



**2011 Annual Report  
of the  
Geriatric and Long-Term Care  
Review Committee  
Office of the Chief Coroner  
Province of Ontario**

**November 2012**

## Table of Contents

<b>Message from the Chair</b>	i
<b>Executive Summary</b>	ii
<b>Glossary of Terms</b>	iii
<b>Committee Membership</b>	iv
<b>Chapter One: Introduction</b>	1
<b>Chapter Two: Analysis of cases and recommendations (2004-2011)</b>	4
<b>Chapter Three: 2011 Case Review Summary</b>	7
<b>Chapter Four: Case Reviews - 2011</b>	9
2011-01	9
2011-02	12
2011-03	14
2011-04	15
2011-05	21
2011-06	24
2011-07	25
2011-08	28
2011-09	32
2011-10	33
2011-11	37
2011-12	42
2011-13	45
2011-14	47
2011-15	50
2011-16	53
<b>Chapter Five: Learning from GLTCRC Reviews</b>	55
<b>Appendix A: Summary of Recommendations - 2011 Cases</b>	56

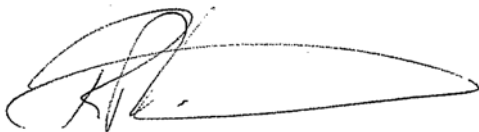
## Message from the Chair

It is my pleasure to present to you the 2011 Annual Report of the Geriatric and Long-Term Care Review Committee (GLTCRC). Each year, a small percentage of the deaths of elderly persons investigated by the Office of the Chief Coroner (OCC), have issues identified by Regional Supervising Coroners that bring them to the attention of the GLTCRC. This committee has been providing expert reviews and recommendations for over twenty years. Through the publication of its annual report, this information is shared with service providers throughout the province.

It is an honour to participate in the work of the GLTCRC and I am grateful for the commitment of its members to the people of Ontario.

I would like to acknowledge a retiring member of the committee who stepped down during the 2011 term. Dr. Michael Gordon was an original member of the committee when it was established in 1989. His work at Mt. Sinai Hospital and at Baycrest Centre for Geriatric Care established him as a leader in geriatric medicine, bioethics and end-of-life care in Canada. The Office of the Chief Coroner has benefited immensely from his expert and compassionate reviews and we wish him all the best.

I would also like to acknowledge Ms. Kathy Kerr, Executive Lead. Without her efforts, the work of the committee and the production of this report would not be possible.

A handwritten signature in black ink, appearing to read 'R. Skinner', with a long horizontal flourish extending to the right.

Roger Skinner, MD, CCFP(EM)  
Regional Supervising Coroner – East Region, Kingston Office  
Chair, Geriatric & Long Term Review Committee

## Executive Summary

- The Geriatric and Long-Term Care Review Committee (GLTCRC) was established in 1989 and consists of members who are respected practitioners in the fields of geriatrics, gerontology, family medicine, emergency medicine and services to seniors.
- In 2011, the GLTCRC reviewed 16 cases and generated 32 recommendations directed toward the prevention of future deaths. Of the 16 cases reviewed, four resulted in no recommendations.
- In 2011, common issues that the GLTCRC dealt with were:
  - Medical and nursing management;
  - Use of drugs in the elderly;
  - Communication between healthcare practitioners regarding the elderly;
  - The use of restraints in the elderly; and
  - Medical/nursing documentation.

## Glossary of Terms

ADL	activities of daily living
BPSD	behavioural and psychological symptoms of dementia
CCAC	Community Care Access Centre
DNR	do not resuscitate
EMS	emergency medical services
ER	emergency room
GLTCRC	Geriatric and Long-Term Care Review Committee
HINF	High Intensity Needs Funding
ICU	intensive care unit
LTCH	Long-term care home
MMSE	Mini Mental Status Exam
MOHLTC	Ministry of Health and Long-Term Care
MRSA	Methicillin-resistant Staphylococcus aureus
RH	Retirement home
RN/RPN	Registered Nurse / Registered Practical Nurse
SDM	substitute decision maker

## Committee Membership (2011)

**Dr. Roger Skinner**

Regional Supervising Coroner, Committee Chair

**Ms. Kathy Kerr**

Executive Lead

**Ms. Elaine Akers**

Pharmacist

**Dr. Barbara Clive**

Geriatrician

**Ms. Sheila Driscoll**

Ministry of Health and Long-Term Care

**Dr. Sid Feldman**

Family Physician

**Dr. Margaret Found**

Family Physician/Coroner

**Dr. Heather Gilley**

Geriatrician

**Dr. Barry Goldlist**

Geriatrician

**Dr. Michael Gordon**

Geriatrician

**Ms. Margaret Leaver-Power**

Registered Dietician

# Chapter One

## Introduction

### Purpose

The purpose of the Geriatric and Long-Term Care Review Committee (GLTCRC) is to assist the Office of the Chief Coroner in the investigation, review and development of recommendations towards the prevention of future similar deaths relating to the provision of services to elderly individuals and/or individuals receiving geriatric and/or long-term care within the province.

The GLTCRC was established in 1989.

### Aims and Objectives

The aims and objectives of the Geriatric and Long-Term Care Review Committee are:

1. To assist coroners in the Province of Ontario with the investigation of deaths involving geriatric and elderly individuals and/or individuals receiving services within long-term care facilities and to make recommendations that would prevent future similar deaths.
2. To provide expert review of the care provided to elderly individuals and/or individuals receiving geriatric and/or long-term care within the province.
3. To produce an annual report that is available to doctors, nurses, healthcare providers and social service agencies, etc. for the purpose of preventing future deaths.
4. To help identify the presence or absence of systemic issues, problems, gaps, or shortcomings of each case to facilitate appropriate recommendations for prevention.
5. To help identify trends, risk factors, and patterns from the cases reviewed to make recommendations for effective intervention and prevention strategies.
6. To conduct and promote research where appropriate.
7. To stimulate educational activities through the recognition of systemic issues or

problems and/or:

- referral to appropriate agencies for action;
- where appropriate, to assist in the development of protocols with a view to prevention;
- where appropriate, to disseminate educational information.

**Note: All of the above described objectives and attendant committee activities are subject to the limitations imposed by the Coroners Act of Ontario Section 18(2) and the Freedom of Information and Protection of Privacy Act.**

### Structure and Size

The Committee membership consists of respected practitioners in the fields of geriatrics, gerontology, pharmacology, family medicine, emergency medicine, and services to seniors. The membership is balanced to reflect practical geographical representation and representation from all levels of institutions providing geriatric and long-term care, including teaching centres to the extent possible.

The Chairperson of the GLTCRC is a Regional Supervising Coroner. Executive support is provided by the Executive Lead, Committee Management, Office of the Chief Coroner.

Other individuals may be invited to Committee meetings as necessary on a case by case basis (e.g. investigating coroners, Regional Supervising Coroners, police, other specialty practitioners relevant to the facts of the case, etc.).

The Committee membership and its balance is reviewed regularly by the Chairperson of the Committee and by the Chief Coroner as requested.

### Methodology

Cases are referred to the GLTCRC by a Regional Supervising Coroner when there is a need for expert or specialized knowledge to further the

coroner's investigation of the death and/or when there are significant concerns or issues identified by the family, investigating coroner, Regional Supervising Coroner, or other relevant stakeholder. All homicides that occur within a long-term care setting are referred to the Committee for review.

At least one member of the Committee reviews the information submitted by the coroner and then presents the case to the other members. Following discussion by the Committee, a final case report is produced that includes a summary of events, discussion and recommendations (if any) intended to prevent deaths in similar circumstances. The report is sent by the Chairperson to the referring Regional Supervising Coroner who may conduct further investigation (if necessary).

Where a case presents a potential or real conflict of interest for a Committee member, a temporary member may be asked to participate in the review. Alternatively, the Committee will review the case in the absence of the member with the conflict of interest.

When a case requires expertise from another discipline, an external expert may be asked to review the case and may attend the meeting and participate in the discussion and drafting of recommendations, if necessary.

### **Limitations**

This Committee is advisory in nature and will make recommendations to the Chief Coroner through the Chairperson. The consensus report of the Committee is limited by the data provided and efforts are made to obtain all relevant data available. It is not within the mandate of the Committee to re-open any other investigations (e.g. criminal proceedings) that may have already taken place.

Information collected and examined by the GLTCRC, as well as the final report produced by the Committee, are for the sole purpose of a coroner's investigation pursuant to section 15(4) of the Coroners Act, R.S.O. 1990 Chapter c.37, as amended.

All information obtained as a result of coroners' investigations and provided to the GLTCRC is subject to confidentiality and privacy limitations imposed by the *Coroners Act* of Ontario and the *Freedom of Information and Protection of Privacy Act*. Unless and until an inquest is called with respect to a specific death or deaths, the confidentiality and privacy interests of the decedents, as well as those involved in the circumstances of the death, will prevail. Accordingly, individual reports, as well as the review meetings and any other documents or reports produced by the GLTCRC, remain private and protected and will not be released publicly.

Each member of the Committee has entered into, and is bound by, the terms of a confidentiality agreement that recognizes these interests and limitations.

Members of the Committee do not give opinions outside the coroners' system about cases reviewed. In particular, members do not act as experts at civil trials for cases that have been reviewed by the Committee.

Members do not participate in discussions or prepare reports of clinical cases where they have (or may have) a conflict of interest, or perceived conflict of interest, whether personal or professional.

Medical records, draft and consensus reports and the minutes of Committee meetings are confidential documents.

This annual report of the activities and recommendations of the Geriatric and Long-Term Care Review Committee is intended to provoke thought and stimulate discussion about geriatric and long-term care deaths in the Province of Ontario.

### **Recommendations**

One of the primary goals of the GLTCRC is to make recommendations aimed at preventing deaths in similar circumstances. Recommendations are distributed to relevant organizations and agencies through the Chair of the GLTCRC.



Similar to recommendations generated through coroner's inquests, the recommendations developed by the GLTCRC are not legally binding and there is no obligation for agencies and

organizations to implement or respond to them. Organizations and agencies are asked to respond back to the Executive Lead, GLTCRC on the status of implementation of recommendations within one year of distribution.

## Chapter Two

### Analysis of cases and recommendations: 2004-2011

Over the years, the GLTCRC has identified specific themes or areas of concern that have consistently emerged. These include issues relating to:

- Medical and nursing management
- Communication and documentation
- Use of drugs in the elderly
- Use of restraints
- The acute care and long-term care industry in Ontario, including the Ministry of Health and Long-Term Care

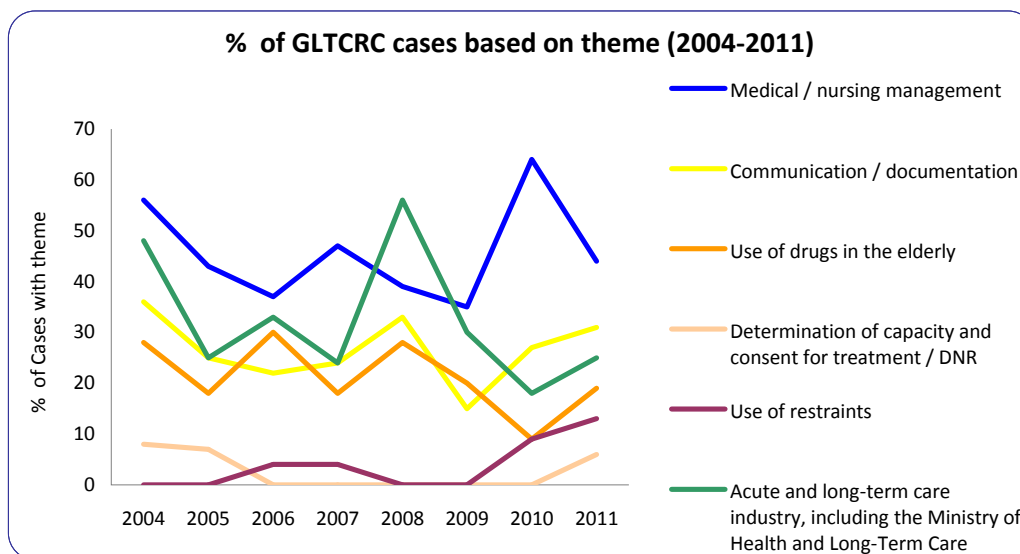
**Chart One** is an analysis of cases (based on area of concern or theme), reviewed by the Geriatric and Long-Term Care Review Committee from 2004-2011. It is recognized that some cases touch on multiple issues or areas of concern and therefore more than one theme or concern may be identified for each case. The total number of cases reviewed has declined in recent years. Since a reorganization of the committee and a revision of its mandate in 2010, the number of cases is on the rise.

**Chart One – Number and % of GLTCRC cases based on theme (2004-2011)**

	2004	2005	2006	2007	2008	2009	2010	2011
<b># of cases reviewed</b>	<b>25</b>	<b>28</b>	<b>27</b>	<b>17</b>	<b>18</b>	<b>20</b>	<b>11</b>	<b>16</b>
<b>Theme/Issue</b>								
Medical / nursing management	14	12	10	8	7	7	7	7
%	56	43	37	47	39	35	64	44
Communication / documentation	9	7	6	4	6	3	3	5
%	36	25	22	24	33	15	27	31
Use of drugs in the elderly	7	5	8	3	5	4	1	3
%	28	18	30	18	28	20	9	19
Determination of capacity and consent for treatment / DNR	2	2	0	0	0	0	0	1
%	8	7	0	0	0	0	0	6
Use of restraints	0	0	1	1	0	0	1	2
%	0	0	4	4	0	0	9	13
Acute and long-term care industry, including the Ministry of Health and Long-Term Care	12	12	9	4	10	6	2	4
%	48	25	33	24	56	30	18	25
<b># of recommendations</b>	<b>67</b>	<b>59</b>	<b>71</b>	<b>35</b>	<b>46</b>	<b>39</b>	<b>22</b>	<b>32</b>

**Chart Two - % of GLTCRC cases based on theme (2004-2011)** graphically demonstrates that consistently over the past several years, the majority of cases reviewed by the GLTCRC involved medical and nursing management and/or the acute and long-term care industry (including MOHLTC) and/or matters relating to communication and documentation.

**Chart Two: % of GLTCRC cases based on theme (2004-2011)**

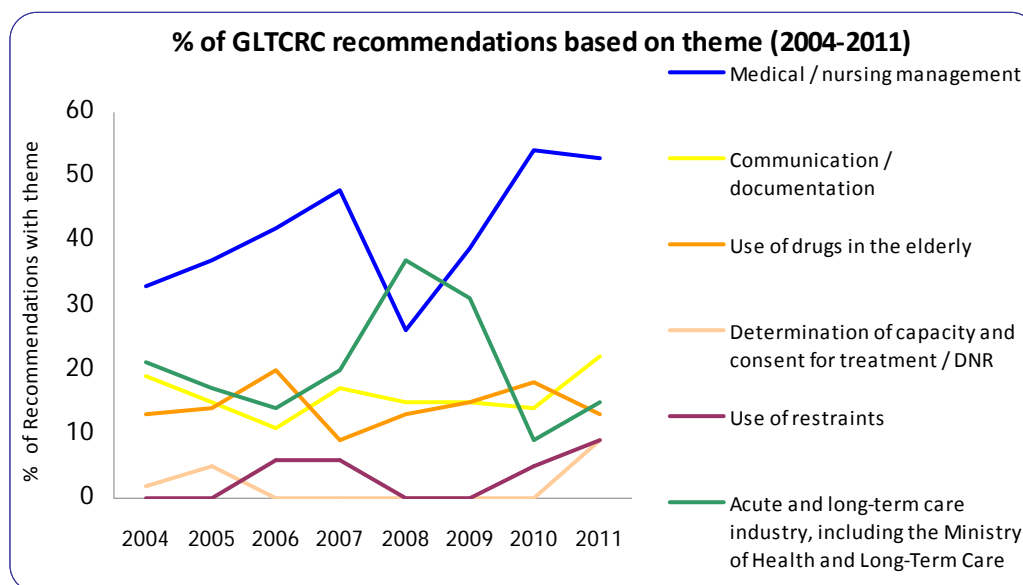


**Chart Three: % of GLTCRC recommendations based on theme (2004-2011)**

	2004	2005	2006	2007	2008	2009	2010	2011
<b># of recommendations</b>	<b>67</b>	<b>59</b>	<b>71</b>	<b>35</b>	<b>46</b>	<b>39</b>	<b>22</b>	<b>32</b>
<b>Theme/Issue</b>								
Medical / nursing management	22	22	30	17	12	15	12	17
%	33	37	42	48	26	39	54	53
Communication / documentation	13	9	8	6	7	6	3	7
%	19	15	11	17	15	15	14	22
Use of drugs in the elderly	9	8	14	3	6	6	4	4
%	13	14	20	9	13	15	18	13
Determination of capacity and consent for treatment / DNR	1	3	0	0	0	0	0	3
%	2	5	0	0	0	0	0	9
Use of restraints	0	0	4	4	0	0	1	3
%	0	0	6	6	0	0	5	9
Acute and long-term care industry, including the Ministry of Health and Long-Term Care	14	10	10	7	17	12	2	5
%	21	17	14	20	37	31	9	15

**Chart Four - % of GLTCRC recommendations based on theme (2004-2011)** shows that consistently over the past several years, the majority of recommendations made by the GLTCRC addressed issues pertaining to medical and nursing management and/or matters (including legislation, policy and funding) involving the Ministry of Health and Long-Term Care (MOHLTC) and the LTC industry.

**Chart Four – % of GLTCRC recommendations based on theme (2004-2011)**



### Summary of Statistical Analysis – GLTCRC reviews 2004-2011

- Based on cases reviewed by the GLTCRC from 2004-2011, the majority of cases have involved issues pertaining to medical and nursing management and/or the long-term care industry (including the MOHLTC) and/or communication and documentation.
- The focus of recommendations generated by the GLTCRC from 2004-2011 is reflective of the themes of the cases in general. Consistently over the past several years, the majority of recommendations made by the GLTCRC addressed issues pertaining to medical and nursing management and/or matters (including legislation, policy and funding) involving the Ministry of Health and Long-Term Care (MOHLTC) and the LTC industry.

## Chapter Three

### 2011 Case Review Summary

In 2011, the Geriatric and Long-Term Care Review Committee reviewed a total of 16 coroners' cases that were referred to them involving residents of long-term care facilities and the elderly. Upon reviewing the cases, the Committee generated a total of 32 recommendations aimed at preventing future similar deaths.

Recommendations generated from the reviews were distributed to relevant individuals, facilities, ministries, agencies, special interest groups, health care professionals (and their licensing bodies) and coroners. Agencies and organizations in a position to effect implementation of recommendations were asked to respond back to the Office of the Chief Coroner within one year. These organizations were encouraged to self-evaluate the status of implementation of recommendations assigned to them. Appendix A – Summary of Recommendations 2011 details all of the recommendations made this year, as well as the theme or major issue(s) of the recommendation.

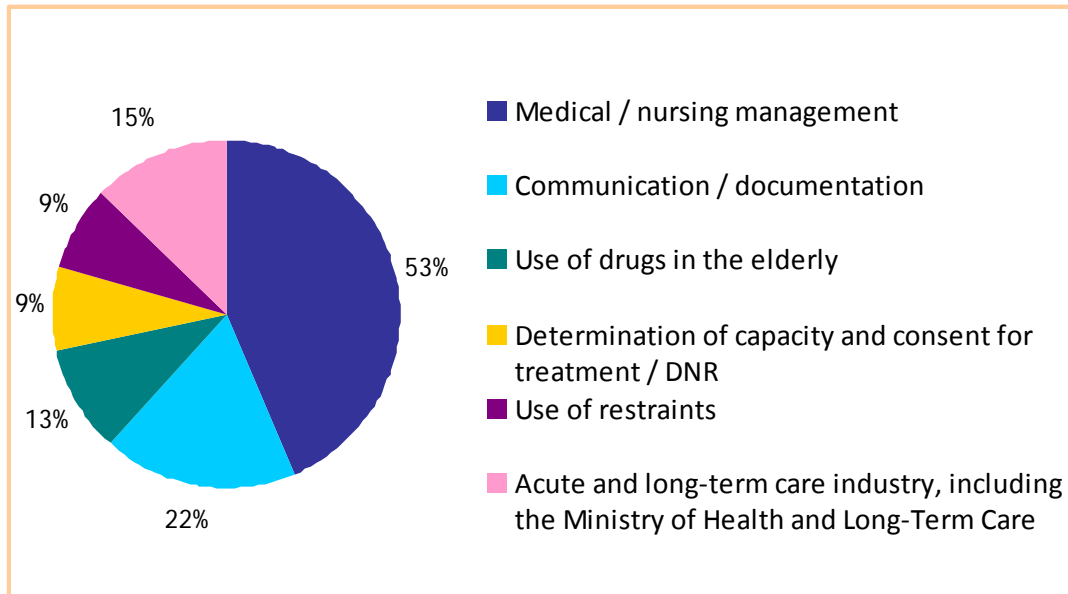
Recommendations were also shared with Chief Coroners and Medical Examiners in other Canadian provinces and territories and were available to others upon request.

Major Issue/Theme	Number of Cases (n=16)	Number of recommendations (n=32)
Medical / nursing management	7 44%	17 53%
Communication and documentation	5 31%	7 22%
Use of drugs in the elderly	3 19%	4 13%
Use of restraints	2 13%	3 9%
Determination of capacity and consent for treatment/DNR	1 6%	3 9%
Acute care and long-term care industry, including the Ministry of Health and Long-Term Care	4 25%	5 15%

Note: Some cases had recommendations that touched on a variety of issues or themes and some recommendations themselves touched on multiple themes.

<b>Total number of cases reviewed</b>	<b>16</b>
<b>Total number of recommendations made</b>	<b>32</b>
<b>Total number of cases with no recommendations</b>	<b>4</b>

Chart Five: % of recommendations based on area of concern – 2011 case reviews



Note: some recommendations touched on more than one issue.

#### Summary of recommendations made by the GLTCRC in 2011:

- 16 cases were reviewed and 32 recommendations were made
- 53% of the recommendations from 2011 case reviews involved medical/nursing management issues
- 22% of the recommendations involved communication/documentation issues
- 13% of the recommendations touched on the use of drugs with the elderly
- 9% of the recommendations involved determination of capacity or DNR issues
- 9% of the recommendations touched on issues involving the use of restraints
- 15% of the recommendations involved MOHLTC and/or LTC industry issues
- Some of the recommendations touched on more than one issue
- Four cases did not have any recommendations.

## Chapter Four

### Case Reviews - 2011

The following cases were reviewed by the Geriatric and Long-Term Care Review Committee in 2011. All of the recommendations have been distributed to agencies and organizations that may be in a position to effect implementation. Agencies and organizations are asked to provide a response within one year of receipt as to the status of implementation of assigned recommendations.

A summary of all recommendations made in 2011 is included in [Appendix A](#).

#### **Case: 2011-01** **OCC file: 2010-9909**

##### **Reason for Review**

This case was referred to the GLTCRC as concerns were raised regarding the communication and documentation of the decision making process related to Do Not Resuscitate orders.

##### **History**

This case was originally investigated by the local coroner as an index case following admission of the decedent to an Acute Regional Hospital (ARH) on July 19, 2010 with respiratory distress, acute coronary syndrome and a subsequent diagnosis of pneumonia secondary to aspiration leading to death on August 6, 2010. Every tenth death of a resident of a LTCH is defined as an "index" case and is investigated by a coroner. The Power of Attorney for Personal Care (POAPC) - the deceased's son - also expressed concern that a Do Not Resuscitate (DNR) order had been placed on her chart in the LTCH without consent.

The patient had a past medical history that included: Alzheimer's disease, atrial fibrillation, hypertension, ischemic heart disease, cholecystectomy, impaired fasting glucose,

osteoarthritis and moderate chronic kidney disease.

This patient was admitted to the ARH after falling down stairs at home on March 22, 2007. She was sutured in the emergency department and sent home, but returned with increasing confusion a few days later. She was investigated in hospital and found to have a urinary tract infection and a small subdural hematoma, deemed by the neurosurgeon to be "minor and not requiring surgical intervention." It was felt that she was not able to continue to live independently and was subsequently transferred to the transitional care unit and finally to the LTCH on May 10, 2007.

Medications on admission to the LTCH were: donepezil 10 mg daily, enalapril 20 mg daily, memantine 10 mg twice daily, ranitidine 150 mg twice daily, citalopram 10 mg daily, metoprolol 25 mg daily, ciprofloxacin 250 mg twice daily, cloxacillin 500 mg twice daily, nitroglycerin 0.4 mg patch daily (remove before bed) wound care treatment (scalp) and zopiclone 5 mg every night at bedtime when needed. Warfarin was reinstated later.

The patient's initial mini-mental state examination (MMSE) on admission was 13/30 and she was found to be completely dependent on caregivers for the provision of basic activities of daily living.

Detailed admission assessments were found in the chart, including a documented history and physical examination by the attending physician. On May 10, 2007 an advance directives form (a standard form from the nursing home chain), signed by the resident's PAOPC, identified the directive as "Level 3."

Level 3 states:

*Transfer to acute care hospital:*

*If symptoms indicate, the resident would be transferred to an acute care hospital for treatment. Assessment would be made in the acute care hospital and a decision made whether to admit the resident or return him/her to the [LTCH] facility. **No cardiopulmonary resuscitation is requested and no admission to intensive care unit.***

The Committee was unable to find documentation in the patient's health record related to a discussion surrounding the signing of this directive.

A signed substitute decision maker statement was found, signed by the resident's son (and witnessed) dated Aug 22, 2007.

On October 5, 2007, the patient had an unwitnessed fall and suffered a right intertrochanteric femoral fracture that required a dynamic hip screw. The admitting surgeon noted a *Do Not Resuscitate* and *No ICU Admission* order on her chart. Following return to the LTCH, she had ongoing restraint orders for a seatbelt and lap tray while up in her chair and a "2 side-rails up" order while in bed. Appropriate monitoring and documentation of restraints was present in her records.

On December 2, 2007, she was admitted to the ARH with sepsis, treated with intravenous antibiotics and was found, in addition, to have a venous thrombus of the leg. A detailed dictated note from December 3, 2007 indicated: "*DNR. Her advance directives are clear and her wishes with regards to this will be respected during her stay at the ARH.*"

On return to the LTCH, on December 11, 2007, a team meeting was held with the resident's family, the attending physician, administrator and registered nurse (RN). A detailed dictated note from the attending physician summarized the meeting in which details of the patient's past history, hospital admissions and natural history of dementia were reviewed. It included mention of potential risks including future falls and delirium. The first paragraph specified that the purpose of the meeting was to include "prognoses and advance directives", but no

details of a discussion relating to advance directives/DNR was noted in the file.

On April 17, 2008, a Ministry of Health and Long-term Care (MOHLTC) Do Not Resuscitate Confirmation Form (form 4519-45) was completed and signed by a registered practical nurse (RPN). No corresponding documentation was found in the patient's health record. A later handwritten note on the DNR confirmation form indicated "Nil (sic) and void July 19th, 2010."

On June 3, 2008, the resident was admitted to the ARH with a decreased level of consciousness. She was found to have an upper respiratory (presumed viral) infection and urinary tract infection/dehydration.

On January 13, 2010 the resident was found to have lethargy. A progress note by an RN at the LTCH on January 13, 2010 indicated "I spoke with the POA [power of attorney] re above [prior note by the same RN indicated progressive lethargy]. Level 3. Wants resident sent to ER." The patient was again transferred to the ARH with bradycardia and increased lethargy. After adjustment of her digoxin and metoprolol, her heart rate improved and she was discharged back to the LTCH on January 18, 2010. A new DNR confirmation form was completed by an RN on return from the ARH. This form also had a handwritten note indicating "Nil (sic) and void July 19, 2010."

On February 24, 2010, there was a new advance directive form completed, indicating that the patient should be treated as level 4, not level 3, as was previously noted. This form was co-signed by the attending physician on March 2, 2010 with an accompanying progress note stating "Please note level 4 as per POA."

Level 4 indicates:

*Transfer to acute care with CPR*

*Transfer to an acute care hospital will be arranged immediately. Cardiopulmonary resuscitation (CPR) will be provided by qualified staff, if available, and by ambulance personnel.*



On May 19, 2010 a note was made when the RN telephoned the patient's daughter to review the advance directive of level 4 and the risk factors involved. The daughter indicated that she would speak to her brother (the POAPC) regarding the level of care.

Over the few years of her admission to the LTCH, in addition to the above hospitalizations, the patient's dementia progressed, with documentation of a number of challenges throughout her stay. These included multiple falls, intermittent urinary tract infections, behavioural and psychological symptoms of dementia (BPSD), weight changes, swallowing difficulties and intermittent lethargy.

The resident developed respiratory symptoms of cough and sputum production around July 17, 2010. On July 19, 2010, the family requested transfer to hospital due to the patient's increasing symptoms. A progress note by an RN in the LTCH home indicated that the son told ambulance attendants that his mother was a full code and that she did not have a DNR. At this point, the old Level 3 advance directive forms were crossed out with the handwritten null and void notation (as noted earlier). The resident was admitted to the ARH and diagnosed with aspiration pneumonia and a non-ST elevation myocardial infarction (MI). The family initially requested continued adherence to the full resuscitation status, but as her health status continued to decline despite appropriate treatment, further discussions between the health care team and the family were held.

On July 22, 2010, a critical care consult team progress note indicated that the goals of care were discussed with the family and that they were making decisions based on their mother's previously expressed wishes when she was capable. They understood that from a medical perspective, an ICU stay (including intubation, mechanical ventilation and CPR) would not offer their mother a chance at meaningful quality of life and therefore would not be recommended. However, the family felt obliged to respect their mother's wishes. Therefore if she deteriorated, the Critical Care Response Team (CCRT) or intensivist, were to be called and the health care plan was to be reassessed at that time. An ethics

consultant had been notified by one of the physicians and it was suggested that there be family support in decision-making. The family, after due consideration, requested a change to a DNR order on August 3, 2010. The DNR confirmation was completed and a DNR order was placed in the resident's chart. She died comfortably on August 6, 2010.

### **Discussion**

The issue of advance directives and DNR orders is relevant to all residents of long-term care and is often a challenging decision-making process for substitute decision makers to wrestle with as dementia progresses in their loved ones. In this case, the LTCH was making use of appropriate forms, including an advance directive regarding hospitalization and use of CPR, as well as the correct MOHLTC form for indicating the presence of a unique DNR order<sup>1</sup>.

The resident's POAPC signed a form on admission in May 2007 indicating his agreement with a no CPR and no ICU (i.e. "level 3") approach to care, confirmed in a telephone conversation with an RN on January 13, 2010. On February 24, 2010, the POAPC requested a change to a "level 4" approach with CPR offered if indicated. No documentation regarding the reasons for this decision could be found upon review of the file, so it is unclear what the reasons were behind this change. The change was acknowledged and confirmed by the attending physician on March 2, 2010 and confirmed again on May 19, 2010 by an RN in a telephone call to the resident's daughter. There was no indication on the DNR confirmation forms until July 19, 2010, however, that these were no longer valid, leading to the possibility of confusion if the resident had required transfer to hospital or had sustained a cardiac arrest. As the LTCH policy in this area was not available to the Committee for review, it is not clear whether this confusion was a result of an unclear LTCH policy regarding the proper procedure to follow when directives were changed, or an incorrect application of appropriate policy and procedure.

The Committee found the resident's health record to be replete with documentation of communication with her family members, with

detailed notes of 20-30 minute conversations with the floor RN every few weeks. Communication also occurred at times of crisis and transition. There was good documentation, often dictated, of the attending physician's participation in discussions with the POAPC and the resident's daughter, outlining current health issues and future potential problems.

There was little documentation on file pertaining to communication with the POAPC regarding the benefits and risks of CPR in frail elderly nursing home residents with dementia that would have allowed for true informed decision-making. The often abysmal results of CPR in this population<sup>2</sup> reinforces the importance of sharing true outcome data with decision makers while they attempt to wrestle with this challenging issue. Good information is available to assist both the interdisciplinary health care team and family members in this regard.<sup>3,4</sup> "The ongoing challenge is to transform advance care planning from the act of signing a form to a process that begins by clarifying the patient's current health status, moves to elicitation of the goals of care, and then designates a proxy to work with clinicians in interpreting and implementing those goals."<sup>5</sup>

### Recommendations

1. All care providers are reminded that the process of consent for DNR and advance directives must be well documented including the documentation of provision of appropriate information to substitute decision makers to allow for meaningful decision making.
2. Long term care homes should ensure that they have policies detailing the procedures to be followed by teams in the process of communication and documentation related to advance care planning, including a process for ensuring that the most recent and relevant decisions are clearly indicated and readily apparent in emergencies, at times of transfer to acute care and at other transitions of care.
3. The Office of the Fire Marshal should consider revision of the Do Not Resuscitate

Confirmation Form to allow for documentation of revocation of DNR status.

### References

1. Do Not Resuscitate Confirmation Form. Ministry of Community Safety and Correctional Services, Office of the Fire Marshal.  
[www.ofm.gov.on.ca/en/Fire%20Service%20Resources/Forms/DNRCF.asp](http://www.ofm.gov.on.ca/en/Fire%20Service%20Resources/Forms/DNRCF.asp)
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3. Physician Orders for Life-Sustaining Treatment Paradigm. [www.ohsu.edu/polst](http://www.ohsu.edu/polst)
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**Case: 2011-02**  
**OCC file: 2010-88**

### History

This 60-year-old female patient was admitted to an acute care hospital on November 19, 2009 from a LTCH. She was transferred to hospital for the purposes of adjusting what were at the time, multiple pharmaco-therapeutic agents (including psychotropic agents given because of her behavioural disturbance related to underlying dementia) and opiates for undefined, but apparently severe, musculo-skeletal, pain. Over the next three months, many drugs were discontinued or doses decreased and the patient became more alert and her pain was adequately controlled. Plans were being made to have her transferred back to the LTCH.

The patient had a long history of psychiatric illness, variously diagnosed as possible schizophrenia, bipolar disease, personality disorder, dementia and a number of medical conditions including: trigeminal neuralgia, hypertension, chronic obstructive pulmonary disease (COPD), coronary artery disease (CAD) and gastro-intestinal (GI) reflux.

At the time of her death, she was methicillin resistant staphylococcus aureus (MRSA) positive and was wheelchair bound. She was completely dependent on care providers for all of her basic activities of daily living. She was a patient in the complex continuing care (CCC) unit of the long-term care home where she resided prior to being hospitalized. She was known to be noisy at times and had a habit of sliding down in her wheelchair which resulted in the need to have her belted in at all times. According to healthcare providers at the long-term care home, the patient was restrained for two reasons: postural stability and prevention of chair exiting.

Prior to her death, an occupational therapist had put a wedge on the seat of the patient's wheelchair to try and raise the seat to prevent the patient from sliding down in the chair. On January 2, 2010 at approximately 2000 hours, a nurse noted the patient to be alive. At 2040 hours, the nurse noted that the patient had slid down the in wheelchair with the seatbelt around her neck. The nurse noted that the patient was without vital signs.

The local police service was notified and examined the scene of the sudden death.

An Interdisciplinary Case Conference, involving the coroner, pathologist, police service and hospital staff, was held on March 1, 2010. It was decided that no criminal charges would be laid and that all reasonable steps had been taken by clinical staff in the patient's care. These steps included an internal review of monitoring and restraint usage. The review did not result in any changes in the current protocols as they were considered to be consistent with the standard. It was felt by those investigating the event that the cause was not a design problem in the chair and

that similar chairs were used throughout the facility and likely elsewhere in the province.

The restraint policy of the hospital was consistent with provincial and professional standards. According to the timeline provided by the facility, at 1945 hours, the patient could be heard calling out. At 2000 hours, the patient was checked and she was found to be seated in her wheelchair – no sliding and no wiggling – but still calling out. At 2020 hours, nurses could still hear the patient calling out. At 2040 hours, a registered practical nurse (RPN) went into the patient's room and saw that the patient had slid out of the wheelchair and was seated on the floor with the seat belt around her neck.

The nursing summary indicated that “the patient was checked often throughout the evening and that all staff on shift were aware of the patient's seating issues. The patient's door to her room was kept open despite her removal of clothing and calling out behaviour, to ensure that staff could check her easily and frequently. The lights were on in her room. There were no episodes that evening of the patient sliding down in the chair or requiring repositioning. There was no evidence to support the need to change to a pelvic posey restraint as the seatbelt and wedge were keeping the patient positioned properly in her chair.”

### **Post Mortem**

An autopsy was conducted and cause of death was noted to be ligature strangulation from the seatbelt of the wheelchair. Manner of death was accident. Foul play was not suspected. Toxicologic analysis found lorazepam in a concentration within therapeutic range.

### **Discussion**

Upon review of this case, it does not appear that any other actions could have been taken to prevent this death. The philosophy and use of “restraints” in the long-term setting has changed substantially in the last decade to one of least restraint, but with more frequent monitoring. The use of seat belts is a current method of securing individuals in wheelchairs.

It is possible that an alternate seatbelt design that incorporates a strap between the legs would help prevent patients from slipping. This design would be consistent with belts used on child car seats. It was not clear from a literature review why this type of design is not utilized in adult wheelchairs.

### **Recommendations**

1. This case should be used to help educate health care providers about the potential dangers of using wheelchair lap belt restraints. All methods of restraints are associated with risk and a policy of least restraint should be employed.
2. The Ministry of Health and Long Term Care should consider supporting research to explore design options that might include a between-the-leg component of a belting system (much like that used in child car seats), that might prevent downward slides without compromising comfort or other aspects of safety.

### **Case: 2011-03 OCC file: 2010-13001**

#### **Reason for Review**

The investigating coroner had concerns regarding the care provided to the 87-year-old decedent at a local hospital two days prior to her death.

#### **History**

The decedent was an 87-year-old female with cognitive impairment who was cared for by her son at home. Her past medical history included: diabetes mellitus, atrial fibrillation, hypothyroidism, myocardial infarction, pancreatic surgery, bladder radiation, urinary and fecal incontinence, arthritis and frequent falls. Her medication included: Metformin 500 mg (four times a day), glibenclamide 10 mg (twice a day) and lorazepam 1 mg (before sleeping).

The woman was spending time at the family summer residence and not near her regular physician. She was admitted to the local hospital on September 13, 2010 for uncontrolled atrial fibrillation, congestive heart failure with peripheral edema and pleural effusions which was treated with furosemide and digoxin. Sequential troponin levels were done and the highest level was 0.111ug/L indicative of a myocardial infarction. Her hemoglobin was 151 and platelets were 99. She was treated for a non-ST-segment elevation myocardial infarction with metoprolol as well as clopidogrel and acetylsalicylic acid. These anticoagulants were prescribed instead of warfarin as the physician was concerned about her compliance and risk of falling. Her glibenclamide was discontinued after recurrent hypoglycemia. During this admission, she was found to have a urinary tract infection. The patient's symptoms improved and she was discharged home on September 20, 2010 on ciprofloxacin, clopidogrel, acetylsalicylic acid and digoxin, in addition to her prior medications. The discharge instructions requested the patient follow up with the attending physician on October 7, 2010 in the Emergency Department.

On October 3, 2010, the patient returned by ambulance to the Emergency Department of the local hospital with a vague history of left lower quadrant pain for three days. Her last bowel movement had been two days prior. She had some light-headedness and possible chest pain. She was assessed by the Emergency Department physician at 0600 hours. Her troponin level was done and found to be 0.097ug/L. At this visit, the laboratory reported the value of >0.034 ug/L was indicative of an acute myocardial infarction. Hemoglobin was 128, WBC 8.5 with no shift and platelets were 227. A chest x-ray was also done and she was diagnosed with community acquired pneumonia. She was discharged home at 1430 hours on levofloxacin.

On October 8, 2010, the patient returned again by ambulance to the Emergency Department of the local hospital with nausea and vomiting. She had felt unwell for the past three days. She denied any blood in the vomitus, but stated she had black stools with "phlegm." The emergency physician found no blood or stool on rectal exam. There was no record that blood work was

ordered or completed. The patient was discharged from the Emergency Department on pantoprazole 40 mg twice daily for two weeks then 40 mg daily. She was to continue with the clopidogrel, but to stop the acetylsalicylic acid.

On her return home, she continued to vomit for the next day. On October 9, 2010 she was found by a neighbour (a physician) with vital signs absent in her residence. The police attended and it was thought to be a natural death by the investigating coroner.

#### **Post Mortem**

No autopsy was conducted.

#### **Discussion**

The decedent was an elderly female with multiple medical problems. She had three visits to the same Emergency Department between September 13, 2010 and October 8, 2010. Her first visit resulted in a seven day admission for an acute myocardial infarction with rapid atrial fibrillation and congestive heart failure. She had knee level peripheral edema and bilateral pleural effusions. She was started on clopidogrel and acetylsalicylic acid at that time. Her symptoms improved by the time of discharge. At the next visit on October 3, 2010, to the same hospital, she presented with back and chest pain, but denied any shortness of breath or cough. She had no elevated white blood cell count. There was no mention that the previous admission was reviewed, or that the chest x-rays were compared. She was sent home on an antibiotic for community acquired pneumonia. The EKG's from the two visits showed differences in the lateral leads. On the third visit on October 8, 2010, to the same hospital, the Emergency Department physician did not do an EKG or blood work, even though the patient had a recent myocardial infarction and had been recently started on two anticoagulants. The patient stated she had bowel movements suggestive of possible melena.

A review of the medical records raised concern about continuity of care at the hospital. The

record did not indicate if there had been a review of the patient's previous visits.

#### **Recommendation**

1. The Regional Supervising Coroner should ask the Chief of Staff of the hospital to arrange a quality of care review of this case. The health care professionals in the Emergency Department of the local hospital should consider how to improve information management for a patient with repeat visits, particularly if the patient might have issues of confusion and cannot provide an adequate history on their own.

**Case: 2011-04**  
**OCC file: 2010-1389**

#### **Reason for Review**

The committee was asked to review the care of this 83-year-old woman who died in hospital following transfer from a long-term care facility. The decedent's family had expressed concerns regarding the medical and nursing management provided and in particular, concerns regarding the administration of psychoactive and sedating medications that may have contributed to her death.

#### **History**

The deceased's medical history included severe hearing and visual impairment and she was considered legally blind. Her history included hypertension, atrial fibrillation, chronic obstructive pulmonary disease, esophageal reflux, frequent urinary tract infections and osteoarthritis of her knees.

In 2006, she was noted to have some impairment in judgment and memory. She required increasing assistance with her activities of daily living and her son and daughter-in-law moved into her home to provide care.

In April 2009, the woman had a fall and dislocated her shoulder. She was treated with analgesics and following this, had hallucinations and episodes of anxiety. The family subsequently

applied for an eight day stay for the decedent in respite care.

The woman was admitted to long-term care (LTC1) on June 17, 2009. The daily flow sheet from that admission showed that she required "extensive assistance" for bed mobility and transfers. She usually required one-person assistance, but occasionally required two-person assistance at night. She required care for dressing, but was able to feed herself. She often called out and was restless, repetitive and disruptive in the evening and became agitated when her family left. She was treated with lorazepam, as needed, for her agitation.

While in the long-term care facility, the deceased experienced a fall. She was complaining of hip and back pain and was assessed by a physiotherapist who did not find evidence of a fracture. When the family came to pick her up, she was in a wheelchair and unable to ambulate. While transferring the woman into the car from the wheelchair, the brakes were not on and the wheelchair rolled down an incline. The woman fell to the ground and was transported by ambulance to Acute Care Hospital 1 (ACH1).

The woman was assessed and found to have a fractured pelvis and multiple rib fractures. During this admission, she was also noted to have a right ear pressure sore from her hearing aid, a urinary tract infection and delirium. During her hospital stay, she was frequently calling out to go to the bathroom, even when recently toileted. She was treated with haloperidol, on an as needed basis, and quetiapine for management of her behaviour.

On July 8, 2009, the woman was transferred to the Geriatric Assessment and Rehabilitation Unit at another site of ACH1. The goals for rehabilitation were for her to mobilize and go home. It was felt that her poor cognition was the main factor contributing to limited ability to rehabilitate.

On August 31, 2009, the woman was transferred to Complex Continuing Care at ACH2 to await long-term care placement.

On November 18, 2009, the woman was admitted to LTC2. Her diagnoses included

osteoporosis, hyponatremia, coronary artery disease and dementia. Notes indicated that she had "anxiety attacks," could be disoriented, and responded to a gentle touch and hand holding.

Medications on admission to LTC2 were: acetaminophen - 650mg three times daily, alendronate - 70 mg every 14 days, calcium - 500mg twice daily, citalopram - 20mg daily, donepezil - 5mg daily, ferrous gluconate - 300mg twice daily, furosemide - 20mg daily, quetiapine - 50mg in the morning, 25mg at noon and 50mg at 1600 hours, docusate - 200mg twice daily, latanoprost - 0.005% 1 drop in right eye at bedtime, brinzolamide - 1% one drop in right eye twice daily, warfarin - 5mg daily, sennosides - 8.6mg two tabs at bedtime, verapamil - SR 120mg daily, vitamin D - 800IU daily, multivitamin - one tab daily, trazodone - 12.5mg at bedtime, bisacodyl suppository - every two days as needed, dimenhydrinate - 25-50mg every four hours as needed, lactulose - 30ml daily as needed and lorazepam - 0.5-1mg by mouth or intramuscularly, every four hours as needed.

On initial admission, the woman was noted to be pleasant and cooperative at times, but could be disruptive, demanding and calling out. She was treated with doses of haloperidol and lorazepam on an as needed basis.

On November 19, 2009, the day after admission, orders were added for haloperidol 5mg IM stat and lorazepam changed to 1mg by mouth, every six hours as needed and the IM lorazepam was discontinued.

On November 20, 2009, haloperidol 5mg was ordered every six hours if extra restraint was required..

According to the Medication Administration Report (MAR), 17 doses of lorazepam were given in November for prevention of agitation or behaviours and the prevention of sundowning (i.e. dementia). Haloperidol IM stat was administered on November 19 and an additional 5mg on November 24. Nursing notes indicated that they were unable to administer the IM dose on November 19 because the woman was very resistive.

In December 2009, the woman became increasingly agitated and disruptive. She would often refuse medications. She was administered haloperidol or lorazepam on an as needed basis. Documentation showed benefit at times and no effect at other times.

During the month of December, the MAR sheets indicated that she received 28 doses of lorazepam 1mg, four doses of haloperidol IM and nine doses of haloperidol 5mg po. Haloperidol was administered primarily for yelling or aggressive behavior and with increasing frequency between December 13-31, 2009.

On December 21, the woman demanded to be toileted every 20 minutes. A urine culture was sent and subsequently found to be positive for infection. She was treated with a course of norfloxacin. She was disruptive and loud and was requesting toileting every ten minutes. Over the Christmas holidays, the woman continued to be disruptive so she was treated with haloperidol 5 mg by mouth. On one occasion, the woman was hit on the arm by a male resident because "she wouldn't shut up."

On January 1, 2010, the quetiapine was discontinued and an order for haloperidol 5mg three times daily for aggressive behavior and 5 mg every four hours, as needed, to a maximum of three extra doses, was ordered.

On January 4, 2010 an urgent consultation from the Psychiatric Assessment Services for the Elderly (PASE), was requested.

On January 6, oxybutinin 5 mgs by mouth, twice daily, was added for urinary frequency by the physician at LTC2. There is no indication that a bladder scan was performed to rule out urinary retention.

On January 7, 2010, the nurse from the PASE Team attended and discussed interventions with the staff. She asked that a Dementia Observation Scale be administered for one week to look for developing patterns. The nurse also recommended reassessment of pain and to explore available services through the Department of Veteran's Affairs and the Canadian National Institute for the Blind (CNIB).

The LTC2 social worker's note indicated that reassurance and tending to the woman's needs only calmed her for a few minutes and that haloperidol was ineffective. Recreation therapy notes indicated that she was attending some programs, but could be disruptive. She required one-on-one attention and would settle with hand holding and rubbing of her back.

On January 16, 2010, she was noted to be eating poorly and refusing medications but was not as noisy as usual. The nurse documented a reddened area on the woman's right buttock.

On January 19, the woman's daughter-in-law visited and the woman took her medications. The family requested that haloperidol be discontinued. On January 19, a fax was received from the psychiatrist from the outreach team suggesting that haloperidol be reduced and that the patient be assessed for extra-pyramidal side effects as she was on very high doses of typical neuroleptics.

On January 20, 2010, the order for haloperidol was changed to 2.5mg every four hours as needed.

Between January 20-30, 2010, nine doses of haloperidol 2.5mg were administered according to the MAR. In addition, on January 20, alendronate, calcium, citalopram, iron, multivitamins, trazaodone, vitamin D and warfarin were discontinued. Donepezil was increased to 10mg every day before noon (qam), and acetaminophen was changed to 1-2 three times daily as needed for pain. They also recommended that high intensity needs funding be obtained for close monitoring.

On January 21, 2010, the decedent was assessed by the psychiatrist and PASE Team. During this visit, she seemed to be quite sedated, despite having received only three doses of haloperidol in the week prior. The psychiatrist was concerned that she might have been delirious and questioned medical problems such as urinary tract infection. It was recommended that oxybutinin be discontinued as this can contribute to anticholinergic delirium. It was suggested that the lorazepam be reduced as this could contribute to drowsiness and that the donepezil

be tapered as it might contribute to poor appetite. Quetiapine had been helpful in the past for her and it was suggested that 25mg twice daily, as needed, be used instead of haloperidol. The psychiatrist advised that the resident would need very gentle care due to her significant sensory deficits. The psychiatrist's note reviewed laboratory investigations from December 3, 2009 showing a hemoglobin of 111 with a microcytic picture WBC 10.3, platelets 94, creatinine 102, urea 8.2 and INR 3.0.

Social work notes from January 22, 2010, indicated that the Director of Care inquired about High Intensity Needs funding for the decedent, but that she was apparently not eligible. It is unclear whether the request was made for behaviour management or wound care needs.

By January 23, 2010, the decedent was yelling out asking for water, yet refusing it after only one sip. She was screaming and was administered haloperidol 2.5mg with "very little effect." Her family was becoming increasingly concerned about her drowsiness. She had received five doses of haloperidol 2.5 mg in the three days prior. She was also having increasing leg edema, yet refusing her diuretics.

On January 27, further changes were made to her medications: Verapamil was discontinued; furosemide was increased to 80mg at noon for one week, and then reduced to 40mg at noon; bisoprolol 2.5mg at noon and ramipril 2.5mg at noon were added; enteric coated ASA 81mg morning or noon and potassium chloride 15mg daily was added as well. Presumably these changes were made to address the increasing edema.

On January 28, 2010, a wound dressing was removed from the decedent's coccyx. The nurse noted a stage 3 ulcer with blackened edges, and a wound was noted on the right heel. The decedent was requiring a mechanical lift to get out of bed and an air bed was requested. She was taking her pills and her legs were slightly less swollen. It was noted that one-on-one support and hand holding by the staff decreased her yelling and outbursts.

On January 29, 2010 she stood with a walker to get up to the chair. She was noted that day to have bilateral intact blisters on her heels. Later in the day, she refused all medications and continued to call out.

By January 30, 2010, she was yelling and screaming at all times and she had to be moved to a separate room because she was so disruptive to other residents.

On January 31, the decedent was transferred to Acute Care Hospital 3 (ACH3). Medical concerns identified on transfer included a three day history of increasing leg edema and an ulcer on her coccyx. On arrival in the Emergency Department of ACH3, nursing documentation indicated a blood pressure of 98/39, pulse 85, oxygen saturation 100% on room air, respiratory rate 16 and temperature 36C. Physician's admission history and physical indicated that the woman was pale, her eyes were closed and she called out when moved. Blood pressure remained low at 85/60 and she received an intravenous bolus of normal saline. Her chest was clear, heart sounds normal and her abdomen was soft. The coccyx showed an ulcerated bed sore with granulation tissue and surrounding erythema. The physician commented that the wound did not look infected. Laboratory investigations showed: ECG atrial fibrillation, creatinine 121, WBC elevated at 42.6, urea 17.3, hemoglobin 99 and potassium 3.3. Admitting diagnosis was possible congestive heart failure and possible leukemia.

A "Do Not Resuscitate" (DNR) order was placed on her chart. A chest x-ray showed a large hiatus hernia, possible small pleural effusions and compression fractures of the thoracic spine. The lungs were difficult to assess, but were believed to be clear. Urinalysis showed no leukocytes. An internal medicine consultation was requested regarding the elevated white blood cell count. The consultant's record documented the decedent's significant hearing loss and it was noted that she could respond to simple questions when spoken to from a distance of approximately 12 inches. The woman tended to drift off easily and when examined, she screamed and told the health care providers to leave her alone. The consultant stated that he did not



think that much could be done to improve her situation and that controlling her behavior was going to be extremely difficult. He was “not surprised she has been quite agitated given the numerous changes in her living arrangements.” He did not think that she had a myeloproliferative disorder and it was felt that anti-psychotic medication should be avoided although the family was comfortable with her receiving lorazepam. The consultant did not propose an etiology for the elevated white blood cell count.

Over the next several days in hospital, she remained very confused. She was very disruptive with high pitched screaming. She was treated with intravenous fluids and pain medications.

The decedent was receiving the following medications upon transfer to ACH3: docusate sodium 200mg twice a day, sennosides 8.6mg at bedtime, dimenhydrinate 25-50mg by mouth every four hours as needed, lorazepam 1mg daily and every six hours as necessary, oxybutynin 5mg twice daily, donepezil 10mg in the morning, bisoprolol 2.5mg at noon, furosemide 80mg at noon for one week, ramipril 2.5mg at noon, EC ASA in the morning or noon, acetaminophen 325mg as needed, brinzolamide 1% 1 drop twice a day (noted as discontinued), latanoprost 0.005% (noted as discontinued), haloperidol 5mg every four hours as needed (noted as discontinued), bisacodyl 10mg supp every other day as needed (noted as discontinued)

Changes made to medication orders at the time of admission to ACH3 included: docusate sodium 100mg twice a day, lorazepam 1mg every six hours as needed, furosemide 40mg twice a day, morphine sc 1-3 mg once an hour as needed, and acetaminophen 500 1-2 every six hours as needed.

On February 1, 2010, furosemide was put on hold, then discontinued on February 3, 2010 and spironolactone 25mg twice a day, was ordered. Also on February 3, 2010, tramadol hydrochloride 37.5 mg four times a day, as needed, was ordered.

On February 4, 2010, tramadol hydrochloride was changed to twice a day regularly and four times a day, as needed.

On February 5, 2010, a morphine intravenous dose was added.

On February 6, 2010, magnesium hydroxide and cascara, fleet enema, glycerin supplement (as needed) and fentanyl 12.5mg was added.

On February 7, 2010, scopolamine 1.5mg patch was ordered and lorazepam was changed to sublingually. A total of 24 mg of morphine was administered over eight days.

Adequate oral intake remained a challenge. In discussions with the family, the decedent was eventually placed on comfort measures. She had increasing chest congestion that required suctioning.

She died on February 8, 2010.

#### **Post Mortem**

Autopsy findings indicated that there was a deep seated ulcer with a gangrenous base over the coccyx measuring 3 x 6.5 cm; there was a 3 x 3.5 cm gangrenous left heel ulcer; bilateral pitting ankle edema; lungs showed bilateral mild consolidation consistent with early bronchial pneumonia; liver showed changes consistent with chronic congestive failure; heart showed moderate bi-ventricular dilatation, and moderate, to severe artherosclerosis.

Toxicology testing indicated morphine, fentanyl and tramadol, with a trace of citalopram and donepezil. Morphine levels were 110 ng/mL, which is apparently well below fatal levels and compatible with an average therapeutic dose. Similarly, fentanyl and tramadol levels were in the therapeutic range. No haloperidol was detected.

Cause of death was noted as:

1. Acute bronchial pneumonia
2. Combined effects of morphine, fentanyl and tramadol may have contributed to the death.

## Discussion

The deceased had significant sensory deficits; she was blind and had minimal hearing in the right ear with the use of a hearing aid. She had progressive cognitive decline since at least 2006. She suffered from behavioural and psychological symptoms of dementia (BPSD), exacerbated by changes in environment and her sensory deficits. On several occasions, she appeared to have had delirium leading to a further worsening of her behavior.

Attempts to manage her challenging behavior were mainly through the use of benzodiazepines and high doses of haloperidol. Although it was recognized that one-on-one support was beneficial, this could not be realistically provided in the long-term care setting and requests to obtain funding through high intensity needs were apparently declined. It is unclear why this woman was declined for high intensity needs funding when it appeared that she met the necessary criteria.

The use of benzodiazepines and neuroleptics or antipsychotics in the management of Behavioural and Psychological Symptoms in Dementia (BPSD) has not been shown to be highly effective. Repetitive behavior and vocalizations have been shown not to respond well to pharmacological intervention. Underlying causes for the behaviours, such as untreated pain, urinary retention or adjustment difficulties, should be addressed and non-pharmacological interventions trialed prior to the use of pharmacological interventions.

As benzodiazepines can lead to increased confusion and falls, and may actually cause increased agitation, they should not be used for long term management. They can be helpful however, when used sparingly for acute agitation.

In general, the pharmacological treatments for this decedent were appropriate. She was on donepezil, which has been shown to be effective for aggression and agitation. Citalopram as an anti-depressant has also been shown to be

effective in dementias. Quetiapine was used in an appropriate dosage and has less cerebrovascular complications than either risperidone or olanzapine, although it can increase both hypotension and sedation. Trazodone is recommended for its sedative effects at bedtime.

Of concern however, was the dosage of haloperidol that was administered. As cited in the Compendium of Pharmaceuticals Specialties (CPS), a starting dose of 0.5 to 1mg daily is recommended in elderly patients (for an adult, the usual maintenance dose is 4-12mg daily). IM doses for elderly patients begin with 0.5-1mg and rarely go beyond 5mg. As well, this dosage continued to be administered despite little response being noted. This could have contributed to both the sedation and hypotension and perhaps a worsening of the woman's symptoms from anticholinergic delirium.

The Committee was unable to determine the degree to which sedating medications contributed to the demise of this woman. The dosages of haloperidol and lorazepam were reduced over time and it was difficult to make any correlation between the doses of medication and the subsequent change in the status of the decedent. Her response to medications was, at best, inconsistent. There was no clear correlation between administration of medications and improvement in behavior. One would expect that there would be some features of extra-pyramidal symptoms with these doses of typical neuroleptics.

There was no documentation in the long-term care notes, PASE or hospital notes regarding her tone. Increased tone and immobility may have contributed to her skin breakdown. In the later days of her stay in the long-term care facility, she remained sedated even without having received haloperidol. She likely had significant delirium as a result of her dehydration and declining medical status. On arrival at the hospital emergency room, it was felt there were components of delirium. Her white blood cell count was significantly elevated at 42.6, with neutrophilia. The cause was never determined and her white

blood cell count did improve to 27.1 by February 4, without the administration of antibiotics.

### **Recommendations**

#### **To the Ministry of Health and Long Term Care:**

1. Staff and physicians in long-term care facilities should be provided with education on pharmacologic and non pharmacologic management of Behavioural and Psychological Symptoms in Dementia (BPSD).
2. Ministry of Health and Long Term Care funding should be made available to long term care facilities to assist with the non pharmacologic management of challenging behaviors, particularly after a resident's admission to a new environment.
3. All long term care facilities should have immediate access to outreach teams to assist with the management of BPSD or specialized behavior units to accept residents in transfer for more in-depth assessment and treatment.

#### **To the Regional Supervising Coroner:**

4. This was a complex case involving a number of facilities and health care providers. The Regional Supervising Coroner should request quality of care reviews by these facilities and consider a Regional Coroner's Review depending on the results of those reviews.

### **References:**

Pharmacologic Treatment of Neuropsychiatric Symptoms of Dementia: K.M. Sink, K.F. Holden, K. Yaffe. JAMA 2005;293(5). 596

Ministry of Health and Long Term Care, High Intensity Needs Funding, Notification of High Cost Service Requirements.

**Case: 2011-05**  
**OCC file: 2010-3686**

### **Reason for Review**

The deceased was an 85-year-old resident of a licensed LTCH who died in hospital ten days after being pushed by another resident, falling to the floor, and sustaining a pelvic fracture. As the manner of death was homicide, this was a mandatory review by the Geriatric and Long Term Care Review Committee.

### **History**

The deceased was an 85-year old woman who had been a resident of the LTCH since March 12, 2004. She was transferred to the LTCH following an admission to the local acute care general hospital. At the time of admission to the LTCH, she had the following medical issues: diabetes mellitus, falls, hypertension, hyperlipidemia, hypothyroidism, cataracts, visual impairment secondary to macular degeneration and anemia secondary to chronic renal failure.

An annual history and physical examination was completed in November 2007 and the deceased was noted to have, "some tremors to both arms" and was diagnosed with depression.

The deceased's next annual medical assessment was completed in December 2008. A Folstein MMSE had been completed in August 2008 and the score was 25/30, which was interpreted to mean, "normal cognitive functioning."

A full Minimum Data Set (MDS) Assessment was completed in September 2009 and the deceased was noted to have no evidence of cognitive impairment or delirium symptoms. Her hearing had deteriorated significantly and she refused to use hearing aids. Her vision was impaired. She was assessed as having changes in mood and behaviour including negativism, persistent anger, self-deprecating statements, crying and tearfulness and socially inappropriate and disruptive behaviour (e.g. noisiness, self-abusive acts, hoarding and rummaging through others' belongings, etc.).

A comprehensive care plan was reviewed and updated in November 2009. She was noted to have significant pain related to diabetic neuropathy and frequently requested analgesic medication. The pain affected her ability to perform her activities of daily living (ADLs). Falls

were identified as an ongoing risk and were mitigated through a variety of measures. There was a behaviour management plan in place. It was felt that her behaviour changes were related to “loss of independence, loss of her home, insecurities over health issues and being upset over current or perceived eventual health status.” There was no indication of cognitive impairment.

An altercation occurred between the deceased and her roommate on January 8, 2010. The incident reports and nursing notes indicated that the deceased was attempting to enter the bathroom that the two residents shared. The roommate blocked the deceased from entering the room with her wheelchair. A verbal altercation took place and staff intervened. A change of room was discussed, but never implemented.

A final annual medical assessment of the deceased was completed on January 12, 2010. It was noted that her Folstein MMSE score had declined to 22/30 and was interpreted as showing “mild cognitive impairment.” She was noted to be increasingly impatient with other residents and showed characteristics of Parkinson’s disease, slow speech and “senile dementia.” Her diabetic medications had been increased over the years in the LTCH, and blood sugars were being regularly monitored. A new diagnosis of “Senile Dementia” was noted. The deceased had some signs of ongoing heart failure with a pleural effusion on chest x-ray and mild pitting edema of her extremities.

A quarterly MDS assessment completed on February 26, 2010 noted that there was a slight improvement in cognition, more negative mood and behaviour and more socially inappropriate behaviours (occurring daily). The deceased was hoarding items and required more one-on-one time with staff and family members.

The deceased had experienced one fall in the six months prior to her death. Details of this fall were not available in the records provided. The association between psychotropic drug use and fall risk was considered by the interprofessional team in developing the care plan, however as the deceased’s mood and behaviour were

deteriorating, it was felt that withdrawal of the psychotropic drugs was not possible. The resident care plan was thoroughly updated based on this assessment.

On the evening of March 12, 2010, the deceased was reported to be standing partially in her closet, with the door open. The roommate saw the door open and pushed it closed. It is not clear whether the roommate knew that the deceased was standing in the doorway. According to staff, this was an area of shared space in the room that the roommate often used to move back and forth in her wheelchair. When the door hit the woman, she fell to the ground, landing on her buttocks. Staff heard the noise and immediately attended. The woman was assessed and transferred to her bed. Later that evening, when the deceased began complaining of significant pain in her left hip region, she was transferred to the local acute care general hospital for assessment. She was diagnosed with fractures of the left inferior and superior pubic rami, and was admitted to hospital.

The woman’s course in hospital was characterized by appropriate pain management and then development of a delirium with fluctuating awareness. She was sent to a regional referral hospital with an orthopedic surgeon, who recommended conservative management of the pelvis fractures. Adjustments to her medications were made appropriate to her clinical condition and to try and minimize factors which might have been causing her delirium. On March 17, 2010 after an episode of decreased level of consciousness (thought to be a possible transient ischemic attack), the physician discussed the diagnosis and prognosis with the deceased’s family. A Do Not Resuscitate order was placed on the chart following that conversation. The deceased’s renal failure worsened and balancing rehydration with her heart failure symptoms was an ongoing management challenge. The woman required total care in hospital. She died suddenly at 1745 hours on March 23, 2010.

The deceased’s roommate at the LTCH:

- had a number of chronic medical conditions and was independently mobile in a wheelchair;
- was diagnosed with “senile dementia” and in July 2008, scored 13/29 on a Folstein MMSE;
- began to exhibit verbal and physical aggression towards others in late 2008;
- often blocked the doorway to the room shared with the decedent;
- was involved in verbal altercations and “bickering” with the deceased that resulted in staff intervention;
- refused to participate in a cognitive assessment in 2009;
- scored 4/30 on a Montreal Cognitive Assessment Test (MoCA).

### **Post Mortem**

A post mortem examination was conducted approximately one month after the death.

Cause of death was hypertensive and atherosclerotic heart disease. In the opinion of the examining pathologist, the pelvic fracture was unlikely to have contributed directly to the death due to the lack of thromboembolic disease or pneumonia, and the long time interval between the fracture and death (i.e. 11 days).

The investigating coroner determined that the cause of death was a fractured pelvis due to a same level fall. The manner of death was homicide.

### **Discussion**

The deceased died ten days after fracturing her pelvis in a fall that occurred after being pushed by her roommate in a LTCH. The deceased was at high risk of falling based on multiple risk factors, including peripheral diabetic neuropathy, decreased vision, parkinsonism, a history of previous falls, and her medications. The care plan at the LTCH indicated a comprehensive approach to fall risk factor reduction, and the deceased’s last recorded fall had occurred almost six months prior to her death.

The deceased’s roommate suffered from dementia and had a history of verbally and physically aggressive behavior towards others. The deceased and her roommate had shown verbal aggression towards each other and the roommate had displayed physical aggression by blocking the deceased’s path into her room and her bathroom in the past. Two months prior to the final incident, there was a physical altercation between the two after the roommate blocked the deceased and grabbed at her walker.

In the opinion of the Committee, the fall and pelvic fracture were direct contributors to this woman’s death. Complications of falls in the elderly are not limited to thromboembolism and pneumonia. Complications may include rapid onset of delirium, major organ failure, rapid decline in function and ultimately death. These complications may occur over days or weeks following a fracture.

Over the past few years, the GLTCRC has reviewed several cases in which residents in LTCHs have died after experiencing complications of falls that were initiated by other residents. In many of these cases, the individuals (both deceased and/or perpetrator) involved, had behavioural and psychological symptoms of dementia (BPSD) - the current terminology used for persons suffering from complications of dementia, including aggressive behaviours, wandering, hallucinations and depression. A resident with dementia and physical aggression towards others is a potential threat to others who may be vulnerable and unable to defend themselves. This threat is increased in the context of shared living spaces.

The issue of increased demands on LTCH in dealing with an aging population with behavioural and psychological symptoms of dementia was identified in the April 2005 Coroner’s Inquest into the deaths of Ezz-El-Dine El-Roubi and Pedro Lopez. Recommendation 4 from that inquest states:

It is recommended that the Ministry of Health and Long Term Care recognize that due to health care restructuring Long Term Care facilities have become “new mental health institutions” in Ontario, without the funding and resources

necessary nor recognition of the anticipated needs given the demographics in Ontario related to the increased aging population with cognitive impairment.”

Based on the review of this woman’s death, as well as previous reviews of a similar nature conducted by the Geriatric and Long Term Care Review Committee, it is evident that there is an increasing and continued need to have a comprehensive, system-wide approach to the management of LTCH residents with BPSD. Current systems and practices do not appear to be addressing the needs of LTCH residents with BPSD and other cognitive, behavioural and psychological impairments.

As demonstrated in the 2005 inquest and further supported by the several subsequent cases that have been reviewed by the GLTCRC involving LTCH residents with BPSD, it is apparent that the current approach that has focused on physician and LTCH staff education, and reliance on scarce specialty assessment units for the most severely affected LTCH residents, is not adequate. The safety of current and future LTCH residents will continue to be at risk without the appropriate and prompt development of comprehensive plans and protocols for the management of BPSD in the LTCH system.

## Recommendations

### To the Ministry of Health and Long Term Care:

1. There is an urgent need for the development of a comprehensive plan and protocols for management of BPSD in the LTCH system. It is recommended that this stand-alone plan be based on best practices and incorporate all necessary facets of the health care system. The plan should be translated into protocols and guidelines that are based on a realistic assessment of the resources and a commitment towards providing additional resources to address the continuing and increasing safety needs of LTCH residents.
2. Protocols, practices and resources should be established within LTCHs to re-locate affected resident(s) out of a shared living

space into a safer, less threatening living area immediately upon identification of threatening behaviour that impacts the safety of any resident.

**Case: 2011-06**  
**OCC file: 2010-8247**

## Reason for Review

The GLTCRC was asked to review the circumstances surrounding the death of this 73-year-old woman who died after an unwitnessed fall in a LTCH. The manner of death was classified as accident. The family had concerns that the decedent had been dropped by staff.

## History

The deceased was a 73-year-old woman who was admitted to the intensive care unit of the general hospital on December 21, 2009 for pneumonia and respiratory failure (requiring BiPAP) as well as new onset atrial fibrillation. She was treated with methylprednisolone 40 mg for five days, piperacillin and azithromycin, ipratropium bromide and dexamethasone nebulas. She was also given heparin three times a day, then decreased to twice daily. On January 6, 2010, the deceased was transferred to a ward. Family agreed that she was not able to return home and options needed to be considered.

Medical history included: chronic obstructive pulmonary disease with home oxygen, atrial fibrillation, deep vein thrombosis of right leg, hypertension, mild confusion, Grade 3 non-ischemic cardiomyopathy and osteopenia.

Medications included: prednisone 15 mg daily, paroxetine, furosemide, tiotropium bromide inhalation powder, budesonide/formoterol, and vitamin D3.

The woman was made an Alternative Level of Care (ALC) patient. She was considered a high risk for falling and was severely deconditioned.

By January 20, 2010, she was able to propel herself with a walker around the nurses' station with frequent breaks. The woman remained stable and slowly improved while she awaited placement.

In May 2010, the woman was diagnosed with deep vein thromboses and started on enoxaparin injection and warfarin. On June 12, she complained of right shoulder pain and chart notes on June 13 indicated that she had an unwitnessed fall. The fall was reported by the patient. No bruising was noted at 1800 hours. At 2030 hours, the patient was in worse pain and a large contusion of her posterior right scapula with swelling (probable hematoma), was charted. She was sent to the Emergency Department and an x-ray of the scapula was negative for bony injury. Her INR was reported at 6.4 and her warfarin was held.

On June 16, 2010 the woman's spouse was taking photographs of the bruising. During this visit, the woman became short of breath and expired. The death was originally declined as a coroner's investigation as it appeared to be a natural death. The coroner became involved when the family voiced their concerns that the decedent had been dropped. Accident was then considered a possible manner of death.

The investigating coroner requested the assistance of the police who interviewed the staff. Medical records from June 13 stated that the decedent complained of pain in her shoulder and the hematoma was noted. It was also noted that the staff became concerned when the woman did not call for help getting off of the commode. The staff stated they lowered the woman to the floor, then assisted her up and into her bed. This was considered a "near miss" and did not require an incident report to be completed.

#### **Post Mortem**

The cause of death was noted to be chronic obstructive lung disease and chronic hypertensive heart disease complicated by blunt impact injury to the back with cutaneous and

subcutaneous hemorrhage in an elderly female on anticoagulants.

Manner of death: Accident

#### **Discussion**

This is the case of a woman who had severe chronic obstructive pulmonary disease. She was admitted to hospital on December 21, 2009 and expired on June 16, 2010. She could not return home and was waiting placement. There was a large contusion noted by family on June 13, 2010 and the patient stated she had fallen. The spouse thought she had been dropped by staff. The medical chart did not have any incident report included. The chart review indicated the staff did one or two person transfers with the decedent.

Since this incident, "near miss" falls now require an incident report to be completed. Police completed their investigation and felt there was no criminal wrong-doing.

#### **Recommendations**

None.

**Case: 2011-07**  
**OCC file: 2009-9463**

#### **Reason for Review**

Seventeen months following the death, the Chief Coroner for Ontario received a letter from the family of the deceased indicating that they had concerns about the care of the deceased prior to his death. In particular, the type and amount of medication received and medication errors were questioned.

#### **History**

The deceased was an 85-year-old man with a medical history that included: remote adenocarcinoma of the sigmoid colon that had been resected (a colostomy was in place), coronary artery disease and chronic atrial fibrillation.

The deceased lived at home with his wife, who suffered with dementia. The deceased was the primary caregiver for his wife.

According to the family, the deceased was diagnosed with widely metastatic adenocarcinoma on or about June 16, 2009. The hospital admission note from the attending physician indicated that the deceased had been "deteriorating for 10 or 20 days prior to admission" on June 22, 2009.

The deceased was admitted to the regional general hospital Palliative Care Unit from his home on June 22, 2009 due to worsening symptoms and medical instability. According to the admission history and physical examination by the attending physician, the deceased was experiencing increased dyspnea, intermittent rapid atrial fibrillation, weakness with falls at home, and leg swelling. Dyspnea and restlessness were his main symptoms and there was no pain, nausea or constipation. The family requested no CPR in the event of a cardiac or respiratory arrest.

At the time of admission, the physical exam indicated findings compatible with pulmonary edema likely from congestive heart failure, and rapid atrial fibrillation.

At admission, the deceased was placed on supplemental oxygen at 4 liters per minute by nasal prongs, and the following medications were ordered:

1. *Usual medications for deceased's chronic conditions, including:* amiodarone 200 mg daily, digoxin 0.0625 mg daily, bisoprolol 5 mg daily, furosemide 40 mg daily, diltiazem 360 mg daily, fluticasone/salmeterol (Advair) 50/250 mcg one puff every 12 hours, tiotropium bromide inhalation powder (Spiriva) 18 mcg puff daily.
2. *New medications for palliation of symptoms, including:* midazolam 1-2 mg subcutaneously every 2 hours as needed "for dyspnea or agitation", morphine 2-5 mg subcutaneously every 2 hours as needed "for dyspnea or pain", and methotrimeprazine (Nozinan) 10-25 mg subcutaneously every 4 hours as needed.

On the evening of admission, the deceased was agitated, restless and anxious according to the nursing notes. He walked to the bathroom on his own, but was noted to be unsteady. He told his nurse, "I can't stay here. I need to go home. I am a nervous wreck." He was given midazolam 1 mg subcutaneously and methotrimeprazine 10 mg subcutaneously after which he rested for a short time, but then became agitated again. He was disoriented and required re-orientation by the nursing staff. Over the night, he received another dose of midazolam and methotrimeprazine, but remained restless and agitated.

On June 23, 2009, the attending physician noted that the deceased was requesting to go home to die. The physician wrote, "Will try to manage symptoms first." The morphine order was changed to 2 mg subcutaneously routinely every four hours for dyspnea as well as 2-5 mg every two hours as needed for dyspnea or pain and the midazolam dose increased to 2-4 mg subcutaneously every two hours as needed. Trazodone 50 mg every bedtime was added for sleep as the deceased had not slept the night before.

The deceased remained very restless, confused and agitated. He continued to receive all of his medications during the day on June 23. The nursing note at 1925 hours indicated, "client very restless, climbing, agitated....client attempting to climb out of G-chair, calling out, only resting for very short periods." His medications had been changed to include a bowel routine (lactulose, sennosides and docusate sodium), and the midazolam dose was increased to 3-6 mg subcutaneously every two hours as needed.

By 2210 hours on June 23, the deceased had settled and was sedated. His bedtime oral medications were held as he was not alert enough to swallow them. His 2200 hours morphine dose was not given due to his sedated state. He was put into bed via mechanical lift at midnight, and slept until 0545 hours on June 24, when he awoke and became restless and agitated again, climbing out of bed and calling out. Nozinan 25 mg was given, after which the deceased went back to sleep.



On the morning of June 24, the deceased was noted to be sleeping, and was not able to take his oral morning medications due to drowsiness. A nursing note at 1130 hours indicated, “started to get restless – nozinan given as ordered – patient up in geri-chair with table on – family in to visit – comfortable at present.” The attending physician note that afternoon queried whether a continuous midazolam infusion would be more helpful for management of the agitation due to the cycle of agitation followed by drowsiness.

Through the evening of June 24, the deceased remained restless and received his regular 4 mg of morphine, 13 mg of midazolam and 25 mg of methotrimeprazine. A nursing note at 2215 hours indicated, “pt. comfortable at this time. Breathing is quieter, less agitation.”

At 0105 hours on June 25, the deceased inadvertently received two medications that were ordered for his roommate. The deceased mistakenly received glycopyrrolate 200 mg subcutaneously for “chest wetness” and hydromorphone 1 mg subcutaneously for restlessness.

At 0210 hours, the deceased was noted to not have a pulse or respirations. He was pronounced dead and due to the known medication errors, a local investigating coroner was called to review the death.

In the Coroner’s Investigation Statement, the investigating Coroner wrote, “As the dosing (*of the two medications involved in the error*) was appropriate, it was unlikely that this medication error affected the death of this patient.”

The attending physician also indicated in her notes in the health record following death that, in her opinion, the two erroneous medications did not contribute to the time of death of the patient.

The Coroner’s Investigation Statement indicated that the hospital had initiated a review of the process that led to the medication error.

#### **Post Mortem**

No post mortem was conducted.

#### **Discussion**

This 85 year-old man was admitted to hospital in the terminal stages of his illness with widely metastatic adenocarcinoma. He was suffering from several symptoms of advanced metastatic malignancy, including dyspnea with hypoxia, and a terminal delirium related to his cancer.

The letter from the family of the deceased stated, “On June 23, 2009, (*the deceased*) walked into the hospice for what the family understood to be stabilization of his breathing difficulties and restlessness. According to the notes, (*the deceased*) requested to be allowed to go home to die. This information was apparently ignored and not passed on to the family. Had the family been advised of (*these*) wishes, they would have made arrangements for him to be returned home, once his breathing had been stabilized.”

The treatment of the deceased in hospital was palliative and aimed at stabilization and minimization of his distressing symptoms. Unfortunately, he died of his disease before the symptoms could be stabilized. This death was predictable and the deceased was never stable symptomatically. The decedent’s symptoms were never stable long enough to allow a transfer home to die.

The letter from the family of the deceased stated that the family was not consulted regarding the administration of morphine, or that, “morphine, administered with such frequency and in such doses, would hasten (*the deceased’s*) death.”

Although there were no notes regarding communication with the family, it appeared from the nursing notes that family members were present at the bedside of the deceased for much of his approximately 60 hours in hospital. It is reasonable to presume that ongoing communication was occurring between the family members and the hospital staff each time the staff visited the bedside. Family members would have had the opportunity to discuss with staff the medications being administered and other aspects of the care plan.

The letter from the family also stated that the deceased was being treated with a care plan

referred to as “terminal sedation.” There is no evidence to support this statement. All of the medications were given to target specific symptoms, in particular the severe dyspnea and restlessness. Morphine is a well-known medication for treatment of dyspnea in terminal malignancy and was used appropriately here. Likewise, the midazolam and methotrimeprazine were used appropriately to target specific symptom relief. In addition, whenever the deceased was sedated, his morphine was not administered in order to minimize the sedating effects of his medication regime. There was no evidence that a plan of “terminal sedation” was used in this case.

The medication errors that occurred immediately before death did not contribute to the death. Both medications could have also been used for the symptoms of the deceased and were given in appropriate doses.

#### **Recommendations**

None.

**Case: 2011-08**  
**OCC file: 2009-13919**

#### **Reason for Review**

Resident A was an 89-year-old male who suffered from advanced dementia and had been a resident in a LTCH since August 2006. On October 21, 2009, he was found in his room, vital signs absent with indications of manual neck compression leading to strangulation. Resident B who also lived in the LTCH, was charged with second degree murder, but was later found to be unfit to stand trial. It is the policy of the Office of the Chief Coroner to refer all homicides within LTCHs to the Geriatric and Long Term Care Review Committee.

#### **History**

Resident A was admitted to the nursing home along with his wife as they were both suffering from progressive cognitive impairment and were no longer able to cope in the community. They had separate bedrooms with an adjoining

washroom. Resident A’s admission health report listed a past medical history that included: hypothyroidism, Alzheimer’s disease, constipation, reflux, mitral regurgitation and mild anemia secondary to B12 deficiency. Medications at the time of admission included: memantine, ferrous gluconate, donepezil, levothyroxine, trazadone and eye lubricants. He had been followed in the community by a Geriatric Psychiatry community service.

Notes indicated that he became more frail as his dementia progressed. There was no indication of significant physically or verbally aggressive behaviour. There were notes related to chronic pruritus and a variety of topical and systemic treatments had been tried over the years of his admission. He was on hydroxyzine regularly four times daily at the time of his death. There were a number of falls documented and he was ordered to use a lapbelt while in his wheelchair “when tired.”

Resident A’s wife died in September 2009. Resident B was admitted into the room that the woman had previously occupied on September 28, 2009. Resident B was an 84-year-old male who was admitted from a local academic health sciences centre (AHSC). He had been admitted from home to the AHSC on July 25, 2009 after presenting to the Emergency Department with intermittent episodes of shortness of breath, feelings of impending doom and failure to cope at home. His past medical history included Parkinson’s disease and macular degeneration; he was legally blind. He had visual hallucinations that were disturbing to him and he experienced significant suspiciousness with feelings that others were going to kill him.

Hospital investigations included a CT scan that revealed no acute intracranial abnormality, mild age-related cerebral atrophy, and no other significant findings. He was seen in consultation by the psychiatry service who felt that he had an underlying dementia (i.e. Parkinson’s disease with dementia), combined with an adjustment disorder related to the death of his daughter a few months prior to admission. Benzodiazepines were discontinued and his quetiapine dose was increased. A trial of rivastigmine led to significant aggressive behaviour. On August 3, 2009 he had

attempted to choke a nurse and six staff were required to intervene. No further aggression was noted after rivastigmine was discontinued. Investigations for delirium were all negative. He was found to have freezing episodes related to his Parkinson's disease and after telephone consultation with his neurologist, his dose of levadopa/carbidopa was adjusted and his movement improved. Medication at the time of transfer to the nursing home included: folic acid 5 mg daily, levadopa/carbidopa (Sinemet CR) 200/50 (two in the morning, one at noon, one in the afternoon and one in the evening), quetiapine 25 mg every morning, 12.5 mg in the afternoon, B12 250 µg daily, multivitamin daily, acetaminophen as needed, loxapine 10 mg po/IM every six hours as needed.

On September 30, 2009, Resident B was sent to the Emergency Department with concerns of a possible cerebrovascular accident (CVA). He was returned with a diagnosis of movement difficulties associated with Parkinson's disease (e.g. "freezing"). He was quite agitated while in the Emergency Department.

On October 3, 2009, Resident B asked a health care aid (HCA) for a knife, stating that he wanted to kill himself as he was of "no use to his family." Staff observed carefully and no further similar comments or self-harm gestures were noted.

On October 10, 2009 at 2245 hours, Resident B was observed carrying around a full urinal. He emptied the urinal onto another resident. He then filled the urinal with water and emptied it onto the floor. He urinated in the urinal again and emptied it onto a full bag of continence briefs. He was then assisted back to bed and settled to sleep.

On October 11, 2009, Resident B came into the main dining room at 1230 hours swinging his cane. He did not injure any other residents. When a health care aid tried to take the cane away, he grabbed her wrist tightly. According to police reports, he had expressed his displeasure with having to share a common bathroom. Staff members reported to police that Resident B would "whack" people with his cane and that he would "raise it like a gun." When Resident B was removed from other residents' rooms, he would

"shake his fist" at staff. Confirmation of these comments could not be found in the progress notes or the health record available for review.

Resident B had been referred by his attending physician back to the AHSC geriatric psychiatry outreach team and he was seen on October 19, 2009. The hand-written consultation note was illegible and could not be interpreted for this review.

On October 20, 2009, Resident B was noted by staff to be the only ambulatory resident on the unit and he often wandered around at night. Resident A was in bed and had been assessed by staff and felt to be stable at 2300 hours and again at 0330 hours.

On October 21, 2009, at 0550 hours, Resident A was found on the floor of his room. Police reports indicated that he was found in his pyjamas lying on the floor, partly in the bedroom and partly in the adjoining bathroom. A basin of water (non-bloody) was found on the floor in the bathroom and bloody towels were on the counter. Blood smears were present on the floor, below the end of the bed, and on bedding at the lower end of the bed. Blood spatter was found above the bed and on the head of the bed.

Resident B was subsequently found wandering in another resident's room. He stated that he 'had been in a fight' and had fresh scratch marks on his biceps.

#### **Post mortem**

The opinion of the examining forensic pathologist was that the pattern seen was consistent with manual strangulation leading to death from neck compression. Given the presence of a blood-stained pillow found at the scene, additional obstruction of the upper airway by smothering was considered a possibility that could not be excluded.

The cause of death was determined to be: compression of the neck in association with facial injuries.

#### **Compliance Review MOHLTC Performance Improvement and Compliance Branch:**

In response to this critical incident, a compliance review was conducted between October 22 and November 26, 2009. A number of unmet standards were identified that required corrective action. These included:

1. *Care plan for Resident A did not provide clear direction to staff as it relates to current strengths and current care and safety needs. Care plan for Resident B did not provide clear direction to staff as it relates to behaviour management strategies.*
2. *Resident A's care plan was not reviewed and revised on a quarterly basis to reflect the resident's change in condition related to wandering, ambulation, monitoring of whereabouts, potential risk for falls and choking and method of transferring and toileting.*
3. *The evaluation of care needs and health status of Resident B who demonstrated aggressive behaviour, was not documented in a manner as to provide information related to the pattern of behaviour, the precipitating factors, any warning signs, and what management techniques/interventions were used and whether or not they were effective between September 18 and October 21, 2009.*
4. *The beeper system used on "A" House to alert staff when assistance is required was not functioning on the evening and early morning of October 20-21, 2009. The contingency back-up to the non-functioning beeper system was not implemented. The A-East wing is unlocked on night shift, allowing residents from both A-East and A-West to wander freely. Staff assigned to one wing had limited knowledge related to the care needs and behaviour management strategies for those residents who wander from the opposite wing.*
5. *Management was not informed that beepers were non-functional, therefore repairs were not done in accordance with their policy. On the night shift of October 20-21, 2009, hourly rounds were not conducted on A-East wing as per the A night shift routine. As a result of one staff member reporting late to work on October 20, 2009, by approximately 20 minutes, there were 2/3 staff to cover A House. The Home's Aggressive Behaviour*

*Assessment and Management Policy was not followed for Resident B.*

The LTCH complied with the requirement for immediate action of the above mentioned items. This action plan included:

1. *A communication plan to all families, volunteers and staff of the home;*
2. *The professional practice committee reviewed sentinel event criteria for referral to psychiatric outreach team;*
3. *RAI/MDS and Care Plan training was provided to 100% of the staff in December 2009 and January 2010. All dementia care applicants to be reviewed by social worker prior to admission. Applicants with high-risk behaviours to be assessed with a validated tool (Cohen-Mansfield Agitation Index) on the day of admission and monitored for priority referral to geriatric psychiatry outreach team;*
4. *Quarterly review process for RAI/MDS and Care Plans achieved 100% compliance. Interdisciplinary team meetings are held regularly to review;*
5. *A follow-up audit in February 2010 demonstrated adherence to the principles of RAI/MDS assessment and care planning;*
6. *Staff were reinstructed on issues related to safety, staff assignments and reporting guidelines, policies and procedures, demonstrating satisfactory knowledge of important protocols;*
7. *Monthly rotating resident care assignments in A House were implemented, increasing the knowledge of each care provider of all residents in the home.*

This plan was reviewed by the Compliance Advisor and on January 25, 2010, the LTCH was advised that the plan was considered acceptable to the Ministry of Health and Long-Term Care. A follow-up review was conducted from February 3-5, 2010 and no findings of unmet standards were found.

#### **Discussion**

Police investigators believed that Resident A was beaten in his bed, and then dragged towards the bathroom. Resident B would have been the only

patient capable of beating Resident A, removing him from his bed and dragging him towards the next room.

This case highlights the potential for tragic consequences when dealing with the behavioural and psychological symptoms of residents with dementia in the long-term care environment. As outlined in the MOHLTC compliance review, a number of the LTCH's policies and procedures were not being followed carefully at the time of this incident. In particular, on the night of October 20-21, the home was briefly understaffed, warning beepers were not working (nor were back-up systems operational), residents were free to wander from one unit to the other and staff were unfamiliar with all home residents. Care plans did not provide sufficient detail to allow staff to recognize individual behavioural triggers or to be aware of resident-specific behavioural strategies to deal with aggression. Day-to-day charting in the progress notes was fairly sparse and did not give the reader a true sense of the patient's condition; physician notes were frequent, but illegible, rendering them useful only to the writer. It is not possible to determine if the outcome in this situation would have been any different had these all been in place, however they may have helped staff to recognize possible changes in the behaviour of Resident B prior to tragic final event.

The situation of Parkinson's disease with dementia can be extremely challenging to care providers. On the one hand, maximal doses of dopamine enhancing medication can lead to better mobility, but at the risk of increasing hallucinations and confusion; conversely, reduced doses can increase the risk of falls and reduce quality of life through reduced mobility. In Resident B's case, a reduced dose of levodopa given more frequently, might have reduced his hallucinations and agitation. The use of neuroleptics for psychosis in this context is similarly fraught with challenges. This is a situation where expert advice from neurology and psychiatry consultants is probably required, if available.

In general, the prevention of future similar occurrences will depend on both local and

systemic elements. At the local level, LTC homes must have:

1. Funding for adequate staffing to allow for the careful observation of responsive behaviours by residents and the ability to intervene when behaviour is escalating.
2. Sufficient education and training for staff to recognize residents at higher risk for violence and for the recognition of behaviour that is "ramping up" to violence (e.g. PIECES training)<sup>1</sup>; use of validated tools to monitor behavioural symptoms (e.g. Cohen-Mansfield Agitation Index; Neuropsychiatric Inventory-nursing home; BEHAVE-AD) is a critical component of this process.
3. The ability to provide non-pharmacologic management of Behavioural and Psychological Symptoms of Dementia (BPSD), through such things as exercise, social stimulation, personally-meaningful activities, adequate nutrition and hydration, etc. as well as judicious pharmacotherapy for example in the recognition and treatment of pain, delirium and depression;<sup>2</sup>
4. Clear communication and documentation through behavioural care plans to allow all staff to implement consistent behavioural management strategies for residents with BPSD/responsive behaviours and document effectiveness of these interventions.

Systemically, there must be rapid access to specialized services to assist in the management of LTC residents with increasing aggressive behaviour, through the use of such elements as psychogeriatric resource consultants, geriatric psychiatry outreach teams and specialized behaviour support units within long-term care and acute care. It is hoped that the new Behavioural Support Strategy of the MOHLTC<sup>3</sup> will allow each LHIN to develop integrated systems for the management of BPSD/responsive behaviours.

### Recommendations

1. Long-term care homes are reminded that the post-admission period is a time of high risk for violence in residents admitted with responsive behaviours/BPSD and that

heightened vigilance is required. A need to share facilities (like bathrooms) has been a factor in a number of homicides in LTCHs and should be avoided whenever possible if a new resident has demonstrated physical aggression.

2. Long-term care homes are reminded that behavioural care plans must be present, clear and up-to-date.
3. Staff in long-term care homes should receive adequate education and training in the management of responsive behaviours/BPSD. Each Local Health Integration Network (LHIN) should be encouraged to develop appropriate integration of education and training in the role-out of the behavioural support strategy.

#### **References:**

1. Putting the PIECES together. <http://www.piecescanada.com>
2. Morley JE. Dementia-Related Agitation. J American Medical Directors Association 2011; 8: 611-612.
3. Behavioural Supports Ontario. Alzheimer Knowledge Exchange/ Resource Centre. <http://www.akeresourcecentre.org/BSO>

#### **Case: 2011-09**

#### **OCC file: 2010-11241**

#### **Reason for Review**

The death of this LTCH resident was related to restraint use.

#### **History**

The decedent was a 92-year-old woman who had been living at this LTC facility since 2008. She was in a secure unit in a semi-private room. She had Alzheimer's dementia and was wheelchair bound, but often tried to get out of her bed. An assessment for a lap belt while in a chair was documented, but there was no order for restraints (i.e. four bed rails up) while she was in bed.

Her medications were: risedronate 150 mg monthly, Oscar 1 tablet twice daily, multivitamin

one tablet daily, acetaminophen 650 mg twice daily plus when necessary (rarely taken), olanzapine 7.5 mg at noon, lactulose twice daily (dose obscured), Ensure 115 ml three times a day after meals, lorazepam 0.5 mg orally when necessary (rarely taken).

The decedent was observed sleeping in bed at 0230 hours on Sunday, September 5, 2010 by a health care aide. At that time, the bed was flat (and presumably all four bedrails were up) and the decedent was properly in the bed. At 0500 hours, a health care aide observed that the decedent was entrapped between the bed frame and the rail at the point of the bed rail split. The head of the bed was elevated, presumably because her left arm had activated the bed controls. There were no vital signs when she was discovered.

#### **Post Mortem**

At the autopsy, compression type markings were noted on the trunk.

Cause of Death: Suffocation (positional asphyxia) due to being caught between the bed rail and mattress in a woman with Alzheimer's disease and acute bronchitis.

Manner of death: Accident

#### **Discussion**

The problem of entrapment is not uncommon and the Committee has previously reviewed cases involving this issue. Both Health Canada<sup>1</sup> and the FDA in the United States<sup>2</sup> have published guidelines on how to prevent entrapment in hospital beds. There are published documents answering frequently asked questions<sup>3</sup> and pamphlets to provide highlights<sup>4</sup>.

The most obvious way to avoid entrapment is to leave the bedrails down. Keeping them up merely changes the profile of adverse events. In this case, a mat was laid on the floor beside the bed and was an excellent safety device. The bed might have been positioned with one side against the wall and the mat on the other side to cushion a fall. The nurses informed the coroner

that they viewed four bedrails up as a restraint. This should require a physician's order.

Entrapment occurs when the bed frame, mattress, and rails do not function as a comprehensive system. Detailed measurements must be made to ensure that gaps that could result in entrapment do not exist. A key procedure in this process is to assign responsibility for the safety of beds to one person or group in the facility<sup>3</sup>.

When the bed is articulated, gaps can become larger; however it is unclear what effect this had in this particular case. Nevertheless, the decision to keep the bed unplugged until there is a need for staff to reposition it seems a prudent one for patients with dementia who are at risk for entrapment.

#### **Recommendations**

1. Health care providers are reminded that bed rails are restraints and that they pose a safety risk to patients/residents. Four bed rails up constitutes a restraint and all the usual policies for restraints, including a physician's orders, must be followed. Alternatives to this type of restraint should always be sought.
2. All facilities using hospital beds should appoint a person (or group) to ensure that the entire system (bed frame, mattress, and bed rails) functions as a unit to minimize the risk of entrapment.
3. LTC facilities should consider unplugging the beds of severely demented patients, unless power is required by facility staff.
4. Manufacturers should be encouraged to develop innovations in design that reduce the risk of entrapment and enhance patient safety.

#### **References:**

1. Health Canada. Guidance Document – Adult Hospital Beds: Patient Entrapment Hazards, Side Rail Latching Reliability, and other Hazards. (2008)

2. U.S. Food and Drug Administration – Consumer Health Information. Practice Hospital Bed Safety. June 2009. ([www.fda.gov/ForConsumers/ConsumerUpdates/default.htm](http://www.fda.gov/ForConsumers/ConsumerUpdates/default.htm))
3. U.S. Food and Drug Administration – Hospital Safety Bed Working Group – Frequently Asked Questions (FAQ) on Entrapment Issues. (2010) (<http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/GeneralHospitalDevicesandSupplies/HospitalBeds/ucm123467.htm>)
4. U.S. Food and Drug Administration – A Guide to Bed Safety (pamphlet). (<http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/GeneralHospitalDevicesandSupplies/HospitalBeds/ucm123676.htm>)

#### **Case: 2011-10**

#### **OCC file: 2010-12221**

#### **Reason for Review**

The coroner's investigation was initiated because of family concerns regarding the medical and nursing care received by the decedent.

#### **History**

The decedent was an 87-year-old man who was admitted to the LTC facility in 2004. He suffered from Parkinson's disease (which was the main source of his disability), dementia, previous melanoma, and syncope (2003) and his past history included a hospitalization during which the decedent was assessed by a geriatrician. At that time, visual hallucinations and dementia were present. A cholinesterase inhibitor was initiated, Parkinson's medications were adjusted and the decedent was started on quetiapine. No cause for the syncope was found. The possibility of Lewy body dementia was raised. Past medical history also included transient ischemic attacks (TIAs), hypertension and a right bundle branch block pattern on electrocardiogram (ECG). Records included a Do Not Resuscitate (DNR) confirmation form completed on February 2008.

In 2010, the decedent required assistance with all his activities of daily living (ADLs). A mechanical lift was used to transfer him to a tilt wheelchair. He was up to his chair on a daily basis and attended the dining room for meals. He was on a modified textured diet with purees and nectar thickened fluids. He required assistance for feeding and was incontinent of urine and stool which resulted in diapering. He required two-person assistance for repositioning in bed and assistance with bathing. He was occasionally able to stand using the grab bar in the bathroom with two staff present.

The decedent suffered from constipation and was on an intensive bowel regimen. Bowel management prior to the summer of 2010 was not available in the records. The decedent was on a high fibre diet with flax on his cereal. He received polyethylene glycol (Peglyte), lactulose and mineral oil on a daily basis. He received scheduled fleet enemas every Monday, Wednesday and Friday. These were effective in controlling constipation. There was detailed documentation of bowel movements showing movements every one to two days and sometimes more than once per day, usually soft.

On Friday, August 27, 2010, the decedent's medication list included: sodium phosphate enema Monday, Wednesday, Friday; ASA 81mg daily; multiple vitamin daily; glucosamine 500mg two tabs daily; mineral oil 15 ml plus polyethylene glycol (Peglyte) 8 oz daily; vitamin D 1000 IU daily; Anusol ointment twice daily to anus; ascorbic acid 500mg twice daily; ciprofloxacin 500 mg twice daily was given for seven days August 13 through 19 for urinary tract infection; lactulose syrup 60ml twice daily; quetiapine 25mg twice daily (this was not a new medication - the resident was discharged from the acute care hospital in 2003 on quetiapine 12.5 mg mornings and 25mg evenings for visual hallucinations); rivastigmine 6mg twice daily (started in 2003 for visual hallucinations); hypromellose (Isoptotears) 0.5% 1 drop to both eyes twice daily; carbidopa-levodopa CR 200/50mg four times daily; laxatives (Senokot) as needed (no doses were given throughout August).

On August 27, 2010, a Registered Practical Nurse (RPN1) administered an enema to the resident at about 0600 hours. At about 0700 hours, RPN2 noticed a moderate amount of bleeding from the rectum. A discussion with RPN1 reported that she had given the enema, "but it was hard to do and I had resistance and most of the fleet came out." A rectal exam by RPN2 at 0720 hours showed no formed stool, but a small amount of blood on the exterior of the anus. She noted a one inch "cut" from the start of the anus inward. A call was placed to the Assistant Director of Care.

Stool charting showed no bowel movement on August 26. There was no bowel movement on August 27 at 0018 hours. Documentation at 1018 hours indicated a small, soft bowel movement. There was a subsequent large, soft bowel movement documented at 1946 hours that day. At 1030 hours, RPN3 examined the resident's peri-anal area while he was up in the sling. There was a moderate amount of redness and swelling around the affected area. There was a "cut" approximately one inch long into the anus. The Director of Care was notified at 1110 hours.

Later that day, the resident was assessed by the Registered Nurse (RN) (extended class). She documented evidence of a "rectal laceration at about seven o'clock." There was surrounding purple/red "bruising." There was no bleeding and no documentation of pain. Her impression was "rectal laceration due to trauma." She advised to hold all enemas and suppositories, notify the doctor and have the doctor assess the resident on Monday. No antibiotics were initiated at this time. The resident was given acetaminophen for pain later that evening at 2103 hours. The RPN documented that the scrotum was red, warm and swollen and ice was applied. The next morning, vital signs were stable with blood pressure (BP) 128/71, respirations 18/min, temperature 36.5C, oxygen saturation 92% on room air and pulse 72/min. The resident refused lunch that day. The on-call physician was notified of the scrotal swelling and redness and ciprofloxacin 500mg orally twice daily for seven days was ordered.



On August 29 2010, the resident's abdomen was noted to be slightly distended and firm to touch. Bowel sounds were present. The resident had bowel movements the evening before and during the day. Vital signs were stable with no fever. There were discussions later that evening between the staff and family regarding sending the resident to hospital. On reassessment of the resident's abdomen, it was not quite so distended and it was felt there was no need for transfer to hospital.

On August 30, 2010, the house physician examined the patient. There was evidence of a fissure, but there was no active bleeding and the rectum was empty. Anusol ointment was to be applied twice daily to the anus.

The peri-anal redness and swelling were worsening and an abscess began to develop. In discussion with the family, a decision was made to keep the resident at the long-term care facility and initiate intravenous (IV) antibiotics. At any sign of deterioration, the resident was to be sent to hospital. IV ciprofloxacin and metronidazole were started. The nurse spoke at length with the family. They expressed their preference to keep the resident at the long-term care facility and wanted him kept comfortable. Later that evening, the resident developed a cough and rattling in his throat. Cough syrup was ordered by the on-call physician. The resident was afebrile.

On September 3, 2010, the family requested measurement of the abscess every four hours and, if there was any deterioration, he was to be sent to hospital.

On September 6, 2010, the resident's vital signs were noted to have changed: BP 86/52; respiratory rate 16/min; temperature 37.3C; O2 saturation 92% on room air; pulse 73/min. The spouse was notified and the resident was sent to hospital.

Hospital records available included consultation notes only. The family raised concerns regarding a lengthy stay (i.e. six hours) in the emergency department before being seen by any hospital staff. Hospital nursing notes were not available. Once seen by the physician, fentanyl was given

for pain. The patient was seen by the on-call surgeon. The patient was taken to the trauma suite and under conscious sedation, the peri-anal area was examined. There was a small amount of skin necrosis. An incision was made over the infected area to drain purulent material. The abscess was packed. IV ciprofloxacin and metronidazole were to continue.

Documentation by the family indicated that the IV started at the emergency department was discontinued prior to discharge, leaving only the IV that the patient had gone to hospital with. On return to the home at 0216 hours on September 7, 2010, documentation by RPN1 indicated that the IV remained insitu. IV therapy was complete. There were no IV base fluids running at this time and IV access was for antibiotic therapy only. The IV site was not red. No analgesics were given at that time and the resident appeared settled and tired. There were orders for Tylenol 2, but since the resident was quite drowsy through the night, it was not given. The next morning, the resident was assessed by the house physician and orders were given for normal saline rinses of the abscess area with packing, twice daily. The house physician's notes indicated that he spoke with the family at length and discussed the possibility of overwhelming sepsis as a result of the abscess. He also reiterated that the resident was likely not a candidate for a defunctioning colostomy.

Morphine orders were given on September 7 for morphine elixir 2.5mg orally every two hours as needed and an IV of 2/3 and 1/3 at 75cc/hr. Later that evening at 2030 hours, morphine 2mg subcutaneously as needed was ordered before dressing changes. At 2200 hours, morphine orders for 2mg to 4mg subcutaneously 2-4hrs as needed were received and morphine elixir was held. On September 9, the resident received morphine elixir 2.5mg orally at 1506 hours, 1655 hours, 2mg subcutaneously at 1907 hours, 2mg subcutaneously at 2120 hours and 2mg subcutaneously at 2305 hours. Documentation indicated that the resident was sleeping quietly.

On September 8 at 0205 hours, the resident was administered morphine 3mg subcutaneously at the daughter's request. Nurse's notes indicated no sign of distress and the resident was asleep.

Another 3mg dose was given at 0416 hours, 2mg at 1000 hours, 4mg at 1135 hours at the family's request and 4mg at 1400, 1654, 2000 and 2203 hours. The house physician assessed the resident on September 8 and found the resident to be lethargic with decreased oral intake. There was no fever and pain was controlled. The chest and abdomen were examined. The physician met with family and discussed continuation of IV fluids and antibiotics and identified the resident at high risk of aspiration. The family had noted some coughing spells so suctioning equipment was brought to the bedside on September 8.

In the early hours of September 9, the family requested that morphine be held as the resident seemed comfortable. By September 10, the resident sounded congested and had periods of struggling with his breathing. He was receiving oxygen at 2 litres per minute to maintain oxygen saturations at 92 – 96%.

On Friday, September 10, the family expressed concern that the night RPN and an assistant who had changed the resident at 2300 hours had placed some stool-contaminated packing back in the wound.

Saturday, September 11, the abscess appeared to be getting worse. The family requested an increase in morphine as the resident appeared to be having increased pain throughout the day. Staff attempted to reach the on-call physician, but were unable to do so. The on-call physician's voice mail was full, so a message was left on the physician's home telephone. The family left a detailed message on the house physician's cellular phone. When the on-call physician still could not be contacted, a message was left for another on-call physician.

The family was asked if they wanted the resident sent to the emergency department, but the family indicated that they wanted him to stay at the home. The second on-call physician returned the call and left an order to increase the morphine dose. The first on-call physician eventually returned the call and suggested that the house physician be contacted as there was some discrepancy in direction from the family. The house physician was contacted and left new orders to change the morphine to 4mg

subcutaneously every hour as needed, scopolamine 1 ml subcutaneously every six hours as needed and haloperidol 1-2mg subcutaneously as needed. IV fluids were reduced to "keep vein open" and IV antibiotics were discontinued. Later that evening, orders were given by the first on-call physician to increase morphine to 6mg subcutaneously every hour as needed.

On Saturday, September 11, at 1717 hours, the family requested that a pastor come see the resident. The RPN attempted to contact the Spiritual Care Coordinator and left a message. She also attempted to contact other pastors on-call and left messages. The Spiritual Care Coordinator returned the call the next day. He stated that he was out of town and would be able to visit later in the afternoon. The Recreation Assistant contacted four other clergy, none of whom were available due to previous engagements.

On Sunday, September 12, clergy arrived to provide emotional support and prayers to the family and the resident in the palliative care room. The resident remained comfortable receiving frequent doses of morphine on as needed basis. He passed away at 1906 hours on September 12, 2010.

#### **Post Mortem**

No autopsy was completed.

Cause of Death: Sepsis due to peri-anal abscess. Contributing factor was Parkinson's disease.

#### **Discussion**

The decedent was an 87-year-old male admitted to a long-term care facility in 2004 for advanced Parkinson's disease. He was dependent in all of his activities of daily living. He suffered from chronic constipation likely as a result of his Parkinson's disease, immobility and medication side effect. Documents were not available regarding the initial management of his constipation although it is likely that this was quite challenging as he eventually received three types of oral laxatives daily, a high fibre diet and was also on a regimen of enemas three times

weekly. With this regimen, soft bowel movements were achieved on a regular basis.

On August 27, 2010 the resident received an enema. The same day, he was noted to have an anal fissure. He was also noted to have peri-anal discoloration that progressed over the next days and was later diagnosed as a peri-anal abscess. The cause of the peri-anal abscess remained unclear. It cannot be determined whether the anal fissure was caused by the enema. It cannot be determined if the abscess developed as a result of the fissure or as the result of an infected anal crypt gland, which is the usual cause. There was no indication for antibiotics to be initiated at the initial finding of an anal fissure. The peri-anal abscess was appropriately managed with incision and drainage with the addition of antibiotics.

With respect to the decedent's pain management, he received acetaminophen on a regular basis following the initial finding of an anal fissure. Following drainage of the abscess, the decedent received frequent doses of morphine with frequent readjustments of the dose by the house physician. A pain assessment tool would have been difficult to use in a resident with advanced Parkinson's disease and dementia. Administration of analgesics was often guided by the family who were present at all times in his last few days of life.

Requests for spiritual care were first made on the evening of Saturday, September 11. The staff made numerous attempts to contact a pastor and one did attend less than 24 hours after being contacted. It was perhaps an unrealistic expectation for a long-term care facility to have immediate access to a pastor. Many residents of long-term care facilities and their families, have an on-going relationship with clergy from their respective communities for spiritual care support.

One of the underlying issues in this case was the level of care provided to the decedent at the long-term care facility. The family had requested that he remain at the long-term care facility. The family and care team headed into a weekend in which the resident was receiving twice daily complex dressings to a peri-anal abscess, IV fluids, two IV antibiotics, suctioning, oxygen,

every hour as needed parenteral pain medication and frequent turning. The family felt that they were not provided with adequate palliative care or adequate discussion regarding provision of palliative care.

Palliative Care is defined by the World Health Organization as "an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual." The provision of palliative care is a process, not a place or particular staff. The model addresses the domains of care identifying disease management, physical, psychological, social, spiritual, practical, death management, loss and grief (Canadian Hospice Palliative Care Association: A Model to Guide Hospice Palliative Care, 2002). With regard to the care provided to the decedent, these domains were identified and attempts were made to meet them. These needs, even in an acute care surgical setting or in a formal palliative care setting, would have been a challenge to achieve.

#### **Recommendations**

None.

**Case: 2011-11**  
**OCC file: 2010-10544**

**Reason for Review**

The coroner's investigation was initiated as a result of concerns expressed by the attending orthopedic surgeon who performed a right below-knee amputation on the decedent who had been transferred to hospital because of gangrene of the right foot. The surgeon noted that the foot was severely gangrenous, angulated, and in a condition that, in his opinion, reflected an issue of quality of care at the LTCH.

**History**

The deceased was a 95-year-old female who lived in a long-term care home.

At the time of admission to hospital, the decedent was noted to have a past medical history that included: Parkinson's disease (for which she had been on levodopa therapy at the LTCH), a previous stroke (apparently resolved in terms motor/sensory sequelae), hypertension, gastritis and remote tobacco use. She had been diagnosed with localized vaginal cancer in August 2009 with vaginal bleeding first being noted and documented in May 2009. She was treated with one dose of radiotherapy because of persistent vaginal bleeding.

On the admission form for the LTCH, a right cerebrovascular accident in September 2004 was noted. Investigations at the time found a right internal carotid artery stenosis (right- total, left-90%) with an old infarct in the right occipital lobe and left basal ganglia. It also noted a history of hypercholesterolemia. The form was filled out by the decedent's family physician. On admission, she had mild hyperlipidemia and some issues with cognition noted in the nursing and social work records. She was also mildly anemic.

According to the progress notes, the decedent had previously been mobile using a walker, but was unsteady on her feet and in 2009, was provided with a wheelchair to assist in mobility. In July 2009, the decedent fell and injured her

right foot, had a "skin tear to left arm and right leg" and required sutures to her scalp. There were no further notes related to the right leg and the focus was on normal healing of the scalp laceration until later in July 2009 where a note stated, "there is pus on the wound in the Rt. lower leg. Dressing changed as directed." On July 22, the note again remarked about the right leg stating that, "swelling noted on top of R foot, toes on that foot slightly discoloured. Please monitor." On July 23, the note described "aching" pain in the right foot treated with acetaminophen. On July 24, the note indicated "resident has a swollen ankle on right side."

On August 16, 2009, there were two notes about a leg wound, but both made reference to the left leg. There was no previous reference to a left leg lesion. On August 17, the note reverted back to pain in the right ankle and indicated that the dressing was changed. On August 18, the right lower leg wound was dry, with no exudates, but was still red and slightly swollen.

On August 26, 2009, there was a formal skin and wound assessment completed and this was subsequently done weekly. The assessment indicated that the ulcer was stage 2 and began as a skin tear. There was a serosanguinous discharge with some pain and the treatment plan was saline soak, fusidic acid cream, Mepitel (a non-adherent silicone dressing) and gauze dressing.

The decedent experienced another fall on August 30 and later that day she complained that her right ankle was painful and she couldn't move it. The ankle was found to be red and swollen. An x-ray did not reveal a fracture.

On the September 2, 2009 skin and wound assessment, a stage 2 ulcer with serosanguinous exudates that was not odorous, was noted. It was also indicated that the wound was "slowly improving."

The first physician progress note was on September 10, 2009. The note indicated, "Rt. lower leg wound/infection, erythema, nil nodes/adenitis. Imp wound infection rt. leg rx. clindamycin x 10 Bactroban dressing." There was no mention in this note about edema of the leg or the vascular supply. A follow-up note on the

same day by the unit supervisor classified the ulcer as stage 3.

On September 14, 2009, the skin and wound assessment noted a "stage 3 venous ulcer" and described no edema of the leg and a small amount of non-odorous discharge. This was the first time that a stage 3 venous ulcer had been noted on the file. The antibiotic treatment previously prescribed was continued. There appears to have been a general acceptance of the diagnosis of the ulcer as a "venous ulcer." The basis for this diagnosis was not documented. Treatments generally used for venous ulcers (e.g. compression), were not ordered. Based on the records, there does not seem to have been an organized approach to establishing the diagnosis (e.g. no arterial doppler to determine adequacy of arterial circulation).

On September 24, 2009, a physician progress note addressed the right foot ulcer and noted a lateral lower leg wound/ulcer that was not healing. The surrounding tissue had a "punched out" look and there was granulation tissue in the core of the wound. The physician questioned whether the ulcer could be a neoplasm or an arterial lesion and decided to change dressings and have a dermatology consultation. On September 28, 2009, a skin and wound assessment completed by a nurse noted, "sometimes bilateral edema of both legs, stage 3 ulcer of right ? neoplasm." On September 30, 2009, there was a large amount of drainage from the ulcer and the surrounding area was edematous, painful and red.

On October 1, 2009, the attending physician noted that, "on-going treatment of vascular ulcer looks a bit "dirty" with copious exudates. Treatment with cipro." Over the next few days, a diuretic was added to the regimen which resulted in decreased swelling of the legs. On October 5, 2009, the wound was filled with greenish exudate and a measurement showed an increase in its dimensions. The attending physician continued to characterize the ulcer as vascular and described the appearance again as "dirty" with copious exudates. Consultation with the dermatologist was pending.

The physician progress note on October 8, 2009 stated that, "nursing seems to feel that the leg ulcer looks cleaner with current iodisorb rx.- the ulcer base is growing pseudomonas which is sensitive to cipro- definitely less swelling of legs/ankles since the diuretic treatment." The physician had a conversation with the power of attorney (POA) for the decedent who indicated that she was not in favor of a hospital transfer at that point and was supportive of a more palliative/comfort approach.

According to the October 12, 2009 note, one of the decedent's family members visited with her dog. The dog was licking the decedent's wound and the dressing fell off. The family member was educated about wound infection and dog saliva. Later that day, the decedent's lower leg was noted to be filled with greenish exudates, was larger and had white connective tissue (tendon) showing. The notes reflected gradual deterioration in the status of the wound in terms of size and visibility of deep tissues and exudates.

On October 15, 2009, the decedent was seen by a dermatologist and the dressings were changed. Arrangements were made for her to be seen by the wound care nurse specialist for treatment of the wound.

The October 26, 2009 note described the wound as, "stage 3 decubitus ulcer, less exudates, some new tissue growth around wound edges, clearer looking- exudates green but not odorous."

On October 29, 2009, the record of a care conference with the care team and family/POA indicated that the patient was in overall decline, but generally improved with diuretics. There was no edema and she appeared more alert.

On November 2, 2009, the ulcer was, "stage 3 but seems to show some new tissue growth-continue with benzoyl peroxide 20% as per dermatologist recommendation."

On November 9, 2009, the right leg ulcer was again referred to as stage 3 venous with evidence of eschar and purulent discharge. On November 16, 2009, the wound care nurse suggested a change in dressings, discontinuing

the Benoxyl and using Acticoat and Intrasite gel. The wound was noted to be "looking better."

On November 23, 2009, the wound was described as stage 4 with a larger circumference measured, but with minimal discharge and no odour. Dressings were continued as per the wound care nurse.

On December 10, 2009, the notes indicated that there appeared to be an improvement in the ulcer and that it was "clean." The December 14, 2009 wound assessment indicated a "stage 4 venous ulcer" with two wounds that were larger than previously. The tendon was exposed and there were some exudates.

On December 17, 2009, the physician note referred to a discussion with the wound care nurse. There was sloughing across the wound, tissue break down and an increase in erythema. Antibiotic therapy was started and the dressing was changed as per discussions with the nurse and dermatologist. The decedent did not show excessive discomfort or suffering, but continued to show gradual decline in the condition of the ulcer. Pain was controlled with acetaminophen.

On January 21, 2010, the dermatologist attended and made a change in the dressing orders. The wound was described as stage 4.

On February 1, 2010, the wound was significantly worse with some granulation tissue, no odour and a decrease in exudate. On February 8 and 22, 2010, there did not appear to be any worsening of the ulcer. There was a gradual decline in general condition, but the decedent was still managing to take part in activities and eat meals.

On March 1, 2010, the ulcer was noted to be malodorous. Three days later, there was no evidence of gross infection and on March 8, the wound was assessed as being stable. On March 11, the decision was made to try to keep the wound infection-free and pain-free. The wound care nurse visits were discontinued. On March 15, there was heavy drainage and no significant pain. On March 29, there was more exudate and the wound culture was negative.

By April 6, 2010, there was some increase in size and extent of the ulcer with four open draining areas. Throughout April, there was further deterioration with enlargement, increase in exudate and some odour. The decedent was still able to participate in some activities, was eating and managed some weight gain through close dietary supervision. For the most part, the wounds were relatively stable, but quite significant in size and depth.

On May 12, 2010 the Power of Attorney (POA) expressed concern about an assessment done by an external nurse. This led to a discussion about care with the Director and Nursing Manager. On May 13, 2010, the physician note referred to a "lengthy discussion with son -- around leg wound and how patient has done considering degree of breakdown- not infected, not causing a great deal of discomfort- wound will not heal because of patient's generally poor condition- realistic goal to keep wound clean and symptom free - discussed fact that patient is on downhill course in general."

On May 21, 2010, the patient complained of pain in the right leg. This was treated with a combination of acetaminophen and gabapentin and analgesic given prior to dressing changes. On May 27, 2010, a further decline was noted. The wound was deteriorating. Antibiotics were increased and the pain was treated more aggressively. On May 30, 2010, the patient went out with family and seemed to tolerate the excursion well.

On June 7, 2010, there was further wound deterioration with discharge and odour. The only analgesic required prior to dressing changes was acetaminophen 1000 mg. On June 30, the foot was noted to be showing signs of contracture.

On July 15, the patient was more lethargic and the wound was more purulent and odorous. By July 24, the right leg was swollen and reddened and on July 27, the pain was noted to be continuous and there was further eversion deformity of the foot.

By August 2, 2010, there was complete skin and tissue loss over the medial ankle, exposing bone and connective tissue. On August 5, the POA expressed concerns about the deterioration and wanted to know the options. The attending physician was away and the family expressed their preference to wait until the attending physician was back before making any major decision. They expressed reluctance regarding hospitalization and surgery. By August 8, the wound was foul smelling, with exposure of bone and copious drainage. On August 10, the POA expressed reluctance to have intervention or surgery based on the patient's age and condition and wanted to wait to talk to the attending physician who was on vacation.

On August 11, 2010, the decedent was sent to hospital for assessment of the right lower leg. In hospital, she was assessed and it was decided she needed a below knee amputation for gangrene of the right foot. She underwent surgery on August 13, 2010 after a pre-operative evaluation.

The specimen of the right amputated leg revealed mild to moderate atherosclerosis with calcifications as well as an ulcer of the great toe, lateral aspect of the foot and heel and acute osteomyelitis. Post-operatively, she developed a myocardial infarction, aspiration and heart failure. The family agreed to palliative care and she died on August 17, 2010.

#### **Post Mortem**

An autopsy was not conducted. The pathology examination of the amputated right leg revealed atherosclerosis.

#### **Discussion**

The decedent was of advanced age and had a number of significant risk factors for developing a gangrenous foot after what appeared to be an abrasion. She had evidence of diffuse vascular disease including a cerebrovascular event, angina and hypertension. In addition, she may have had a compromised immune system as she had an almost concurrent carcinoma of the vagina which was treated palliatively with local radiation. She

had a history of Parkinson's disease which limited her mobility and appeared to have an effect on the positioning of her feet which may have made it more difficult to treat the wound.

A question that was raised in the compliance officer's review was whether another specialist, such as a plastic surgeon, might have offered treatment other than that given to the decedent by the primary care physician, a dermatologist and nurses with expertise in wound care. It cannot be determined if more aggressive wound care interventions would have changed the outcome.

One of the objectives in treating wounds of this nature in patients whose vascular system is compromised is determining the nature of the wound. Throughout most of the chart, the term "venous" ulcer was used to characterize the decedent's wound. From a review of the records, it cannot be determined why this diagnosis was made. The decedent did not have a history of significant peripheral edema and the wound followed an abrasion injury that did not heal properly. Such a history is just as likely, if not more, to be indicative of compromised arterial blood supply. If indeed the wound were primarily venous in nature, the application of external pressure might have been efficacious. If the wound were primarily arterial however, this would have been contraindicated. If the wound was of mixed venous and arterial etiology, it would have been difficult to apply external pressure without also compromising arterial supply - a situation that is not uncommon in older individuals with multiple pathologies.

The mainstay of treatment in terms of maximizing the ability of an ulcer to heal is thorough and repeated debridement to remove any necrotic tissue. If not removed, the tissue remains a nidus for infection which cannot be resolved with local dressings, whatever their nature. The usual goal in such situations is to undertake deep debridement. This usually requires significant analgesia prior to treatment. Although the ulcer might not heal in such a situation as was the case with the decedent, it would cause less discomfort and be less malodorous. At times, nothing can be done to

eliminate all necrotic tissue short of amputation which, in this case, was eventually done.

It is likely that, as noted by the attending physician, this wound was not going to heal, regardless of the treatment. However, it could possibly have been treated in such a way that it would have been cleaner, less malodorous and less likely to progress to a state of gangrene, thus avoiding the transfer to hospital and subsequent amputation.

Considering her very poor prognosis when gangrene did develop, an alternative course of treatment for the decedent would have been to provide palliative care with appropriate analgesia. Such a decision would have required significant communication and weighing of values, goals and priorities, taking into account the realistic prognosis with and without surgery.

Input from another physician with expertise in complex conditions such as resistant decubitus ulcers in the elderly (e.g. geriatric medicine specialist) might have been of assistance to the attending physician and might have given reassurance to the family, even though the outcome would not likely have been any different.

This case demonstrates that complicated peripheral decubitus ulcers should be treated as potentially serious conditions which can progress to require surgery, including limb amputation. Specialist consultation, if available, should be obtained in order to determine the nature of the wound (i.e. arterial or venous or both); to determine the degree and the frequency of debridement required in order to remove all necrotic material; and to discuss with the family the prognosis and treatment options.

#### **Recommendations**

None.

**Case: 2011-12**  
**OCC file: 2010-8004**

#### **Reason for Review**

Family members raised concerns regarding the care the decedent received in the hospital and in the licensed LTCH where he had been transferred briefly between hospital admissions.

#### **History**

The decedent was an 81-year-old man who died at an acute care general hospital on June 29, 2010. He had the following history: coronary artery disease with bypass graft surgery (2003); chronic obstructive pulmonary disease with asbestos exposure; hypertension; hyperlipidemia; benign prostatic hypertrophy; osteoarthritis; chronic lymphocytic leukemia (CLL) recently transformed to chronic myelomonocytic leukemia (CMML) with splenomegaly – elective splenectomy had been scheduled, and pre-splenectomy immunizations (i.e. pneumococcal vaccine, haemophilus influenza vaccine, and meningococcal vaccine) were given on May 21, 2010.

The decedent lived alone prior to admission and was independent in all of his self-care. He had been experiencing symptoms of his CLL over the previous weeks, including declining energy level and appetite.

He presented to the emergency room (ER) of the local acute care hospital on the afternoon of June 6, 2010 complaining of abdominal pain and vomiting. At the time of presentation, his medications were: salmeterol xinafoate and fluticasone propionate 50/250 mcg inhaler 1 puff, twice daily; tiotropium 18 mcg inhalation once daily; clopidogrel 75 mg once daily; rosuvastatin 10 mg once daily; nitroglycerine spray when necessary for chest pain; rabeprazole 20 mg once daily; naproxen 75 mg when necessary for hip pain; glucosamine 2 capsules daily.

He was afebrile, with splenomegaly easily felt. Bloodwork in the ER showed hemoglobin (Hgb) 86 g/L, white blood count (WBC) 24.3 x 10<sup>9</sup>/L (16.5 neutrophils with toxic granulations and vacuolation, 5.1 monocytes and megathrombocytes were seen), platelets 37 x10<sup>9</sup>/L. He was transfused with two units of packed red blood cells. Creatinine was initially recorded



as 120 umol/L, but improved with fluids and blood to 99 umol/L. Alkaline phosphatase was 359 U/L, GGT 153 U/L, and electrolytes were normal. A chest x-ray showed normal heart size, old pleural thickening in the lung bases bilaterally and interstitial markings compatible with chronic interstitial lung disease. Abdominal x-rays showed only the splenomegaly.

The decedent was admitted to hospital for pain management and further investigation. Admitting medications in addition to his regular pre-admission medications were: morphine 2.5 mg IV every hour as needed, dimenhydrinate 25-50 mg IV every six hours as needed and tamsulosin 0.4 mg once daily.

The following day, on June 7, 2010, the symptoms of pain and vomiting had improved. An ultrasound of his abdomen showed a 21 cm spleen and a splenic infarction at the level of the splenic hilum or proximal to the hilum. A CT scan of the abdomen and pelvis revealed a hypo-attenuating spleen, but no definite infarction, small bilateral pleural effusions with bilateral lower lobe atelectasis, enlarged mediastinal lymph nodes (pretracheal, precarinal, subcarinal and subaortic), a small amount of ascites and colonic diverticulae in the descending and sigmoid colon. Analgesia was switched to oral morphine when necessary. In the mid-afternoon, the decedent began to experience nausea and weakness. An ECG demonstrated new atrial fibrillation. He was started on digoxin 0.125 mg once daily. A physician progress note documented that anti-coagulation was not initiated by the attending physician in view of the low platelet count.

On June 9, 2010, the decedent's white blood count (WBC), which had been rising, was 60.8 (49.2 neutrophils, monocytes 9.7, metamyelocytes and myelocytes seen), Hgb 95 and platelets 54. Again, there were toxic granulations and vacuolation in the neutrophils and megathrombocytes were seen. The decedent was afebrile, with no new symptoms or findings on exam. A discussion between the attending physician and the consulting internist occurred and the decision to monitor the decedent for signs of infection was made. It was acknowledged that the rising WBC could have

been related to his underlying CMML, or a reaction to the splenic infarct.

The following day, on June 10, 2010, the decedent's WBC remained elevated at 60.9. The attending physician ordered blood and urine cultures, following which the decedent was started on ceftriaxone 1 gram once daily and metronidazole 500 mg once daily.

Between June 11 and 15, 2010, the decedent's WBC declined to 37.3, with a continued predominance of neutrophils, some bands, myelocytes and promyelocytes on the smear. A CT of the abdomen and pelvis was repeated and showed a splenic infarction involving the majority of the spleen with a moderate amount of free fluid in the abdomen and pelvis, increased from the previous study (his serum albumin ranged from 23-28 g/L throughout his stay in hospital).

A repeat ECG on June 11, 2010 showed that the decedent was in sinus rhythm and the digoxin was stopped. A gastroenterologist saw him on June 13, 2010 and recommended nutritional supplements (oral). Oral furosemide and potassium supplementation was started.

Throughout the first week in hospital, the decedent was able to walk with a cane to the bathroom. He did not venture much further due to fatigue and significant lower extremity edema. When his fatigue or pain was particularly bad, he needed help lifting his legs into bed. His blood pressure drifted down during his course in hospital, from an admission pressure of 115-120/72-73, to 85-100/40-50 over the period from June 13-18, 2010. His oxygen saturation ranged from 90-97% on room air throughout his admission.

On June 15, 2010, the decedent (accompanied by his family), went to see a hematology/oncology specialist at the regional cancer centre located 90 minutes away. This appointment had been booked prior to his admission to hospital. The oncologist reviewed the CT scans and previous bone marrow examination reports from 2009. His final impression was that he was confident that the decedent had CMML and he recommended a repeat bone marrow study to be

done on June 23, 2010. The oncologist suggested discontinuation of the antibiotics unless there was a proven infection source. He felt that, "the high white count itself is due to his bone marrow disorder, and in the absence of any other evidence, infection should not be assumed to be present." It was recommended that the decedent's pain management medications be modified to long-acting morphine instead of short-acting morphine. Upon return to hospital later that day, the attending physician noted that the decedent was afebrile, comfortable, alert and talking about staying with his son after discharge. Antibiotics were discontinued as per the suggestion of the consulting hematologist/oncologist and narcotic analgesia was changed to MS contin 15 mg twice a day.

On June 17, the attending physician noted that the decedent continued to be afebrile and was up walking. Discharge planning to the convalescent care program in a local LTCH was initiated so the decedent could regain strength and independence prior to returning home.

On June 18, 2010, the decedent was transferred to the local LTCH for convalescent care prior to returning home to independent living. Nursing notes prior to transfer indicated that he had eaten breakfast and part of his lunch on his own and had minimal pain, was walking to the bathroom on his own and had no complaints. His vital signs recorded on the transfer form were: temperature 36.5°C, HR 69 and BP 107/64. No O<sub>2</sub> saturation was recorded. The last blood work done prior to discharge was completed on June 16 and showed: WBC 39.4, Hgb 99 and Platelets 98. Between June 12 and 15, 2010, electrolytes and creatinine were all normal with the exception of sodium, which was slightly low at 129-130.

The decedent was admitted to the LTCH and settled in at 1500 hours. Apparently the only information transferred from the hospital was the usual health report form (i.e. a list of diagnoses) from the community care access centre (CCAC), the HC-RAI (a comprehensive care needs assessment) and the reports of imaging studies done at the acute care hospital. No physician's notes or consultation notes accompanied the transfer records. There was no

transfer of documentation of his normal baseline lab values or vital signs (including O<sub>2</sub> saturation) over the previous few days.

Early on the morning of Saturday, June 19, 2010, the night registered nurse (RN) was doing her assessments before change of shift. She documented the following on the decedent's record: "resident had no complaints this shift and slept all shift. V/S 36.0-93-22-97/52-65% RA. Oxygen applied @ 2 lpm. O<sub>2</sub> sats 80% on 2 lpm. Nail beds are purple/blue. Res very comfortable laying in bed. Will pass on to next shift." Despite being very short of breath and tired, the decedent was able to get up to the bathroom, shave himself with supervision and walk in the hallway that morning. The day RN saw him twice that morning and was aware of the oxygen saturations, but interpreted them as being consistent with his history on the transfer form of "COPD and pleural effusions." The normal oxygen saturation levels for the decedent were not included in the information transferred from the acute care hospital.

The personal support worker (PSW) caring for the decedent documented a BP of 61/41 at 1300 hours and O<sub>2</sub> sats of 85% on 2 lpm. 90 minutes later, the RN was asked to assess the decedent. O<sub>2</sub> saturations ranged from 67-83% on 2 lpm, but without any particular symptoms otherwise. The LTCH physician was called. After an assessment, the physician arranged for the decedent to be transferred back to the acute care hospital via ambulance. The decedent was transferred at 1730 hours - 28.5 hours after being admitted to the LTCH.

In the emergency room, the decedent was hypoxemic and hypotensive. He had bilateral pneumonia with extensive airspace disease seen on chest x-ray. He was started on antibiotics and transferred to the critical care unit. By the following morning, he required intubation for worsening respiratory status. He was treated over the next few days with full ICU support, including ventilation, pressors, antibiotics and antifungal therapy, and fluid management. He had two bronchoscopies to establish a diagnosis.

By June 28, 2010, the decedent seemed to be improving and was off both pressors and

antibiotics. On June 29, he began to bleed rectally and despite resuscitation with fluids, blood products and pressor medications, he continued to deteriorate. The family decided to treat with palliative measures. He died at 0945 hours on June 29, 2010.

#### **Post Mortem**

There was no post-mortem examination.

Cause of death: pneumonia in a man with chronic leukemia.

#### **Discussion**

This 81-year-old man died in hospital of severe, bilateral, hospital-acquired pneumonia. He became symptomatic 15 hours after discharge from hospital to the convalescent program of a licensed LTCH. He required re-admission to the acute care hospital that day and, despite active treatment, he died 9 days later.

The main concerns of the family were:

1. Was the discharge from the acute care hospital to the convalescent care program of the LTCH appropriate? Did the decedent meet the criteria for going to a convalescent program, two of which are: medically and surgically stable; does not require acute or rehab level of care provided in hospital?
2. Did the LTCH respond in a timely and appropriate manner when the man's health status changed on June 19, 2010?

The decedent met the criteria for transfer to the convalescent care program at the LTCH. He had been stable and afebrile for several days prior to transfer. There was nothing in his clinical status to suggest that he had imminent sepsis.

There was a delay of approximately 12 hours between the RN at the LTCH documenting the first abnormal findings on her health assessment and the decedent returning to the hospital by ambulance. The RNs were monitoring him and it appears that the only abnormality in his condition for the first few hours was the low oxygen saturation. He was otherwise up, eating

and even walking. Although it would not have changed the outcome, his serious change in health status would probably have been recognized earlier had complete information been transferred from the acute care hospital to the LTCH. His deterioration in the afternoon was rapid and the RN responded appropriately by calling the attending physician, who saw the decedent in a timely manner and ordered the transfer to hospital.

Overwhelming sepsis in an immunocompromised person can present as a sudden and severe illness with little advance warning. Even if the decedent had been transferred back to the hospital earlier in the day, it is unlikely that the outcome would have been any different.

#### **Recommendation**

1. Health care providers are reminded that transitions in care are very critical times for patients. All clinically important and relevant health information must be sent with the patient at times of transition in order to maximize safety and ensure the health professionals assuming care have all relevant information to provide ongoing care to the patient.

**Case: 2011-13**

**OCC file: 2010-17103**

#### **Reason for Review**

Concern was expressed that the deceased was prematurely discharged post operatively when she was medically unstable and unsuitable for discharge.

#### **History**

The deceased was a 74-year-old woman with dementia. Prior to January 2010 when she fell and fractured her pelvis, she had lived independently in an apartment despite being wheelchair bound. She was admitted to General Hospital 1 (GH1) and during this hospital admission, she was found to be anemic with a hemoglobin of 70 and diagnosed with a duodenal ulcer. In addition, she had a non-ST elevation myocardial infarction, was positive for H. pylori

(which was treated with triple therapy) and had a urinary tract infection. She developed a coccyx wound which gradually healed. In April 2010, upon discharge from GH1, she was admitted to a LTCH. In the LTCH, there were unwitnessed falls, with no apparent injuries documented on her chart.

The woman's medical history included: dementia, diabetes mellitus, hypertension, duodenal ulcer, anemia – with previous transfusions, pelvic fracture (January 2010), decubitus ulcer and Clostridium difficile.

Her medications at the LTCH included: bisoprolol, alendronate, enteric coated aspirin, perindopril, rosuvastatin, nifedipine, pantoprazole, vitamin D, Metformin, insulin, domperidone, ferrous fumarate and novorapid.

On November 11, 2010, the woman was admitted to GH1 for increasing shortness of breath due to aspiration pneumonia. She was released from GH1 and returned to the LTCH on November 17, 2010. On November 22, 2010 she had loose stools and on December 3, 2010 she tested positive for Clostridium difficile (C. difficile) toxin. Metronidazole was started on December 6, 2010 for 10 days.

On December 19, 2010, the woman fell from her wheelchair and broke her distal right femur and was transferred to the emergency room at GH1. On December 20, 2010, she was transferred by ambulance from the emergency room at GH1 to General Hospital 2 (GH2), which was located in another city. Her family was not informed of the transfer until they arrived at GH1 and the resident was leaving for GH2. At GH2, Physician A did the surgical correction with a retrograde distal femoral nail on December 20, 2010. At the time of surgery, her hemoglobin was 104, WBC 17.0, potassium 6.1, then corrected to 5.0. Her blood loss was 100 cc estimated by orthopedics and 200 cc estimated by anesthesia. In the records provided, she had a positive fluid balance of 1295 cc on December 20, 2010.

On December 21, 2010, the woman's daughter noted that her mother "looked good, she was weak and tired, but her colour was good and she was talking." On December 21, 2010, the woman's hemoglobin was 77 and WBC 14.8. By

verbal order, Physician B ordered one unit of packed red blood cells to be transfused. The fluid balance sheet showed her intake was 1800 cc, but output was not recorded for that day.

On December 22, 2010, by telephone order, Physician C discharged the woman back to the LTCH. Physician C was aware that the resident's hemoglobin was 84. She had a positive fluid balance of 1300 cc.

On December 23, 2010, the day of discharge, the medical record indicated that the woman refused blood work. She had a positive fluid balance of 520 cc. She returned to the LTCH on December 23, 2010 at the expense of the family. Staff from GH2 informed the LTCH staff that the physician was not concerned about the hemoglobin of 84 as it was low on admission (104 on admission).

The woman returned to the LTCH and staff reported that she was pale and that her upper and lower extremities and abdomen were edematous. She responded briefly to verbal stimuli. Oxygen saturation was 87% on room air. When the woman's daughter visited shortly after return to the LTCH, she noted that her mother, "looked absolutely horrible. Both her arms were swollen tremendously from shoulders to fingertips and black and blue from puncture marks."

The staff put the woman on oxygen and faxed the family physician. There was no notation in the record that the physician came to see the patient. He responded by sending in medication orders and a request for blood work in one week's time.

The daughter remained at the LTCH for a period of time and then departed when she thought that her mother had settled in. The resident continued to deteriorate and expired on December 24, 2010, before her daughter was able to return.

#### **Post Mortem**

A post mortem was not conducted.

## Discussion

This is the case of a 74-year-old woman who died within 24 hours of being discharged from hospital after a surgical repair of a broken femur.

The hospital record indicated that the attending and admitting physician was the orthopedic surgeon. A consult note from the orthopedic surgeon was written on the day of admission. According to the records provided, there was no history and no physical examination done by a hospitalist or family physician. There was no internal medicine consult. The progress notes written by the orthopedic surgeon were minimal and brief and at times illegible. There was no record that the resident was seen by a physician after December 22, 2010. Fluid balance sheets were not complete. The nursing notes indicated that the resident was "edematous +++", but there was no mention that the physician was consulted about this edema. The staff at the LTCH noted the edema and faxed their concerns to the family physician. The family physician did not come in to assess the patient, and instead provided orders for medication and blood work remotely.

The woman was demented and could not advocate for herself. The family attended from out of town when they were able to attend. The woman's chart was not reviewed by a physician before her discharge. Based on her appearance, the positive fluid balance, her history of cardiac disease and her progressive deterioration, she had probably developed congestive heart failure.

## Recommendation

1. A quality of care review should be completed by GH2. The hospital should review its policy on the responsibilities of the most responsible physician. It is incumbent upon the most responsible physician to ensure that the patient is well enough for discharge. There should be a mechanism to ensure these responsibilities are fulfilled during holiday periods.

**Case: 2011-14**  
**OCC file: 2011-4724**

## Reason for Review

There were concerns regarding the prescribing of medications and management of fluids and electrolytes of a resident at the long-term care facility prior to her transfer to hospital. The resident died on the palliative care ward of the acute care hospital.

## History

The decedent was a 90-year-old woman who was admitted to the LTC facility in March 2010. She had previously been living in a supportive seniors' housing setting, but long-term care was requested due to frequent falls and poor glycemic control.

Past medical history included a right mastectomy (1992), diabetes mellitus with poor glycemic control and frequent hyperglycemia, falls, osteoarthritis (including back pain), dementia, left hip fracture, hypertension, remote cholecystectomy, appendectomy and left total knee replacement.

Medications at the time of admission to LTC were: ASA 81 mg once a day, amlodipine 2.5 mg by mouth once a day, atorvastatin 10 mg by mouth every night at bedtime, losartan 50 mg by mouth once a day, ibuprofen 400 mg by mouth twice a day, amitriptyline 10 mg by mouth every night at bedtime, omeprazole 20 mg by mouth once a day, furosemide 40 mg once a day, galantamine 16 mg by mouth once a day, riseredronic 35 mg by mouth every week, Humulin insulin 30/70 35u subcutaneously every day before noon, 25u subcutaneously before supper, calcium 500 mg by mouth once a day, vitamin D 1,000u by mouth once a day. Prior to admission she was prescribed tolterodine 2 mg by mouth once a day, but this was discontinued on admission.

On admission to the LTC facility, the decedent was dependant in many of her activities of daily living. She was incontinent of both bowel and bladder. She required one-person assistance for

pivot transfers. She ambulated with a walker and had upper and lower dentures and glasses. Notes indicated that she “lives with pain.”

Laboratory investigations on admission in March 2010 indicated: hemoglobin 128, creatinine 109, eGFR 55ml/min, electrolytes were normal, TSH normal, fasting blood sugar on arrival was 9.0 mmol/L. The main challenge in the decedent’s care was blood sugar control. Capillary blood glucose monitoring was carried out two to three times daily. Most sugars were recorded on the capillary blood glucose monitor (CBGM) flow sheet although other sugars were recorded on the progress notes. Blood work was drawn 3 to 4 times per month for fasting sugars and monthly for liver enzymes and lipids. Physician documentation mainly commented on laboratory testing fasting blood sugars and hemoglobin A1C. Sugar through the first month tended to run around 9 to 11 in the morning and much higher in the evening. Pre-supper sugars were usually greater than 12 and as high as 19.3. Bedtime sugars ran around 13.

The decedent’s insulin levels were adjusted several times between the time of admission to the LTC facility in March 2010 and her death in April 2011. Her blood sugar readings were inconsistent and she had frequent episodes of hypoglycemia. Physician notes variously reported her sugars as being in “good control” (September 1, 2010), “normal FBS” (October 27, 2010) and “FBS within normal” (January 5, 2011) to “still getting hypoglycemia though no symptoms” (September 25, 2010), “still tending towards hypoglycemia” (early December 2010) and “sub-optimal glycemic control” (March 2011).

The decedent’s condition progressively declined. In July 2010, she was reported as being dizzy and had suicidal ideation (a geriatric psychiatrist determined she was not suicidal or depressed in August 2010). By September 2010, the decedent was no longer able to walk on her own, she had difficulty chewing and swallowing and had 2-3 loose bowel movements per day. In October 2010, she developed a cough with sputum and was treated with antibiotics. Her mini-mental status score was also noted to have fallen from 27/30 on admission in March, to the current level

of 4/30. By November 2010, the decedent was shaky and confused and developed dyspnea with intermittent wheezing and poor appetite. By January 2011, the decedent had occasional periods of vomiting. By April 2011, she had blood and lesions in her mouth, was lethargic and coughing and had decreased levels of consciousness. She was diagnosed with diabetes mellitus, decreased consciousness and bronchitis. On April 5, 2011, she was transported to hospital and her admitting diagnosis was pneumonia and bacteriuria. Her urine was positive for nitrates and many bacteria.

By April 12, 2011, the decedent’s level of consciousness was decreasing even more. A palliative care consult was done on April 15, 2011 and comfort measures were provided. The decedent died on April 18, 2011.

#### **Post Mortem**

Cause of Death: Dehydration with contributing factors of dementia and diabetes mellitus.

#### **Discussion**

This 90-year-old female with dementia, type II insulin dependent diabetes mellitus, osteoarthritis, and hypertension was admitted to a long-term care facility from her seniors’ supportive housing setting in March 2010, because of recurrent falls and hyperglycemia. The decedent initially did well in the facility. Glycemic control was very challenging and although morning sugars were reasonable, evening sugars were running high. Glucose control became excessively tight with frequent episodes of hypoglycemia late in the evening. By July 2010, she had complaints of dizziness and on one occasion expressed a wish to kill herself. She was started on citalopram and on prochlorperazine. For the remaining months in the long term care facility, she continued to have variable sugars dropping below 3.0 several times per month. Not all sugars were recorded in the capillary blood glucose flow sheet. It is unclear whether the physician reviewed this flow sheet on his visits. It appears that fasting blood glucose results from the laboratory and hemoglobin A1C levels were guiding his therapy. Throughout the summer and fall, the decedent declined with

respect to her cognitive and physical function. Other than one visit by a psychogeriatric outreach team, the cause of her marked decline in cognitive function was not further explored.

Glycemic control in the elderly with variable oral intake and variable activity levels can be very challenging. Goals of glycemic control in seniors should be modest, focusing on the prevention of hypoglycemia and profound hyperglycemia. These patients are dependent on others for their oral intake of food and fluids and often do not demonstrate signs of hypo- or hyperglycemia.

The main focus of the diabetic management in younger patients is usually on intensive blood glucose control and prevention of microvascular complications. Clinical trials have demonstrated that approximately eight years are needed before the benefits of glycemic control are reflected in reduction in microvascular complications such as diabetic retinopathy or renal disease. Care of the elderly diabetic patient should focus primarily on reduction of macrovascular end points with blood pressure management, aspirin therapy (currently under review) and lipid management. Although control of hyperglycemia is important in older persons, there is a greater reduction in morbidity and mortality resulting from the control of cardiovascular factors than from glycemic control.

There is an association between moderate glycemic control and the enhancement of wound healing, reduction of symptoms associated with hyperglycemia such as polyuria and fatigue, and possible maximization of cognitive function. Diabetic guidelines for the younger population likely cannot, and perhaps should not, be generalized to older adults with diabetes. Intensive management may not be feasible for some older patients. Aggressive management may result in harm to elderly patients such as episodes of hypoglycemia with tight glucose control or hypotension with aggressive blood pressure control. Hyperglycemia can increase the risk of dehydration, impaired vision and cognition which can lead to functional decline and increased risk of falls in the elderly diabetic patient<sup>1</sup>. Older patients may tolerate higher glucose levels prior to manifesting osmotic

diuresis. Goals for glycemic control in the elderly should be based on the individual's overall health and projected survival.

Appropriate hemoglobin A1C targets should be based on the overall health status of the patient. Elderly patients who have a life expectancy of over ten years and are fit should be managed according to similar guidelines for younger adults with a hemoglobin A1C target of <7.0%. Patients with long-standing diabetes mellitus who are at high risk of cardiovascular disease should have a more moderate target such as a hemoglobin A1C of 7.0 – 7.9%. The goal should be somewhat higher  $\leq$  8.0% in frail older adults with functional co-morbidities and life expectancy less than ten years. For very elderly patients, even higher levels should be considered to avoid hypoglycemia and its related complications<sup>2,3</sup>. These guidelines are consistent with the American Geriatric Society, the American Diabetes Association and the European Diabetes Working Party guidelines.

It should be recognized that hypoglycemia can lead to impaired cognition and function in the elderly and this risk of hypoglycemia is significantly increased in the elderly. The common adrenergic manifestations of hypoglycemia such as tremors and sweating may be absent in the elderly. Complaints may be more vague, consistent with neuroglycopenic symptoms such as dizziness, weakness and confusion.

The avoidance of hypoglycemia plays an important role in the choice of therapeutic agents in the treatment of diabetes mellitus in the elderly. Metformin is an appropriate choice for management of elderly patients who do not suffer from significant renal impairment. This agent has a low risk of hypoglycemia. Insulin therapy is useful and often necessary in the management of type II diabetes mellitus in the elderly. Insulin therapy usually consists of a basal supplement with an intermediate or long-acting preparation (NPH, glargine or detemir) insulin. In addition, pre-meal insulin, either short acting (regular), or rapid acting (lispro or aspart), should be administered to cover meal time elevations in glucose. Premixed insulin preparations are useful in the long-term care setting because of

the ease of use for the staff. This fixed-dose regimen does not facilitate variable dosing of insulin based on the resident's variable oral intake or most recent blood glucose measurement. It is not clear whether the long term-care facility where the decedent resided could have managed a sliding scale of preprandial insulin based on glucose measurements. She frequently had hypoglycemia in the evening and the early hours of the morning likely as a result of a fixed dose of mixed insulin, including NPH, administered prior to supper.

The decedent clearly had a progressive decline in cognition and function throughout her stay in the long-term care facility. She had a known diagnosis of dementia as well as diabetes mellitus and one would have expected a gradual decline over time. She did have a significant decline in cognition in early July 2010 which was documented as an increase in confusion and a psychogeriatric consultation was requested. It is unclear whether the addition of prochlorperazine and citalopram at this time may have contributed. The Committee believes that recurrent episodes of hypoglycemia occurring over many months likely contributed to decline in cognitive function and functional mobility beyond that expected from her underlying degenerative medical problems.

On arrival at the acute care facility, the decedent had electrolyte and renal function abnormalities reflecting dehydration. It appears from the notes that she was eating and drinking up until the morning of transfer. Her course at this time was significantly complicated by sepsis, evident by an elevated white blood cell count, thick green secretions and dyspnea consistent with pneumonia. She also had evidence of bacteriuria. She did not respond to aggressive resuscitative measures with fluids and antibiotics and her care was appropriately transitioned to comfort measures on the palliative care unit.

#### **Recommendations**

1. Long-term care physicians should familiarize themselves with guidelines of diabetic management in the frail elderly. The article, *Guidelines for improving care of the older*

*person with diabetes mellitus* (see reference 1 below), may provide valuable insight.

2. Long-term care facilities should explore the resources required to provide more flexible insulin regimens to their residents.
3. All capillary blood glucose measurements in acute care and long-term care facilities should be recorded in a single location in the record to appropriately guide the physician's therapy decisions.
4. Health care workers are reminded that the recognition and assessment of delirium is a core competency in the treatment of the elderly. When recognized, a careful review including pre-existing morbidities, concurrent illnesses, medications and laboratory investigations is required.
5. Long-term care physicians are reminded that the use of some medications requires regular laboratory monitoring. (In this case, renal function tests and electrolytes.)

#### **References:**

1. Brown AF, Mangione CM, Saliba D, et al. Guidelines for improving the care of the older person with diabetes mellitus. *J Am Geriatric Society* 2003; 51:S265
2. Abbatecola AM, Paolisso G. Diabetes care targets in older persons. *Diabetes Res Clin Pract* 2009; 86 Suppl 1:S35
3. American Diabetes Association. Standards of medical care in diabetes—2011. *Diabetes Care* 2011; 34 Suppl 1:S11

#### **Case: 2011-15 OCC file: 2010-12681**

#### **Reason for Review**

There were concerns expressed regarding the level of care provided to the 78-year-old decedent in the interim LTCH program where she resided prior to her death.

#### **History**



On July 6, 2010, the deceased resident, a 78-year old female, presented to the Emergency Department (ED) of the local acute care general hospital (ACGH) with sudden onset of neurological symptoms. These included left hemiparesis, right gaze preference, left hemisensory loss, left homonymous hemianopsia and anosagnosia.

Her medical history at the time included: hypertension – treated with lisinopril 10 mg/hydrochlorothiazide 12.5mg once daily; breast cancer (left) – treated with surgery, local radiation and six cycles FAC chemotherapy; “Anxiety disorder” – treated with citalopram 10 mg once daily; hyperlipidemia – treated with rosuvastatin 10 mg once daily and osteoporosis – treated with calcium 500 mg once daily, vitamin D 400 IU once daily and risedronate 35 mg weekly. She was also taking pantoprazole 40 mg once daily and enteric coated ASA 81 mg daily.

A CT scan confirmed a right M1 MCA territory ischemic stroke. She received tissue plasminogen activator (tPA). An echocardiogram revealed no source for an embolus, and she was in sinus rhythm at the time of presentation.

The woman’s dense and significant neurologic deficits persisted after the tPA. Post-tPA, she was started on dalteparin subcutaneous (sc), re-started on her ASA and her rosuvastatin dose was increased to 20 mg daily.

Her course in hospital over the next two months was marked by the following medical issues:

- *Dysphagia*: she required enteral feeding via nasogastric (NG) tube initially. Within ten days of admission, she began to safely swallow a modified texture diet. Her NG feeds were changed to nocturnal feeding and her diet gradually advanced over the ensuing days as she began to tolerate more oral intake safely. By July 17, 2010, her temporary NG feeding tube was discontinued and she was maintained on an oral diet thereafter.
- *Atrial fibrillation*: Atrial fibrillation began suddenly on July 18, 2010. She was started on oral beta blocker, but this was discontinued due to complication of hypotension. Subsequently, digoxin was

used for rate control and warfarin for stroke prophylaxis.

- *No neurologic recovery aside from swallowing*: The resident remained densely hemiparetic, with a visual field cut, left neglect and anosagnosia.

On July 28, 2010, the woman was moved to a unit within the acute care general hospital where patients awaiting an alternate level of care (ALC) stayed. Applications had been submitted for permanent residency in a LTCH that was regulated by the MOHLTC.

The woman was tolerating a minced diet with regular liquids and no bread, and was taking adequate amounts of food and fluids to meet her needs. She was noted to require supervision at mealtime and cueing to clear her mouth periodically between mouthfuls of food. She was incontinent of bowel and bladder, total care for all her activities of daily living and required a mechanical lift to transfer. She also had some cognitive impairment. Physiotherapy was continued 2-3 times per week for tone management and contracture prevention.

Additional medical issues that developed after July 28, 2010 while in hospital included:

- *Pain*: She intermittently complained of pain in her hips and left leg. This was initially managed with acetaminophen as needed, with the later addition of hydromorphone as needed. She also had occasional headaches. For the two weeks prior to discharge from this hospital, she required 1-3 doses of acetaminophen 650 mg per day, and 1-2 doses of hydromorphone 2 mg by mouth per day.
- *Constipation*: Managed successfully with a bowel routine.
- *Pressure Ulcer*: left heel – treated and resolved successfully. Pressure relief measures put in place.

On September 9, 2010, she was transferred to an “interim long term care bed” at a retirement home. Based on the “Home Profile Report” for this home dated April 2010, the interim beds had been opened January 18, 2010. There were 54 “interim beds” and 20 “convalescent beds” at

this home. The beds in this program at the retirement home were technically MOHLTC-funded and regulated LTCH beds, and therefore subject to the same regulations, oversight and accountability requirements as regular, permanent LTCH beds in the province.

At the time of transfer, the woman's status was stable. She had been safely managing a modified diet for at least six weeks. Her bloodwork from the acute care general hospital showed that her creatinine on August 3, 2010 was 75 umol/L and on September 1, 2010 was 83 umol/L. The discharge summary from the Speech Language Pathologist accompanied the resident to the interim LTCH bed, along with detailed diet and feeding support recommendations.

The woman was assessed by the health professionals at the LTCH over her first few days following admission. This included a dietary assessment, nursing (including a wound management specialist) for the left heel ulcer, physician, physiotherapy and recreation therapy. The dietary assessment indicated that the goal was to have her consume 12 x ½ cup servings of fluids daily as a minimum. Goals were also put in place around daily care and maintenance of function, wound management, pain management and activity and recreation. These plans were all discussed at a team care conference with the resident's family on September 15, 2010.

Over the 20 days following admission, the resident's main issues were pain, constipation and poor oral intake.

Her pain occurred daily and was variously described as in her left leg (hip or knee), or at times "all over the body." Pain was usually rated at 7-10 on a scale of 10. Initially, her pain management medications were: acetaminophen 650 mg by mouth every four hours as needed, hydromorphone 1 mg by mouth every six hours as needed and amitriptyline 10 mg by mouth at bedtime. The woman received 1-2 doses of acetaminophen on most days (similar to in the acute care setting), and 3-4 mg of hydromorphone on most days (about 1-2 mg more per day than she had needed in acute care). Consultation was requested from a pain

management team that was based at a regional complex continuing care hospital. On September 17, 2010 a note was made in her chart stating that, "Pain management referral refused: Triage nurse called to say that the client pain type was not fitting criteria to justify visit. However, the team was more than happy to assist (*attending MD*) over the phone with suggestions." On September 29, 2010 pregabalin 50 mg twice daily was added to the medications for pain. The woman received seven doses before being transferred back to the acute care hospital.

The woman was constipated during her stay in the LTCH interim bed. The program had a protocol for administration of laxatives beginning the third day after no bowel movement. No routine bowel management protocol was in place. After three days with no bowel movement, the protocol indicated that she should receive sennosides or milk of magnesia. If ineffective, the following day a bisacodyl or glycerin suppository was to be used. If there was no bowel movement by day five, a fleet enema was to be given. There are nursing notes indicating that the resident received the "Day 3 medications" on one occasion, and the "Day 5 medications" on another. At the time of discharge, her last recorded bowel movement was September 24, 2010 – six days prior to discharge.

The woman did not eat or take in fluids at the LTCH or at the hospital and this was evident from shortly after admission.

The woman's weight at admission was recorded as 58.2 kg. 12 days later, on September 22, 2010, her weight was recorded as 55.9 kg. It is not possible to discern from the record the method by which these weights were derived. If they are accurate, it is clear her nutritional status was deteriorating. In addition, a serum creatinine drawn on September 16, 2010 had risen to 106 umol/L.

On September 29, 2010, the woman became more confused and agitated. She was treated with pain medication and seemed to settle to sleep for the night. The next morning, she was "very drowsy" and at 1400 hours, the personal support worker (PSW) advised the registered nurse (RN) that the "resident has not been eating

very well for 2 days.” Later, at 1638 hours, the woman was noted to be, “lethargic, drowsy, having a had (sic) time to speak so weak. VS’s unstable....poor cap refill. Res’s oral mucousa (sic)/tongue extremely dry....Report from days no urinary output for shift, brief worn still dry. Skin pale, cool to touch.”

The woman was transferred back to the acute care general hospital where she was found to be profoundly dehydrated, with mottling of her extremities, systolic BP initially 100 mm Hg, then dropping to 70 mm Hg, and a serum creatinine of 389 umol/L. In consultation with the family, a decision was made to pursue a palliative plan of care and treatment. The woman died at the general hospital on October 4, 2010.

#### **Post Mortem**

No post mortem examination.

#### **Discussion**

This woman died of presumed complications of severe dehydration. The terminal events followed a 20-day period of increasing pain that was difficult to manage, constipation and poor oral intake of food and fluids.

The woman was not medically stable during her stay in the LTCH. She had changing health status, including a complex, post-stroke pain syndrome that was worsening, medication side effects (e.g. constipation and cognitive decline) and poor oral intake (in someone who was at high risk of malnutrition and dehydration). This unstable and high needs resident was in a care setting that could not meet her needs.

#### **Recommendations**

##### **To regulated health professionals in Long-Term Care Homes:**

1. LTCH health professionals are reminded of the importance of applying critical thinking to information about a patient’s status, and then taking action with the interprofessional team. It is not enough simply to gather and record the information.

2. Constipation is a well-known and predictable complication of narcotic medications. Elderly patients should always have a bowel care plan in place along with any narcotic prescriptions that are given to these patients.

3. Pain of a chronic nature needs to be thoroughly assessed and treated in an ongoing manner. “As needed” (i.e. PRN) medications are rarely useful alone for management of daily, ongoing pain, especially neuropathic pain. Regular, scheduled dosing of medications using accepted guidelines and standards is safer and more effective for patients.

##### **To the Ministry of Health and Long-Term Care:**

4. LTCH beds are best suited to residents whose health conditions are stable, and whose care needs can clearly be met by the skilled staff and services provided at a given LTCH. In the case of residents with very heavy needs for care and supervision, attention should be paid to ensuring that their needs can be met before they are moved to a LTCH.
5. Care of elders requiring LTC is complex and specialized. The use of temporary LTCH beds in facilities that are not experienced in this type of care should be discouraged.

#### **Case: 2011-16**

#### **OCC file: 2009-5943**

##### **Reason for Review**

There were concerns that the nurses at the LTCH did not follow orders made by the attending physician pertaining to the administration of nitroglycerin (NTG) spray for anginal equivalents, specifically diaphoresis and dyspnea.

##### **History**

The deceased was a 100-year-old woman who was admitted to the LTC facility on August 25, 2007. She had a complex past medical history

that included: gastric ulcer, depression, osteoporosis, congestive heart failure, possible chronic obstructive pulmonary disease (COPD) and severe symptomatic arthritis.

At the time of her death, the deceased was on the following medications: NTG spray 0.4 mg 1 spray every 10 minutes up to a maximum of 3 doses for chest pain, diaphoresis, or dyspnea; lactulose 15-30 ml, twice daily, as required; acetaminophen/caffeine/codeine 15 mg 1 tablet as required; phosphate enemas as needed; dimenhydrinate 50 mg every 6 hours as required; docusate sodium 1 or 2 tablets daily as required; vitamin D 1000 units daily; metoprolol 12.5 mg daily; calcium carbonate 500 mg twice daily; ramipril 2.5 mg daily; amlodipine 5 mg daily; citalopram 20 mg daily; folic acid 5 mg daily; ferrous fumarate 300 mg twice daily; pantoprazole 40 mg daily and furosemide 30 mg twice daily.

At the time of her admission to the LTC facility, the deceased was eating poorly. Her nutritional status remained stable and she was slightly above her target weight at the time of death.

The attending physician at the LTC facility was the deceased's family doctor who apparently kept notes and details at the office, rather than in the interdisciplinary notes of the LTC facility health record. (These office notes were not available for review by the Committee.) The physician did not normally practice at this facility. The physician visited regularly, but the written records were infrequent and the office notes were not accessible by the nursing staff of the LTC facility at the point of care.

The family of the deceased provided the Committee with an annotated copy of the LTC chart that was "flagged" with their concerns. The woman was noted to be wheezing and short of breath and experiencing pain on numerous occasions.

When the woman experienced severe shortness of breath and irregular heart rate (with no improvement), she was sent to hospital. The initial diagnosis in hospital was congestive heart failure, but x-rays did not confirm this. An acute coronary syndrome was also considered, but

there were no electrocardiographic changes or rise in troponin levels. She died before a definitive diagnosis could be made.

### **Post Mortem**

A post mortem examination was not done.

### **Discussion**

The application of "PRN" (as needed) orders can be complex. Nurses are expected to use professional judgment in the care of their patients. In this case, most episodes of shortness of breath were accompanied by wheezing. A search of textbooks of geriatric medicine and a literature search failed to find wheezing noted as an anginal equivalent. It is most likely to be caused by obstructive lung disease (COPD or asthma), or congestive heart failure.

A nursing update in 2007 on angina<sup>1</sup> did not discuss wheezing as a symptom of angina. A literature search revealed the importance of nitrates in managing symptomatic coronary artery disease<sup>2</sup> but did not reveal any evidence that not treating acute angina with NTG could result in a myocardial infarction.

The Committee believed that it was unlikely that the deceased was having angina. The Committee's opinion was that the nurses' decision not to give nitroglycerine played neither a causative nor a contributory role in this death. It was not felt to represent a systemic quality of care issue.

The treatment of LTC patients is extremely complicated and requires an inter-professional team. Teamwork requires practice and the development of trust. This is difficult to achieve when the attending physician is not a full member of the LTC treatment team, as was the circumstance in this case.

### **Recommendation**

1. [Physician documentation of a resident's care should be included in the long term care health record as part of the comprehensive](#)

interdisciplinary care of these complex residents.

**References**

1. Conway, B., Fuat, A. (2007) Recent advances in angina management: implications for nurses. *Nursing Standard*. 21, 38, 49-56. Date of acceptance: March 26, 2007.
2. Raos V., Bergovec, M. Antianginal and antiadrenergic therapy in acute coronary syndrome. *Acta Medica Croatica*. 58(2):123-7, 2004.

## Chapter Five

### Learning from GLTCRC Reviews

A primary and recurrent theme of the reports from the GLTCRC is that, when it comes to medical care, the elderly are a special group. The interplay of multiple medical and social issues requires the effort of a team of professionals to ensure the provision of competent and compassionate care. The recognition by policy makers of the special needs of the elderly is of critical and urgent importance as the population of Ontario ages.

No issue exemplifies the complexity of geriatric care as well as the management of the behavioural and psychological symptoms of dementia (BPSD). This is a pervasive factor in the safety of the elderly as it relates to falls, the use of restraints and to assaults. More than half of the long-term care home residents in Ontario have a diagnosis of dementia and almost half exhibit aggressive behaviours. The education of care providers in the effective management of BPSD and the appropriate allocation of resources have been identified as priorities by the GLTCRC.

The MOHLTC has also recognized the importance of this issue as evidenced by the Ontario Behavioural Support System Project (BSS) developed to promote a “principle-based Framework for Care that would mitigate the strain and improve outcomes for persons with challenging behaviours, families, health providers and the healthcare system.”<sup>1</sup> The MOHLTC has also created the Residents First quality improvement initiative. Other improvements in long-term care are being directed through the Long-Term Care Homes Act, the Retirement Homes Act and the Excellent Care for All Act.

The industry has responded with the LTC Innovation Expert Panel which was convened by the Ontario Long-Term Care Association. This group has developed the “Why Not Now”

<sup>1</sup> [www.BSSproject.ca](http://www.BSSproject.ca)

strategy for innovation and integration of long-term care. The anticipated challenge, in this time of fiscal restraint, will be to implement and build on these initiatives.

The GLTCRC recognizes the increased complexity and acuity of LTC residents. Elderly people in need of care, who would have been patients in hospitals, are now residents in LTC homes or retirement homes. LTC and retirement facilities are now home to adults of all ages and to people with mental illness whose residential options are limited. LTC facilities are challenged to provide living environments that meet the needs of such a broad spectrum of individuals.

The Office of the Chief Coroner is endeavouring to increase the public and professional exposure of the work of the GLTCRC in order to maximize the public safety benefits of the Committee’s recommendations. The 2010 annual report was presented at the annual conference of the Ontario Long-Term Care Association (OLTCA) and the Institute for Life Course and Aging, University of Toronto. The 2011 report will be presented at the annual education conference of the Ontario Long-Term Care Physicians (OLTCP). The increasing interest in the work of the committee on the part of the media reflects the importance that Ontarians place upon the care of the elderly.

In 2012, the composition of the committee will expand to include a forensic pathologist, a geriatric psychiatrist and a representative of the long-term care nursing community. It is anticipated that, with the changes to its membership and mandate, the number of cases reviewed by the committee will continue to increase.

## Appendix A

### Summary of Recommendations – 2011 Cases

Case	Theme of recommendation(s)	Recommendation(s)
2011-01	<p>Communication/ Documentation; Consent and DNR</p> <p>Communication/ Documentation; Consent and DNR</p> <p>Communication/ Documentation; Consent and DNR</p>	<ol style="list-style-type: none"> <li>1. All care providers are reminded that the process of consent for DNR and advance directives must be well documented including the documentation of provision of appropriate information to substitute decision makers to allow for meaningful decision making.</li> <li>2. Long term care homes should ensure that they have policies detailing the procedures to be followed by teams in the process of communication and documentation related to advance care planning, including a process for ensuring that the most recent and relevant decisions are clearly indicated and readily apparent in emergencies, at times of transfer to acute care and at other transitions of care.</li> <li>3. The Office of the Fire Marshal should consider revision of the Do Not Resuscitate Confirmation Form to allow for documentation of revocation of DNR status.</li> </ol>
2011-02	<p>Use of restraints</p> <p>Use of restraints</p>	<ol style="list-style-type: none"> <li>1. This case should be used to help educate health care providers about the potential dangers of using wheelchair lap belt restraints. All methods of restraints are associated with risk and a policy of least restraint should be employed.</li> <li>2. The Ministry of Health and Long Term Care should consider supporting research to explore design options that might include a between-the-leg component of a belting system (much like that used in child car seats), that might prevent downward slides without compromising comfort or other aspects of safety.</li> </ol>
2011-03	Communication/ Documentation	<ol style="list-style-type: none"> <li>1. The Regional Supervising Coroner should ask the Chief of Staff of the hospital to arrange a quality of care review of this case. The health care professionals in the Emergency Department of the local hospital should consider how to improve information management for a patient with repeat visits particularly if the patient might have issues of confusion and cannot provide an adequate history on their own.</li> </ol>
2011-04	Use of drugs in the elderly	<ol style="list-style-type: none"> <li>1. Staff and physicians in long-term care facilities should be provided with education on pharmacologic and non</li> </ol>

Case	Theme of recommendation(s)	Recommendation(s)
	<p>MOHLTC/LTC industry</p> <p>Medical and nursing management</p> <p>Medical and nursing management</p>	<p>pharmacologic management of Behavioural and Psychological Symptoms in Dementia (BPSD).</p> <p>2. Ministry of Health and Long Term Care funding should be made available to long term care facilities to assist with the non pharmacologic management of challenging behaviors, particularly after a resident's admission to a new environment.</p> <p>3. All long term care facilities should have immediate access to outreach teams to assist with the management of BPSD or specialized behavior units to accept residents in transfer for more in-depth assessment and treatment.</p> <p>4. This was a complex case involving a number of facilities and health care providers. The Regional Supervising Coroner should request quality of care reviews by these facilities and consider a Regional Coroner's Review depending on the results of those reviews.</p>
2011-05	<p>Medical and nursing management</p> <p>MOHLTC/LTC industry</p> <p>Medical and nursing management</p>	<p>1. There is an urgent need for the development of a comprehensive plan and protocols for management of BPSD in the LTCH system. It is recommended that this stand-alone plan be based on best practices and incorporate all necessary facets of the health care system. The plan should be translated into protocols and guidelines that are based on a realistic assessment of the resources and a commitment towards providing additional resources to address the continuing and increasing safety needs of LTCH residents.</p> <p>2. Protocols, practices and resources should be established within LTCHs to re-locate affected resident(s) out of a shared living space into a safer, less threatening living area immediately upon identification of threatening behaviour that impacts the safety of any resident.</p>
2011-06		No recommendations.
2011-07		No recommendations.
2011-08	<p>Medical and nursing management</p> <p>Communication/ documentation</p> <p>Medical and nursing management</p>	<p>1. Long-term care homes are reminded that the post-admission period is a time of high risk for violence in residents admitted with responsive behaviours/BPSD and that heightened vigilance is required. A need to share facilities (like bathrooms) has been a factor in a number of homicides in LTCHs and should be avoided whenever possible if a new resident has demonstrated physical aggression.</p> <p>2. Long-term care homes are reminded that behavioural care plans must be present, clear and up-to-date.</p> <p>3. Staff in long-term care homes should receive adequate education and training in the management of responsive</p>



Case	Theme of recommendation(s)	Recommendation(s)
		behaviours/BPSD. Each Local Health Integration Network (LHIN) should be encouraged to develop appropriate integration of education and training in the role-out of the behavioural support strategy.
2011-09	Use of restraints  Medical and nursing management  Medical and nursing management  MOHLTC/LTC industry	<ol style="list-style-type: none"> <li>1. Health care providers are reminded that bed rails are restraints and that they pose a safety risk to patients/residents. Four bed rails up constitutes a restraint and all the usual policies for restraints, including a physician's orders, must be followed. Alternatives to this type of restraint should always be sought.</li> <li>2. All facilities using hospital beds should appoint a person (or group) to ensure that the entire system (bed frame, mattress, and bed rails) functions as a unit to minimize the risk of entrapment.</li> <li>3. LTC facilities should consider unplugging the beds of severely demented patients, unless power is required by facility staff.</li> <li>4. Manufacturers should be encouraged to develop innovations in design that reduce the risk of entrapment and enhance patient safety.</li> </ol>
2011-10		No recommendations.
2011-11		No recommendations.
2011-12	Communication/ documentation	<ol style="list-style-type: none"> <li>1. Health care providers are reminded that transitions in care are very critical times for patients. All clinically important and relevant health information must be sent with the patient at times of transition in order to maximize safety and ensure the health professionals assuming care have all relevant information to provide ongoing care to the patient.</li> </ol>
2011-13	Medical and nursing management	<ol style="list-style-type: none"> <li>1. A quality of care review should be completed by GH2. The hospital should review its policy on the responsibilities of the most responsible physician. It is incumbent upon the most responsible physician to ensure that the patient is well enough for discharge. There should be a mechanism to ensure these responsibilities are fulfilled during holiday periods.</li> </ol>
2011-14	Medical and nursing management  Medical and nursing management  Medical and nursing management	<ol style="list-style-type: none"> <li>1. Long-term care physicians should familiarize themselves with guidelines of diabetic management in the frail elderly. The article, <i>Guidelines for improving care of the older person with diabetes mellitus</i> (Brown et al, 2003) may provide valuable insight.</li> <li>2. Long-term care facilities should explore the resources required to provide more flexible insulin regimens to their residents.</li> <li>3. All capillary blood glucose measurements in acute care and long-term care facilities should be recorded in a single</li> </ol>

Case	Theme of recommendation(s)	Recommendation(s)
	<p>Medical and nursing management</p> <p>Use of drugs</p>	<p>location in the record to appropriately guide the physician's therapy decisions.</p> <p>4. Health care workers are reminded that the recognition and assessment of delirium is a core competency in the treatment of the elderly. When recognized, a careful review including pre-existing morbidities, concurrent illnesses, medications and laboratory investigations is required.</p> <p>5. Long-term care physicians are reminded that the use of some medications requires regular laboratory monitoring. (In this case, renal function tests and electrolytes.)</p>
2011-15	<p>Medical and nursing management</p> <p>Medical nursing management Use of drugs</p> <p>Use of drugs</p> <p>MOHLTC/LTC industry</p> <p>Medical and nursing management</p> <p>MOHLTC/LTC industry Medical and nursing management</p>	<p>1. LTCH health professionals are reminded of the importance of applying critical thinking to information about a patient's status, and then taking action with the interprofessional team. It is not enough simply to gather and record the information.</p> <p>2. Constipation is a well-known and predictable complication of narcotic medications. Elderly patients should always have a bowel care plan in place along with any narcotic prescriptions that are given to these patients.</p> <p>3. Pain of a chronic nature needs to be thoroughly assessed and treated in an ongoing manner. "As needed" (i.e. PRN) medications are rarely useful alone for management of daily, ongoing pain, especially neuropathic pain. Regular, scheduled dosing of medications using accepted guidelines and standards is safer and more effective for patients.</p> <p>4. LTCH beds are best suited to residents whose health conditions are stable, and whose care needs can clearly be met by the skilled staff and services provided at a given LTCH. In the case of residents with very heavy needs for care and supervision, attention should be paid to ensuring that their needs can be met before they are moved to a LTCH.</p> <p>5. Care of elders requiring LTC is complex and specialized. The use of temporary LTCH beds in facilities that are not experienced in this type of care should be discouraged.</p>
2011-16	Communication/ documentation	<p>1. Physician documentation of a resident's care should be included in the long term care health record as part of the comprehensive interdisciplinary care of these complex residents.</p>

Questions and comments regarding this report may be directed to:

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