

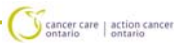
How can we improve the quality of care for cancer patients (and the quality of life for cancer surgeons)?

BC Surgical Oncology Network Meeting

Hartley Stern, Provincial Head

Surgical Oncology Program

November 5, 2005



Why Does Quality Matter?

Significant problems

- variations in care/outcomes
- access to care
- continuity of care
- increasing cancer burden
- gaps in – funding
 - human resources

Patients not happy
Doctors not happy

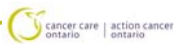


How does change in practice come about?

Change at the practitioner level

Change in the system in which we work

BOTH



Opportunity for Change in Ontario

Old CCO – managed cancer centers

- delivered all radiation and most systemic therapy
- ignored surgery

New CCO – divested cancer centers

- sets standards, guidelines
- monitors service delivery
- advises MOHLTC re organization and funding
- recognizes surgery



Surgical Oncology Program created 2001 - HS

Four components evolved

Quality Improvement - BL
Knowledge transfer - MFKF
Funding - JI
Research - DU



Requirements for Quality Cancer Surgical Care Delivery

- patient centered
- multidisciplinary
- integrated – horizontally
 - vertically
- evidence-based
- appropriate
- timely
- accountability



SOP - Tools to Meet Requirements

Quality – guidelines
- standards
- indicators

Knowledge Transfer - CoPs

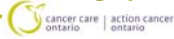
- meetings
- web based communication
- local expertise
- mentoring
- audit and feedback

Funding – volume/complexity (+ quality)

- AFP for surg oncs

Research – health services

- cancer surgery atlas



Standards

Advice documents regarding the requirements for the delivery of specific services by:

- hospital or service - resources, organization, support, volume etc
- physician – training, experience, organization etc



Ontario Volume/Outcome Study of Pancreatic Ca Resection 1988-1994

Characteristics	Hospital Volumes		
	Low(<21)	Mod(22-42)	High(>42)
No. of Hospitals	56	10	2
Total Cases	354	282	206
% Teaching Hosp.	39	65	100
Postop Mort (%)	14.4	12.8	3.4



Specific "Criteria" for Pancreatic Cancer Surgery

- **Advanced training for surgeons**
- **Complete range of multidisciplinary staff, support services, OR, ICU, hospital commitment**
- **At least 10 major pancreatic resections per year**
- **At least 25 major HPB resections per year (optimum 50 cases)**
- **Benchmark – op mort < 5%**



Pancreatic Standards - 2001 follow up survey

- **92 hospitals, CEOs, SICs surveyed**
- **57 (62%) hospitals responded – of those:**
 - 27% hospitals made changes to comply with recommendations
 - 50% reported at least 1 surgeon stopped doing pancreatic surgery



Pancreatic Standards - late follow up

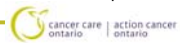
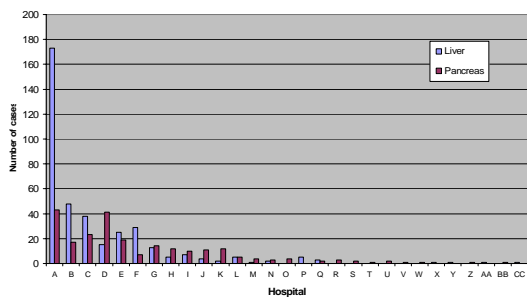
Preliminary data analysis: - Ontario

	1986-98	2000-03
mean # hospitals/yr	38.7	26.5
cases in HV hosp*	17.8%	62.3%
crude 30 day CFR	10.2%	6.2%

* High Volume hospital = 10 or more cases/year



Distribution of HPB Cancer Surgery in Ontario, 2004-2005



Standards for Thoracic Cancer Surgery (lung and esophageal cancer)

WHY?

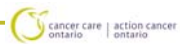
- complex high risk procedures
- volume/outcome relationship
- moderate regionalization of care in Ontario
- competition for thoracic services in Ontario

SOP/PEBC standards document recently approved

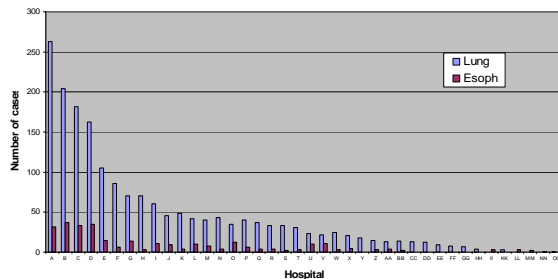


Standards for Thoracic Cancer Surgery (lung and esophageal cancer)

- Certification in Thoracic Surgery – or equivalent
- Hospital commitment of resources, support services and organization
- Level 1 – 3 surgeons, caseload 150 lung, 20 esophagus
- Level 2 – 1-2 surgeons, caseload 50 lung, 7 esophagus



Distribution of Thoracic Cancer Surgery Index Cases in Ontario, 2004-2005



Clinical Practice Guidelines

- advice documents for clinicians and patients
- regarding individual clinical management decisions
- primarily evidence based
- represent current best practice

PEBC CPG library – excellent resource
 - mainly systemic Rx, Rad



Guideline:

Laparoscopic resection for colon cancer

WHY?

- technique established for benign disease
- conflicting reports re cancer
- RCTs – no major difference in early outcomes
- concern re indiscriminate application

SOP/PEBC Guidelines document recently approved*



Process for standards and Guidelines Development

- collaboration between SOP and PEBC
- consensus – based on evidence and expert opinion
- expert panels with wide representation
- community feedback
- independent and objective



Laparoscopic Surgery for Cancer of the Colon

A. Smith, R.B. Rumble, B. Langer, H. Stern, F. Schwartz, M. Brouwers, and members of Cancer Care Ontario's Laparoscopic Colon Cancer Surgery Expert Panel and Program in Evidence-based Care

Report Date: September 2005

Evidence-based Series #2-20-2 is comprised of 3 sections:
 Section 1: A Clinical Practice Guideline
 Section 2: A Systematic Review
 Section 3: Guideline Development and External Review: Methods and Results



Purpose of Guideline

For patients with stages I, II and III colon cancer, are there greater benefits and fewer harms associated with the use of laparoscopic surgery compared with conventional open surgery?



Scope of Document

- Clinical Issues
 - tumour factors, patient factors
- Professional Practice Issues
 - Training, experience
- Institutional and Organizational Issues
 - equipment



RCTs Included in Guideline

Study (ref)	Type	Patient # (n) [eval]	Conv. Rate %	Mean Duration of surgery (min)	Length of hospital stay (d)	Mean Lymph nodes removed (n)	Postop. Comp. % [Table 2]	Median follow-up (years)	Recurrence %*	Overall Survival %**
Stage et al 1997 [5]	LAP	18 [15]	17	150	5	7	0	1.16	NR	NR
	CON	16 [14]		95	8	8	0			
Curet et al 2000 [6]	LAP	25	28	210	5.2	11	5	4.9	0	NR
	CON	18		138	7.3	10	28	6	NR	NR
Hazelbroek et al 2002 [7]	LAP	NR	16.7	NR	NR	NR	NR	NR	NR	NR
	CON	NR		NR	NR	NR	NR	NR	NR	NR
Lacy et al 2002 [8]	LAP	111	11	142	5.2	11.1	11	3.6	17	18
	CON	108		118	7.9	11.1	29	27	26	26
				p=0.001	p=0.005		p=0.001		p=0.07	p=0.14
COST Study Trialists 2004 [9]	LAP	435	21	150	5	12	21	4.4	17.4	86
	CON	428		95	6	12	20	19.6	85	85
				p<0.001	p<0.001					



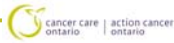
Recommendations

- Recommendations based on the synthesis and interpretation of literature
- “Laparoscopic surgery is a viable option for the treatment of stage I,II, and III colon cancer and can be considered an alternative to conventional open surgery for this indication in some patients”



Clinical issues

- Recommendations limited to patients who do not have colon cancer associated with perforation, obstruction, fistula or attachment to other structures (locally advanced)
- This report does not apply to patients with rectal cancer
- Similar to the standard population studied in the randomized controlled trials



Clinical issues

- Recommendations limited to patients who do not have colon cancer associated with perforation, obstruction, fistula or attachment to other structures (locally advanced)
- This report does not apply to patients with rectal cancer
- Similar to the standard population studied in the randomized controlled trials



Surgeon training issues

- Surgeon should have performed 20 LAP colon resections
 - benign or malignant disease
- OR
- An equivalent process, including peer evaluation



Surgeon training issues

- Standards reflect the best available evidence to date
 - professional characteristics of surgeons in the COST study
 - ASCRS and the SAGES have endorsed similar recommendations.



Institutional issues

- The Laparoscopic Colon Cancer Surgery Expert Panel recommends that all eligible institutions should show a commitment to advanced laparoscopic surgery
- Provision of appropriate equipment, operating room time, and human resources
- Developing a team approach to maximize the experience and efficiency of all team members



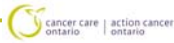
Adoption of Laparoscopic Colon Cancer Surgery

- Communities of practice
 - Local solutions
- Mentoring
 - In operating room
 - Important supplement to courses
- Self-audit
 - CAESaR



Indicators

- Quantitative measures of structure, process, or outcomes, that can be correlated with quality of medical care
- Apply to any aspect of care (prevention, diagnosis, treatment, palliation etc)
- Can be measured reliably/systematically
- Are expected to improve with the implementation of QI measures



SOP Indicators Development

- Expert Panels in 2001-03 developed indicators
- breast, prostate, colorectal, ovarian cancer
 - plan to extend to other disease sites
 - implement when feasible

CQCO included a few in their Cancer Quality Index eg CRC lymph nodes

MOHLTC – picked one:

WAITING TIMES

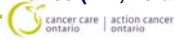


Ministry Waiting Times Initiative

- critical health care and political problem
- multidiscipline approach
- opportunity to get new money into the system
- opportunity to link funding to quality

CCO Role

- advise re distribution and use of cancer funds
- set performance standards for WT
- include quality requirements in hospital agreements (eg Tumor Boards)*
- develop the infrastructure for IT that will support other quality initiatives
- monitor performance (WT, volume, quality)



Lymph Node Problem

Andy Smith



The optimum number of lymph nodes that should be retrieved / identified / analysed is:

12

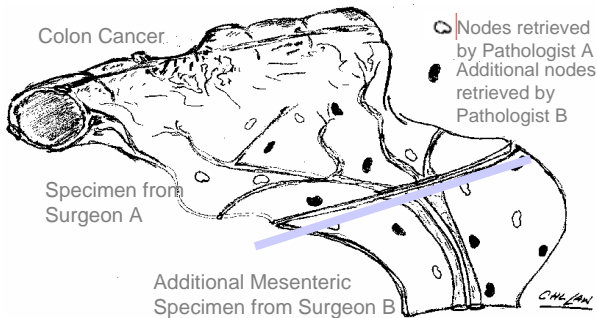


What “benefits” are we talking about?

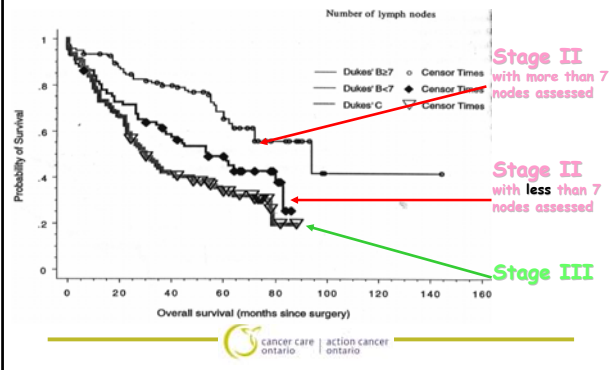
- in **NODE POSITIVE** patients:
 - 15% absolute improvement in 5 year overall survival
 - 30% absolute improvement in 5 year disease free survival
- **perspective:** this represents one of the highest “bang for the buck” in adjuvant chemotherapy



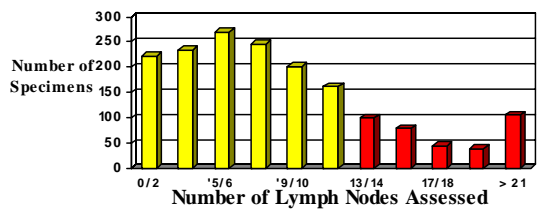
Multidisciplinary Barriers to Lymph Node Retrieval in Colorectal Cancer



Impact on survival

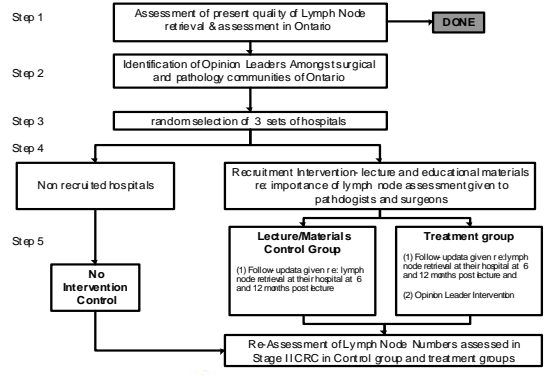


Colon Cancer Lymph Node Counts In Ontario



- Lymph node negativity is based on sub optimal sampling in 73% of cases (Wright 2003)

Intervention Summary



QUALITY INITIATIVE IN RECTAL CANCER

- Marko Simunovic

Quality Initiative in Rectal Cancer Trial

Surgeon centered initiative meant to improve the quality of rectal cancer surgery utilizing the principles of total mesorectal excision and continuous quality improvement.

Hypothesis

The QIRC trial will test if an educational strategy directed at surgeons can improve the quality of rectal cancer surgery.

- utilizes multi-pronged approach combined with the principles of TME and CQI



Rectal Cancer

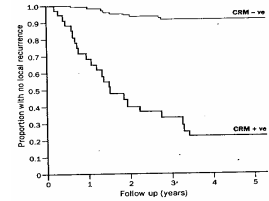
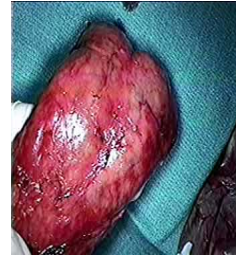


Figure 1. Cumulative frequency of local recurrence comparing presence or absence of tumour at circumferential resection margin (CRM) in patients who had potentially curative resection



QIRC Trial

General Objectives

To improve the quality of rectal cancer surgery in Ontario, and to contribute to knowledge on changing surgeon behaviour.

Specific Objectives

To test if the Quality Initiative in Rectal Cancer (QIRC) strategy can decrease hospital rates of permanent colostomy and local tumour recurrence for surgically treated rectal cancer patients.

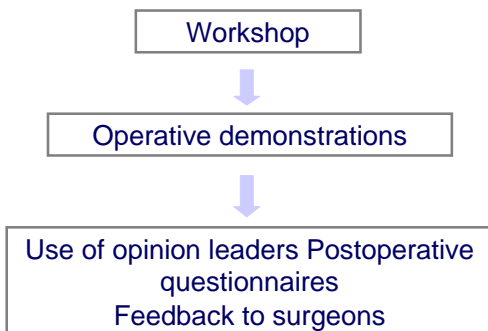


The QIRC Trial

- CIHR funding – October 2001
- Randomization began May 2002, accrual closed December 2004
- 16 Ontario hospitals, 103 surgeons
- >800 patients accrued for primary outcomes
Rates of permanent colostomy, local recurrence
- 119 patients accrued for secondary outcomes
Quality of Life, bowel, bladder and sexual function questions



QIRC Trial KT Strategy



Operative Demonstrations

Number of requests	92
Number of requests resulting in demonstrations	71

55 consenting surgeons in the experimental arm

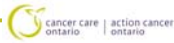
- 5 surgeons with no cases in the QIRC trial
- 50 surgeons with at least one case
- 44 surgeons with 2 or more cases

40/50 (80%) took part in at least one operative demonstration
23/44 (52%) participated in 2 or more operative demonstrations



TUMOUR BOARDS

- Bernie Langer and Francis Wright



Hospital Tumour Boards

- Hospital tumour conferences provide a periodic forum where multi-disciplinary team members can communicate about the management of shared cancer patients
- “Integral to the patient management process and patient outcomes”
(Nyquist 1995, Petty 2002).



Hospital Tumour Boards

- The Commission on Cancer (US) and the American College of Surgeons both require multidisciplinary cancer conferences
 - tumour conferences have been an established part of cancer care in the United States for more than 50 years
(Radecki 1994, Nyquist 1995, Petty 2002)



Tumour Boards Why Bother?

1. To make the best decision for the individual patient
2. To improve the knowledge and decision making ability of all participants
'learning in practice' or CPD



What's Going on in Ontario?

- Majority of communities do not meet on a regular basis to discuss challenging patient cases
 - Although this number is increasing, enthusiasm
- Performance Agreements signed with CCO for hospitals that got incremental funding for cancer surgery included a requirement to provide multidisciplinary consultations



Do Tumour Boards Influence Patient Care?

- Tumour Board recommendations from eight tumour boards were reviewed
- Patient charts reviewed, 84% of recommendations were followed
 - 16% were for diagnosis
 - 78% for therapy
 - 5% for palliation
- Suggested that TB can play a strategic role in planning care for cancer patients

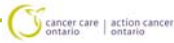
Petty 2002



Do Tumour Boards Influence Patient Care?

- Gyne-Onc Tumour Board (Texas)
 - 3 years (98-01), 459 cases discussed
 - Attendees: radiation oncology, gynecology, medical oncology, pathology, nurses, social worker, cancer registrar, students
 - Retrospective review of minutes

Santoso 2004



Do Tumour Boards Influence Patient Care?

- 32 cases with discrepancies
 - 23 major - changed patient care
 - 9 minor
- Major discrepancy
 - most common addition of chemotherapy (6) and surgery (5) after tumour board

Santoso 2004



Characteristics of Effective Tumour Boards

- Strong interpersonal skills of the tumour conference director (Bakemeier 1994)
- Working conference
 - all cases requiring multidisciplinary input are presented vs. "fascinating case (Vetto 1996)



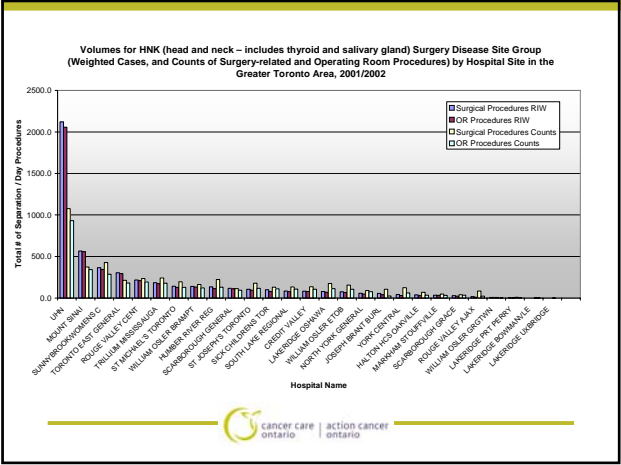
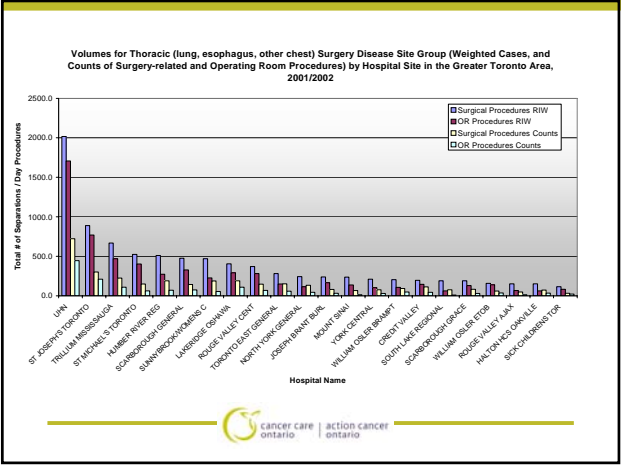
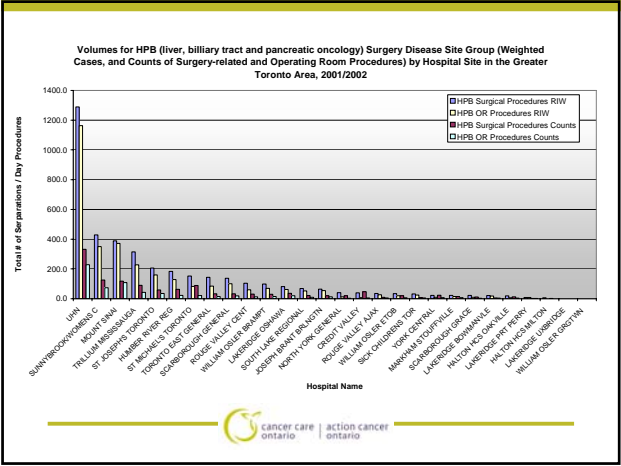
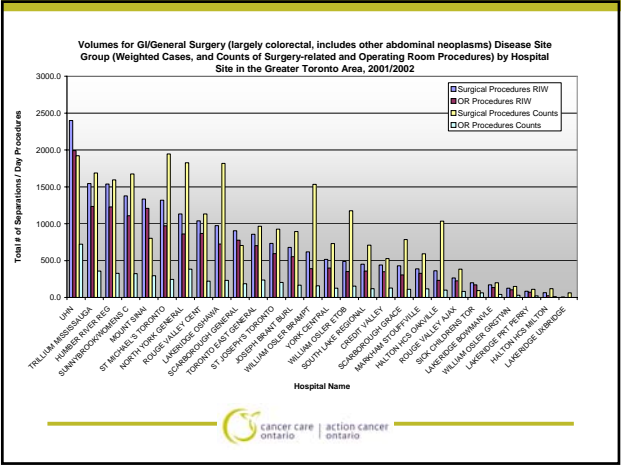
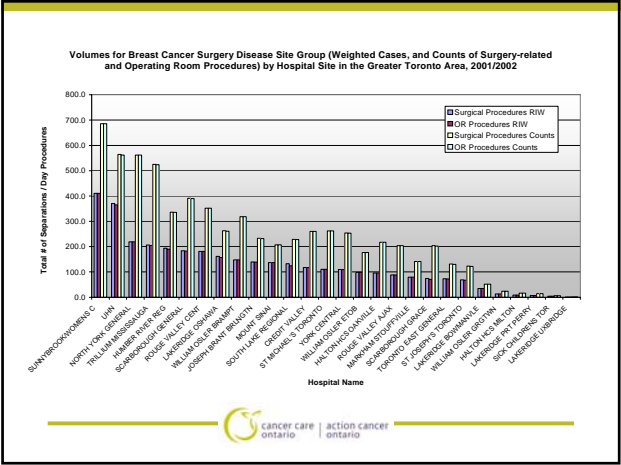
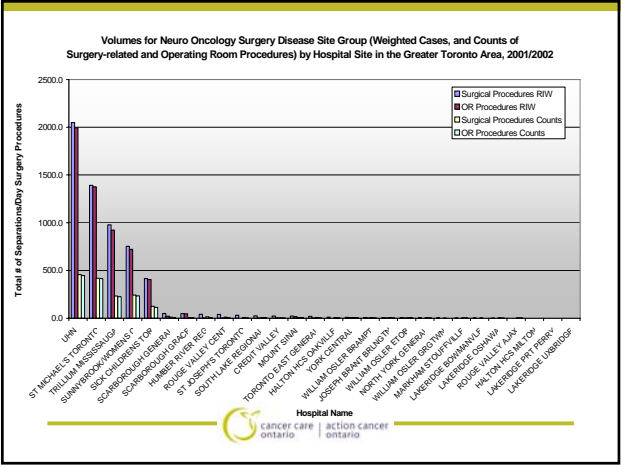
CONCLUSION

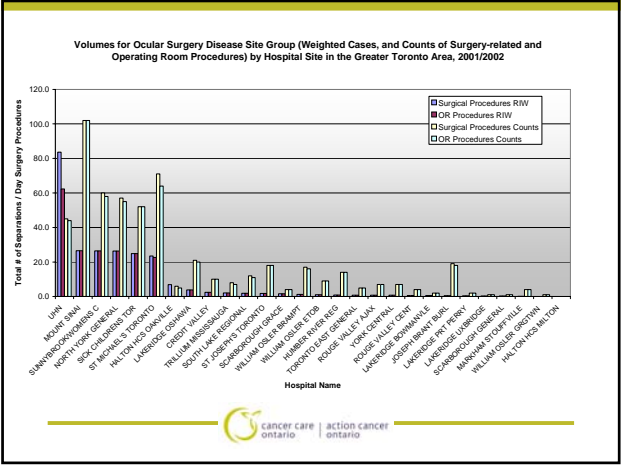
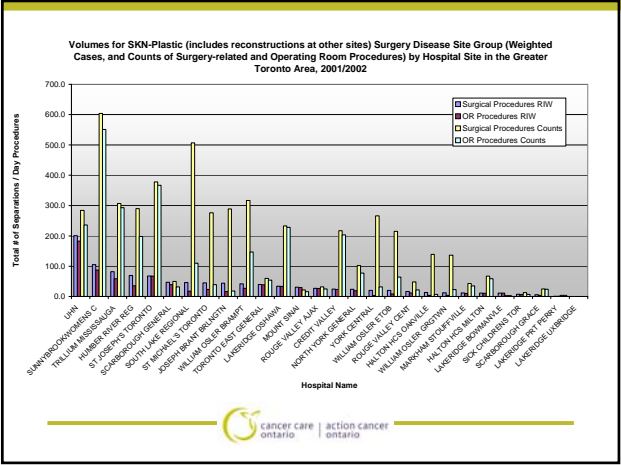
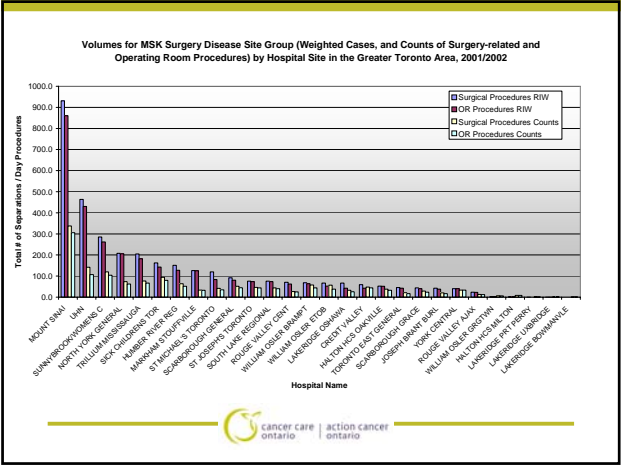
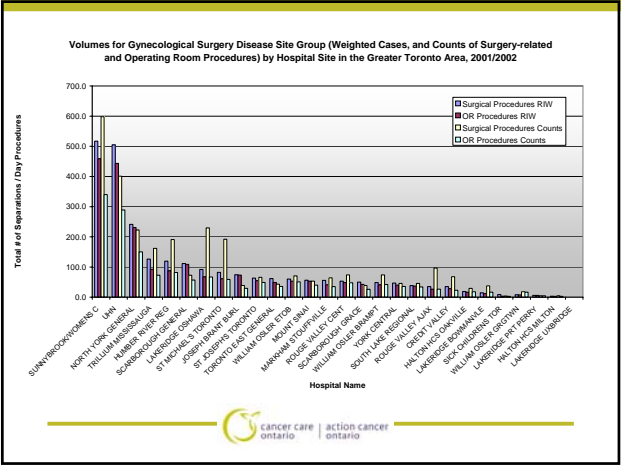
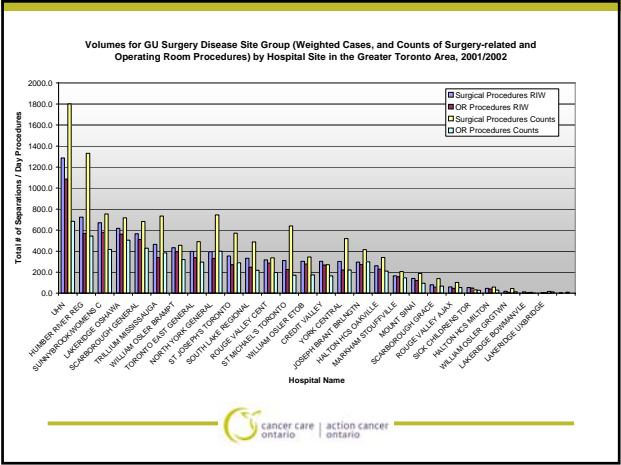
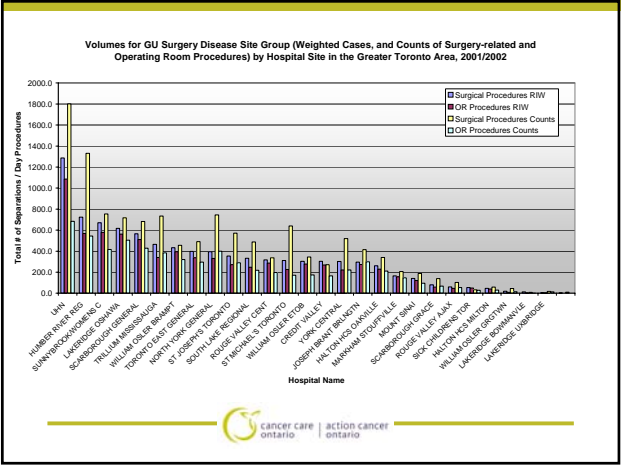


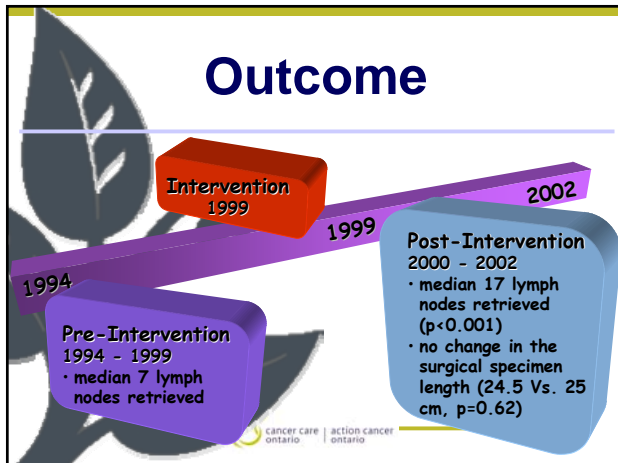
SOP Approach to Quality Improvement

- Patients welfare is paramount**
- A happy surgeon is a better functioning surgeon**
- Participation of surgeons in planning and managing change is essential**
- CCO role – leadership, coordination, support**
- Quality improvement occurs locally**









Lymph Node Assessment in Colon Cancer in Ontario

F.C. Wright, C.H.L. Law, L.D. Last, D. Ryan, A. J. Smith

Toronto-Sunnybrook Regional Cancer Centre
University of Toronto



Discussion

- Awareness is the first step to implementation of a guideline
 - Only 25% of all practicing pathologists in Ontario knew that 12 LN should be assessed for accurate staging



Discussion

- Adoption of Practice often is prevented by barriers to change
 - Workload pressures, the degree of difficulty and time in retrieving LN was identified as a barrier in this survey
 - Inadequate mesenteric resection was identified as a barrier to finding LNs



Evidence Summary

- **No** statistically significant difference detected in 2 RCTs for:
 - Survival (Laparoscopic: 85% versus Open: 83%)
 - Recurrence (Laparoscopic: 17% versus Open: 21%)
- Statistically significant difference detected in 4 RCTs for:
 - Operating times in favour of open surgery (Laparoscopic: 163 minutes versus Open: 111 minutes, $p = 0.034$)
 - Time to hospital discharge in favour of laparoscopic (Laparoscopic: 5.1 days versus Open: 7.3 days, $p = 0.003$)



Evidence summary (cont'd)

- The best evidence available indicates that primary outcomes are not statistically different between laparoscopic and open surgery for colon cancer after at least one member of the team has performed 20 procedures.



Draft Clinical Recommendations

- Laparoscopic surgery is recommended as an acceptable option for the treatment of stage I, II, or III colon cancer and should be considered an alternative to conventional open surgery for colon cancer in specified patients.



Draft Professional Practice Recommendations

- Surgeons should have completed a number of laparoscopic colectomies to a level of accepted competence, as determined by their peers in a structured mentoring process.
 - Either this number be adhered to or an equivalent process, including peer evaluation, be undertaken.
- Surgeons are strongly encouraged to self-audit their experiences. The use of audit tools such as that championed by the Canadian Association of General Surgeons (CAGS) is recommended.



Draft Institutional Recommendations

- All eligible institutions should show a commitment to advanced laparoscopic surgery by providing appropriate equipment, operating room time, and human resources, including developing a team approach to maximize the experience and efficiency of all team members.



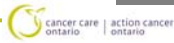
Is laparoscopic colon cancer surgery occurring presently in Ontario?



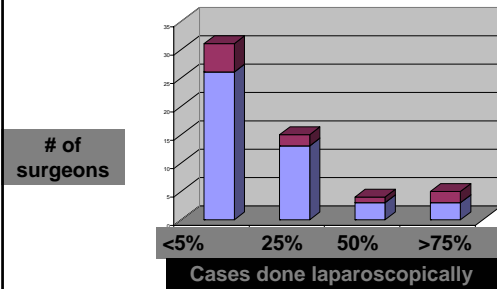
Laparoscopic Colon Resection in Ontario 2005

- Questionnaire
- Contacted colorectal opinion leaders, chiefs of surgery, and “Laparoscopic Surgeons”
- Phone and email
- Questioned about their group and individual practices

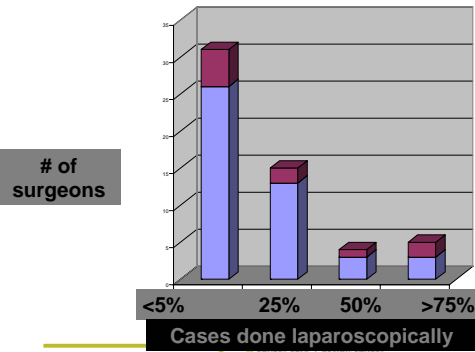
Burns, A. 2005



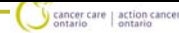
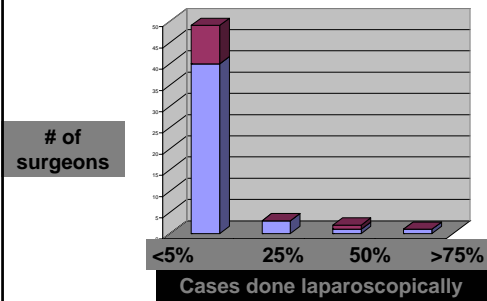
Number Of Surgeons Performing Laparoscopic Colectomies For Benign Disease



Number Of Surgeons Performing Laparoscopic Colectomies For Malignant Disease



Number Of Surgeons Performing Laparoscopic Anterior Resections For Malignant Disease



Results

Unperceived Barriers

Knowledge Gap

- Only 25% of all Ontario Pathologists surveyed thought that assessment of 12 or more LN was necessary to meet current recommendations

Perceived Barriers

Process Barriers

- Inadequate mesenteric resection
- Time constraints
- Technical difficulty identifying LN
- 43% thought it would be a significant burden to identify 5 more LN

The NEW ENGLAND JOURNAL of MEDICINE

THE NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

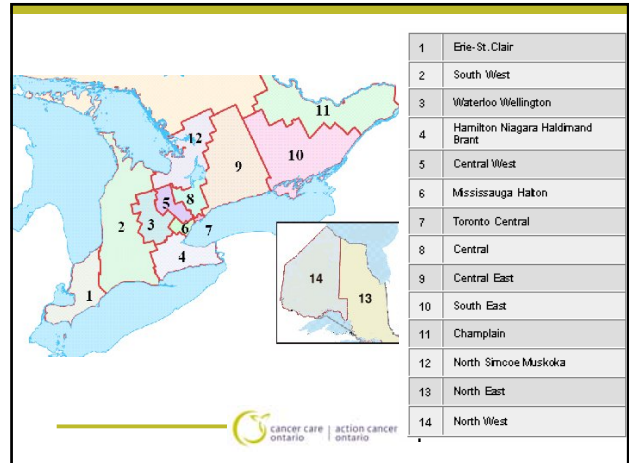
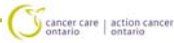
A Comparison of Laparoscopically Assisted and Open Colectomy for Colon Cancer

The Clinical Outcomes of Surgical Therapy Study Group*



CPG Process

1. Systematic literature review, obtain relevant evidence, and extract data
 - Five fully-published RCTs were obtained
2. Consensus within the Provincial Working Group of Surgeons
 - Broad range of representatives
 - Across the province, academic and community surgeons
3. Consensus within the Gastrointestinal Cancer Disease Site Group (DSG)



Population Based TME Outcomes

	1984-1986 (N=211) pre-TME	1990-1992 (N=230) TME
APR		
Local recurrence		

Improved survival (p=0.03)

Arbman G. Br J Surg. 1996;83:375



What about rectal cancer?

- CLASICC Trial
 - UK trial evaluating laparoscopic CRC surgery
 - Similar messages to COST trial
- Higher rates of positive margins (CRM) in laparoscopic anterior resection group
 - 12% vs 6% (p=0.19)
- Authors caution lap resection not justified for rectal cancer

Lancet; May 2005

