“Using National Databases to Guide Improvements in Care”

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Agenda

1. Introduction to the NACRS Program
2. Uses and Users of NACRS Data
   - Quality of care and prevention
   - Linkage with other data
   - ED wait times
3. Discussion
The NACRS Program

- NACRS Program area staff
- Classifications Department
- Information Technology Services
- Case Mix Department
- Data Quality Department
- Education Department
The NACRS Program

- **Client support**
  - eQuery
  - One-on-one
  - Implementation tool kit
- **Education**
  - 2-day education session for new sites
  - basic abstracting to advanced
- **Standards**
  - data collection / definitions / manuals
  - ICD10CA/CCI coding
  - to provide comparable data
- **Data quality**
  - Edits during processing with feedback
  - Re-abstraction studies
  - Data quality framework
The NACRS Program

- Annual enhancements
  - commitment to excellence
- Value added items
  - CACS Groups and weights
- Comparative Reporting
  - Web-enabled peer comparison eNACRS reports
- Linkage
  - Opportunities to link to other databases such as the Discharge Abstract Database (DAD) and Trauma Registries
- Data cuts
  - Monthly cuts of data to provincial ministries
The NACRS Database

Includes information on:

- Emergency Visits
- Day Surgery Visits
- Hospital Clinic Visits
- Community based ambulatory care services

- Approximately 10 million visits per year:
  - 56% are ED
  - 12% are Day Surgery
  - 32% are other
Use of NACRS ED Data
Performance Measures for Children Visiting ED


What? Reviewed ED Utilization for children 0-19 years. Identified common conditions targeted for development of quality measures.

So … Provided tools to health care practitioners, to measure performance and guide quality improvement efforts for ED care for children
AMI


What? The rate of missed diagnosis varies between EDs. Hypothesis was this is associated with volume of AMIs treated in an ED. Found low volume EDs had two-fold higher odds of missing AMIs compared to high volume EDs.

So … Since access to specialists was lacking in low volume EDs; improved availability of telemedicine should be a focus to improve access for consultant expertise.
Ruptured Brain Aneurysms


What? Ontario EDs misdiagnosing 1 in 20 ruptured brain aneurysms. Found the association between hospital ED volume and access to CT testing did not explain the missed diagnosis.

So … The risk of missed diagnosis of SAH may have less to do with better access technology, and more to do with medical staff training/experience, consultant access or diagnostic protocols.
Drowning Prevention


What? Report shows children < 5 are drowning when walking or playing near the water; 2nd leading cause of accidental death in children

So … ? Keep Safe Foundation and Safe Kids Canada initiated ‘Swim to Survive’ Program with the Lifesaving Society of Canada. In May 06 the program received $935,000 from ON government to support municipalities to organize their own ‘Swim to Survive’ programs.
Snowmobile Injuries


What? 32% snowmobile-related injuries occur in February; young drivers at greatest risk; alcohol a factor

So … Alberta Snowmobiling Association’s Sled Safe Program issued a statement for public awareness on the importance of taking safety precautions when participating in winter sports
Stroke


What? Data on the relationship between public knowledge of warning signs of stroke and behavior revealed a 9% increase in ED visits for stroke as a result of increased public awareness of the warning signs.

So ... The study supported funding of public education campaigns, such as continuous advertising on the warning signs of stroke.
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<td>What?</td>
<td>Almost 12,000 Ontarians Landed in ED after falling on ice, 1/3 of patients were between ages 40-59</td>
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<td>So ...</td>
<td>More advertising measures to the public to increase awareness during the winter months of injury prevention</td>
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Penetrating Trauma


What? Epidemiological study of ED visits for impact of penetrating trauma on the population. (over 3% ED visits); most patients were male ages 15-24 years.

So ... Prevention programs were provided with data to prepare evidence-based prevention strategies
Hospital Report 2007 ED Care


What? Clinical Utilization Outcomes Indicators
- Return Visit Rate for Asthma
- Inpatient LOS ≤ 2 days for Pneumonia Patients Admitted from the ED
- Rate of Ankle/Foot X-rays

So … Indicators for hospitals to use to examine clinical efficiencies
Drinking, Age Legislation and Driving


What? CIHI statistics show more auto collisions among 18 year olds in provinces where the drinking age is 18 than in provinces where it is 19

So …? Quebec is reviewing the drinking age and CIHI will participate in meetings to provide details on the data
ATV Injury Prevention


What? Report (NACRS + National Trauma Registry) shows over one third of people injured in ATVs are under the age of 16

So … Canadian Paediatric Society published a position statement on preventing ATV injuries (e.g. advocates no passengers / drivers under the age of 16)

NB – new Off-road Vehicle Legislation
BC - recommended changes to legislation; under review
Safety in Sport


What? 22,700 Ontario ED visits due to hockey injury; 6,400 (28%) were as a result of collisions, 4,600 aged <19; Overall rate down but collision injuries up

So … News from Globe & Mail/Canadian Press. The Canadian Academy for Sports Medicine and the American Academy of Pediatrics formulated policies stating that body checking should only be allowed after the age of 15.
ED Wait Time – NACRS Indicators

**ED Volumes**
* by hospital type (teaching/non-teaching)
* by CTAS level

**Total Time Spent in ED (ED LOS)**
• by CTAS level
• by Region

% patients leaving within target
• % patients at CTAS I, II, III ≤ 6 hours
• % patients at CTAS IV, V ≤ 4 hours

**Wait time for Inpatient Bed**

**Triage to Physician Assessment**
ED waiting times, crowding & patients with minor ailments


What? To see if patients with minor ailments increased the ED LOS for all patients. Found it only added about 5 minutes to the average LOS in ED and only 2 minutes additional wait time to physician assessment.

So…. Reducing low-complexity patients not likely to improve wait times for sicker patients. Hospitals should focus on increasing the number of inpatient beds and moving patients efficiently through tests, such as X-rays.
Improving Access to Emergency Care


What? Expert working group to make evidence based practical recommendations to improve pt access to ED care

So … Produced 17 recommendations including performance targets together with standardized data elements and definitions. Suggested tools for organizations to implement after doing their own “root cause analysis” of ED overcrowding. Recommended annual forum for healthcare stakeholders to share best practices for improving access to emergency services.
Understanding Emergency Department Wait Times

Who?  
CIHI (2005-2007)

What?  
Three-part series to provide new information in understanding ED wait times.
I – focus on pt characteristics / overall ED LOS
II – hospital type / geographic location/ triage
III – patient flow / bed wait time

So …  
Provides baseline information against which changes/improvements to patient flow can be measured.

Basis for comparative information for identifying best practice.

ED Wait times
Total Time Spent in ED by Hospital Location in LHIN, Ontario, 2005-2006

Note: These data represent visits to 167 Ontario-based emergency departments.
Source: NACRS, 2005-2006, CIHI.
Total Time Spent in ED by ED Volume/Hospital Type and CTAS Score, Ontario, 2005-2006

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Source: NACRS, 2005-2006, CIHI.
Summary

Reviewed NACRS Program
Comprehensive program with established standards

Data can be used to impact
Quality of Care and Prevention
ED Wait times – NACRS Indicators

Data can be
Linked with other data

Users include
/ Ministry / Hospitals / Regions /
For More Information…

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Thanks