Palliative Care: Evaluating Regional Initiatives to Reduce Hospital Utilization

Ray Viola, MD
Division of Palliative Medicine
Department of Medicine

Research and Innovation in Aging Forum
December 15, 2015
Faculty: Raymond Viola
Relationships with commercial interests: None
Potential conflict of interest: None
Acknowledgements

- **Project Funding:** Ontario Academic Health Science Centres Alternate Funding Plan Innovation Fund
- **SRK pilot project:** South East LHIN
- **Administrative Leader:** Margaret George, Former Director, Southeastern Ontario Palliative and End-of-Life Care Network
Objectives

1. Define and describe palliative care
2. Review factors associated with location of palliative care delivery for individual patients
3. Describe two southeastern Ontario initiatives to facilitate end-of-life care in the community
4. Outline an ongoing study to evaluate these 2 initiatives
Palliative Care: Definition

- Disease not responsive to curative treatment
- Involves active, total care of patient and family
- Provided by an interdisciplinary team
- Physical, psychological, social & spiritual care
- Goal to optimize quality of life

World Health Organization, 1990
Palliative Care: Definition

Not included in WHO definition:

– Specific diagnosis
– Age
– Timeframe
– Settings of care
– Who delivers the care

CHPCA, 2002
Palliative Care vs. End-of-Life Care

Gibbs et al, 2002
FIGURE 3.3 Deaths and age-standardized mortality rates (ASMR) for all cancers, Canada, 1986–2015
FIGURE 7.1 Current and projected average annual population, by sex and age, Canada, 2003–07 and 2028–32

Age group

Population (in thousands)

Males
2003–07
2028–32

Females
2003–07
2028–32
Canadian Cancer Statistics 2010: Causes of Death

Figure 7.1
Proportion of Deaths Due to Cancer and Other Causes, Canada, 2005

Cancer, 29.3%

Diseases of circulatory system (incl. heart and stroke), 28.5%

Respiratory diseases (incl. chronic lower, influenza, pneumonia), 7.1%

Diabetes, 3.4%

Accidents, 4.1%

Influenza and pneumonia, 2.5%

Alzheimer’s disease, 2.5%

Kidney disease, 1.6%

Suicide, 1.6%

Other, 21.8%

43.1%

Adapted from: Ten leading causes of death, Canada, 2004 and 2005, Statistics Canada.
1. Pain & symptom control
2. Dying process not prolonged
3. Prepared for death
4. Support of family & friends
5. Supported decision making
6. Spiritual support and meaning
7. Holistic & individualized care
8. Death in supportive environment/location of choice

Howell & Brazil, 2005
Preferred Place of Care and Death

Most palliative care patients in Canada prefer to be cared for at home and to die at home

Stajduhar et al, 2008
Brazil et al, 2005
Place of Death

- There has been a steady decline over time in the proportion of deaths in Canada that occur in hospital
  
  but still

- Over 50% of deaths in Canada occur in hospital

  Wilson et al, 2009
Preferred Place of Death

- 214 informal caregivers interviewed after death
- Home preferred by patient and caregiver (63%)
- Caregiver preferred institutional death more often (14% vs 5%, p<0.001)
- Caregivers said place of death was appropriate, even if not preferred (93%)

Brazil et al, 2005
• 73 cancer patients in Edmonton
• 47% died at home
• When both patient and caregiver desired a home death, 66% died at home
• When both did not agree, 20% died at home

Cantwell et al, 2000
Predictors of Home Death

- Patient and caregiver both desire home death
  - OR 8.38, CI 2.41-29.13
- More than one caregiver
  - OR 5.47, CI 1.42-21.03
- Physician supports home death
  - OR 7.15, CI 0.65-79.14

Cantwell et al, 2000
End-of-Life Costs

• Canadian study of palliative care costs
• Over the last 5 months of life costs gradually increased as death approached
• A large portion of the cost increase was due to inpatient hospital care

Dumont et al, 2010
### Ontario Emergency Room Wait Times

**Time spent in Emergency Rooms in Ontario (hours)**

<table>
<thead>
<tr>
<th></th>
<th>Sept 2013</th>
<th>Target</th>
<th>Volume</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>7.8</td>
<td></td>
<td>450,388</td>
<td></td>
</tr>
<tr>
<td><strong>Complex Admitted Patients</strong></td>
<td>26.9</td>
<td>8.0</td>
<td>45,754</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Complex Non-Admitted Patients</strong></td>
<td>6.9</td>
<td>8.0</td>
<td>249,004</td>
<td>55%</td>
</tr>
<tr>
<td><strong>Uncomplicated Patients</strong></td>
<td>4.0</td>
<td>4.0</td>
<td>155,175</td>
<td>34%</td>
</tr>
</tbody>
</table>

[http://edrs.waittimes.net/En/ProvincialSummary.aspx?view=0](http://edrs.waittimes.net/En/ProvincialSummary.aspx?view=0)
Cancer System Quality Index 2013

Cancer End-of-Life Care in Ontario (2006-2009)

- Emergency room in last 2 weeks
- Died in acute hospital

Report date: February 2013
Data sources: Discharge Abstract Database, Ontario Cancer Registry
Prepared by: Institute for Clinical Evaluation Sciences
Emergency Room Visits
2002-2005

• Retrospective study of Ontario cancer patients who visited emergency rooms near the end of life
  – 36,600 visits in last 2 weeks of life
    • 71.9% admitted
    • 20.7% discharged
    • 4.8% pronounced dead

• Visits often because of symptoms
  – Pain, dyspnea, fatigue, nausea, vomiting, constipation
  – Potentially manageable at home

Barbera et al, 2010
Emergency Room Visits

- US study of hospice patients with cardiac disease
- Independent factors preventing emergency room visits:
  - Caucasian
  - Nursing visit frequency
  - Morphine use
  - Medication compliance
  - Caregiver presence along with a ‘hospice emergency kit’ in the home

Schonwetter et al, 2008
The Canadian health care system should provide the best end-of-life care in the most appropriate setting preferred by each person facing death.
Southeastern Ontario Home Death Working Group

- Region-wide representation
- Engaged relevant organizations & professions
  - ambulance, funeral homes, coroner
  - pharmacies, physicians, nurses
  - South East Community Care Access Centre (CCAC)
South East LHIN
Planning for a Home Death

- Clarify resuscitation status
- Plan for pronouncement & certification
- Support family throughout the dying process
- Avoid unnecessary transfers to hospital
- Avoid unnecessary calls to coroner
PALLIATIVE CARE PLAN FOR
EXPECTED DEATH AT HOME

IT IS NOT NECESSARY
TO CALL 911

Southeastern Ontario
Palliative & End-of-Life
Care Network
The Yellow Folder

Introduced by community nurse when patient’s functional status is 50%

Three main components:
• DNR Form
• Information brochure
• Expected Home Death Planning Tool
Brochure: When Death Occurs at Home

For informal caregivers:
- Physical changes as death nears
- What to do for patient’s comfort
- What to do at time of death
Avoid calling coroner for an expected death!
Yellow Folder in Southeastern Ontario

Started April 2010
Symptom Response Kit (SRK)

Places medications and supplies in the home

For managing **future** sudden changes in the patient’s condition
SRK Pilot Project in Southeastern Ontario

Process

- One pharmacy provider for whole region
- Ordered by MD
  - When patient’s functional status is 50%
  - Medications custom selected for the patient
- Sealed cardboard box
  - Yellow labels on all sides of box
- Delivered by 21:00 next work day
When the SRK is needed:
- Nurse assesses patient
- Nurse administers treatment from SRK
- Nurse calls MD after treatment
- MD & nurse plan ongoing care
SRK Pilot Project in Southeastern Ontario

Started February 2012
Evaluation of Symptom Kits

- Symptom kits are used in many jurisdictions, but are not widely reported or evaluated

Walker et al, 2010
Bishop et al, 2009
Wowchuk et al, 2009
LeGrand et al, 2001
Research Question:
Does use of the Yellow Folder & SRK increase the likelihood of that adult palliative care patients receiving home care services will die at home?

Secondary Outcomes:
– Avoid emergency room visits?
– Avoid hospital admissions?

Funding: Ontario Academic Health Science Centres Alternate Funding Plan Innovation Fund
Centre for Health Services and Policy Research, ICES

- Christine Knott, PhD
- Patti Groome, PhD
- Helene Ouellette-Kuntz, PhD
- Paul Peng, PhD
- Colleen Webber, PhD (cand)
- Donna Logan, RN

Dept of Public Health Sciences, ICES
Dept of Public Health Sciences
South East Community Care Access Centre (CCAC)
Retrospective Studies

• Large administrative databases linked:
  – ICES datasets
  – South East CCAC dataset

• Population
  – Palliative care clients of South East CCAC between April 2009 and March 2014
ICES datasets

- Registered Persons Database - RPDB
- Discharge Abstract Database from the Canadian Institute for Health Information – CIHI DAD
- National Ambulatory Care Reporting System - NACRS
- Continuing Care Reporting System – CCRS
- OHIP Claims Database
- Ontario Cancer Registry - OCR
- Canadian Census
• Historical time periods:
  – 1 year prior to Yellow Folder (Apr/09 - Mar/10)
  – Yellow Folder alone (Apr/10 - Feb/12)
  – Yellow Folder and SRK (Mar/12 - Mar/14)

• Outcomes
  – Place of death: community vs hospital
  – ER visits
  – Hospital admissions
• Identify South East CCAC palliative care clients who
  – Received Yellow Folder and/or SRK
  – Did not receive Yellow Folder or SRK

• Outcomes
  – Place of death: community vs hospital
  – ER visits
  – Hospital admissions
• Control for:
  – Demographics - age, sex, SES, co-habitation
  – Geography - residence location in region, rural vs urban
  – Clinical - cancer vs non-cancer, co-morbidities
  – Elapsed time - since identified as palliative
• Patient and caregiver preferences not available
Retrospective Cohort Study

- In southeastern Ontario, about 800 deaths/year of CCAC clients identified as palliative
- Sample size of 1000 provides 80% power to show a decrease in hospital deaths from 55% to 44%
  - 2-sided significance = 0.05
Other Relevant Outcomes

- Quality of life/symptoms
- Quality of care
- Satisfaction with care
- Costs
Perceptions of Professional Care Providers

• Focus groups
• Surveys
• Targets:
  – Home care program managers/coordinators
  – Community nurses
  – Palliative care nurse practitioners
  – Family physicians
  – Palliative care physicians
Perceptions of Surviving Caregivers

• Mail survey to caregivers of patients who died 3 months earlier
  – Care received, personal costs associated with care, perceptions/memories of Yellow Folder and SRK

• Invitation to participate in an in-depth qualitative interview
  – Confidence in care provided, satisfaction
Cost-Effectiveness

- Direct costs of Yellow Folder and SRK
- Ambulances avoided?
- ER visits avoided?
- Hospital beds avoided?
- Family costs
Summary

- Many palliative care patients prefer to remain at home and die at home
- Yellow Folder initiative facilitates planning for a home death
- Symptom Response Kits may help palliative care patients stay at home
- Evaluation ongoing
References

References

17. A model to guide hospice palliative care. Ottawa: Canadian Hospice Palliative Care Association (CHPCA); 2002