



## Promoting Evidence-Based Nursing Practice: A Three Way Control System: Redefining Community Based Infection Control

### What's new in infection control?

Infection control has been an integral practice in any acute care facility. Infection control however, does not stop at the door of the hospital or surgery. With a culture that encourages health care in the community, infection control can no longer be considered solely a hospital issue (Perry 1998).

Infection Control is a mandatory requirement of The Australian Council on Healthcare Standards (ACHS) in their accreditation process. A project officer (the author) was funded for three months to develop a framework for the RDNS infection control program and an implementation strategy that would reduce the organisation's risk exposure.

This newsletter summarises how the program was developed. Current literature was reviewed: benchmarking against other community nursing organisations was undertaken together with consultation involving RDNS staff, stakeholders and infection control practitioner from acute care settings and the South Australian Department of Human Services. The newsletter also describes how a framework for the program was developed and discusses how it could be implemented.

### What's the problem?

The Australian National Guidelines for infection control in a health care setting has acknowledged that health care associated infections can occur in any health care setting. Adopting quality control measures based on identifying hazards and assessing risks may minimise health care associated infections (Communicable Diseases Network, draft 2002).

Practitioners in the United States of America (USA) state that home care clients often have a combination of increasing age, complicated invasive procedures or have invasive devices such as catheters or intravascular therapy and that clients may also have other co-existing chronic illnesses such as diabetes or heart disease and can be immuno-compromised, all which increase their risk of acquiring an infection (Rosenheimer, 1995).

The SHEA Guideline for Preventing Nosocomial Transmission of Multidrug-Resistant strains of *Staphylococcus aureus* and *Enterococcus* acknowledge that Methicillin Resistant *Staphylococcus Aureus* (MRSA) is not solely a hospital problem, as many patients with MRSA are discharged into the community. Antimicrobial resistance poses a significant public health threat and must be addressed (Muto et al, 2003).

### What does the literature say?

Most current research and literature on infection control in home care is available from the USA and UK. There is little literature on infection control in the home care setting available from Australia. This is an obvious area for further development because of the current trend of early discharge and more complex procedures being undertaken within a home care setting.

Modern infection control programs focus on the education of all staff in healthcare settings, clients and stakeholders. ACHS has suggested that a community includes; patients/clients served by the organisation, staff, including consultants, contractors, volunteers etc., visitors and the general public. (ACHS 2001). The ACHS guidelines are aimed at acute care facilities; however they can be adapted to suit a community environment.

Friedman (1999), an infection control practitioner in the USA, proposed that successful infection control programs include

four elements: education and training; development and implementation of policies & procedures; data collection and analysis eg: surveillance information and; direct intervention to prevent infection (Friedman C, et al, 1999,). The Australian National Infection Control Guidelines recommended similar elements: applying basic infection control strategies; quality management practices; effective work practices that prevent transmitting infectious agent and managing specific infectious agents (Communicable Diseases Network Draft 2002).

Infection control programs aim to guide home care providers by first addressing the educational needs of target groups. Knowledge of infection control principles can assist home care providers to develop their own approaches to client infection control strategies. A two tiered approach to education relies on nurses who identify and report clients with clinical signs and symptoms of infection, followed by infection control nurses who coordinate and review policy and procedure (Rhinehart 2001).

Rhinehart and Friedman (1999) suggested that an infection control program suitable for home care organisations should address: standard and additional precautions; practices and policies; assessment; an incident reporting mechanism; surveillance; waste management; client care; OHS issues; hand washing; handling inanimate objects and; introduction of infectious diseases. Lawrence and Dee (2003) advocated that British infection control programs include a functioning infection control team, annual infection control education, written policies and procedures for prevention and control of infection and that responsibilities be clearly defined.

A community infection control program developed in a large public hospital in Auckland, New Zealand focused primarily on education, the provision of consultancy and advice for staff. Surveillance however was focused on inpatient exposure and was limited in a community setting (Smith 1998).

This review of the literature assisted the author to develop a framework for an infection control program suitable for a community nursing organisation. It also identified the components or elements for inclusion in the program.

### How did we do it?

The three month Infection Control Project was funded to research and develop a strategy for implementation of an integrated infection control program (as part of the organisations' clinical risk strategy). The objectives of the Infection Control Project Brief were –

- To develop a strategic planning approach to infection control incorporating planning priorities, objectives and measurable outcomes, clinical roles and responsibilities
- To articulate an infection control program appropriate to the needs of RDNS
- To develop an implementation strategy based on identified priorities and the achievement of minimum standards in the first instance

To determine the extent of organisational risk, a variety of data was collected with the assistance of the organisation's Informatics department.

A risk assessment was undertaken, of the following areas: orientation program, education program, employee health, waste management, equipment reprocessing, risk of antibiotic resistant bacteria transmission, infections not being identified during admission and surveillance.

In addition to this internal review, a variety of external infection control resources were canvassed, together with a literature

review: including regulatory guidelines. From this analysis a framework for the proposed program was developed: consisting of three 'domains':

- ORGANISATION (personnel related infection control)
- CLINICAL (client related infection control) and
- PUBLIC HEALTH (general regulatory and primary health care based infection control).

Each of these domains included four elements:

- Education & Orientation, annual program & competencies
- Policies & procedures
- Consultancy/advisory
- Surveillance (risk and performance measurement)

Three options were identified, for implementation of the infection control program:

- Use of an infection control committee
- A committee supported by a PT/FT Infection Control resource
- A FT/PT Infection Control Resource reporting directly to the organisation's OH&S and Quality Committees

#### **A new community based infection control model!**

The framework of the new model of community based infection control incorporated three foci:

- **The organisation and its people:** staff orientation, education, health and the work environment
- **Clinical practices and clinical exposure:** client risk assessment, multi-resistant organism strategy and surveillance
- **Public health risk identification:** home environment assessment, client / carer education and communicable and notifiable disease reporting

A working party was established to support the project. Various people and departments of RDNS and external Infection Control Practitioners were included in the consultation process. Focus groups were held with RDNS staff in all regions and across all areas, eg: nursing, administration, operations centre. Meetings were also arranged with infection control units in major public hospitals and Department of Human Services. The combined input and feedback – together with the information already gathered – served to validate this infection control model.

Clinical risk evaluation of RDNS exposure to infection risk indicated that adopting this strategy would reduce infection related risk to low priority status.

#### **What were the options?**

RDNS is a large community nursing organisation serving the entire Adelaide metropolitan region and this poses some problems for implementation of an infection control program. To achieve the objectives of the proposed framework and program within a limited budget was challenging.

#### **Option One: IFC Committee alone**

This option is attractive because of the low cost attached to it. The new committee would meet once a month for approximately one hour with members requiring 2 hours to read and prepare. Travel time of 1 hour would also need to be factored in – for a community based health service. However, committee members are at risk of being overworked, less focused and less inclined to sustain the momentum of the infection control program due to conflicting (other) responsibilities. The Committee Facilitator would need to "own" infection control (in addition to their other responsibilities). Committee members (and facilitator) would

have limited availability to respond to day-to-day infection control issues that arise.

#### **Option Two (a): Full Time IFC Coordinator ± IFC Committee**

This option is a higher cost option; however, the addition of a dedicated IFC coordinator does improve the potential for all four elements of the program to be comprehensively implemented by the organisation.

#### **Option Two (b): Part Time IFC Coordinator ± IFC Committee**

This option is less expensive than option two and one that would also integrate infection control into the organisation, albeit in a slower less resourced manner.

#### **Option Three: Full Time or Part Time Infection Control Practitioner ± existing committee(s).**

The IFC Practitioner functions as a stand alone position who is a member of e.g. OH&S and Quality Committees. In this case, Infection Control would become a standing agenda item of both committees. Significant benefits of this model are that infection control is considered in context of other (quality and OHS) issues and it negates the need for yet another committee. A strengths, weaknesses, opportunities and threats (SWOT) analysis was undertaken to assist in determining the best option.

#### **How can changes be evaluated?**

Evaluation twelve months following implementation would be achieved by reviewing the risk assessment conducted pre implementation. The evaluation should demonstrate that infection reporting has improved and that revised policies, procedures and guidelines are making an impact upon nursing practice.

#### **What did we learn?**

Any community health care that involves direct contact with clients has infection control implications. The home is an environment where clinicians have limited control over environmental hygiene, hygiene of clients and care of clinical supplies left in the house. This proposed Infection Control Program advocates that infection control is relevant to employees, contractors, clients and the wider community.

For further information about this project please contact Linda Hayford ([hayford.linda@rdns.sa.gov.au](mailto:hayford.linda@rdns.sa.gov.au))

#### **References**

- Australian Council on Healthcare Standards. (2001) Fundamentals for infection Control Services – A Resource Tool for the Evaluation & Quality Improvement Program – ACHS. P.1.
- Communicable Diseases Network. (Draft 2002) Infection control Guidelines for the prevention of transmission of infectious diseases in the health care setting, version 3. Commonwealth of Australia. P.57.
- Friedman C, Barnette M, Buck A, Ham R, Harris J, Hoffman P, Johnson D, Manian f, Nicolle L, Perarson M, T, Solomon S. (1999) Requirements for infrastructure and essential activities of infection control and epidemiology in out-of-hospital settings: A Consensus Panel report, *American Journal of Infection Control.*, 27: 418-430.
- Lawrence J, Dee M. (2003) *Infection Control in the community.* Churchill Livingstone. London.
- Muto C, Jernigan J.A., Ostrowsky B.E., Richet H.M., Jarvis W.R., Boyce J.M., Farr B.M. (2003). SHEA Guideline for Preventing Nosocomial Transmission of Multidrug-Resistant Strains of *Staphylococcus aureus* and *Enterococcus*. *Infection Control & Hospital Epidemiology.* May 2003. Pp.362-386.
- Perry, C. (1998) Three Major issues in Infection Control. *British Journal of Nursing.* vol. 7, No. 16. pp. 946-952
- Rosenheimer L. (1995) Establishing a surveillance system for infections acquired in home healthcare. *Home Healthcare Nurse.* Vol. 13. No. 3. Pp.20-26.
- Rhinehart E. (2001). Infection Control in Home Care, *Emerging Infectious Diseases.* Vol.7, No. 2, March – April, pp. 208-211.
- Rhinehart E, Friedman MM. (1999). *Infection Control in Home Care.* Association for professionals in infection control & epidemiology. Aspen Publishers, Inc. Maryland. P.173.
- Smith V. (1998). Setting up a community and mental health infection control service. *Australian Infection Control.* Volume 3, Issue 3. Spring 1998. pp.14–16.

**This issue written by Linda Hayford (RN).**

*Edited by Dr Debbie Kralik and Natalie Howard, RDNS Research Unit.*

**The Research Unit is proudly supported by the RDNS Foundation**

Contact Details: Research Coordinator, RDNS Research Unit, PO Box 247, GLENSIDE SA 5065, Ph: (08) 8206 0111, Fax (08) 8206 0010, Email: [howard.natalie@rdns.sa.gov.au](mailto:howard.natalie@rdns.sa.gov.au), Web: <http://www.rdns.net.au> (newsletter available on website)