Older Adults in the Emergency Department: A Senior Friendly Approach To Care

Doris Splinter Flynn, MN, ENC(C), GNC(C), RN
APN GEM, Kingston General Hospital

David Patrick Ryan, Ph.D.
Director of Education
Regional Geriatric Program of Toronto
Assistant Professor, Faculty of Medicine University of Toronto

Presented at the Manitoba Gerontological Nursing Association Education Day
Winnipeg, Manitoba, Oct 12, 2012
Learning Objectives

1. Current Canadian Emergency Departments

2. Process and design elements in a senior friendly ED

3. Models of Geriatric Emergency Services

4. Learning needs of ED providers to enhance care

5. Challenges/opportunities for capacity building and engaging decision makers

6. Evaluation and research potential of Geriatric Emergency Management Services
Session 1 - David
Part A
Facts and Myths
(1015-1045)
Emergency Medicine is “unbounded in scope, unpredictable and potentially unlimited in demands”
(Cosby & Crockberry 2009)

ED overcrowding occurs primarily when sick patients, ... have no place to go and remain in the ED. It is mainly a symptom of an overcrowded hospital, not the result of „inappropriate“ ED use.”
(Moskopp et al 2009)
Distribution of ED visits by age

(CIHI 2005)

No. visits (1,000s)

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
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<tbody>
<tr>
<td>0-4</td>
<td>200</td>
<td>150</td>
</tr>
<tr>
<td>5-18</td>
<td>350</td>
<td>300</td>
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<tr>
<td>19-45</td>
<td>850</td>
<td>900</td>
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<tr>
<td>46-65</td>
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<tr>
<td>66-85</td>
<td>300</td>
<td>350</td>
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<tr>
<td>85+</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>
Fig. 1. Canadian Emergency Department Triage and Acuity Scale colour scheme.

Note: CTAS designed for general adult population and has no specificity for geriatrics
Older patients have longer length of stay in ED regardless of acuity (CIHI 2005)
Time (in Hours) Spent in ED by CTAS level for all Toronto Central LHIN Seniors 65+ (2011-2012)

Note: 1,21,760 visits recorded as unknown CTAS level and unknown ED LOS
Percentage of patients admitted to hospital from the ED by CTAS level

CTAS

% adm for CTAS
% adm for CTAS < 65
% adm for CTAS >65

Percentage of patients admitted to hospital from the ED by CTAS level

CTAS

% adm for CTAS
% adm for CTAS < 65
% adm for CTAS >65

Plot showing the percentage of patients admitted to hospital from the ED by CTAS level.
### The daily rates of ED visits all ages in one Ontario Local Health Integration Network (April - March 2012)

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<thead>
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<th></th>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
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<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 yrs</td>
<td>5378</td>
<td>4747</td>
<td>4210</td>
<td>4380</td>
<td>4235</td>
<td>4763</td>
<td>5055</td>
</tr>
<tr>
<td>5-18 yrs</td>
<td>5570</td>
<td>6135</td>
<td>5712</td>
<td>5709</td>
<td>5772</td>
<td>5786</td>
<td>5115</td>
</tr>
<tr>
<td>19-45 yrs</td>
<td>21545</td>
<td>29674</td>
<td>28698</td>
<td>28235</td>
<td>27657</td>
<td>28114</td>
<td>22607</td>
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<tr>
<td>46-65 yrs</td>
<td>12923</td>
<td>33695</td>
<td>32614</td>
<td>34063</td>
<td>33288</td>
<td>32308</td>
<td>19404</td>
</tr>
<tr>
<td>66-85 yrs</td>
<td>7764</td>
<td>27076</td>
<td>28276</td>
<td>28102</td>
<td>28340</td>
<td>26741</td>
<td>16364</td>
</tr>
<tr>
<td>85+ yrs</td>
<td>2161</td>
<td>5052</td>
<td>4659</td>
<td>4821</td>
<td>4793</td>
<td>4733</td>
<td>3371</td>
</tr>
</tbody>
</table>

### Additional Details

- The chart shows the daily rates of ED visits for different age groups from April to March 2012.
- Age groups: 0-4 yrs, 5-18 yrs, 19-45 yrs, 46-65 yrs, 66-85 yrs, 85+ yrs.
- Days of the week: Sun, Mon, Tue, Wed, Thu, Fri, Sat.
- The number of visits ranges from 0 to 40,000.
- The chart is a bar graph with days of the week on the x-axis and the number of visits on the y-axis.
The daily rates of ED visits from LTCH residents in one Ontario Local Health Integration Network (April - March 2012)

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<th>Sun</th>
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<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-74 yrs</td>
<td>66</td>
<td>88</td>
<td>102</td>
<td>92</td>
<td>104</td>
<td>69</td>
<td>80</td>
</tr>
<tr>
<td>75+ yrs</td>
<td>471</td>
<td>574</td>
<td>556</td>
<td>538</td>
<td>572</td>
<td>554</td>
<td>457</td>
</tr>
</tbody>
</table>
They don’t come at the wrong time
They don’t surge on Fridays
They don’t come for frivolous reasons
Low complexity patients have minimal impact on wait times
Schull, Kiss & Szalai (2007)

Physicians overestimate the % of seniors treated in ED - 39.4% vs. actual of 11-23%  (Schumacher et al 2005)

9.3% of seniors seen in the ED with vague or non specific complaints were all labelled “home care impossible” and diagnosed “failure to thrive”
94% were admitted
51% had a unidentified medical diagnosis (pneumonia, TIC/CVA, CHF, pain, delirium, fracture, anemia, ARF )
Upon review 26% were under-triaged in the ED
Rutschmann SMW 2005;135:145
Coming Up
Session 1 - Doris
Part B The Emergency Department
(1045-1115)
Emergency Departments

• First arose alongside the industrial revolution
• Workers were being injured on the job – needed rapid medical attention (to get back to work!)
• Basic design of gurneys and first aid supplies

Original design still lingers

• Aging population – common to all
• Crowding and Patient flow through ED
• ↑ complex multi-system diseases
• Disjointed coordination of care

Lack of awareness of community resources
Patient satisfaction
Staff frustrations
Patient Safety
Two Paradigms

**ED**
- Single complaint
- Acute
- Diagnose and treat
- Rapid disposition

**Geriatrics**
- Multiple medical, functional and social problems
- Acute on chronic, subacute
- Control symptoms, maximize function, enhance quality of life
- Continuity of care
Role of ED to older people

• Treatment of emergencies
• Point of entry to care
• Safety net when transition between various systems of care is disrupted or when other access is not available
• Opportunity to assess and offer intervention
An ED visit can be a sentinel Event

Incomplete/inaccurate assessments/diagnostic errors
Increased likelihood of hospitalization and its cascade
5 X more likely to decline after discharge
10% 3 month mortality
  More likely to return to the ED with the same problem
Functional decline 4.3 x as likely after ED
1/3 of patients >= 75 experience significant functional decline after an ED visit
ED stays > 12h hours associated with 2x fold increase in delirium rate
Inappropriate disposition of patient
Person not asked about ability for self care/misunderstood D/C instructions
Loss of the capacity for independent living

Session 1, Part C Senior Friendly ED – Physical Design(1115-1155) - David
The senior friendly hospital framework

Processes of Care: Focus on delirium, mobilization and transitions
Care is guided by the best available evidence

Social and Behavioral Environment
All staff are respectful, supportive and caring of seniors

Clinical Ethics and Research
Hospital ethics and research processes are senior friendly

Organizational Support
Organizational structures & processes support SFH initiatives

Physical Environment
The physical environment is sensitive to senior’s abilities
Table Talk: What are the top 3 things that your ED could realistically do to create a more senior friendly physical environment
ACH Geriatric ED 2012
ACH Geriatric ED 2012

Slide Courtesy of Dr Scott Wilber, Director, Emergency Medicine Research Center, Summa Akron City Hospital
Video: The Senior Friendly ED at Holy Cross

http://www.youtube.com/watch?v=J4P8RnuPE40&feature=related
Lunch 1200 - 1300
Video: Brian Regins ED Experience

http://www.youtube.com/watch?v=cP4zgb9H3Cg
Section 2  (1300 – 1415)
Senior Friendly ED Nursing - Doris
Query:
What are the top three aspects of ED Nursing Care that would be considered most “elder friendly”? 
Case of Mr J.

• 88 yr old male arrives by ambulance with EMS dispatch of ?TIA. 8:55pm on Friday, wife notices husband has slurred speech and seems weak, won’t respond to wife promptly.
• (L) eyelid droopy – wife told paramedics that it’s always like that
• Arrives into ED at 9:30pm. Wife at home.
• VSS, neuro stroke scale – good bilat
• Meds: EC ASA 81mg; terazosin 5mg; atorvastatin 10mg; metoprolol 50mg; digoxin 0.125mg; vitamin D
Eleven Principles of Geriatric Emergency Medicine (SAEM – Meldon, et al.)

1. The patient’s presentation is frequently complex.
2. Common diseases present atypically in this age group.
3. The confounding effects of comorbid diseases must be considered.
4. Polypharmacy is common and may be a factor in presentation, diagnosis, and management.
5. Recognition of the possibility for cognitive impairment is important.
6. Some diagnostic tests may have different normal values.
Eleven Principles of Geriatric Emergency Medicine (SAEM – Meldon, et al.)

7. The likelihood of decreased functional reserve must be anticipated
8. Social support systems may not be adequate, and patients may need to rely on caregivers
9. A knowledge of baseline functional status is essential for evaluating new complaints
10. Health problems must be evaluated for associated psychosocial adjustment
11. The emergency department encounter is an opportunity to assess important conditions in the patient’s personal life
GEM Nursing Network in Ontario

• 2002 First GEM nurse at Sunnybrook Health Sciences GEM impact prompted 3 other positions

• 2005 MOH funded 8 new GEM nurses across RGPs of Ontario

• Evaluation of the 8 GEM nurses revealed
  • April/05 – March/06 - 2,886 (51% of those screened at risk) seniors seen
  • Increased number of primary care visits at 30 days (6 vs 4.6)
  • Reduced LOS 10.1 days vs 17.5 days
  • 4% reduction in hospital admissions from the ED for seniors over 69 years

• Presently 102 GEM nurses in 53 EDs in Ontario

• A growing network of senior friendly ED Docs

• System monitoring includes number of patients seen, number of post ED linkages and stakeholder satisfaction
On allocation of GEM nurses time

58% of GEM time on clinical service
35% of GEM time on capacity building
7% of GEM time on other activities
<table>
<thead>
<tr>
<th>Categories of GEM service</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>1. Comprehensive geriatric emergency management assessment</td>
<td></td>
</tr>
<tr>
<td>2. Targeted assessment</td>
<td>Screen and focus on one thing eg wound care</td>
</tr>
<tr>
<td>3. Screen and refer</td>
<td>Eg a patient for which a housing issue is quickly identified and is referred on to discharge planner</td>
</tr>
<tr>
<td>4. Consult and recommend (without necessarily seeing the patient but prompting a chart entry)</td>
<td>When GEM nurses are asked to inform care planning but do not need to formally assess eg. A physician asks about the appropriateness of a medication or a nurse about a wound dressing</td>
</tr>
<tr>
<td>5. Telephone and Follow-up</td>
<td>For discharged patients or when you are concerned about disposition or people come back to see you</td>
</tr>
</tbody>
</table>
Domain Management Model (Siebens, 1996)

I. Medical / Surgical Issues
   A. Diseases
   B. Syndromes

II. Mental Status / Emotions / Coping
   A. Cognition
   B. Emotions
   C. Coping
   D. Spiritual

III. Physical Function
   A. ADLs       home mobility; self care
   B. IADLs      community mobility
   C. AADLs      hobbies, work

IV. Living Environment
   A. Physical
   B. Social
   C. Financial
Objective: Identify High Risk Older Adults

Process:
- TRST Tool
- Canadian Triage Acute Scale (CTAS)
  - CTAS Level ≥ 2: patients not presenting in cardiac arrest
  - CTAS Level = 2: acute MI, hip #
  - CTAS Level = 3-5: more stable patients, including those who are ultimately discharged from ER without admission

Recognition and Intervention:

Geriatric/Atypical Presentation of Acute Illness (e.g. recurrent falls, delirium, failure to thrive)
- Cognition – MMSE / Mini-Cog, Clock Drawing Test
- Mood/Anxiety – GDS etc.
- Functional/Mobility/Falls – ADL/IADL, Gait assessment
- Delirium – screen for its presence w/ CAM
- Urinary Incontinence
- Constipation/Fecal Incontinence
- Medication concerns/ Polypharmacy
- Alcohol Dependence/Substance Misuse – CAGE, other assessment tools
- Others: Driving Issues, Elder Abuse, etc.

Focus on clinical & outcomes assessment (e.g. patient satisfaction)

Geriatric Psychiatric Services
- Outreach Team
- Clinics
- In-patient Geriatric Psychiatry Consult Team

Home Services
- Urgent Community Care Links
- Private Payment Options
- Family Involvement

In Patient Services
- Medicine, ortho, surgery, etc.
- Allied health services

Other Services
- Palliative Care (in-patient/ outreach for analgesia, etc.)
- Community services (Adult day program)

Specialized Geriatric Services
- Geriatric Clinic
- Outreach Team
- Day Hospital
- Acute Care Consult Team

Liaison
- Patients
- Family physicians
- ED Team
- Circle of care

Quality Improvement
- Liaison
- Patient Feedback
- Geriatric Services Staff
- Evaluation
- Policy Development

Capacity Building
- Internal Stakeholders
- External Stakeholders
- Community at large

Education
- Collaboration
- Program Development
- Advocate for enhancement in seniors service

Other Services
- Palliative Care (in-patient/ outreach for analgesia, etc.)
- Community services (Adult day program)

MMSE = Mini-Mental Status Exam; CAM = Confusion Assessment Method; ADL= Activities of Daily Living; IADL = Instrumental Activities of Daily Living; GDS = Geriatric Depression Scale
Responses from 12 GEMS to query regarding impact of wait times strategy

<table>
<thead>
<tr>
<th>Time to GEM referral</th>
<th>Length of GEM assessment</th>
<th>Percent d/c within 4 hours</th>
<th>Percent d/c within 8hrs</th>
<th>Wait times affect referrals?</th>
<th>MDs express concern re wait times</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 hour (range 0-3 hours)</td>
<td>2.5 hours (range 0.5 hrs to 4 hours)</td>
<td>31% (range 1% to 60%)</td>
<td>70%</td>
<td>No 10/11</td>
<td>No 10/12 Concerns 1 GEM helps 1</td>
</tr>
</tbody>
</table>
Evidence from Controlled Studies of GEM

Two stage assessment and community linkage
Reduced functional decline at 4 months

Decreased nursing home admissions at 30 days (.07 vs 3%)
Most effective for high risk group

Decreased ED visits at 14 days (12.9 vs 16.1%)

Decreased hospital admissions at 20 days (16.5 vs 22.2%)
Decreased emergency department visits at 18 months (44.4 vs 54.3)
A Systematic Review and Qualitative Analysis to Inform the Development of a New Emergency Department-Based Geriatric Case Management Model

Samir K. Sinha, MD, DPhil, FRCPC, Edward S. Bessman, MD, Neal Flomenbaum, MD, Bruce Leff, MD

From the Division of Geriatric Medicine, University of Toronto, Toronto, Ontario, Canada (Sinha); the Division of Geriatric Medicine and Gerontology, Center on Aging and Health (Sinha, Leff) and the Department of Emergency Medicine (Bessman), Johns Hopkins University School of Medicine, Baltimore, MD; the Department of Emergency Medicine, Weill Cornell Medical College, Cornell University, New York, NY (Flomenbaum); and the Department of Health Policy and Management, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD (Leff).

Study objective: We inform the future development of a new geriatric emergency management practice model. We perform a systematic review of the existing evidence for emergency department (ED)-based case management models designed to improve the health, social, and health service utilization outcomes for noninstitutionalized older patients within the context of an index ED visit.

Eight characteristics of successful GEM models

1. Evidence Based 2. Nursing Service or Leadership 3. High Risk Screening
4. Focused Geriatric Assessment 5. Care/discharge planning in ED 6. IP capacity building
7. Follow-up/Linkages 8. CQI

Results: Eighteen of 352 studies (reported in 20 articles) met study criteria. Qualitative analyses identified 28 outcome measures and 8 distinct model characteristic components that included having an evidence-based practice model, nursing clinical involvement or leadership, high-risk screening processes, focused geriatric assessments, the initiation of care and disposition planning in the ED, interprofessional and capacity-building work practices, post-ED discharge follow-up with patients, and evaluation and monitoring processes. Of the 15 positive study results, 6 had all 8 characteristic components and 9 were found to be lacking at least 1 component. Two studies with positive results lacked 2 characteristic components and none lacked more than 2 components. Of the 3 studies with negative results demonstrating no positive effects based on any outcome tested, one lacked 2, one lacked 3, and one lacked 4 of the 8 model components.

Conclusion: Successful models of ED-based case management models for older adults share certain key characteristics. This study builds on the emerging literature in this area and leverages the differences in these characteristics to guide future model development.
The Elder-Friendly Emergency Department Assessment Tool: Development of a Quality Assessment Tool for Emergency Department-Based Geriatric Care

Jane McCusker, MD, DrPH,† José Verdon, MD, MSc, FRCP,‡§ Alain Vadeboncoeur, MD,§ Jean-Frédéric Lévesque, MD, PhD, † Samir K. Sinha, MD, DPhil, FRCP,†‡§§ Katherine Y. Kim, BSc, † and Eric Belzile, MSc †

Table 3. A Proposed Elder-Friendly Emergency Department (ED) Assessment Tool

| Presence of geriatric screening and assessment protocols for vulnerable elderly adults using validated tools |
| High-risk screening tools to identify vulnerable elderly adults |
| Cognitive, functional, and mobility assessments |
| Medication review and reconciliation |
| Standardized protocols for identification, prevention, and management of delirium, falls, functional decline, dehydration, incontinence, and pain |

**SETTING:** Quebec, Canada.

**PARTICIPANTS:** The international panel comprised 34 clinicians, administrators, and researchers. The construct validation was based on a 2006 survey of ED lead physicians and nurses at all 103 EDs in the province, of whom 68 (66%) supplied complete data.

**MEASUREMENTS:** The initial tool included five subscales: ED staffing, screening and assessment, discharge planning, community services, and care philosophy. Differences in subscale scores were examined according to ED size, and of these scores were correlated with care ratings made by lead physicians and nurses.

**RESULTS:** The average scores for three subscales (ED staffing, discharge planning, and community services) varied according to ED size. After adjustment for ED size, three subscales (screening and assessment, discharge planning, and community services) were correlated with ED.

Other evaluation and validation of the proposed tool will be needed to further its utility in helping to focus the quality improvement efforts of clinicians, managers, and administrators related to the care they provide older adults. *J Am Geriatr Soc 60*:1534–1539, 2012.

**Key words:** aged; emergency department; quality of care

The growing number of visits being made by older adults, who present with a greater level of complexity and urgency more often than younger individuals, use more resources and stay longer during a visit in the ED,
Systematic Review of Evidence on Specific ED Nursing Intervention for Seniors

(Pearce et al, 2011, JBI Library of Systematic Reviews & JBI Best Practice Information Sheet, 2012, Nursing and Health Sciences, 14, 272-274)

From a total of 850 identified articles 16 qualified for evidence review

1 prospective, randomized, single-blind trial;
1 quasi-experimental study
14 textual papers with varying degrees of methodological quality

Conclusion: little available to confirm the effectiveness of nursing interventions in the management of older people in ED in the areas of:

- Nutrition
- Hydration
- Pressure area care
- Pain management
- Communication
Interventions and evidence level

• Warmed blankets (III)
• Nutritional assessment and referral (IV)
• Provide food and drinks contraindicated (IV)
• Repeated pain assessments (IV)
• Engage pt/family in pain monitoring (IV)
• Initiate pain treatment if indicated (IV)
• If opioids used provide bowel routine (IV)
• Pressure sore risk $A_x$ & treatment (IV)
• Communicate with community care providers (IV)
• Streamline simple, consistent information (IV)
Recommendations

Tripartite committee report, 2006

• Coordination and Integration of care between hospital and alternate care site
• Standard performance targets
• Standardized protocols (e.g. delirium)
• System-wide solutions

Geriatric Emergency Care: Policy Recommendations, 2006

• Education * (highest rated by panel of international geriatric emergency experts)
• Integration and coordination of care
• Resources
• ED physical environment
• Evidence-based practice
• Research and evaluation
• Advocacy
<table>
<thead>
<tr>
<th>Other Emerging Initiatives</th>
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<tbody>
<tr>
<td>Health Quality Council</td>
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<td>GEM and LTCH repatriation</td>
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<tr>
<td>Emergency Mobile Nursing Services to LTC</td>
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<td>Interface Geriatrics</td>
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<tr>
<td>Integrated Client Care Project – Frailty focused case managers</td>
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<td>Virtual Ward</td>
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<td>Home at Last</td>
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<tr>
<td>Acute Care of the Elderly (ACE) Units</td>
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<tr>
<td>Nurse Led Geriatric Assessment and Intervention Clinics</td>
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<tr>
<td>Behavioral Supports Ontario</td>
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<tr>
<td>Community Paramedicine</td>
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Section 3 (1430 - 1535) - David
Other para-ED models/support systems
Building senior friendly capacity
Evaluation and research potential relating to geriatric emergency services
Some context

Transitions, ED visits and Hospitalizations can all be dangerous for frail seniors

CLHIN EDs see more than 1500 LTCH residents each quarter

¼ are for at “less urgent” or “not urgent” triage levels
½ are for “urgent” triage levels
¼ for “resuscitative” or “emergent” triage levels

Overall ED transports for seniors have increased by approx 30% since 2008

Fifty three percent (53%) of transferred patients had an in-patient admission.

On end of life care: 18% (range 16-43%) of LTC resident deaths involved at least one ED transport 4 weeks prior to death. When transported we believe that these are triaged at high levels of urgency

Residents are sometimes transported to the ED in order to gain access to what would otherwise be an ambulatory care service: e.g. interventional radiology, blood transfusion, videofluoroscopy

It is difficult for LTCH staff to maintain certification for managing some complex conditions
Emergency Mobile Nurse Led Outreach Service Goals

**Goal 1:** To improve safety and quality of life of residents in LTCHs by providing emergency nursing services in the home as an alternative to an ED transfer.

**Goal 2:** To build the capacity and confidence of LTCH staff, patients and families to recognize and manage acute changes of condition and prevent the need for ED transport.

**Goal 3:** To support the capacity of LTCH staff to manage complex conditions that might otherwise require hospitalization or lead to ALC status.

**Goal 4:** To reduce hospital length of stay for patients/residents who can be discharged to a LTCH with appropriate supports provided by the outreach service.
### Nurse Led Outreach - Emergency Mobile Nursing Service Model

<table>
<thead>
<tr>
<th>Capacity Building and Prevention</th>
<th>Emergency Transport Avoidance</th>
<th>Planned Ambulatory Access and Rapid ED Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify acute change of resident condition</td>
<td>• Rapid face to face emergency nursing</td>
<td>• Develop opportunities for access to clinics e.g.</td>
</tr>
<tr>
<td>• Supporting end of life care and the use of advance directives</td>
<td>• Telephone coaching</td>
<td>• Interventional radiology</td>
</tr>
<tr>
<td>• Participate in rounds</td>
<td>• Tele-consult during outbreaks</td>
<td>• Video fluoroscopy</td>
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<tr>
<td>• Supporting attending physicians</td>
<td></td>
<td>• Transfusion</td>
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<tr>
<td>• Building confidence on complex procedures</td>
<td></td>
<td>• Linkage with Geriatric Emergency Management Nurses (GEM)</td>
</tr>
<tr>
<td>• Building partnerships to meet resident needs in such areas as IV management and tracheostomy</td>
<td></td>
<td>• Facilitating information exchange</td>
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<tr>
<td>• Facilitate hospital-LTCH patriation</td>
<td></td>
<td>• Facilitating EMS offloading protocols</td>
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<tr>
<td>Indicator</td>
<td>Outcomes</td>
<td></td>
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<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Resident encounters (note this includes follow-ups etc)</td>
<td>10,303</td>
<td></td>
</tr>
<tr>
<td>Patient encounters that were imminent transports</td>
<td>3291</td>
<td></td>
</tr>
<tr>
<td>Estimated averted transports</td>
<td>2,961</td>
<td></td>
</tr>
<tr>
<td>Percent of imminent transports averted</td>
<td>89.9%</td>
<td></td>
</tr>
<tr>
<td>Average visits per resident seen</td>
<td>1.4</td>
<td></td>
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<tr>
<td>Hours of capacity building</td>
<td>7007 Hours</td>
<td></td>
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NLOT consultation requests (82% of total)

- Tube Problems
- Hydration
- Pain
- Fever
- Respiratory distress
- Loss of consciousness
- Infection
- Falls
- Wounds
- Continence
Transport frequencies by CTAS comparing immediate pre-service quarter with quarter 2 2010-2011 for 36 on-service homes for one ltc-ed outreach team

<table>
<thead>
<tr>
<th></th>
<th>Immediate pre-service quarter</th>
<th>Quarter 2 2010-2011</th>
<th>Change in transport frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>All CTAS</td>
<td>1570</td>
<td>1425</td>
<td>- 145</td>
</tr>
<tr>
<td>CTAS 1/2</td>
<td>328</td>
<td>324</td>
<td>- 4</td>
</tr>
<tr>
<td>CTAS 3</td>
<td>913</td>
<td>892</td>
<td>- 21</td>
</tr>
<tr>
<td>CTAS 4/5</td>
<td>329</td>
<td>209</td>
<td>- 120</td>
</tr>
</tbody>
</table>
Transport frequencies by CTAS comparing immediate pre-service quarter with quarter 1 2012-2013

<table>
<thead>
<tr>
<th>CTAS</th>
<th>% Change in transport frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>All CTAS</td>
<td>-17%</td>
</tr>
<tr>
<td>CTAS 1/2</td>
<td>- 5.5%</td>
</tr>
<tr>
<td>CTAS 3</td>
<td>- 7.3%</td>
</tr>
<tr>
<td>CTAS 4/5</td>
<td>- 44.8%</td>
</tr>
</tbody>
</table>
A summary of EMNS stakeholder feedback ratings

- Responsive to requests: 3.5
- Help us manage emergencies: 3.0
- Enhance ability to manage emergencies: 3.0
- Helped us avoid transport: 2.5
- Helped us improve care quality: 3.5
- Residents appreciate NLOT: 3.0
- Families appreciate NLOT: 3.0
- NLOT recommendations easy to use: 2.5
- NLOT has little effect: 1.0
- Delays or hampers care: 1.0
- NLOT helps repatriation: 3.0
- Helped us become more confident: 3.0
- Increased ability to admit ALC: 2.0

[Bar chart showing ratings]
Community Para-medicine
32,000 hours off load delay hours for EMS/Nursing
“Paramedics with extended skills can provide a clinically effective alternative to standard ambulance transfer and treatment in an emergency department for elderly patients with acute minor conditions.”

Mason et al (2007) Effectiveness of paramedicine practitioners in attending 999 calls from elderly people in the community: cluster RCT, BMJ

<table>
<thead>
<tr>
<th>Scope of practice of paramedic practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presenting complaint</td>
</tr>
<tr>
<td>• Falls</td>
</tr>
<tr>
<td>• Lacerations</td>
</tr>
<tr>
<td>• Epistaxis</td>
</tr>
<tr>
<td>• Minor burns</td>
</tr>
<tr>
<td>• Foreign body in ear, nose, or throat</td>
</tr>
<tr>
<td>Practical skills</td>
</tr>
<tr>
<td>• Local anaesthetic techniques</td>
</tr>
<tr>
<td>• Wound care and suturing techniques</td>
</tr>
<tr>
<td>• Principles of dressings and splintage</td>
</tr>
<tr>
<td>Special skills</td>
</tr>
<tr>
<td>• Joint examination</td>
</tr>
<tr>
<td>• Examination of neurological, cardiovascular, and respiratory system</td>
</tr>
<tr>
<td>• Examination of ear, nose, and throat</td>
</tr>
<tr>
<td>• Protocol led dispensing: simple analgesia, antibiotics, tetanus toxoid</td>
</tr>
<tr>
<td>• Assessment of mobility and social needs</td>
</tr>
<tr>
<td>Additional options for referral and requesting investigations</td>
</tr>
<tr>
<td>• Requests for radiography</td>
</tr>
<tr>
<td>• Referral processes: emergency department, general practitioner, district nurse, community social services</td>
</tr>
</tbody>
</table>
Session 3: Capacity Building and Research Opportunities
Health professionals often don’t know what they don’t know

Roethler & Adelman (2011) reveal a lack of consistency between ED nurses' objective knowledge about geriatric care and their perceived knowledge.

Ryan & Kirst (2005) Health care providers may not know what they don’t know about caring for frail seniors.
On Geriatrics Training

• Approx. 1% of ED HCP have gerontological expertise
• Internationally recognized that there is a knowledge gap for physicians and nurses.
• RCPSC – no gerontology in Emergency residency training (4 months of pediatrics).
Did you learn about normal aging changes in your course on adult physical assessment?

33% yes
### ED Docs and Screening for Depression and Cognition

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes%</th>
<th>Sometimes%</th>
<th>No%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you routinely ask your elderly patients about depression</td>
<td>13%</td>
<td>40%</td>
<td>47%</td>
</tr>
<tr>
<td>Do you find it easy to tell whether elderly patients are depressed</td>
<td>20%</td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Do you routinely ask alert seniors questions to determine cognitive ability</td>
<td>27%</td>
<td>13%</td>
<td>60%</td>
</tr>
<tr>
<td>Activity</td>
<td>Yes</td>
<td>Sometimes</td>
<td>No</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----</td>
<td>-----------</td>
<td>-----</td>
</tr>
<tr>
<td>Washing/grooming</td>
<td>40%</td>
<td>27%</td>
<td>33%</td>
</tr>
<tr>
<td>Dressing</td>
<td>33%</td>
<td>27%</td>
<td>40%</td>
</tr>
<tr>
<td>Toiletting</td>
<td>13%</td>
<td>33%</td>
<td>54%</td>
</tr>
<tr>
<td>Eating</td>
<td>40%</td>
<td>27%</td>
<td>33%</td>
</tr>
<tr>
<td>Meal preparation</td>
<td>27%</td>
<td>6%</td>
<td>66%</td>
</tr>
<tr>
<td>Shopping</td>
<td>27%</td>
<td>40%</td>
<td>33%</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>66%</td>
<td></td>
<td>33%</td>
</tr>
<tr>
<td>Mobility</td>
<td>27%</td>
<td>27%</td>
<td>46%</td>
</tr>
<tr>
<td>Use of telephone</td>
<td>93%</td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>Driving</td>
<td>20%</td>
<td>33%</td>
<td>47%</td>
</tr>
<tr>
<td>Handling finances</td>
<td>60%</td>
<td>40%</td>
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</table>
## Responses to Knowledge Items from the Geriatric Emergency Management Task Force Quiz

<table>
<thead>
<tr>
<th>Knowledge Item</th>
<th>Correct Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of heart disease in elder patients</td>
<td>25%</td>
</tr>
<tr>
<td>Age changes in laboratory values</td>
<td>25%</td>
</tr>
<tr>
<td>Trauma in elder persons</td>
<td>88%</td>
</tr>
<tr>
<td>Preventable complications of trauma in elders</td>
<td>25%</td>
</tr>
<tr>
<td>Mesenteric ischemia in elder persons</td>
<td>63%</td>
</tr>
<tr>
<td>Symptoms of Acute MI</td>
<td>25%</td>
</tr>
<tr>
<td>Elders and emergency care</td>
<td>2%</td>
</tr>
<tr>
<td>Appendicitis in elder persons</td>
<td>63%</td>
</tr>
<tr>
<td>Elder abuse</td>
<td>100%</td>
</tr>
<tr>
<td>Acute functional decline</td>
<td>100%</td>
</tr>
<tr>
<td>Perforated peptic ulcer in elder persons</td>
<td>50%</td>
</tr>
<tr>
<td>Indications for mental status exam</td>
<td>63%</td>
</tr>
<tr>
<td>Drugs to avoid</td>
<td>88%</td>
</tr>
<tr>
<td>Causes of sepsis in patients from nursing homes</td>
<td>100%</td>
</tr>
<tr>
<td>Causes of delirium</td>
<td>88%</td>
</tr>
<tr>
<td>Ruptured abdominal aortic aneurysm</td>
<td>0%</td>
</tr>
</tbody>
</table>
# A framework to guide capacity building activities

<table>
<thead>
<tr>
<th>Contexts</th>
<th>Targets</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal-hospital focus</td>
<td>ED and hospital staff, Psychogeriatric services, Discharge planners, Safety /Quality Committees, Managerial and admin staff</td>
<td>Relationship development, Discipline specific teaching, Bedside coaching/mentoring, Safety/Quality case reviews, Enduring materials, Newsletters/reminders/lunches/bulletin boards/washrooms</td>
</tr>
<tr>
<td>External – agency focus</td>
<td>LTC &amp; LTC-ED Outreach, CCAC case manager, Family Health Teams, Community Health Centers, Pre-Hospital care/EMS, Community networks, Primary care &amp; specialist Docs, Pharmacists, Associations</td>
<td>Formal and informal teaching, Collaborative problem solving, Developing policy together, Curriculum Development</td>
</tr>
<tr>
<td>External – senior, family and lay community focus</td>
<td>Patients, patients families and the general community</td>
<td>Enduring materials &amp; handouts, Public lectures, Service group lectures, Developing linkages, Providing forms</td>
</tr>
</tbody>
</table>
A Guide to Care Interventions for Patients at Risk of Delirium in the E.D.

*Please see the Sunnybrook Health Sciences Centre Intranet for the complete version of the Delirium Care Protocols.

ENHANCING COMMUNICATION

- Triage patient to an area with appropriate supervision
- Speak directly to the patient and minimize distractions (i.e. minimize pump alarms, close curtains, reduce noisy conversations)
- Ensure sensory aids are in place and are working. Assess the need for the Communi-Kit (e.g., use Pocket Talker if patient is hard of hearing and/or didn't bring their hearing aid)
- Write nurse’s and physician’s names on a board in a visible location for the patient
- Ensure patient/family know how to contact staff and that call bell is within reach
- If the patient is delirious, recognize the underlying emotional distress and offer support.
- Offer orientation to patient as needed, but do not insist that they “absorb the truth”

ENHANCING ORAL FLUID HYDRATION AND NUTRITION

- Mouth care as required
- Unless contraindicated:
  - Offer fluids Q1H
  - Offer meals
  - Open containers on meal trays and pour liquids into cups
  - Use a “sip n’ go” intervention. (Each time you are at the bedside, offer at least 60 ml of water or other beverage to the patient)

MOBILITY ENHANCEMENT

- *See also ‘Avoiding Restraints’
- Ambulatory patients:
  - Assist in supervised ambulation once per shift
- Non-ambulatory patients who can weight-bear:
  - Assist in getting up to chair/eng-chair once per shift, unless contraindicated
- Bed-bound patients:
  - Apply egg-crate mattress to stretcher as needed
  - Encourage active range of motion exercises to limbs
  - Turn and re-position Q2h

AVOIDING RESTRAINTS/ADDRESSING AGITATION

- (Order) use of saline lock when possible*
- Assess alternatives to indwelling catheters (e.g., in/out catheter, condom catheter, leg-bags, commode chair)*
- Follow hospital policy on Least Restraints (http://sunnyhet.ca/Default.aspx?id=101482&lang=1)
- Consider alternatives i.e. Gen-Chair
- Address basic needs like bowel and bladder elimination, pain, thirst, hunger and movement which present as “agitation”
- Use personnel (i.e., volunteers, relatives/friends, observers/sitters) to stay with patient, provide reassurance and interaction
- When possible offer patients choices in their care activities
- If resistance is met when attempting to provide care, try at another time or try another approach
- Ensure Facilitator/Admitting Service/Patient Flow is aware if patient is at risk of delirium, is developing a delirium, or is delirious

Materials courtesy of Dr. Jacques Lee
Director of Research and Scholarly Activity,
Department of Emergency Services, Sunnybrook HSC
Staff IPPOD Training
Interactive workshops for current staff
Mandatory E-learning module and videos for new staff

Volunteer IPPOD Training
Volunteer screening
Ambulate/hydrate/nutrition guide

Delirium Prevention

Staff knowledge gain

<table>
<thead>
<tr>
<th></th>
<th>Post Test Mean</th>
<th>Pre Test Mean</th>
<th>P value</th>
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<tbody>
<tr>
<td>Recognize Delirium</td>
<td>3.7</td>
<td>2.9</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Assess Delirium</td>
<td>3.5</td>
<td>2.6</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Identify Cause</td>
<td>3.8</td>
<td>2.8</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Use Interventions</td>
<td>3.8</td>
<td>2.6</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

Delirium Rate

Materials courtesy of Dr. Jacques Lee
Director of Research and Scholarly Activity,
Department of Emergency Services, Sunnybrook HSC
Publication frequencies in geriatric emergency management by ½ decade 1965-2010.

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Total all types</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>10</td>
<td>47</td>
<td>72</td>
<td>94</td>
<td>165</td>
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<td>Opinion</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>13</td>
<td>12</td>
<td>35</td>
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<td>Descriptive</td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>24</td>
<td>26</td>
<td>26</td>
<td>44</td>
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<td>Concensus</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
<td>1</td>
<td>5</td>
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<tr>
<td>Non-RCT</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>13</td>
<td>30</td>
<td>31</td>
<td>50</td>
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<tr>
<td>RCT</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>12</td>
<td>3</td>
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<td>Review</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>15</td>
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<td>Meta-analysis</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>1</td>
<td>1</td>
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<td>Clinical tool</td>
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<td>0</td>
<td>0</td>
<td>4</td>
<td>7</td>
<td>13</td>
<td>24</td>
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<td>Development</td>
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<td>2</td>
<td>2</td>
<td>8</td>
<td>13</td>
<td>10</td>
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<tr>
<td>Educational Intervention</td>
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<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>13</td>
<td>10</td>
</tr>
</tbody>
</table>
Publication frequencies in geriatric emergency management by ½ decade 1965-2010
10 Emerging Research Themes

1. Validating screening instruments for geriatric populations
2. ED nursing interventions for seniors
3. Effectiveness of Geriatric Emergency Departments
4. Interprofessional GEM teams
5. Trauma and elderly people
6. Prevention of ED acquired injury
7. Pre-arranged protocols (eg PEG, transfusions)
8. Translational research
9. ED care of patients with dementia
10. Delirium prevention
Medication management
1. Can Ed systems be developed to identify potential drug interactions with warfarin when new meds are prescribed?
2. Can ED systems be developed to enhance ED benzodiazepine prescribing and minimize adverse effects like falls?
3. Do GI protective agents reduce short term GI complications when prescribed concurrently with NSAIDS in the ED?

Screening and Prevention
1. Will etiology-specific ED interventions following evaluation of a standing level fall reduce falls rates, injuries, fear of falling or functional decline?
2. Can ED based immunization programs safety efficiently and cost effectively vaccinate at-risk geriatric adults without impeding throughput?

Functional Assessment
1. Can key steps in the ED evaluation of older adults presenting with functional decline be delineated to efficiently identify serious medical conditions that alter acute management decision making?
2. Can we develop algorithms to optimize functional assessment of older adults with subacute illnesses no otherwise requiring hospitalization or management changes including the setting and personnel to conduct such assessment?
3. Can generalizable ED care models to ensure reliable and sustainable assessment of minimal functional status capabilities such as the capability to transfer and ambulate prior to discharge home be developed?
Words of advice for young people starting GEM services

Gather knowledge and make a business case
Engage formal and informal opinion leaders
Begin with a basic service model
Plan to preserve identify and local diversity
Empathize and avoid blame
It's a culture change – start everywhere you can
Understand cultural differences between geriatrics and ED
Add a resource rather than stretch an existing one
GEM nurses can come with a variety of career trajectories eg ED or geriatrics
Participate in the GEM network - support is essential
Link to the senior friendly hospital
Promote and build capacity inside and outside the ED
Work with high user LTC and LTC-ED Outreach
Communicate with primary care docs
Increase linkage with community resource
Evaluate as you go
In evaluation avoid outcomes that rely on whole systems functioning
  Eg Reducing wait times and readmissions

Consider a balanced score card or ‘dashboard’ approach to evaluation
  Demonstrate service using activity data
  Demonstrate stakeholder satisfaction
    Surveys for professional stakeholders
    Collect clinical stories
  Demonstrate fiscal responsibility by staying within budget
  Demonstrate innovation using small quality cycles
<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinha S, Bessman E, Fomenbaum N, Leff B. (2011)</td>
<td>A systematic review and qualitative analysis to inform the development of a new emergency department-based geriatric case management model, Annals of Emergency Medicine, 57(6) 672-682</td>
</tr>
<tr>
<td>Ryan D, Liu B, Awad M, &amp; Wong K (2011)</td>
<td>Improving the elderly patients experience in the emergency room: the senior friendly ER. Aging Health, 7(6), 901-909</td>
</tr>
</tbody>
</table>
**Some references of interest**


http://gem.rgp.toronto.on.ca

http://giic.rgps.on.ca

http://seniorfriendlyhospitals.ca

[www.icudelirium.org](http://www.icudelirium.org) ICU delirium assessment
Video: Don’t honk at old people

http://dave6.posterous.com/dont-honk-at-old-people
That’s all for now

Goodnight Irene

http://gem.rgp.toronto.on.ca/gem-library