaborative inter-relationship with other health professionals, health service organisations and educational providers. Further, congruence between what is taught and the acquisition of the skills required for safe practice in rural and remote areas is instrumental in ensuring the delivery of safe care in these areas.

To ensure currency and relevance, postgraduate courses, which prepare registered nurses for rural and remote practice, should be developed and conducted in partnership with the service providers.

#### Qualifications

To ensure that registered nurses have the required competence for practice, they should undergo an approved course on the administration and supply of medications. The course should be approved by the relevant registering authority.

### Further Research

Due to the lack of research in medication management by rural and remote registered nurses several areas of research have been identified. Specifically:

- 1) What is the current role and scope of responsibility assumed by rural and remote area nurses for medication use?
- 2) What are the expectations of nurses in the use of medications in these settings?
- 3) How useful have the guiding principles, presented here, been? What has been the impact on registered nurses, resources and outcomes for clients?
- 4) What are registered nurses' perceptions and behaviours with regard to these protocols and their impact on practice?
- 5) What are the attitudes and perceptions of medical, nursing and pharmaceutical professionals to advanced nursing practice related to medications?

## Recommendations

### *Nurse responsibility:*

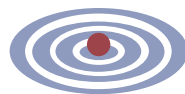
- 1) The rural and remote area nurse is responsible for ensuring a knowledge of pharmacology, have skills related to medications, and be familiar with resources available for reference.
- 2) Rural and remote area nurses should also have a sound knowledge of laws relating to medication use.
- 3) To ensure that this knowledge is current and appropriate, rural and remote area nurses should be assessed for competency at regular intervals.
- 4) Registered nurses should only initiate, administer and supply medications where current protocols are in place.

### *Employer responsibility:*

- 1) The manager of a health service should provide a work environment that complies with law pertaining to administration and supply of medications in rural and remote areas.
- 2) The manager should also ensure that registered nurses are safe and competent to practice in rural and remote areas in relation to medication use.
- 3) The manager should ensure that policies and protocols regarding medications are in place.
- 4) Where policies and protocols do not exist, they must be developed.
- 5) The manager should clarify, with written and dated protocols and policies, the lines of authority and accountability in relation to administration and supply of medications in rural and remote areas.
- 6) The manager should ensure that the list of medications appropriate for inclusion in protocols used by registered nurses be developed using an interdisciplinary process that includes registered nurses, medical practitioners and pharmacists.
- 7) The manager should establish a policy pertaining to the ordering, storage, transport and disposal of medicines which is consistent with statute laws and safe practice.
- 8) The manager should supply secure storage places for all medications and pharmaceutical supplies consistent with statute laws.
- 9) The manager should ensure that a process of stock control be implemented to aid in the monitoring of medication use.
- 10) Employers must provide structural support to ensure that nursing work responsibilities can be fulfilled in rural and remote areas.
- 11) The employer should ensure 24-hour access to an appropriate medical practitioner and appropriate access to pharmacy supply and advice.

### *Others' responsibility:*

- 1) Medical practitioners and pharmacists should ensure the safe use of medications in the practice setting.
- 2) Education providers should work in partnership with service providers to ensure that course content is consistent with contemporary best practice.



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## Definitions

For the purpose of this Best Practice Information Sheet:

### *Management of medications:*

The receiving, storing, handling, supplying, administering, directing and monitoring of medications.

### *Medication administration:*

To give a person a single treatment dose of the medication or poison.

### *Supply:*

For a controlled or restricted medication or poison, supply does not include administering, dispensing or prescribing the medication or poison but does include the offer to supply.

### *Rural Nursing:*

The practice of registered nurses where no medical practitioners and allied health workers are on site or available full time in a hospital but are located within the town.

### *Remote:*

Medical Practitioner not immediately available to physically respond or attend due to geographical remoteness.

### *Monitoring of medications:*

The checking, assessment, observation and recording of the administration of medications including therapeutic outcomes of the medications.

### *Protocol:*

The written directions specifying the actions required to deliver each individual element of care specified in the standing orders, e.g. administration of I.V. salbutamol; use of a snake venom detection kit.

### *Standing order:*

A written document containing rules, policies, procedures, regulations and orders for the conduct of patient care in various stipulated clinical situations, (e.g. management of the client in pre-term labour). Standing orders usually:

- 1) Specify the condition for which the orders apply
- 2) Prescribe the action to be taken in caring for the client (including the dosage and route of any medications) or the schedule for the administration of any therapeutic procedure.

<sup>1</sup> Wilcannia Nurse Practitioner Project - Wilcannia 1994 September

<sup>2</sup> Cartwright M. Numeracy needs of the beginning registered nurse. *Nurse Education Today* 1996; 16(2):137-43

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- Published by Blackwell Science-Asia

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## Acknowledgments

This publication was in part funded by The University of Southern Queensland, Toowoomba, Qld. It was produced based on a systematic review of the research literature undertaken by The Joanna Briggs Institute under the guidance of a review panel of clinical experts, and was led by Professor Desley Hegney. The other review panel members were:

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