



CANNT JOURNAL JOURNAL ACITN

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Thank you to our 2014 reviewers!

As *CANNT Journal* co-editors, we take pride in the maintenance of high-quality editorial practices and our peer review approach to manuscript evaluation and acceptance for publication. Peer review ensures that manuscripts accepted for publication are relevant, timely, and scholarly in nature. While an important aspect of the journal's mandate, this requires the commitment of a team of reviewers who donate their time and expertise to us for manuscript review and feedback. We, therefore, rely on professionals with expertise in particular areas of nephrology nursing and technology to assist us with peer review processes. We would like to take this opportunity to express our sincere gratitude to the following individuals for assisting us with the peer review process in 2014—we thank you for your willingness to assist us and applaud your commitment to the dissemination of important nephrology nursing and technological findings in Canada.

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Merci à toutes nos lectrices critiques de 2014!

En tant que corédactrices en chef du *Journal de l'ACITN*, nous sommes fières de perpétuer des pratiques de rédaction de première qualité et d'entretenir le processus d'évaluation des textes par des pairs en vue de leur approbation aux fins de publication. Le processus d'évaluation par les pairs garantit le caractère pertinent, opportun et savant des textes approuvés aux fins de publication. Cet aspect du mandat du *Journal de l'ACITN*, qui revêt une grande importance, nécessite la participation d'une équipe de lectrices critiques qui nous offrent leur temps et leur expertise afin d'examiner et de commenter les textes. Nous comptons donc sur des professionnels spécialisés dans des domaines particuliers des soins infirmiers et des technologies en néphrologie pour nous assister dans le processus d'évaluation par les pairs. Nous aimerions profiter de cette occasion pour exprimer notre profonde gratitude aux personnes suivantes, qui ont contribué au processus d'évaluation par les pairs en 2014. Nous vous remercions de votre participation enthousiaste et saluons votre contribution à la diffusion de découvertes importantes dans le domaine des soins infirmiers et des technologies en néphrologie au Canada.

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MESSAGE FROM THE PRESIDENT: ROBERTA PRETTIE

Reflections and visions for 2015



This past year as CANNT President has been a challenging and rewarding learning experience. I am looking forward to continuing personal growth, as I complete my term as past president. As a member of CANNT since 2002, I have had the opportunity to attend many of our national conferences and to benefit from CANNT's vision to "provide leadership and promote the best nephrology care and practice through education, research, and communication". Your Board of Directors is committed to this mission. In the upcoming year we will be actively pursuing options for initiatives that we hope will improve membership benefits and ensure viability of the association.

Niagara Falls, Ontario, was the host of a very successful CANNT Conference on October 23–25, 2014. Thanks need to be extended to all who contributed, from the plenary speakers for sharing their inspiring stories, to our corporate sponsors for their critical financial support and exhibits, to our dedicated planning committee chaired by Anita Amos and Cindy Bryson and led by Heather Reid and the Innovative Conferences staff. Their efforts and dedication resulted in a program that allowed us to "Pursue the Power Within".

At the Annual General Meeting on October 24, we celebrated our award and bursary winners' achievements and dedication to nephrology. Congratulations to all 2014 award recipients! Awards are open

to all CANNT Members—information regarding qualifications and applications is available under the "Resource" tab on the CANNT website at www.cannt.ca.

This is the time of year to acknowledge the outgoing members of the Board of Directors for their collective years of dedicated time and commitment to CANNT. Heather Dean—Western Region Vice President, Krista Lovering—Ontario Region Vice President, Rejean Quesnelle—Vice President, Technologists, and Colleen Wile—Past President. Your contributions to the association and the nephrology profession are commendable. I am pleased to welcome the following incoming Board members: President Elect—Anita Amos, Western Region Vice President—Janice MacKay, Ontario Region Vice President—Billie Hilborn, and Vice President, Technologists—José Lloyd. Anne Moulton has assumed her position as CANNT President 2014–2015. I look forward to working with you in the year ahead.

Finally, save the date for CANNT 2015 in Vancouver, B.C. from October 22–24, 2015. Co-chairs Richard Luscombe and Stan Marchuk, along with the planning committee are working diligently to develop a program ensuring we will be "Reaching New Heights". The call for abstracts deadline is February 1, 2015. Details for submission are available at www.cannt.ca.

As the holiday season approaches, I wish health and happiness to you and your families and all the best in 2015.

**Roberta Prettie
CANNT President 2013–2014**

Réflexions et visions pour 2015

Cette dernière année que j'ai passée comme présidente de l'ACITN a été une expérience enrichissante, stimulante et gratifiante. Je me réjouis à l'idée de poursuivre mon développement personnel en cette fin de mandat de présidente sortante. Étant membre de l'ACITN depuis 2002, j'ai eu l'occasion de participer à bon nombre de nos congrès nationaux et de bénéficier de la vision de l'ACITN selon laquelle nous devons montrer la voie et promouvoir la qualité des soins et des pratiques en néphrologie grâce à la formation, à la recherche et à la communication. Votre conseil d'administration se dévoue corps et âme pour mener cette mission à bien. Au cours de l'année à venir, nous nous efforcerons de mettre sur pied des initiatives qui, nous l'espérons, permettront d'offrir de plus grands avantages à nos membres et d'assurer la viabilité de l'Association.

Du 23 au 25 octobre 2014 se tenait le congrès annuel de l'ACITN à Niagara Falls, en Ontario. Le congrès a connu un réel succès. Nous remercions chaleureusement tous ceux qui ont contribué à ce succès : les conférenciers des séances plénières, qui ont exposé leurs expériences inspirantes; nos sociétés commanditaires, pour leur indispensable soutien financier et leurs éléments d'exposition; ainsi que les membres dévoués de notre comité de planification, lequel est présidé par Anita Amos et Cindy Bryson et dirigé par Heather Reid et le personnel de l'entreprise Innovative Conferences & Communications. C'est par leurs efforts et leur dévouement qu'ils ont su mettre sur pied un programme nous permettant de « Miser sur notre force intérieure ».

Lors de notre assemblée générale annuelle du 24 octobre, nous avons souligné les accomplissements et le dévouement de nos membres qui ont reçu un prix ou une bourse dans le domaine de la néphrologie en 2014. Félicitations à vous tous! Ces prix peuvent être attribués à tous les membres de l'ACITN. Vous trouverez des renseignements sur l'admissibilité et sur le processus de

demande sous l'onglet « Ressources » (Ressources) du site Web de l'ACITN, à l'adresse www.cannt.ca.

En cette période de l'année, nous rendons hommage aux membres sortants du conseil d'administration pour leurs années de dévouement et d'engagement collectif auprès de l'ACITN : Heather Dean, viceprésidente pour la région de l'Ouest; Krista Lovering, vice-présidente pour la région de l'Ontario; Rejean Quesnelle, vice-président de la Technologie; Colleen Wile, présidente sortante. Merci pour votre remarquable contribution à l'ACITN et au domaine de la néphrologie en général. J'ai le plaisir de souhaiter la bienvenue aux nouveaux membres du conseil d'administration : Anita Amos, présidente élue; Janice MacKay, vice-présidente pour la région de l'Ouest; Billie Hilborn, vice-présidente pour la région de l'Ontario; José Lloyd, vice-présidente de la Technologie. Anne Moulton a endossé le rôle de présidente de l'ACITN pour 2014-2015. Il me tarde de travailler avec vous tous au cours de l'année à venir.

Enfin, je vous invite à inscrire les dates du congrès annuel de l'ACITN de 2015 à votre calendrier. Celui-ci se tiendra du 22 au 24 octobre 2015 à Vancouver, en Colombie-Britannique. Les coprésidents Richard Luscombe et Stan Marchuk, en collaboration avec le comité de planification, travaillent assidûment à mettre sur pied un programme qui aura pour thème « Reaching New Heights » (Atteindre de nouveaux sommets). La date limite pour la soumission de communications est le 1^{er} février 2015. Les renseignements détaillés concernant les soumissions sont disponibles sur notre site Web à l'adresse www.cannt.ca.

Comme la période des Fêtes approche à grands pas, je vous offre, à vous et à vos proches, mes meilleurs vœux de santé et de bonheur pour l'année 2015.

Roberta Prettie
Présidente sortante de l'ACITN
(2013-2014)

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CALL for ABSTRACTS

Reaching New Heights through Innovation
and Excellence in Nephrology.

CANNT invites you to join us in
Vancouver in 2015!



Abstracts are currently being accepted for ORAL and POSTER presentations for **CANNT 2015 –“REACHING NEW HEIGHTS.”** This annual national meeting of the Canadian Association of Nephrology Nurses and Technologists will be held **October 22-24, 2015** in Vancouver, British Columbia. The conference venue is the Hyatt Regency Hotel. CANNT 2015 abstract submissions should demonstrate “*Reaching New Heights through innovation and excellence in nephrology and technology*” – appropriate for the novice through to the advanced practice professional. Topics of interest may include: clinical research, innovative projects and solutions, ethics, case presentations and clinical reviews. All abstract submissions must be evidence-based. Please consult the list of leading-edge topics for possible areas of interest.

ABSTRACT SUBMISSION GUIDELINES:

Deadline: February 1, 2015

All abstracts must be submitted via e-mail (susanm@innovcc.ca) as an attachment in Word.

Submissions must include the following:

- Abstract Title** • must accurately reflect the content of the presentation
- Abstract Text** • should be no longer than 250 words (font: Times New Roman 12 point)
 - provide author information on a separate page
 - should be as informative as possible
 - define **all abbreviations** the first time they appear in the abstract
 - use only the **generic names** of drugs
 - **do not identify companies and/or products in the body or title of the abstract**

If research-based, should include:

- purpose of study • methods
- results • conclusions
- implications for nephrology care

If practice/education-based, should include:

- purpose of the project
- description
- evaluation/outcomes
- implications for nephrology practice/education

LEADING-EDGE TOPICS IN:

Modes of Dialysis Technology	Psychosocial Ethics	Professional Practice Leadership
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Pathophysiology	Advance Directives	Transitional Care
Chronic Kidney Disease	Education	Transplantation
Nutrition	Professional Development	Health Care and The Environment
Pediatrics	Research	Immunology

IMPORTANT NOTES:

Only **COMPLETE** submissions received by **FEBRUARY 1, 2015** will be considered.

- All correspondence will be with the first author only.
- Acceptance of abstract does not waive attendance fees (registration, transportation, accommodations).
- Notification regarding selection decisions will be provided by March 28, 2014.
- Should the abstract be selected for presentation, the author(s) authorize(s) the publication of the abstract submitted for publication in the CANNT Journal.
- The presentation shall not make comparison to companies or products for any purposes of product marketing, nor will topics or materials used discredit companies or products.
- The abstract, and associated authors, should make full disclosure of corporate employment and/or funding sources.
- Abstracts not in the required format will be returned to the author for revision.
- The language of abstract submission will be the language of presentation, if selected.

FORWARD ABSTRACTS TO:

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PRESENTATION INFORMATION: (provided on separate page)

- identify preferred format of presentation (ORAL or POSTER)
- full names and credentials of authors
- contact information for first author must include: full name, e-mail address, fax number, mailing address with postal code, home and work telephone numbers
- identify preferred audiovisual requirements (PC Viewer for Powerpoint or Slides)





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in Vancouver in 2015!



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An interprofessional team that includes a nurse practitioner and patients with diabetes and chronic kidney disease

By Kelley Kilpatrick, RN, PhD, Vincent Pichette, MD, PhD, and Mira Jabbour, RD, MSc

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ABSTRACT

Diabetes is the leading cause of chronic kidney disease (CKD). The clinical practice guidelines of the Canadian Diabetes Association were updated in 2013. We sought to identify the level of adherence to the CDA guidelines of an interprofessional team in a pre-dialysis clinic that includes a nurse practitioner, and examine how team members integrated the guidelines and optimized each provider's role. A mixed methods study was undertaken. Chart audits (n= 146) identified 10 patients who met the inclusion criteria. The level of adherence to the CDA guidelines was high for several indicators; yet a number of care activities were not well documented in the health record. Interviews (n= 7) with interprofessional team members identified specific strategies used by providers to incorporate the guidelines and optimize each team members's role. Accurate documentation of care activities is essential to assessing adherence to guidelines and informing decisions about care.

Key words: chronic kidney disease, audit, diabetes, mixed methods study, nurse practitioner, interprofessional team

INTRODUCTION

The improvement of chronic illness management and the renewal of health care in Canada have emerged as a driving policy in health care across the country (Health Council of Canada,

2012). More than three million Canadians are affected by diabetes and the number of affected patients doubled during the period of 2000 to 2010 (Agence de la santé publique, 2011; Canadian Diabetes Association, 2009). The trend for the mean fasting blood glucose level has risen over the last three decades—a statistic that may signal an increased burden of diabetes in the near future (World Health Organization, 2011).

More than half of the adults older than 65 years of age have three or more chronic conditions (American Geriatrics Society, 2012), and adherence to treatment drops significantly in patients who are older and when the number of chronic conditions increases (Jansà et al., 2010). Jansà et al. (2010) studied a cross-section of patients with multiple chronic conditions following discharge from a tertiary care hospital, and found that patients in the community with poor adherence to treatment had higher frequencies of hypertension, ischemic heart disease and hyperlipidemia. Physicians, nurses, nurse practitioners (NPs) and pharmacists are instrumental in assessing adherence to care pathways or best practice guidelines (BPGs) in the management of medication in chronic conditions like Type 2 diabetes.

LITERATURE REVIEW

Type 2 diabetes is a common co-morbidity for patients with pre-dialysis chronic kidney disease (CKD) (Strand & Parker, 2010), and the leading cause of blindness, non-traumatic amputations and end-stage renal disease in Canada (CDA, 2013). The optimization of care through the use of clinical practice guidelines or care pathways can reduce the progression of CKD, delay the need for renal replacement therapy and improve the quality of life of patients with CKD (Strand & Parker, 2010). Schick Makaroff (2013) documented the challenges faced by patients living with CKD and highlighted that patients with CKD had to face the need for dialysis as well as the challenges of treatment adherence (Kim & Evangelista, 2010). These authors reported non-adherence rates as high as 32% for patients with CKD. This has important implications for patients in pre-dialysis settings since better control of conditions like hypertension limits the progression of CKD. Specific activities including individual and group educational sessions were important to support patients with CKD to manage their condition and slow its progression (Strand & Parker, 2010). A recent systematic review of effectiveness and cost effectiveness of NPs in acute care (Donald et al., 2014) identified only two studies that examined the effectiveness of NPs in acute care settings. No study in the review examined the care provided by nephrology NPs.

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The care of patients with CKD in the out-patient pre-dialysis unit is provided by interprofessional teams that includes nurses, NPs, pharmacists, social workers, dieticians, and specialist physicians (Ministère de la santé et des services sociaux du Québec, 2006). The follow-up of patients with Type 2 diabetes by nurses assuming specialized or advanced practice nursing roles has been found to be safe and effective internationally (Gray, Drayton-Brooks, & Williamson, 2013; Houweling et al., 2009; James, 2010; Modic, Canfield, Kaser, Sauvey, & Kukla, 2012; Moran, Burson, Critchett, & Olla, 2011; Taylor et al., 2003). Nurses, including those in advanced practice roles such as NPs play a central role in achieving improved health outcomes for patients with chronic conditions because they work in close partnership with patients to support them and monitor their condition (Sutherland & Hayter, 2009; Watts et al., 2009). More specifically, patients perceive that nurses are partners in their care because they tailor their care to meet their specific needs, they respond promptly, and are open to discussing their concerns (Shigaki, Moore, Wakefield, Campbell, & LeMaster, 2010).

Litaker et al. (2003) completed a randomized control trial to compare physician-led and team-based management of chronic conditions including diabetes in outpatient settings. They found that a team-based approach that included an NP improved the management of chronic conditions including diabetes. The study results documented significant decreases in the mean values of glycated hemoglobin (A1C), significant increases in the value of high density lipoprotein cholesterol (HDL-C), improved preventive care and patient education over a 12-month period (Litaker et al., 2003).

Specific care pathways may represent a strategy to support nurses and members of the interprofessional team to provide the highest level of chronic illness management (Allen, Gillen, & Rixson, 2009), and optimize each provider's role in the team. Care pathways and collective orders have recently been developed in Québec for diabetic and hypertensive patients (Institut national d'excellence en santé et en services sociaux [INESSS], 2013). Such pathways are particularly useful mechanisms because they support adherence to best practice guidelines, and reduce variation in practice. Different providers in the interprofessional team contribute specific expertise to optimize the management of chronic conditions (Allen et al., 2009; Canadian Diabetes Association, 2013; Ordre des infirmières et infirmiers du Québec, 2011).

The CDA clinical practice guidelines were updated in April 2013. It is important for health care providers to assess the level of adherence to clinical practice guidelines to ensure that patients receive the most effective treatments and prevention strategies for their chronic condition. Indicators such as patient self-management and lifestyle behaviours and physiologic indicators (e.g., A1C, self-monitored blood glucose, target blood pressure, signs of neuropathy and cardiovascular disease) have been used to assess the level of adherence to best clinical practice (INESSS, 2012; McRae et al., 2008). To this end, an individualized data sheet, incorporating current clinical practice guidelines, has been developed by the CDA (2013), and can be used to guide data extraction in acute care settings.

Few studies (Bonner & Greenwood, 2006) have examined how nephrology nurses provide patient care, but expert nephrology nurses demonstrated autonomous, self-directed and flexible actions when providing patient care. This may influence how they make decision about care. Research about NPs in nephrology has focussed primarily on NPs working with patients following kidney transplant (Lerrett & Stendahl, 2011). These researchers found that NPs in transplant teams facilitated medication management, improve patient quality of life and adaptation to their condition, and adherence to medication regimen. In the context of interprofessional care teams, it is expected that NPs in other nephrology settings like pre-dialysis would have similar effects on patient care.

An in-depth understanding of how health care decisions are made by providers and how providers remain up-to-date with current clinical practice guidelines are important to support the delivery of high quality care to patients with complex conditions. Such knowledge is currently lacking (Stubbings, Chaboyer, & McMurray, 2012).

Research questions

The research questions were as follows: 1) What is the level of adherence to current CDA clinical practice guidelines for pharmacologic and lifestyle management by a nephrology NP?; 2) What do team members identify as the challenges to integrate current guidelines in practice and optimize the scope of each provider's role; and 3) How are decisions about prescribing or adjusting medications made?

METHODS

Research design

A concurrent mixed methods approach was used (Creswell, Klassen, Plano Clark, & Smith, 2011). A mixed methods study integrates qualitative and quantitative data, and the results of one data source help to contextualize the information provided by another data source (Johnson, Onwuegbuzie, & Turner, 2007). In this study, the interviews contributed to an in-depth understanding of the results of the chart audits and the factors that affected the health care team members' adherence to BPGs.

Conceptual framework

Kilpatrick et al. (2012) developed a conceptual framework to describe the structures, processes and outcomes that affect how acute care NP roles are enacted, boundary work activities, and perceptions of team effectiveness. The framework identifies that structures can constrain or expand around the three central process dimensions, and outcomes of care, and represents the interrelationships between how NP roles are enacted, boundary work activities, and beliefs about the team's effectiveness. A more dynamic representation of the team's position in the organization and includes the broader context of health care is indicated. The framework identifies that perceptions of team effectiveness include six team processes that are believed to be improved by the addition of NPs to health care teams. The processes included decision-making, communication, cohesion, care coordination, problem-solving, and a focus on patients and families (Kilpatrick, 2013). The framework allows us to link how decisions are made in teams to care outcomes like A1C or the level of adherence to clinical guidelines.

Sample

To document the level of adherence to the BPG by the nephrology NP, the health records of patients with CKD (n=146) in the out-patient pre-dialysis unit who were under the care of the NP were audited. To be included in the study, patients had to be followed in the CKD pre-dialysis clinic, have a diagnosis of diabetes, and half of the health visits over the last 12 months were completed with the NP. Patients were excluded if they were not followed by the NP and if less than half of the health visits in the last 12 months were with the NP. One patient died, three patients were not seen during the data collection period, and 132 patients did not meet the inclusion criteria and were excluded. Thus, 10 patients met the inclusion criteria. Because the patients were rostered to the specialist physician and the health records were not computerized, 17 patients were identified using the NP's personal files and an additional 129 charts were audited to identify one patient who met the inclusion criteria.

To understand the challenges to integrate the BPG in their practice and how decisions are made about adjusting and prescribing medication, we interviewed members of the interprofessional team. Purposive sampling was used to select participants from all professional groups in the team. Thus, three members of the intra-professional team (e.g., registered nurses, NP), and four members of the interprofessional team (e.g., pharmacist, dietitian, social worker and physician) were included. Team members have worked together for at least three years caring for patients who have CKD in the pre-dialysis clinic. Participants' professional experience ranged from three to 17 years.

Data collection

Data were collected via chart audits and interviews with members of the intra and interprofessional team. To assess the level of adherence to current CDA clinical practice guidelines for pharmacologic and lifestyle management by the NP, the health records of patients with CKD for the period of September 16, 2012 to October 2, 2013, the last indexed visit, were audited. The number of health visits with the diabetes clinic were measured to understand if changes in diabetes treatment priorities in one setting (diabetes clinic) affected the care provided in the other setting (CKD pre-dialysis clinic). To identify the challenges to integrate the current CDA guidelines in practice, and explore how decisions about prescribing or adjusting medications were made, we purposefully recruited providers (n=7) in the interprofessional team. The interviews were conducted in French and lasted between 28 and 61 minutes.

Instruments

The chart audit tool was developed using the CDA guidelines. The tool included patient socio-demographic questions, blood tests, lifestyle habits, health conditions, reasons for health visit, health care team visits, medication, and diabetic care. A semi-structured interview guide was developed by the research team. We asked open-ended questions about roles in the health care team, follow-up for diabetic patients and their families, and best practices. The audit tool and the French interview guide are available from the primary author.

Table 1: Characteristics and lifestyle habits of patients seen by the nurse practitioner in the pre-dialysis clinic

Characteristic	Percentage (n)	
	Patients with CKD (n=17)	Patients with CKD and diabetes (n=10)
Gender		
Women	41 (7)	20 (2)
Men	59 (10)	80 (8)
Origin		
American	65 (11)	60 (6)
European	35 (6)	40 (4)
Asian	0	0
African	0	0
Lives alone	53 (9)	60 (6)
Missing data	6 (1)	-
Marital Status		
Single	18 (3)	20 (2)
Separated/divorced	12 (2)	10 (1)
Married	29 (5)	30 (3)
Widowed	29 (5)	30 (3)
Missing data	12 (2)	10 (1)
Education (highest level)		
Primary	6 (1)	10 (1)
Secondary/high school	18 (3)	10 (1)
Diploma/college	6 (1)	10 (1)
University (baccalaureate)	0	
Graduate studies	0	
Missing data	70 (12)	70 (7)
Perception of financial situation		
Considers self to be poor	12 (2)	10 (1)
Can meet basic needs	6 (1)	10 (1)
Considers self to have enough money	0	
Considers self to be wealthy	0	
Missing data	82 (14)	80 (8)
Current cigarette smoking	18 (3)	20 (2)
Alcohol consumption		
Never/occasionally	88 (15)	90 (9)
W: 1-2/day (10/sem.) or M: 3/day (15/week)	12 (2)	10 (1)
W: > 2 days/week M: >3 days/week	0	
Physical activity*		
Never/rarely	59 (10)	70 (7)
Moderate to high (150 min/week)	12 (2)	0
Resistance activities twice/week	18 (3)	20 (2)
Missing data	12(2)	10 (1)

Note. Sum ≠ 100% due to rounding; M=Men; W=Women; min=minutes.

Data analysis

A parallel mixed method analysis strategy was used where the quantitative and the qualitative data were analyzed separately (Teddle & Tashakkori, 2009) and integrated throughout the analysis (O'Cathain, 2009). This strategy allows the researcher to ascertain the results for each data collection method and understand how the results of one method can inform the results of the other method. Descriptive statistics (e.g., percentage, frequency, mean, standard deviation [SD], range) (Field, 2005) were generated for the quantitative data from the chart audits using Statistical Package for the Social Sciences version 21. We considered that the guideline recommendations were not met if there was no documentation in the patient's health record. For Objective 2, the interviews were transcribed verbatim. NVivo version 10 software supported the analysis. Content analysis was used to categorize all of the qualitative data (Bowling, 2009). The methods described by Miles and Huberman (1994) were used to reduce the qualitative data, through a coding process with codes derived inductively from the data (Elo & Kyngäs, 2008). The analysis of the interview data was an iterative process, beginning as soon as possible following the start of data collection, and occurring concurrently with data collection (Miles & Huberman, 1994).

Ethical considerations

All the necessary approvals were obtained from the research ethics board of the organization. All participants were informed that the purpose of the study was to examine the level of adherence of the NP to the new clinical practice guidelines and explore how team members made decisions about medications and integrating best practice guidelines. Study participation was voluntary. Given the small number of participants involved in the study, confidentiality was ensured by identifying the source of quotations only with broad descriptors such as participant or team member.

RESULTS

The socio-demographic characteristics of the patients are provided in Table 1. Overall, the average age of diabetic patients seen by the NP was 71.7 years (standard deviation [SD]: 11.3, range 54-87). Approximately two thirds of patients were married or widowed. Patients had an average body mass index of 30.3 kg/m² (SD: 4.3, range: 23.8- 49.8). All weights were measured at the last indexed visit. Most of the patients (70%, n= 7/10) did not exercise regularly. Most (80%, n= 8/10) were non-smokers, and they (70%, n= 7/10) did not consume alcoholic beverages at the time of data collection.

Table 2: Measures, physiological parameters and Canadian Diabetes Association recommendations

MEASURE	Completed by Patient % (n)	Missing Data % (n)	Recommendation % (n)
Self-monitored blood glucose (SMBG)	100 (10)	0	
Fasting blood glucose (4-7)	100 (10)	0	80 (8)
SMBG post prandial (5-10)	100 (10)	0	70 (7)
Annual comparison of accuracy between home SMBG and laboratory measure	0	100 (10)	
Physiological Parameters			
	Mean \pm SD (Min-Max))	Missing Data % (n)	Recommendation % (n)
A1C (7%)	7.9 \pm 1.9 (5.8–11.7)	20 (2)	20 (2)
Fasting Glucose (4-7.5 mmol/L)	10.4 \pm 5.8 (3.4–20.8)	30 (3)	0
Iron	9.69 \pm 2.5 (7.5–14)	30 (3)	30 (3)
Vitamin B12		100 (10)	
Alcohol		100 (10)	
eGFR (\geq 60 mL/min/1.73 m ²)	17.6 \pm 6.9 (9–30)	0	0
Potassium	4.5 \pm 0.6 (3.5–5.4)	0	80 (8)
Phosphate	1.3 \pm 0.4 (0.91–1.81)	0	60 (6)
Sodium	137.9 \pm 2.8 (134–142)	10 (1)	80 (8)
Creatinine	327.2 \pm 121 (147–517)	0	0
Protein	71.3 \pm 4.97 (63–77)	40 (4)	60 (6)
Albumin	37.7 \pm 4.4 (30–46)	20 (2)	70 (7)
LDL-C (<2 mmol/L)		100 (10)	
HDL-C		100 (10)	
Cholesterol		100 (10)	
Triglycerides (<10 mmol/L)		100 (10)	
Apo-B		100 (10)	

Note. SMBG=Self-monitored blood glucose; A1C= Glycated Hemoglobin; eGFR=Estimated Glomerular Filtration Rate; LDL-C=Low-Density Lipoprotein Cholesterol; HDL-C=High-Density Lipoprotein Cholesterol; Apo-B=Apolipoprotein B; mL=Millilitre; L=Litre; min=minute; m=Metre; Fasting blood glucose and SMBG post-prandial in mmol/L.

Patients were diagnosed with diabetes on average 13.6 years earlier. All of these patients were diagnosed with hypertension (mean: 159/81 mmHg, range 118/56-214/146). The average estimated glomerular filtration rate (eGFR) was 17.6 mL/min/1.73 m² (SD: 6.9) (range 9-30) (Table 2). Patients were diagnosed with an average of 9.5 co-morbidities (range 6-14 co-morbidities) including severe and terminal CKD (n=9), anemia (n=7), metabolic acidosis (n=5), dyslipidemia (n=9), and retinopathy (n=6). Some patients also had signs of neuropathy (n=3).

Patients required an average of 11.5 (range 3-19) health visits over the 12 month period. Of these, an average of 6.2 visits were in the pre-dialysis clinic of which 5.4 visits were planned with the NP. There were almost no unplanned visits (mean: 0.6, range 0-3) for a health concern. No patient was seen by the NP for a hypoglycemic event during the study period.

Specific indicators were measured to determine provider adherence to the CDA's clinical practice guidelines. They are presented in Tables 2 and 3. The level of adherence for physiological indicators such as potassium and creatinine levels were 100%. Similarly, glucose monitoring by the patient were well documented and generally met the CDA recommendations for home glucose monitoring. A1C measures and fasting glucose levels were higher in many patients in the sample than recommended for many patients. Medications to treat hypertension and diabetes

were well documented and adhered to clinical practice guidelines. Nine out of 10 diabetic patients had documented lower limb assessments. Three patients had developed neuropathies. However, a number of indicators were not documented and it was not possible to determine the level of adherence to all of the indicators within the clinical guideline. For example, lipid profiles were available for the last health visit only and no patients had the measure taken at the last indexed visit.

A wide range of providers are involved in caring for diabetic patients with CKD (Table 4). The strategies used by team members to integrate the current guidelines in practice, optimize their scope of practice, and explore how decisions about prescribing or adjusting medications were examined. Team members were asked to describe how they made decisions, and how they integrated BPG in the management of chronic conditions in patients with diabetes and CKD. Team members identified several key decision-making strategies that helped them to optimize each provider's role and integrate the BPG. The strategies identified by team members included: 1) the development of complementary roles in the team; 2) actively involving patients in their care; 3) best practice guidelines and the adapting decisions to each patient's unique condition; 4) communication; and 5) coordination of complex care. Each one is described in greater detail below.

1) Development of complementary roles in the team

Health care participants described each team member's unique contribution to the team's functioning. Each professional had an understanding of the role of other team members.

"The nurse may see a patient at 1 PM and pick up on something in the patient's nutritional status. I may be seeing the patient at 2:30 PM and the nurse will tell me about it so I can follow up. This is a team effort."

All team members described the clinic's nurse as a pivotal member of the team because information passed through her to other providers.

Intervention	n	Level of Adherence (%)
Serum biochemistry (n=10)		
Potassium	10	100
Creatinine	10	100
Glucose	7	70
A1C	8	80
Diabetes Care		
Weight management (n=10)	6	60
Physical activity (n=10)	2	20
Self-monitoring of blood glucose (n=10)	10	100
Oral hypoglycemic agents (n=4)	4	100
Insulin (n=6)	6	100
Diabetic teaching : insulin (n=6)	1	17
Foot exam (n=10)	9	90
Blood pressure (n=9)		
Medication	9	100
Neuropathy (n=3)		
Lifestyle	2	67
Medication	2	67
Note. A1C= Glycated Hemoglobin		

Inter-Professional Team Members	% (n)
Nurse Practitioner	100 (10)
Nurse Clinician (n=6)	20 (2/6)
Family Physician	50 (5)
Endocrinologist	60 (6)
Specialized diabetic nurse (diabetes clinic)	20 (2)
Pharmacist	10 (1)
Nutritionist	20 (2)
Psychologist	20 (2)
Other*	60 (6)
Note. *Other team members include specialist physicians (oncologist, neurologist, ENT, respirologist), social worker, wound care nurse.	

"The nurse at the clinic is pivotal for all the rest. She will schedule appointments for patients and will be present when the patient meets with the nutritionist or the nephrologist. She will also discuss any problems with the pharmacist. The pharmacist will follow up any issues with the nephrologist and leave a message for the nephrologist through the nurse".

2) Actively involving patients in their care

Team members described several strategies to involve patients in their care. They included using lists, note books, encouraging questions, individual and group teaching sessions based on current guidelines, and actively involving family members in care activities.

"With regards to medication, I would like the patients to have their results of their home monitored blood glucose levels with them. We have tried to find ways to remind them to bring the information with them for their appointments."

3) Best practice guidelines and adapting decisions to each patient's unique condition

All team members were aware of the updated CDA guidelines, but not all team members were actively involved in hands-on care and diabetes management activities. They noted that the guidelines were not tailored to the needs of patients with CKD because these patients were often excluded from clinical trials. One team member noted:

"We want to avoid complications, but if the patient is 85 years old, my biggest concern is hypoglycemia. I don't want that. Blood glucose is closely monitored but what if the person lives alone? Does she understand? Is she able? Does she have symptoms of hypoglycemia? There are a number of factors that will determine how closely we control the patient's blood sugar. It's not just about the chronic condition. A blood sugar close to 4 may be the recommendation but it may be too tight. We may be too close to hypoglycemia."

Team members highlighted that patients followed at the pre-dialysis clinic required support to manage their complex conditions. Patients and their family members needed to take into account strict requirements for both kidney disease and diabetes. One team member provided the following example when adjusting insulin for a diabetic patient:

"There are times when two insulins are in the same cartridge and we need to adjust the dosage. The diet they are on is restrictive and becomes more restrictive as their kidney disease worsens. There are times when patients don't have three meals [per day]"

4) Communication

The nurse in the pre-dialysis clinic played a key role in formal and informal communication. Team members described how messages to and from the physicians or other team members flowed through the nurse in the pre-dialysis clinic. All team members described how they used informal communication to ensure adequate patient follow-up and monitoring. For example, the pharmacist and an assistant reviewed all medication records prior to the clinic visit and flagged any

concerns to the nephrologist or the NP. These activities were not documented in the patient's chart. In another example, the NP provided a short summary and follow-up to the clinic's nurse to ensure that the nurse was able to respond to any concerns voiced by the patients seen by the NP. These activities were not documented in the patient's health record.

"A patient may have lost weight and I say to myself that I must take that into account when making suggestions and not be too restrictive in the nutritional choices that I give him or her. For example, I can see if they want to try a nutritional supplement. I have samples that I can give out. If they don't like them, I'll need to think of another alternative but I cannot be too drastic (...) We try to find solutions and I'll talk with [clinic nurse]."

5) Coordination of complex care

Team members described the need to coordinate care within the team, the organization and with providers in other hospitals or other clinics. A number of diabetic patients were seen for their diabetes management by endocrinologists and family physicians in other institutions. Their diabetes management information was not always easily accessible in the hospital health record. In such cases, team members relied on the patient's self-reported home record and history. One team member noted:

"Care coordination ... there is synergy in the clinic where the unit agent is very involved and knows the patients well. There is a solid link between the clinic nurse, the unit agent and the rest of the health care team."

DISCUSSION

From the 146 patient health records that were searched, 10 diabetic patients with CKD who were under the care of an NP were identified. The average age of patients who were under the care of the NP was 71 years. Many were married or were now widowed. Most of the patients were sedentary, and non-smokers. The patients had, on average, nine co-morbidities, and their average eGFR was 17.6 mL/min/1.73 m². Providers believed that patients needed to reconcile many challenges to adhere to the requirements to manage their diabetes and CKD.

Each team member contributed specific expertise to patient care. The NP and members of the health care team were aware of the new CDA clinical practice guidelines and had integrated them into their practice. Most of the CDA recommendations were met, but team members noted the importance of tailoring the guidelines to the specific needs of this patient population. Team members believed they should not adhere to the guidelines in certain circumstances (e.g., elderly patients living alone). Some practices were not consistent with the CDA guidelines because some indicators were not well documented. If care was not documented, we considered that the guideline recommendations were not met. Other researchers (De Marinis et al., 2010) have concluded that about 40% of nursing activities are documented in patient charts. This raises concerns about chart audits as a quality assessment tool. Adherence to clinical guidelines needed take into account clinical factors, as well as specific patient circumstances.

An important challenge in the study was to identify the patients who were followed by the NP. Previous research has shown that an interprofessional team approach to care improves outcomes for CKD patients (Strand & Parker, 2010). Efficient strategies to identify all providers involved in the care of patients with CKD and diabetes is a critical step in assessing adherence to clinical practice guidelines and informing decisions about care. In order to identify which patients were seen by the NP, the NP's scheduled work days were compared against the patient lists. Thereafter, health records from those dates were hand-searched to identify patients who had been seen by the NP and were diabetic. It was not possible to track patients seen by the NP without using the health records because there was no computerization of the health records and the patients were not rostered to the NP, but with the collaborating physician. It was not possible in the current system to track patient appointments, or identify the involvement of the NP or other providers in the patient's care.

CONCLUSION

Diabetes is a common co-morbidity for patients with pre-dialysis CKD. The CDA clinical practice guidelines were updated in 2013. We sought to identify the level of

adherence to the updated guidelines of an interprofessional team in a pre-dialysis clinic that includes an NP. One hundred and forty-six health records were screened to identify 10 patients who met the inclusion criteria. The health record audits ascertained that the level of adherence to the clinical practice guideline was high for several indicators. A number of activities that were completed for patients were not well documented in the patient's health record. Strategies to facilitate the identification of providers involved in the care of patients with complex conditions and the accurate documentation of care activities are essential to adequately assess the level of adherence to clinical practice guidelines and inform decisions about care. Team members identified strategies they used to incorporate BPGs and optimize each provider role in the team.

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DISCLOSURE

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Motivational interviewing: Application to end stage renal disease patients

By Shekhar Mehta, BSc, Karen Cameron, BScPhm, ACPR, CGP, and Marisa Battistella, BScPhm, PharmD, ACPR

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OBJECTIVES

Upon completion of this learning activity, the participant will be able to:

1. Define motivational interviewing (MI).
2. Describe the four principles of MI.
3. Highlight the different techniques used in MI and to describe the stepwise process of MI.
4. Provide empiric evidence surrounding the use of MI in dialysis patients.

INTRODUCTION

Patients with end stage renal disease (ESRD) have to make numerous changes to their lifestyle. A typical patient with ESRD is expected to adhere to dietary restrictions, a complex medication regimen, fluid restriction, smoking cessation, and kidney clinic appointments (Martino, 2011). In addition, patients will be given different choices on modalities of treatment such as hemodialysis, peritoneal dialysis, home hemodialysis or no dialysis (Martino, 2011). With many restrictions and decisions, patients may feel demotivated, which can lead to non-adherence and poor clinical outcomes (Martino, 2011). Motivational interviewing (MI) is a useful approach for practitioners to help enhance patient interest and participation in their treatment (Rollnick, Miller, & Butler, 2008). The purpose of this article is to highlight the key principles of MI, the process and skills required to carry out MI, and the empiric evidence supporting its use in dialysis patients.

WHAT IS MOTIVATIONAL INTERVIEWING?

Motivational interviewing, developed by William R. Miller, is a patient-centred counselling approach that originated from the addictions field, specifically alcoholism (Dunn, Deroo, &

Rivara, 2001). It has also been shown to be effective in improving medication adherence and managing chronic conditions like diabetes, hypertension, and obesity (Rollnick et al., 2008).

MI is a collaborative approach between the patient and their health care providers designed to enhance the patient's commitment towards improvement (Berger, 1999). The idea is to promote welfare of the patient by highlighting their strengths and equipping them with resources to facilitate change. The practitioner is responsible for enhancing motivation and promoting conversations that favour change, called *change talk*, and minimizing conversations that sustain unhealthy behaviour, called *sustain talk* (Miller & Rollnick, 2012). Change talk is the patient's desire to change, represented by the positivity and enthusiasm of the patient towards changing their behaviour. On the other hand, sustain talk is the counter-change arguments, conversations which deter positive outcomes (Riekert, Ockene, & Pbert, 2013).

FOUR PRINCIPLES OF MOTIVATIONAL INTERVIEWING

The four key principles of MI guide the practitioner as to how to have a successful impact on patients. The REDS acronym describes these principles: **r**oll with resistance, **e**xpress empathy, **d**evelop discrepancy, and **s**upport self-efficacy (Martino, 2011).

1. Roll with resistance

It is common for ESRD patients to be hesitant or skeptical about change (Martino, 2011). These factors often highlight the barriers that patients may have. For instance, a dialysis patient may be less inclined to continue their calcium carbonate because they think it is not beneficial. The manner in which health care providers address resistance is crucial in MI. Confronting it head-on should be avoided, as doing so will result in further resistance by the patient (Miller, 1995). Instead, the provider should roll with the resistance by shifting the patient's attention to change talk (Berger, 1999; Miller & Rollnick, 2012). For example, if patient is hesitant about adhering to their calcium carbonate, the following response would illustrate rolling with resistance: "I understand it is difficult for you to take two tablets of calcium with each meal, but how about we start with one per meal and go on from there." It is important to work with the patient in minimizing their resistance, because this will empower them to find solutions on their own.

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2. Express empathy

Empathy is crucial to developing a trustworthy patient-provider relationship (Possidente, Bucci, & McClain, 2005). Reflective listening is an excellent way of expressing empathy and developing rapport. It involves actively listening to what the patients are saying and reflecting back to them that they are understood (Scales, Miller, & Burden, 2003). The following statement reflects empathy and reflection. “I can see you are trying hard to make changes and I can only imagine how difficult it must be.” Overall, patient motivation is increased when they trust and feel comfortable with their practitioner.

3. Develop discrepancy

Discrepancy is described as the difference between patient’s current behaviour and the goals of treatment. In this step, the provider is responsible for highlighting and illustrating this disparity to patients. For example, “Mr. Smith your current phosphate level is 2.1 mmol/L, we would like to bring this value to less than 1.8. Can we work together to get there?” Using this principle will result in patients analyzing and reflecting on their own behaviour, and discovering solutions to move towards their goals (Miller & Rollnick, 2012).

4. Support self-efficacy

MI aims to empower patients and allows them to gain control of their lives. Self-efficacy is the belief in one’s own ability to achieve or perform a task (Possidente et al., 2005). This is the key to MI because in order to create a change, patients must first believe in themselves. Encouragement and positive feedback, along with stressing past successful changes will enhance patient’s self-efficacy (“Mr. Smith, great job on getting your phosphate levels in control, I knew you could do it because you have done it before!”) (Martino, 2011).

MOTIVATIONAL INTERVIEWING TOOLS AND SKILLS

The four principles of MI provide a fundamental overview of the patient-provider relationship. However, there are practical skills and techniques that could be helpful to the provider throughout the MI process. A few examples of these are: OARS, agenda mapping, elicit-provide-elicit, DARN-CAT, and the 0-10 ruler.

One of the strategies is OARS: asking open-ended questions, affirming positive behaviour, reflecting patient’s concerns, and summarizing periodically (Sanders, Whited, & Martino, 2013). Open-ended questions are used to facilitate an engaging conversation and to elicit in-depth information (Miller & Rollnick, 2012). An example of an open-ended question is “What are your thoughts about having less dairy in your diet?” Health care providers can use the answers to such questions to identify problems and barriers. Affirming positive behaviours is a skill that facilitates patient self-efficacy (“Excellent job on cutting down cheese and ice cream from your diet”). By acknowledging patients strengths and encouraging positive behaviour, the patients are empowered. Reflections are perhaps one of the most important steps in MI. They promote empathy, as well as provide valued feedback to patients (“I understand your concern

about giving up dairy products entirely, but we will take it one step at a time”). Lastly, summaries represent the take-home points for patients—that is, they recap everything discussed during the interview session (“Therefore, for this month, we will continue to build on the positive results and stick to a low dairy diet”) (Miller & Rollnick, 2012).

Agenda Mapping is a tool used to select the topics patients would like to discuss. It involves listing all of the options for discussion (Sanders et al., 2013). Once the mapping is completed, the most important goals for the patient should be given priority. For instance, if patients have diabetes on their agenda map, one of their priorities might include a healthy diet to control their blood sugar levels.

Elicit-Provide-Elicit is a concise way to account for what patients already know and to fill gaps for missing knowledge (Linden, Biuso, & Butterworth, 2010). In this step-wise approach, the provider initially elicits the patient’s understanding about the topic (“What do you know about your cholesterol medication, atorvastatin?”). Next, the practitioner addresses any of the patient’s concerns and provides further information (“This medication can cause some muscle cramps as a side effect”). Finally, the provider elicits the patient’s reaction and understanding from the counselling (“What do you think about taking atorvastatin at bedtime?”) (Sanders et al., 2013).

DARN-CAT is a technique used to understand change talk in patients. Patient statements and opinions about change can serve as cues to predict how likely they are to change their behaviour (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003). Therefore, providers should be vigilant about such statements (See Table 1). DARN represents the preparation phase of change, indicating that patients need more motivation and resources from the provider. Meanwhile, CAT is the commitment phase, where providers simply maintain patient motivation and interest (Wagner, & Ingersoll, 2012).

An additional skill that is helpful in MI is decisional balance. This activity involves assessing the pros and cons of committing and not committing to change (See Table 2). Providers can present more reasons for the positive outcomes of changing to tip the balance towards changing behaviour (Sanders et al., 2013). For example, if a practitioner is encouraging a patient on a complex medication

Table 1: Patient’s motivational level for change described by DARN-CAT

Component	Examples
Desire	I want to make a change
Ability	I can change
Reason	It is important for me to change because...
Need	I should change
Commitment	I will make changes
Activation	I am ready and prepared to make changes
Taking steps	I have already made change(s) by...

(Sanders et al., 2013; Miller & Rollnick, 2012)

regimen to use a blister pack, they can stress the positives associated with this change, such as no extra cost of blister packs, better organization of medications, improved medication adherence, and enhanced health outcomes.

The final technique important in MI is the use of a 0–10 ruler. This is useful in assessing a patient's willingness to

change. A score of 0 would indicate the patient is absolutely against changing, meanwhile, a score of 10 indicates the patient is fully inclined to participate and create change. In addition, low scores could be used to provoke change talk ("Please explain why you gave a score of 3 instead of an 8?") Overall, rulers are used to gauge the patient's confidence, commitment, importance, and readiness to change (Martino, S, 2011).

	Change	No Change
Pros	The advantages of changing behaviour ("Exercising is good for my health and well-being")	The advantages of sustaining current behaviour ("If I don't exercise I have more time to watch television")
Cons	The disadvantages of changing behaviour ("I will have to join and pay for a fitness club to start exercising")	The disadvantages of sustaining current behaviour ("Lack of exercise could make me obese and unhealthy in future")

(Sanders et al., 2013)

PROCESS OF MOTIVATIONAL INTERVIEWING

The MI process is divided into four stages—engaging, focusing, evoking and planning. Each stage builds upon the previous throughout the interview. Table 3 provides an explanation of the four stages, highlighting the purpose of and the techniques employed in each stage.

The four principles of MI could also be incorporated into each of the steps. Empathy plays a crucial role in the engaging step. In order to establish a strong patient-provider relationship and to reduce resistance, empathy is essential. A simple way of showing empathy is to recognize that it not easy for patients to change (Linden, Biuso, & Butterworth, 2010). Focusing and evoking are the bulk of MI. In these

Stage	Purpose	Useful Techniques
Engaging	To establish a trusting and working relationship with the patient	OARS
Focusing	To agree on the focus of the discussion To direct the conversation towards changing behaviour To target patient priorities	Agenda Mapping Elicit-provide-elicited DARN-CAT OARS
Evoking	The bulk of motivational interviewing Explore and enhance a patient's motivation to identify barriers To magnify the advantages of changing	OARS Elicit-provide-elicited Decisional balance Rulers (0-10)
Planning	Solidifying the commitment to change To create a plan of action Set up follow-up appointments	Use of summaries and reflections OARS

(Miller & Rollnick, 2012; Amrhein et al., 2003)

Course Name	Description	Requirements	Link
OISE UofT: Certificate in Motivational Interviewing	This course teaches the principles of MI and teaches practitioners the skills needed to guide patients through the change process.	Registration is open to all practitioners that have a basic understanding of clinical counselling.	http://conted.oise.utoronto.ca/Certificate_in_Motivational_Interviewing/index.html
CAMH: Motivational interviewing Introduction	This course is offered online. The purpose is to learn by simulation-based training and practice strategies. Students learn by a MI coach and practise with simulated clients.	Participants must have completed courses in clinical communication and counselling skills	http://www.camh.ca/en/education/about/AZCourses/Pages/mi_ol.aspx
Humber College: An Introduction to Motivational Interviewing	Two day, 16 hour course that provides an overview of MI, along with practising the skills and techniques.	Participants must have completed a course or have paid experience in counselling or interviewing.	http://calendardb.humber.ca/LIS/WebCalendar/CE/CourseOffering.do?name=CCL_601
York University: Training in Motivational Interviewing for Health Coaches	The workshop is intended to provide practitioners with an intensive approach to implementing and sustaining health behaviour changes	N/A	http://www.yorku.ca/hlln/get-unstuck/

steps the practitioners understand patient priorities, focus on change talk, and stress the importance of creating changes (Miller & Rollnick, 2012). Rolling with resistance, developing discrepancy, and supporting self-efficacy could be employed at these stages. The final step of the MI process is planning. The purpose of this step is to confirm that patients are committed to change (Miller & Rollnick, 2012). Practitioners should strengthen patients' self-efficacy to ensure they are motivated and excited about change. The incorporation of these principles into the MI process allows practitioners to collaborate with patients by giving them respect, evoking ideas that involve change talk, and supporting patients' ability to make positive changes (Martino, 2011).

EMPIRIC EVIDENCE: USE OF MI IN ESRD PATIENTS

Over the past decade there has been increased interest in studying MI within the field of nephrology. Motivational Interviewing in Dialysis Adherence Study (MIDAS) looked at the efficacy of MI with respect to treatment and medication adherence in dialysis patients. A pre-post design was used for this study, with 29 participants from a hemodialysis clinic in the central United States. The results showed that MI led to a reduction in missed treatments (one or more) from 26 per cent to five per cent. In addition, there was better control of phosphate with a 50% reduction in patients with levels higher than 2.1mmol/L or less than 0.6mmol/L. There was also a 16 per cent increase in patients with serum albumin that fell in the "good" category (40 g/L or greater). Although not statistically significant (due to the small sample size), the results of this study show promising benefits of using MI (Russell et al., 2011).

Another study conducted on hemodialysis patients looked at changes in fluid management with MI intervention. This study had five participants and the main outcome was to measure interdialytic weight gain and patient perception of the intervention. MI led to a reduction in frequency and severity of volume overload in three out of five patients. The authors also stated that this was a positive experience for both patients and providers (Fisher et al., 2006).

Lastly, MI has shown to be effective in other conditions related to ESRD such as diabetes, weight loss, and improved diet (Clark & Hampson, 2001; Smith, Heckemeyer, Kratt, & Mason, 1997; Spahn et al., 2010).

CONCLUSION

ESRD is a complex condition which requires lifestyle changes and medication adherence. This can often lead to patients feeling overwhelmed and demotivated. MI has shown promise as a method to help patients manage with change. It has well-defined principles and unique techniques that assist practitioners with improving patient outcomes. Practitioners who are interested in learning more about MI are referred to **www.motivationalinterview.org** for many additional resources. Please see Table 4 for a list of MI training courses that are available.

Overall, MI is effective in many different areas of health care, including in dialysis patients. Smaller scale studies have demonstrated MI is an effective tool to create behavioural changes in patients. Further research on a larger scale is needed to help solidify the efficacy of MI in ESRD patients.

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Motivational interviewing: Application to end stage renal disease patients

By Shekhar Mehta, BSc, Karen Cameron, BScPhm, ACPR, CGP, and Marisa Battistella, BScPhm, PharmD, ACPR

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1. What is motivational interviewing?
 - a) an approach used to motivate healthcare providers so they can help patients
 - b) collaboration between the patient and provider to enhance patient's motivation towards positive change
 - c) a counselling style that enhances sustain talk
 - d) an interview technique that promotes the welfare of a practitioner by highlighting their strengths
2. Which acronym describes the four principles of MI?
 - a) REDS
 - b) OARS
 - c) DARN
 - d) CATS
3. The principle that highlights the difference between a patient's current behaviour and their goals of treatment is _____.
 - a) support self-efficacy
 - b) roll with resistance
 - c) develop discrepancy
 - d) showing empathy
4. How can a provider support a patient's self-efficacy?
 - a) argue with the patient to develop discrepancy
 - b) provide positive feedback and encouragement
 - c) undermine past successful changes
 - d) criticize patients to make them mentally stronger
5. The patient states the following: "I realize it is important for me to take my blood pressure medications." What phase of change talk does this represent?
 - a) desire
 - b) ability
 - c) reason
 - d) activation
6. Which of the following is not an open-ended question?
 - a) do you experience any side-effects from cinacalcet?
 - b) why were you prescribed ramipril?
 - c) what are your thoughts about trying a new blood pressure medication?
 - d) could you describe the type of pain you experience?
7. How can providers tip the balance in favour of creating change?
 - a) use agenda mapping to understand patient barriers
 - b) use decisional balances to stress the pros of creating change
 - c) use elicit-provide-elicited to help fill missing gaps when changing behaviour
 - d) use the 0–10 ruler to confront a patient about a low score
8. At which stage do practitioners solidify patients' commitment to change?
 - a) engaging
 - b) focusing
 - c) evoking
 - d) planning
9. Which of the following examples illustrates affirming positive behaviour?
 - a) "It must be really difficult for you to make all these changes."
 - b) "So for this month we need to increase your calcium from twice daily to three times daily."
 - c) "You are doing an excellent job of controlling your phosphate, keep up the good work."
 - d) "Okay, I understand you like yogurt, so we will leave that in your diet, but how about we take out cottage cheese?"
10. Which of the following evidence supports the use of MI in dialysis patients?
 - a) reduction in missed treatment sessions
 - b) improved phosphate control
 - c) reduction in frequency and severity of volume overload
 - d) all of the above

CONTINUING EDUCATION STUDY
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EDUCATION**Motivational interviewing: Application
to end stage renal disease patients**

Volume 24, Number 4

By Shekhar Mehta, BSc, Karen Cameron, BScPhm, ACPR, CGP, and Marisa Battistella,
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EVALUATION

	Strongly disagree		Strongly agree		
1. The offering met the stated objectives.	1	2	3	4	5
2. The content was related to the objectives.	1	2	3	4	5
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Blood specimen labelling errors: Implications for nephrology nursing practice

By Jennifer Duteau, RN, BScN, MScN

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ABSTRACT

Patient safety is the foundation of high-quality health care, as recognized both nationally and worldwide. Patient blood specimen identification is critical in ensuring the delivery of safe and appropriate care. The practice of nephrology nursing involves frequent patient blood specimen withdrawals to treat and monitor kidney disease. A critical review of the literature reveals that incorrect patient identification is one of the major causes of blood specimen labelling errors. Misidentified samples create a serious risk to patient safety leading to multiple specimen withdrawals, delay in diagnosis, misdiagnosis, incorrect treatment, transfusion reactions, increased length of stay and other negative patient outcomes. Barcode technology has been identified as a preferred method for positive patient identification leading to a definitive decrease in blood specimen labelling errors by as much as 83% (Askeland, et al., 2008). The use of a root cause analysis followed by an action plan is one approach to decreasing the occurrence of blood specimen labelling errors. This article will present a review of the evidence-based literature surrounding blood specimen labelling errors, followed by author recommendations for completing a root cause analysis and action plan. A failure modes and effects analysis (FMEA) will be presented as one method to determine root cause, followed by the Ottawa Model of Research Use (OMRU) as a framework for implementation of strategies to reduce blood specimen labelling errors.

INTRODUCTION

The practice of nephrology nursing includes frequent blood withdrawal based on the requirement of high volume blood specimen sampling for the effective management and treatment of kidney failure. Dialysis treatments such as in-centre hemodialysis are customarily delivered three to six days per week for two to four hours in duration. As a result, hemodialysis nurses are often responsible for over 100 patient treatments in a single day. Human error is seen as a leading cause of blood specimen labelling errors (Davidson & Bolton-Maggs, 2014). Possible causes include

improper patient identification, last-minute relocation of an assigned dialysis treatment station, inconsistent nursing care and system errors (incorrect requisition, data entry and specimen transport procedures). The mislabelling of laboratory specimens has been found to be a high risk issue in acute care hospitals and is the leading cause of transfusion-related morbidity and mortality (O'Neill, Richardson-Weber, McCormack, Uhl & Haspel, 2009). A critical review of the research literature related to improper blood specimen labelling identifies procedures and processes to reduce these errors. One research article by Askeland et al. describes an interdisciplinary approach that may be beneficial to nephrology nursing practice in improving blood specimen handling and patient safety (2008).

Literature Review

Improving the safe care of patients has recently evoked national attention. Since 2003, the Joint Commission on Accreditation of Healthcare Organizations continues to develop national patient safety goals (Jeffs, Law, Baker, & Norton, 2005). One such goal is to improve safety performance or help solve patient safety problems by improving the accuracy of patient identification. An important improvement in the accuracy of patient identification is bar code scanning for blood products. The Joint Commission of the World Health Organization (2007) identified patient misidentification as a major safety issue in drug administration, phlebotomy, blood transfusions and surgical interventions. Recommendations to improve this patient safety issue included the use of new technology such as bar coding, and verification of two accompanying patient identifiers. Dohnalek, Cusaac, Westcott, Langeberg and Sandler (2004) suggested that most errors in administering blood transfusions share a common root cause that involves the failure to verify "identification of the intended recipient" (p. 34).

In a multicentre study by Dzik et al. (2003), the incidence of mislabelled blood sampling was validated. Based on the results from more than 690,000 samples, the median hospital performance resulted in a rate of mislabelling of one in every 165 samples. The authors concluded that the first step in addressing mislabelled blood samples was to gain insight into the extent of the problem. Similarly, a cohort non-experimental study spanning a five-year period from a centralized laboratory in France reported that one in 3,400 blood samples had identified ABO discrepancies based on comparison with previous records (Chiaroni, Legrand, Dettori, & Ferrera, 2004). Root cause analysis in this study assisted with error identification; error rates

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were then reported in percentages. In examining various independent variables related to blood specimen labelling errors, potential contributors were revealed. These included errors occurring during phlebotomy such as identity mix up, incorrect identity based on same name or birth date, and registration errors. A longitudinal study by Wagar, Tamashiro, Yasin, Hilborne and Bruckner (2006) reported misidentification error rates as 1/1000. The studies identified suggest the magnitude of misidentification of specimens as a patient safety issue.

Additional studies elaborate further on the problem of blood specimen labelling by introducing possible solutions designed to reduce the volume of errors. For example, Dzik (2006) reviewed studies in which bar coding and radiofrequency identification was used for positive patient identification in blood specimen labelling, and described bar code technology as a “widely used, stable, inexpensive means of machine-readable identification” (p. 186). The author commented that bar coding was already used in the retail sector and that a supermarket checkout slip was undoubtedly more “accurate than a patient’s medical record” (p. 186). Although the author supported the use of technology at improving blood specimen labelling errors, technology alone was not considered the sole solution to improving transfusion safety. Professional standards of performance and adequate staffing to maintain the technology were also seen as important indicators in the overall improvement of patient identification safety.

In support of this, Turner, Casbard and Murphy (2003) conducted a quantitative comparison of bar coding practices to manual practice in verifying patient and blood sample identification prior to blood transfusion. A baseline audit revealed poor adherence to manual patient identification protocols using two distinct identifiers (name and date of birth). This study took place in a hematology department with high volumes of blood specimen withdrawal and labelling. It compared not only improvements in patient identification using bar coded armbands and bar code reading devices in cross-referencing blood and patient identification, but also examined the practice of verbally identifying patients prior to specimen withdrawal and labelling. Interestingly, an improvement from 11.8 to 100 per cent in the correct verbal identification of patients following the implementation of bar coded armbands and bar code reading devices was demonstrated. Moreover, staff reported positive experiences, as they found the reading device system easy to operate with less procedural steps than previously required.

A study by Hayden et al. (2008) found computer-assisted bar coding to be extremely beneficial in decreasing the occurrence of lab specimen labelling errors. Conducted in a pediatric oncology centre, the study used a longitudinal design where data were collected in three consecutive 12-month timeframes—corresponding to periods before, during and immediately after implementation of an electronic positive patient identification system with bar code technology. During the study, approximately 18,000 blood specimens were collected each month. A significant

reduction in the median percentage of mislabelled specimens was observed over the three-year study period. A decline from 0.03% to 0.005% ($P < .001$) was observed in the 12 months after the full bar coding system was implemented. On evaluation of the pre-intervention detected error rate, it was concluded that the bar code-based electronic positive patient and specimen identification system prevented at least 62 mislabelling errors during the first year of operation.

A study conducted by Askeland, et al. (2008) involved using a comprehensive bar code-based computerized system to identify and prevent transfusion errors. The longitudinal experimental study took place at a large teaching hospital in the United States that administered approximately 34,000 blood component transfusions per year. Obtaining data from the pilot project assisted the researchers in expanding the study to include other clinical settings. The larger hospital study included all patient care areas within the hospital and took place over a three-year period. The study revealed an 83% reduction in mislabelled blood samples after implementation of the bar code-based computerized system. The study also found that rejection rates for samples identified with illegible handwriting, incomplete requisitions and incorrect patient identification spelling dropped from 1.82% to 0.17%. The study brought to light the added benefit of a computerized audit trail that is readily available for review. The bar code-based computerized system was successful in detecting and preventing identification and matching errors and the proportion of blood samples rejected, leading to enhanced patient safety. The results of this study showed high compliance with the new bar code system with low frequency of failure of completion of key scanning steps. The authors acknowledged that the implementation of a bar coding system for patient identification requires excellent baseline data prior to implementation and that staff training and equipment selection is of key importance to success.

Bar code identification at the bedside is, therefore, considered well suited to the blood transfusion process. This technology can scan employee badges, patient armbands, and blood products in order to ensure the right blood is going to the right patient, and has been recommended by governing bodies in both Canada and the United States.

BAR CODE TECHNOLOGY

In 2004, the United States Food and Drug Administration (FDA) mandated container labels for blood and blood components intended for transfusion. A container label is created in the collecting and initial processing facilities. The label identifies the contents of the container after finished blood products have been prepared and defined as ready for shipment. Standardized container labels were mandated based on their ability to reduce error rates (FDA, 2004). Canada adopted the global standard for blood product bar coding in 1994, with an upgrade to the ISBT 128 bar code label in 2009 (Canadian Blood Services, 2008). The ISBT 128 bar code label—used in conjunction with bar code reading software technology—electronically

cross-matches donor and recipient for ABO compatibility, and also effectively tracks blood products. The bar code can also be used for positive patient identification using a handheld device that verifies the blood product against the patient's arm band (Aulbach et al., 2010).

APPLICATION TO NEPHROLOGY NURSING PRACTICE

Given the volume of specimen collection in hemodialysis practice, this evidence is applicable to nephrology nursing. Hemodialysis units might consider the implementation of bar code technology in their programs as a means of improving specimen labelling practices and increasing patient safety. Individual units or programs could evaluate the need based on their incident error rates using QI methodology as one means of addressing this quality issue. Completion of a failure modes and effects analysis (FMEA) evaluation followed by a process for knowledge translation using the Ottawa Model of Research Use (OMRU) is an effective approach that could be used to achieve this.

For example, Hayden et al. (2008) used FMEA methodology as a means to creating an action plan targeted at decreasing the occurrence of lab labelling errors. An FMEA assumes that humans make errors and that all things have the potential to fail, and that causes of errors are often beyond an individual's control (Sheridan-Leos, Schulmeister, & Hartranft, 2006). FMEA is a systematic, prospective, multidisciplinary team-based analysis process that "identifies and assesses the effects of potential errors or system failures" (Sheridan-Leos, Schulmeister, & Hartranft, 2006). FMEA allows for a proactive approach in addressing the causes of problems and prioritizing improvement strategies, has proven to be beneficial in improving patient safety, and is strongly promoted by the Joint Commission on Accreditation of Health Organizations (JCAHO) (Chuang & Chuang, 2009). Conducting an FMEA would require participation from personnel from all areas involved in the process of lab specimen labelling such as nursing units, laboratories, clinical informatics, patient safety, and phlebotomy teams.

The Ottawa Model of Research Use (OMRU) was developed by Logan et al. (1999), as a guide to implementing strategies aimed at increasing evidence-based practice (Logan, Harrison, Graham, Dunn, & Bissonnette, 1999). The OMRU is a flexible model that can be used to facilitate knowledge translation and includes investigating evidence for the need of innovation, assessing the practice environment and the potential adopters for the evidence, monitoring research transfer strategies, analyzing evidence that the innovation has been adopted, and evaluating outcomes (Logan et al., 1999). In this case, the first step of the OMRU would involve the exploration of existing laboratory data related to lab specimen labelling errors. A subsequent FMEA process would indicate the need for innovation through a multidisciplinary team approach.

The second step of the OMRU—administrative support—is essential in reviewing current practice standards related to lab specimen labelling, mandating for a culture of

safety, evaluating the environment for new technology, and providing educational support. Key stakeholders involved in the FMEA process could play an important role in moving best practice forward through their identification of the practice problem. An organization-wide specimen labelling campaign has the potential to bring attention to the issue in a non-punitive manner, enhancing organizational involvement.

Assigning a pilot unit is an evidence-based strategy that allows for analysis of knowledge transfer strategies prior to implementation on a broader scale. A pilot unit would allow for the involvement of key stakeholders, an ongoing analysis of the environment, and the monitoring of knowledge transfer strategies in accordance with the third step of the OMRU. Knowledge transfer strategies might involve questionnaires to validate learning, ongoing verbal feedback, and use of focus groups. Critically analyzing the occurrence and volume of lab specimen labelling errors would serve as a follow-up success measure, in accordance with the fourth step of the OMRU. More importantly, regular and consistent feedback from point-of-care nurses would be vital in ensuring the continuous use of best practice in lab specimen labelling. Yearly education, random audits of clinical practice, and ongoing administrative support are all strategies that will assist to maintain the improvement strategy.

CONCLUSION

Nephrology nurses are routinely required to collect blood specimens during hemodialysis procedures. As evidenced in the literature, the risk for human error related to blood specimen labelling is of concern. Errors can result in additional laboratory testing, delayed diagnosis, treatment of the wrong patient with the wrong illness, and severe transfusion reactions. The use of barcode technology can improve patient safety, ensure accuracy of patient records, and enhance productivity by reducing duplicate tests and the need for resampling.

Scanning barcodes on the specimen collection tube in the laboratory saves technicians the time of entering the patient information into the computer system. This translates into timelier result reporting, improving overall care. An effective method to decrease blood specimen labelling errors requires close coordination with the multidisciplinary team involved in blood specimen analysis including departments such as the laboratory, pharmacy, and blood bank, which provide services and products necessary during hemodialysis treatments. Strict adherence to patient identification procedures and a commitment to hospital established safety standards related to blood specimen labelling can assist nephrology nurses in eliminating specimen labelling errors. The Ottawa Model of Research (OMRU) is an effective methodology for the dissemination and mobilization of blood specimen labelling best practices. Through these efforts, errors can be reduced and even eliminated, leading to optimal patient-focused care in nephrology nursing practice.

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NOTICE BOARD

- Ottawa Supper Clubs—contact Janet Graham, Nephrology Unit, Ottawa Hospital, jgraham@ottawahospital.on.ca
- March 12, 2015. World Kidney Day.
- April 19–22, 2015. ANNA National Symposium for Nephrology Nurses, Managers, and Advanced Practice Nurses, Disney's Coronado Springs Resort. Website: www.annanurse.org
- September 16, 2015. Nephrology Health Care Professionals Day.
- September 26–29, 2015. EDTNA/ERCA: 44th Annual International Conference, Dresden, Germany. queries@edtnaerca.org
- October 22–24, 2015. CANNT 48th National Symposium, Reaching New Heights, Vancouver, British Columbia. Deadline for Abstracts: February 1, 2015. Website: www.cannt.ca

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Facilitating communication with the patient with a language barrier

By Dr. Gavril Hercz and Dr. Marta Novak, Psychonephrology Unit, University Health Network, Toronto, ON

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QUESTION

Dear Drs. Hercz & Novak,

We have a new patient in our unit who does not speak much English. Her family members accompany her to dialysis and act as her translators. She, herself, is very pleasant and is easy to care for. However, her son is quite overbearing, and makes decisions for her that we are not sure she understands. He is always claiming that she is too tired to attend investigations and cannot handle numerous appointments. We feel certain that he has her best interest at heart but, nevertheless, seems over-protective. Lately his behaviour has been more concerning. He has been offering to provide money for “expanded” service within our unit. He is also asking for his favourite nurses to provide care to his mother. Management has been involved and has talked to the son, and has ensured that independent translation services are available when conversations that require her consent for care are taking place.

We are all feeling uncomfortable with the offer of money for expanded care; it makes us feel as if he thinks the care we are delivering is not

adequate, or that we can be bought. It is increasingly difficult to spend time with this patient, as the son is always in attendance with her and makes us feel uncomfortable. As a result, we are avoiding going to the bedside unless there is direct care required. How can we deal with these feelings without becoming dismissive of the son?

RESPONSE

There are multiple elements to this brief vignette. As evident here, deviation from our usual standard of care sets off alarm bells—helping us to reflect and then share what is happening in our clinical encounters. At a first pass, there are ethical and clinical boundaries that we need to be mindful of, irrespective of the pressures to deviate. In this case, it is appropriate that a translator is involved, assuring our primary commitment to the patient’s “interpreted” wishes.

This scenario is complicated by the lack of ready communication, in terms of the language barrier. I wonder if this barrier also encompasses social and cultural differences that may hamper finding a “common” language. The son, in his own inexplicable fashion, may also be trying to connect with

the staff. He may come from a health care system where patients and families have to either pay for the entire service, or are only able to receive adequate care if a “tip” is provided. His misplaced efforts conflict with our value system, making us feel that our empathetic care is for sale.

However, there is more to this than just a misunderstanding, pushing us to the point that we avoid any encounter but the absolute minimum direct care that is necessary. The clue may be in the son’s overbearing, controlling attitude, and the degrading manner with which he treats the staff. There is an aggressive element to it, which may make the caregivers feel vulnerable and insecure.

What would be a reasonable way of dealing with this? As a start, we need to recognize the dynamics and share them with our colleagues, normalizing our reactions. Subsequently, a care plan needs to be formulated, which the staff will need to adhere to diligently. The plan would also need to be shared with the patient and her son. This consistency will result in a greater sense of security and enhanced connection with the patient, improving communication and care.

New CANNT Board members

ANITA AMOS, PRESIDENT-ELECT

I have practised in the nephrology field for 34 years and am currently at Sunnybrook Health Sciences Centre as an Advanced Practice Nurse in nephrology. My career has been varied with experience in all renal treatment modalities in a variety of roles: staff nurse—PD, hemodialysis, transplant; educator—clinical and academic; education consultant; research coordinator; transplant coordinator; patient care/case manager—hemodialysis, home and KCC; sales specialist; project lead—chronic disease management and manager.



My involvement with CANNT began in 1988. I served six years on the CANNT Board of Directors (1995–2001). During that time I was involved in the development of the first formal five-year strategic plan for the organization; introduction of the concept of interest groups, and initiation of the Excellence in Practice Awards. I led the revisions for the Clinical Practice Standards and the CANNT Board of Directors' Resource Manual, which involved policy and procedure development for the various activities of the association. Orientation for new Board members was another project in which I was integrally involved.

I have served as a member of the national conference planning committee five times: three times as symposium co-chair and twice for CANNT regional symposiums. For three years I also organized the Toronto Dinner Group activities, which included speakers and meals. My involvement with CANNT, our corporate colleagues, and in clinical settings, has given me insights into the needs of each of these groups and the ability to work in partnership with them to move CANNT forward.

I have always enjoyed learning from, and networking with my colleagues from across the country. We all share similar challenges, however, the way in which we face them may be different. Sharing the innovative

ways in which each region/unit/program address our issues enriches us. This carries through to the discussions held at the Board level providing an awareness of issues and direction to the association as it responds to the needs of its membership. Being aware of the bigger picture is part of preparing oneself for change and it is clear that what happens in one part of the country today will inevitably manifest itself somewhere else in the near future. I appreciate the opportunity to be prepared and to have some proven strategies to address situations as they arise.

I value the opportunity to network in a meaningful way with colleagues across the country, as we share our passion in providing care to the people with kidney disease and contributing to their quality of life.

JOSÉ LLOYD, VP TECHNOLOGY

I am excited to serve on the CANNT Board of Directors as the VP Technology for the upcoming term. I began my technical journey at Georgian College where I graduated with Honours from the Dialysis Technical Program. I fulfilled my technical practicum and gained experience through two very different internships. The first was with Baxter Instrument Services, where I was afforded a glimpse into the manufacturer's side of technical service. Next, I observed in-centre technical services while interning at Oakville Trafalgar Memorial Hospital.



Both internships were educational and informative and led me to the next step in my career goals. For the past 12 years I have been employed as a Dialysis Technologist for the Regional Kidney Care Program of Simcoe and Muskoka at Soldiers' Memorial Hospital in Orillia, Ontario.

I have attended several CANNT conferences and have been a member of CANNT for approximately 10 years. More recently I successfully participated in the poster presentations

during the symposium. The conference has been a great venue for me to network with colleagues and share experiences.

This opportunity to be on the CANNT Board of Directors will allow me to become more connected with the nephrology community. I look forward to the challenges ahead.

JANICE MACKAY, VP – WESTERN REGION

I have been very fortunate to spend the majority of my nursing career practising in the area of nephrology within the Southern Alberta Renal Program in Calgary, Alberta. I received my CNA certification in nephrology in 2006, and take satisfaction in being one of 1,225 nurses in Canada with this designation. Over the past 11 years I have held the position of Clinical Research Coordinator in Nephrology and recently assumed the role of Clinical Research Manager in our program.



Being involved as a nephrology nurse assisting in the coordination of nephrology-based research, leading to evidence-based practice to improve the lives of the patients in our care has been both exciting and an ongoing learning experience. In 2009 I obtained my designation as a Certified Clinical Research Professional (CCRP).

I am proud to say that I have participated in the Kidney March, organized by the Southern Alberta Branch of the Kidney Foundation. This annual event raises much needed research funds and awareness of Kidney Disease and helps to support patients and families affected by kidney disease.

I have been a member of CANNT for many years and have always been impressed with their mission to provide leadership and promote the best nephrology care and practice through education, research, and communication. I am looking forward to serving the membership in my role as VP-Western Region.

CANNT 2014 Award and Bursary Winners

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FRANCES BOUTILIER BURSARY MARILYN MUIR, RN, CNEPH(C), WINNIPEG, MB

I would like to express my appreciation to the CANNT Board of Directors for awarding me the Frances Boutilier Bursary, as I pursue my baccalaureate studies. I graduated from the Health Sciences School of Nursing diploma program in Winnipeg in 1991, and have worked within the Manitoba Renal Program since 1995. I am currently a Charge RN for the Manitoba Local Renal Health Program at the Health Sciences Centre, which enables patients to return to their home communities in Manitoba for their dialysis. We currently have 16 satellite units across Manitoba, and I was privileged to be involved in opening two of the newest units; Gimli in 2011 and Hodgson in 2012. I have been a CANNT member for many years, and I have been involved with the CANNT Board of Directors since 2008, as Western VP from 2008–2010, and then as CANNT president from 2011–2013. I also served as a CANNT liaison from 2005–2014, and was co-chair of CANNT 2007 held in Winnipeg. I support CANNT's mission to provide leadership and promote the best nephrology care and practice through education, research and communication, and believe all nephrology nurses can benefit from being a CANNT member.



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ALLIED HEALTH PROFESSIONALS GRANT SEGUN FAMURE, DIPHSN, MPH, MED, CHE, TORONTO, ON

O l u s e g u n (Segun) Famure is the Manager of the Kidney Transplant Research Program at the Toronto General Hospital. He is also co-director of the Multi-Organ Transplant Student Research Training Program (MOTSRTTP). He has worked in the area of clinical research and education for more than 10 years. His research interest areas include systems integration, performance metrics and improving access to care.



RESEARCH GRANT— EXPERIENCED RESEARCHER LORI HARWOOD, RN(EC), PHD(C), CNEPH(C), LONDON, ON

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CNA EXAMINATION RECERTIFICATION BURSARIES

ONTARIO REGION ANITA AMOS, RN, BSCN, CNEPH(C)

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JANE RIDLEY, RN(EC), MSCN, CNEPH(C)

No photo or bio

WESTERN REGION KAREN EYOLFSON, RN, CNEPH(C), WINNIPEG, MN

I am an RN, practising in Manitoba for 24 years. I have been working in a hemodialysis unit for the last 11 years. I wrote the CNA Certification Examination to challenge myself to review and update my knowledge.



AWARD OF EXCELLENCE— TECHNOLOGICAL PRACTICE RAMSAY D'SOUZA, VANCOUVER, BC

Ramsay is a Renal Technician who works in the renal unit at St. Paul's Hospital in Vancouver, B.C. He started his career in a renal unit in 1983 in Jaslok Hospital and Medical Research Centre in Bombay, India. In 1992, he left India to take a job in the renal unit of



the Royal Medical Centre in Yanbu, Saudi Arabia. From Saudi Arabia he went to the United Arab Emirates and worked as a Renal Technician from 1992 to 2006. He was solely responsible for setting up the renal unit in the Al-Fujairah Hospital in the UAE. During his stay in the UAE, Ramsay was sent to Germany for training in the maintenance of the Fresenius series of hemodialysis machines. In 2006 he immigrated to Vancouver, B.C.

**AWARD OF EXCELLENCE—
CLINICAL PRACTICE
DEBRA FAIRHURST, RN,
CNEPH(C), VANCOUVER, BC**

Debra is from the U.K. where she trained as a general nurse in 1987. She later completed a six-month post-registration course in renal nursing at Guys' and St. Thomas' College of Health in London, England. She has experience in all aspects of renal nursing including hemodialysis, peritoneal dialysis and transplantation. Since September 2010, Debra has worked in the hemodialysis unit at St. Paul's Hospital (SPH), Vancouver. She has recently completed a secondment as lead nurse in a new initiative to help patients achieve their highest level of independence while on dialysis. Debra strongly believes in ensuring patients have a voice in the health care setting and initiated and facilitates a renal patient focus group on the hemodialysis unit at SPH. In partnership with the focus group, she is working towards implementing a peer support program for new hemodialysis patients. Since relocating from the U.K. to Vancouver with her partner and two sons, Debra has fully embraced the West Coast lifestyle by participating in snowboarding, mountain biking and yoga.



**AWARD OF EXCELLENCE—
ADMINISTRATION/LEADERSHIP
RICHARD LUSCOMBE, RN, BSN,
CNEPH(C), VANCOUVER, BC**

Rick Luscombe is the Vascular Access Clinical Nurse Leader (CNL) at Providence Health Care and, together with the health care team, is responsible for ensuring optimal vascular access outcomes in renal patients. Rick has worked for 30 years in nephrology nursing with 28 of those years working in hemodialysis and the most recent 13 as Vascular Access CNL. Rick co-founded the Vascular Access Educators Group of B.C. and was the president of the Canadian Association Nephrology Nurses and Technologists (CANNT) in 2010. Rick obtained his registered nurse diploma in 1985 from George Brown College in Toronto and his Bachelor of Science in Nursing degree in 2002 from the University of Victoria. In 2013 Rick was awarded the Canadian Registered Nurses of British Columbia (CRNBC) Excellence in Nursing Education Award.



**AWARD OF EXCELLENCE—
MENTORSHIP
CHARLES ESTRIDGE**

Charles Estridge has worked at the University Health Network in Toronto as the Program Manager for Nephrology Technical Services for 33 years. He is recognized as an expert in the field of technical dialysis, and his contribution to UHN and the dialysis community, as a whole, are immeasurable. He is a University of Windsor graduate in the field of Bio-Science/Health Administration and achieved his Dialysis Perfusionist certification thereafter. Having served as both a technologist and then manager, he brought keen, competent understanding of all roles and processes involved in dialysis to the table.



Charles served on many dialysis-related committees throughout his career, and was called upon to externally review many dialysis units. Over the years he was actively involved in the CANNT organization, co-chaired the Technical Standards of Practice committee, assisted in the development of the CANNT Technical Learning Guide and the Technical Certification Examination. He served on the CSA Standards Committee for more than 20 years and was a member of the Georgian College Dialysis Technology Program Advisory Committee. Charles' passion for teaching and mentoring led him to the opportunity to mentor U of T Medical Engineering students, rotating nephrology fellows, dialysis technology students, and nurses. Many of his staff have gone on to accept leadership roles at other health care organizations and with industry partners.

Among other awards, in 1998 Charles received CANNT's inaugural Excellence in Practice Award and, later, the Mike Dachun Memorial Award for Technological Excellence from the Materials Management Society. By far, Charles' greatest strengths as a leader were his ability to empower and motivate people.

**AWARD OF EXCELLENCE—
NOVICE AWARD (WESTERN
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**TRISHA HOFFRICHTER, RN, BSN,
VANCOUVER, BC**

Trisha graduated nursing school from Kwantlen University College in Surrey, B.C., in 2005. After graduation she moved to Kelowna B.C., where she worked on a surgical ward that looked after orthopedic, neurology and nephrology patients. Wanting a change, she decided to travel to Australia and ended up working two years in rural South Australia, in a small 16-bed hospital. After returning back home to Vancouver, she was hired at St. Paul's Hospital in Vancouver and sponsored



to begin the hemodialysis course at the British Columbia Institute of Technology (BCIT). Trisha has been working in hemodialysis since 2011 and is currently working at completing her nephrology specialty certification through the CNA. In her spare time she enjoys playing football, curling, and cooking.

CANNT RESEARCH GRANT
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Impact of Toronto Ice Storm on Our Nephrology Program: Lessons Learned

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ROBERTSON, MEGAN CARTER,
LEAH FENNEMA, PETER
MALCOLM, VIOLETTA MARCK,
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ON
An Inpatient Nephrology Unit's Journey to Providing the Best End of Life Care

3RD PLACE POSTER: CAROLYN
INGRAM & MICHELE IVANOUSKI,
LONDON, ON
A Case Study Approach to Examine Urgent Start Peritoneal Dialysis at London Health Sciences Centre

In recognition: Mukesh Gajaria

Editors' comment: Mukesh Gajaria retired recently after a lengthy career in nephrology technology. This article was written by a colleague in recognition of his contributions to nephrology in Canada.

When I think about Mukesh Gajaria and what sets him apart from others, I realize that it isn't just his extensive knowledge of dialysis. Rather, it is this combined with his commitment to his profession, his co-workers, and the patients for whom they all provide care.

Educated at the Jaslok Hospital and Research Centre in Mumbai, India, Mukesh came to Sick Children's Hospital in June 1980. For more than 34 years he has demonstrated his pride in his role as a Dialysis Technologist in Canada. As one of the pioneers in pediatric dialysis technology, Mukesh has always fought for and demanded equal representation in nephrology for technologists. He values the collaboration between nurses and technologists, and will be the first to tell you that one has difficulty functioning without the other. It truly is a partnership.

Amongst his many achievements, Mukesh has accomplished the following highlights throughout his career:

- Recipient, Nephrology Merit Award (now the DR C.P. Rance Award) Division of Nephrology, HSC in 1986. Mukesh was the first recipient chosen from the multi-disciplinary team to receive this award in recognition of his exemplary contribution to the nephrology division.
- Recipient, Excellence in Technological Practice, CANNT
- Co-Chairperson (Dialysis), The Canadian Board of Examiners, Biomedical and Dialysis Technologists and Technicians
- Program Development and part-time lecturer, Dialysis and Water Treatment (Biomedical Engineering Technology), Centennial College, Toronto, ON
- Member, development and review teams, CANNT Technical Standards
- Certifications: Dialysis Perfusionist, Medical Laboratory Technology and Electrical Technology.

I had the honour of working with Mukesh from 1986 through 1991 and I could not have asked for a better coworker, teacher, mentor and friend. His smile and laughter are contagious to all who know him. While I have relocated north of Toronto, and we don't talk or see each other frequently, he will always have a special place in my life. I think of him often. Mukesh has been an excellent ambassador for nephrology technologists and has contributed much to this important role. His dedication, strong work ethic and outstanding commitment to the field of dialysis has touched many over the years.

My friend, I wish you all the best. You will be missed.

Jeff Huska,
Biomedical Engineering
Technologist,
Health Sciences North,
Sudbury, ON

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Number of years in nephrology _____

Area of responsibility

☐ Direct Patient Care

☐ Administration

☐ Technical

☐ Teaching

☐ Research

☐ Other (Specify) _____

Work environment

☐ Acute Care

☐ Self-Care Unit

☐ Independent Health Care

☐ Private Sector

Highest level of education

Nursing

☐ Diploma

☐ Baccalaureate

☐ Master's

☐ Doctorate

Non-Nursing

☐ Diploma

☐ Baccalaureate

☐ Master's

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