Driven by data, consensus & concern

Health professionals
Hospitals
Government

Quality
Benefit
Access

Cardiac Care Network of Ontario
Session Summary

- CCN’s Birth
- CCN’s Role – For Patients, For Society
- Wait Time Indicators
- CCN’s Evolving Role
- Appendices
Public perceptions in the late ‘80s

- Patients dying waiting for cardiac surgery
- No objective way to assess patient urgency – therefore, access unequal
- Perceived lack of resources, no central data on availability at surgical centres
- No formal system to assist doctors and patients
Sarnia woman died waiting for surgery MPPs told

Late 1980s

Probe called into patient’s ‘tragic’ death

Late 1980s

Long waits for surgery threat to life, MD warns

Second heart patient dies as surgery delayed 9 times

Grief, frustration left in wake of man who died on waiting list

2 deaths spark hospital probe

Late 1980s
INVESTIGATION OF CARDIAC SURGERY
at St. Michael's Hospital
Toronto, Ontario

FINAL REPORT
FEBRUARY 15, 1989
(submitted with recommendations for St. Michael's Hospital
and for Provincial Cardiovascular Services)

Investigation Team
Mrs. Vickie L. Kaminski - Lead Investigator
Assistant Executive Director - Nursing
Sudbury Memorial Hospital
Sudbury, Ontario

Dr. William J. Sibbald
Coordinator Critical Care/Trauma Unit
Victoria Hospital Corporation
Clinical Professor of Medicine
University of Western Ontario
London, Ontario

Elizabeth M. Davis, RSM
Executive Director
St. Clare's Mercy Hospital
St. John's, Newfoundland
Investigators’ Recommendations

• Expand Toronto triage program province-wide
• Gather standardized data based on objective rating system
• Establish provincial forum of providers
• Educate the public about care options, waiting and scheduling
CCN Role

• Access - prioritization, monitoring, facilitation
  – Cath, angioplasty, cardiac surgery
  – Regional Coordinators – point of contact
  – Clinical urgency score + Cardiac Registry

• Advice – clinically credible, broadly based
  – Consensus panels on specific issues
    • new technology, procedure rates, best practices
  – Linkages – e.g. ICES

• Forum for physicians, hospitals, Ministry
  – system responsiveness amidst rapid change
Current CCN Structure

• Independently incorporated in 2003
• Volunteer base:
  – Volunteer board, broad stakeholder representation
  – 3 standing committees: Clinical Services, Informatics, Regional Cardiac Care Coordinators
  – Working groups (standing and ad hoc)
• 17 member hospitals
• Supported by small Provincial Office team with budget of $1.3 million
• Funded by the MOHLTC
Ontario’s Cardiac Care System

Patients

Cardiac Care Network

Referring Doctors

Regional Coordinators

Hospitals & doctors providing advanced cardiac services
Regional Cardiac Care Coordinators

• Provide face to face link with patient at all 17 member hospitals
• Minute by minute assessment of changing situation re. patients’ urgency thru URS
• Coordinate with hospitals and doctors to get appropriate access to care
• One of CCN Committees – all sit at table
• Represented on all CCN committees
Data Collection

Who?
- RCCCs and/or data analyst

What?
- Cath, Angioplasty, Surgery
- Demographics, clinical, urgency, procedural outcomes, wait dates, wait list mortality

When?
- Real time at hospitals, nightly to CCN repository

How?
- Wait List registry and management system
Data Management

- Informatics Committee oversees quality, timeliness and relevance
- Standard data definitions
- Monthly data verification
- Periodic quality audits
- Wait list system decision making
- On-going analysis
Cardiac Cath/PCI Referral Form (revised June 24, 2004)

REQUEST TYPE
- LHC
- LHC/RHC
- LHC/PCI
- PCI
- Other

REQUEST DATE: (yyyy/mm/dd)

INDICATION
- CAD – stable
- ACS/Acute MI
- Valvular heart disease
- Congenital
- Other
- Specify

Referring MD’s Estimate of Urgency: Check all that apply
- Post Cath
- Emergent - Primary PCI
- Emergent - Rescue PCI (within 24hrs)
- Emergent - Facilitated PCI
- Emergent - Cardiogenic shock
- Urgent (while still in hospital)
- Urgent (within 2 weeks)
- Elective

Important: Notify the Cath/PCI centre of any change in the patient’s condition.

Brief History

MEDICATIONS
- ASA
- Metformin
- Beta-blocker
- Plavix/ticlopidine
- Calcium channel blocker
- IV unfractionated heparin
- ACE inhibitor/ ARB inhibitor
- LWM heparin
- Statin
- IV Nitrate
- Other lipid-lowering agent

COMORBIDITY ASSESSMENT
- Hypertension
- Hyperlipidemia
- Severe Carotid Stenosis (>70%)
- Previous Stroke or TIA
- Peripheral Vascular Disease
- Varicose Veins
- Severe COPD
- Previous CABG
- LMIA
- Previous PCI
- On Coumadin
- On IIb/IIIa Inhibitor
- On Hb/lla Inhibitor
- Heart failure
- NYHA Class I
- NYHA Class II
- NYHA Class III
- NYHA Class IV
- Diabetic
- Yes
- No
- Uninterpretable
- Smoking

CORONARY ANATOMY
- Prox LAD ___ %
- Other LAD ___ %
- % Diagonal ___ %
- % LCx ___ %
- OM ___ %
- RCA ___ %
- SVG1 ___ %
- SVG2 ___ %
- SVG3 ___ %
- LIMA ___ %
- Duke Severity Score ___ (1-14 see reverse for key)

URS Score

PCI TARGET VESSEL(S)
- Target 1 ___ %
- Target 2 ___ %
- Target 3 ___ %
- Target 4 ___ %

PCI DISPOSITION
- Accepted
- Declined
- Functional assessment requested
- CABG recommended
Physicians with the Regional Cardiac Care Coordinators
• identify and accept referral
• determine urgency score
• prioritize on list
• contact, educate
• document and respond to changes in status
• revise urgency score
• remove from list
• time frame hours to months
>80,000 patients/yr
# Coronary Artery Bypass Surgery (CABG) Statistics for Adult Ontario Patients

## Cardiac Surgery: Patient Cases Completed (April–June 04)

| Hospitals (Grouped by Geographic Region) | Number | Emergency + Urgent | Semi-Urgent | Elective | Patients (Waiting)
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All Hospitals</td>
<td>945</td>
<td>3</td>
<td>78%</td>
<td>7</td>
<td>82%</td>
</tr>
<tr>
<td>High</td>
<td>163</td>
<td>8</td>
<td>93%</td>
<td>15</td>
<td>97%</td>
</tr>
<tr>
<td>Low</td>
<td>41</td>
<td>1</td>
<td>50%</td>
<td>6</td>
<td>62%</td>
</tr>
</tbody>
</table>

- **RMWT**: Required Minimum Waiting Time
- **Median Wait**: Median Waiting Time per month
- **Within Wait**: % of cases within median waiting time
- **RMWT***: Required Mean Waiting Time
- **Average (Apr-Jun)**: Average waiting time per month

**Coronary Artery Bypass Surgery (CABG) Statistics for Adult Ontario Patients**

- **Coronary Artery Bypass Surgery (CABG)**: Patient Cases Completed (April–June 04)
- **Number of Hospitals**: Total number of hospitals reporting data
- **Emergency + Urgent**: Number of patients for emergency and urgent procedures
- **Semi-Urgent**: Number of patients for semi-urgent procedures
- **Elective**: Number of patients for elective procedures
- **Patients (Waiting)**: Total number of patients waiting for surgery
- **RMWT**: Required Mean Waiting Time
- **Average (Apr-Jun)**: Average waiting time per month

**Coronary Artery Bypass Surgery (CABG) Statistics for Adult Ontario Patients**

- **Coronary Artery Bypass Surgery (CABG)**: Patient Cases Completed (April–June 04)
- **Number of Hospitals**: Total number of hospitals reporting data
- **Emergency + Urgent**: Number of patients for emergency and urgent procedures
- **Semi-Urgent**: Number of patients for semi-urgent procedures
- **Elective**: Number of patients for elective procedures
- **Patients (Waiting)**: Total number of patients waiting for surgery
- **RMWT**: Required Mean Waiting Time
- **Average (Apr-Jun)**: Average waiting time per month

**Coronary Artery Bypass Surgery (CABG) Statistics for Adult Ontario Patients**

- **Coronary Artery Bypass Surgery (CABG)**: Patient Cases Completed (April–June 04)
- **Number of Hospitals**: Total number of hospitals reporting data
- **Emergency + Urgent**: Number of patients for emergency and urgent procedures
- **Semi-Urgent**: Number of patients for semi-urgent procedures
- **Elective**: Number of patients for elective procedures
- **Patients (Waiting)**: Total number of patients waiting for surgery
- **RMWT**: Required Mean Waiting Time
- **Average (Apr-Jun)**: Average waiting time per month

**Coronary Artery Bypass Surgery (CABG) Statistics for Adult Ontario Patients**

- **Coronary Artery Bypass Surgery (CABG)**: Patient Cases Completed (April–June 04)
- **Number of Hospitals**: Total number of hospitals reporting data
- **Emergency + Urgent**: Number of patients for emergency and urgent procedures
- **Semi-Urgent**: Number of patients for semi-urgent procedures
- **Elective**: Number of patients for elective procedures
- **Patients (Waiting)**: Total number of patients waiting for surgery
- **RMWT**: Required Mean Waiting Time
- **Average (Apr-Jun)**: Average waiting time per month
Wait Time Indicators

- Median wait time from acceptance to procedure
- Patient treated within RMWT
- Wait List Mortality
- Number of cancellations and reasons
Median Cardiac Surgery Wait Times

Note: Includes Ontario residents only
Surgery Within Recommended Maximum Waiting Time (RMWT) – Ontario Residents

- **Urgent**: 0-14 days
- **Semi-Urgent**: 15-42 days
- **Elective**: 43-180 days

Quarter (3-month period) of Calendar Year
Wait List Mortality for Cardiac Surgery

Tenths of 1%
Cardiac Surgery
Patients Waiting and Cases Completed

Quarter (3-Month Period) of Calendar Year
Note: Includes Ontario (97%) and non-Ontario (3%) residents
Cath Cancellations
April 2003

Total Cancellations: 569

- Mostly SARS Related: 82%
- Pt. Not Reach - Pref.: 4%
- Pt. Not ready-medical: 5%
- More Urgent Patient: 5%
- No OR/lab time: 2%
- No Ward Bed: 1%
- Misc.: 1%
CCN’s Evolving Role

• Provincial Wait Time Strategy, 2004/05

• Active Cardiac System Management
  – July 2004 - Strategic Plan
  – March 2005 - 10 Point Action Plan to reduce regional disparities
  – April 2005 – Approved IT system funding for real-time, web-based Network
Regional Wait List Variation

Cath - Total patient wait days beyond RMWT per case Apr-Dec 04
Optimal cardiac wait time strategy

In an environment of . .

• Appropriate, efficient, high quality care
• Advice on best practices, new technology, etc
• Outcomes monitoring and reporting
• Coordination of planning

- Reduced wait times
- Efficient & equitable access
- Maximum % within RMWT
- Active wait list mgmt
- Full spectrum of relevant procedures
- Continuum of cardiac care
- Regional coordinators, data clerks
- Solid IT Infrastructure
Appendices
Cardiac System Growth

• 1990 – 9 surgical sites tracking over 8,000 surgical procedures

• 2004 – 17 cardiac sites tracking over 11,000 surgical, 50,000 catheterization and 16,000 PCI procedures

• 2007/08: 110,000 procedures predicted

• Growth facilitated via CCN data and advice
Regional Wait List Variation

Scheduled PCI, Inpatients: MWT Q3 2004/05

Hospital by Ministry Planning Region

- Toronto
- East
- Central South
- South West
- North
- Central West
- Central East
Regional Wait List Variation

CABG - Total patient wait days beyond RMWT per case Apr-Dec 04
Regional Wait List Variation

Scheduled PCI, Outpatients: MWT Q3 2004/05

Hospital by Ministry Planning Region
Sample Data Definition - LVEF

Grade based on cath data (radiology report or cath lab report) when a cath with left ventriculogram was performed. Order of priority for sources: (1) left ventriculogram; (2) echo; (3) thallium; (4) estimate in OR (direct vision); or (U) unknown.

1: >=50%
2: 35%-49%
3: 20%-34%
4: <20%
U: unknown
CABG Urgency Rating Score Calculator

A  CCS CLASS
B  VESSEL DISEASE
C  LEFT VENTRICULAR FUNCTION
D  ISCHEMIC RISK: ESTIMATED FROM NON-INVASIVE TESTING
E  CO-MORBIDITY
F  RECENT MYOCARDIAL INFARCTION
G  PREVIOUS CABG SURGERY
Accountabilities

- CCN-Hospital Participation Agreements
- Data Sharing Agreements
- Governing structure evolution
- CCN-MOHLTC Accountability Agreement
- Data talks – hospital, clinician, and Ministry reviews … transparency
- Peer & Public pressure – wait list data
- Website publication of CCN Reports
- RCCC and data staff – dual accountability
Sharing Experience

• Liaise with other registries and wait list organizations including:
  – Ontario Joint Replacement Registry
  – Cancer Care Ontario
  – Saskatchewan Surgical Wait List System
  – Reseau Cardiologie de Quebec
  – ICONS, APPROACH
  – Western Canada Wait List Project
Future Directions

• Centralized web-based data capture; real time reporting and usage
• Point-of-referral data capture
• Expansion of registry to include arrhythmia; continuum of cardiac care
• Improved access and reduced regional wait time variation
• Collaboration and shared vision with Provincial and Federal Wait Time initiatives
Driven by Data, Consensus and Concern

Cardiac Care Network of Ontario

www.ccn.on.ca