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Clinical Best
Practice Guidelines

JULY 2009

Supporting Clients on Methadone Maintenance Treatment

RNAO
Registered Nurses' Association of Ontario
L'Association des infirmières et infirmiers
autorisés de l'Ontario

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Contact Information

Registered Nurses' Association of Ontario
International Affairs and Best Practice Guidelines Program
158 Pearl Street, Toronto, Ontario M5H 1L3
Website: www.rnao.org/bestpractices

Greetings from Doris Grinspun,

Executive Director Registered Nurses' Association of Ontario

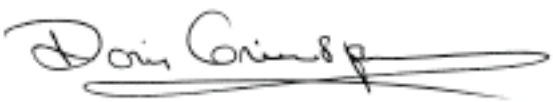
It is with great excitement that the Registered Nurses' Association of Ontario (RNAO) presents this guideline, *Supporting Clients on Methadone Maintenance Treatment* to the health-care community. Evidence-based practice supports the excellence in service that nurses are committed to delivering in our day-to-day practice. RNAO is delighted to provide this key resource to you.

RNAO offers its heartfelt thanks to the many individuals and institutions who make our vision for Nursing Best Practice Guidelines (BPGs) a reality: the Government of Ontario, for recognizing our ability to lead the program and providing multi-year funding; Irmajean Bajnok, Director, RNAO International Affairs and Best Practice Guidelines (IABPG) Programs & Centre for Professional Nursing Excellence, for her expertise and leadership in advancing the publication of the BPGs; and each and every Team Leader involved. For this BPG in particular, I thank Margaret Dykeman for her superb stewardship, commitment and expertise. Many thanks also to Jenny Oey Chung, Pamela VanBelle and Frederick Go, RNAO's IABPG Program Manangers, for their intense work to ensure that this BPG moved from concept to reality. A special thanks as well to the BPG Panel; We respect and value your expertise and volunteer work. To all, we could not have done this without you!

The nursing community, with its commitment and passion for excellence in nursing care, is providing the knowledge and countless hours essential to the development, implementation, evaluation and revision of each guideline. Employers have responded enthusiastically by nominating best practice champions, implementing and evaluating the guidelines, and working toward a culture of evidence-based practice.

Successful uptake of these guidelines requires a concerted effort from nurse clinicians and their health-care colleagues from other disciplines, nurse educators in academic and practice settings and employers. After lodging these guidelines into their minds and hearts, knowledgeable and skillful nurses and nursing students need healthy and supportive work environments to help bring these guidelines to practice actions.

We ask that you share this guideline with members of the interdisciplinary team, as there is much to learn from one another. Together, we can ensure that the public receives the best possible care every time they come in contact with us. Let's make them the real winners in this important effort!



Doris Grinspun, RN, MScN, PhD(c), O.ONT.
Executive Director
Registered Nurses' Association of Ontario

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BACKGROUND

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How to Use this Document

This nursing best practice guideline is a comprehensive document that has been designed to provide an overview of the resources necessary to adequately support evidence-based nursing practice. It is to be reviewed and applied as a resource tool that addresses the specific needs of an organization or practice setting. The guideline is not offered as a "cookbook" solution, but rather as a tool to enhance effective decision-making in the provision of individualized client care. In addition, the guideline provides an overview of the appropriate structures and supports necessary for the provision of best possible care.

This document is meant to be used as a guideline for nurses. As such, it complements – but does not replace or supersede – the existing policies and procedures of any agency.

Those who lead or facilitate practice change will find this document invaluable in the development of various infrastructure programs, such as:

- policies, procedures and protocols;
- educational sessions;
- assessment tools; and
- documentation tools.

While those nurses who provide direct client care will benefit from reviewing the recommendations, the evidence that supports the recommendations and the guideline development process, it is nonetheless highly recommended that practice settings adapt the guideline into a user-friendly format for daily use. Suggested formats for such local adaptation are contained within the document.

Organizations wishing to use the guideline may do so in a number of ways. They may:

a) Assess current nursing and health-care practices using the recommendations in the guideline.
b) Identify recommendations that address identified needs or gaps in services.
c) Systematically develop a plan to implement the recommendations using associated tools and resources.

The RNAO is interested in hearing how you have implemented this guideline. Please contact us to share your story. Implementation resources are available at the RNAO website (www.rnao.org/bestpractices) to assist individuals and organizations in implementing best practice guidelines.

Supporting Clients on Methadone Maintenance Treatment

Purpose and Scope

Best practices are emerging guidelines – gleaned from key experts' perspectives and client focus groups, and substantiated by evidence found in the literature – on the approaches and elements of treatment that appear to result in successful treatment outcomes. Given this definition, best practices are recommendations that may evolve, based on ongoing key expert experience, judgment, perspective and continued research (Health Canada, 2008). Best practice guidelines are an accepted method of providing current evidence for nurses to use to guide their practice. These guidelines synthesize the current evidence, and recommend best practices based on the evidence. They offer nurses a reliable source of information on which to make decisions concerning practice.

This guideline will focus on recommendations for any youth, adult or older adult either already on MMT or those who are potential candidates for MMT. Particular attention will be paid to priority populations (for whom there are particular physiological implications of MMT). The clinical questions to be addressed by the guideline include:

1. What do nurses need **to be aware** of to do an appropriate assessment (in their practice setting) of clients who are opioid dependent or opioid abusing, and are either already on or are potential candidates for MMT?
2. What do nurses need **to know** about MMT?
3. What is the role of the nurse in MMT?
4. How do nurses support a client, who is on or is a potential candidate for MMT, who presents for care?

The goal of this document is to provide nurses with recommendations, based on the best available evidence, related to nursing knowledge and support for clients who are either a *potential candidate* for or *already* on MMT for opioid dependence.

The guideline includes recommendations addressing client assessment, development of a collaborative treatment plan, health promotion and ongoing follow-up.

This guideline contains recommendations for Registered Nurses, Registered Practical Nurses and Advanced Practices Nurses on best nursing practices in the area of supporting clients on MMT. It is intended for nurses who are not necessarily experts in this practice area, and who work in a variety of practice settings (i.e. addictions, corrections, mental health, emergency, maternal child, community health, etc.) across the continuum of care. It is acknowledged that individual competencies vary between nurses and across categories of nursing professionals. Individual competencies are based on knowledge, skills, attitudes, critical analysis and decision-making, which are enhanced over time by experience and education.

It is expected that individual nurses will perform only those aspects of assessment and intervention for which they have received appropriate education and have acquired the necessary skill sets. It is also expected that they will seek appropriate consultation in instances where the client's care needs surpass their ability to act independently.

It is acknowledged that effective health care depends on a coordinated, interdisciplinary approach that incorporates ongoing communication between health-care professionals and clients and their caregivers/families.

Summary of Recommendations

Practice Recommendations

	RECOMMENDATION	*Type of Evidence
1	Nurses incorporate specific skills and knowledge of addictions in their everyday practice.	IV
	a) Nurses incorporate knowledge of maternal and child health related to opioid use. b) Nurses consider the ethical, legal and social context of harm reduction/addiction treatment programming.	IV IV
2	Nurses have knowledge of the impact of the social determinants of health on addictions.	Ib-IV
	a) Nurses consider the holistic needs of a client as integral to the success of a client's treatment.	IV
3	Nurses practice reflectively to maintain continued awareness of their current and evolving perceptions, attitudes and biases, values and beliefs when working with clients with addictions (including those on MMT).	IV
	a) Nurses provide care in keeping with the principles of cultural safety and cultural competence.	IV
4	Nurses inform their clients of available treatment options for opioid dependency (including MMT) on an ongoing basis.	IV
5	Nurses need to be aware of the efficacy of MMT as a substitution therapy for opioid dependence.	IV
6	Nurses will have an understanding of the pharmacokinetics of methadone.	III-IV
	a) Nurses will be aware of the pharmacodynamics of methadone. b) Nurses integrate their understanding about the pharmacokinetics and pharmacodynamics of methadone to be aware of the side effects and drug to drug interactions that may occur.	III-IV III-IV
7	Nurses will uphold standards of practice performing the "8 rights", as appropriate, to ensure safe administration of methadone.	IV
	a) Nurses will be knowledgeable of the College of Physicians and Surgeons of Ontario criteria for take-home doses (carries) to reduce harm to the client and community.**	IV
8	Nurses will have an understanding of the interpretation of urine drug screening results and their importance in the treatment of the client on methadone maintenance.	IV
9	Nurses will have an understanding of acute and chronic pain management for clients on MMT.	IV
10	Nurses provide referral, monitoring and health promotion interventions, as appropriate.	Ia-IV

* Please refer to page 8 for details regarding Types of Evidence

** For those practicing outside Ontario, please check within your jurisdiction.

Education Recommendations

	RECOMMENDATION	Type of Evidence
11	Schools of nursing will integrate the principles of addiction care, including the concept of harm reduction into the undergraduate curriculum.	IV
	a) Undergraduate nursing curriculum will support evidence based training and practice in the fields of addictions.	IV
12	Nurses incorporate addictions knowledge (including MMT) into their ongoing everyday practice and continuing education.	IV
13	Nurses working in addictions have access to formal training and education to achieve competencies in practice and standards of practice in addictions and MMT.	IV

Organization & Policy Recommendations

14	Nurses advocate with policy makers for improved access to addictions care and treatment modalities, including MMT, as part of holistic, primary health care for all populations.	IV
15	Health care organizations have policies that reflect uniform approaches to the management of clients on methadone in all facilities, including seamless coordination of transfer and discharge between facilities for clients on MMT.	IV
16	Health care organizations provide mechanisms of support for nurses through orientation programs and ongoing professional development opportunities regarding addictions and treatment options including MMT.	IV
17	Nursing best practice guidelines can be successfully implemented only when there are adequate planning, resources, organizational and administrative support, as well as appropriate facilitation. Organizations may wish to develop a plan for implementation that includes: ■ An assessment of organizational readiness and barriers to implementation. ■ Involvement of all members (whether in a direct or indirect supportive function) who will contribute to the implementation process. ■ Dedication of a qualified individual to provide the support needed for the education and implementation process. ■ Ongoing opportunities for discussion and education to reinforce the importance of best practices. ■ Opportunities for reflection on personal and organizational experience in implementing guidelines. In this regards, a panel of nurses, researchers and administrators developed the *Toolkit: Implementation of Clinical Practice Guidelines* based on available evidence, theoretical perspectives and consensus. The *Toolkit* is recommended for guiding the implementation of the RNAO guideline *Supporting Clients on Methadone Maintenance Treatment.*	IV

Interpretation of Evidence

Types of Evidence

Ia Evidence obtained from meta-analysis or systematic review of randomized controlled trials.
Ib Evidence obtained from at least one randomized controlled trial.
IIa Evidence obtained from at least one well-designed controlled study without randomization.
IIb Evidence obtained from at least one other type of well-designed quasi-experimental study, without randomization.
III Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.
IV Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

Evidence to support nursing care for clients on MMT is organized with respect to the type of evidence rather than the level of evidence. The randomized control trial traditionally is considered the gold standard of evidence used to guide practice. As such, randomized control trials have become the benchmark for the establishment of a hierarchy of levels of evidence against which all other ways of knowing is of lesser value. However, multiple, alternative ways of knowing and understanding of a phenomenon are commonly acknowledged, and valued. Qualitative investigations, emic perspectives of a culture, clinical expertise, promising practices, and clients' knowledge all contribute to the evidence of what it means to provide safe care for those clients on MMT. As such, types of evidence provide guidance for practice.

Development Panel Members

Margaret Dykeman, RN, NP, PhD

Team Leader

Professor
Faculty of Nursing, University of New Brunswick
Fredericton, New Brunswick

Katie Bowler

Nursing Student
Daphne Cockwell School of Nursing
Ryerson University
Toronto, Ontario

Carol Edwards, RN, MN, CPMHNC, CARN

Advanced Practice Nurse, Addictions Program
Centre for Addiction and Mental Health
Toronto, Ontario

Jan Holland, RN

Regional Methadone Coordinator, Acting/Senior
Project Manager Methadone/Harm Reduction
Correctional Services Canada
Ottawa, Ontario

Sheleza Latif, RN, BScN

Correctional Staff Nurse
Toronto East Detention Centre
Toronto, Ontario

Somina Lee

Methadone Case Manager
Nipissing Detoxification and
Substance Abuse Programs
North Bay, Ontario

Carol Lynch, RN(EC), BNSc

Primary Health Care Nurse Practitioner
Kingston Community Health Centre: Street Health
Kingston, Ontario

Angela McNabb, RN, BScN, MN, CPMHN(c)

Outreach Consultant, Mental Health
and Correctional Services
College of Nurses of Ontario
Toronto, Ontario

Josephine Muxlow, RN, MScN

Clinical Nurse Specialist, Adult Mental Health
Prevention & Promotion Programs and Nursing
Leadership
First Nations and Inuit Health,
Atlantic Region
Halifax, Nova Scotia

Janice Price, RN, BScN

Public Health Nurse
Sexual Health Clinic/Outreach Nursing
Sudbury and District Health Unit
Sudbury, Ontario

Abby Smith, RN(EC), BScN, PHCNP

Nurse Practitioner
Out 'n About Clinic
St. Catharines, Ontario

Victoria (Vicki) Smye, RN, MHSc, PhD

Assistant Professor
School of Nursing, University of British Columbia
Vancouver, British Columbia

Melanie Stansfield, RN(EC), FNP(BC), MScN

Nurse Practitioner
Newport Centre, Niagra Health System
Port Colborne, Ontario

Sue Starling, RN, BScN, MSc, PhD(student)

Assistant Professor
School of Nursing, McMaster University
Hamilton, Ontario

Jenny Oey Chung, RN, MN

Program Manager
International Affairs and Nursing Best Practice Guidelines Programs
Registered Nurses' Association of Ontario
Toronto, Ontario

Frederick Go RN, MN

Program Manager
International Affairs and Nursing Best Practice Guidelines Programs
Registered Nurses' Association of Ontario
Toronto, Ontario

Pamela VanBelle, RN, MN

Program Manager
International Affairs and Nursing Best Practice Guidelines Programs
Registered Nurses' Association of Ontario
Toronto, Ontario

Glynis Vales B.A. (Honours)

Program Assistant
International Affairs and Nursing Best Practice Guidelines Programs
Registered Nurses' Association of Ontario
Toronto, Ontario

The development panel thanks the following community representatives who were consulted early in the development process:

- SHANTELLE CONNOR
- MORRIS FIELD
- NEIL GACICH
- KELLY GOODMAN

Declarations of interest and confidentiality were made by all members of the guideline development panel. Further details are available from the Registered Nurses' Association of Ontario.

Stakeholder Acknowledgement

Stakeholders representing diverse perspectives were solicited for their feedback and the Registered Nurses' Association of Ontario wishes to acknowledge the following for their contribution in reviewing this Nursing Best Practice Guideline:

NAME, CREDENTIALS	TITLE, ORGANIZATION, CITY, PROVINCE
BETTYANN MARIA GOERTZ, RN, CPMHN(c)	Staff RN Acute Mental Health, London Health Sciences Centre, London, Ontario
BEVERLEY MORGAN, RN, BScN	Project Coordinator, Hamilton Health Sciences, Hamilton, Ontario
CAROL BATSTONE, RN	Registered Nurse, Centre for Addiction and Mental Health - Addiction Medicine Clinic, Toronto, Ontario
ELAINE CYBULA, RN, BSN	Staff Registered Nurse, Niagara Health System, Niagara Falls, Ontario
HEATHER VANDER VEEN, RN	Registered Nurse, Hotel Dieu Grace Hospital, Windsor, Ontario
JAMES SKEMBARIS, BA, BSW, MSW, RSW DIP ADDICTION STUDIES	Manager, University Health Network, Toronto, Ontario
JAN PERFECT, BA	Program Advisor, Ministry of Community Safety & Correctional Services, North Bay, Ontario
JANET PURVIS, RN, BSc, MN	National Practice Consultant, VON Canada, New Glasgow, Nova Scotia
LEO LANOIE, MP, MPH, CESAM	Medical Health Officer, PAPHR, Prince Albert, Saskatchewan
LINDA OGILVIE, RN, BSN, MSN	Manager Corporate Health Care Ministry of Community Safety & Correctional Services, Toronto, Ontario
LISEBETH GATKOWSKI, RN, BScN, CPMHN(C)	Nurse Educator, St Joseph's Healthcare, Hamilton Mental Health & Addiction Program, Hamilton, Ontario
LYNN HASLAM, RN, MN	Specialty Practitioner, Acute Pain Service, Sunnybrook Health Sciences Centre, Toronto, Ontario
LYNN NEWTON, RN, BScN, MEd (STUDENT)	Clinical Educator NICU, Kingston General Hospital, Kingston, Ontario
MEREDITH MACKENZIE, NMD, BSc, CCFP	Physician, Street Health Centre, Kingston, Ontario

MITZI G. MITCHELL, RN, PhD (STUDENT)	Lecturer, York University, Toronto, Ontario
MONA BURROWS, RN(EC), BScN, MSN, PHCNP	Nursing Faculty, St Lawrence College/Laurentian University Nursing BScN program, Cornwall, Ontario
NANCY OGDEN, RN	Nurse Advisor, Corporate Health Care Ministry of Community Safety & Correctional Services, Toronto, Ontario
SHELLEY BECKSTEAD, RN, BNSc	Hepatitis C Nurse, Street Health Centre, Kingston, Ontario
SUE TOBIN, RN(EC), BScN, PHCNP	Nurse Practitioner, Health Outreach for People Who Are Homeless – London Intercommunity Health Centre, London, Ontario
SUSAN KAGAN, RN, BScN, CPMHN(c), EDD	Professor, Collaborative BScN Nursing Program, Seneca College, King City, Ontario
SUSAN SILVER, RN	Health Care Coordinator, Algoma Treatment and Remand, Sault Ste Marie, Ontario
TANNICE FLETCHER-STACKHOUSE HBSc.N, RN(EC), ADVANCED PSYCHIATRIC NURSING DIPLOMA	Nurse Practitioner, NorWest CHC (Community Health Centres), Thunder Bay, Ontario

Responsibility for Development

The Registered Nurses' Association of Ontario (RNAO), with funding from the Government of Ontario, has embarked on a multi-year project of nursing best practice guideline development, dissemination, implementation and evaluation.

This best practice guideline was funded by the Ministry of Health and Long-Term Care as a result of recommendations contained in the March 2007 Report of the Methadone Maintenance Treatment Practices Task Force (To access the full report,visit www.methadonetaskforce.com). In total, 11 initiatives to be completed by four organizations were funded as a result of the recommendations from this Task Force:

ORGANIZATION	FUNDED INITIATIVES
Centre for Addiction and Mental Health (CAMH)	1. Development of Pharmacist Best Practice Guidelines 2. Development of Counsellor Best Practice Guidelines 3. Training and Mentoring Programs for Counsellors 4. Community Engagement 5. Public Awareness
College of Physicians and Surgeons (CPSO)	6. Physician Recruitment and Retention 7. Physician Quality Assurance and Enforcement Activities 8. Training and Mentoring Programs for Physicians
Ontario Pharmacists' Association (OPA)	9. Training and Mentoring Programs for Pharmacists
Registered Nurses' Association of Ontario (RNAO)	10. Development of Nursing Best Practice Guidelines 11. Training and Mentoring Programs for Nurses

This guideline was developed by a panel of nurses and other health-care professionals convened by the RNAO. The panel's work was conducted independently, and is free of any bias or influence from the Ontario Government.

Development Process

In January, 2008, a multidisciplinary panel with expertise in practice, education and research, from hospital, community, corrections and academic settings, was convened under the auspices of the RNAO. The panel discussed the purpose of their work, and came to consensus on the scope of the best practice guideline. Subsequently, a search of the literature for clinical practice guidelines, systematic reviews, relevant research studies and other types of evidence was conducted. See Appendix A for details of the search strategy and outcomes.

Several international guidelines related to MMT were critically appraised and chosen to inform the development of this guideline. Eleven clinical practice guidelines were identified that met the following initial inclusion criteria:

- published in English;
- developed in 2000 or later;
- strictly on the topic of MMT for the treatment of opioid dependence;
- evidence-based; and
- available and accessible for retrieval.

Members of the development panel critically appraised the 11 guidelines using the *Appraisal of Guidelines for Research and Evaluation Instrument* (AGREE Collaboration, 2001). This review resulted in the decision that four of these 11 guidelines were relevant to the scope of the current guideline, and would be used to inform the development process. These were:

1. Isaac, P., Janecek, E., Kalvik, A., & Brands, J. (Eds). (2004). *Methadone Maintenance: A Pharmacist's Guide to Treatment, 2nd Ed*. Toronto: Centre for Addiction and Mental Health.

2. College of Physicians and Surgeons of Alberta (2005). *Standards & Guidelines for Methadone Maintenance Treatment in Alberta*. [Online]. http://www.cpsa.ab.ca/collegeprograms/attachments_methadone/Standards%20&%20Guidelines%20for%20Methadone%20Maintenance%20Treatment%20in%20Alberta_Dec%202005.pdf

3. College of Physicians and Surgeons of Ontario (2005). *Methadone Maintenance Guidelines.* Toronto: College of Physicians and Surgeons of Ontario. [Online]. http://www.cpso.on.ca/publications/MethadoneGuideNov05.pdf

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The panel members formed into subgroups to undergo specific activities using the short-listed guidelines, evidence summaries, studies and other literature, for the purpose of drafting recommendations for nursing assessment and interventions. Community representatives were consulted for input and feedback. This process resulted in the development of practice, education, and organization and policy recommendations. The panel members as a whole reviewed the first draft of recommendations, discussed gaps, reviewed the evidence and came to consensus on a final set of recommendations.

The completed draft was submitted to a set of external stakeholders for review and feedback – an acknowledgement of these reviewers is provided at the beginning of this document. Stakeholders represented various health-care professional groups, clients and families, as well as professional associations. External stakeholders were provided with specific questions for comment, as well as the opportunity to give overall feedback and general impressions.

The feedback from stakeholders was compiled and reviewed by the development panel. Discussion and consensus resulted in revisions to the draft document prior to publication.

Background Context

Addiction/Substance Dependence:

> ***"I never asked to be addicted to it"***
>
> – Sarah, age 25, on MMT for less than one year

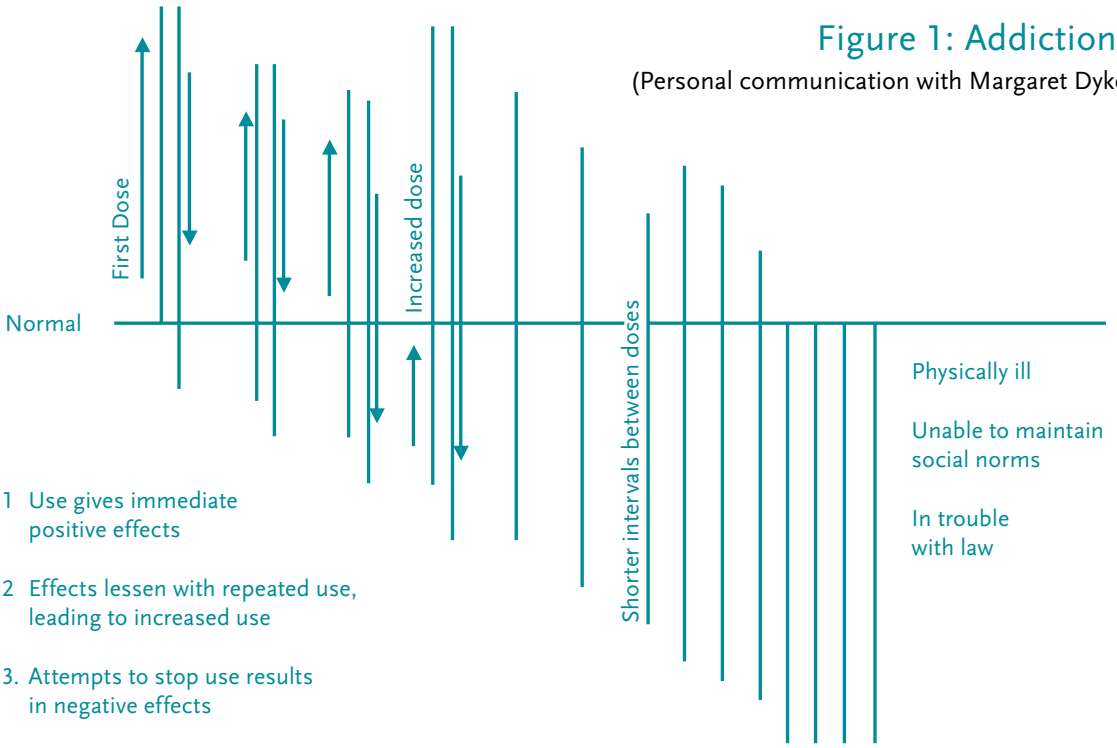
Addiction is a result of a complex interaction of factors with no distinct single cause. It is clear, however, that addiction is not the result of a character flaw, personal choice or weakness (Centre for Addiction and Mental Health, 2008c). Genetics, brain physiology, physical and mental illness, complex trauma, post-traumatic stress disorder, stress, street culture, and a history of childhood abuse are all multiple factors that can influence addiction. These factors are also often compounded by other social determinants of health, such as homelessness, unemployment, and poverty.

Addiction and substance dependence are characterized by the compulsive and continued misuse of a substance, despite its overtly negative consequences. Addiction makes it extremely difficult to stop using a substance, despite having tried quitting one or more times. A person who has an addiction becomes increasingly preoccupied with the substance and in obtaining it (CPSO, 2005). The associated harmful consequences of addiction consist of: physical illness, including increased risk of infection; family breakdown; economic issues; criminal involvement; and a high risk of overdose, leading to death. Addiction can present as a combined psychological and physiological dependence (opioid) or solely as a psychological dependence (cocaine) disorder.

Physical dependence occurs when a person's body has developed a tolerance to the drug so that more is needed to achieve the same effect (see Figure 1), which often includes feeling "normal". It is also characterized by the presence of withdrawal symptoms if there is a sudden discontinuation in the use of the drug. These symptoms can be very debilitating. Persons who are addicted to opioids often take them to prevent the recurrence of withdrawal, rather than to experience the feeling of euphoria that is the initial outcome of using them. For a definition of dependence and tolerance, see Appendix B.

Figure 1: Addiction Process

(Personal communication with Margaret Dykeman, 2008)



Psychological dependence occurs when the pattern of compulsive drug use is characterized by a continued craving for a drug (e.g. cocaine) and the need to take it due to the feelings of well-being that the drug produces. If the client suddenly stops the drug, it can lead to psychological withdrawal symptoms including anxiety. It is a common misconception that psychological dependence is not as serious as physical dependence. Addiction can exist without evidence of tolerance or physical withdrawal symptoms, e.g. some drugs such as cocaine do not cause physical dependence (tolerance and withdrawal), yet the psychological dependence can be so severe that it is considered one of the most difficult drugs to stop taking.

Individuals who are dependent on substances often lead chaotic and stressful lives. In addition to their addiction, they may have additional serious health and social problems related to the substance abuse, e.g. mental health issues such as depression and anxiety are common in people who are dependent on opioids and other substances. People who share drug paraphernalia are at greater risk for Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV), and other blood-borne diseases. Overdose, accidental death or death by violence is also a risk (Health Canada, 2002). The use of multiple substances increases the risks associated with addiction.

Concurrent disorders:

The concept of co-occurring disorders is expressed in many ways. It is used to express the co-occurrence of a mental, emotional or psychiatric problem with the misuse of alcohol or another psychoactive drug. The terms "concurrent", "co-occurring", "co-existing" or "dual" can be used interchangeably (Centre for Addiction and Mental Health, 2008a). Other terms that continue to be used are "dual diagnosis" or "dually diagnosed", which may also refer to mental health problems occurring with intellectual or developmental disability (Centre for Addiction and Mental Health, 2008a).

The comprehensive assessment of mental illness and substance use plays a critical role in determining appropriate levels of care; regardless of the setting, treatment of co-occurring disorders incorporates a common set of core strategies.

Comorbidity is defined as the presence of concurrent chronic illnesses, which may be mental, emotional, psychiatric or physical in nature.

Stigma and Barriers to Treatment:

The stigma associated with substance dependence is often a strong deterrent for a person seeking help. Attitudes of health-care professionals – including nurses – that reflect societal stigma are a significant barrier to the accessibility of MMT programs for opioid-dependent individuals. A common misconception is that MMT only perpetuates drug use, i.e. methadone merely replaces one addictive opioid with another. This perspective is associated with the idea that abstinence-oriented treatment is the only way to achieve a drug-free state. In addition to being stigmatized because of their drug use, many opioid-dependent individuals also experience stigma that is associated with poverty, race and abilities or disabilities (see Appendix B). Because nurses are integral to care provision, they are in a unique position to address stigma of all kinds and to reduce the barriers to care. One way to accomplish this task is to help educate others about the nature of addiction and the benefits of programs such as MMT.

Public Health Concern and Costs:

The social and health-care costs of substance misuse, including opioid dependence, were estimated to be $39.8 billion; the equivalent to $1,267 to each Canadian in 2002.

(Centre for Addiction and Mental Health, 2008c)

Substance misuse, which includes opioid misuse and dependence, is associated with high social costs. As Canada is the fifth highest consumer of opioids in the world (Fischer, Firestone-Cruz & Rehm, 2006), and opioid dependence is associated with high social and personal costs when individuals are not treated (Wall et al., 2000), this best practice guideline focuses on the issue of opioid misuse and MMT, which is used to treat opioid dependence.

The costs of untreated opioid addiction include health care, law enforcement (and other criminality related costs), social assistance and loss of economic productivity (Rehm et al., 2006). In 1999, the annual social cost of untreated opioid dependence was estimated to be $5.3 million (Canadian) (Wall et al., 2000). It has been estimated that 13.5 million people worldwide misuse opioids, with the majority (9.7 million) using heroin (Weekes et al., 2007). In the past, heroin was the most commonly misused opioid in Canada. However, opioid misuse patterns are changing. Currently, more health-care providers are recognizing addiction as a health issue that is largely due to the increased availability of prescription opioids. Canadians are the highest per capita consumers of prescription opioids (Fischer et al., 2006).

Opioid dependence is a substantial public health concern in Canada and worldwide. This class of drug can be consumed through a variety of different routes including inhalation and oral administration. However, opioids are most frequently taken in the form of injection. According to the Public Health Agency of Canada (2003), between 75,000 and 125,000 people in Canada are injection drug users (IDUs). IDU is one of the major factors in contracting blood-borne infections, specifically, HIV and HCV. This increased risk of infection is the result of unsafe drug use practices, sharing needles, the use of non-sterile needles and other drug paraphernalia, and engaging in other high-risk behaviours such as unprotected sex. Of

the 30,000 IDUs in Toronto, 46% have reported sharing needles or engaging in other unsafe injection practices (Public Heath Agency of Canada, 2003).

Studies have shown that heroin users have a 20 to 30 times higher risk of death, compared with non-drug users of the same gender and age range (Weekes et al., 2007). Canadian statistics indicate that personal and social costs of people with untreated opioid dependence are seven times higher than for those in comprehensive methadone maintenance programs (Hart, 2007). This statistic provides evidence for the need for effective substance misuse treatment for individuals who are opioid dependent. MMT is one treatment modality that has been shown to be effective.

Theoretical Framework:

> ***"It's sad the way people look at you even though you are trying to get help"***
>
> – Linda, age 45, on MMT for more than 10 years

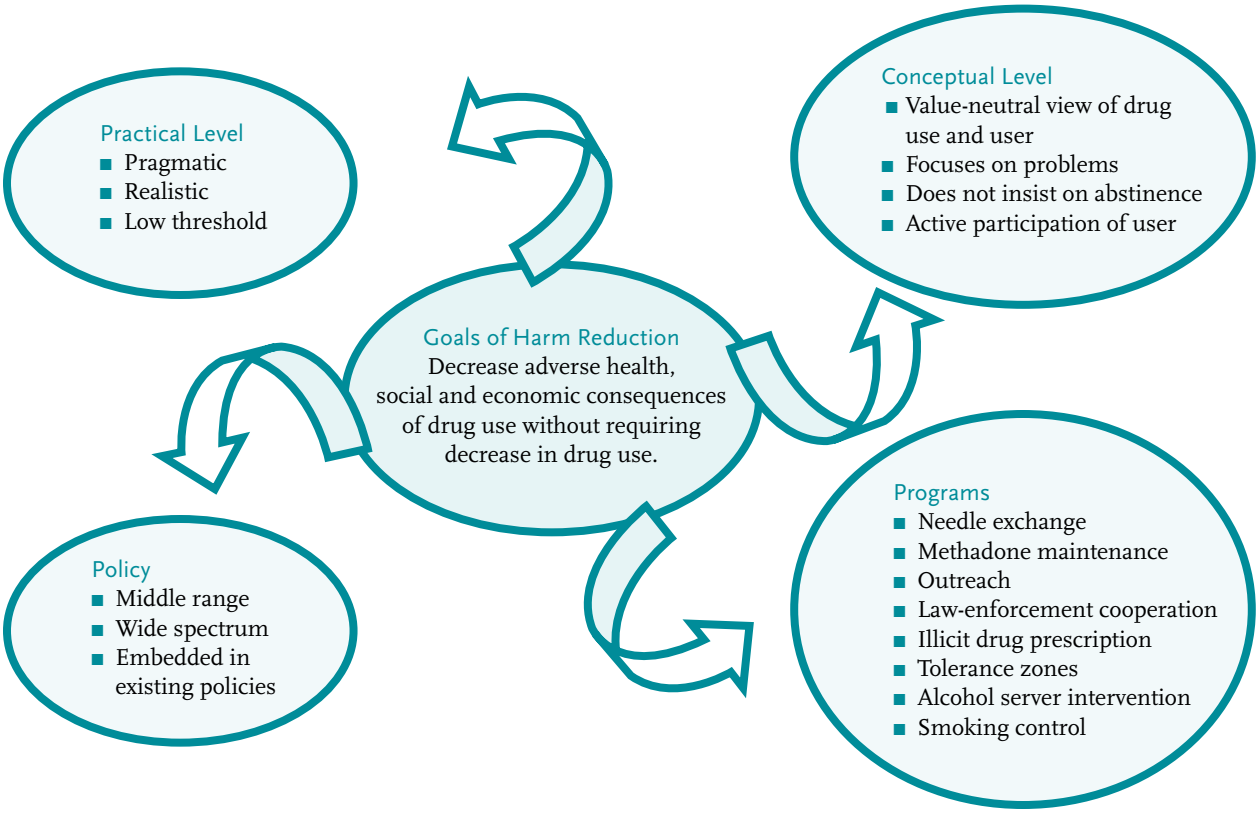
Harm Reduction:

MMT falls under the pragmatic philosophy of harm reduction. This nursing best practice guideline is based on the underlying theoretical principles of harm reduction. Harm reduction is a conceptual model of drug use that is philosophically pragmatic and provides non-judgmental, client-centered care. The Harm Reduction Model outlined by Cheung (2000) is not only theoretical, but also encompasses many practical applications. It seeks to change policy and/or be integrated into existing health-care policies (see Figure 2). Harm reduction overall provides a necessary framework for the treatment of substance misuse in society.

The principles of harm reduction were developed to reduce the societal consequences and health-related harms associated with particular activities or behaviours, such as high-risk sexual activity or substance misuse. Marlatt, Blume and Parks (2001) identified compassion and pragmatism as the main underlying principles to harm reduction treatment. Harm reduction recognizes that substance misuse occurs and will continue to occur within society. It also recognizes the diversity of the human experience. Not everyone has the same motivation to change or the same level of drug use, or even experiences the same harms. The harm-reduction approach does not make judgments regarding clients' use of drugs. Rather, it seeks to provide appropriate and accessible services without the barrier of stigma or negative labels ("addict","alcoholic", etc.). The goal of harm reduction is to promote the health and safety of the individual and the community through secondary prevention of disease and social consequence.

It is important to understand that abstinence is the best goal for drug treatment; however, abstinence is not always achievable. The harm reduction approach does not require the cessation or reduction of drug use. Instead, it can be perceived as a continuum for reducing the different levels of harms related to substance use. Thus, harm reduction occurs gradually in a step-by-step progression toward decreased levels of harms (Marlatt, Blume & Parks, 2001).

Figure 2: Harm Reduction Model (used with permission from Cheung, 2000)



Providing services from a harm-reduction perspective has the goal of attracting a larger and more diverse population of clients who misuse substances. Health-care practitioners who use the harm reduction approach meet clients "where they are" with respect to their motivation to change (Marlatt, et al., 2001, p. 14), and work collaboratively with them to establish goals and develop a client-centered plan of care. Because harm reduction is concerned with meeting diverse needs, the framework encompasses many different strategies and programs (Table 1).

When working with persons who are opioid dependent or on MMT, nurses must keep in mind the principles of harm reduction and its philosophy. This requires that nurses be aware of and address their own attitudes and biases, in addition to understanding the philosophy of harm reduction, before providing effective care to this particular population.

Table 1: Harm Reduction Strategies and Programs (RNAO development panel, 2009)

- Needle exchange
- Safe injection sites
- Use of condoms and dental dams
- Bleach kit programs for cleaning syringes
- MMT
- Clean crack kits
- Safer sex education
- Safer drug use education

Treatment:

There are many types of treatment for opioid addiction. As previously noted, some fall into the framework of harm reduction, while others are abstinence-oriented, requiring the elimination of substance use. However, the majority of treatment goals for opioid-dependent individuals remain the same, despite which treatment approach is chosen. Some treatment goals include: reduction in the individual's dependence on opioids; reduction of associated harms, measured by a decrease in morbidity and mortality rates; reduction in infectious disease transmission rates; improvement in physical and mental health; reduction in criminal behaviour and activity; and the facilitation of successful reintegration into the community as determined by employment status, education, housing and social functioning (Weekes et al., 2007).

The above list represents the general goals of treatment for opioid dependence. It is important to note that not all of these goals are possible for every client to attain, depending on their individual circumstances. All treatment must remain client centered. The nurse and other health-care providers must work with each client to establish personal short and long-term goals based on their unique and specific needs, values, beliefs and preferences. Treatments available for opioid dependence include detoxification, naltrexone, buprenorphine, MMT and other opioid substitution therapies. Detoxification from opioids is a method of treatment aimed at eliminating the use of opioids. Detoxification may include the use of methadone or other pharmaceutical therapies to treat symptoms of withdrawal while the client eliminates the dependent opioid from his or her body. The main goal of detoxification is to reduce withdrawal symptoms until the client adjusts to living drug-free.

Substitution programs are designed to change a patient's opioid of choice to a drug that has less risk associated with its use. These programs also advocate for a change of delivery, often from injection to oral use. In a systematic review published by Gowing, Farrell, Bornemann and Ali (2004), it was found that substitution treatment for injecting opioid users reduced drug-related behaviours with a high risk of HIV transmission, but had little effect on sex-related risk behaviours. The lack of data from randomized controlled studies limits the strength of the evidence presented in this review, but these findings are concordant with previous systematic reviews. Because of their numbers and their unique position in the health-care system, nurses are in an ideal position to advocate for oral substitution for injecting opioid users, based on the findings of ongoing research.

Methadone:

Methadone has two separate purposes: managing chronic pain and managing opioid addiction. For the purpose of this document, we will be focusing solely on methadone and its use in substitution therapy for opioid addiction. MMT as substitution/maintenance therapy is associated with the most positive outcomes related to opioid dependence. It is considered the gold standard in treating opioid-dependent individuals (Thomas, 2005) and highly effective in decreasing the associated costs of opioid dependence (Weekes et al., 2007), lowering the rates of opioid use, decreasing health-related harms through secondary prevention of disease (e.g. HIV and HCV) and decreasing involvement in criminal activity (Kerr et al., 2004).

Methadone is a long-acting synthetic opioid that binds to the opioid receptors in the body. An opioid agonist, it can significantly reduce the rate of withdrawal and craving associated with opioid dependence (Thomas, 2005). Due to the fact that methadone is a long-acting drug, there are no euphoric effects, a factor that contributes to lower rates of relapse (CPSO, 2005; Thomas, 2005). Methadone has a long half-life and generally only needs to be administered once daily (usually mixed in a fruit drink and taken orally). However, due to the nature of methadone as a full opioid agonist, overdose is an important safety concern

(Mattick, Kimber, Breen & Davoli, 2005). All dosages must be client-specific to reduce the effects of respiratory depression and sedation. In addition, there are considerable dangers to be aware of concerning methadone diversion and accidental ingestion or misuse in non-MMT clients or non-opioid-dependent individuals.

Buprenorphine is often considered an alternative to methadone with respect to maintenance therapy. A systematic review and economic evaluation by Connock et al. (2007) found that both MMT and buprenorphine maintenance treatment (BMT) were more clinically effective in harm reduction and health gains than no treatment at all for opioid-dependent clients. However, they also found that MMT was more cost-effective and had higher rates of treatment retention.

Methadone Maintenance Treatment:

MMT goes beyond the once-daily administration of methadone to clients. Ideally, MMT encompasses a range of comprehensive services to provide holistic care for clients. The availability of comprehensive services to meet the wide range of client needs has been associated with enhanced treatment outcomes and superior quality of life (Health Canada, 2002). An interdisciplinary approach ensures the availability of such services as counselling, employment, education, housing services and access to necessary health services such as perinatal care and health promotion.

The most optimal treatment outcomes occur when individuals are retained in long-term treatment. This may range from months to years, and some clients may require lifelong use of methadone (Kerr et al., 2004). It is important to work continuously with clients to determine their goals and needs regarding length of treatment. Retaining clients in treatment can be facilitated by promoting client autonomy and participation in decision-making with respect to treatment planning (Table 2) (Health Canada, 2002).

Table 2: Intended Outcomes of Using MMT as a Harm Reduction Strategy

(Hart, 2007; RNAO development panel, 2009)

- Reduced misuse of drugs
- Improved social health and productivity
- Improved quality of life
- Retention in treatment programs
- Reduced needle sharing with reduced risk for infectious diseases
- Reduced crime
- Decreased risk of death from overdoses
- Improved pregnancy outcomes

Why is this important for nurses?

Nurses are often the first contact that people have with the health-care system. Nurses need not be working directly in addiction centres or community centres to encounter clients on MMT. Therefore, knowledge of MMT and other treatment options for substance abuse is essential for nurses in all practice settings. Nurses should be able to recognize the signs and symptoms of substance abuse and dependence, and be comfortable discussing addiction and related issues with clients in order to provide supportive care. It is also important to understand that each individual experiences addiction and stigma differently. Management of a client on MMT must be based on a therapeutic relationship that is client-centered, respects the client and recognizes his or her autonomy in making decisions regarding treatment and setting treatment goals. Nurses should refer to the RNAO Best Practice Guidelines *Establishing Therapeutic Relationships* (revised) (RNAO, 2006b) and *Client Centered Care* (revised) (RNAO, 2006a) for more information. Knowledge of MMT and the complexity of opioid dependence will enable nurses to enhance their practice and ensure that all clients receive appropriate care that is holistic in nature.

Practice Recommendations

RECOMMENDATION 1

Nurses incorporate specific skills and knowledge of addictions in their everyday practice.

Type IV Evidence

Discussion of Evidence:

Mental health and addiction services often operate as separate systems nationwide. Many persons accessing health care in both hospital and community settings will have co-occurring mental health and/or drug use issues (Currie et al., 2005; George, 2007). Therefore, within the context of holistic care and concurrent disorders, it is essential for nurses to have knowledge and skills about both mental health and addiction issues. Nurses working in all settings must consider substance misuse in their general assessment of all clients.

Nurses must know the difference between mental health symptoms related to issues of addiction and withdrawal versus psychiatric symptoms that arise from a mental illness in the absence of any drug. For example, the nurse needs to be able to differentiate psychiatric symptoms and clinical status, such as depressive state with anxiety versus depressive state with suicidality (Maremmani et al., 2007). As well, nurses need to be able to identify substance impairment and symptoms of substance withdrawal in addition to the psychiatric symptoms that have arisen from the use of a substance. However, nursing education is lacking in the area of mental health and addictions, including MMT – "nurses tend to learn on the job." (Clancy, Oyefeso & Chodse, 2002).

The International Nurses Society on Addictions (IntNSA) offers education in addictions nursing that results in the nurse becoming a "Certified Addictions Registered Nurse" (CARN) or Advanced Practice Nurse (CARN-AP). For further information about these courses, please refer to the IntNSA website (www.intnsa.org). It is recommended that nurses specializing in addictions nursing gain the knowledge and skills required to advance professional care in addictions (International Nurses Society on Addictions, 2006).

PRACTICE BOX:
Completing a General Nursing Assessment of Clients with Substance Misuse

- Physical assessment of all body systems for signs of:
  - impairment;
  - intoxication; and
  - withdrawal.

- Comprehensive drug history:
  - includes a list of prescribed, over-the-counter, herbal supplements, etc., and use of alcohol, tobacco and other drugs
  - if taking additional medications, the nurse will quantify (amount, frequency, route, last use); and
  - drug allergies.

CLINICAL VIGNETTE:

Scenario: John, a 45-year-old male, is admitted to a medical unit in a large urban setting due to gastrointestinal bleeding. He is complaining of stomach and back pain on admission. He has a pre-existing back injury. John has been in an MMT program for the past two years.

Nurse's reflection: The nurse understands that John will need to be connected to the addiction team and that pain management will be one of the issues requiring attention. The nurse is aware that John may be experiencing both acute and chronic pain.

Nurse's response: The nurse knows that a GI bleed could be related to multiple factors. Therefore, he/she first responds to John's presenting physical complaints and does a comprehensive assessment. As part of the assessment, he/she also conducts a drug history, including assessing for signs of impairment, intoxication or withdrawal. Also as part the assessment process he/she explores past and present acute and chronic pain issues and how he has managed his pain, including his experience in the MMT program.

RECOMMENDATION 1a

a) Nurses incorporate knowledge of maternal and child health related to opioid use.

Type IV Evidence

Discussion of Evidence:

According to the Centre for Addictions and Mental Health, the methadone treatment guide entitled Methadone Maintenance: A Pharmacist's Guide to Treatment (Isaac, Kalvik, Janacek & Brands, 2004), the continuation of heroin use, with its cycles of intoxication and withdrawal, during pregnancy affects both the mother and unborn child in the following ways:

- increased risk of spontaneous abortion, miscarriage and premature labour; and
- increased risk of transmitting viral hepatitis and/or HIV to the baby.

MMT is currently the standard of care during the perinatal period for women addicted to heroin or other opioids (Jansson, Choo, Velez, Schroeder, Shakleya & Huestis, 2007). Although methadone crosses the placenta, the benefits associated with MMT outweigh the risks to mother and the unborn child (Isaac et al., 2004). It also decreases illicit opioid use, the likelihood of fetal death and the risk of HIV and viral hepatitis (Jansson et al., 2007). Benefits of MMT include:

- improved gestational age;
- increased birth weight; and
- decreased infant mortality.

A nurse's knowledge and skill when working with a pregnant woman who uses opioids must go beyond engaging the client and must also include knowledge concerning:

- the nurse's own values and beliefs;
- assessment skills that include an understanding of the signs and symptoms of withdrawal;
- the client's social support team;
- a holistic approach to care;
- harm reduction principles;
- physical changes and reasons for MMT dosage adjustment in pregnancy;
- pain management during labor, delivery and postpartum for someone who has used opioids;
- grief management if the woman does not intend to parent the child;
- strategies to empower the client to negotiate the health-care system;
- resources for collaborative care with other team members, including addiction services; and
- signs, symptoms and interventions in cases of neonatal abstinence syndrome.

Jansson et al. (2007), and Isaac, Kalvik, Janacek and Brands (2004) recommend breastfeeding for women in MMT programs. Jansson et al. (2007) state specifically that methadone-exposed neonates are at high risk for morbidity in addition to neurobehavioural difficulties, and therefore would benefit from breastfeeding. However, women in MMT programs have low rates of lactation and are frequently discouraged from breastfeeding by health-care providers who are monitoring their at-risk infants (Jansson et al., 2007). Reasons cited for discouraging women included:

- prejudices of treatment providers;
- paucity of research in the area of MMT and breastfeeding; and
- unclear guidelines regarding lactation among women on MMT.

PRACTICE BOX: Caring for the Pregnant Woman

The nurse, in collaboration with the health-care team, will:

- reflect on his/her own values and beliefs;
- understand the woman's perspective;
- understand the impact of neonatal abstinence syndrome and share appropriate and necessary information with the mother;
- when necessary, support the woman in working with Child Protection Agencies;
- understand the woman's support system;
- understand the partner relationship and implications if the partner is continuing to use drugs;
- assess for intimate partner violence and abuse (RNAO, 2005);
- utilize the protocol for engagement in collaborative care with addiction services;
- engage in a relationship with the woman to obtain "her story,"(e.g. what does this pregnancy mean to the woman and what are her plans for the baby?);
- support the woman if there is a relapse or other drug use;
- provide continuous support through ongoing positive reinforcement;
- ensure processes are in place for follow-up, e.g. primary care and public health supports;
- support parenting practices, e.g. breastfeeding, self care
- ensure supports are in place regarding any interventions required for the newborn; and
- understand pain control in the post partum period.

CLINICAL VIGNETTE:

Scenario: A young couple come into a community clinic and ask to be started on methadone. They have been using oxycodone for several years and have been living on the street and in hostels. The young woman thinks she is three months pregnant and feels if they don't get help it will be harmful for the baby, although she is fearful that the Children's Aid Society (CAS) will get involved.

Nurse's reflection: The nurse must work with this couple to develop a treatment plan that addresses their immediate and long-term goals (i.e. prenatal care, housing, infectious disease testing, financial support, employment counselling, social services and health education).

Nurse's response: Early assessment and intervention is essential for the female client, and addressing concerns regarding infectious disease testing, housing and prenatal care is imperative. Although the male client may not be a priority initially, it is important to work with both young people and remember that they are each other's support system. The young man should be started on methadone at the same time as his partner, if possible. Ideally, initial stabilization for pregnant women in MMT programs takes place in the hospital setting (CPSO, 2005; Isaac et al., 2004).

RECOMMENDATION 1b

b) Nurses consider the ethical, legal and social context of harm reduction/addiction treatment programming.

Type IV Evidence

The Code of Ethics for Registered Nurses is structured around seven primary values that are central to ethical nursing practice (Canadian Nurses Association, 2008):

1. Providing safe, compassionate, competent and ethical care
2. Promoting health and well being
3. Promoting and respecting informed decision-making
4. Preserving dignity
5. Maintaining privacy and confidentiality
6. Promoting justice
7. Being accountable

In her critique of harm reduction, Pauly (2008) draws attention to health inequities, including higher morbidity and mortality rates in persons who misuse drugs. Using a social justice lens in her analysis of harm, Pauly cautions that harm reduction strategies that mainly target the direct harms of drug misuse may fail to address the indirect harms often associated with it, e.g. homelessness, violence and poverty. She argues for a harm reduction approach that attends to the contextual features of the lives of those who use illicit drugs. Pauly, Goldstone, McCall, Gold and Payne (2007) noted that the failure to embrace harm reduction policies and practices can have serious consequences for the health and well-being of those persons using illicit drugs and the community at large. It is incumbent upon nurses to advocate for harm reduction approaches and drug policies that attend to the breadth of the social determinants of health.

In keeping with a harm reduction approach, nurses must reflect on their own values, beliefs and prejudices and how they might affect the care of clients seeking treatment for opioid dependence – it is important to recognize and acknowledge that the client may choose not to accept treatment. To establish the best plan of action, the nurse must consider the client's point of view (College of Nurses of Ontario, 2008c). Understanding the nature of addictions, theories of change and ethical decision-making frameworks can assist nurses in accepting and supporting clients as they make treatment choices.

CLINICAL VIGNETTE:

Scenario: Lisa is a 35-year-old woman who presents for Hepatitis C testing at an offsite clinic needle exchange program (NEP) where a Public Health Nurse is offering counselling and testing. Lisa has been using opiates, cocaine and crack for more than 15 years, and notes that she's stopped MMT a few weeks ago because "she felt like she was in jail having to go to the treatment clinic every day." She has come for testing because has been sharing needles and crack pipes with her boyfriend, with whom she is living, and who has Hepatitis C. After two attempts, the nurse has been unable to draw any blood samples because Lisa's arms are covered in abscesses and bruises at the injection sites. Lisa advises the nurse that she has been injecting cocaine 10 or more times per day and offers to draw the blood herself. She refuses to go to a lab for the blood draw as "the women in the lab always look at her like a piece of crap."

Nurse's reflection:

The nurse is concerned about:

- Lisa's risk of acquiring Hepatitis B or C, HIV and Sexually Transmitted Infections because she is sharing drug paraphernalia with her partner, who is known to have Hepatitis C;
- Why Lisa has stopped MMT and started using illicit drugs again; and
- Lisa's skin infections at her injection sites.

Nurse's response:

Using a harm reduction approach, the nurse is mindful of her own values and beliefs, and accepts that Lisa may only seek medical attention for her skin infections on her own terms. The nurse must accept and support Lisa as she makes treatment choices for herself.

The nurse:

- uses a non-judgmental approach to assess and counsel Lisa;
- reviews Hepatitis B and C, HIV and STI transmission and prevention information along with safer sex and condom use with the client; and
- discusses harm reduction strategies related to safer injection practices and safer intranasal and crack pipe use.

Education for Lisa should include the following instructions:

- use a new needle, syringe for each injection;
- use her own equipment for inhaling and smoking crack;
- clean the needle before each use if sharing can't be avoided, and how to do it;
- clean the injection site with an alcohol swab, rubbing alcohol, aftershave lotion, or soap and water;
- sterilize cookers and spoons with alcohol or bleach and water before each injection;
- mix drugs using sterile water; and
- use a filter to remove impurities from the drug mix.

The nurse advises Lisa not to:

- engage in sexual activity that includes contact with blood or the exchange of blood;
- have unprofessionally done tattoos or piercings; or
- share razors, toothbrushes, nail files and clippers, or earrings with anyone.

The nurse also:

- advises Lisa how to dispose of used equipment and where to obtain intravenous drug use supplies;
- uses visual aids that are part of her harm-reduction teaching tools to demonstrate how and where to perform safe injections;
- does HIV pre-test counselling and testing along with Hepatitis B, C, Syphilis, Gonorrhea, and Chlamydia;
- recommends that Lisa start immunization for Hepatitis A and B vaccines as IDU and intranasal/crack pipe drug use is a risk factor for Hepatitis A and B virus infections;
- explores barriers that may have prevented Lisa from continuing with her MMT program;
- asks Lisa if she'd like some clean needles today from the needle exchange program worker, and if she would like a referral to a Case Management Outreach Worker; and
- recommends a clinic for treatment of the skin infection on her arms.

RECOMMENDATION 2

Nurses have knowledge of the impact of the social determinants of health on addictions.

Type Ib-IV Evidence

Discussion of Evidence:

In recognition of the powerful impact of the social determinants of health in shaping health care, the World Health Organization (WHO) Commission on the Social Determinants of Health (SDOH) was initiated in 2005 to: 1) support policy change in countries by promoting models and practices that effectively address SDOH; 2) support countries in placing health as a shared goal to which many government departments and sectors of society contribute; and 3) help build a sustainable global movement for action on health equity and social determinants, linking governments, international organizations, research institutions, society and communities (Public Health Agency of Canada, 2006).

When nurses work in addictions programs, including MMT, they see the impact of the social determinants of health on client health and well-being every day. Nursing assessments and interventions need to take into account the contextual factors that influence client health including housing, early childhood education and care, education, income, employment and job security, working conditions, food security and social policy; these factors all contribute to social inclusion (Health Canada, 2003) (see Appendix C). Good health and well-being enables people to participate fully in society.

Reporting on the findings of a qualitative study, Wilson, McIntosh and Getty (2007) described clients as "hitting rock bottom" because they felt unable to escape the cycle of addiction. Many of them had lost everything, including friends and family relationships, jobs, financial security, homes and self-respect. MMT represented a last resort for many. In this study, it was evident that addiction can be all-encompassing in a client's life.

Due to their reduced incomes, many clients accessing MMT programs live in unstable housing situations, i.e. they are often homeless or near homeless (Patterson, McIntosh, Sheill & Frankish, 2007). Safe and comfortable housing is essential for all persons. Many housing advocates and researchers have argued for a "housing-first" model. Proponents of this model argue that independent housing should be offered immediately to prevent homeless people from becoming caught in the shelter system and the cycle of chronic homelessness (Patterson et al., 2007). The housing-first approach to support housing places people with serious mental illness directly from the streets into permanent housing units with appropriate support services and adopts a harm reduction approach to addictions that does not require tenants to engage in treatment. There is preliminary evidence that a housing-first approach may be effective with hard-to-house individuals (e.g. the chronically homeless and those with severe addictions and concurrent disorders) (Patterson et al., 2007). The evidence suggests that housing-first options increase the likelihood of tenants establishing links to mental health, addictions and medical treatments in the future (Patterson, et al., 2007).

According to Kinlock, Gordon, Schwartz and O'Grady (2006), addiction is often accompanied by low educational attainment, compared with the general population. Early onset of crime and drug use commonly occurs during adolescence for this group. This suggests a disadvantage associated with early life addiction experiences, such as limited income potential and fewer housing options.

In addition to speaking out about their addiction, participants in one study (Wilson, McIntosh & Getty, 2007) identified essential aspects of care that nurses brought to relationships, using such terms as communication, physical care, emotional support, personal care and maintaining connections. In addition, they emphasized the importance of friendliness, which they thought influenced how nurses established therapeutic relationships with clients. Acceptance and linkage to social supports were also identified as important features of care. Lastly, participants noted that it was important for nurses to believe in them personally, and also believe in methadone as a treatment option.

Evidence from these studies supports the perspective that nurses need to have the knowledge and skills to manage all the resources that support health. They must have knowledge regarding the social determinants of health and possess the skills necessary to advocate for practices and approaches in keeping with equity across the determinants, e.g. nurses working in MMT need to have knowledge of housing options and ensure strong linkages with housing referral organizations and agencies.

PRACTICE BOX:

Questions to Consider Concerning the Determinants of Health When Assessing a Client:

- Does he/she have access to health care?
- What is the state of her/his health? (apparent illness such as endocarditis, HIV or Hepatitis C)
- Does he/she have safe, stable housing?
- Does he/she have access to food (soup kitchen, food bank)?
- Does he/she have an adequate income?
- What is contributing to her/his stress?
- Are there healthy social supports in her/his life?
- Early life considerations: What factors had an effect on her/his early life?

CLINICAL VIGNETTE:

Scenario: Deborah comes to the clinic and wants to start on MMT. She is a 25-year-old woman who shares some of her life story with you on intake. She was 12 years old when her father injected her with heroin. Her mother died of a drug overdose. Soon after, she started using on a regular basis. She now injects heroin daily. She has been a sex trade worker to support her habit. She is tired of her life and sees methadone as a last resort. She has been living in a crack house and is considering going to a shelter. She admits to not having had any medical care in a long time. She thinks she "will die" if she doesn't change her life.

Nurse's reflection: The nurse's first thought was related to Deborah's past, and how it has contributed in shaping her current life. The nurse questions the presence of abuse and whether or not Deborah has children, a partner or social supports in her life. She also considers the level of stress that Deborah is experiencing and the possibility of suicide.

Nurse's response: With Deborah, the nurse begins the process of assessing client safety and arranging for interim housing. The nurse does a physical and psychosocial assessment, and takes a drug history prior to the initiation of MMT. The nurse is aware that Deborah is in need of basic health care; together they decide to make this a priority.

RECOMMENDATION 2a

Nurses consider the holistic needs of a client as integral to the success of a client's treatment.

Type IV Evidence

Discussion of Evidence:

The holistic needs of a client are integral to the success of their treatment, as many clients experience psychosocial and health problems. The nurse's knowledge of the client's current health issues, treatment plan and support system are all contributing factors to their heath and well-being. A study by Villeneuve, Challacombe, Strike, Myers, Fisher, Shore, Hopkins and Millson (2006) on health-related quality of life for opioid users reported that opioid users generally perceived their health as worse than the general population and other chronic disease populations, but similar to individuals with major psychiatric conditions. In addition, this study indicated that opioid users rated the change in their physical and mental health functioning as an important measurement to use when evaluating treatment programs. As well, a lower rating of quality of life was predictive of illness and future utilization of health-care services.

Given the link between the physical and mental aspects of health, nurses need to incorporate components of physical, social and mental functioning in their assessments of clients on MMT. The College of Physicians and Surgeons of Ontario guidelines (2005) state that a psychosocial assessment should be completed prior to the beginning of treatment. Studies have shown that clients who received treatment for substance abuse that included medical care, counselling and social services versus those who received usual care, (i.e. follow-up to arrange counselling or referral sessions) showed greater improvement in their health status (McLellan, Weinstein, Shen, Kendig & Levine, 2005; Sorensen, Masson & Delucchi, 2006)

PRACTICE BOX:

Tips for Ensuring the Holistic Needs of Clients are Part of Their Treatment Plan

- Is there documentation of a comprehensive physical and psychosocial assessment?
- Is there evidence of physical, emotional and psychosocial issues related to drug use?
- What is the client's perception of her/his health?
- Is there a comprehensive treatment plan for the client, and has the client had input into the plan?
- Are there strategies included in the plan to address the determinants of health that are exacerbating the problem?
- Is there a mechanism in place for collaborative care with mental health services (including crisis intervention, primary health care, community, corrections/justice, public health/infectious diseases/communicable disease control) and other service providers (housing specialists, etc.)?

CLINICAL VIGNETTE:

Scenario: Mayaro, a 35-year-old married man with a history of opioid dependency, commenced MMT four weeks ago. Currently, he is prescribed 60 mg methadone daily. During your interaction with Mayaro at the clinic today, he continues to report anxious feelings, restlessness and persistent drug craving. He also expressed concern about losing his children and is unsure about where he'll be able to live.

Nurse's reflection: The nurse is aware of the clinical and psychosocial symptoms related to withdrawal and toxicity. However, within this context during the nurse-client interaction, he/she also considers: the client's role and activities as a parent; his personal description of general health, psychosocial distress, social functioning related to physical and emotional stressors; and the length of time since the client started methadone treatment.

Nurse's response: The nurse explores with the client his medication regime. Has there been a recent increase or decrease in dosage? Is the client taking the medication as prescribed? Is he taking any non-prescribed medications? Is he on any other medication? Does the client have a history of anxiety? What is the effect of the family situation on the client? Are there other factors affecting the client's stress?

RECOMMENDATION 3

Nurses practice reflectively to maintain continued awareness of their current and evolving perceptions, attitudes and biases, values and beliefs when working with clients with addictions (including those on MMT).

Type IV Evidence

Discussion of Evidence:

It is important for nurses to consciously and continuously examine their personal values, beliefs and attitudes to foster a positive and therapeutic relationship with clients and to improve client outcomes. Negative attitudes and judgments of health-care providers adversely affect the care of clients with addictions as well as nurse job satisfaction (Foster & Onyeukwu, 2003).

Literature specific to clients on MMT indicates that nurses need to be more knowledgeable of treatment options and goals, and to be aware of their personal values as well as those of the client and their families to improve client care and outcomes (Loth, Schippers, Hart & van de Wijngaart, 2007), see Appendix F.

CLINICAL VIGNETTE:

Scenario: A man enters a community methadone clinic, dressed in a business suit and appearing well groomed. During the intake interview, the nurse learns that he had been prescribed opioids for chronic back pain several years ago. Since then, he has had to take more pills to control the pain. He is now buying pills on the street. He had lost his business and his marriage is falling apart. He is fearful that he can't live without the pills, but is afraid of losing everything.

Nurse's reflection: Nurses are aware of chronic pain and subsequent opioid use. However, the nurse was surprised to see that he is addicted to opioids and aware that this surprise is fuelled by his/her stereotype of how a person who is addicted to opioids should look. The nurse realizes that he/she needs to come to terms with this view to provide a competent and safe assessment, i.e. to ensure that he/she is not making any assumptions in terms of his/her line of inquiry and possibly missing important information and that he/she is able to establish a respectful trusting relationship and that his/her assessment is thorough.

Nurse's response: The nurse conducts an assessment in keeping with the principles of cultural safety and cultural competence by beginning with reflection on his/her own beliefs and assumptions. He/she is careful to address his/her biases so he/she can provide a thorough and safe assessment of the client.

RECOMMENDATION 3a

Nurses provide care in keeping with the principles of cultural safety and cultural competence.

Type IV Evidence

Discussion of Evidence:

Both the nurse and client bring their own culturally derived attitudes, values and beliefs to the therapeutic relationship. As such, culture can greatly impact how addiction issues and MMT are discussed and addressed in the context of the client-nurse relationship. The nurse's perception, and professional and moral views about culture and addictions, influence communication and the holistic aspects of care, e.g. a person's culture may influence feelings such as guilt and shame or induce negative judgments about people who use illicit drugs. In addition, a person's lived experience of his/her 'culture' could create an unwillingness to discuss MMT or other addiction issues when in contact with the health-care system.

Within a therapeutic relationship, cultural and other differences between the nurse and client may also exacerbate power and privilege differentials. This has implications for the client's experience of care as well as the effectiveness and safety of clinical practice. In keeping with a critical cultural perspective, utilization of the concept of 'cultural safety' as a moral and political tool is recommended to assist with connections across similarities and differences, in addressing power and structural inequities and shifting the status quo in relation to those inequities (Browne & Varcoe, 2006; Hartrick, Doane & Varcoe, 2005; Smye & Browne, 2002). (See Appendix B for more details.)

CLINICAL VIGNETTE:

Scenario: Charlie is a 42-year-old Cree man, who lives on the streets of a large urban center. He has been in MMT for the past two years. Charlie was severely injured when a large truck hit him as he crossed an intersection two weeks ago and he is to be discharged from hospital – he has four broken ribs, a broken wrist and ankle. You are his nurse on the orthopaedic unit where he has been recovering, and learn that Charlie will be discharged to the street. The hospital social worker informs you that Charlie has refused to accept social assistance so that he could receive subsidized housing.

Nurse's reflection: The nurse wonders why anyone would refuse to go on social assistance – people are trying to assist Charlie, but he seems to be putting up barriers. However, the nurse is thinking that perhaps Charlie is mistrustful of social assistance and health care – he may be resistant to mainstream services that engender feelings of dependency and vulnerability, as well as a lack of control over his own life. Within the context of cultural safety, the nurse reflects on his/her own attitude, values and beliefs about social assistance, subsidized housing, and the stigma and discrimination associated with marginalized groups such as Aboriginal and people who are homeless. The history of colonization of First Nations peoples in Canada has resulted in a lack of trust for many Aboriginal people of mainstream services. The nurse is wondering about how Charlie might receive the kind of follow-up care he requires if he is on the street and how he will remain connected with the MMT program, given his experiences and perspective.

Nurse's response: The nurse engages with Charlie to prioritize his needs. He/she discusses his living situation and how he sees the future. The nurse does an assessment in keeping with the principles of cultural safety and cultural competence – he/she begins by asking Charlie if there is anything that he/she should know about him (e.g. beliefs about health and healing practices) to assist with his treatment plan and before making referrals etc. He/she discusses his concerns around social housing and begins the process of exploring with the hospital social worker (in this case, the First Nations liaison social worker), community integration, and financial and social support services to determine if there may be a way for Charlie to access housing that does not involve going on social assistance.

RECOMMENDATIONS

RECOMMENDATION 4

Nurses inform their clients of available treatment options for opioid dependency (including MMT) on an ongoing basis.

Type IV Evidence

Discussion of Evidence:

An integral part of assisting the client in initiating therapy for opioid dependence is to inform them about the potential sources of referral for addiction treatment and counselling (CPSO, 2005). The College of Physicians and Surgeons of Ontario (2005) suggests that information concerning the following be offered to clients:

- detoxification
- replacement therapy (methadone and buprenorphine)
- opioid antagonists
- abstinence based treatment programs
- self-help groups

PRACTICE BOX: Completing a Client Assessment

The nurse reflects on the following when engaging the client:

- What are his/her own perceptions?
- What is the client's addiction history?
- What is the client's mental health history?
- What are the client's goals for treatment?
  - Understands the client's perceptions of treatment
- What does the client know about addiction and treatment choices?
- Has the client previously sought treatment?
  - What type of program was it?
  - What was the outcome?
- What is the client's social situation?
  - Housing
  - Employment
  - Food security
  - Education
  - Social supports
  - History of criminality
- What are actual and perceived barriers to treatment?
  - Cultural
  - Economic
  - Transportation
  - Finances/ insurance
  - Emotional
  - Psychiatric
  - Stigma
  - Other addictions

RECOMMENDATION 5

Nurses need to be aware of the efficacy of MMT as a substitution therapy for opioid dependence.

Type IV Evidence

Discussion of Evidence:

A recent Cochrane review stated that MMT remains the "best-researched treatment" for opioid dependence across the globe (Mattick, Breen, Kimber & Davoli, 2003). Methadone was first used as a treatment for opioid dependence in the 1960s in both Canada and the United States (Isaac et al., 2004). Research begun during

this time found that the use of methadone as substitution therapy for heroin addiction was successful at retaining clients in treatment, while relieving opioid withdrawal and reducing craving. Further research supports the efficacy of methadone as a substitution therapy for opioid dependence. No other treatment has been shown to reduce illicit opioid use better than methadone maintenance (Mattick et al., 2003).

Evidence from randomized clinical trials indicates that mortality and morbidity are reduced in the heroin-addicted client who is treated with MMT. Methadone therapy has been associated with a reduction in criminal behaviour related to the harmful consequences of using illicit opioids (CPSO, 2005).

The efficacy of methadone substitution therapy for opioid dependence has been demonstrated in the following ways:

- alleviation of withdrawal symptoms and cravings for illicit opioids;
- improvement in client's social conditions;
- improvement in general health status (including physical and psychological health);
- reduction in HIV and Hepatitis C infection rates caused by needle sharing; and
- longer retention in treatment (as compared with other non-substitution therapy treatments) (Isaac et al., 2004).

The pharmacological success of methadone as a substitution therapy for opioid dependence can be partially attributed to its long-acting nature. Methadone remains stable in the body for longer than other opioids, thus increasing the likelihood that clients will progress successfully in other aspects of their lives (Isaac et al., 2004). The benefits of MMT increase when methadone substitution is accompanied by additional services. MMT is successful as a comprehensive therapy because it ensures frequent contact with health and social services such as psychosocial, psychiatric, medical and counselling services. The potential benefits of comprehensive MMT therapy have been reported in numerous studies and meta-analyses, and include:

- improvement in mental and emotional health;
- improvement in the client's social relationships with family and friends;
- reduction in community costs related to social service use and crime;
- reduction in overall use of illicit drugs and incidence of infectious diseases;
- reduction in mortality; and
- improved maternal-infant health of pregnant women on MMT (Ashworth, 2005; Isaac et al., 2004; Michels, Stöver & Gerlach, 2007)

> ***"My reward has been the chance to enjoy my family, to find employment, to have good health in my mind and body, and to be in control, for once, of my own happiness. I've learned a lot about myself. I'm friendlier and more helpful to others. I love me now, and I love life!"*** ***– Margaret, age 41, on methadone for 11 years***
>
> (Centre for Addiction and Mental Health, 2008b, p.16)

RECOMMENDATION 6

Nurses will have an understanding of the pharmacokinetics of methadone.

Type III-IV Evidence

Pharmacokinetics is the term used to describe the physical effect of a drug (Arcangelo & Peterson, 2006). Drugs are affected by the body through four different physiological functions: absorption, distribution, metabolism and elimination. Therefore, when caring for persons on methadone, nurses need to have an understanding about how each of these functions can affect the way methadone works for each individual, as each person's response to treatment is different. After an oral dose, methadone generally reaches peak concentration at 2.5 to 4 hours and then declines slowly, with a half life of approximately between 15 to 30 hours (Baselt, 2000; Karch, 2008; Lugo, Satterfield & Kern 2005; Toombs & Leavitt, 2008).

Methadone Absorption

Methadone is a long-acting synthetic opioid that is readily absorbed from the GI tract, and can be detected in the plasma 30 minutes after administration (Toombs & Leavitt, 2008); however, drug absorption can be affected by properties of the drug, gastric motility, gut perfusion and pH levels (Lugo et al., 2005). Depending on the individual, bioavailability (the amount of drug that reaches the site of action) varies widely, and has been reported to be as low as 41% and as high as 95% (Ferrari, Coccia, Bertolini & Sternieri, 2004). Therefore, it is important to remember that all clients will not have the same clinical effects from equal doses, because they will not have the same blood concentrations.

Methadone Distribution

Because methadone is highly lipid soluble, only 1 to 2% remains in the plasma with peak plasma concentrations occurring, on average 2.4 to 4 hours after ingestion. Therefore, 98% of the methadone that reaches the core compartment rapidly becomes bound to tissues, such as those found in the liver, kidneys, lungs and even the brain (Ferrari et al., 2004). These tissues act as a reservoir that can be used to maintain plasma concentrations over time.

This lipid solubility may cause slow release from the tissues, which also may lead to a prolonged duration of effect despite low serum concentration (McEvoy & Snow, 2007). With repeated doses of methadone this slow release may prolong the duration of action, causing respiratory depressant effects longer than the expected therapeutic effect (McEvoy & Snow, 2007). Because these tissues release the methadone slowly over time, re-absorption can continue for a number of weeks after the individual has ceased to take the drug.

Methadone crosses the placenta and is distributed in breast milk (McEvoy & Snow, 2007). Lugo, Satterfield and Kern (2005) noted that women on high doses of methadone should wean their children slowly to prevent neonatal abstinence syndrome. However, generally the dose received by the infant is too low to cause this effect.

Metabolism

Methadone is metabolized by the liver through the cyotochrome P450 group of enzymes (Weschules, Bain & Richeimer, 2008). Many other drugs are also metabolized through this pathway. Some drugs increase the activity of these enzymes, which would increase the rate of methadone metabolism, while other drugs have the opposite effect and inhibit methadone metabolism, which can result in toxicity (Leavitt, Shinder-

man, Maxwell, Chin & Paris, 2000). Leavitt and colleagues (2000) also explained that there could be missing genetic factors that might alter the person's sensitivity to methadone, while (rarely) some people have high enzyme activity, and are referred to as rapid metabolizers of methadone.

Methadone has few metabolites; most are inactive or not potentially harmful. The primary metabolite of methadone, EDDP, is inactive, and its presence in urine is an effective indicator of program compliance (Isaac, et al., 2004).

Elimination

Methadone and its metabolites are excreted through urine and feces. The clearance of methadone from the body also varies significantly among individuals, a factor which contributes to the differences in pharmacokinetics for different persons. The drug is excreted mainly through the kidneys (16 to 60% during the first 24 hours). The rate of elimination is dependent on the pH (more acidic, faster elimination). Consequently, the half-life of methadone changes with the varying pH, as does the volume of distribution of the drug (Ferrari et al., 2004). Although methadone is mainly eliminated by the kidneys, unlike with other opioids, dosages do not usually need to be adjusted in the presence of renal insufficiency (Toombs & Kral, 2005).

RECOMMENDATION 6a

Nurses will be aware of the pharmacodynamics of methadone.

Type III-IV Evidence

Discussion of Evidence:

Pharmacodynamics refers to the effects of the drug on the body (response of the body to the drug) (Archangelo & Peterson, 2006). Although we give methadone for a single purpose, i.e. to replace a shorter-acting opioid in the case of addiction, it has other effects that can be either beneficial or harmful.

The effect of methadone on body function "is the result of the interaction between the drug and a target cell or receptor" (Wynne, Woo & Olyaei, 2007, p. 13-14) Methadone binds to the Mu, Kappa, and Delta receptors, which accounts for its many effects on the body, such as sedation, analgesia and euphoria. Interaction with all three of these receptors produces the analgesia effects of methadone, while each of them causes a number of the unwanted harmful effects.

Practice Box:

Anticipated effects of methadone

- Reduction of symptoms of physical addiction
- Reduction of cravings

Potential adverse effects of methadone:

- Peripheral vasodilation
- Diaphoresis, pruritis, rash, urticaria
- Constipation, nausea, occasional vomiting

- Decreased libido, impotence
- Insomnia
- Occasional peripheral edema
- Occasional myalgia/joint pain, heaviness in arms/legs

(Isaac et al., 2004; Layson-Wolf, Goode & Small, 2002)

RECOMMENDATION 6b

Nurses integrate their understanding about the pharmacokinetics and pharmacodynamics of methadone to be aware of the side effects and drug-to-drug interactions that may occur.

Type III-IV Evidence

It may be anticipated that four to five doses will be needed in order to achieve a steady state. Achieving this state may require up to a week's time (Clark, 2008). Steady state can be described as a mean concentration of the drug in the body, or the equilibrium between the amount of drug entering and leaving the body (Archangelo & Peterson, 2006).

The risk of overdose during the initiation stage is almost seven times greater than for the client who is not in treatment, and overall 98 times greater than the risk for those clients who are established on maintenance dosing (CPSO, 2005).The side effects associated with methadone may appear slowly. Since clients in an MMT program are generally served as outpatients with minimal opportunities for contact with their health-care providers, there is a risk that these harmful effects may not be observed in a timely manner.

Methadone can cause sedation and/or respiratory depression. When combined with other central nervous system depressants such as alcohol or benzodiazepines, there can be an enhanced effect (Weschules, et al., 2008).

Clients with addictions are frequently poly-substance users. While alcohol and benzodiazepines are among those most frequently encountered, many other drugs have similar CNS-depressant effects. Such drugs may potentiate methadone's sedating properties and put the client at risk for fatal overdose (Isaac et al., 2004).

Concurrent use of alcohol, benzodiazepines, nicotine and methadone is a very dangerous mix, which may lead to respiratory depression and death.

Methadone has the potential to cause prolongation of the QT interval. When combined with drugs that have similar effects on the QT interval, the client is at greater risk for a fatal dysrhythmia such as Torsade des Pointes (College of Physicians and Surgeons of Ontario, 2005; Haddad & Anderson, 2002; Vieweg, Schneider & Wood, 2005; Weschules, et al., 2008).

Nurses must be aware of the numerous medications that can alter the bioavailable concentration of methadone (see Appendix D). Those interactions that may increase the concentration of methadone put the client at risk for overdose. When the interaction manifests as a decrease in the concentration, the

client is at risk of experiencing withdrawal symptoms and cravings. These symptoms may in turn potentiate a relapse (see Appendix H).

Even nicotine appears to have an interaction with methadone, necessitating an associated increase in dosing requirements (Weschules et al., 2008). Consequently, the client who decides to stop smoking while taking methadone should be monitored closely for drowsiness.

Since cocaine may cause increased elimination of methadone (Leavitt, 2005), clients who have been abusing cocaine while on methadone may require higher dosing. Inversely, the client who discontinues cocaine use while taking methadone may exhibit increased drowsiness and it may be necessary to decrease the dose of methadone. Cocaine use puts the client at risk for serious negative outcomes such as dysrhythmias, infarction and risk for emboli. With use of cocaine, the client may engage in other high-risk behaviours, such as irregular use of prescribed medications (including methadone).

There is evidence of interactions between methadone and many medications used in the treatment of HIV. In some cases the interaction results in a decrease of the bioavailable methadone, while in others an increase occurs. Clients on HIV medication should be monitored closely during in the initiation stage and throughout the entire length of the program for ongoing symptoms of toxicity and withdrawal.

It is recommended that grapefruit juice not be taken by the MMT client as this can increase methadone concentration (Isaac, et al., 2004; Lugo, et al., 2005).

Other factors that affect the bioavailability of methadone include respiratory illness and age. The concentration can be affected by a variety of factors (Table 3).

Table 3: Factors Affecting Risk for Methadone Toxicity (Isaac et al., 2004)

- Recent or ongoing use of benzodiazepines
- Use of other sedating drugs
- Lower opioid tolerance
- Alcohol abuse or dependency
- Older age (greater than 60 years)
- Severe, unstable liver disease
- Respiratory illness (e.g. COPD, asthma)
- Other drugs that inhibit methadone metabolism
- Missed doses that lead to a decrease in tolerance
- Early stabilization stage

The nurse needs to be aware of many factors associated with taking methadone (see Table 4). He/she needs to understand how the body affects the drug and how the drug affects the body. It is important to be aware of all the pertinent information concerning the client's history, including allergies, medications and any existing past or current health concerns. The nurse needs to understand the risks associated with toxicity and drug interactions that might present given their current medication list. As well, the nurse plays a key role in communicating changes in the client's health to the prescribing methadone physician.

Table 4: Factors Affecting MMT (Isaac et al., 2004; Weschules et al., 2008)

- Opioid use (how much, how long, etc.)
- Route of opioid use (oral, inhaled, IDU)
- Polysubstance abuse
- Medication use (prescribed, OTC, herbal)
- Age of client
- Other pathology (e.g. liver or kidney disease)
- Genetic factors
- Pregnancy

CLINICAL VIGNETTE:

Scenario: You are working on a cardiac floor in an acute care hospital. Your client was admitted yesterday and is prescribed methadone 85 mg per day. The client has been prescribed methadone for more than six months. The client also reports to a binge pattern of alcohol use, drinking approximately 12 beers per day four or five days a month, with the last drink two weeks ago, plus regular use of cocaine (2 g per day, three or four days a week). This client is diagnosed with bipolar disorder and is on lithium 1200mg per day, Seroquel 200 mg qhs and clonazepam 3 mg per day. Your client is drowsy but can be roused. His ECG shows a prolonged QT interval.

What are the concerns here?

- Client is drowsy.
- Abnormal ECG: prolonged QT.
- In addition to methadone, use of other drugs such as lithium, seroquel, cocaine, alcohol and clonazepam.

Implications:

- Drowsiness could indicate:
  - Increased level of methadone
  - Lithium toxicity
  - Side effect of clonazepam and/or seroquel
  - Byproduct of the combination of all of the medications
- Cardiac complications
  - Methadone, cocaine and seroquel can cause QT prolongation

This client should be monitored for signs of respiratory depression, cardiac monitoring for QT interval if possible, daily ECGs. The methadone dose may be decreased, and it is important to monitor the client's response. The other drugs should also be evaluated and tapered accordingly.

Drowsiness may also be caused by other factors such as head injury or diabetes. A full drug screen and blood gases are recommended, along with regular blood work including CBC, electrolytes and lithium level.

CLINICAL VIGNETTE:

Scenario: You are working in triage at a busy emergency department. A client comes to register and tells you that he has been given twice his normal dose of methadone. He is in week one of a MMT program and instead of receiving 30 mg of methadone, he was given 60 mg. He had just been at the clinic and they sent him immediately to the hospital for assessment. The client is alert and oriented, and is annoyed that he must come to hospital.

What are the concerns here?

- He has received two times his dose.
- He has compromised his respiratory system.

Implications:

- The client is at high risk for toxicity; no symptoms of overdose are currently present, but the risk for toxicity may last for up to four days.
- The client may not be aware that he is at risk if he were to leave due to no symptoms. It may be difficult to monitor client.

This client is in a potentially life-threatening situation and must be monitored closely and treated for overdose for several days.

- If the client chooses to leave against medical advice, he needs to be advised of the risks, the symptoms of overdose and how to ask friends to monitor him.

PRACTICE BOX: Health Teaching for Clients Initiating Methadone

- Remind clients to consult with their health-care provider or methadone prescriber before taking any OTC products, herbal products, or dietary supplements.
- Caution all clients to keep all health-care providers and their methadone prescriber informed of all medications or supplements being taken.
- Encourage clients to keep all prescribing health-care professionals aware of their methadone dosage.
- Teach all clients about their medications and to always check dosages before ingesting them.
- Inform your clients about potential drug interactions and symptoms to monitor.
- Advise all MMT clients of the negative consequences of using other substances.
- Encourage clients to keep a daily calendar (See Appendix G).

RECOMMENDATION 7

Nurses will uphold standards of practice by performing the "8 rights", as appropriate, to ensure safe administration of methadone.

Type IV Evidence

Discussion of Evidence:

In a study of the roles of nurses in methadone substitution therapy programs across Europe, the most important role of the nurse was the administration of methadone. The simple act of administering methadone is confounded by many factors, such as the intoxicated client, the client in withdrawal, and the client who presents late for an appointment (Clancy, Oyefeso & Chodse, 2002). Clancy et al. (2002) emphasize that the nurse who is administering the medication must maintain a friendly and neutral attitude, as well as an understanding of the nature of addiction and the needs of the client.

A nurse may be required to administer methadone in a variety of settings such as the hospital, correctional facility, or clinic. Each environment has its own policies and procedures that must be adhered to by staff. In any setting, the nurse must ensure that the "8 rights" of medication administration are upheld (see "Practice Box" page 43). The nurse must also document and communicate information concerning methadone administration to ensure continuity of care and client safety. This is essential when client care is transferred from one clinical setting to another.

Along with ensuring that the nurse provides the client with the correct dose, he/she must also ensure that the client can tolerate the dose, as loss of tolerance can lead to overdose. The College of Physicians and Surgeons of Ontario (2005) guideline recommends that clients who have missed their dose for three or more days should not be medicated until they have been reassessed by the prescribing physician.

Three consecutive missed doses will cause a loss of tolerance. The client must be reassessed by the prescribing physician.

The nurse must be confident of the amount and time of the client's last dose prior to administering the next dose of methadone to avoid overdose due to loss of tolerance or duplication of dose. This is especially important if the client is transferring from one facility to another, e.g. hospital to community, community to correctional facility, or pharmacy to pharmacy. Confirmation and documentation of the time and date of last dose is vital to ensure safe transfer of care.

PRACTICE BOX: Administration of MMT (College of Nurses of Ontario, 2008b)

Every nurse will perform the 8 rights, as appropriate, when administering a dose of methadone to a client.

1. The right client
2. The right medication
3. The right reason
4. The right dose
5. The right frequency
6. The right route
7. The right site
8. The right time

For the purposes of MMT, five rights will be discussed below. Although documentation is not a "right" of medication administration, it is important that it is completed after administrating any medication. Documentation of methadone administration is guided by the same legal requirements as for other narcotics. Nurses must sign for all administered doses and take home doses. Any missed doses must also be clearly documented and communicated to the prescribing physician. It is crucial that nurses follow the policies of the organization with which they are employed.

1. Right Client:

CLINICAL VIGNETTE:

Scenario: "I was working one weekend, when a client came in and gave her sister's name instead of her own (both sisters were in the same program, but the sister's dose was higher).The client was agitated and did not look well. She had lacrimation, rhinorrhea and dilated pupils. Her dose had been reduced the previous week due to missed doses. The client stated that someone stole all her belongings at a shelter and she had no identification to verify her identity. The client finally admitted to using the wrong name."

Nurse's reflection: The nurse understands that the client's behaviour is motivated by withdrawal symptoms and a desperate need to resolve them. Withdrawal will increase the client's risk of relapse to drug use. The client has also breached her treatment agreement with the clinic by falsifying her identification. The nurse understands the importance of verifying the identity of the client prior to administering a dose and questions the client appropriately. The nurse also understands that homeless or marginally housed individuals may lose their identification and may not always be able to produce proper identification.

Nurse's response: The nurse checks with another staff member who is familiar with the client, to verify her identity. Some clinics keep photo identification of clients for this purpose. The nurse explains the risk of overdose if given the wrong dose. She validates that she can see the client is having withdrawal symptoms and offers to arrange an appointment with the prescribing methadone physician the following day so that she can be assessed for a safe increase in dose. The nurse also provides community resources that offer safe housing. An offer is made to refer the client to a counsellor/social worker, as she had been having difficulties coming to the clinic to obtain her methadone. The nurse remains non-judgmental and calm, and in doing so, gains the client's trust and cooperation. The nurse documents the encounter and passes the information on to the team so that they can review the client's treatment agreement with her.

PRACTICE BOX: Tips for identification of Right Client

- Even clients whom the nurse has dealt with on numerous occasions must state their first and last name and dose for comparison to the label, prior to administering each time.
- Clients with similar names must be highlighted or identified to alert the nurse.
- The nurse must be able to verify the identity of a client he/she is not familiar with. Methods may include: either a photo ID provided by the client, comparison of picture ID kept by the clinic, or visual verification by another clinic employee who can verify the client's identity prior to administering a dose of methadone.
- Clients should be served one at a time to ensure there are no distractions. Other clients waiting should be asked to step back to ensure confidentiality.

2. Right Route:

PRACTICE BOX: Tips for Right Route for Oral Ingestion of Methadone

- Methadone is always diluted in a 100-cc fruit drink to ensure that is ingested orally and not injected. Methadone can be mixed in a smaller volume of clear fluid if clients are NPO for surgery.
- The client should be observed the entire time he/she is drinking their dose.
- The client should be engaged in conversation after his/her dose to ensure that they have ingested the medication.
- The nurse should ensure that the client has consumed the entire contents of the bottle; any remaining amount not consumed by the client should be recorded and reported to the physician.
- The container used to dispense methadone should be filled with water, and the client should drink this as well to ensure the whole dose is taken and swallowed.
- Policies of the institution should be followed concerning the observation of inmates while ingesting methadone.
- For security reasons and confidentiality, the dispensing container should be discarded according to organizational policies.

- Clients who are nauseated (especially pregnant women) should be encouraged to sit and wait under observation of the dispensing nurse to ensure they do not vomit their dose. If vomiting occurs less than 30 minutes after consumption, the physician can order a replacement dose of 25 to 75%. If emesis occurs more than 30 minutes after consumption, the dose does not need to be replaced.

3. Right Dose:

CLINICAL VIGNETTE:

Scenario: "I could tell when the client walked towards the dispensing window that something was not right. Her gait was unsteady. I couldn't smell any alcohol, but the her speech was slurred and she had drool smeared across her face. She normally presents well dressed and tidy but today she was dishevelled. I expressed concern about giving her methadone today. The client insisted that she was fine and had just had a bad night's sleep and just needed rest. I asked if she had taken anything to sleep, such as valium. She denied taking anything except her prescribed trazodone. She became louder and more insistent that she was in a hurry and this was wasting her time. I explained to the client that I could not give her a dose of methadone at this time as I was concerned with sedating her even more and risking overdose. I gave her the option of coming back later that day to see a physician. The client was very angry when she left, and stated that she was tired of methadone and to "forget it." I felt badly, as she did seem to perk up as she got angry. The next day the client came in and thanked me for not giving her methadone that day. She had indeed taken a few Valium pills to help her sleep. She stated that in the past she had taken the same amount of Valium, but it had never hit her like that before. We talked about tolerance and how it can change over time, or depending on what other medication you are taking."

Nurse's reflection: The nurse was aware of the signs and symptoms of intoxication:

- Emotionally labile
- Motor retardation
- Sedation or "nodding off"
- Pinpoint pupils
- Slowed speech

The nurse is aware of the risk of overdose if the client has taken other sedating drugs, such as benzodiazepines or alcohol.

Nurse's response: The nurse accurately assesses the client prior to administering methadone and questions her about other drug use when found to be drowsy. The methadone dose is appropriately held and the physician is notified. The nurse documents the incident in the client's record. The nurse later reviews with the client the risks of overdose when mixing methadone and benzodiazepines. The nurse remains calm, non-judgmental and caring in her approach with the client, maintaining a therapeutic relationship even when holding a dose of methadone.

CLINICAL VIGNETTE:

Scenario: "I had one client try to taper himself off methadone by not taking his whole drink and leaving about 15 cc in the bottle".

Nurse's reflection: The nurse understands that by not taking the whole amount of methadone, tolerance is affected. This can be unsafe if the client were to resume consumption of the whole dose at a later time.

Nurse's response: The nurse explains to the client that it is much safer to see the physician for assessment if he wants to taper off methadone. It is difficult to know how much methadone is actually taken, and this can be unsafe. He/she records the amount of methadone not taken in the client's chart and notifies the physician.

PRACTICE BOX: Tips for Ensuring Right Dose When Administering Methadone

- Prior to administering methadone, the nurse must accurately assess the client for signs and symptoms of intoxication.
- If the client is found to be intoxicated, methadone should be deferred until the client has been reassessed by the physician. It is safer to refuse or delay administering methadone in an intoxicated client if other drugs have been consumed. Opioid withdrawal in an adult is not life threatening, but combining methadone and other sedatives may be.
- The nurse must be able to verify when the last dose of methadone was given in order to safely administer the next dose. This is especially important when the client is transferred from one dispensary to another.
- The nurse must follow clinic policy if consecutive doses are missed prior to administering methadone. The College of Physicians and Surgeons of Ontario (CPSO) guidelines recommend giving the client their prescribed dose of methadone, provided they are not intoxicated if they have missed one or two days. If the client misses three consecutive days, the CPSO guidelines recommend that clients are assessed by the prescribing physician prior to receiving their next dose. The nurse must document missed doses and refer clients for physician assessment when needed.
- The nurse should verify with the client what their dose of methadone is and compare it to the dose on the container as they are verifying the client's identity.
- Dose increases outside of the CPSO guidelines should be verified with the physician to ensure an error has not occurred.

Summary of recommendations for management of the early stabilization phase:

The recommended initial daily dose is 10-30 mg.
Consider starting at a lower dose (10-20 mg) for the following client groups:

- The elderly with underlying respiratory disease.
- Users of sedation drugs or drugs that inhibit methadone metabolism.
- Those with lower opioid tolerance e.g. non-daily opioid use, daily use of codeine, or moderate use of oral opioids.

- The recently abstinent with negative urine screens (initiate at 5-10 mg).
- Start at a lower methadone dose if history or urine drug screen suggests recent use of benzodiazepines, alcohol or other sedating drugs.

Summary of recommendations for dosage adjustment during the late stabilization and maintenance phases:

- Doses should only be increased after the physician has assessed the client and determined that the client has symptoms of withdrawal, ongoing opioid use or cravings.
- During the late stabilization phase, doses should be increased by no more than 5-15 mg every three to four days. Extra caution is advised for high-risk clients.
- During the maintenance phase, or if the dose is 80 mg or higher, the dose should be increased by no more than 5-10 mg every five to 14 days.
- For most clients, the optimal dose is between 50-120 mg.

(CPSO, 2005)

4. Right Time:

CLINICAL VIGNETTE:

Scenario: "I noticed a client arrived outside the clinic 30 minutes prior to opening in the morning. She was 30 weeks pregnant and looked pale and sweaty. When questioned about how she felt, she stated that her dose had been fine last week when she saw the doctor but now she is waking up with withdrawal symptoms starting early in the morning and can't wait to get her dose."

Nurse's reflection: The nurse understands that women in their last trimester require frequent monitoring and adjustment of their methadone dose due to an increased rate of methadone metabolism. The client may require an increased or split dose of methadone. Traditionally, MTT is dosed once daily; however, women who are pregnant may benefit from twice daily dosing. The nurse also understands that the client would have to attend the clinic twice a day unless she qualifies for a carry for the second dose. (CPSO, 2005)

Nurse's response: The nurse facilitates an earlier appointment with the physician for consideration of a split dose.

PRACTICE BOX: Tips for Right Time When Administering Methadone

- Most clinics or pharmacies are open for a set period of time to pick up methadone. Clients do their best to pick up their dose in the morning or at a consistent time every day.
- The majority of clients are given a once-a-day dose of methadone. Pregnant clients or those on medications that speed up methadone metabolism may be on twice-a-day dosing. If the second dose is to be taken home, the client must be stable enough to qualify for carry doses or have access to a pharmacy or a clinic that can facilitate twice-a-day dosing.
- It is advantageous to administer methadone earlier in the day as opposed to evening in correctional facilities or hospitals, as the client is then awake and can be observed at peak dose times for symptoms of oversedation.

5. Right Medication:

PRACTICE BOX:

Tips for Administering the Right Medication

- The word "methadone" and the dose should be inscribed in boldface font on the bottle. Methadone can only be prescribed by physicians certified by Health Canada (CPSO, 2005). Temporary exemptions can be obtained by physicians in hospital settings, so that MMT can be continued in hospital for those patients already on methadone.
- To safely administer/dispense methadone, the nurse must be familiar with the pharmacokinetics of the medication, and the implications to ensure safe clinical practice.

RECOMMENDATION 7a

Nurses will be knowledgeable of the College of Physicians and Surgeons of Ontario criteria for take-home doses (carries) to reduce harm to the client and community**.

Type IV Evidence

**For those practicing outside of Ontario, please check within your jurisdiction.

Discussion of Evidence:

Most methadone-related deaths occur in people who are not on methadone at the time of death. In a study of methadone-attributed deaths, it was found that 69% of the deaths occurred in subjects not on MMT (Vormfelde & Poser, 2001). The intake of methadone in non-methadone maintenance clients is due almost entirely to the use of diverted methadone carries.

Carry doses are doses of methadone that clients are authorized to take home and are not observed taking. The nurse may have more contact with the client then the prescribing physician, and thus can offer important clinical information on client stability that can affect the physician's decision regarding take-home (carry) doses. Safe assessment of the client should include a multidisciplinary approach with input from all team members (see Table 5).

Table 5: Criteria for Carry Doses (CPSO, 2005)

1. The client is clinically stable based on:
   - elimination of drug and alcohol use based on urine toxicology screens;
   - stable methadone dose;
   - emotional stability;
   - stable housing, employment and/or a stable support system in place; and
   - adherence to the methadone treatment agreement and program policies.
2. The client had been on methadone for a minimum of two months.
3. The client is able to safely store their methadone in a locked box.

PRACTICE BOX: Tips for the Safe Administration of Methadone Carry Doses

(CPSO, 2005; Isaac et al., 2004)

- The prescription or doctor's orders should clearly indicate when the client is to have an observed drink at the clinic or pharmacy, and when the client is authorized to take the medication home as a carry dose.
- A client could potentially have a maximum of six carry doses per week and one dose that is observed in the clinic or pharmacy.
- Clients presenting to the dispensary intoxicated should not be dispensed carry doses, and should be reassessed by the physician before dispensing of carry doses can be resumed.
- Carry doses are given to those clients who are clinically stable and meet the CPSO guideline recommendations for carry doses.
- Clients are to provide a child-proof locked box to transport their doses home and store their medication.
- Carry doses should also be secured with child-proof caps.
- The nurse should caution the client regularly that their therapy dose is potent enough to kill a child or adult.
- Empty carry bottles should be returned to the clinic for disposal.
- Methadone may only be released to the client, never to a family member or friend.
- Methadone doses that are delivered by a pharmacy to the client's home are considered carry doses, and the client must be clinically stable and qualify for carries.
- Clients who have consecutive carries that are suspended should be assessed by the physician prior to the administration of their next dose to avoid overdose, if there is concern that the client was not taking their methadone.
- Clients who have large numbers of carries should be randomly asked to bring in their carry doses for confirmation that they are not diverting their medication.

CLINICAL VIGNETTE:

Scenario: A 57-year-old male arrived at the clinic to drink his methadone for that day and was to pick up a carry dose for the next day. The client presented much later in the day than usual, was loud and smelled strongly of alcohol. The client had never presented in an intoxicated state in the past.

Nurse's reflection: The nurse is aware of the risk of overdose when administering methadone to an intoxicated client. The nurse is also aware that a friendly, neutral and non-confrontational approach when dealing with the intoxicated client is best. The nurse must also be aware of his/her own personal safety and the safety of others in the clinic when dealing with an intoxicated client. The increased risk of violence reflects the type of interaction the nurse has with the client.

Nurse's response: The nurse must approach the client in a nonjudgmental and caring manner e.g.:

- "I am really worried about you today."
- "I am concerned that giving you your methadone today may be unsafe and put you at risk for overdose."
- "I am so concerned about your health and safety that I would like to see you tomorrow for your dose."

The nurse notifies the physician that his dose and carry was held pending a physician reassessment, before carry doses are resumed. The incident is documented in the client's chart. The nurse asks for back up of the team should the interaction escalate and is cognizant of his/her own safety.

RECOMMENDATION 8

Nurses will have an understanding of the interpretation of urine drug screening results and their importance in the treatment of the client on methadone maintenance.

Type IV Evidence

Discussion of Evidence:

Urine drug screening is a tool that has numerous purposes. It is primarily done to ensure that the client is indeed taking their methadone as prescribed in order to avoid overdose. As well, as it can be used to detect other drugs for counselling purposes, to help support those with polysubstance abuse.

The College of Physicians and Surgeons of Ontario (2005) explains that take home doses of methadone ("carries") given to clients who have drug-free urine specimens are an effective strategy for reducing the use of other drugs such as opioids, cocaine and benzodiazepines. The College also refers to the importance of utilizing urine drug screening to support or verify client self-reporting of drug use, as well as compliance with MMT and assessing response to treatment.

The College of Physicians and Surgeons of Ontario (2005) recommends urine testing either on a random schedule or a fixed schedule (with supervision). Weekly screening is the norm during the stabilization period and is continued during the beginning of the "carry" privileges. After six months of negative urine samples or full carry privileges the client may then be asked to produce a urine drug screen on a bimonthly or monthly basis, based on "self report of use, pattern of drug use or clinical stability" (CPSO, 2005).

Methadone does not test positive for opioids (Kahan & Wilson, 2002). A specific test for methadone must be requested. The urine should be positive for both methadone and metabolites. If there is only methadone in the urine without the presence of metabolites, then one needs to consider that the urine has been tampered with. The presence of metabolites indicates that methadone is being broken down.

Occasionally, clients tamper with their urine results, to hide detection of other drugs of abuse or to divert their methadone (see Table 6). Temperature monitoring may help identify a stored sample (Kahan & Wilson, 2002).

Table 6: Examples of Methods of Tampering with Urine Drug Screens

(RNAO development panel, 2009)

- Use of another person's urine
- Use of own stored urine
- Dilution of urine by adding water to sample or increased drinking of water
- Altering pH of urine by consuming antacids or adding adulterants
- Submitting a sample that is not human urine

It is important that the urine drug screen be reviewed with the client. By adding methadone to the urine, it could mean that the client substituted someone else's urine sample or added methadone to his/her own urine sample. If the client is using another person's sample, it may be an attempt to hide other drug use. If he/she has added methadone to his/her own sample, it generally means that he/she has not been taking methadone as prescribed and would be at risk for overdose if he/she takes his/her methadone as ordered.

It is important to remember how different drugs metabolize when examining the results of urine drug screens (see Appendix E). Positive urine screens need to be assessed with the client as there are some factors (such as ingestion of poppy seeds) that can cause false positives. Urine screens are a good way to screen clients on MMT; however, a discussion with the client on current drug use is also needed.

CLINICIAL VIGNETTE:

You have just started working in a methadone clinic, and on reviewing a urine drug screen with the client you discover the urine is positive for opioids, cocaine metabolite and methadone; the pH and creatinine are within normal limits. The client reports being stable on his dose of methadone and has used no other opioids, but admits to the use of cocaine the previous day.

What does this urine drug screen tell you?

- The urine is positive for opioids
- The urine is positive for methadone
- The urine is negative for methadone metabolites
- The urine is positive for cocaine metabolites
- The urine does not appear to be affected by any large consumption of water
- The urine does not appear to have been affected by adulterants such as acidifiers or alkalinizers

Implications:

- Methadone does not test positive for opioids, therefore, this client has been consuming opioids within the past several days
- Methadone is present in the urine but has not been metabolized and likely has been added to the sample
- The client has used cocaine recently

RECOMMENDATION 9

Nurses will have an understanding of acute and chronic pain management for clients on MMT.

Type IV Evidence

Discussion of Evidence:

Pain can be classified as acute, chronic nonmalignant and chronic malignant. Pain is one of the most common reasons for any client to seek medical attention. Consequently, nurses and other health-care practitioners need to be educated and develop skills to evaluate and manage pain, especially if the client is receiving MMT. Health-care provider's misconceptions can result in inadequate or inappropriate treatment of pain in the client on opioid agonist therapies such as methadone (see Table 7).

Table 7: Common Misconceptions of Health Providers Resulting in Under Treatment of Acute Pain in Clients on MMT

(Alford, Compton & Samet, 2006; Inturrisi, 2002; Merril, Rohodes, Deyo, Marlatt & Bradley 2002;)

1. Methadone provides analgesia for client in acute pain
   - To effectively treat pain in clients on MMT the practitioner must understand the pharmacokinetics and pharmacodynamics of methadone. Clients receiving MMT often require higher and more frequent doses of opioid analgesics to achieve pain control due to cross-tolerance to different medications within the opioid class.
2. Using opioids for analgesia may result in addiction relapse
   - There is no evidence to support that exposure to opioid analgesics in the presence of acute pain increases rates of relapse in MMT clients; in fact, untreated pain is more likely to be a trigger for relapse then adequate analgesia.
3. The additive effects of opioid analgesics and MMT can cause respiratory and CNS depression
   - There is a theoretical risk that opioid analgesics will cause severe respiratory or CNS depression in clients receiving MMT; however this does not seem to be clinically demonstrated, as tolerance to these side effects occurs rapidly. It would seem that acute pain acts as a natural antagonist to opioid-related respiratory and CNS depression.
4. Reporting pain may be perceived as a manipulation to obtain opioid medications or drug seeking because of opioid addiction
   - Opioid-dependent clients are often perceived as demanding by health-care professionals when admitted to hospital with acute pain. It has been found that physicians and drug-using clients displayed a mutual mistrust, especially with respect to opioid medications. The physicians feared that the client's request for opioids to treat pain was motivated by addictive behaviour rather then a medically indicated need; they also lacked a standard approach to assess and treat pain and opioid withdrawal.

Pain is not simply a physical symptom, but rather a combined sensory, emotional and cognitive phenomenon. A client's past history of substance use, family history of substance use, age, history of sexual abuse and concurrent psychological illness such as attention deficit disorder (ADD), obsessive compulsive disorder (OCD), bipolar disorder, etc., all contribute to the client's perception of pain and pain experience. Physical pathology need not be present for a client to experience pain. Pain is subjective and cannot be objectively proven. Pain, then, is simply "what the client says it is." It needs to be acknowledged and addressed and not simply dismissed as drug seeking behaviour. Controversy exists with respect to when to use opioids for the treatment of pain when clients are on methadone, have a history of addictions or require treatment of chronic nonmalignant pain. See the Practice Box below for considerations in treating acute pain for clients on methadone.

PRACTICE BOX:
Considerations in the Management of Acute Pain for Clients on Methadone

Addiction treatment issues:

- Reassure the client that their addiction history will not prevent adequate pain management. Asking all clients as part of a standard history/intake facilitates a non-judgmental approach.
- Prior to treating the pain, the dispensing methadone provider should be notified, and confirmation of last dose of methadone should be made.
- The methadone prescriber should be notified of admission to hospital and notified of discharge so that methadone can be continued at the present dosage. This is especially prudent if a discharge is on a weekend when the methadone prescriber may be difficult to reach to provide a script to pick up methadone in the community. Ideally, the client should have an appointment made with their methadone prescriber for shortly after discharge.
- Notify the methadone provider of any prescriptions the client may have been given in hospital, such as benzodiazepines or opioids, and if they are being continued, as these will show up in routine urine toxicology screens.
- If the client is given a prescription for opioids on discharge, the methadone provider should be notified and the medications dispensed in the same manner as the methadone prescription, e.g. if the client attends the pharmacy daily for methadone, pain medications should be dispensed daily.

Tips for Pain Management Issues in Hospital:

- Relieve client anxiety by discussing the plan for pain management in a non-judgmental manner.
- Use conventional analgesics, including opioids, to aggressively treat the pain.
- Opioid cross-tolerance and client's increased pain sensitivity will often necessitate adding extra opioid analgesic doses administered at shorter intervals.
- Continuous scheduled dosing orders rather that as-needed orders are more appropriate.
- Avoid mixed agonist and antagonist opioids, as they may precipitate an acute withdrawal syndrome.
- Increase surveillance for respiratory distress for clients on methadone with added opioids.

CLINICAL VIGNETTE:

Scenario: Mary is a 21-year-old woman who is 39 weeks pregnant and has come to hospital in early labour. Mary has been on methadone since she was 12 weeks pregnant. She has a community physician who provides methadone, and is also seen by an obstetrician in a high-risk prenatal clinic at the hospital. Mary is concerned because she was unable to pick up her methadone dose prior to coming to the hospital as the pharmacy was not open yet, but she is accustomed to taking her methadone at 8:00 am. She is feeling nauseated and achy, and is not coping well with her contractions, which are currently 20 minutes apart. She is diaphoretic and restless.

Nurse's reflection: The nurse understands that Mary is experiencing withdrawal symptoms, which will complicate her acute pain during labour and delivery. The nurse is aware that Mary's

maintenance dose will not function as an analgesic and she will require acute pain management, and may in fact require more aggressive management. The nurse is also aware that certain opiate agonist-antagonist drugs used for pain control in labour and delivery (e.g. stadol, nubain), are contraindicated in women on methadone, as opiate agonist-antogonists can precipitate withdrawal. The nurse is aware that he/she needs to apply good pain management assessment skills and approach Mary is a non-judgemental way so that she does not feel stigmatized as seeking drugs because she is not coping well with her labour.

Nurse's response: The nurse reassures Mary that he/she will get her methadone dose as soon as possible, and also that her acute pain needs will be addressed. The nurse reassures Mary that being on methadone will not preclude her from receiving adequate pain control. The nurse will contact the client's pharmacy and provider to confirm last dose of methadone. The nurse will then consult with Mary's obstetrician to ensure that Mary's dose of methadone is obtained and administered as soon as possible. The nurse also ensures that orders are obtained for adequate control of Mary's nausea and pain.

Chronic pain management in the MMT client is complex and best done by or in consultation with a multidisciplinary team with expertise in addictions and specialty in pain management (Gourlay, 2005). As with any chronic condition, comorbid conditions such as psychiatric illness, diabetes and addictions must be addressed concurrently to effectively manage pain.

It is important for nurses and other health-care providers to recognize chronic pain because of the implications for opioid misuse treatment. Although little research has been done in this area, there are a number of promising strategies to improve management of clients who also live with chronic pain, e.g. substance misuse programs offering integrated medical and psychiatric care to address these comorbidities improve outcomes. In particular, adapted stepped care approaches offer the best outcomes as they are tailored to meet the needs of the individual client.

Given the findings of their review, Clark, Stoller and Brooner (2008) also recommend assessments that include an extensive prior pain and drug use history; weekly urine screening for opioids and other drugs; and positive reinforcements for reporting opioids prescribed by other practitioners. In addition, multidisciplinary pain management teams should be accessed to provide expertise around managing the challenges of chronic pain for persons with opioid misuse.

Resources for further exploration of chronic pain:

1. Gourlay, D. L., Heit, H. A., and Almahrezi, A. (2005). Universal precautions in pain medicine: A rational approach to the treatment of chronic pain. *American Academy of Pain Medicine,* (6)2, 107-112.
2. Gourlay, D. L., and Heit, H. A. (2007) Risk Management is everyone's business. *American Academy of Pain Medicine, 8*(2), 125-127.

RECOMMENDATION 10

Nurses provide referral, monitoring and health promotion interventions, as appropriate.

Type Ia-IV Evidence

Discussion of Evidence:

As part of interdisciplinary and interprofessional teams, nurses must have knowledge of modalities to provide client-centered interventions regarding advocacy and monitoring, and other health-promoting interventions as appropriate. In keeping with a client-centered and culturally safe approach, it is also important to explore the client's knowledge of and meaning given to various treatment options.

In a recent study, nursing roles that were ranked as the most important in MMT programs were: administration of methadone; observation of client's general condition; offering brief support; and providing counselling. Other activities included: preparing or ensuring the security of methadone; taking blood samples; supervising urine controls; liaising with other agencies on behalf of the client; training and supervising other nursing staff; and training other disciplines (Clancy et al., 2002).

There are several best practices/promising practices that nurses may engage in their role in the field of addictions. Nurses working within a case management scope were found to enhance linkages with other services and although no conclusive evidence was found related to decreasing drug use it showed a better outcome than psychoeducation or counselling (Hesse, Vanderplasschen, Rapp, Broekaert & Fridell, 2007).

In addition, it was found that clients who were case managed tended to re-enroll in drug treatment and had fewer opioid- and cocaine-positive urine tests at six month follow-up (Coveille, Zanis, Wenoski & Alterman, 2006). Lamb, Pereira and Shir (2007) found that nurse-led case management in MMT with chronic pain clients improved client care in an ambulatory setting, while McLellan, Weinstein, Shen, Kendig and Levine (2005) found that there was a reduction in detox-only admissions, an increase in rehab use and increased average length of stay per episode using clinical case management.

Nurses could also advocate for rooming-in (rather than standard nursery care) among opioid-exposed newborns and mothers who retain custody of their babies at hospital discharge. In their study, Abrahams, Kelly, Payne, Thiessen, MacIntosh and Janssen (2007) showed positive outcomes in reducing severity of neonatal withdrawal when the rooming-in intervention was used.

Specialist outreach can improve access, outcomes and service use, especially when delivered as part of a multidimensional approach; there are overall better outcomes with Enhanced Outreach Counselling and Brief Reinforcement-based Intensive Outpatient Therapy. Outreach as part of more complex, multifaceted interventions involving primary care collaborations, education and other services was associated with improved health outcomes, more efficient and guideline-consistent care, and less use of inpatient services. There is a need for better quality evidence evaluating specialist outreach in all settings, particularly in rural and disadvantaged populations (Gruen, Weeramanthri, Knight & Bailie, 2003).

In addition to their role in the provision of treatment, nurses play an important role in the design, development, management and ongoing evaluation of MMT programs. There are several successful

nurse-led health clinics and MMT programs in Canada. Registered Nurses, Registered Practical Nurses, and Advanced Practice Nurses and nurse researchers are valued members of MMT teams (e.g. Community Health Clinic, Fredericton, New Brunswick; Out'n About Clinic, St. Catharines, Ontario).

It has been found that by setting attainable goals in daily practice, nurses were able to become active change agents, i.e. professional practice was enhanced and changes in programs made possible with the development of new nursing roles for addiction nurses. The development of knowledge was found to be inextricably connected with the growth of new care strategies (Loth et al., 2007).

CLINICIAL VIGNETTE:

Scenario: Joanne, a 25-year-old on MMT for two years, has arrived at the clinic without an appointment. She is in tears and extremely agitated, and wants to see the physician, who happens to be booked solid with other clients. This is the only morning clients are able to see the physician. Joanne is often "in crisis." However, she has been able to hold a part-time job for the past six months. Her random urine drug screens have been negative. The clinic receptionist wonders if Joanne might be "on something" and asks if she can be fit in to the doctor's schedule today as she is so distressed.

Nurse's reflection: The nurse would like to see Joanne first to assess her needs and then make a recommendation to the physician. He/she will explore what is affecting Joanne's behaviour today, while considering relevant social or physical factors. The nurse recognizes the importance of conveying to Joanne that her issues are important, as it is understood that Joanne has had previous negative experiences within the health-care system. She has been labelled as a "frequent flyer" in the local hospital and feels alienated from the staff providing care in that setting.

Nurse's Response: The nurse takes Joanne into a quiet room, invites her to sit down, and offers coffee and water. Joanne is informed that she will be able to see the physician today, but that the nurse would like to speak with her first to understand what has been happening. The nurse discovers that Joanne has been evicted from her hotel due to the behaviour of her boyfriend. On the previous day, her boyfriend had been violent with another resident and during the past month he has been extremely abusive with Joanne. As a result, she has had insomnia which she also attributes to the recent difficulties with a new boss at work. She feels overwhelmed. The nurse enquires how Joanne has been coping during this time and what she thinks would be most helpful for her today. He/she does a risk assessment for safety and then, with the help of Joanne, prioritizes her needs. Appropriate referrals are made to ensure that Joanne has access to safe accommodation, such as a women's shelter, if required. In addition, it is recommended to the physician that Joanne access sleep medication during this crisis period. Before leaving, the nurse reviews the plan of action with Joanne to determine that she is able to follow through.

CLINICIAL VIGNETTE:

Scenario: Weihong is a young Chinese-Canadian woman who immigrated to Canada with her family when she was nine years old. She was diagnosed with schizophrenia four years ago – she is now 22-years-old. Weihong has been living in the subacute phase of this illness for the last several months, after an 11-month hospitalization in a provincial facility – she was discharged on clozapine 300 mg because of poor response to other antipsychotic medications. She is alienated from her family who are "afraid" of her. She has been in MMT for the past 14 months because of heroin use, which began approximately three years ago while she was living on the street (a treatment which was initiated in the provincial institution). Weihong has come to the clinic, agitated and restless – she is having difficulty sleeping and concentrating. Her main complaint today is that she is seeing large cockroaches in her building that are "keeping her awake at night." She also notes that she is sure there are rats running in the walls of her building. Weihong lives in a subsidized living arrangement in a hotel in the downtown core. She is ill-kempt and dressed in an unusually scanty fashion today. Weihong notes that she does not know anyone where she lives and tends to stay inside because she is fearful.

Nurse's reflection: The nurse decides that Weihong requires a comprehensive assessment based on her presentation today – he/she is concerned that she may be decompensating. He/she is particularly concerned about Weihong's agitation, restlessness and her provocative appearance. The nurse is also aware that Weihong has been socially isolated given that the hotel where she is living has a reputation for being dangerous.

Nurse's responses: After completing a full assessment, i.e. ascertaining what has been happening for Weihong over the past few weeks, the nurse prioritizes her needs with her and draws up a plan. Weihong is in agreement that she needs to move somewhere "safe" and make connections with other "young people."

Education Recommendations

RECOMMENDATION 11

Schools of nursing will integrate the principles of addiction care, including the concept of harm reduction into the undergraduate curriculum.

Type IV Evidence

Discussion of Evidence:

In acknowledgement of the burgeoning prevalence of substance misuse behaviours in societies throughout the world, international agencies have been formulating recommendations that encourage the integration of the study of substance misuse into the curriculum of undergraduate nursing programs, and into programs that offer continuing education. These recommendations have come from a vast array of international and national organizations, such as the World Health Organization (WHO), the International Council of Nurses (ICN) and the American College of Nursing (AACN) (Rassool, 2004). Despite these recommendations, it has been acknowledged that there remains a disparity between the growing awareness of the societal impact of addictions and the amount of hours that are devoted to addictions in educational curricula (Hymen, 2004). In a study on self-reported student satisfaction with their educational experience in the field of addictions, Rassool and Oyefeso (2007) reported that an increased satisfaction score was subsequently linked to practice outcomes. Of particular importance to those students studied was placement in a clinical setting that offered the opportunity to work directly with clients who had addictions.

Despite the evidence supporting its effectiveness, MMT is often met with resistance in practice. It is a concept that still lacks acceptance at many social and institutional levels (Ashworth, 2005; Gjersing, Butler, Capelhorn, Belcher & Matthews, 2007; Kuehn, 2005;). Minimal evidence is available to suggest that health-care workers in general, and nurses specifically, are versant on the sequelae of addictions as they manifest in the clinical setting (Kelleher, 2007).

RECOMMENDATION 11a

Undergraduate nursing curriculum will support evidence-based training and practice in the field of addictions.

Type IV Evidence

Discussion of Evidence:

As professionals in the field of addiction, nurses have the opportunity to affect client outcomes (Loth et al., 2007). However, there exists a gap in the literature that links the extent of education that nursing students receive in this area to their expectations for clinical practice. Of special note was the gap in knowledge of nurses' expectations of their role in the treatment of clients in the clinical setting who suffer from the effects of addiction (Hayes, 2002).

Evidence supports that education and clinical placement in addiction treatment settings is important to nurses in both the preventive and treatment role (Rassool & Oyefeso, 2007). Evidence-based learning and practice underscore the key methodologies in guidelines for care. Critical cultural approaches are reflected in the ability of the nurse to effectively work with and engage and maintain the client in the process of MMT. Nurses demonstrating these abilities are effective in improving client outcomes.

Requisite to the understanding of addictions is an appreciation of the relationship between addictions and the social determinants of health. These are the conditions that affect the health of individuals, communities and society. The Canadian Nurses Association (CNA) outlines the following determinants as significant in affecting the health of Canadians: poverty, economic inequality, social status, stress, education and care in early life, social exclusion, employment and job security, social support and food security (Canadian Nurses Association, 2005). Nurses play an integral role in the identification and assessment of the psychosocial, emotional and environmental factors that shape health and health care.

Practice Box Undergraduate nursing curricula should reflect:

(RNAO development panel, 2009)

- the role of the nurse as a supportive change agent;
- clinical placements in settings that provide focused care to the client with addictions;
- evidenced-based learning and practice (see Appendix B for definitions);
- critical cultural perspectives (see Appendix B for definition); and
- the impact of the social determinants of health in relation to addictions.

RECOMMENDATION 12

Nurses incorporate addictions knowledge (including MMT) into their ongoing everyday practice and continuing education.

Type IV Evidence

Discussion of Evidence:

With the increasing prevalence of substance misuse in our society and the resulting health consequences, it is important that all nurses have a basic knowledge of addictions and how to treat them. All nurses, in all settings, can play an integral role in identifying, supporting and promoting healthy life choices to those who may be at risk for substance misuse.

In 1998, a program called SMART (Supervised Methadone and Resettlement Team) was established in Bristol, England, to work with homeless opioid users. In the evaluation of the program, it was determined that the nurse was a key member of the team and had the greatest interaction with clients acting as both a resource and an advocate for them. The SMART nurse assessed the social, emotional, psychological and physical aspects of a person's life (including drug history) (Mistral & Hollingworth, 2001). Findings showed that there was an increased utilization of and earlier engagement in health-care interventions, with an associated decrease in cost to the health-care system. Improvements were observed by the SMART team in the following areas of the clients lives: physical condition; psychological status;

ability to keep appointments; personal hygiene; contact with family members; access of available health-care services; level of criminality and ability to secure and retain accommodations. In some cases, clients started attending educational programs.

The above study suggests that to work with this vulnerable population, nurses must have highly developed skills and be able to gain clients' trust to assist them in making behaviour and lifestyle changes (Mistral & Hollingworth, 2001). According to Wilson, McIntosh and Getty (2007), the relationship between client and nurse cannot be understated in the treatment of addictions. Nurses were described by clients as key in helping them get their lives back on track and in the success of their treatment. Attributes of nurses that clients felt were crucial were: knowledge, skill, friendliness, eye contact, listening skills, and taking time to develop individual relationships with them. Clients were more apt to access and continue their relationship with the health-care system if they established relationships with positive, open-minded and compassionate health-care providers (Wilson et al., 2007).

PRACTICE BOX: Reflection on Translating Evidence to Practice

- Make it a practice to review the literature routinely to determine if there is new information that should be integrated into your practice.
- Bring your findings to the team to determine if the new information should be integrated.
- Become involved with any research projects that are initiated within your clinic. Research may be as simple as keeping statistics or having clients complete client satisfaction questionnaires, or as complex as large studies funded by outside agencies. The key is that the findings be used to achieve the best possible outcomes.
- Work with the client to achieve his/her goal.

RECOMMENDATION 13

Nurses working in addictions have access to formal training and education to achieve competencies in practice and standards of practice in addictions and MMT.

Type IV Evidence

Discussion of Evidence:

The World Health Organization (WHO) and the International Council of Nurses (ICN) (1991), broadly define addictions nurses' roles into eight domains as follows: provider of care, educator/resource person; counsellor/therapist; advocate; health promoter; researcher; supervisor/leader; and consultant (Clancy et al., 2002).

As noted in Recommendation 1, The International Nurses Society on Addictions (IntNSA) (2006) recommends that nurses specializing in addictions gain the knowledge and skills required to advance professional care in this area of practice.

The IntNSA program can be accessed by Canadian nurses however, the Canadian Nurses Association (CNA) is also in a good position to provide education in this area to advance professional care in addictions, including MMT. Currently, the CNA offers certification in 17 nursing specialties, including psychiatric/mental health nursing. A CNA specialty in addictions would support addictions nursing in Canada. In addition, Schools of Nursing need to provide basic educational preparation so that entry level nurses have the knowledge and skills to provide care to persons living with addictions in their everyday practice.

Education is one step toward ensuring that nurses have the competencies and skills to work in the area of addictions and MMT to meet the health needs of individuals and families (see Appendix J for educational resources).

Organization & Policy Recommendations

RECOMMENDATION 14

Nurses advocate with policy makers for improved access to addictions care and treatment modalities, including MMT, as part of holistic, primary health care for all populations.

Type IV Evidence

Discussion of Evidence:

The benefits of access to addiction treatment modalities, including substitution therapy, have been studied extensively in many populations. It was found that MMT provided to prisoners with pre-incarceration histories of heroin addiction was effective for the interruption of the cycle of relapse recidivism and re-incarceration, and that MMT initiated in prison was superior to counselling only (Kinlock, Gordon, Schwartc & O'Grady, 2006).

According to Rich, McKenzie, Shield, Wolf, Key, Poshkus and Clarke (2005), MMT has the most impressive record for retaining clients in treatment for their drug addiction. Continued MMT during pregnancy is associated with earlier antenatal care, improved neonatal outcomes and reduced prematurity, which has subsequently resulted in reduced mortality rates (Burns, Mattick, Lim & Wallace, 2006).

Given the evidence to date regarding these positive outcomes, it is prudent that policy makers include addiction care and treatment in mainstream medicine. In keeping with this recommendation, the American Society of Addiction Medicine (2006) has made it their goal to ensure addiction is recognized as a disease by the public, physicians, health-care organizations and policy makers.

RECOMMENDATION 15

Health care organizations have policies that reflect uniform approaches to the management of clients on methadone in all facilities, including seamless coordination of transfer and discharge between facilities for clients on MMT.

Type IV Evidence

Discussion of Evidence:

Effective and safe assessment and treatment options need to be provided across the continuum of services and care. For example, there is evidence that oral substitution treatment/HIV management should be supported in prisons, given evidence regarding the reduction of drug-related behaviours and the high risk of HIV transmission associated with injection drug use (Choopanya et al., 2002; Gowing, Farrell, Bornemann & Ali, 2004). In May 2002, the Correctional Service of Canada (CSC) expanded access to MMT in federal prisons (Sibbald, 2002). However, inequalities in access to MMT continue to exist in relation to access to the full range of options and associated services across federal and provincial institutions, and between the justice and health-care systems (see Appendix I).

Given the inequities in health status of at-risk and vulnerable populations and the known benefits of harm reduction approaches for persons living with substance use issues, organizational policies should support: 1) education of health professionals across all agencies and facilities so they can work effectively and safely with at-risk and vulnerable populations on MMT (i.e. people in prisons and pregnant women); 2) the adoption of harm reduction approaches and treatments, including MMT, that cross geographic and agency boundaries; and 3) formal partnerships and collaborations that address transfer and discharge issues.

RECOMMENDATION 16

Health care organizations provide mechanisms of support for nurses through orientation programs and ongoing professional development opportunities regarding addictions and treatment options including MMT.

Type IV Evidence

Discussion of Evidence:

Offering orientation programs that address both health-care staff perceptions and attitudes, as well as identification of and care for clients with addictions and the various treatment options, including MMT, will foster a positive work environment for the implementation of these and other best practices guidelines. Many organizational benefits may be derived from offering such orientation programs and facilitating professional development opportunities. Maintaining a cohort of nurses who are knowledgeable of current trends in addictions and treatment options improves the continuity and overall quality of care clients receive within the organization. Additionally, supporting nurses in this manner provides research opportunities into new treatment options and potentially assists with staff recruitment and retention by providing staff with a sense of accomplishment and organization commitment. As the field of addictions and treatment options is ever-evolving, organizations must recognize the need and support ongoing education for nurses and professional development opportunities such as involvement in policy revisions.

RECOMMENDATION 17

Nursing best practice guidelines can be successfully implemented only when there are adequate planning, resources, organizational and administrative supports, as well as appropriate facilitation. Organizations may wish to develop a plan for implementation that includes:

- An assessment of organizational readiness and barriers to implementation.
- Involvement of all members (whether in a direct or indirect supportive function) who will contribute to the implementation process.
- Dedication of a qualified individual to provide the support needed for the education and implementation process.
- Ongoing opportunities for discussion and education to reinforce the importance of best practices.
- Opportunities for reflection on personal and organizational experience in implementing guidelines.

In this regard, a panel of nurses, researchers and administrators developed the *Toolkit: Implementation of Clinical Practice Guidelines* based on available evidence, theoretical perspectives and consensus. The Toolkit is recommended for guiding the implementation of the RNAO guideline *Supporting Clients on Methadone Maintenance Treatment*.

Type IV Evidence

Discussion of Evidence:

A critical initial step in the implementation of guidelines must be their formal adoption and evaluation of the guidelines. Organizations must consider how to formally incorporate the recommendations to be adopted into their policy and procedure structure (Graham, Harrison, Brouwers, Davies & Dunn, 2002). An example of such a formal adoption would be the integration of the guideline into existing policies and procedures. This initial step paves the way for general acceptance and integration of the guideline into such systems as the quality management process.

A commitment to monitoring the impact of the implementation of the *Supporting Clients on Methadone Maintenance Treatment* best practice guideline is a key step that must be taken if there is to be an evaluation of the impact of the efforts associated with implementation. It is suggested that each recommendation to be adopted be described in measurable terms, and that the health-care team be involved in the evaluation and quality monitoring processes. A suggested list of evaluation indicators is provided on page 66.

New initiatives, such as the implementation of a best practice guideline, require strong leadership from nurses who are able to transform the evidence-based recommendations into useful tools that will assist in directing practice. In this regard, the RNAO (through a panel of nurses, researchers and administrators) has developed the *Toolkit: Implementation of Clinical Practice Guidelines* (2002) based on available evidence, theoretical perspectives and consensus. The *Toolkit* is recommended for guiding the implementation of the RNAO best practice guideline *Supporting Clients on Methadone Maintenance Treatment*. Appendix K provides a description of the toolkit.

Research Gaps and Future Implications

The development panel, in reviewing the evidence for the development of this guideline, has identified several gaps in the research literature related to nursing assessment and intervention as it relates to supporting clients on MMT.

Organizations and nurses should participate in research that assists in better understanding the provision of care for persons with opioid dependency and their issues in various health-care settings.

The items identified below, although in no way exhaustive, are an attempt to identify and prioritize the research gaps in this area. Some of the recommendations in this guideline are based on evidence gained from qualitative or quantitative research, while others are based on consensus or expert opinion. Further substantive research is required in some areas to validate the expert opinion and impact knowledge that will lead to improved practice and outcomes related to supporting clients on MMT.

Recommendations for areas of new or updates to research include:

Addictions nursing in Canada

- Specific role of nurses, whether the addition of nurses to MMT teams adds to the effectiveness of the program for clients
- Impact of Advanced Practice roles in addictions
- Impact of MMT on community safety (i.e. carries, pharmacies, family physician clinics)
- Effect of nursing role on diminishing the impact of diverted methadone
- Impact of nurses' understanding of social determinants of health on treatment outcomes for substance dependence

Factors leading to substance dependence and the impact of substance dependence

- Misuse of prescriptions for geriatric population, leading to addiction
- Stigma and discrimination related to addictions, including MMT

Treatment options for substance dependence

- Treatment for youth/adolescents
- Integration of buprenorphine/methadone treatment services
- Screening, assessment, and outcome measurement tools
- Impact of funding models of care on MMT delivery
- Prenatal issues/outcomes, including neonatal abstinence syndrome
- Impact of MMT on families/children
- MMT and geriatric population (with comorbidities)
- Policies about transfer of clients on MMT from setting to setting
- The impact of psychosocial treatment with MMT for persons with a mental illness and substance dependence
- The effectiveness of home visits on substance-dependent pregnant women, and how women feel about these visits.

- MMT in Canadian correctional settings
- MMT in at-risk and vulnerable populations in Canada
- Impact of interpersonal social support for people seeking treatment for addictions
- The association between stigma, discrimination and outcomes among clients on MMT

Evaluation/Monitoring of Guideline

Organizations implementing the recommendations in this nursing best practice guideline are advised to consider how the implementation and its impact will be monitored and evaluated. The following table, based on a framework outlined in the *RNAO Toolkit: Implementation of Clinical Practice Guidelines* (2002), illustrates some specific indicators for monitoring and evaluation of the guideline *Supporting Clients on Methadone Maintenance Treatment*.

LEVEL OF INDICATOR	STRUCTURE	PROCESS	OUTCOME
System	MMT programs are included as part of holistic health care. Support for clients on MMT is included in all parts of health care. Educational opportunities are available for all health-care professionals around addictions, including MMT. Environments support health-care professionals in providing safe client care.	Advocacy for increased licensing for prescribers of methadone within the multidisciplinary primary health-care team. Creation of environments to support health-care professionals in providing safe client care.	Improved access to MMT programs for clients across the country. Increased understanding, acceptance of, and level of support for MMT in Canada (HC 2002, p. 82). Decreased opioid-related crime Decreased waitlist for MMT care.
System	Supports available to reduce inequity for clients on MMT (Intersectoral collaboration and integration of policies and services).	Develop partnerships between organizations offering services to clients on MMT.	Increased coordination between organizations offering services to clients on MMT (i.e. transportation, child care).
System	Nursing programs across the province embed addictions within the curriculum.	Curricula content development includes addictions, harm reduction and MMT. Engagement in dialogue between between Schools of Nursing and MMT programs.	Inclusion of MMT in nurse education programs. Increased partnerships between Schools of Nursing and MMT programs.

LEVEL OF INDICATOR	STRUCTURE	PROCESS	OUTCOME
System	Harm reduction (secondary prevention) approaches are utilized in the planning and delivery of all aspects of health care.	Promoting the development of the role of nurses in addictions, including advanced practice.	Decrease morbidity and mortality related to appropriate use of methadone maintenance treatments . Improved access to inpatient care for clients on MMT. Improved access to urgent care for clients on MMT. Decreased morbidity and mortality related to untreated opioid misuse. Increased number of nurses working in MMT settings with knowledge and skills about addiction, including the advanced practice role. Increased recruitment and retention of nurses working in addictions and MMT programs. Increased number of nurses in MMT as: ■ Case Managers ■ Outreach Workers ■ Program Managers Increased number of applications for Advanced Clinical Practice Fellowships (offered by the RNAO) in the area of addictions and MMT.
Organization	Supports are available in the organization that allow nurses to participate in the development and management of MMT programs.	Nurses, interdisciplinary colleagues, and clients are involved in the creation of policies. Develop partnerships between organizations offering services to clients participating in MMT programs. Develop a strategy to evaluate the changes in practice that lead to improved care. Development opportunities for organizational implementation of best practice guidelines.	Evidence that policies and procedures related to best practice strategies are consistent with this guideline. Evidence that policies and practices reflect recognition of opioid misuse as a chronic disorder, MMT as a treatment option and organizational support for anti-stigma and anti-discrimination. Improved collaboration between organizations. Referral processes between agencies are in place, e.g. between inpatient units and outpatient clinics, corrections and community, etc. Evaluation process in place that examines outcomes such as: referral processes; IT processes; medication variances. Evidence of improved client care outcomes in relation to MMT programs (e.g. improved client satisfaction; improved quality of life; retention in programs; improved health status). Increased number of registrants on the RNAO's NURSE guideline network that implemented this guideline.

LEVEL OF INDICATOR	STRUCTURE	PROCESS	OUTCOME
Nursing	Nursing competencies related to MMT are established and documented.	Nurses access educational opportunities. Increased advocacy for clients on MMT. Nurses include the client in decision making in developing plans of care.	Nurses demonstrate increased knowledge and skill and associated competencies related to MMT. Inclusion of MMT in nurse education programs including pain control for clients on MMT (acute and chronic). Decreased medication variance (incidents or occurrences) around MMT. Nurses display increased knowledge and ability to support all clients on MMT.
Nursing	Development of nursing research programs in MMT and addictions.	Engaging with knowledge dissemination and exchange activities/ strategies. Building partnerships with existing research programs. Integrates best/promising practices to determine the most effective ways to address the needs of diverse client/ patient groups.	Number of research programs in addictions and MMT supported by national and provincial funding bodies.
Nursing	Availability of educational opportunities related to MMT and addictions. Nursing leadership	Development of opportunities in MMT for mentorship and leadership roles.	Increased number of nurse preceptors in MMT programs. Increased percentage of nurses attending and completing educational sessions related to caring for adults who misuse opioids. Increased number of nurses applying for the RNAO's Advanced Clinical Practice Fellowship Program focused on MMT.
Client	Harm reduction-based addiction programs and support groups available that reflect differences (for example: language, sexual orientation, gender, types of treatment, drugs of choice, etc.)	Participation in MMT programs Collaborates in the planning and management of care.	■ Client satisfaction with care received ■ Seamless care ■ Improved overall health status ■ Increased engagement and retention of clients in MMT programs Morbidity/mortality ● Decreased blood-borne infections ● Decreased sexually transmitted infections/ communicable diseases ● Decreased neonatal morbidity/mortality ● Decreased overdoses ● Decreased abscesses ● Increased satisfaction with management of pain (acute and chronic) ● Decreased substance misuse

LEVEL OF INDICATOR	STRUCTURE	PROCESS	OUTCOME
Client (con't)			Increased knowledge of safety around MMT. Self-reported improved pain management for chronic pain and addiction. Self-reported improved pain management for acute pain for clients participating in an MMT program.
Financial Costs	Provision of adequate financial and human resources for guideline implementation.	Development of evaluation process for resource allocation. Creation of partnerships/ strategies for cost sharing. Process is created for inclusion of stakeholders regarding resource allocation. Costs for education, other interventions and on the job supports.	Optimal investment of resources related to the care of the client on MMT. Overall resource utilization (identify organizational specific, new staff hires, medications, etc.).

Implementation Strategies

The Registered Nurses' Association of Ontario and the guideline development panel have compiled a list of implementation strategies to assist health-care organizations or health-care disciplines that are interested in implementing this guideline. A summary of these strategies follows:

- Have at least one dedicated person – such as an advanced practice nurse or a clinical resource nurse – who will provide support, clinical expertise and leadership. The individual should also have good interpersonal, facilitation and project management skills.
- Conduct an organizational needs assessment related to opioid dependence to identify current knowledge base and further educational requirements.
- Initial needs assessment may include an analysis approach, survey and questionnaire, group format approaches (e.g. focus groups), and critical incidents.
- Establish a steering committee composed of key stakeholders and interdisciplinary members who are committed to lead the change initiative. Identify short- and long-term goals. Keep a work plan to track activities, responsibilities and timelines.
- Create a vision to help direct the change effort and develop strategies for achieving and sustaining the vision.
- Program design should include:
  - target population;
  - goals and objectives;
  - outcome measures;
  - required resources (human resources, facilities, equipment); and
  - evaluation activities.
- Design educational sessions and ongoing support for implementation. The education sessions may consist of presentations, facilitator's guide, handouts and case studies. Binders, posters and pocket cards may be used as ongoing reminders of the training. Plan education sessions that are interactive, include problem solving, address issues of immediate concern and offer opportunities to practice new skills (Davies & Edwards, 2004).
- Provide organizational support such as having the structures in place to facilitate the implementation, e.g. hiring replacement staff so participants will not be distracted by concerns about work and having an organizational philosophy that reflects the value of best practices through policies and procedures. Develop new assessment and documentation tools (Davies & Edwards, 2004).
- Identify and support designated best practice champions on each unit to promote and support implementation. Celebrate milestones and achievements, acknowledging work well done (Davies & Edwards, 2004).
- Organizations implementing this guideline should adopt a range of self learning, group learning, mentorship and reinforcement strategies that, over time, will build the knowledge and confidence of nurses in implementing this guideline.
- Teamwork, collaborative assessment and treatment planning with the client and family and interdisciplinary team are beneficial in implementing guidelines successfully. Referral should be made as necessary to services or resources in the community or within the organization.

In addition to the strategies mentioned above, the RNAO has developed resources that are available at the RNAO website. A toolkit for implementing guidelines can be helpful if used appropriately. A brief description of this toolkit can be found in Appendix K. A full version of the document (PDF format) is also available at the RNAO website (www.rnao.org/bestpractices). Furthermore, RNAO has also developed a comprehensive e-learning program based on the principles of adult learning that covers a variety of topics related to caring for clients on MMT. This e-learning program can be accessed at http://addictions.rnao.org/. Additionally, RNAO has developed a Virtual Speaker's Bureau, where nurses with a specialty in caring for clients on MMT from across the province share their knowledge with others. The Virtual Speaker's Bureau can be accessed free from www.rnao.org/methadone_speakersbureau

Process For Update/Review of Guideline

The Registered Nurses' Association of Ontario proposes to update this best practice guideline as follows:

1. Each nursing best practice guideline will be reviewed by a team of specialists (Review Team) in the topic area every three years following the last set of revisions.

2. During the three-year period between development and revision, RNAO program staff and panel volunteers will regularly monitor for new systematic reviews, randomized controlled trials and other relevant literature in the field.

3. Based on the results of the monitor, program staff/panel volunteers will recommend an earlier revision period. Appropriate consultation with members of the original panel and other specialists in the field will help inform the decision to review and revise the guidelines earlier than the three-year milestone.

4. Three months prior to the three-year review milestone, the program staff will commence the planning of the review process by:
   a) Inviting specialists in the field to participate in the Review Team. The Review Team will be composed of members from the original panel and other recommended specialists.
   b) Compiling feedback received, questions encountered during the dissemination phase, as well as other comments and experiences of implementation sites.
   c) Compiling new clinical practice guidelines in the field, systematic reviews, meta-analysis papers, technical reviews, randomized controlled trial research, and other relevant literature.
   d) Developing a detailed work plan, including target dates and deliverables.

The revised guideline will undergo dissemination based on established structures and processes.

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Stoever, H. (2002). Drug substitution treatment and needle exchange programs in German and European prisons. *Journal of Drug Issues, 32,* 573–595.

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Stollberger, C., Hubar, J. Q., & Finsterer, J. (2005). Antipsychotic drugs and QT prolongation. *International Clinical Psychopharmacology, 20,* 243–51.

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Appendix A: Search Strategy for Existing Evidence

The search strategy utilized during the development of this guideline focused on two key areas: 1) Identification of clinical practice guidelines published on the topic of methadone maintenance for the treatment of opioid dependence; and 2) Identification of systematic reviews and primary studies published in this area from 2000 to 2008.

STEP 1 – DATABASE Search

A database search for existing evidence related to MMT was conducted by a university health sciences librarian. An initial search of the MEDLINE, Embase, CINAHL, PsycInfo and Cochrane Library databases for guidelines, primary studies and systematic reviews published from 2000 to 2008 was conducted using the following search terms "Aboriginal/First Nations", "Addictions", "Addictions nursing", "Advocacy", "Assessment", "Child care", "Concurrent Disorders", "Corrections", "Detention centres", "Drug interactions", "Fetal alcohol syndrome", "Harm reduction", "Health promotion", "Hepatitis B", "Hepatitis C", "Heroin dependence", "HIV", "Immigration status", "Injection drug use", "Inmates", "Interventions", "Jail nursing", "Mental illness", "Methadone", "Methadone maintenance therapy", "Methadone/therapeutic use", "Morphine dependence", "Narcotic abuse", "Needle exchange", "Neonatal abstinence syndrome", "Nursing", "Opiate abuse", "Opiate dependence", "Opiates", "Opioids", "Pain and chemical dependence", "Poverty", "Pregnancy", "Prisoners", "PTSD", "Quality of life", "Safety", "Sexual assault/sexual abuse", "Social determinants of health", "Stigma", "Street drugs", "Substance abuse", "Substance abuse treatment", "Substance dependence", "Substance misuse", "Substance-related disorders", and "Urine toxicology". As directed by the consensus panel, supplemental literature searches were conducted where needed.

This search was structured to answer the following questions:

1. What do nurses need **to be aware** of to do an appropriate assessment (in their practice setting) of clients who are opioid dependent or opioid abusing and either already on MMT or potential candidates for MMT (this would include what nurses need to know about themselves, and about the clients' needs)?
2. What do nurses need **to know** about methadone maintenance treatment (including administration, safety, etc)?
3. What is the **role** of the nurse in MMT (advocacy, health teaching, promotion and prevention, etc)?
4. How do you support a client who presents for care (e.g. harm reduction, holistic, therapeutic relationship)?

STEP 2 – Structured Website Search

One individual searched an established list of websites for content related to the topic area in January 2008. This list of websites was compiled based on existing knowledge of evidence-based practice websites, known guideline developers, and recommendations from the literature. Presence or absence of guidelines was noted for each site searched, as well as the date searched. Some websites did not house guidelines, but directed readers to another website or source for guideline retrieval. Guidelines were either downloaded if full versions where available, or were ordered by telephone or email.

- Agency for Healthcare Research and Quality: www.ahrq.gov
- Alberta Medical Association - Clinical Practice Guidelines: www.albertadoctors.org
- American Academy of Addiction Psychiatry: www.aaap.org
- American Psychiatric Association: www.psych.org
- American Society of Addiction Medicine: www.asam.org
- Annals of Internal Medicine: www.annals.org
- Australian Drug Information Network: www.adin.com.au
- Bandolier Journal: www.jr2.ox.ac.uk/bandolier
- BC Office of Health Technology Assessment : www.chspr.ubc.ca
- British Columbia Council on Clinical Practice Guidelines: www.hlth.gov.bc.ca/msp/protoguides/index.html
- Canadian Centre on Substance Abuse: www.ccsa.ca
- Canadian Coordinating Office for Health Technology Assessment: www.ccohta.ca
- Canadian Health Network: www.canadian-health-network.ca
- Canadian Institute of Health Information: www.cihi.ca
- Canadian Society of Addiction Medicine: www.csam.org
- Centers for Disease Control and Prevention: www.cdc.gov
- Centre for Addiction and Mental Health: www.camh.net
- Centre for Evidence-Based Mental Health: http://cebmh.com
- Clinical Evidence: www.clinicalevidence.org
- Clinical Resource Efficiency Support Team (CREST): www.crestni.org.uk
- CMA Infobase: Clinical Practice Guidelines: http://mdm.ca/cpgsnew/cpgs/index.asp
- Cochrane Library: Abstracts of Cochrane Reviews: www.thecochranelibrary.com
- Database of Abstracts of Reviews of Effectiveness (DARE): www.york.ac.uk/inst/crd/crddatabases.htm
- Drug Policy Alliance: www.drugpolicy.org
- Euro-Methwork: www.euromethwork.org
- European Observatory on Health Care for Chronic Conditions, World Health Organization: www.who.int
- Evidence-based On-Call: www.eboncall.org
- Evidence Based Nursing: http://evidencebasednursing.com
- Guidelines Advisory Committee: http://gacguidelines.ca
- Guidelines International Network: www.g-i-n.net
- Health Canada – Canada's Drug Strategy: www.cds-sca.com
- Health-Evidence.ca: www.health-evidence.ca
- Institute for Clinical Evaluative Sciences: www.ices.on.ca
- Institute for Clinical Systems Improvement: www.icsi.org/index.asp
- Medic8.com: www.medic8.com/ClinicalGuidelines.htm
- Monash University Centre for Clinical Effectiveness: www.med.monash.edu.au

- National Alliance of Methadone Advocates: www.methadone.org
- National Electronic Library for Health: www.library.nhs.uk
- National Guideline Clearinghouse: www.guidelines.gov
- National Institute for Clinical Evidence (NICE): www.nice.org.uk
- National Institute on Drug Abuse: www.nida.nih.gov
- New South Wales Health: www.health.nsw.gov.au
- New Zealand Guidelines Group: www.nzgg.org.nz
- NLM Health Services/Technology Assessment: www.ncbi.nlm.nih.gov
- Nursing and Midwifery Practice Development Unit: www.nwhb.ie
- PEDro: The Physiotherapy Evidence Database: www.pedro.fhs.usyd.edu.au
- Periodic Task Force on Preventative Health Care: www.ftfphc.org
- Royal College of General Practitioners: www.rcgp.org.uk
- Royal College of Nursing: www.rcn.org.uk
- Royal College of Physicians London (RCPL): www.rcplondon.ac.uk
- Sarah Cole Hirsh Institute – Online Journal of Issues in Nursing: www.nursingworld.org/ojin/hirsh/hirshtoc,htm
- Scottish Intercollegiate Guidelines Network: www.sign.ac.uk
- Swiss Society for Addiction Medicine: www.ssam.ch
- The Qualitative Report: www.nova.edu
- TRIP Database: www.tripdatabase.com
- University of California, San Francisco: http://medicine.ucsf.edu/resources/guidelines/index.html
- University of Laval Evidence-Based Practice Website Directory: http://132.203.128.28/medecine/repertoire/repertoire.asp
- US Department of Health and SAMHSA's National Clearinghouse for Alcohol and Drug Information: http://ncadi.samhsa.gov
- Virginia Henderson International Nursing Library: www.nursinglibrary.org
- Victorian Government Health Information, Australia: www.health.vic.gov.au

STEP 3 – Search Engine Web Search

In addition, a website search for existing practice guidelines related to MMT was conducted via the search engine Google (www.google.com), using key search terms. One individual conducted this search, and noted the results of the search, the websites reviewed and date found, and wrote a summary of the results.

STEP 4 – Hand Search/Panel Contributions

Panel members were asked to review their personal archives to identify guidelines not previously found via the search strategies noted above. One guideline was identified, but through panel consensus, was agreed to be outside the scope of the guideline, and was therefore not included in the review.

SEARCH RESULTS:

The search strategy described above resulted in the retrieval of more than 1342 abstracts on the topic of supporting clients on MMT. These abstracts were then screened by a research assistant in order to identify duplications and assess for inclusion and exclusion criteria established by the panel.

In addition, 11 clinical practice guidelines were identified that met the screening criteria (see page 16) and were critically appraised using the AGREE Instrument (AGREE Collaboration, 2001).

- Isaac, P., Janecek, E., Kalvik, A., & Brands, J. (Eds). (2004). *Methadone Maintenance A Pharmacist's Guide to Treatment, 2nd Ed*. Toronto: Centre for Addiction and Mental Health.
- College of Physicians and Surgeons of Alberta (2005). *Standards & Guidelines for Methadone Maintenance Treatment in Alberta*. [Online]. Available: www.cpsa.ab.ca/collegeprograms/attachments_methadone/Standards%20&%20Guidelines%20for%20Methadone%20Maintenance%20Treatment%20in%20Alberta_Dec%202005.pdf
- College of Physicians and Surgeons of Ontario (2005). *Methadone Maintenance Guidelines*. Toronto: College of Physicians and Surgeons of Ontario. [Online]. Available: www.cpso.on.ca/publications/MethadoneGuideNov05.pdf
- Correctional Service Canada (2002). *Methadone Treatment Guidelines*. Assistant Commissioner, Correctional operations and Programs; Guidelines 800-1.
- Verster A. Buning E. (2000) *Methadone Guidelines*. Amsterdam, The Netherlands: Euro-Methwork. [Online]. Available: www.euromethwork.org.
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- International Federation of Red Cross and Red Crescent Societies (2003). *Spreading the light of science. Guidelines on Harm Reduction related to injecting drug use*. Geneva: International Federation of Red Cross and Red Crescent Societies. [Online]. Available: www.ifrc.org.
- National Institute for Health and Clinical Excellence. (2007). *Methadone and buprenorphine for the management of opioid dependence*. London: National Institute for Health and Clinical Excellence. [Online]. Available: www.nice.org.uk.
- Mental Health and Drug & Alcohol Office (2006). *Clinical guidelines for methadone and buprenorphine treatment of opioid dependence*. North Sydney, New South Wales: NSW Department of Health. [Online]. Available: www.health.nsw.gov.au.
- Meili D. Broers B. Bruggmann P, Fink A. Hammig R. (2007). *Clinical Recommendations for Substitution-Assisted Treatment (SAT) in Opioid Dependence*. Bern, Switzerland: Swiss Society of Addiction Medicine. [Online]. Available: www.ssam.ch.
- Batki, S.L. Kauffman J.F. Marion, I. Parrino, M.W. Woody, G.E. (2005). *Medication-assisted treatment for opioid addiction in opioid treatment programs: a treatment improvement protocol. Tip 43*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration Center for Substance Abuse Treatment. [Online]. Available: www.samhsa.gov.

STEP 5

In addition panel members sourced additional information (existing evidence – articles, literature, peer-reviewed and grey literature) to support and refine recommendations.

Appendix B: Glossary of Terms

Addiction: A primary, chronic disease, characterized by impaired control over the use of a psychoactive substance and/or behaviour. Clinically, the manifestations occur along biological, psychological, sociological and spiritual dimensions. Common features are change in mood, relief from negative emotions, provision of pleasure, pre-occupation with the use of substance(s) or ritualistic behaviour(s); and continued use of the substance(s) and/or engagement in behaviour(s) despite adverse physical, psychological and/or social consequences. Like other chronic diseases, it can be progressive, relapsing and fatal (Canadian Society of Addiction Medicine, 1999).

Administering: Administering a medication is a continual process and goes beyond the task of simply giving medication to a client. The nurse must apply her/his knowledge about the client and the medication when assessing, planning, administering, evaluating and documenting the process. The same nurse must perform all the administration steps to minimize the chance of error and to clarify individual accountability. The standards for administration apply to prescription drugs, as well as to other substances, including over-the-counter drugs (OTCs) and herbal preparations (College of Nurses of Ontario, 2005a).

Agonist: Drugs that interact with receptor sites to cause the same effect that natural chemicals would cause at these sites (Karch, 2008).

Antagonist: Drugs that combine with receptors that do not begin a change in cell function. When antagonists bind to receptors, agonists are prevented from binding and causing an action (Gutierrez, 2008).

Bioavailability: Percentage of a drug available to produce a pharmacological effect (Wynne et al., 2007).

Carries: Provision of a dose (or multiple doses) of methadone by the dispensing pharmacist or designated staff that may be ingested by the client without supervision; take-home doses of methadone. Criteria must be met prior to a client receiving a prescription for take-home doses (clinical stability, length of time in MMT, ability to safely store methadone in a locked box); this criteria should be re-assessed regularly in regard to continuing carries and/or increasing/decreasing the numbers of carries (CPSO, 2005; College of Physicians and Surgeons of Alberta, 2005).

Cessation of MMT: Notification to the College of Physicians and Surgeons of Ontario that the client is no longer receiving methadone from their particular provider. This is a prerequisite to initiation of MMT from another provider. [This standard is Ontario specific, providers from other provinces should check their own individual standards to determine what best practice entails]

Client: A client is a person with whom the nurse is engaged in a therapeutic relationship. In most circumstances, the client is an individual but may also include family members and/or substitute decision-makers (group or community) (College of Nurses of Ontario, 2006).

Clinical Practice Guidelines or Best Practice Guidelines: Emerging guidelines, gleaned from key expert perspectives and client focus groups, and supported by the literature, on the approaches and elements of treatment that appear to result in successful treatment outcomes. Given this definition, best practices are recommendations that may evolve, based on ongoing key expert experience, judgment, perspective and continued research (Health Canada, 2008). Ultimately, best practice guidelines are systematically developed statements to assist practitioners' and clients' decision about appropriate health care (Field & Lohr, 1990).

Controlled substance: There are many controlled substances listed under the *Controlled Substance Act*. These drugs are grouped under schedules. Below are examples of some of the better known drugs within each Schedule.

- Schedule I contains drugs made from the opium poppy such as heroin, codeine; drugs made from coca such as cocaine; and synthetically derived drugs such as methadone.
- Schedule II contains cannabis (marijuana) and its derivatives.
- Schedule III contains drugs such as amphetamines and lysergic acid diethylamide (LSD).
- Schedule IV contains drugs such as benzodiazepines and barbiturates.
- Schedule V and VI contain precursors required to produce controlled substances (National Association of Pharmacy Regulatory Authorities, 2002-2004).

Consensus: A process for making policy decisions, not a scientific method for creating new knowledge. Consensus development makes the best use of available information, be that scientific data or the collective wisdom of the participants (Black et al., 1999).

Craving: A bio-psychological arousal and urge to return to addictive behaviour, characterized by a strong desire, pre-occupation and possible impulsivity (Canadian Society of Addiction Medicine, Adopted 1999).

Critical cultural perspectives: Critical consideration of 'difference' as it relates to culture. This is particularly important in nursing because if culture is understood too narrowly, i.e. as simply beliefs, attitudes, knowledge and practices or equated with ethnicity or nationality, the focus of health and health care may be too narrow, i.e. the social, political and historical contexts of peoples' lives that shape health and health care may be ignored and/or not adequately addressed (Hartrick Doane & Varcoe, 2005). From a critical cultural perspective, culture is ever changing. It is a relational aspect of ourselves that shifts over time depending on our history, past experiences, social, professional and gendered location and our perception of how we are viewed by others in society (Browne & Varcoe, 2006).

Cultural competence: "...the application of knowledge, skills, attitudes and personal attributes required by nurses to provide appropriate care and services in relation to the cultural characteristics of their clients [client can be an individual, family and/or community/group] (Canadian Nurses Association, 2004, p. 1). Cultural competence includes valuing diversity, knowing about cultural mores and traditions of the populations being served and being sensitive to these while caring for the individual." The concept of cultural competence needs to be used cautiously, because of the danger of stereotyping or categorizing people in ways that may stigmatize or marginalize them.

Cultural safety: Cultural safety is a concept which began in nursing education in Aotearoa New Zealand with Māori nurses in recognition of inequities in health status and health care for Māori related to continuing colonizing processes and practices (Ramsden, 1993; 2000; Smye & Browne, 2002). It is a concept that has been taken up by several organizations in Canada to address inequities in health and health care (e.g. the National Aboriginal Health Organization, [NAHO]).Cultural safety begins with the nurse/ health care provider – with self-reflection. The nurse needs to recognize that both the client (as individual, family and/or community) and the provider are "bearers of culture" and that the 1:1 relationship is always bicultural, i.e. influenced by the culture(s) of both the nurse and the client. In addition, nurses need to understand that health and health care are shaped by historical, social, economic and political processes and practices and power and structural inequities (Ramsden, 1993; 2000). Culturally safe practice entails addressing power differentials that create inequities affecting health and health care. It also demands that nurses engage with policies and practices that impact health and healthcare, to shift the status quo, i.e. to change those policies and practices that put people at risk of not having their health care needs met or that create 'unsafety.' Cultural safety is both a process and an outcome. Notably, 'culturally' safe services and care are defined as such by the client.

Delegation: Delegation is a formal process by which a regulated health professional who has the authority and competence to perform a procedure under one of the controlled acts delegates the performance of that procedure to others under certain conditions (College of Nurses of Ontario, 2007a).

Dispensing: Is a controlled act authorized to pharmacists and physicians. Nurses are not authorized to perform this controlled act; however, physicians and pharmacists can delegate the act of dispensing to nurses. Before accepting delegation, the nurse should confirm it is an acceptable practice within his/her facility. Dispensing involves: receiving and reading the prescription for a medication; adjusting an order according to approved policy (for example, substituting one drug brand for another); selecting the drug to dispense; reconstituting a product and checking the expiry date; and repackaging and labelling a medication (College of Nurses of Ontario, 2008b).

Diversion: The transfer of legally obtainable drugs into illegal channels, ie. through sharing or selling (CPSO, 2005).

Double doctoring: Occurs when a client seeks or obtains a prescription for any controlled substance from more then one practitioner without disclosing to both practitioners in advance that he/she has received a narcotic or controlled drug within the last 30 days. Double doctoring is against the law in Canada (Centre for Addiction and Mental Health, 2008b).

Drug paraphernalia: Items used to prepare, manufacture, and administer substance of misuse. For example, syringes, needles, filters, spoons, tourniquets, etc.

Evidence: Evidence is information that comes closest to the facts of a matter. The form it takes depends on context. The findings of high-quality, methodologically appropriate research provides the most accurate evidence. Because research is often incomplete and sometimes contradictory or unavailable, other kinds of information are necessary supplements to or stand-ins for research. The evidence base for a decision is the multiple forms of evidence combined to balance rigor with expedience while privileging the former over the latter (Canadian Health Services Research Foundation, 2006).

- Evidence-based learning: requires us to measure our own performance – to understand how well our learning interventions are working and build continuous cycles of improvement into our practices. After gathering and analyzing the evidence, we act on it and begin the cycle again – evaluating and analyzing.
- Evidence-based practice: "the integration of knowledge of the best available research, client preferences, resources, and clinical expertise when making decisions with a client about achieving the best possible health care" (College of Nurses of Ontario, 2005b).
- Evidence-informed practice: "... is an approach to nursing practice in which the nurse is aware of the research evidence relevant to her/his clinical practice and the strength of that evidence" (Dobbins, 2008).
- Best practice: refers to "the clinical practices, treatments and interventions that result in the best possible outcomes for the patient and the health care facility providing those services" (Lippincott, Williams & Wilkins, 2007, p.1). Promising practices: "The terms 'lessons learned,' 'good practices,' and 'promising practices' are all terms used to describe useful practices. These terms are often used to indicate practices or approaches that have not been evaluated as rigorously as 'best practices,' but that still offer ideas about what works best in a given situation" (Information & Knowledge for Optimal Health, 2007) – often reported by experts in the field as beneficial (Walker & Bruns, 2006).

Half-life: The time required for half of the total drug amount to be eliminated from the body. Generally after five half-lives, 97% of a drug will be eliminated (Archangelo & Peterson, 2006).

Harm reduction: A continuum of services that represent a philosophical, pragmatic approach to providing care while minimizing the negative outcomes associated with substance use. The focus is goal oriented, humanistic and in keeping with a cost benefit awareness (Pauly, Goldstone, McCall, Gold & Pyne, 2007).

Holistic care: Includes consideration of the client's physical, emotional, spiritual, cognitive, developmental, environmental, and social situation (College of Nurses of Ontario, 2007b).

Initiation of MMT: First dose of methadone is not given until after verification, registration and approval from the College of Physicians and Surgeons of Ontario, that the client is not receiving methadone from another provider. [This standard is Ontario specific, providers from other provinces should check their own individual standards to determine what best practice entails].

Interdisciplinary: Refers to a range of collaborative activities undertaken by a team of two or more individuals from different disciplines applying the methods and approaches of their respective disciplines (Canadian Collaborative Mental Health Initiative, 2005). Approaches that analyze, synthesize, and harmonize links between disciplines into a coordinated and coherent plan of care (Choi & Pak, 2006).

Intersectoral action on health: Refers to "a recognised relationship between part or parts of the health sector with part or parts of another sector which has been formed to take action on an issue to achieve health outcomes (or intermediate health outcomes) in a way that is more effective, efficient or sustainable than could be achieved by the health sector acting alone" (World Health Organization, 1997, p. 3). In the area of addictions and harm reduction, intersectoral collaboration is very important to the well-being of clients, for example, in the areas of 'housing' and 'health.'

Last verified dose: Time, date, and dosage of last dose of methadone ingested, verified by health care professional.

Medical directive: A physician-written order for a prescription, procedure, treatment, drug or intervention. A medical directive may be implemented for a client when specific conditions are met or when specific circumstances exist (College of Nurses of Ontario, 2008a)

Missed dose: Occurs when a client misses his/her dose of methadone for more then 24 hours. A clinical loss of tolerance to opioids may occur within as little as three days without methadone. College of Physicians and Surgeons of Ontario (2005) methadone guidelines recommend reassessment by the MMT provider if consecutive doses are missed.

Multidisciplinary: Arrangements that draw on knowledge from different disciplines, while each discipline stays within their own boundaries/specialties of knowledge (Choi & Pak, 2006).

Narcotic: A drug derived from opium or opium like compounds, with potent analgesic effects associated with significant alteration of mood and behaviour, and with the potential for dependence and tolerance following repeated administration (The American Heritage® Medical Dictionary Copyright©, 2007).

Opiate: A naturally-occurring or semi-synthetic compound derived from the opium poppy (papaver somnifer) (College of Physicians and Surgeons of Alberta, 2005).

Opioid: A compound having actions or properties similar to opiates. A broader term encompassing all opiates (such as heroin, morphine and codeine), as well as synthetic opiate-like compounds (such as methadone and fentenyl) (College of Physicians and Surgeons of Alberta, 2005).

Organization and policy recommendations: Statements of conditions required for a practice setting that enables the successful implementation of the best practice guideline. The conditions for success are largely the responsibility of the organization, although they may have implications for policy at a broader government or societal level.

Pharmacodynamics: The set of processes by which drugs produce specific biochemical or physiological changes in the body–how the drug acts on the body (Archangelo & Peterson, 2006).

Pharmacokinetics: Examining the absorption, distribution, metabolism and excretion of a drug, the onset of action, the half life, peak effect and duration of effects — how the body acts on the drug (Karch, 2008).

Practice recommendations: Statements of best practice directed at the practice of health-care professionals that ideally are evidence based.

Primary health care: "...is about equity in access to health and health care through the provision of community-based health services that emphasize disease prevention and health promotion" (MacDonald, 2002, p. 30) – "it is essential care (promotive, preventive, curative, rehabilitative, and supportive) that is focused on prevention of illness and promoting health" (Canadian Nurses Association, 1995, p.1).

Relational practice: "A relational approach in nursing practice recognizes that health, illness, and the meanings they hold are shaped by people's economic, social, cultural, family, community, historical and geographical contexts, and gender, age, ability, and other personal factors. Although the quality of relationships is central to nursing, relational practice goes beyond a focus on interpersonal relationships to the ways in which people's lives, their health and health care are shaped in relation to their social contexts. Using a relational practice approach, the nurse's attention is focused on the importance of understanding what is significant to people in the context of their everyday lives, and how capacities and socio-environmental influences shape opportunities, possibilities and choice, as well as people's health and agency. These factors also influence how nurses view, relate, and work with clients and families. Nursing as a relational practice is focused on action; that is, students will be able to respond to the complex ways in which the health experiences and wider contexts of clients' lives are shaped, and participate in change" (UBC School of Nursing, 2008).

Split doses: An alternative way of providing methadone to clients, consisting of two or more doses per day (so it is not ingested all at one time). It is used for clients who have demonstrated "rapid metabolism" of their once daily methadone dose (e.g. during third trimester of pregnancy) or are on medications that have been shown to induce rapid metabolism of methadone (i.e. certain HIV medications). A consultation with an experienced MMT provider should be considered in these circumstances. Split doses do not necessarily have to be equal; twice-daily observed ingestion may be necessary (CPSO, 2005; College of Physicians and Surgeons of Alberta, 2005).

Stable daily dose: Optimal daily dose of methadone that will relieve withdrawal symptoms, block opioid-induced euphoria and reduce drug cravings without sedation or other significant side effects (CPSO, 2005).

Stakeholder: An individual, group or organization with a vested interest in the decisions and actions of organizations who may attempt to influence decisions and actions (Baker et al., 1999). Stakeholders include all individuals or groups who will be directly or indirectly affected by the change or solution to the problem.

Steady state: A constant mean concentration of a drug in the body, there are peaks and troughs in the drug level, but the fluctuations remain within a constant range (Archangelo & Peterson, 2006).

Stigma and discrimination: "Stigma is typically a social process, experienced or anticipated, characterized by exclusion, rejection, blame or devaluation that results from experience or reasonable anticipation of an adverse social judgment about a person or group" (Martin & Johnston, 2007, p.8). In relation to drug use, it is a negative attitude most often based on prejudice, misinformation and fear that is triggered by an association made between addictions and criminality and the perception that people have a choice, based on people's previous experience – often people make moral judgments. The presence of stigma is problematic because it leads to ongoing discrimination and marginalization with detrimental effects for clients, families and communities of people (decreased self esteem, increased isolation and vulnerability, higher likelihood that people will not access services). Discrimination occurs when actions are taken (or not taken) on the basis of stigma.

Intersecting stigmas: This is when there are intersecting oppressive forces that mutually construct stigma. For example, a person living with mental illness may be stigmatized, if that person is also using drugs, a different stigma may be created, and/or if that person is racialized in some way, and/or poor, yet another stigma created – this is not a cumulative process, rather, as noted above, stigma is co-constructed through these forces.

Associative stigma: the process of being stigmatized based on a close association with a person with mental illness, typically a family member – as if the family was somehow tainted by the relationship. Similarly, a mental health care worker may also be stigmatized based on a work relationship (Halter, 2008).

Substance abuse: (American Psychiatric Association, 1994)

A. A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:
   1. recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g. repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household)
   2. recurrent substance use in situations in which it is physically hazardous (e.g. driving an automobile or operating a machine when impaired by substance use)
   3. recurrent substance-related legal problems (e.g. arrests for substance-related disorderly conduct)
   4. continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g. arguments with spouse about consequences of intoxication, physical fights)

B. The symptoms have never met the criteria for Substance Dependence for this class of substance.

Substance dependence: A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period (American Psychiatric Association, 1994)

A. Tolerance, as defined by either of the following:
   i. a need for markedly increased amounts of the substance to achieve intoxication or desired effect; or
   ii. markedly diminished effect with continued use of the same amount of the substance.
B. Withdrawal, as manifested by either of the following:
   i. the characteristic withdrawal syndrome for the substance; or
   ii. the same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms.
C. The substance is often taken in larger amounts or over a longer period than was intended.
D. There is a persistent desire or unsuccessful efforts to cut down or control substance use.
E. A great deal of time is spent in activities necessary to obtain the substance (e.g. visiting multiple doctors or driving long distances), use the substance (e.g. chain-smoking), or recover from its effects.
F. Important social, occupational, or recreational activities are given up or reduced because of substance use.
G. The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g. current cocaine use despite recognition of cocaine-induced depression, or continued drinking despite recognition that an ulcer was made worse by alcohol consumption).

With physiological dependence: evidence of tolerance or withdrawal (i.e. either Item 1 or 2 is present).

Without physiological dependence: no evidence of tolerance or withdrawal (i.e. neither Item 1 nor 2 is present).

Substance misuse: The use of a psychoactive substance (drug or alcohol) for a purpose other than that for which it was intended, and that cause's physical, social, and psychological harm. The term is also used to represent the pattern of use: experimental, recreational and dependent (Rassool, 2002).

Substance tolerance: A neurological adaptation to the psychoactive effects of a substance; more of the drug is required to achieve the same effect. Tolerance develops quickly to the psychoactive effects of alcohol and opioids. Highly tolerant clients can behave almost normally after consuming opioid doses that would be fatal in non-tolerant clients (Kahan & Wilson, 2002). Tolerance to the psychoactive effects of opioids develops within days, and is lost within days (CPSO, 2005).

Substance withdrawal:

A. The development of a substance-specific syndrome due to the cessation of (or reduction in) substance use that has been heavy and prolonged.

B. The substance-specific syndrome causes clinically significant distress or impairment in social, occupational, or other important areas of functioning (American Psychiatric Association, 1994)

Systematic review: The application of a rigorous scientific approach to consolidate the research evidence on a specific topic. "Systematic reviews establish where the effects of health care are consistent and research results can be applied across populations, settings and differences in treatment (e.g. dose); and where effects may vary significantly. The use of explicit, systematic methods in reviews limits bias (systematic errors) and reduces chance effects, thus providing more reliable results upon which to draw conclusions and make decisions" (Clarke & Oxman, 1999).

Therapeutic relationship: Therapeutic relationship is a purposeful, goal directed relationship that is directed at advancing the best interest and outcome of the client. The therapeutic relationship is grounded in an interpersonal process that occurs between the nurse and the client(s) (RNAO, 2006b).

Threshold (i.e. low-, medium-, high-threshold programs): All harm reduction programs, with differing levels of criteria for admission and monitoring. For example, frequency of urine testing, mandatory counselling, frequency of physician visits, etc.

Transcultural nursing care: "A formal area of study and practice focused on comparative human-care (caring) differences and similarities of the beliefs, values, and patterned lifeways of cultures to provide culturally congruent, meaningful and beneficial health care to people" (Leiniger & McFarland, 2002, p. 5).

Appendix C: Social Determinants of Health (SDOH)

There is a wealth of evidence from Canada and other countries to support the idea "that the socioeconomic circumstances of individuals and groups are equally or more important to health status than medical care and personal health behaviours, such as smoking and eating patterns" (Evans et al., 1994; Frank, 1995; Federal/ Provincial/ Territorial Advisory Committee on Population Health, 1999; as cited in Health Canada, 2003, p. 2). Evidence suggests that the SDOH "have a direct impact on the health of individuals and populations, are the best predictors of individual and population health, structure lifestyle choices, and interact with each other to produce health" (Raphael, 2003; as cited in Health Canada, 2003, p. 2). "In terms of the health of populations, it is well known that the size of the gap or inequality in social and economic status between groups within a given population greatly affect the health status of the whole. The larger the gap, the lower the health status of the overall population" (Wilkinson, 1996; Wilkinson and Marmot, 1998; as cited in Health Canada, 2003, p. 2). The following nine SDOH are presented in the Health Canada (2003: pp.11-12) document titled: *The social determinants of health: An overview of the implications for policy and the role of the health sector.* An overview in response to papers presented at the Social Determinants of Health Across the Life-Span Conference, Toronto, November 2002. Other additional social determinants of health include: peace, social support and family violence.

Early childhood education and care: Access to early childhood education and care for all – child care centers and other regulated care services, for example, family child care in private homes so mothers can participate in the workforce. It also includes schooling, where the primary purpose is early childhood education such as kindergartens and preschools (Friendly, 2002).

Education: Higher education is associated with better health and outcomes, and lower education with poorer health and outcomes.

Employment and job security: The ability to have meaningful work (as perceived by the person) to meet individual, family and/or community need. Higher rates of unemployment are associated with poorer health and premature death.

Food security: The ability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways with the certainty that this is possible. Limited availability of safe foods is contingent on the availability of money to purchase them and the availability of foods in geographically isolated communities (Campbell, 1991).

Housing: The ability to access affordable, suitable and adequate accommodation (Layton, 2000).

Income: Income is thought to impact health in a number of important ways: material deprivation acts as a barrier to adequate shelter, food, warmth and the ability to participate in society – all prerequisites for healthy development; the lack of adequate income leads to psychosocial stress which can lead to poorer health; and people's choices are limited (Raphael, 2004).

Social economy: Empowering services provided to members and community that are not profit-oriented (Vaillancourt, Aubrey, Tremblay & Kearney, 2002).

Social inclusion and exclusion: The ability for all people to participate fully in Canadian life. Due to structural inequalities in access to social, economic, political and cultural resources, some people are not able to do so. These inequalities arise out of oppression related to race, class, gender, ability/disability, sexual orientation, immigrant status, age, religion and so on.

Working conditions: Jackson (2002) has identified the following working conditions as central to whether a job is healthy or not: job and employment security; physical conditions at work; work pace, control and stress; working time (number of hours); opportunities for self-expression and individual development at work; participation and relationships at work; and, work-life balance.

In addition to the above SDOH there are several other social determinants of health offered by the CNA (October 2005) from the World Health Organization (Wilkinson & Marmot, 2003):

Economic inequality: The gap between the rich and poor may be an even more significant social determinant of health than absolute poverty – "as the gap between rich and poor widens, health status declines" (Auger, 2004; Raphael, 2002; as cited in CNA, p.3).

Social status: People of lower social standing run at least twice the risk of serious illness and premature death as those with more – this extends across all strata in society (Wilkinson & Marmot, 2003; as cited in CNA, p. 3).

Stress: Long-term and cumulative stress is associated with poorer health, e.g. chronic disease, infections and mental health issues (Wilkinson & Marmot, 2003; as cited in CNA, p. 3).

In addition to the social determinants of health, there are other basic determinants of health including: genetic endowment and physical environment (Health Canada, 2003, p. 1).

Appendix D: Common Potential Drug Interactions with Methadone

DRUGS THAT CAN INCREASE METHADONE LEVEL/TOXICITY	DRUGS THAT CAN DECREASE METHADONE LEVEL/OPIOID WITHDRAWAL
Antibiotics: ■ Ciprofloxacin ■ Clarithromycin ■ Erythromycin ■ Isoniazid	**Antiepileptics:** ■ Carbamazepine ■ Phenobarbital ■ Phenytoin
Antidepressants: ■ Fluoxetine ■ Fluvoxamine ■ Nefazodone ■ Paroxetine ■ Sertraline	**Antiretroviral:** ■ Abacavir ■ Amprenavir ■ Efavirenz ■ Indinavir ■ Nelfinavir ■ Nevirapine ■ Ritonivir ■ Saquinavir
Antifungal: ■ Fluconazole ■ Ketoconazole ■ Metronidazole	**Barbiturates:** ■ Phenobarbital ■ Secobarbital ■ Butalbital
Others: ■ All benzodiazepines ■ Amiodarone ■ Amitriptyline ■ Cimetidine ■ Delaviridine ■ Dihydroergotamine ■ Diltiazem ■ Disulfiram ■ Indinivir ■ Propoxyphene ■ Quinidine ■ Saquinivir ■ Urinary alkalinizers ■ Verapamil	**Others:** ■ Cocaine ■ Primidone ■ Rifampin ■ Risperidone ■ St. John's Wort ■ Nicotine ■ Urinary Acidifiers

(Antoniou & Lin-in Tseng, 2002; Elsayem & Breura, 2005; Isaac et al., 2004; Layson-Wolf et al., 2002; Weschules et al., 2008)

Appendix E: Urine Drug Screening

Length of Time Drugs of Abuse can be Detected in Urine

DRUG	LENGTH OF TIME (Dose-dependent: larger doses can be present longer than the time noted)
Alcohol	Length of Time 7 – 12 hours
Amphetamines	2 – 5 days
Barbituates	Up to 3 weeks
Benzodiazepines	Up to 4 weeks
Cocaine (metabolites)	Up to 7 days
Cannabis ■ Single use ■ Daily use ■ Long-term heavy use	 2 – 4 days 10 – 15 days 4 – 6 weeks
GHB	<12 hours
Hallucinogens	3 – 7+ days
Opioids ■ Codeine ■ Heroin (Monoacetylmorphine (MAM) ■ Hydromorphone ■ Methadone ■ Oxycodone	 48 hours <12 hours 2 – 4 days 1 – 4 days 2 – 4 days

(Gourlay, Heit & Caplan, 2006; Kahan & Wilson, 2002; Moeller et al., 2008)

Appendix F: Dispelling Myths about Methadone

The following is a list of common myths about methadone, with the realities associated with them.

MYTH	REALITY
Methadone will get you high.	■ If you're looking for a high, you'll be disappointed with methadone. When you first start treatment, you may feel lightheaded or sleepy for a few days, but you will quickly develop a tolerance to these effects. Expect to feel "normal" when you're on methadone.
Methadone will make you sick.	■ The only time you might feel sick from methadone is at the beginning of your treatment, when your dose might not be enough to keep you free of withdrawal symptoms. In most cases, if you do feel sick, it's mild. Your dose will be adjusted and you should feel better within a few days. ■ When you're on methadone you can catch a cold or any other illness just like anyone else, but you're much less prone to illness than illicit drug users. People on methadone are less likely to use needles, and more likely to eat well and take good care of themselves. When you're on methadone you won't wake up sick every morning. If anything, methadone will help you to get well.
Long-term use of methadone damages the liver, the thyroid gland and the memory.	■ Long-term use of methadone is safe. It will not damage your internal organs, and when you are on the correct dose, it will not interfere with your thinking. If you have a medical condition such as hepatitis or cirrhosis of the liver, methadone maintenance treatment can improve your access to medical treatment, and help you to manage the illness.
Methadone rots your teeth and bones.	■ This is a common myth, and although it's not true, the reasons behind the myth deserve some consideration. ■ One of the side-effects of methadone, like many medications, is that it gives you a dry mouth. This can make your teeth more prone to the production of plaque, which is a major cause of gum disease and tooth decay. To protect your teeth, follow the dental routine recommended for everyone: brush and floss every day, rinse your mouth with mouthwash, go to the dentist at least twice a year, and cut sugar from your diet. Drinking plenty of water can also help to relieve dry mouth. ■ If you're on methadone, and you feel like your bones are rotting, it's probably because you're on too low a dose. Bone ache, which may feel like bone "rot," is a symptom of methadone withdrawal. When your dose is adjusted correctly, you should not experience any aching or other symptoms of withdrawal.

MYTH	REALITY
Methadone makes you gain weight.	■ Not everyone gains weight when they go on methadone, but people do. This is usually because methadone improves your health and appetite, and so you eat more. If you've been using drugs for a long time, you may be underweight and need to gain a few pounds. ■ Even though the methadone drink is not "fattening" like sweets and fatty foods, methadone can slow your metabolism and cause water retention, which can lead to weight gain. You can control weight gain by choosing healthy foods that are high in fibre like whole grains and fruits and vegetables, and by exercising regularly. If you nourish your body, you'll keep the pounds off, and more important, you'll feel good.
It's easy to get off methadone / It's hard to get off methadone.	■ How could these both be myths? Well, it isn't easy to get off methadone, but it doesn't have to be hard either. The symptoms of methadone withdrawal come on more slowly than those of heroin withdrawal, but with methadone, the withdrawal process takes longer. When you are ready to go off methadone, your dose will be "tapered" or gradually reduced, usually at a rate that you determine.
People on methadone are still addicts, even if they don't use any other drugs.	■ People who take methadone as a treatment for opioid dependence are no more addicts than are people who take insulin as a treatment for diabetes. Methadone is a medication. Methadone treatment allows you to live a normal life, work, go to school or care for your children.
Methadone is a cure for opioid addiction.	■ Methadone is not a cure; it is a tool that helps you to repair the damage caused by dependence, and to build a new life. Like any tool, you have to use it. Just as a builder uses a hammer to frame a house, or an artist uses a brush to paint a picture, you can use methadone to help you steer clear of drugs. Methadone will make the job easier, but it won't make it easy.

(Used with permission from the Centre for Addiction and Mental Health, 2008b, p.3-6.)

Appendix G: Methadone Learning Tool Calendar

*Adapted from Julie Hinton, BScN student, with permission

This calendar was created to help clients track how their bodies are reacting to their methadone dose. The idea is for the client, each day, to write the relevant code (see legend at the bottom) on the calendar date. The calendar tool will then be brought to the health care professional for assessment, facilitating discussion about the correlation between methadone dose and resulting symptoms.

Trend's side effects of methadone dosing using I, II, III, IV, V, VI and/or VIII. (see legend below)
Nurse to enter methadone dose each week in this tool.

February 2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4 ___mg	5	6	7	8	9
10	11 ___mg	12	13	14	15	16
17	18 ___mg	19	20	21	22	23
24	25 ___mg	26	27	28	29	

Legend: Doctor Visit; I=Nausea; II=Bone Pain; III=UsedDrugs; IV=Nodding Off; V=Sweats; VI=Good; VII=Anger

Appendix H: Symptoms of Opioid Overdose Versus Opioid Withdrawal

The following is a list of symptoms of opioid overdose, contrasted with symptoms of opioid withdrawal.

OPIOID OVERDOSE	OPIOID WITHDRAWL
Early signs ■ Nodding off/drowsiness ■ Slurred speech ■ Emotionally labile ■ Myosis	■ Dysphoric mood ■ Nausea or vomiting ■ Abdominal cramps ■ Myalgia (muscle pain) ■ Lacrimation (teary eyes) ■ Rhinorrhea (runny nose) ■ Mydriasis, piloerection ■ Sweating ■ Diarrhea ■ Yawning ■ Fever ■ Insomnia ■ Anxiety ■ Agitation ■ Fatigue ■ Tachycardia (CPSO, 2005)
Late signs: ■ Respiratory depression ■ Prolonged QT interval ■ Ventricular arrhythmias ■ Coma (Centre for Addiction and Mental Health, 2007)	

Methadone intoxication or overdose can occur when:

- The prescribed dose is too high, especially when initiating methadone treatment as the client may not be fully tolerant (there is a high risk of death from methadone overdose in the first two weeks of MMT)
- A client is given a higher dose of methadone than that which was prescribed (e.g. methadone given to the wrong client, dispensing error)
- Insufficient time has elapsed between doses
- A client who has not been prescribed methadone (non-tolerant) is given methadone (e.g. diversion)
- Alcohol, benzodiazepines or other drugs are taken in addition to methadone

Appendix I: MMT in Correctional Settings

Provincial and Federal correctional services are mandated through legislation to provide health-care services to those in custody. Though it may not be immediately obvious that correctional facilities offer health care services and employ nurses, correctional nurses care daily for the thousands of individuals held in custody. As the primary focus of correctional services is the custody of the individuals they house, correctional nurses are continually challenged to negotiate the goals of harm reduction and MMT with the goals of custody.

Many incarcerated individuals fare poorly on the social determinants of health, and have had very little access to health-care professionals. Many are not aware of the goals and principles associated with harm reduction thus, accessing MMT is often very difficult.

In the correctional setting nurses must work diligently to overcome and dissipate the stigma associated with MMT that is often held by inmates, correctional officers and nurses themselves. Nursing awareness, understanding and promotion of MMT within a correctional setting is important to facilitating understanding, tolerance and cooperation among all, staff and inmates. Therefore, it is important for correctional nurses themselves to have an understanding of addictions, harm reduction and the benefits of MMT and they should be able to offer unbiased treatment and education.

The following chart offers a few common corrections specific MMT-related issues. The information below was derived from the literature, as well as personal communications with nurses working in correctional facilities.

SUBJECT	CORRECTIONS-SPECIFIC ISSUE
Perceptions of methadone (both by offenders and non-health care staff)	■ Stigma: Methadone is often referred to as "bug juice" ■ Stigma: Methadone is seen as legalized heroin use ■ Education is needed for security staff to understand that MMT is a harm reduction-oriented program, not an abstinence-oriented program and has many associated benefits. ■ Many offenders perceive MMT as a control measure within the prison system (Carlin, 2005); they also perceive that if they admit they have an opioid problem, they will be punished now or in the future. ■ Education is needed for clients to understand that urine samples collected as part of the MMT program are medically confidential and can not be used for punitive reasons.
Administration of methadone	■ Diversion of methadone is a major issue in prison. Inmates who are opioid dependent but not on an MMT program use diverted methadone to prevent withdrawal symptoms if unable to get any illicit opioids while incarcerated. The 'black market' value of methadone is high. Common strategies for methadone diversion include: ● regurgitation ● placing absorbents in the mouth ● placing condoms in the back of the throat ● sewing pockets inside clothing ● falsifying identity ■ To reduce the risk of diversion and to protect inmates and staff, correctional officers provide support to health-care staff during the administration of methadone. ■ Correctional staff observe MMT clients for a minimum of 20 minutes post-methadone administration to reduce the risk of diversion.

SUBJECT	CORRECTIONS-SPECIFIC ISSUE
Administration of methadone (con't)	■ Confirmation of photo identification of offenders prior to each MMT dose is necessary and aimed at ensuring that the correct client is administered methadone. ■ Since an overdose of methadone is often fatal, nurses need to be aware of the signs and symptoms of methadone overdose. Any client suspected of or known to have taken an overdose of methadone must be examined at the local hospital and clients must be monitored very closely upon their return to the institution. ■ Nurses must be familiar with institutional policies regarding methadone overdose. ■ Encouraging client cooperation with mandatory urine drug screening is sometimes difficult as methadone carries are never an option in corrections. Additionally, it is difficulty for MMT clients to trust that the results of drug screening would not be used for punitive measures against them.
Discharge/Release planning	■ Many offenders want to be started on MMT when first incarcerated and then be tapered off MMT prior to release. ■ Nurses need to know that release from prison is a high-risk time for clients to return to drug use and engage in criminal activity; as well they are at a disproportionately high risk for HIV infection, increased overdose-related death, and increased risk of reincarceration (Rich et al., 2005). ■ Nurses should facilitate continuity of care when it is apparent that an offender will be released. It is imperative to provide a thorough, comprehensive discharge plan for offenders being released from prison.
Related issues	■ Incarceration is a time of high risk of contacting infectious diseases (Kerr, Marsh, Li, Montaner & Wood, 2005). Access to full MMT programs (including initiation and maintenance) needs to be available in all correctional settings. ■ Offenders may engage in intravenous drug use for the first time while incarcerated as a means of fitting in or as an escape from reality. ■ Needle exchange programs are not available in corrections. It is not uncommon for numerous offenders to share the same needle, even if one of the participants is known to be infected with a blood-borne illness such as HIV or hepatitis.

Appendix J: Educational Resources

The following educational resources have been compiled by the development panel as a resource for nurses and their clients in learning more about addictions, MMT, and determinants of health. It is not intended to be an inclusive listing.

Relevant Journals:

Name	Website
Evidence-Based Nursing	http://ebn.bmj.com/
Health Policy	www.sciencedirect.com
International Journal of Drug Policy	www.elsevier.com
Journal of Addictions Nursing	www.intnsa.org/jan.php

Website Resources:

Name	Website
Addictions Ontario	www.addictionsontario.ca
Association of Ontario Health Centres	www.aohc.org
Canadian Centre on Substance Abuse	www.ccsa.ca
Canadian Network of Substance Abuse and Allied Professionals	www.cnsaap.ca
Centre for Addiction and Mental Health (CAMH)	www.camh.net
College of Nurses of Ontario	www.cno.org
College of Physicians and Surgeons of Ontario	www.cpso.on.ca
Drug and Alcohol Registry of Treatment	www.dart.on.ca
Drug and Alcohol Treatment Information System (DATIS)	www.datis.ca
DrugInteractions.com	www.druginteractions.com

Health Canada	www.hc-sc.gc.ca
International Nurses Society on Addictions	www.intnsa.org
Local Health Integration Networks (Ontario)	www.health.gov.on.ca/transformation/lhin/lhin_mn.html
Medical Education and Training on Addiction	www.addictionmedicine.ca
Ministry of Health and Long-Term Care (Ontario)	www.health.gov.on.ca
Ontario College of Pharmacists	www.ocpinfo.com
Ontario Federation of Community Mental Health and Addiction Programs	www.ofcmhap.on.ca
Ontario Pharmacists Association Mental Health and Addiction Programs	www.opatoday.com
Smart Systems for Health Agency	www.ssha.on.ca
The Canadian Harm Reduction Network	www.canadianharmreduction.com
The Ontario Pharmacists Association	www.opatoday.com

Other Resources

Name	Contact information
OpiATE Clinical Consultation Services (Centre for Addiction and Mental Health)	Toll-free: 1-888-720-2227 (Ontario only) Telephone: 416-595-6968
Bevel Up: Drugs, Users and Outreach Nursing (educational kit including DVD)	www.nfb.ca/webextension/bevel-up/
FIX: The story of an Addicted City (film)	www.canadawildproductions.com/
Initial Patient Assessment Form (CPSO, 2005)	College of Physicians and Surgeons of Ontario (2005). *Methadone Maintenance Guidelines*. Toronto: College of Physicians and Surgeons. Appendix E, page 52. www.cpso.on.ca.

Opioid Dependence Treatment Certificate Program	Certificate program from the Centre for Addiction and Mental Health (CAMH) and the University of Toronto. www.camh.net.
Opioid Withdrawal Rating Scales	Mental Health and Drug & Alcohol Office (2006). *Clinical guidelines for methadone and buprenorphine treatment of opioid dependence*. North Sydney, New South Wales: NSW Department of Health. Page 101-103. www.health.nsw.gov.au.
RNAO Addiction Website: E-learning modules	http://addictions.rnao.org
RNAO Speaker's Bureau: Supporting Clients on MMT	www.rnao.org/methadone_speakersbureau
RNAO PDA: Supporting Clients on MMT	www.rnao.org/pda

Appendix K: Description of the Toolkit

Best practice guidelines can only be successfully implemented if there are adequate planning, resources, organizational and administrative support as well as appropriate facilitation. In this light, RNAO, through a panel of nurses, researchers and administrators has developed the *Toolkit: Implementation of Clinical Practice Guidelines* based on available evidence, theoretical perspectives and consensus. The *Toolkit* is recommended for guiding the implementation of any clinical practice guideline in a healthcare organization.

The *Toolkit* provides step-by-step directions to individuals and groups involved in planning, coordinating and facilitating the guideline implementation. Specifically, the *Toolkit* addresses the following key steps in implementing a guideline:

Chapter 1: Selecting your clinical practice guideline.
Chapter 2: Identifying, analyzing and engaging your stakeholders.
Chapter 3: Assessing your environmental readiness.
Chapter 4: Deciding on your implementation strategies.
Chapter 5: Evaluating your success.
Chapter 6: What about your resources?

Implementing guidelines in practice that result in successful practice changes and positive clinical impact is a complex undertaking. The *Toolkit* is a key resource for managing this process.

Implementing guidelines in practice that result in successful practice changesand positive clinical impact is a complex undertaking. The *Toolkit* is one key resource for managing this process. The *Toolkit* can be downloaded at **www.rnao.org/bestpractices**.

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