Innovative Approaches to Optimal Cancer Care in Canada Conference

This conference provides a unique opportunity for Canada's leaders in cancer control and quality to share insights and best practices from across the Country

CANADIAN PARTNERSHIP AGAINST CANCER | PARTENARIAT CANADIEN CONTRE LE CANCER

10 years OF PROGRESS

Welcome

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Innovative Approaches to Optimal Cancer Care in Canada

April 7-8, 2017

The Westin Harbour Castle
Toronto, Ontario

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A few thoughts to start

Comments on cancer control challenges in Canada

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Shared Themes

2017-2022

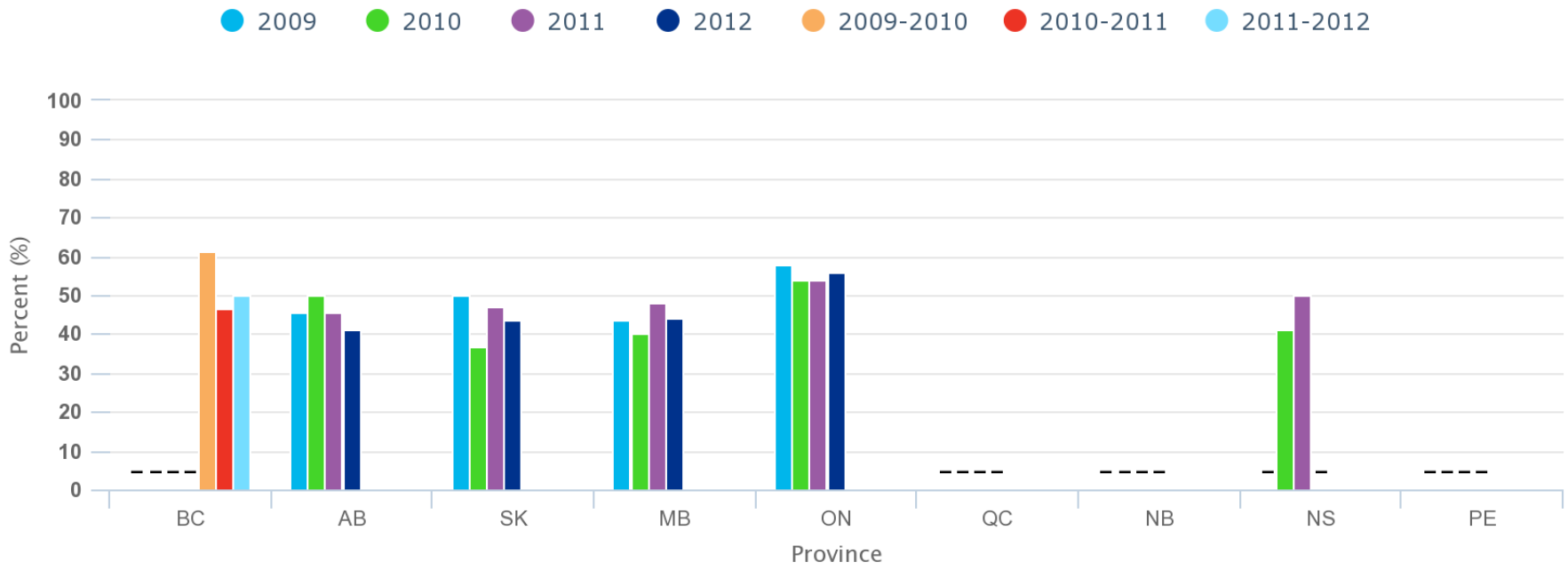
Organizing principles for 2017-2022

Quality

Quality can be measured many ways:

- Adherence to practice standards or patterns
- Outcomes of care

Percentage of Stage II or IIIA non-small cell lung cancer patients who received chemotherapy following surgical resection, by province — from 2009 to 2012 diagnosis years



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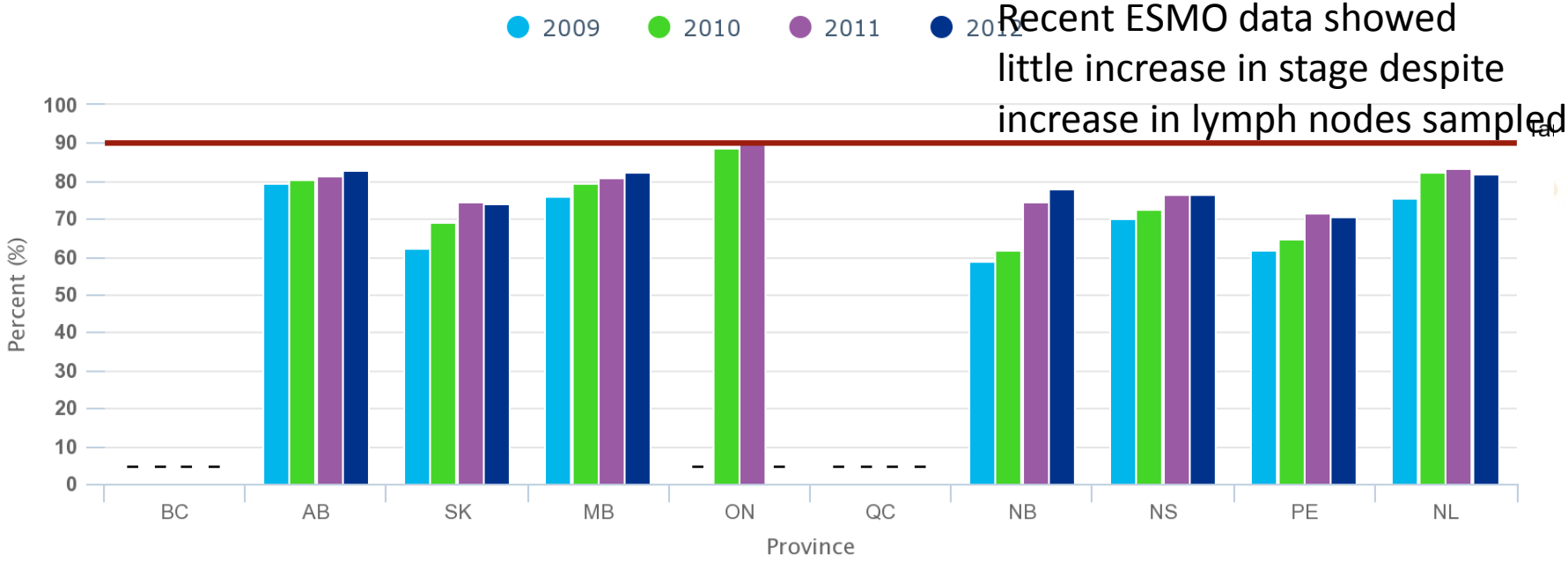
"—" Data not available.
AB: All Alberta Cancer Registry coded surgeries were included for complete lung resection.
MB: Oral chemotherapy included if available but may not be complete.
PE: Data for 2010 represent 2009–10 combined. Data for 2011 represent 2010–11 combined. Data for 2012 represent 2011–12 combined.
Data include chemotherapy started within 120 days following surgery.
Data source: Provincial cancer agencies.

Source: Systemperformance.ca

Percentage of colon resections with 12 or more lymph nodes removed and examined, by province — from 2009 to 2012 diagnosis years



Recent ESMO data showed little increase in stage despite increase in lymph nodes sampled

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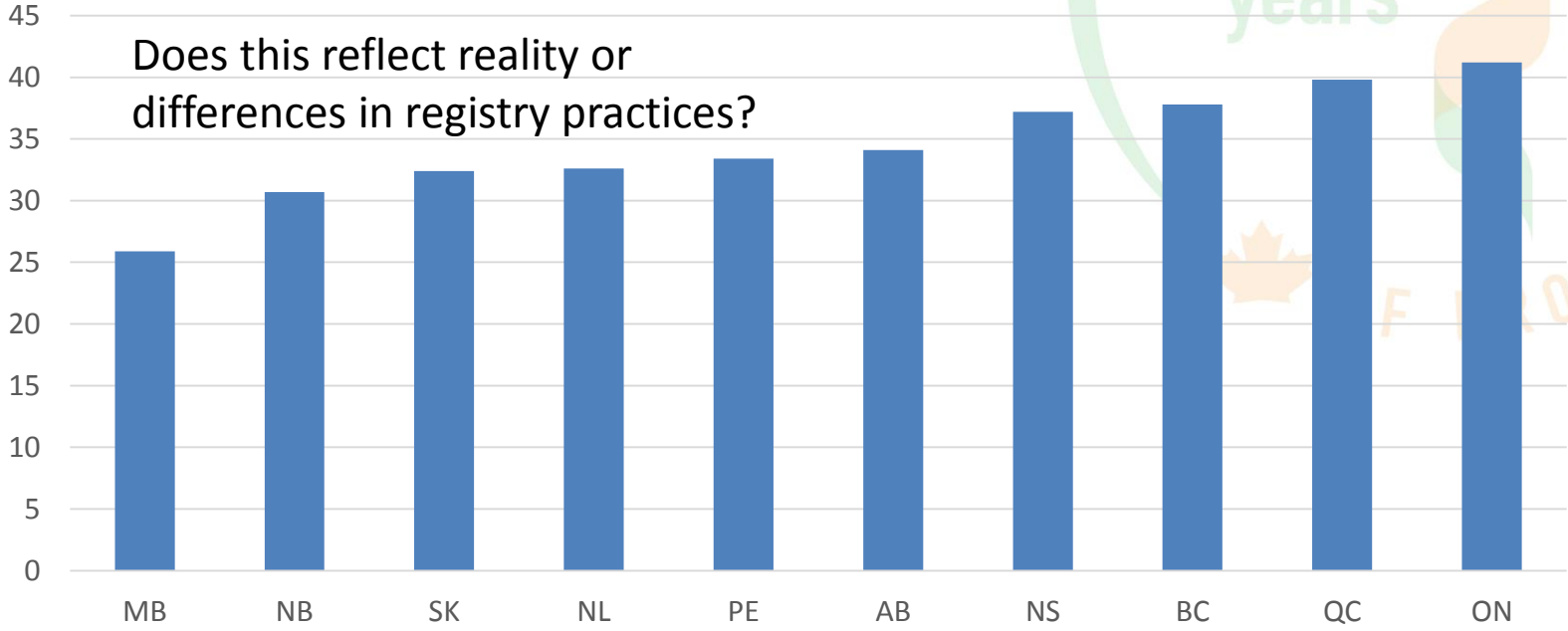
"—" Data not available
AB: All Alberta Cancer Registry coded surgeries (if there was no more definitive surgery as part of initial treatment, polypectomy might be included) were included as complete colon resection. C18.1 Appendix was excluded in 2012.
ON: Data represent colon cases with 12 or more nodes examined rather than cases diagnosed in corresponding year.
NS: Collaborative stage variables were used to identify resections. Resection dates were manually retrieved through chart review.
NL: Did not include out-of-province treatment for provincial residents.
Data source: Provincial cancer agencies or registries.

Source: Systemperformance.ca

Ovarian cancer, 5 year survival, % by province, 2005-2009 diagnosis years



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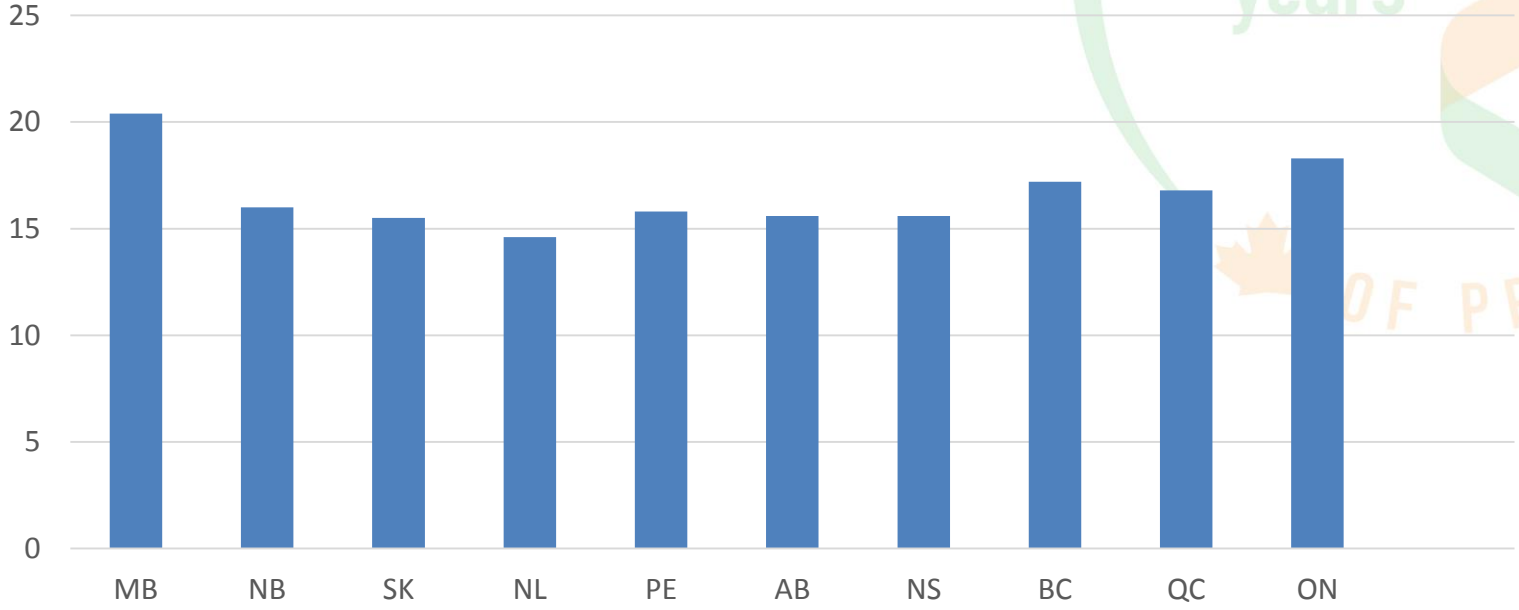
Allemani et al, CONCORD-2 group, Lancet Nov 26, 2014

Lung cancer, 5 year survival, % by province, 2005-2009 diagnosis years

(Arranged in ascending order for Ovarian Cancer survival)

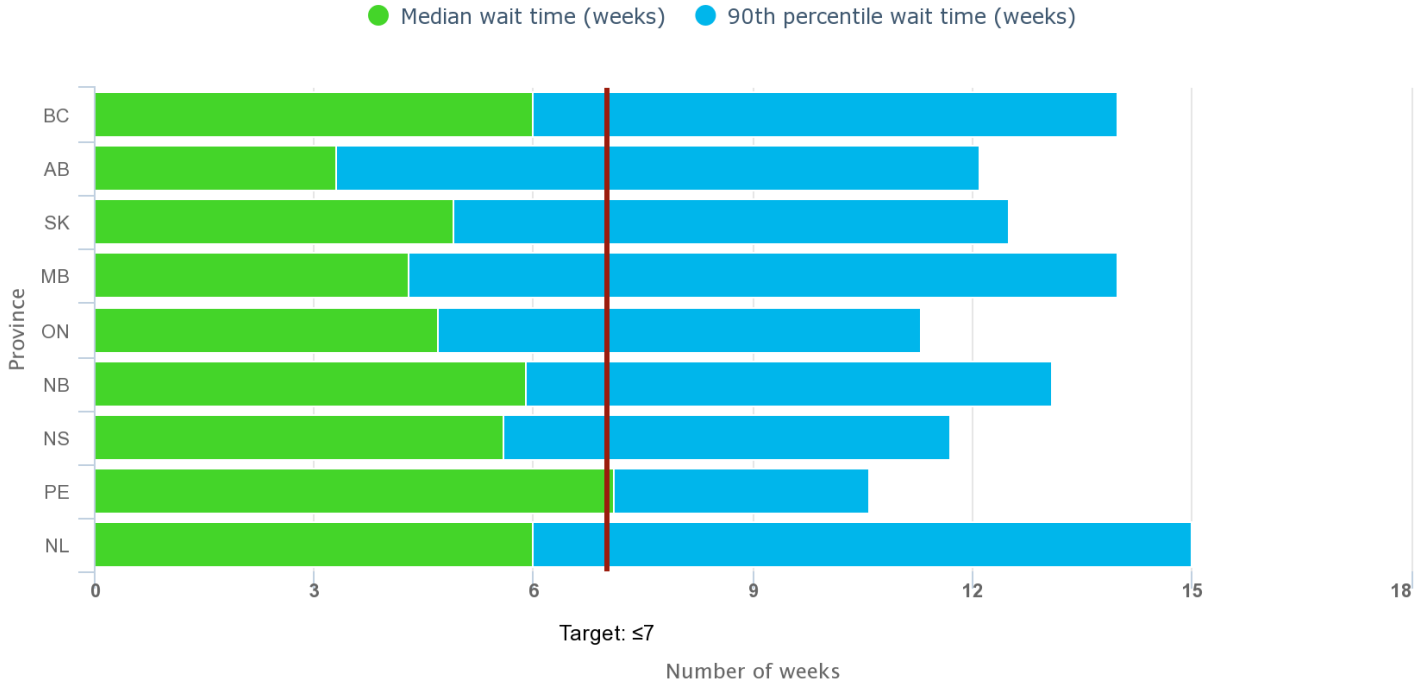


Allemani et al, CONCORD-2 group, Lancet Nov 26, 2014

Seamless Patient Experience

The patient experience is often measured by **wait times** or **satisfaction** – but rarely by actually mapping the experience from the patient point of view

Median and 90th percentile wait times for resolution of abnormal breast screen with tissue biopsy for asymptomatic women (aged 50–69), by province — 2013 screening year

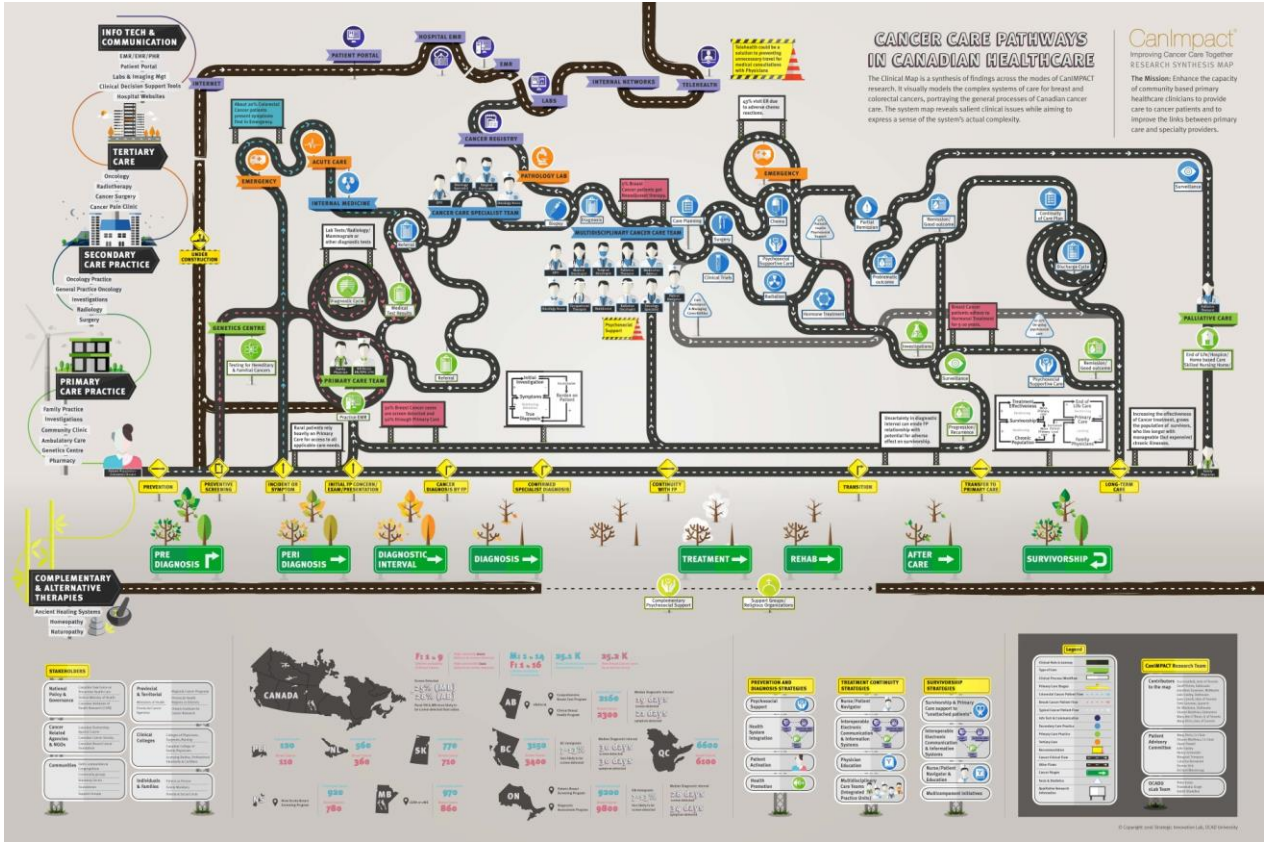


Innovative Approaches to Optimal Cancer Care in Canada

Cases where resolution of an abnormal screen took more than six months were excluded.
ON: Women with final result unknown/lost to follow-up were excluded.
Data source: Provincial breast cancer screening programs.

Source: Systemperformance.ca

Clinical Gigamap



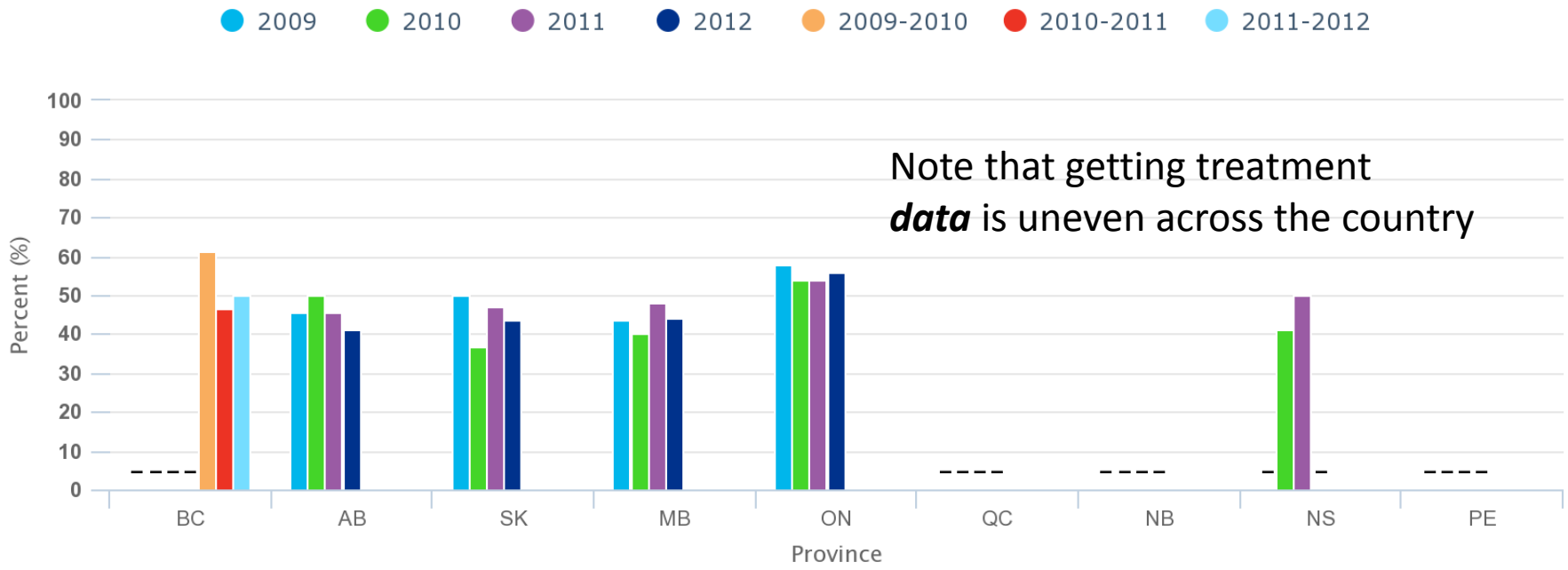
With thanks to E. Grunfeld et al

CanImpact®
Improving Cancer Care Together

Maximize Data Impact

Although cancer has richer databases than many other disease entities, it is challenged by lack of integration (linkage) and processes to gain access or analysis

Percentage of Stage II or IIIA non-small cell lung cancer patients who received chemotherapy following surgical resection, by province — from 2009 to 2012 diagnosis years



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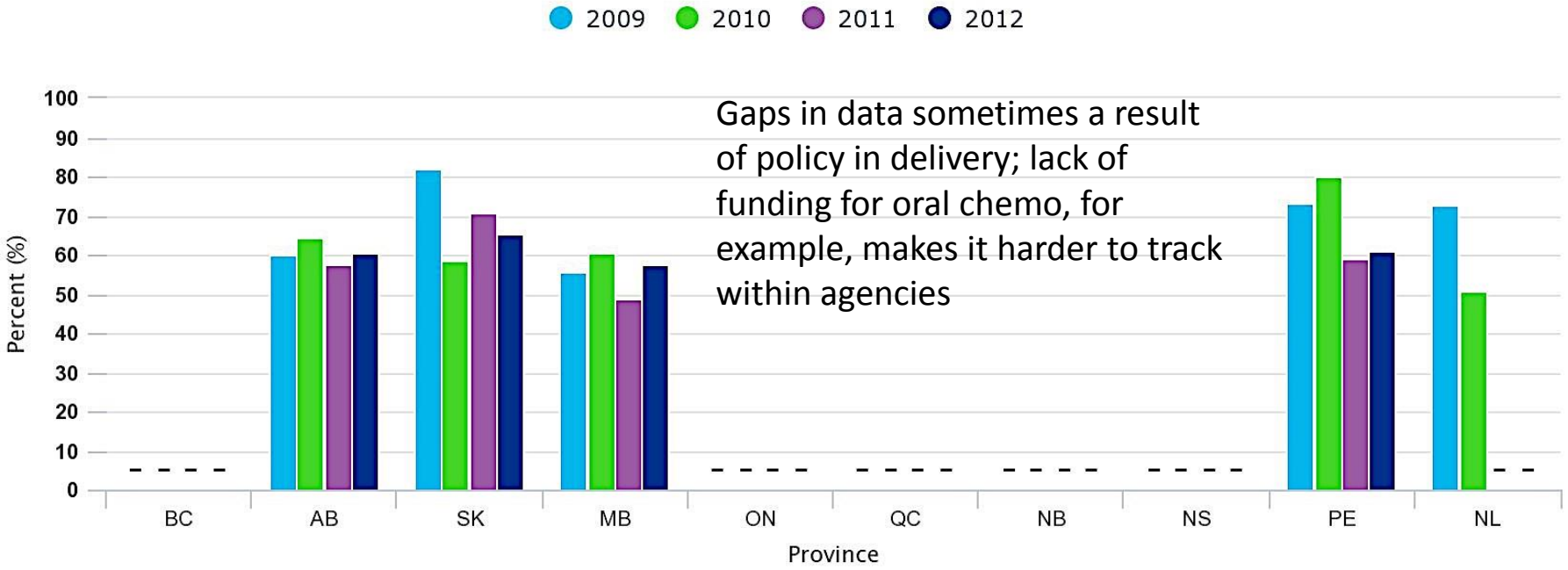
Data include chemotherapy started within 120 days following surgery.
Data source: Provincial cancer agencies.

Source: Systemperformance.ca

Percentage of Stage III colon cancer patients receiving chemotherapy following surgical resection, by province – from 2009 to 2012 diagnosis years



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"—" Data not available.
AB: All coded surgeries were included for complete colon resection.
SK: Data include oral and intravenous chemotherapy.
MB: Oral chemotherapy included if available but may not be complete.
Data included chemotherapy started within 120 days following surgery.
Data source: Provincial cancer agencies and programs.

Source: Systemperformance.ca

Are data access issues pragmatic or mythical?

Sustainable System

Several approaches here:

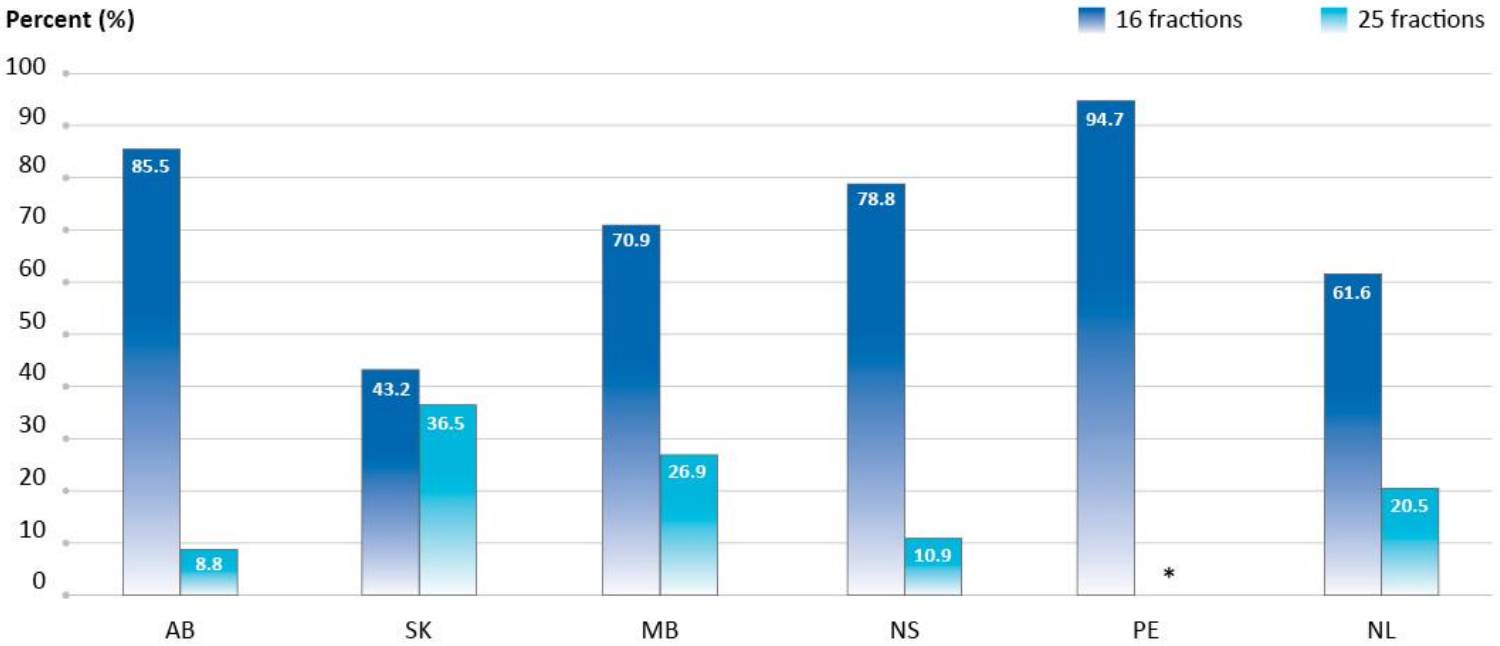
- Reduce costs
- Reduce unnecessary use
- Prevent cancers

Cancer Drug Spending is Rising Faster than Increases Attributable to Aging Population

Trends in public drug program spending from 2013 to 2014 for top three therapeutic categories

- Nervous system drug spend increased by $35.9 million
  - *2% increase*
- Cardiovascular drug spend decreased by $167.3 million
  - *12% decrease*
- Antineoplastic and immunomodulating drug spend increased by $152.6 million
  - ***15% increase***

Percentage of patients aged >50 with Stage I or II breast cancer[1] receiving 16 vs. 25 fractions of radiation therapy after breast-conserving surgery,[1] by province – 2013 diagnosis year



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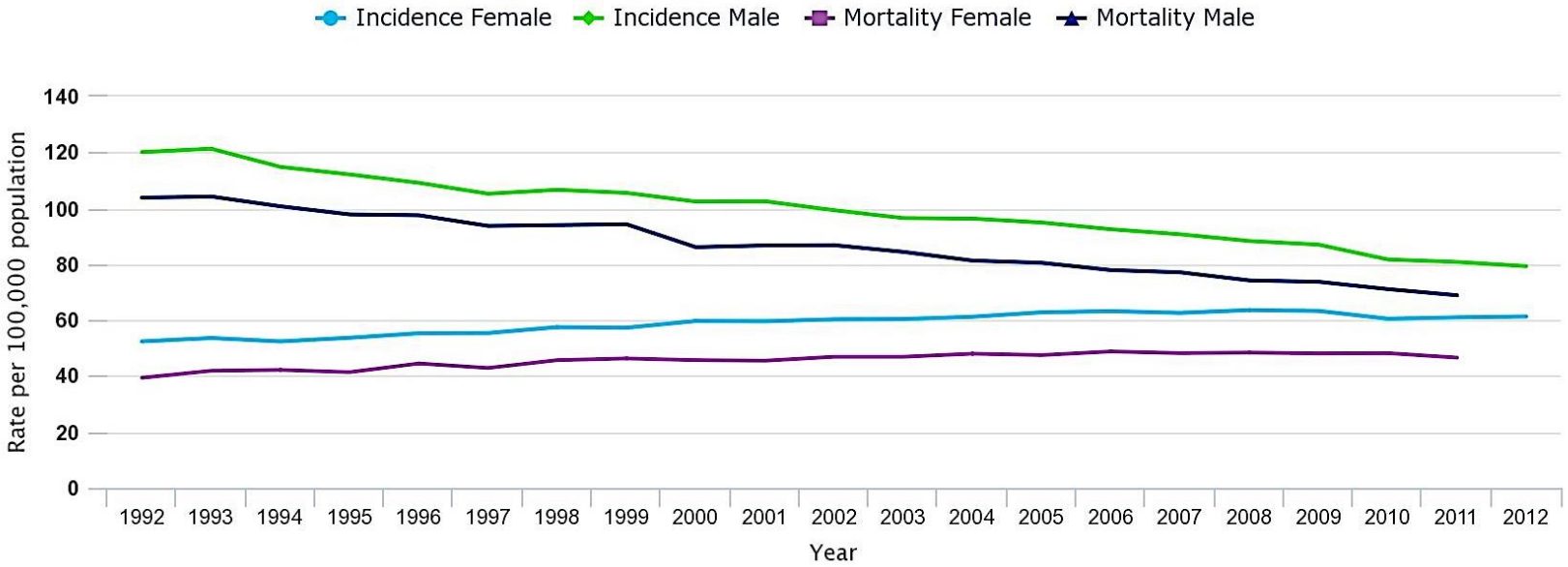
† Data include female patients only.
‡ Data on radiation therapy fractions exclude boosts.
* Suppressed owing to small numbers.
MB: Data reflect number of planned fractions rather than number of fractions actually delivered.
Data source: Provincial cancer agencies.

Source:Systemperformance.ca

Incidence and mortality rates for lung cancer, by sex, Canada, age-standardized to the 2011 Canadian population – from 1992 to 2012



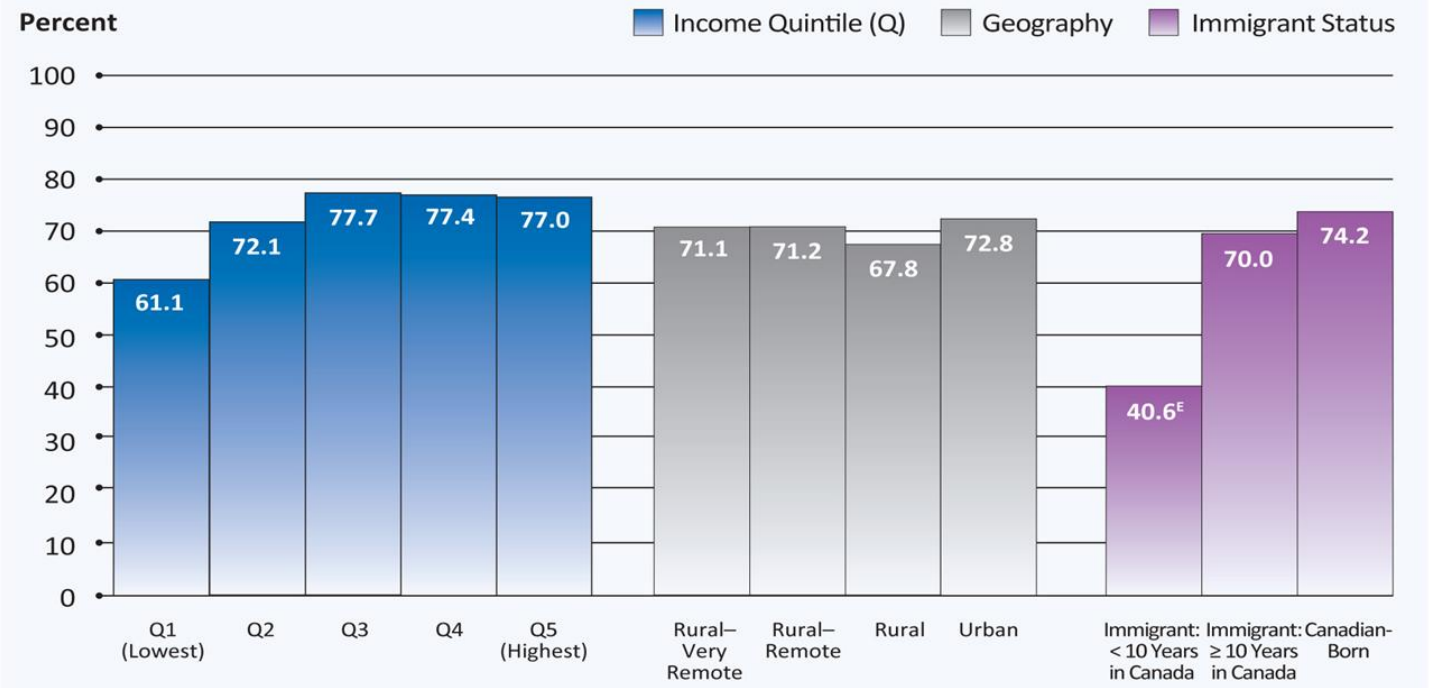
Data source: Statistics Canada, Canadian Cancer Registry and Vital Statistics Death Database.

Equity

We haven't solved this – but we often look at individual patterns:

- Age, income, education or ethnic/racial group
- Patterns may be much more pervasive and hard to identify

Percentage of eligible* women (aged 50 to 69) reporting having had a screening mammogram in the past two years, by household income quintile, geography and immigrant status, Canada - 2008

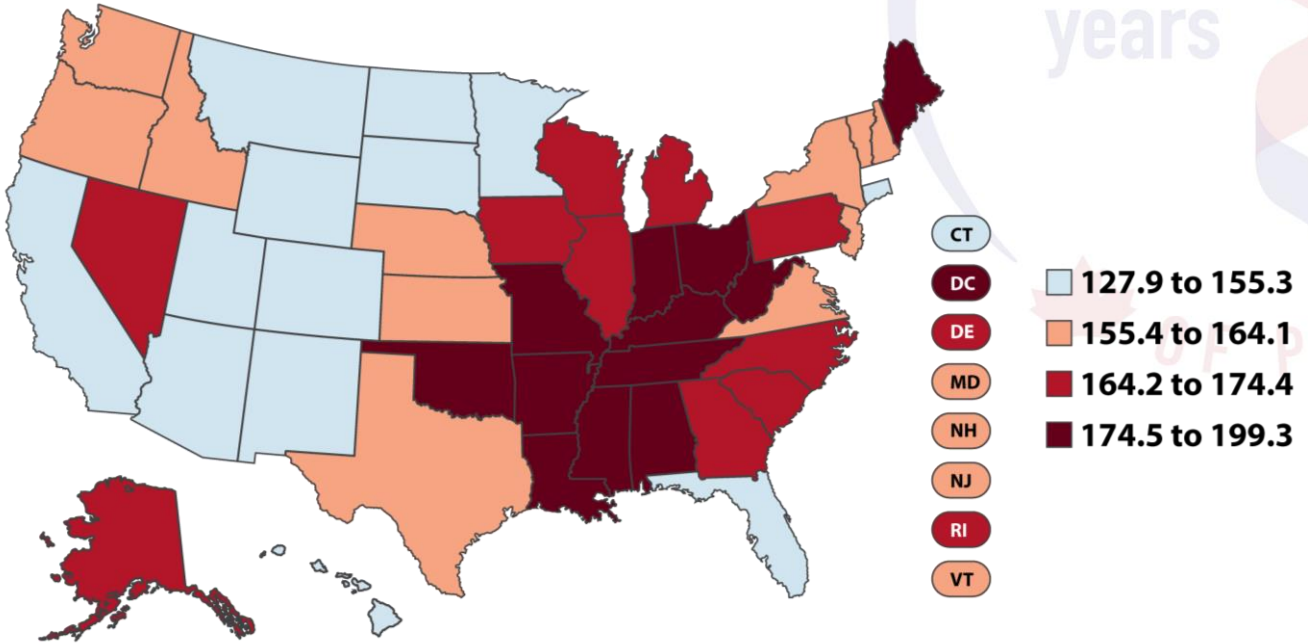


Innovative Approaches to Optimal Cancer Care in Canada

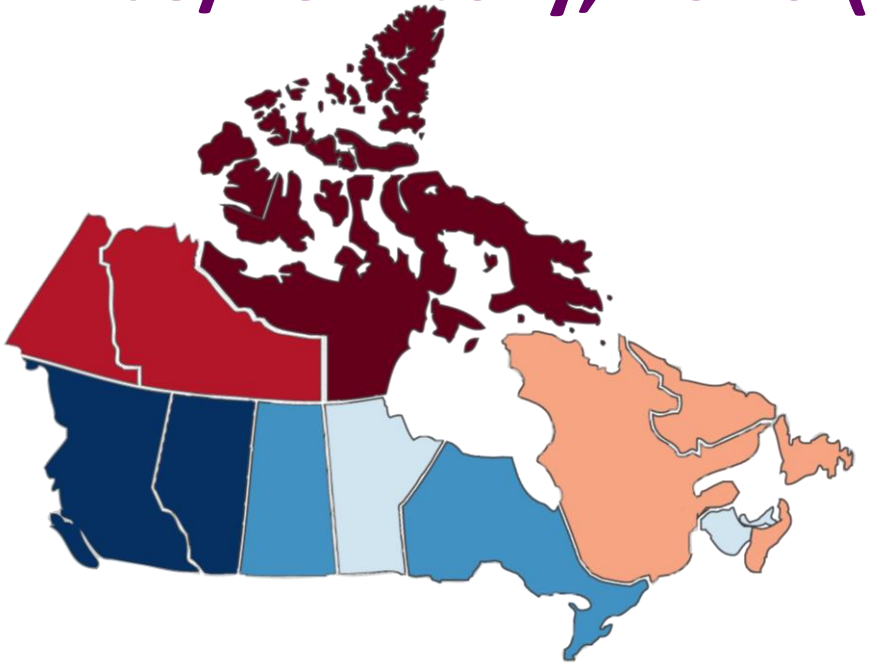
* Eligible women are those who have not had a previous lump, are not being followed up after breast cancer treatment and are not having a mammogram because of a breast problem or other specified reasons.
[E] Interpret with caution due to large variability in the estimate. See Online Technical Appendix for more details.
The territories are excluded from income analysis in the Canadian Community Health Survey.
Data source: Statistics Canada, Canadian Community Health Survey

Source: Systemperformance.ca

Cancer Mortality Rates by State, 2013



Cancer Mortality Rates by Province/Territory, 2016 (est)



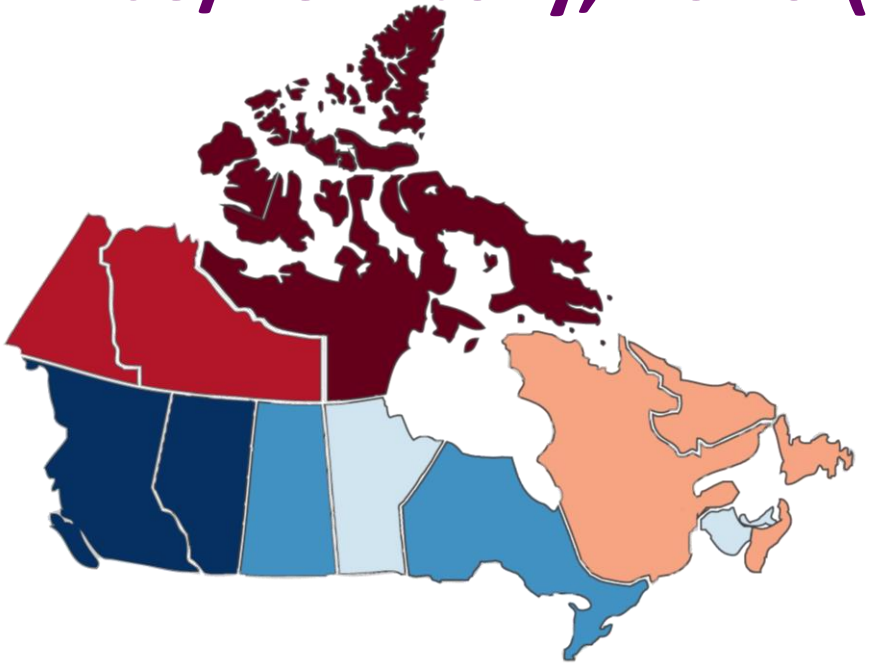
Geographic disparity, US and Canada cancer mortality

- US Mortality 2013
  - Highest State, KY, 199.3 (standardized to US 2000 population)
  - Lowest state, UT, 127.9
    - ***Ratio highest:lowest 1.56***

- Canada mortality projected 2016
  - Highest province, NL, 228.7 (standardized to Canada 2011 population)
  - Lowest province, AB, 182.0
    - ***Ratio highest:lowest 1.26***

  - ***However, NU has rate of 415.6; ratio to AB is 2.28***

Cancer Mortality Rates by Province/Territory, 2016 (est)



Over the course of this conference

- We will see many innovations
- Quality always has a context
- Have a successful conference experience!

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Quality Initiatives

Chair: Dr. Geoff Porter

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Cancer Care in England

Chris Harrison, National Clinical Director for Cancer

7th April 2017

Five Year Forward View

#futureNHS

Independent Cancer Taskforce

- The NHS Five Year Forward View (FYFV) presents a vision for improving health, including for all those diagnosed with cancer:
  - better prevention
  - swifter diagnosis
  - better treatment, care and aftercare
- The independent Cancer Taskforce was established in January 2015 to produce a new five-year national cancer strategy for England, delivering this vision
- Chaired by Harpal Kumar, Chief Executive of Cancer Research UK, but drawing representatives from right across the health system.

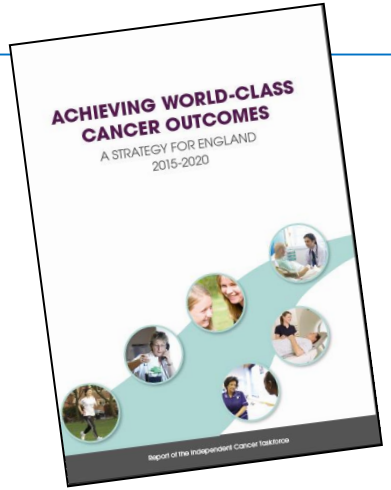
Independent Cancer Taskforce

Report published in July 2015 with aim to improve cancer services across the entire patient pathway by 2020:

- Fewer people getting preventable cancers
- More people surviving for longer after a diagnosis
- More people having a positive experience of care
- More people having a better, long-term quality of life

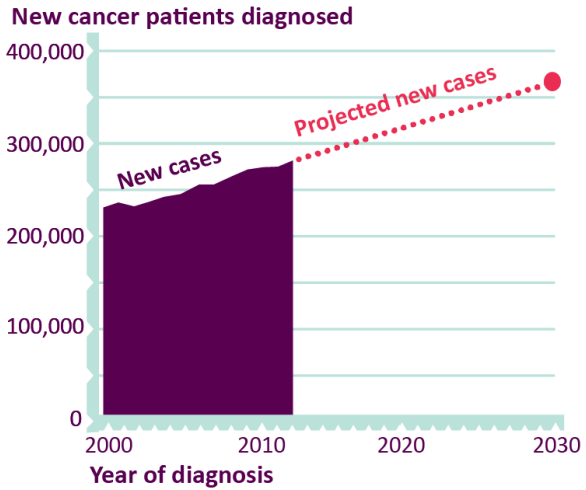
Six strategic priorities

Spearhead a radical upgrade in **prevention and public health**	Transform our approach to support people **living with and beyond cancer**
Drive a national ambition to achieve **earlier diagnosis**	Make the necessary investments required to deliver a **modern, high-quality service**
Establish **patient experience** on a par with clinical effectiveness and safety	Overhaul processes of **commissioning, accountability and provision**

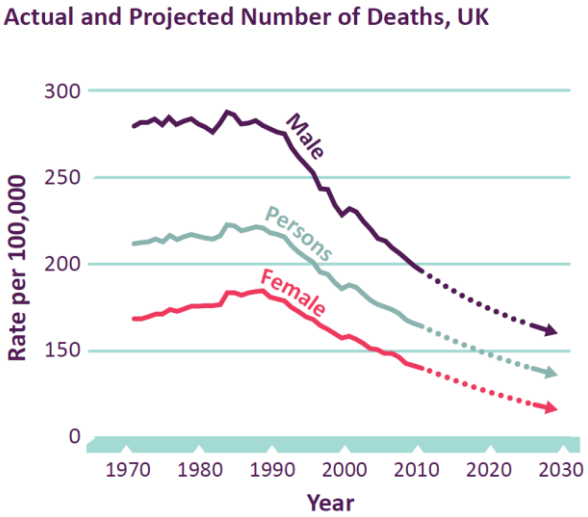


Five Year Forward View

The scale of the challenge



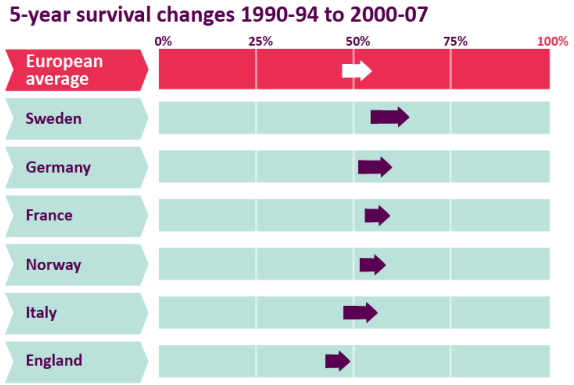
- In 2013, **280,000** new diagnoses
- **80,000** additional cases in 2030



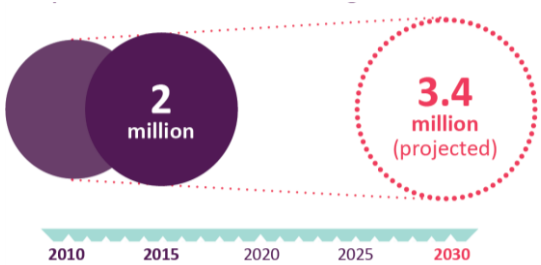
- **130,000** people still die from cancer each year

Data: Independent Cancer Taskforce

The scale of the challenge



Survival in England continues to lag behind countries of similar wealth

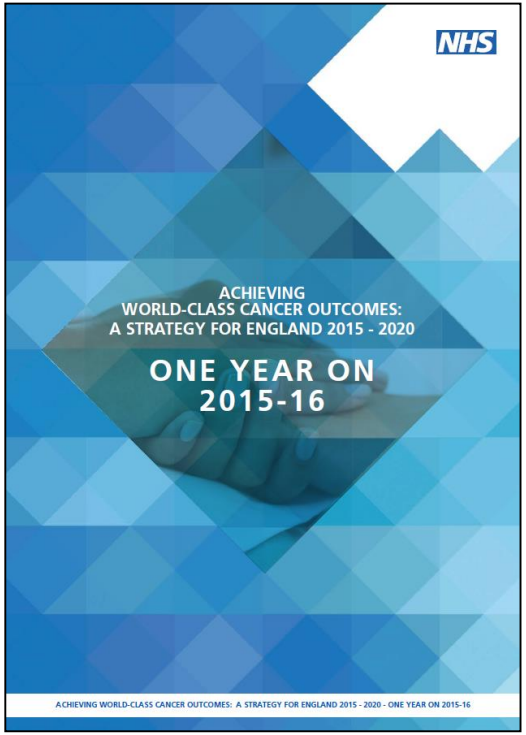


Cancer prevalence is set to rise to 3.4 million by 2030

Data: Independent Cancer Taskforce

First annual progress report

- First year focus has been on putting in place enabling infrastructure and on high-impact initiatives
- £130m investment in replacement of LINACs for radiotherapy and transformation funding for all years of national programme committed
- New Cancer Drugs Fund
- Establish cancer alliances and vanguard
- Over £200m transformation fund over two years to support Cancer Alliances:
  - Drive faster and earlier diagnosis
  - Implement the Recovery Package
  - Roll out stratified follow up pathways



Highlights

Cancer Alliances & Vanguard

- 16 Cancer Alliance footprints have now been confirmed in addition to three Vanguard sites

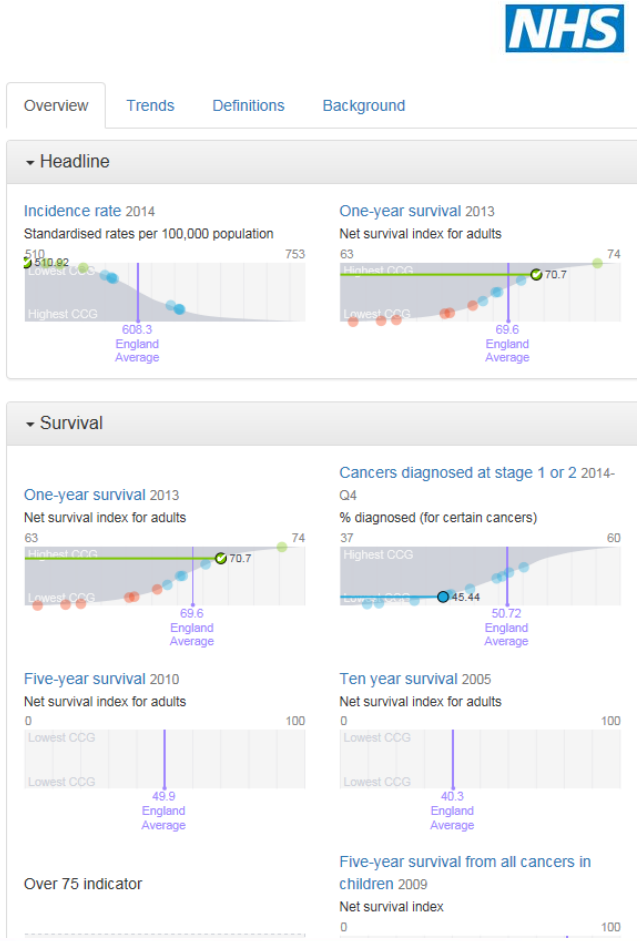
- Alliances and the Vanguard will:
  - lead delivery of the Taskforce strategy locally
  - reduce variation in outcomes through taking a whole-pathway and whole-system approach
  - become the ‘cancer workstreams’ of relevant STPs

- Manage bids for and investment of transformation funding

- Develop delivery plans for delivery of the whole strategy at a local level

Highlights
Cancer Dashboard

- ‘Single version of the truth’ on pathway performance across Alliance geography.
- Launched in May 2016
- Approximately 20 indicators, cut nationally and by CCG and provider
- Enable easy visualisation and track progress towards taskforce ambitions
- Show how local areas are contributing to taskforce priorities
- Ongoing process - future phases are currently being planned to improve functionality and include new metrics



Highlights

28 Day Faster Diagnosis Standard

- Key taskforce recommendation that all patients should receive a ‘definitive’ diagnosis of cancer or have cancer ‘definitively’ ruled out within 28 days of an initial referral
- Aims to speed up access to diagnosis and ensure that patients who aren’t diagnosed do not wait and worry
- Focus on:
  - Faster Diagnosis
  - Better communication
  - Partnership between primary and secondary care
- We are testing the standard in five sites across England
- Co-design the new standard, ensuring that we are ambitious but sensitive to the challenges facing the service
- Full roll out by 2020

Highlights

Support for people Living With and Beyond Cancer

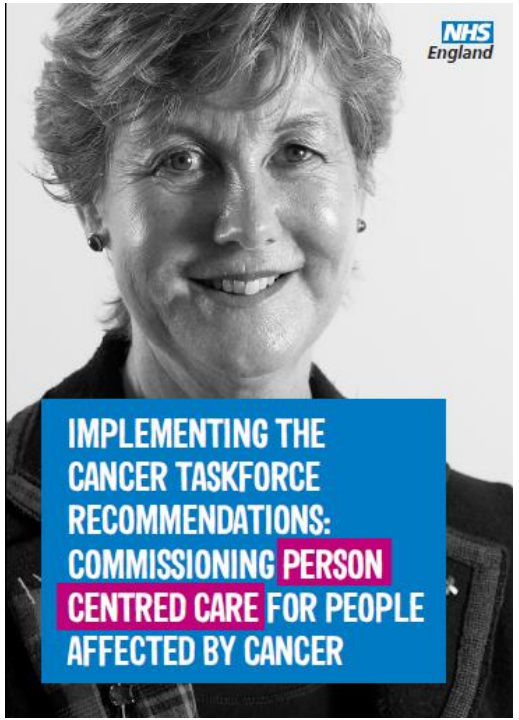
Recovery Package

Everyone diagnosed with cancer to have access to elements of the Recovery Package by 2020:

- Holistic Needs Assessment and Care Plan
- Treatment Summary
- Cancer Care Review
- Health and wellbeing event / course

Stratified Follow Up Pathways

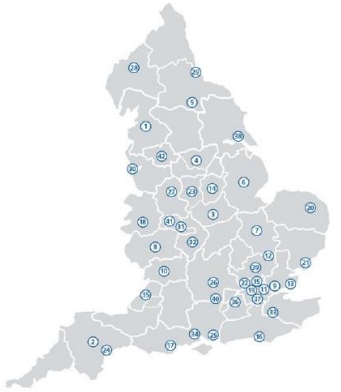
- Evidence that a more personalised model such as this significantly improves patient experience
- Roll out stratified follow-up pathways for breast cancer by 2020
- Further test stratified follow-up pathways for prostate and colorectal cancer and roll out by 2020



Highlights
Radiotherapy

- **£130m** investment for radiotherapy modernisation
- Truly transformative investment that will:
  - Improve the targeting of treatment
  - Improve the chances of successful treatment and survival
  - Reduce side-effects for patients living with and beyond cancer
- Establishing Radiotherapy Networks across the country to coordinate services and make better use of the capacity we have
- Second wave of trusts being rolled out in 2017/18, covering most centres in the country

Figure 5: Roll out of cancer care Radiotherapy upgrade programme



NHS hospitals that have already received funding for new or upgraded equipment in early 2017

1. Lancashire Teaching Hospitals NHS Foundation Trust
2. Torbay and South Devon NHS Foundation Trust
3. University Hospitals of Leicester NHS Trust
4. Sheffield Teaching Hospitals NHS Foundation Trust
5. South Tees Hospitals NHS Foundation Trust
6. United Lincolnshire Hospitals NHS Trust
7. Peterborough and Stamford Hospitals NHS Foundation Trust
8. Worcestershire Acute Hospitals NHS Trust

NHS hospitals that will receive funding for new radiotherapy machines in the next 18 months

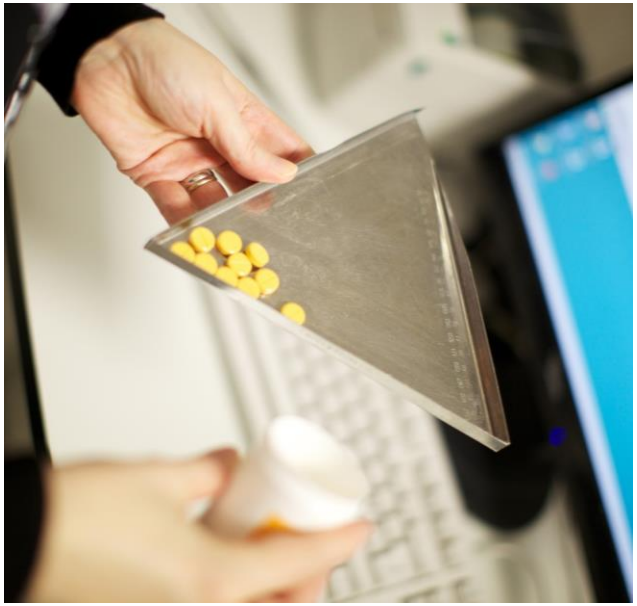
9. Barking, Havering and Redbridge University Hospitals NHS Trust
10. Gloucestershire Hospitals NHS Foundation Trust
11. Imperial College Healthcare NHS Trust
12. Cambridge University Hospitals NHS Foundation Trust
13. Southend University Hospital NHS Foundation Trust
14. Nottingham University Hospitals NHS Trust
15. North Middlesex University Hospital NHS Trust
16. Brighton And Sussex University Hospitals NHS Trust
17. Poole Hospital NHS Foundation Trust
18. Shrewsbury and Telford Hospital NHS Trust
19. The Royal Marsden NHS Foundation Trust
20. Norfolk and Norwich University Hospitals NHS Foundation Trust
21. Ipswich Hospital NHS Trust
22. Royal Free London NHS Foundation Trust
23. Derby Teaching Hospitals NHS Foundation Trust
24. Royal Devon and Exeter NHS Foundation Trust
25. Portsmouth Hospitals NHS Trust
26. Oxford University Hospitals NHS Foundation Trust
27. University Hospitals of North Midlands NHS Trust

NHS hospitals that have already received funding for new or upgraded equipment and will receive funding for new radiotherapy machines in the next 18 months

28. North Cumbria University Hospitals NHS Trust
29. The Newcastle upon Tyne Hospitals NHS Foundation Trust
30. The Clatterbridge Cancer Centre NHS Foundation Trust
31. University Hospitals Birmingham NHS Foundation Trust
32. University Hospitals Coventry and Warwickshire NHS Trust
33. Maidstone and Tunbridge Wells NHS Trust
34. University Hospital Southampton NHS Foundation Trust
35. University Hospitals Bristol NHS Foundation Trust
36. Royal Surrey County Hospital NHS Foundation Trust
37. University College London Hospitals NHS Foundation Trust
38. Hull and East Yorkshire Hospitals NHS Trust
39. East and North Hertfordshire NHS Trust
40. Royal Berkshire NHS Foundation Trust
41. Royal Wolverhampton NHS Trust
42. The Christie NHS Foundation Trust

Highlights
Cancer Drugs

- New approach to funding cancer drugs through the Cancer Drugs Fund launched with NICE in July 2016
- Provides access 4-6 months faster than entry into baseline commissioning
- A sustainable approach to giving patients faster access to the best treatment.
- In October 2016, NICE recommended the first new drug, Osimertinib for advanced lung cancer patients.
- An additional 7 new drugs have been recommended by NICE to receive funding from the new CDF.



Summary

Aim of Cancer Programme:

- Fewer people getting preventable cancers
- More people surviving for longer after a diagnosis
- More people having a positive experience of care
- More people having a better, long-term quality of life

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Quality Initiatives

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U.S. Perspective on Improving Quality of Cancer Care

Eric C. Schneider, MD, MSc, FACP
Senior Vice President for Policy and Research
The Commonwealth Fund
@ericschneidermd

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Toronto, ON
April 7, 2017

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Affordable, quality health care. For everyone.

…to promote a high performing health care system that achieves better access, improved quality, and greater efficiency, particularly for society's most vulnerable

The COMMONWEALTH FUND

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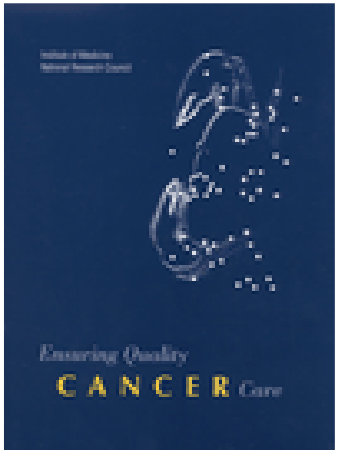
US Institute of Medicine

Ensuring Quality Cancer Care (1999)



- Gaps in quality for many people with cancer
- Extent of problem unknown
- Need for national quality monitoring system

- National Cancer Care Network (NCCN)
- American College of Surgeons National Cancer Data Base (NCDB)
- ASCO
  - National Initiative on Cancer Care Quality (NICCQ)
  - Quality Oncology Practice Initiative (QOPI)

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NICCQ:
Breast Cancer Quality of Care

Quality of care domain (# of measures)	Eligible events		% adherence to Quality Measure
	Total	Range	
Diagnostic evaluation (13)	9887	40-1280	88
Surgery(4)	2673	107-1287	87
Adjuvant therapy (16)	6148	20-1044	82
Management of treatment toxicity (2)	378	111-267	73
Surveillance (1)	1195	1195	94
Overall (36)	20281	20-1287	86

NICCQ:
Colorectal Cancer Quality of Care

Quality of care domain (# of indicators)	Eligible events		% adherence to Quality Measure
		Range	
Diagnostic evaluation (10)	1635	8-470	87
Surgery (4)	961	97-442	93
Adjuvant therapy (10)	1342	73-172	64
Surveillance (1)	478	478	50
Overall (25)	4538	8-478	78

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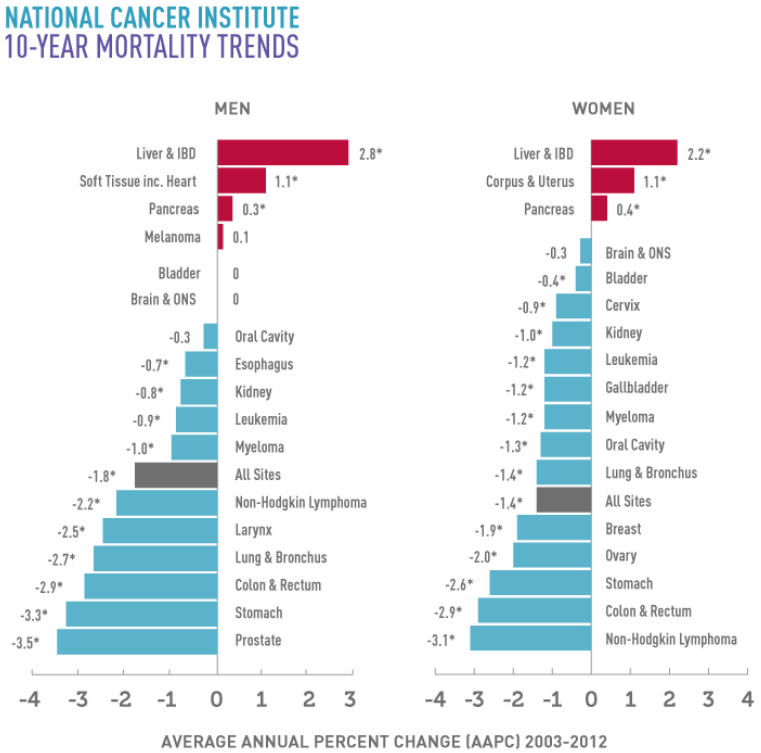
NICCQ:
Patient Experience (Survey in 2002)

Measure	Breast Cancer	Colorectal Cancer
Amount of information “less than needed”	16	15
Amount of information “more than needed”	6	6
Patient’s role in chemo decision making was “about right”	89	92
Patient’s role in radiation decision making was “about right”	92	83
Always treated with respect	80	73
Out-of-pocket costs a “big” or “medium” problem	21	14

Decline U.S. Cancer Mortality Rates: 2003 to 2012



- Men
  - -1.8% per year
- Women
  - -1.4% per year
- Children
  - -2% per year

Source: Ryerson, A. B. et al (2016), Annual Report to the Nation on the Status of Cancer, 1975-2012, featuring the increasing incidence of liver cancer. Cancer, 122: 1312–1337. doi:10.1002/cncr.29936

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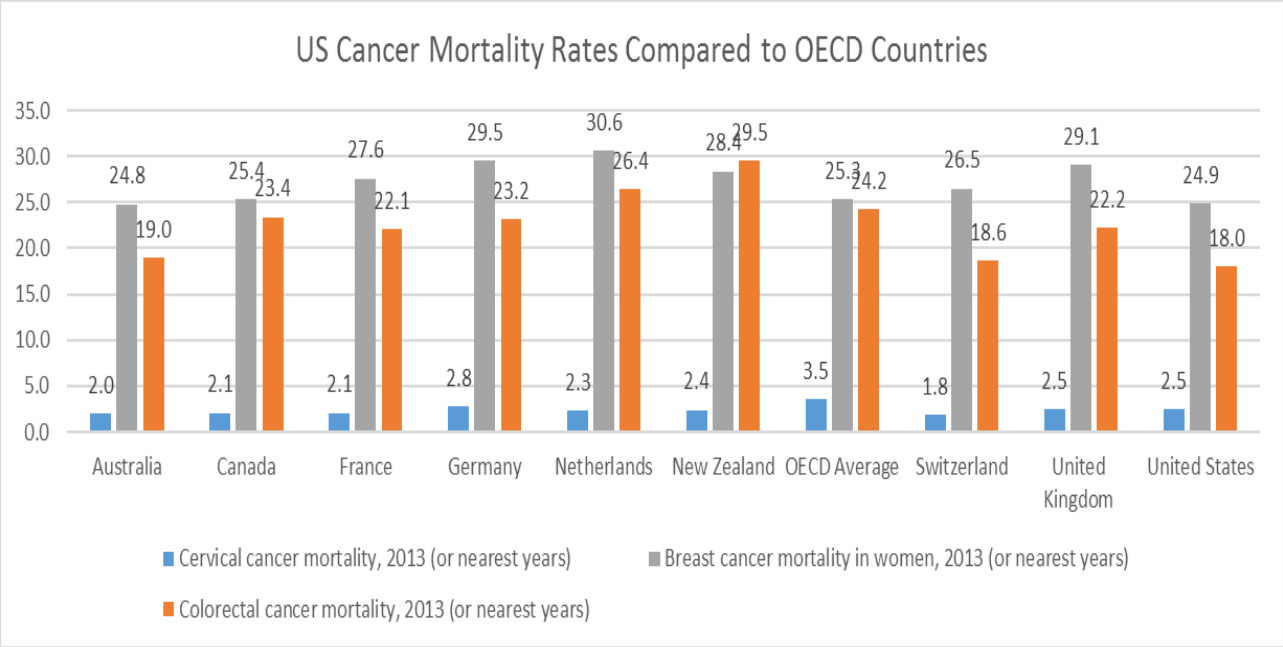
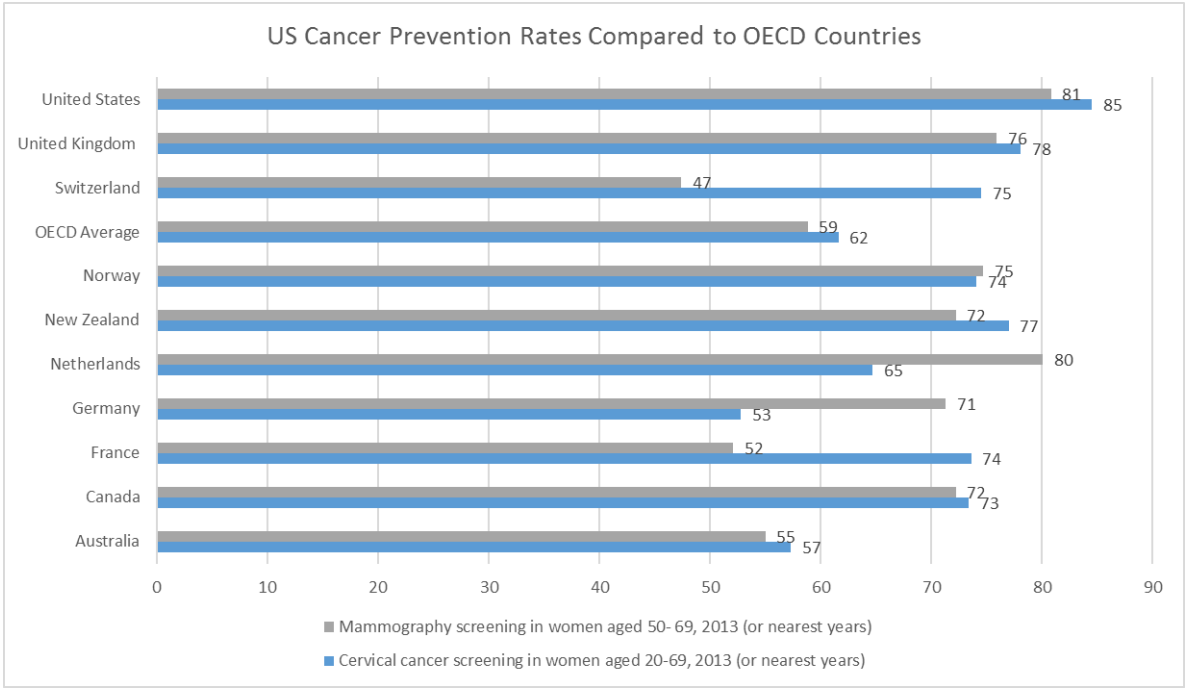
US has relatively lower cancer mortality rates than other countries



Source: Commonwealth Fund Analysis of OECD Health Statistics 2015, http://dx.doi.org/10.1787/health-data-en.

The COMMONWEALTH FUND

US has relatively higher rates of cancer screening than other wealthy countries



Source: Commonwealth Fund Analysis of OECD Health Statistics 2015, http://dx.doi.org/10.1787/health-data-en.

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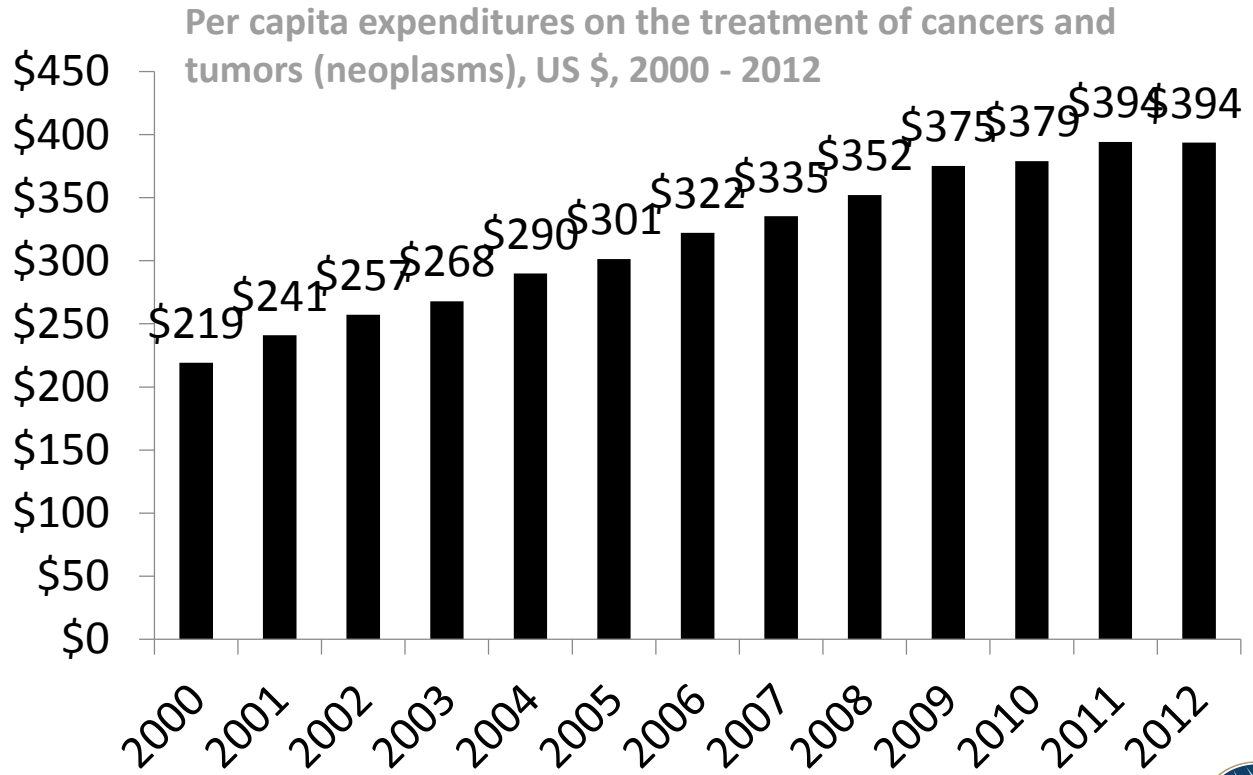
Institute of Medicine Declares "Crisis" in Cancer Care (2013)

- Increasing cancer burden due to aging population
  - Expect a 30 percent increase in the number of cancer survivors and a 45 percent increase in cancer incidence by 2030.
- Workforce shortages
  - family caregivers and direct care workers provide care with limited training and support.
- Knowledge and cognitive overload
  - Explosive increase in the amount of information a clinician must master to treat cancer appropriately.
- Quality improvement failure
  - quality metrics, clinical practice guidelines, and information technology—are not widely used and all have serious limitations.

US per capita spending on cancer has increased since 2000



Source: Kaiser Family Foundation analysis of Bureau of Economic Analysis Health Care Satellite Account (Blended Account) **Note**: Expenditures on nursing home and dental care are not included in health services spending by disease. Data last updated January 25, 2016.

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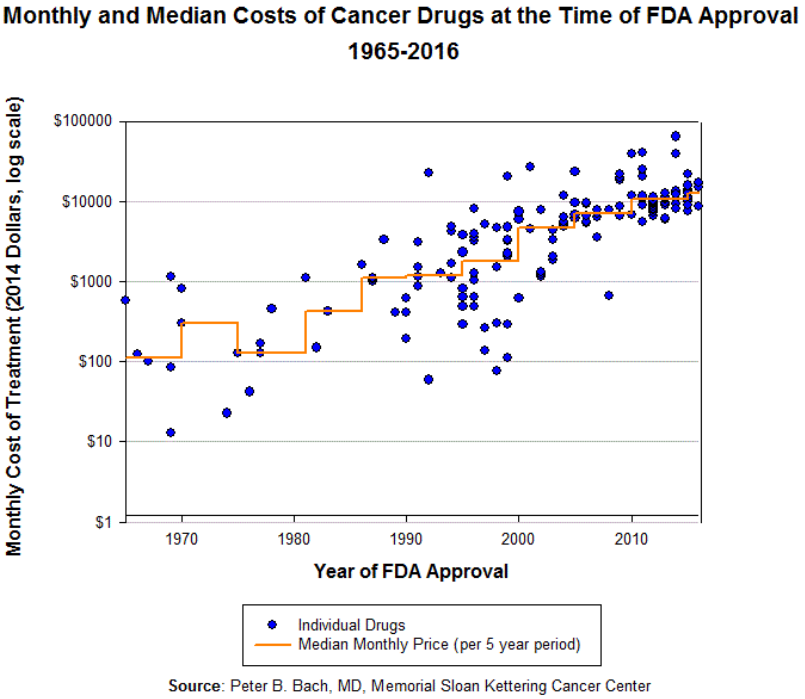
Cancer drug costs continue to increase



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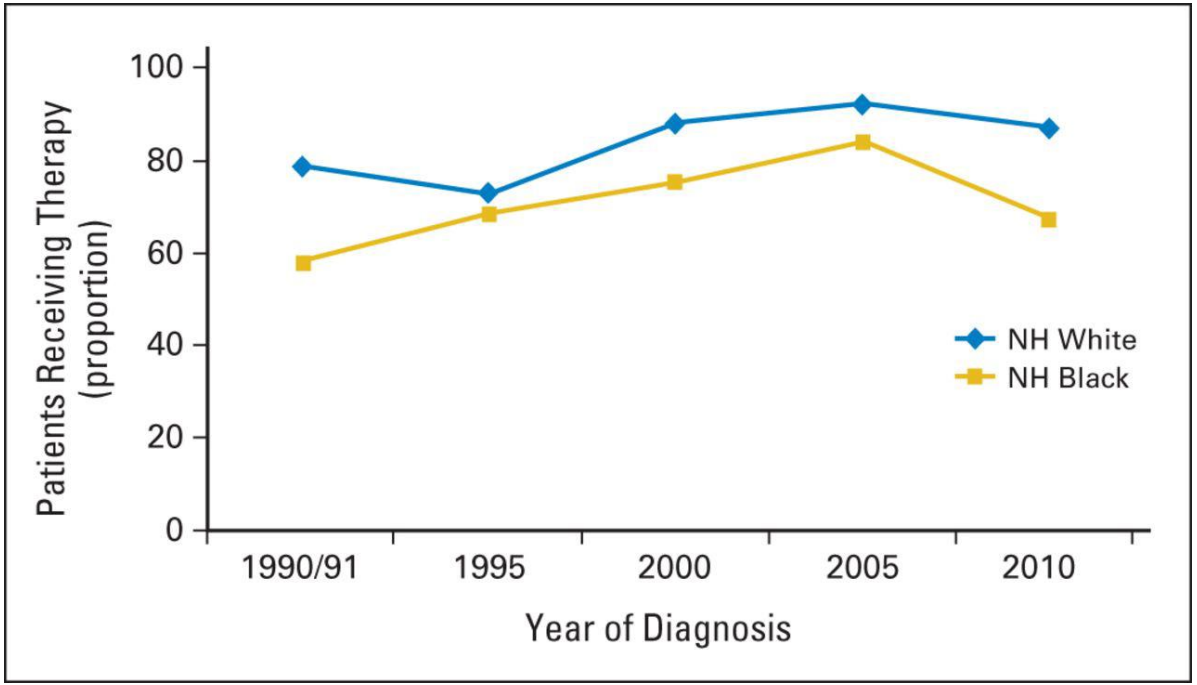
Socioeconomic Disparities in Care are a Persistent Problem

Patients with Stage III Colon Cancer



Murphy et al. *Journal of Clinical Oncology* 33, no. 23 (August 2015) 2530-2536

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Overview of Recommendations: Institute of Medicine (2013)

- Information tailored to support patient decisions
- Sensitivity to patient needs, values, and preferences
- Real-time health data exchange
- Improved national quality monitoring, reporting, and quality improvement systems
- Affordability and access
- Reduce socioeconomic disparities in care

Improving Cancer Care in U.S.: Ingredients for Improvement

- Insurance coverage and access
  - Prices of new precision therapeutics
  - Precursor to reducing disparities
- Payment reform
  - Global payment, episode-based payment, pay-for-performance
  - Accountable care organizations bearing financial risk for performance
- Enhanced health data exchange
  - Tailored information for patients
  - Real-time data to guide care delivery
  - Performance measurement

Innovative US Cancer Care Models: CMS Demonstration Project

1. Community Oncology Medical Home (COME HOME) model
   - Triage pathways for symptom management
   - 24/7 triage phone line and after-hours care options
   - Diagnosis and treatment guidelines/protocols
2. Patient Care Connect Program (PCCP)
   - Non-clinical navigators
   - Advanced care planning, goal setting with patient and family
3. Palliative care for patients with advanced stage cancer through CARE Track
   - Nurse coordinator
   - Patient-reported outcomes measure assessment
   - Targeted palliative care services

Source: Colligan EM et al. "Innovative Oncology Care Models Improve End-Of-Life Quality, Reduce Utilization And Spending." *Health Affairs* 36.3 (2017): 433-440.

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CMS Evaluation Results

	Medical Home	**Navigation**
	Community Oncology Medical Home (COME HOME)	Patient Care Connect Program (PCCP)
Costs* (last 90 days of life)	-$3,346***	-$5,824***
Hospitalizations* (last 30 days of life)	-10.4%	-7.3%**
Emergency dept. visits* (last 30 days of life)	+5%	-21%***
Hospice enrollment* (last 2 weeks of life)	+3.8%	+13%***

*Difference compared to propensity-matched group; **$p < 0.05$; ***$p < 0.01$

Source: Colligan EM et al. "Innovative Oncology Care Models Improve End-Of-Life Quality, Reduce Utilization And Spending." *Health Affairs* 36.3 (2017): 433-440.

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Payment Reform: CMS Oncology Care Model

- Episode-based payment and accountability model
  - Episode triggered by use of chemotherapy
- Participating practices deliver enhanced services
  - 190 practices, 16 payers
  - Care coordination, navigation, and adherence to national treatment guidelines
- Financial reward/risk based on performance measures and costs of care
- Advanced Alternative Payment Model (APM) under Medicare payment reform law (MACRA)

https://innovation.cms.gov/initiatives/oncology-care/;

Schneider EC and Hall CJ. N Engl J Med Feb 2017; 376:708-710

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Five-Foundation Collaborative to Improve Care for High-Need, High-Cost Adults

- **Goal:** to support health care organizations participating in value-based payment models adopt evidence-based interventions that improve person-level outcomes and reduce overall costs of care
- **The Playbook:** a dynamic, online resource for ACOs and Medicare Advantage plans that provides "how to" guidance to meeting the needs of patients with complex medical and social needs
  - "Caring for High-Need, High-Cost Patients — An Urgent Priority", **New Engl J Med** July 27, 2016
  - "Tailoring Complex Care Management for High-Need, High-Cost Patients", **JAMA** September 26, 2016

Robert Wood Johnson Foundation

PETERSON CENTER ON HEALTHCARE

THE scan FOUNDATION

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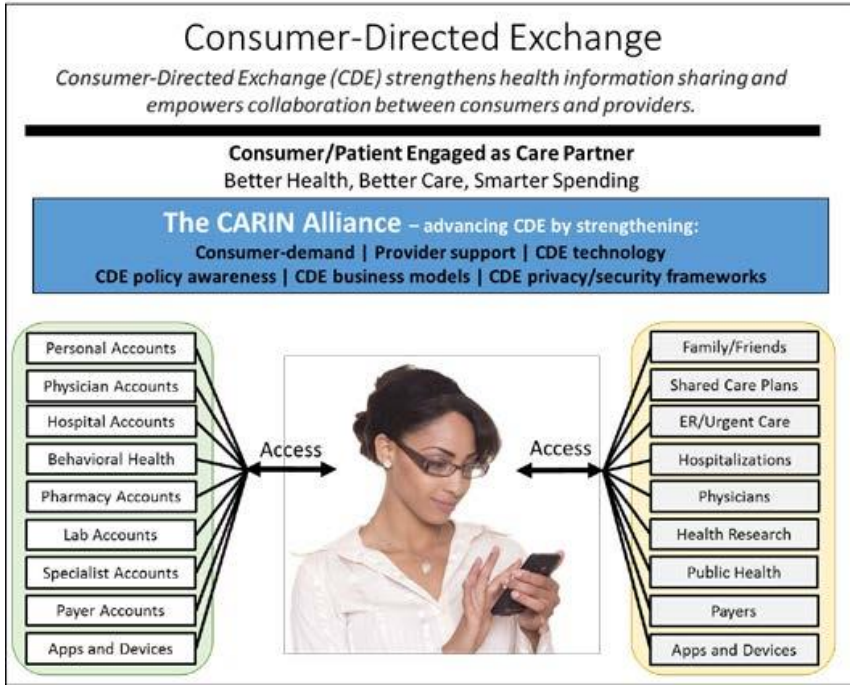
Consumer-Directed Health Data Exchange

Creating Access to Real-time Information Now through Consumer-Directed Exchange

- Delivery system leaders
- Consumer advocates
- Large tech companies
- Regulators



http://carinalliance.com/

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Ingredients for Improvement
Insurance coverage and access
Payment reform
Enhanced health data exchange

Eric C. Schneider, MD, MSc, FACP
Senior Vice President for Policy and Research
The Commonwealth Fund
@ericschneidermd

Innovative Approaches to Optimal Cancer Care

Toronto, Ontario

April 7, 2017

The COMMONWEALTH FUND

Affordable, quality health care. For everyone.

CANADIAN PARTNERSHIP AGAINST CANCER | PARTENARIAT CANADIEN CONTRE LE CANCER

Quality Initiatives

Chair: Dr. Geoff Porter

Innovative Approaches to Optimal Cancer Care in Canada

April 7-8, 2017

The Westin Harbour Castle
Toronto, Ontario

Cancer Care Ontario

Quality Initiatives in Systemic Therapy: The Ontario Experience

Monika Krzyzanowska, MD MPH

Clinical Lead, Quality Care & Access, Systemic Treatment Program, Cancer Care Ontario

Medical Oncologist, Princess Margaret Cancer Centre

Associate Professor, Department of Medicine and IHPME, University of Toronto

Ontario
Cancer Care Ontario

Disclosure

- Research support (clinical trials): Astra Zeneca, Eisai, Exelixis, Ipsen, Novartis
- Honoraria: Eisai, Sanofi Genzyme

Objectives

- To discuss current priorities for quality improvement in systemic therapy in oncology.
- To describe an approach to system level quality improvement in systemic therapy using specific initiatives from Ontario.

Current Issues in Systemic Therapy

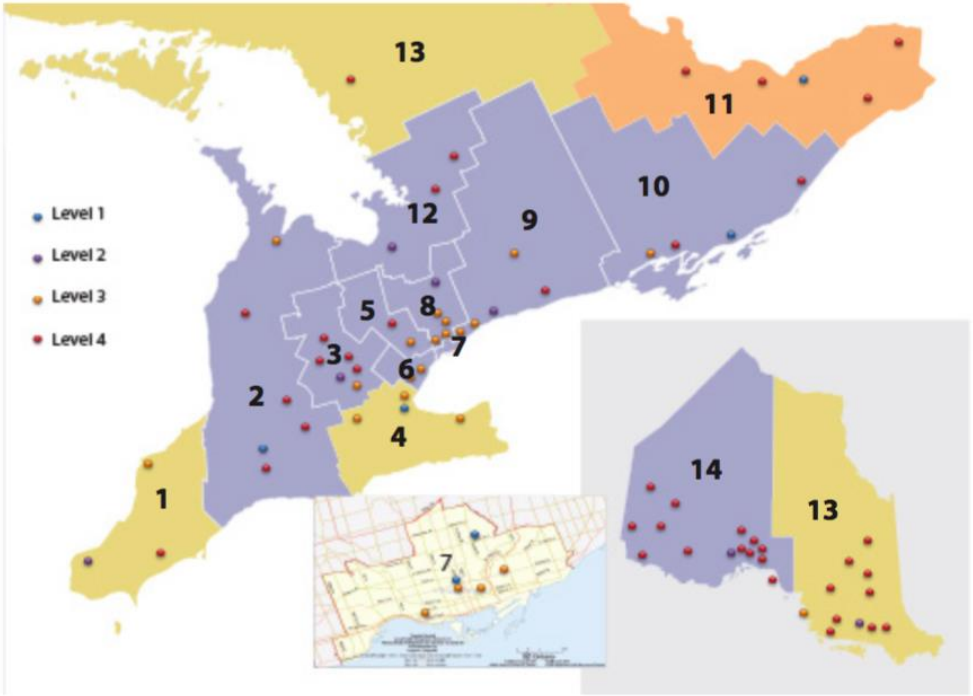
Directly Related

- Safe delivery of oral chemotherapy
- Toxicity management
- Access to care – new agents, molecular oncology
- Models of care

Indirectly Related

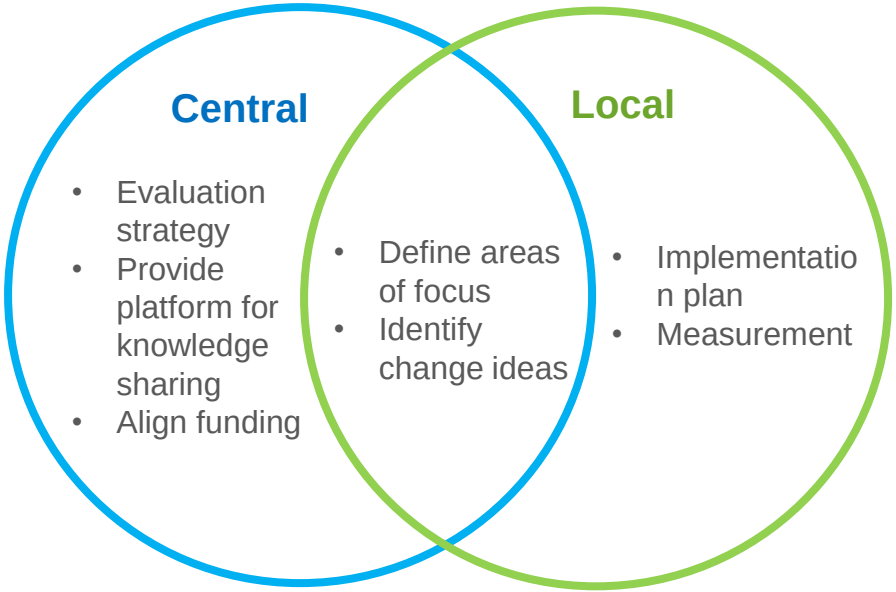
- Communication
- Transitions in care
- Incident learning
- Advanced care planning

Organization of the Systemic Treatment Program

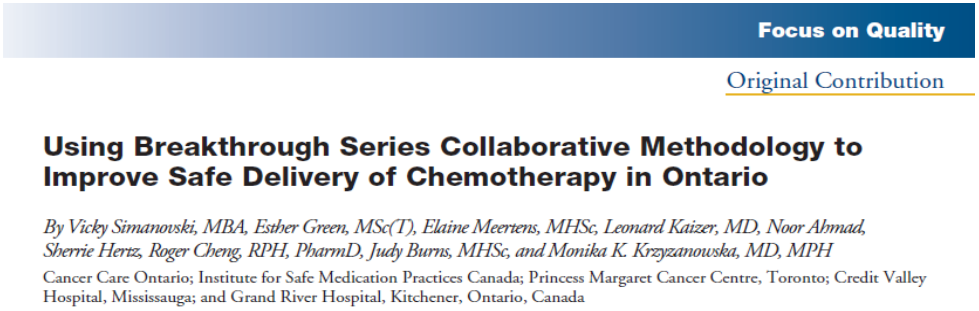


Our Approach

Provincially supported, locally relevant



Our Approach



Focus on Quality

Original Contribution

Using Breakthrough Series Collaborative Methodology to Improve Safe Delivery of Chemotherapy in Ontario

By Vicky Simanovski, MBA, Esther Green, MSc(T), Elaine Meertens, MHSc, Leonard Kaizer, MD, Noor Ahmad, Sherrie Hertz, Roger Cheng, RPH, PharmD, Judy Burns, MHSc, and Monika K. Krzyzanowska, MD, MPH

Cancer Care Ontario; Institute for Safe Medication Practices Canada; Princess Margaret Cancer Centre, Toronto; Credit Valley Hospital, Mississauga; and Grand River Hospital, Kitchener, Ontario, Canada

- **Collaborative approach:**
  - Designed by the Institute for Healthcare Improvement
  - Help organizations close the gap between what is known and what is applied
  - Create a structure in which interested teams can easily learn from each other
- **Objectives:**
  - ✓ Reduce unintended harm from systemic treatment
  - ✓ Improve safety
  - ✓ Improve efficiencies in administration of treatment
  - ✓ Promote culture of safety that accelerates the system's capability to make sustained improvements
  - ✓ Educate health care providers on improvement science and methodology thereby advancing the skills and knowledge necessary to support improvements in quality and safety

J Oncol Pract, 2014

After the Collaborative

Building a Community of Practice for Sustaining Collaboration on Systemic Treatment Quality Improvement

Regional Quality and Safety Network (ReQSN)

- Leverage the structure and network of the Collaborative to drive further quality improvement efforts
- Evolve from hospital to **regional approach to quality improvement** → with leadership from the newly formed Regional Quality Lead
- Monthly meetings
- Strategy to support regional improvement projects: identify common themes and support collaboration between groups (including shared objective setting)
- Annual Safety Symposium

Quality Person-Centred Systemic Treatment in Ontario

2014-2019

SYSTEMIC TREATMENT PROVINCIAL PLAN

Ontario

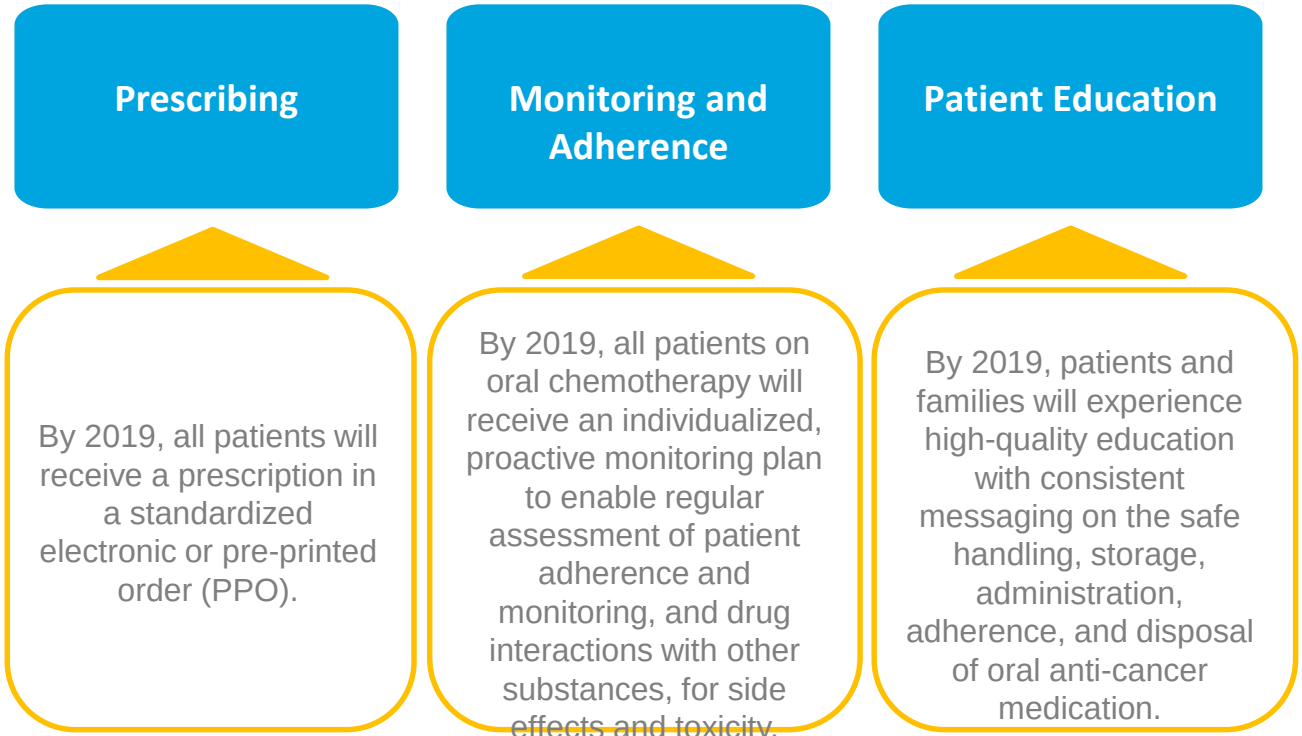
Cancer Care Ontario

Action Cancer Ontario

Vision, Goals and Strategic Priorities

STRATEGIC PRIORITY 1

Extend the quality and safety focus from parenteral to oral chemotherapy



Eliminating Handwritten or Verbal Orders for Oral Chemotherapy

CCO

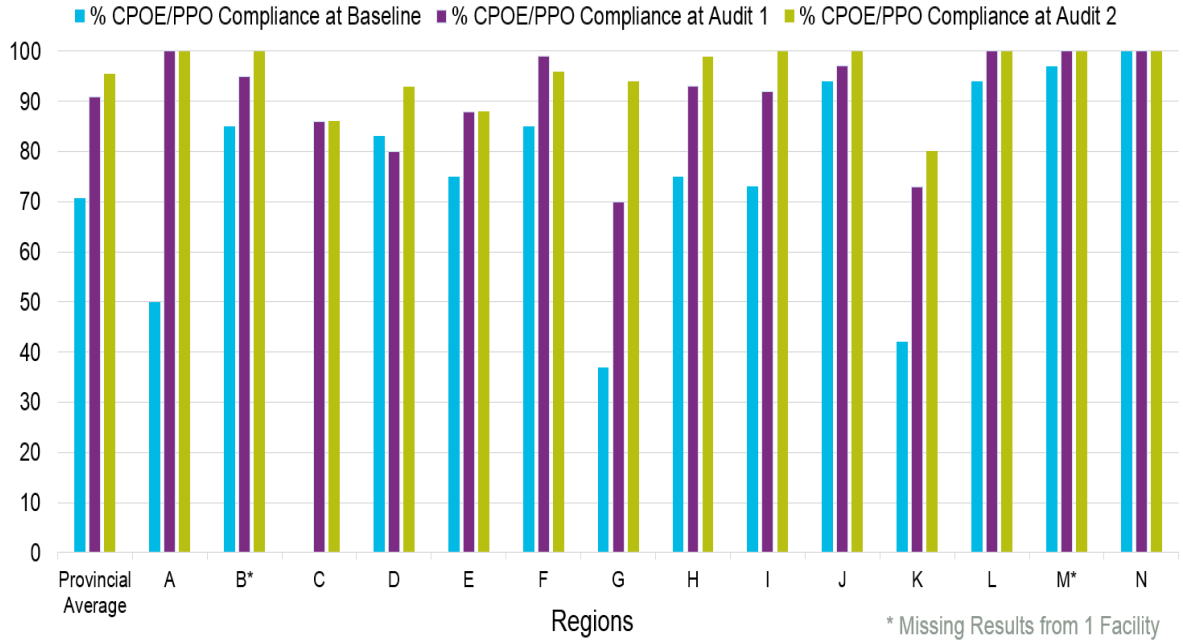
- Define the focus
- Develop Pre-printed Orders (PPOs)
- Evaluation plan
- Provide knowledge sharing platform
- Align funding

Regions

- Develop “local” implementation plan
- Implement
- Data collection
- Knowledge dissemination – ReQSN, Quality & Safety Symposium

Eliminating Handwritten or Verbal Orders for Oral Chemotherapy

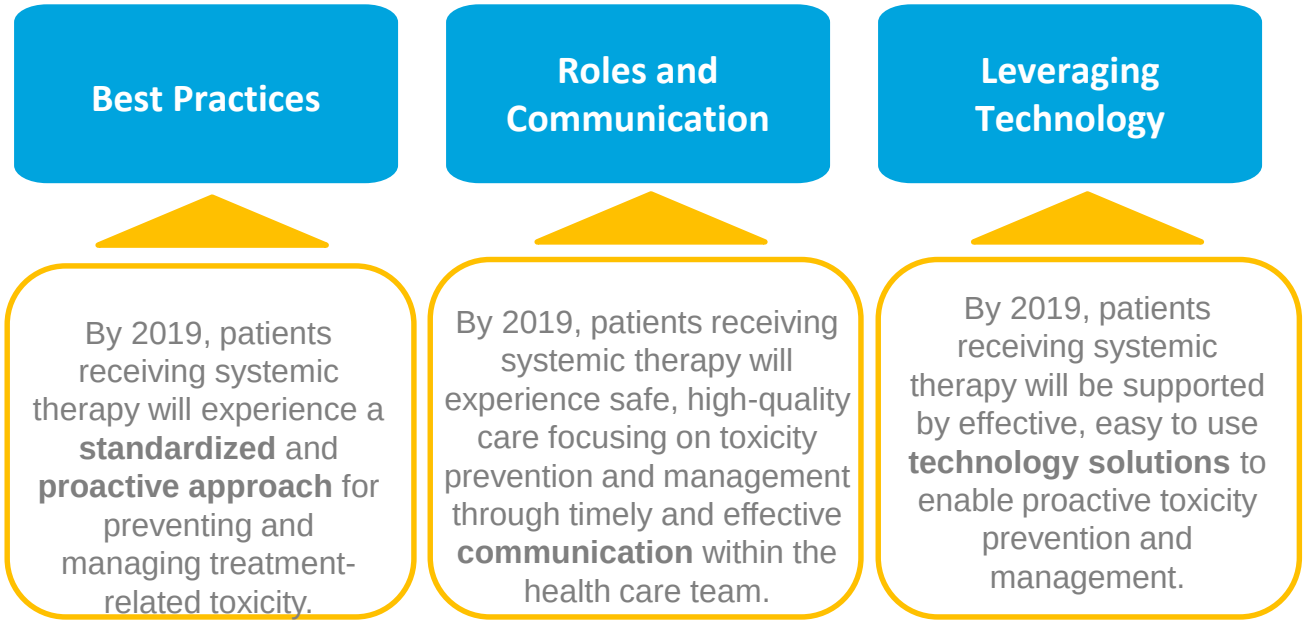
Figure 1. Regional Results for Safe Oral Chemotherapy Prescribing Practices: Goal 100% CPOE/PPO Compliance



Cancer Care Ontario

STRATEGIC PRIORITY 2

Reduce emergency room utilization through enhanced toxicity management

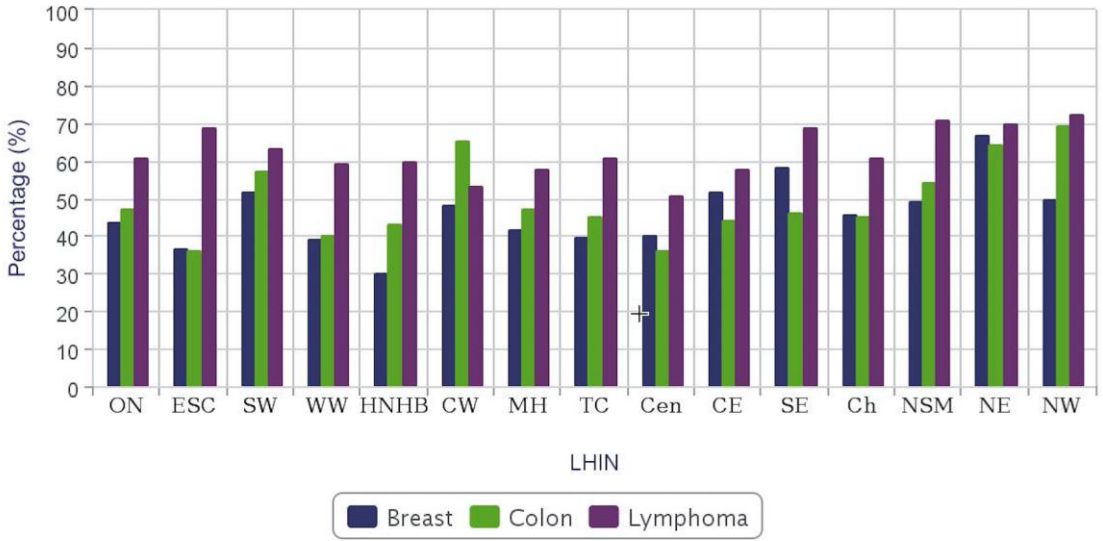


STRATEGIC PRIORITY 2

Reduce emergency room utilization through enhanced toxicity management

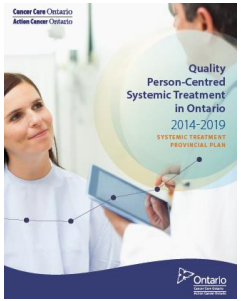
Unplanned Hospital Visits During Chemotherapy

Figure 2: Percentage of breast cancer, colon cancer and lymphoma patients (diagnosed in 2010–2013) receiving New Drug Funding Program (NDFP) drugs who visited the hospital during treatment, by Local Health Integration Network (LHIN) of first chemotherapy facility



Report Date: January 2016
Source: OCR, CSI, eClaims, NACRS, DAD, RPDB
Prepared by: Analytics and Informatics, Cancer Care Ontario

Approach



Quality & Safety Symposium: Identifying areas of focus

2014 | **2015** | **2016** | **2017**

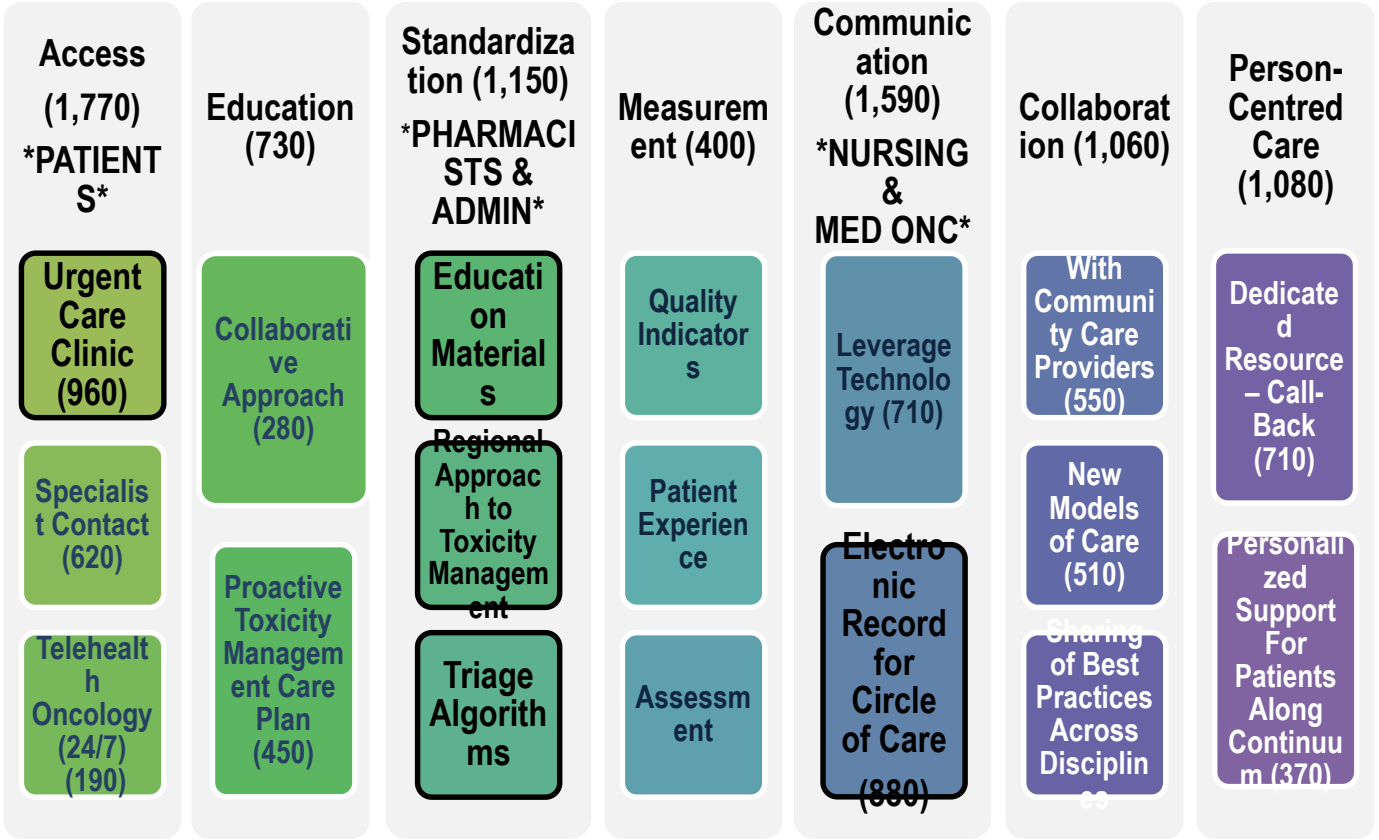
Systemic Treatment Provincial Plan

Cancer Care Ontario
Action Cancer Ontario

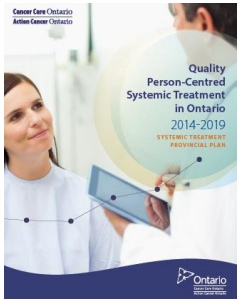
2015 Systemic Treatment Safety Symposium:
Patients as Partners in Managing Cancer Treatment Related Toxicity

February 27, 2015
Toronto

Outcomes of 2015 Q&S Symposium: Prioritization & Validation Exercise



Approach



Quality & Safety Symposium: Identifying areas of focus

Evaluation Plan
Current/ongoing initiatives

2014 | **2015** | **2016** | **2017**

Systemic Treatment Provincial Plan

Cancer Care Ontario
Action Cancer Ontario

2015 Systemic Treatment Safety Symposium:
Patients as Partners in Managing Cancer Treatment Related Toxicity

February 27, 2015
Toronto

Current State Survey

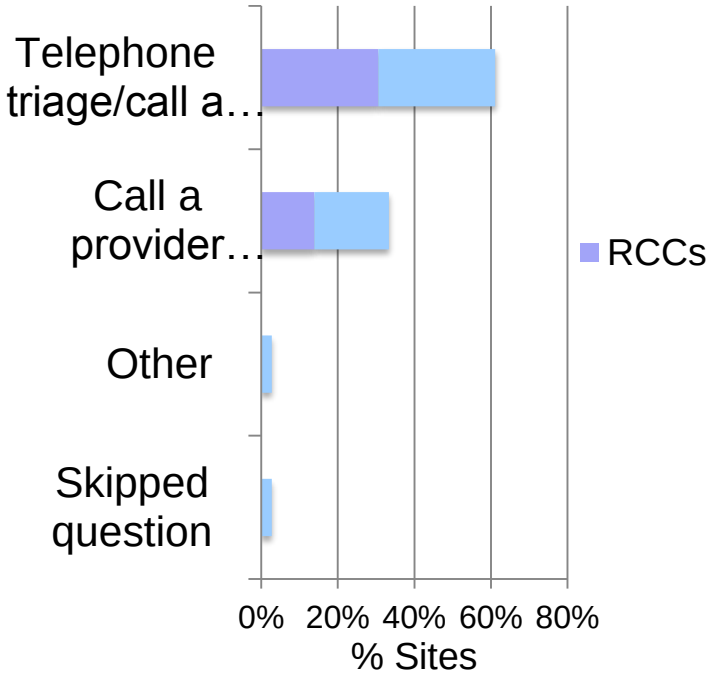
Cancer Care Ontario
Action Cancer Ontario

2016 Systemic Treatment Safety Symposium:
Building Consensus: Improving Patient Access to Chemotherapy-Related Toxicity Management

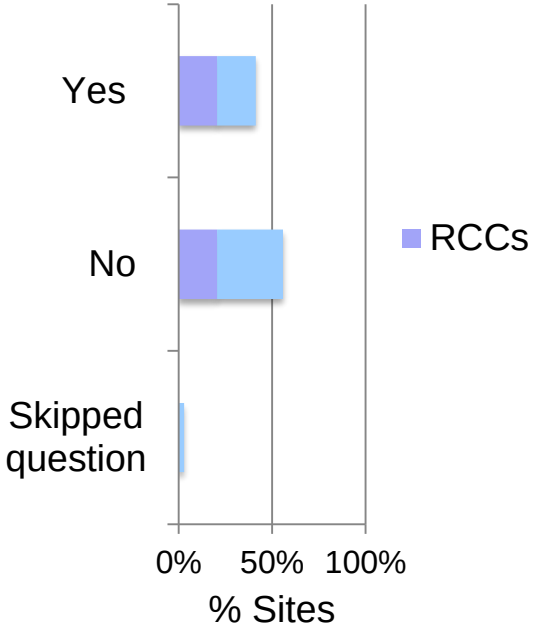
March 4, 2016
Toronto

Current State Survey

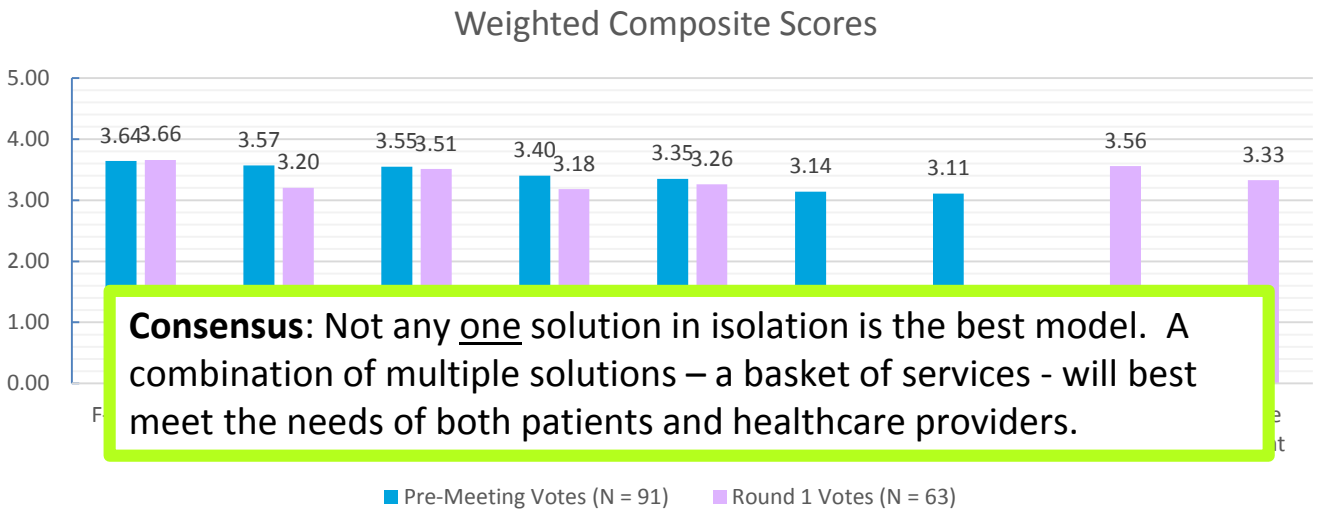
Access to unscheduled support during clinic hours



Access to unscheduled support after clinic hours



Outcomes of the 2016 Q&S Symposium



Consensus: Not any <u>one</u> solution in isolation is the best model. A combination of multiple solutions – a basket of services - will best meet the needs of both patients and healthcare providers.

	Pre-Meeting (score)	Round 1 Votes (score)
#1	Facility level call back (3.64)	Facility level call back (3.66)
#2	Facility level phone triage (3.57)	Regional telephone triage until midnight (3.56)
#3	Facility level UCC during business hours (3.55)	Facility level UCC during business hours (3.51)

2017/2018 Regional QI Projects

Project type	Regions	Number
Remote symptom management → Standardizing tele-triage (e.g. COSTaRS) or extending tele-triage	South East Toronto Central South North East North West Toronto Central North Central	6 regions
Proactive support program → Proactive calls to high-risk chemo patients	Hamilton Niagara Central West Mississauga Halton Central East Champlain	4 regions
Urgent care "clinic"	Erie St. Clair North Simcoe Muskoka Waterloo Wellington	3 regions
Needs assessment	South West	1 region

Lessons Learned

- Striking the optimal balance between central versus local responsibilities is a work in progress
- Measuring system impact can be challenging:
  - Plan your evaluation early
  - Don’t let perfection be the enemy of the good → Strive to improve data collection and measurement
- Funding alignment can be a significant enabler of the work
- Quality improvement takes time
- Balancing priorities & sustainability become issues as time goes on

Thank You

Systemic Treatment Program, CCO
Regional Programs, CCO
Regional partners across 14 LHINs

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Quality Initiatives

Chair: Dr. Geoff Porter

Innovative Approaches to Optimal Cancer Care in Canada

April 7-8, 2017

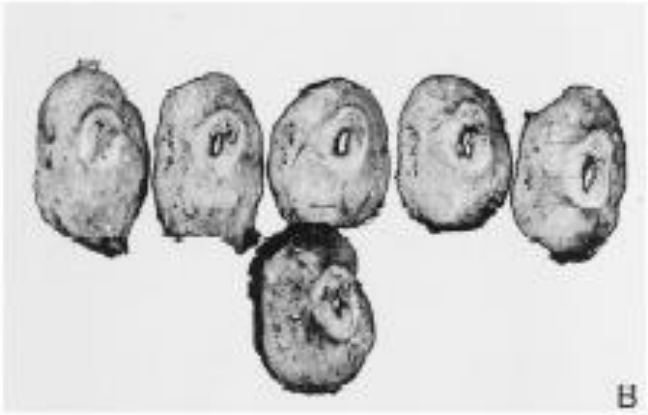
The Westin Harbour Castle
Toronto, Ontario

Colorectal cancer quality improvement initiatives

Marko Simunovic MPH, FRCS(C)
Departments of Surgery, Oncology and Clinical Epidemiology
and Biostatistics, McMaster University, Juravinski Cancer Centre, Hamilton Health Sciences

Innovative Approaches to
Optimal Cancer Care in Canada
April 7th, 2017
Westin Harbour Castle, Toronto, Ontario.

Total Mesorectal Excision - 1993



Nagtegaal, JCO 2002

Quality Improvement in Colorectal Cancer in LHIN4 (QICC-L4)

- Integrated KT / CQI
- ‘supporting surgeons at key points of care’

QICC-L4 Methods

- Annual workshops with LHIN4 surgeons
- Review of data and new evidence
- Surgeons select markers
- Surgeons select interventions (e.g., A&F)

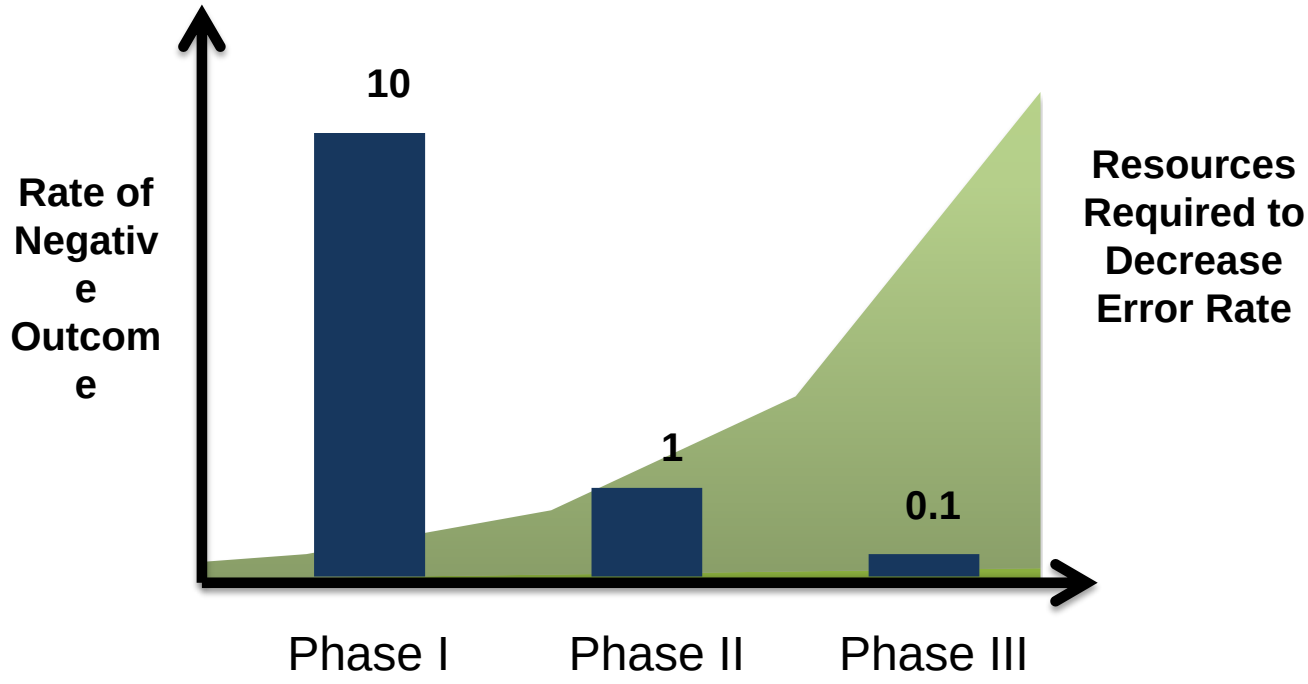
QICC-L4 Results

	ITERATION					
QUALITY MARKERS	**I & II**	**V**	**VI**	**VII**	**VIII**	**IX**
RECTAL	**463**	**114**	**238**	**96**	**111**	**80**
Open	--	--	--	--	61%	
Laparoscopic	--	--	--	--	39%	
Pre-operative imaging of the pelvis (CT or MRI)	74%	95%	94%	98%	96%	100%
Pathology reporting of CRM distance‡	66%	91%	95%	94%	99%	99%
Positive CRM§	14.2%	10.5%	5.7%	16.7%	3.6%	5.1%
Oncology referral for stage II/III	--	78%	78%	89%	83%	--
Pre-operative radiation¶	--	37%	34%	47%	42%	46%
Post-operative radiation¶	--	6%	5%	3%	4.5%	5%

Iteration I - colorectal surgical cases November 1, 2005 to November 30, 2006 ; Iteration II - colorectal surgical cases July 1, 2007 to June 30, 2008
Iteration V - rectal surgical cases only July 1, 2011 to December 31, 2011
Iteration VI - rectal surgical cases January 1, 2012 to December 31, 2012 and colon cases for July 1, 2012 to December 31, 2012
Iteration VII - colorectal surgical cases July 1, 2013 to December 31, 2013
Iteration VIII - rectal surgical cases July 1, 2014 to December 31, 2014
Iteration IX - rectal surgical cases January 1, 2016 to June 30, 2016

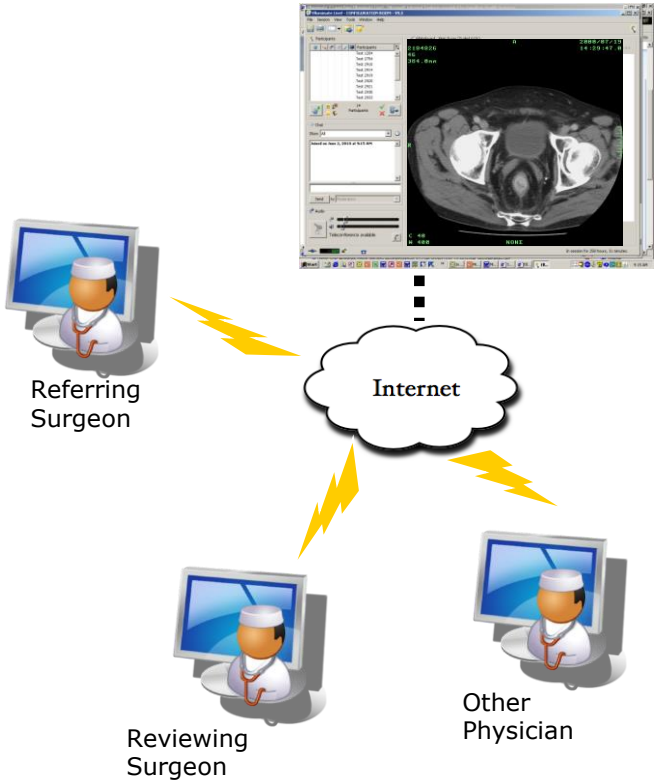
‡ CRM – Circumferential radial margin. Rate of reporting CRM distance calculation – numerator includes number of cases with CRM measures; denominator includes number of cases with CRM examined.
§ Positive CRM calculation – numerator includes CRM distance <= 1 mm + cases with no CRM distance reported, but CRM reported as positive; denominator includes number of cases with CRM distance reported + number of cases deemed positive but no distance reported.

Resources Required to Decrease Error Rate



Collaborative Cancer Conferences

- surgeon-to-surgeon review
- prior to review (?)
  - straight to surgery
  - straight to radiation
  - uncertain



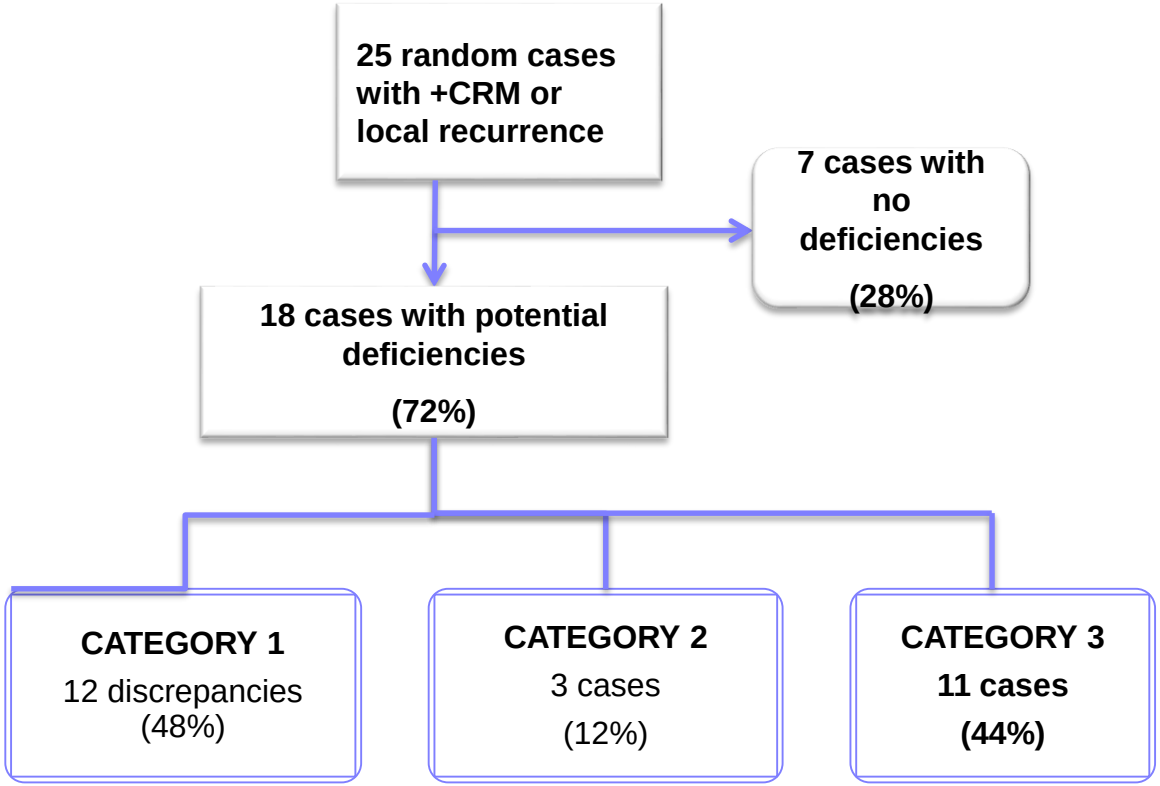
Change in Management Plan Following CCC

- LHIN-4 surgeons
  - select cases (53% change)
- Juravinski hospital
  - consecutive cases (38% change)
- Roswell Park Cancer Institute
  - consecutive cases (36% change)

Surgical event reporting system

- **Category 1 – pre-op radiology assessment**
  - discrepancy for CRM status between radiology and reviewer
- **Category 2 - preop surgeon assessment**
  - rectal exam for palpable tumours
  - review of radiology – CRM status
- **Category 3 - intraop surgeon assessment/ technique**
  - compromised CRM and no rationale for proceeding or strategies to mitigate negative outcome (eg. radiation or multi visceral resection)

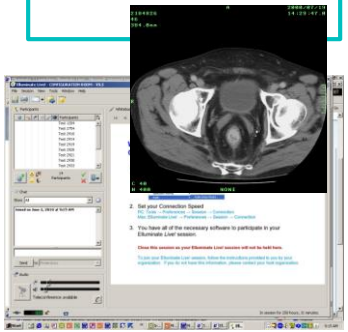
Results – LHIN4 SERS – 2005 to 2012



Audit Feedback Reminders using electronic databases in rectal cancer

ePATH – identify rectal, rectosigmoid positive biopsies from LHIN-4 facilities

OneView – team reviews CT/MRI reports and images



Audit: Potential discrepancies reviewed by team radiologists

Feedback: Consenting radiologist receive request for addendum – for completeness or accuracy

Reminder: Consenting surgeons informed of worrisome CRM

Initial observations of the QICC-L4

i. Promising results – require more evidence, secular trends vs actual impact

ii. Collaborative Care – low hanging fruit of quality improvement

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Outcomes in Surgical Oncology: The Quebec Experience in Bladder Cancer

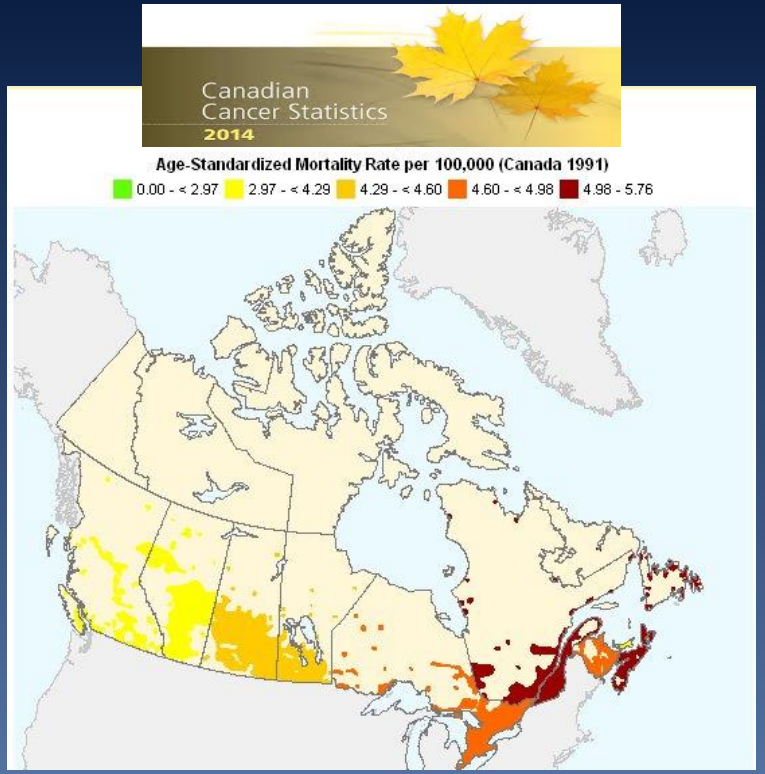
Armen Aprikian MD.
Richard Tomlinson Professor of Urology and Oncology
McGill University Health Centre Chief of Oncology

No Disclosures

Réseau de cancérologie Rossy
Rossy Cancer Network

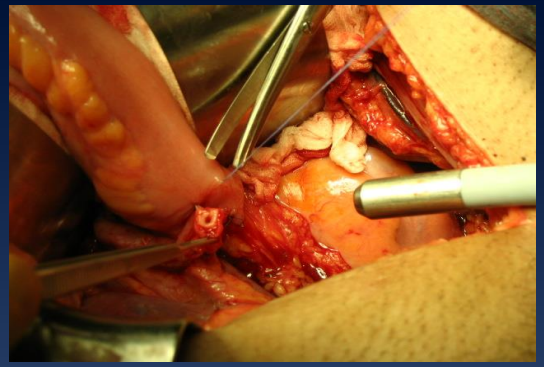
McGill

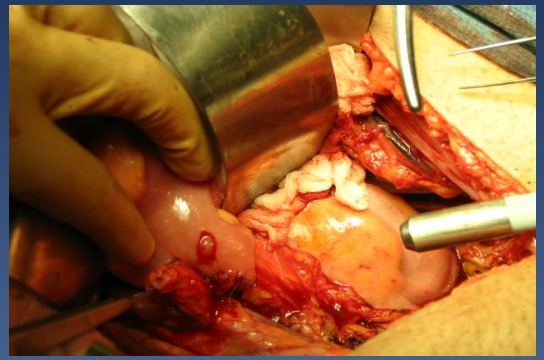
Invasive Bladder Cancer

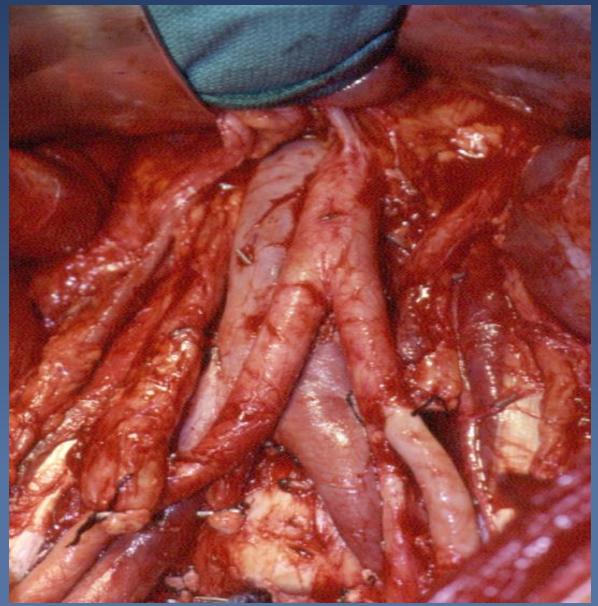


Réseau de cancérologie Rossy
Rossy Cancer Network

McGill







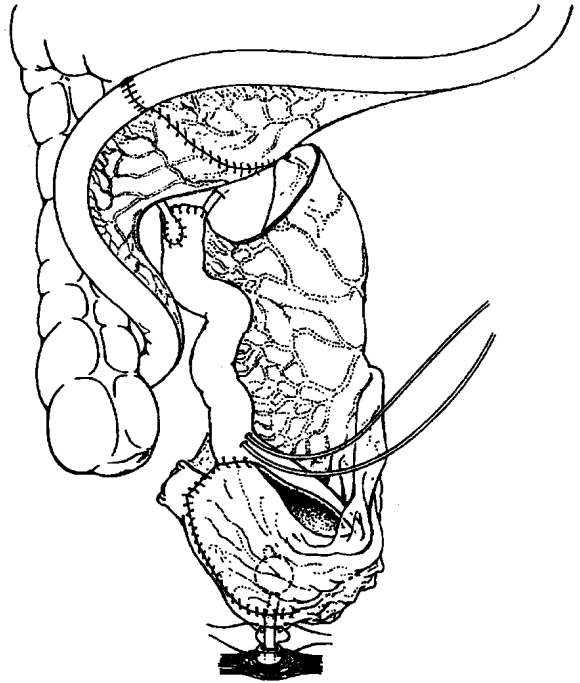


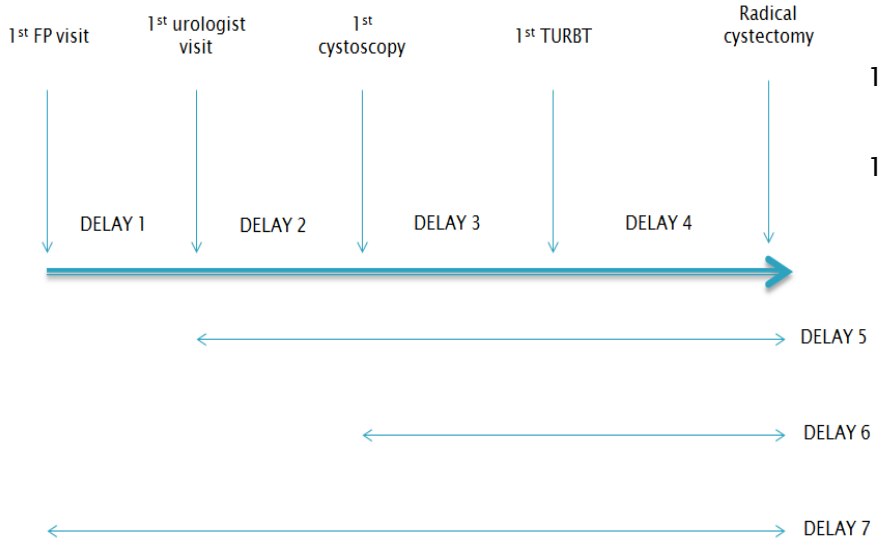
Figure 9. Passage of the ureteral stents and cystostomy tube before complete closure of the pouch.

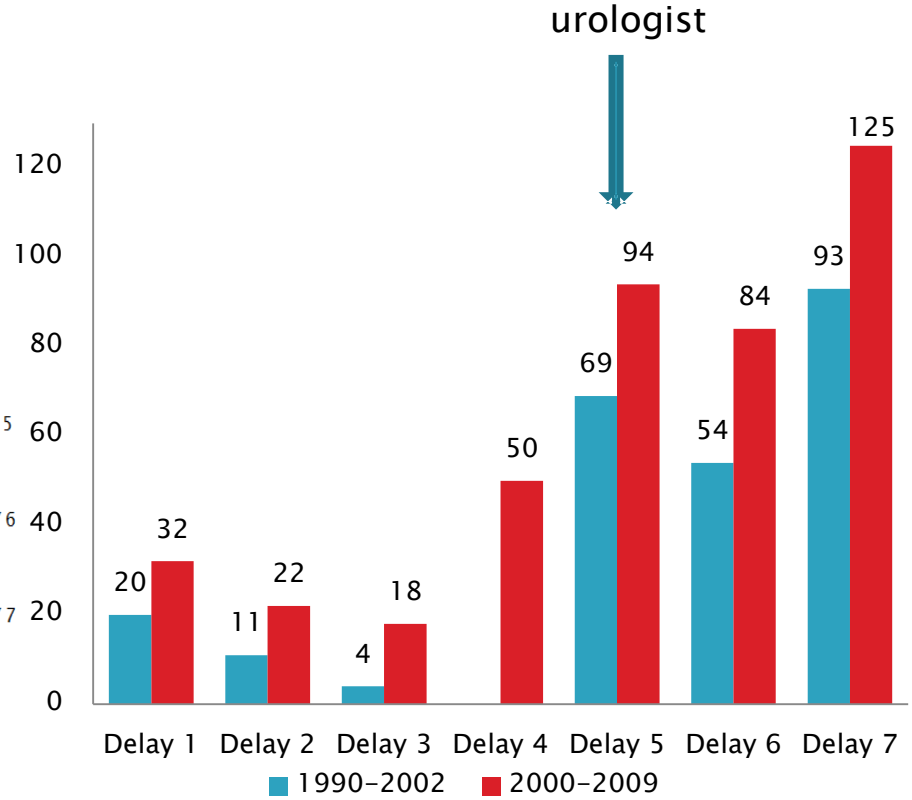
Quality in Surgical Oncology

- **Disease-specific surgical indicators**
  - Lymph node counts
  - Margins of resection
  - Functional outcomes
  - Recurrence rates
  - Disease-specific survival

- **General surgical oncology indicators**
  - Access – wait-times
  - Complications
  - Post-operative mortality
  - Cost

Delays to Surgery in Quebec





1990-2009 data from: Fahmy Aprikian et al. Can Urol Assoc J. 2008 Apr;2(2):102-8.

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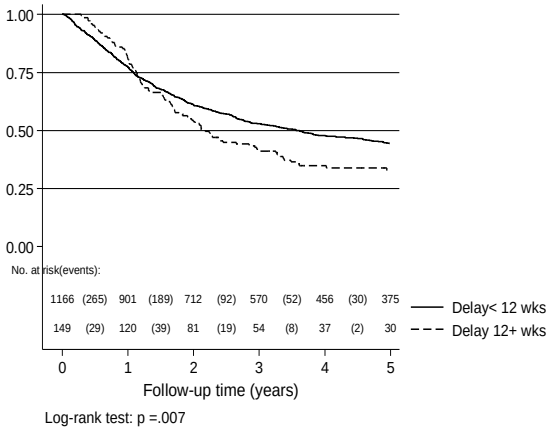
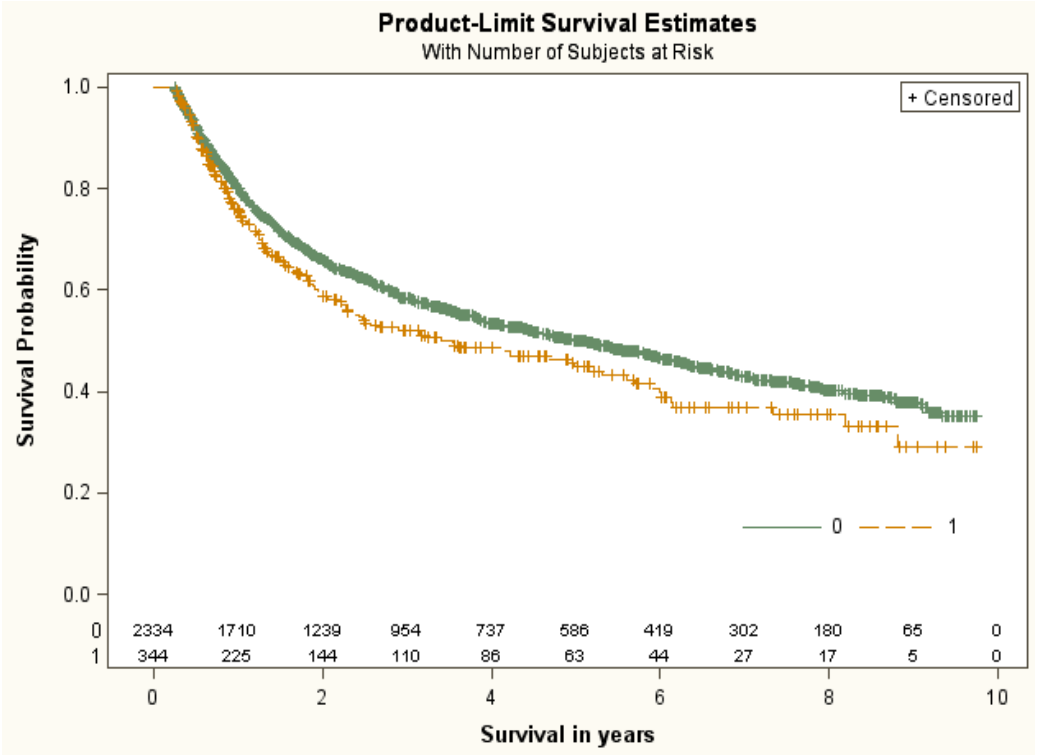
Delays and Overall Survival

- 6- Survival analyses: Kaplan-Meier plot of overall survival by delay 4.



Aprikian et al, J Urol 2006



P< 0.001

Santos, Aprikian; BJU Int 2015

1- High: more than 12 weeks

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Females Wait Much Longer Than Males

- 3- Predictors of referral delay longer than 30 days (between the 1st GP visit and 1st urologist visit – multivariate adjusted analyses):

PREDICTOR	n (%)	Odds Ratio (95% Confidence Intervals)
Sex		
Males	2095 (75.4%)	**0.38 (0.29-0.51)**
Females	683 (24.6%)	Reference

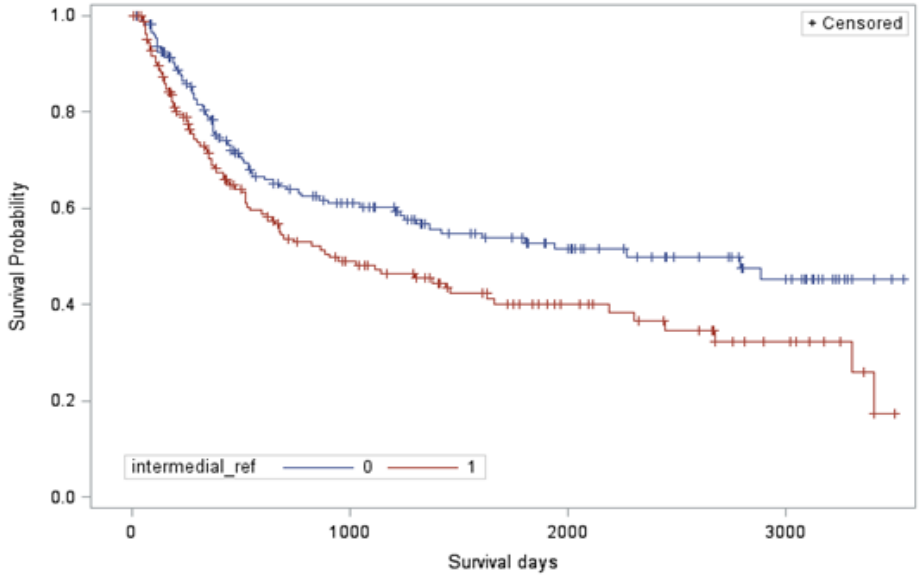
- **Median of 56 days for women *versus* 23 days for men;**
- Females tend to have overall delays in the *continuum* of health care for BC (135 days for women *versus* 120 days for men);

Santos, Aprikian; BJU Int 2015

BLADDER CANCER CANADA

Delays in Referral and Overall Survival

- 2- Impact of an indirect referral before the 1st urologist visit



- HR= 1.55
  (95% CI: 1.14-2.11)
- Women who had more than 5 FP or gynecologist visits before being referred to an urologist, had a 55% increased chance of mortality after RC.

Santos, Aprikian; Current Oncol, 2015

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Postoperative Mortality, Outcomes & Hospital-Surgeon Volume

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

Surgeon Volume and Operative Mortality in the United States

John D. Birkmeyer, M.D., Therese A. Stukel, Ph.D., Andrea E. Siewers, M.P.H., Philip P. Goodney, M.D., David E. Wennberg, M.D., M.P.H., and F. Lee Lucas, Ph.D.

N ENGL J MED 349;22 WWW.NEJM.ORG NOVEMBER 27, 2003

Do Cancer Centers Designated by the National Cancer Institute Have Better Surgical Outcomes?

CANCER February 1, 2005 / Volume 103 / Number 3

Linda S. Elting, Dr.P.H.[1]
Curtis Pettaway, M.D.[2]
B. Nebiyou Bekele, Ph.D.[1]
H. Barton Grossman, M.D.[2]
Catherine Cooksley, Dr.P.H.[1]
Elenir B. C. Avritscher, M.D., M.B.A./M.H.A.[1]
Kamaldeen Saldin, M.D.[1]
Colin P. N. Dinney, M.D.[2]

[1] Section of Health Services Research, Department of Biostatistics, The University of Texas M. D. Anderson Cancer Center, Houston, Texas.

[2] Department of Urology, The University of Texas M. D. Anderson Cancer Center, Houston, Texas.

Correlation between Annual Volume of Cystectomy, Professional Staffing, and Outcomes

A Statewide, Population-Based Study

CANCER September 1, 2005 / Volume 104 / Number 5

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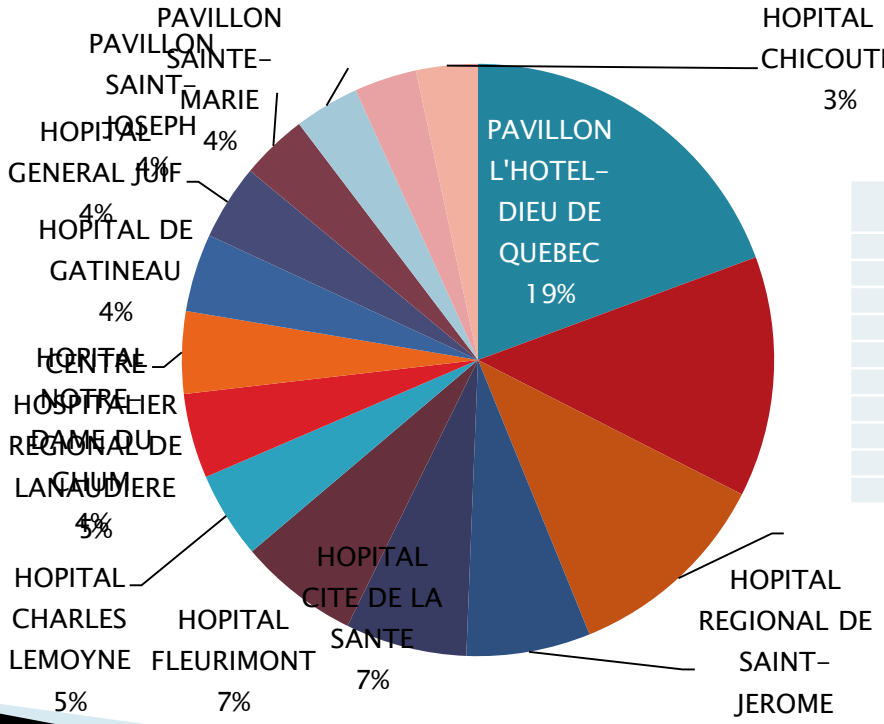
Radical Cystectomy for Bladder Cancer in Quebec

- 3- Hospital facility and year of RC

N = 51 hospitals

N = 122 surgeons



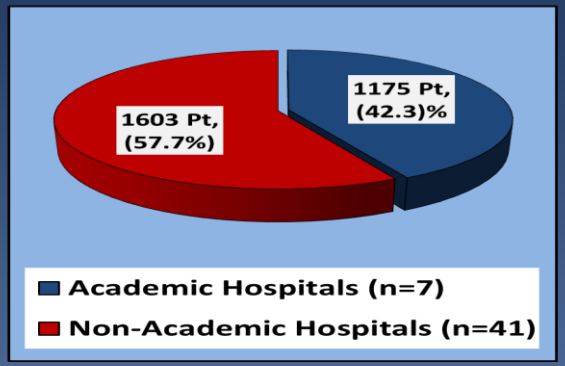
2000-2009

N = 2988

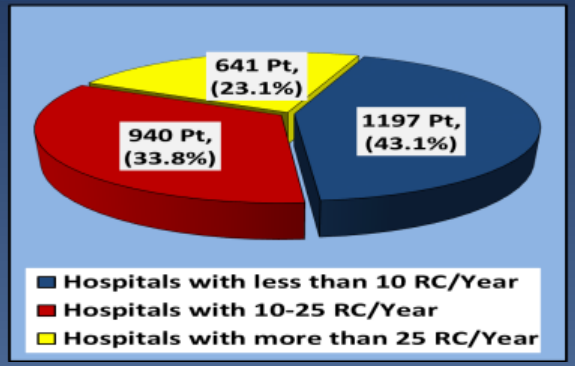
year	Frequency	Percent
2005	323	10.81
2006	311	10.41
2004	309	10.34
2008	309	10.34
2001	304	10.17
2007	302	10.11
2000	288	9.64
2002	287	9.61
2003	279	9.34
2009	276	9.24

Characteristics 2000-2009

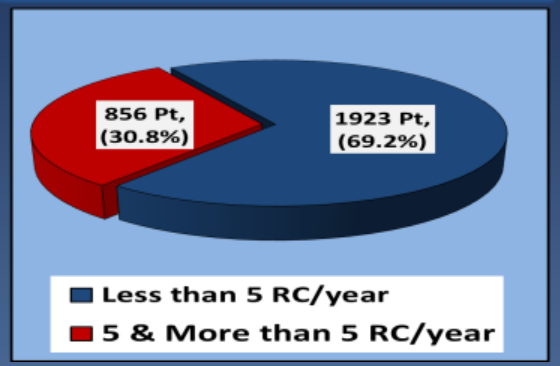
Hospital Type



Hospital annual RC case load



Surgeon annual RC case load



Réseau de cancérologie Rossy
Rossy Cancer Network

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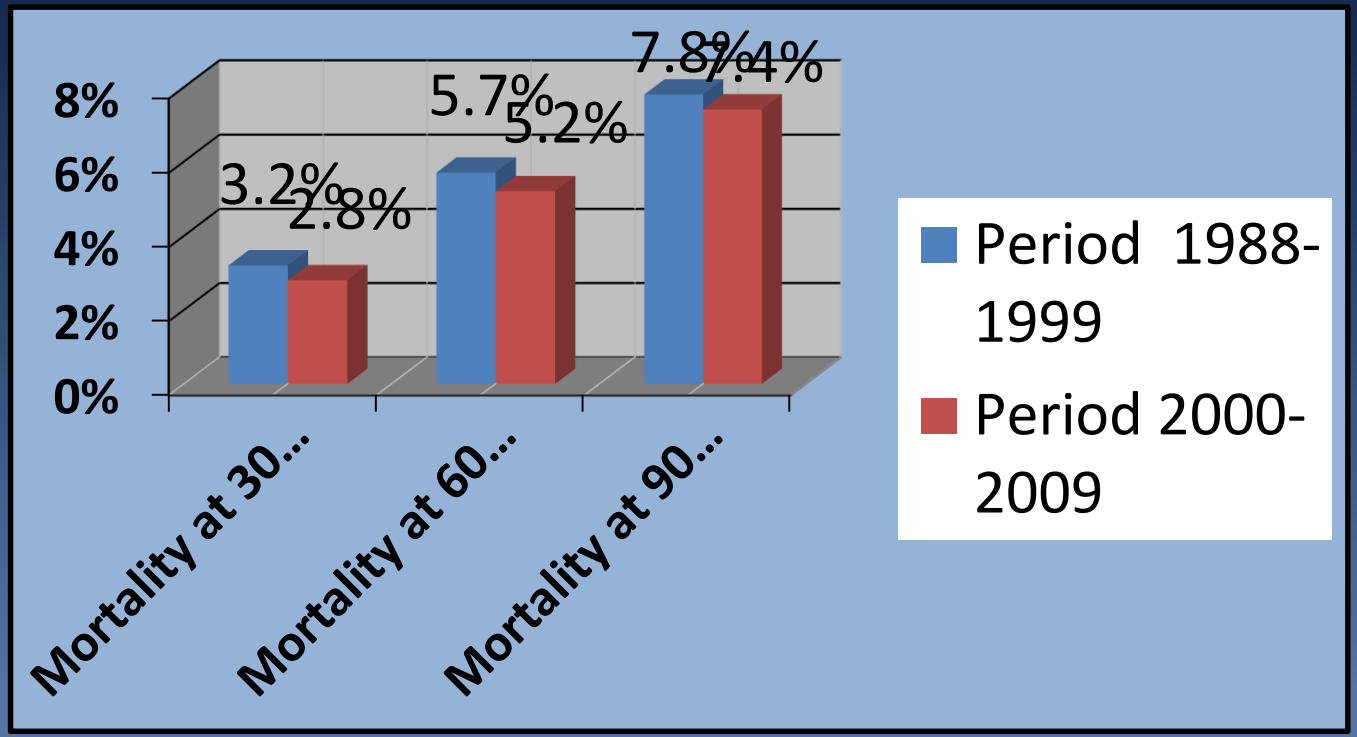
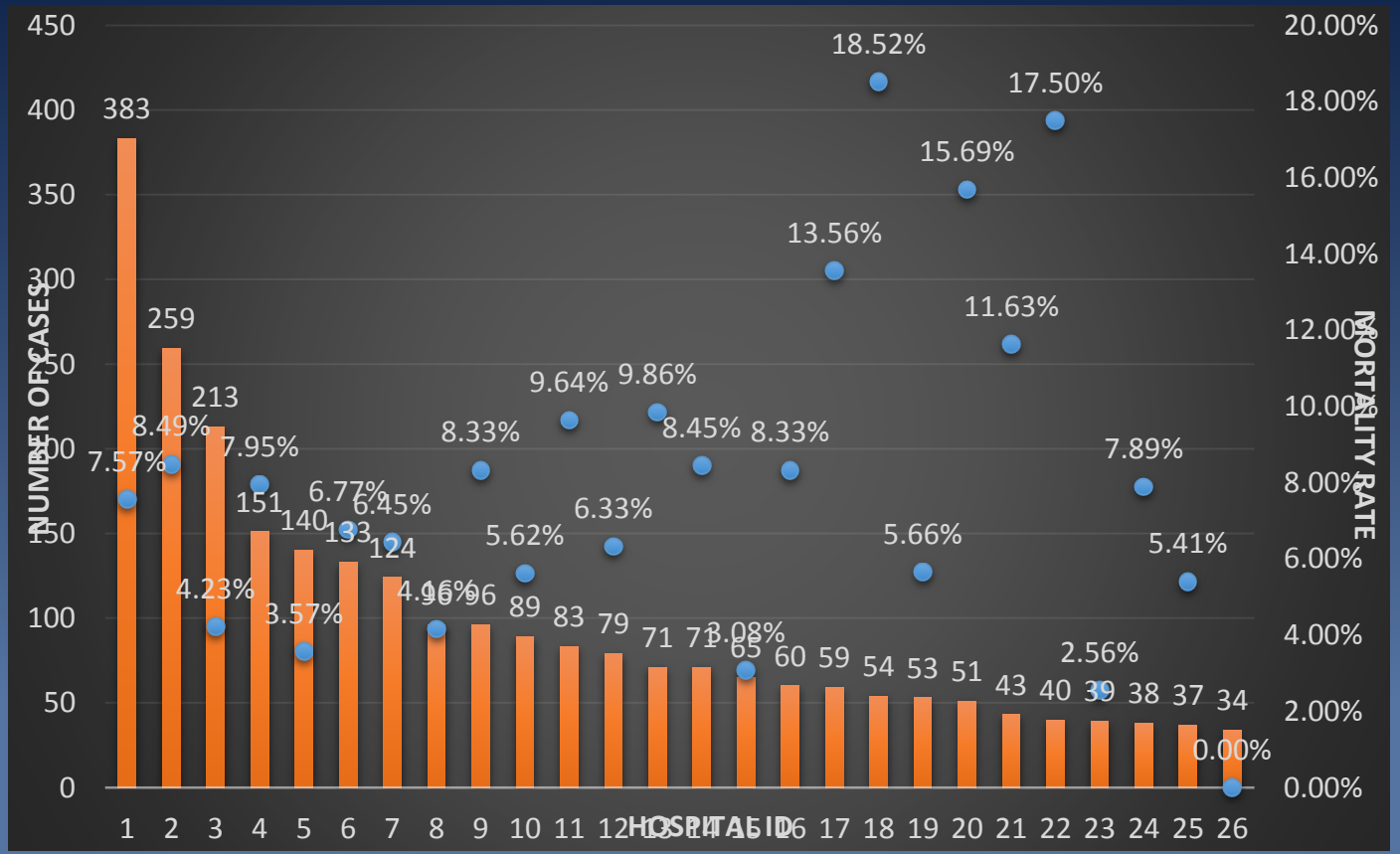
Post-Operative Mortality



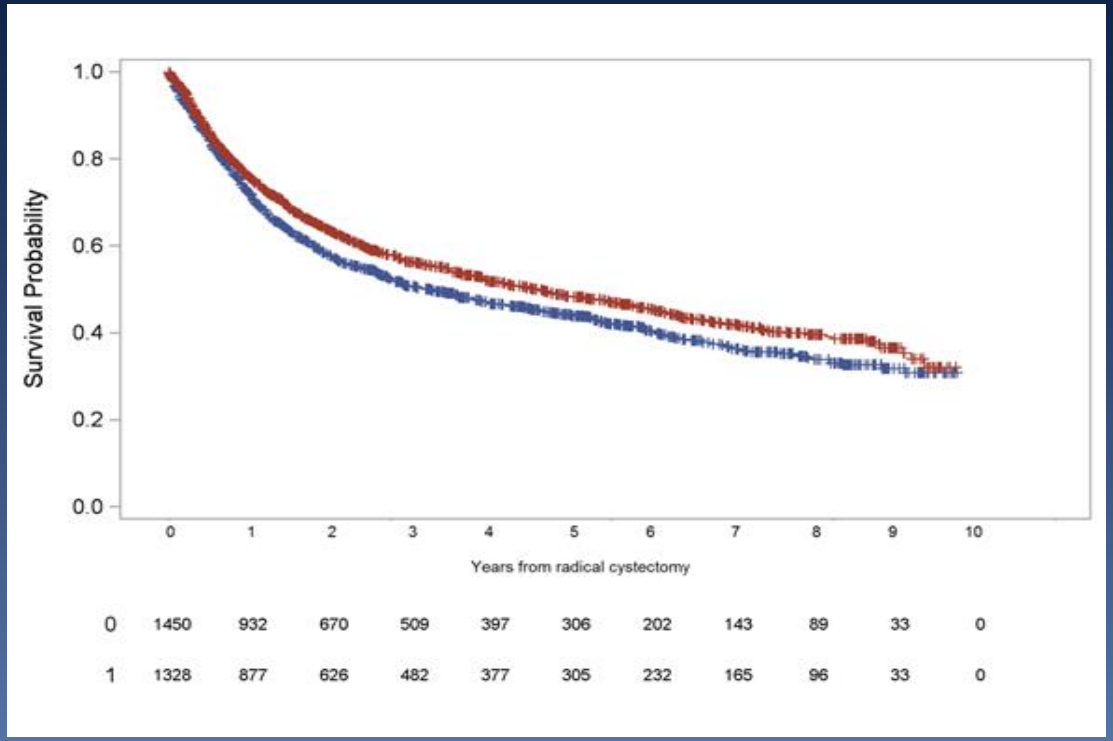
Zakaria, Aprikian; CUAJ 2014

Post-operative mortality after radical cystectomy for bladder cancer in Quebec (2000-2009)

Zakaria, Aprikian; CUAJ 2014



Effect of High-Volume Hospital on Overall Survival ($p < 0.05$)



Santos, Aprikian, World J Urol 2016

HR= 0.87
(0.78-0.97)

- Red curve: 3rd and 4th quartile of hospital volume distribution (> 15)
- Blue curve: 1st and 2nd quartile of hospital volume distribution (< 10)

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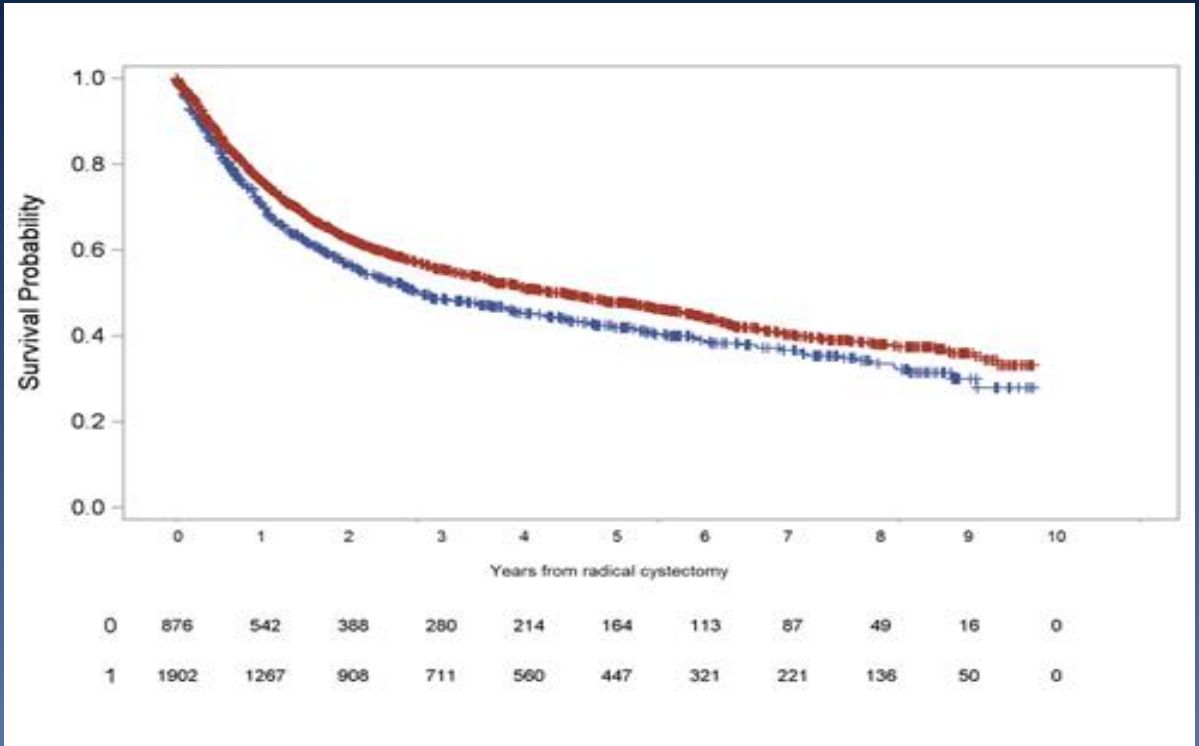
Effect of High-Volume Hospital and Surgeon on Overall Survival



Santos, Aprikian, World J Urol 2016

HR= 0.80
(0.70-0.91)
P < 0.05

- Red curve: 3rd and 4th quartile of H-S volume distribution (> 5)
- Blue curve: 1st and 2nd quartile of H-S volume distribution (< 2)

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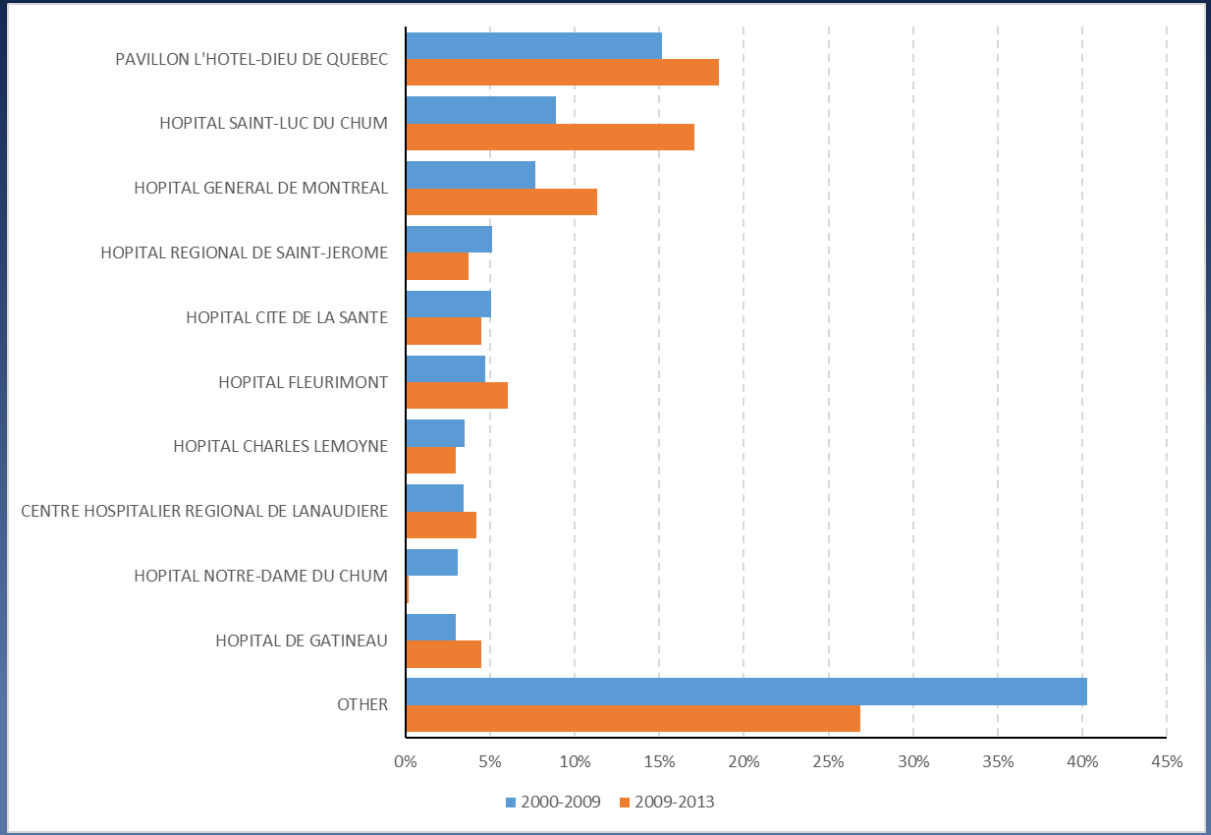
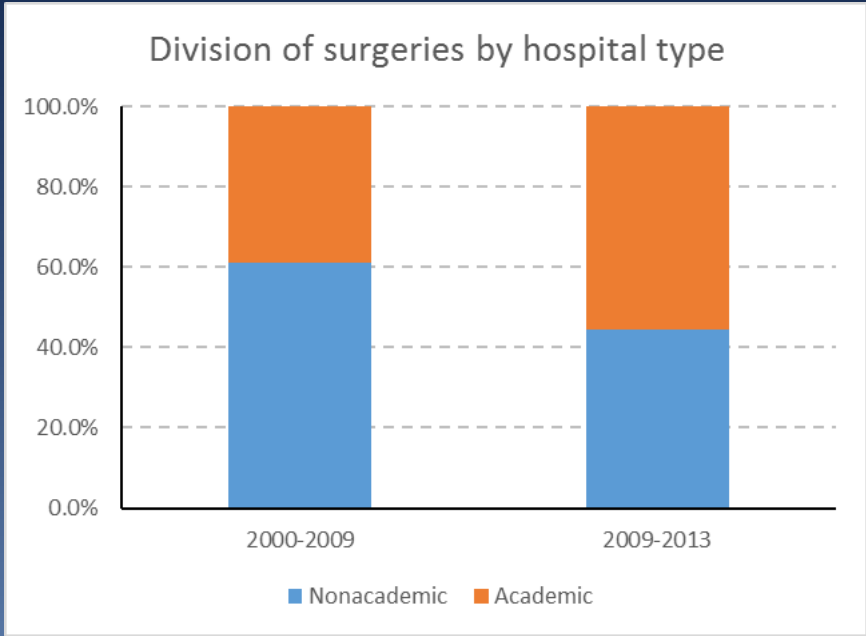
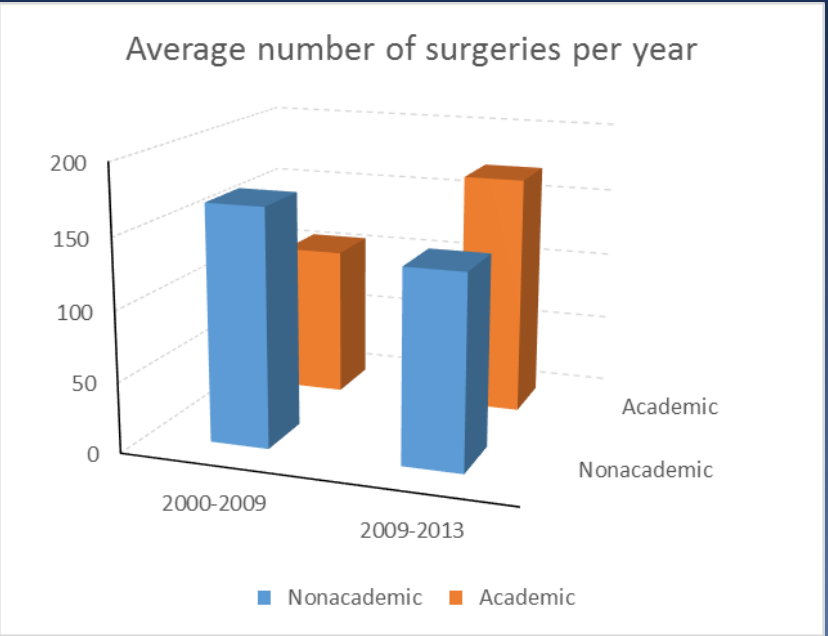
Redistribution of Radical Cystectomy Over Time

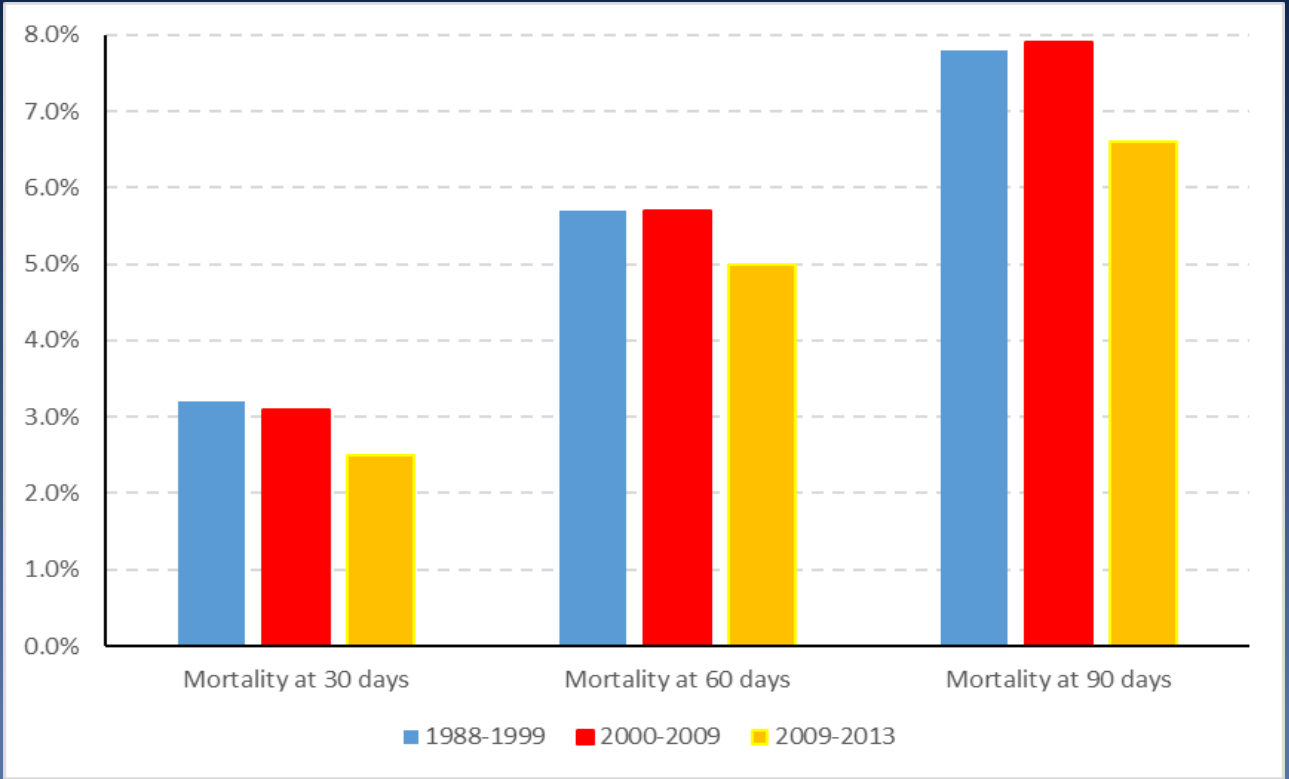


Distribution of Radical Cystectomies by Hospital Type



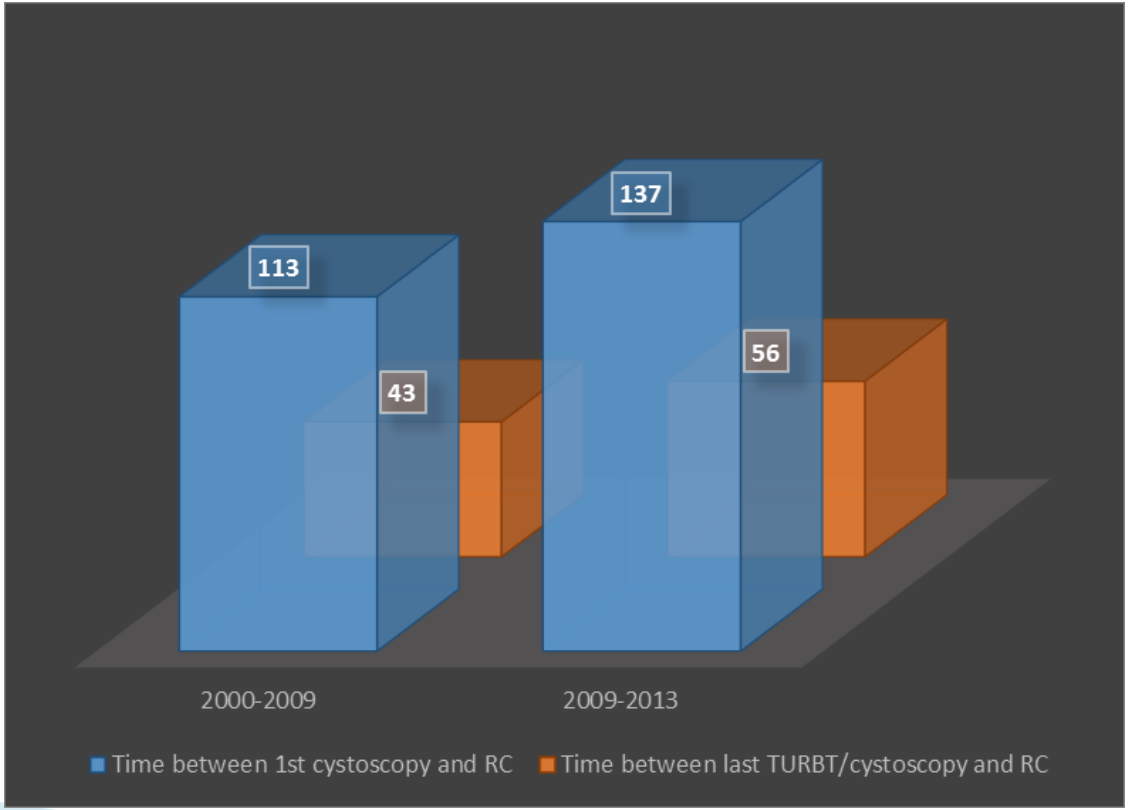


Post-Operative Mortality



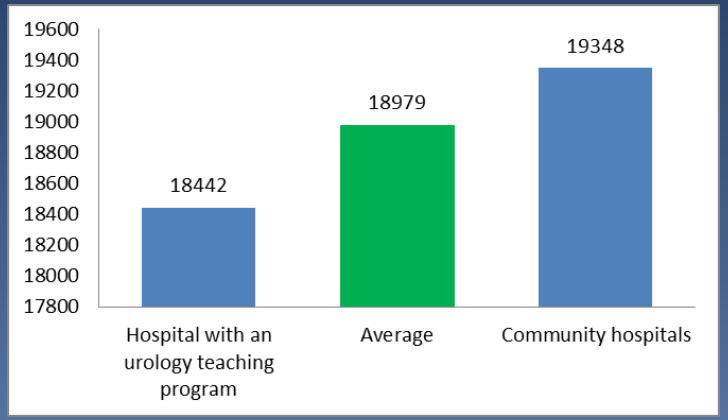
Time to Radical Cystectomy

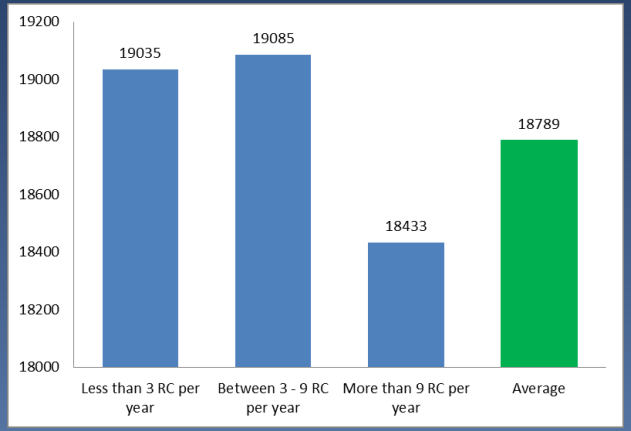
Time to Radical Cystectomy increasing



Medical Costs Associated with Radical Cystectomy in Quebec

- Cost estimates
- N = 2759
- Average cost = $18989 (range: $16005 – $25684)





Health-care services utilization and costs associated with radical cystectomy for bladder cancer: a descriptive population-based study in the province of Quebec, Canada.
Santos F1, Dragomir A2, Zakaria AS3, Kassouf W4, Aprikian A5.

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American College of Surgeons
National Surgical Quality Improvement Program

Semiannual Report, July 2016

Dates of Surgery: January 1, 2015 – December 31, 2015

McGill University Health Centre

American College of Surgeons

Inspiring Quality:
Highest Standards, Better Outcomes

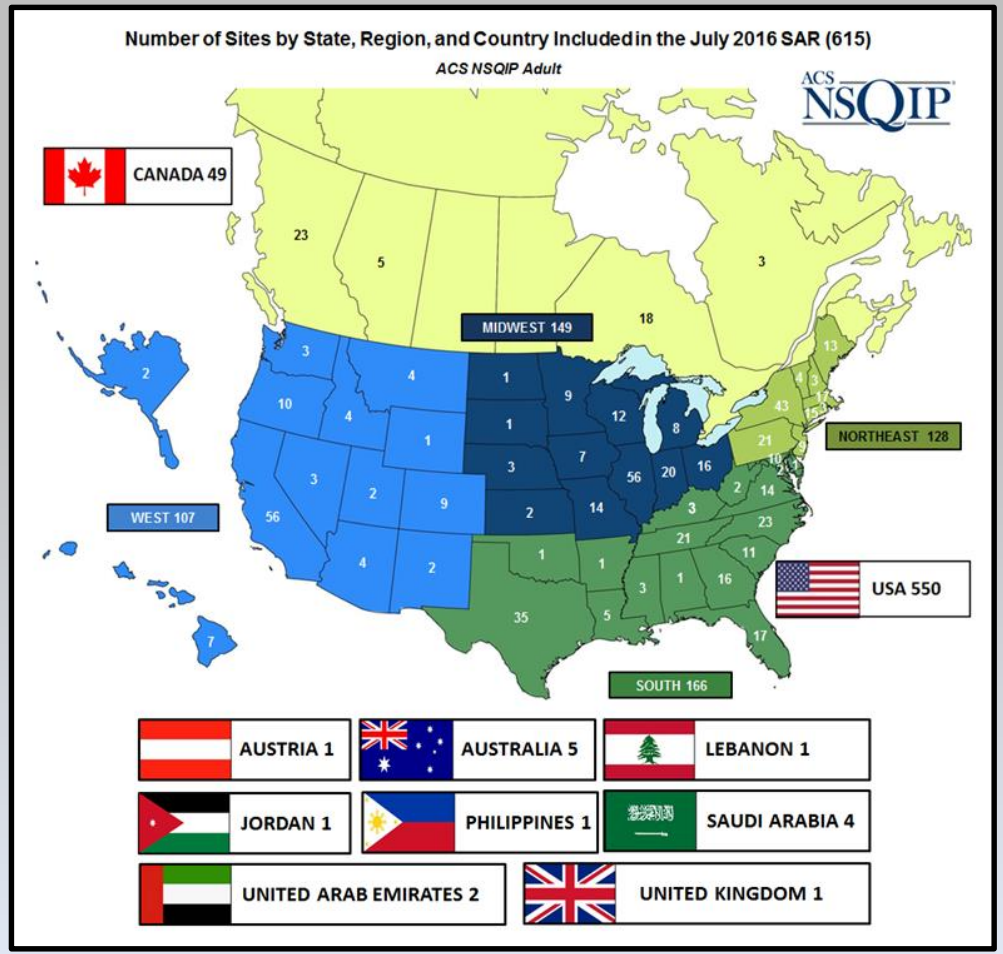
100+years

Program Overview

- ACS NSQIP is a data-driven, risk-adjusted, outcomes-based program to measure and improve the quality of surgical care.

- Benefits of participation include:
  - Identifying quality improvement targets
  - Improving patient care and outcomes
  - Decreasing institutional healthcare costs

Participating Hospitals



Outcomes

Wound Occurrences

- SSI (superficial, deep, organ/space)
- Wound disruption

Cardiac

- MI
- Cardiac arrest requiring CPR

Pulmonary

- PNA
- On ventilator >48 hrs.
- Re-intubation
- PE

Other

- PRBC Transfusion up to 72 hrs. post-op
- DVT
- Sepsis/Septic Shock

Urinary

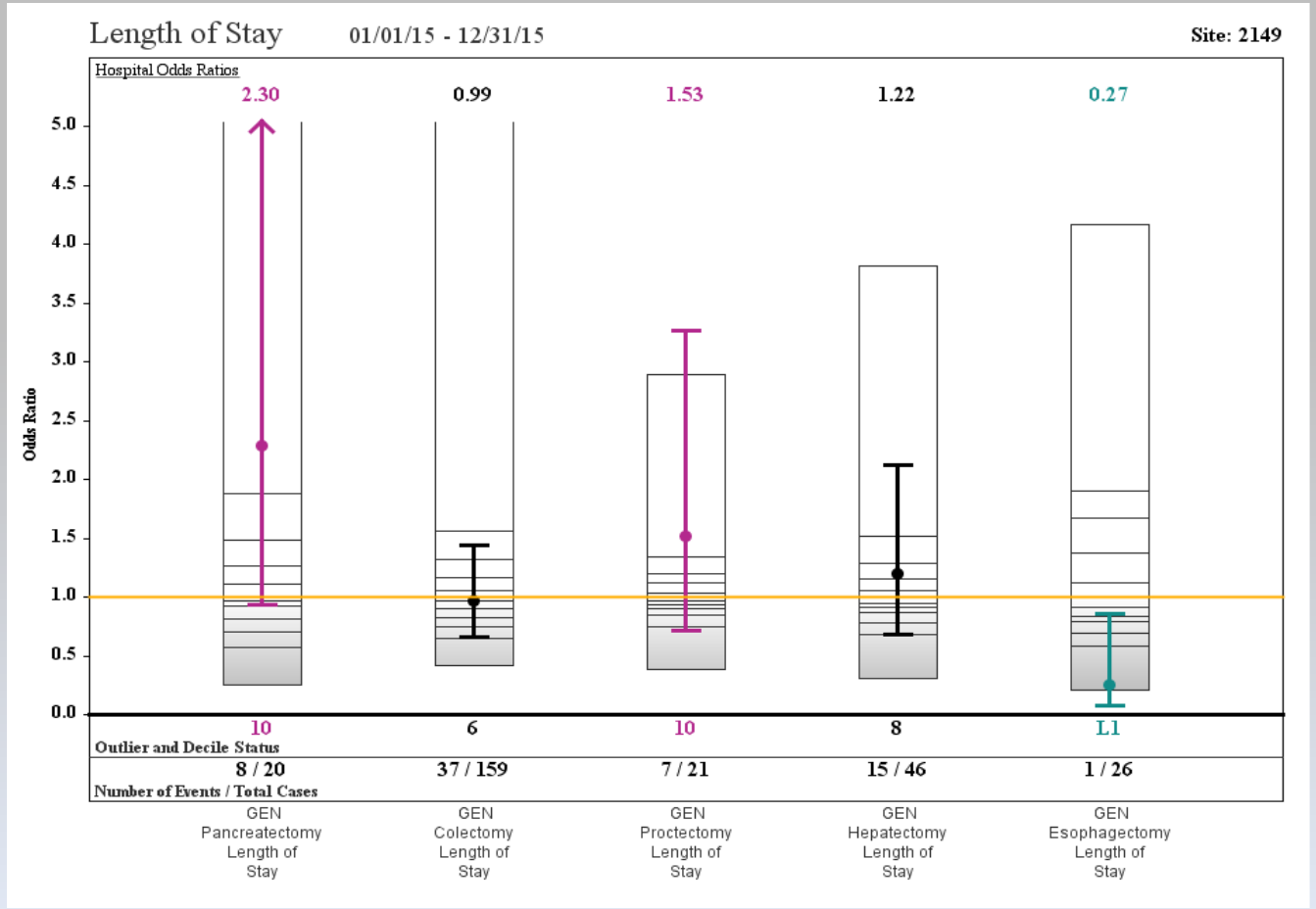
- UTI
- Progressive renal insufficiency
- ARF

Re-admission

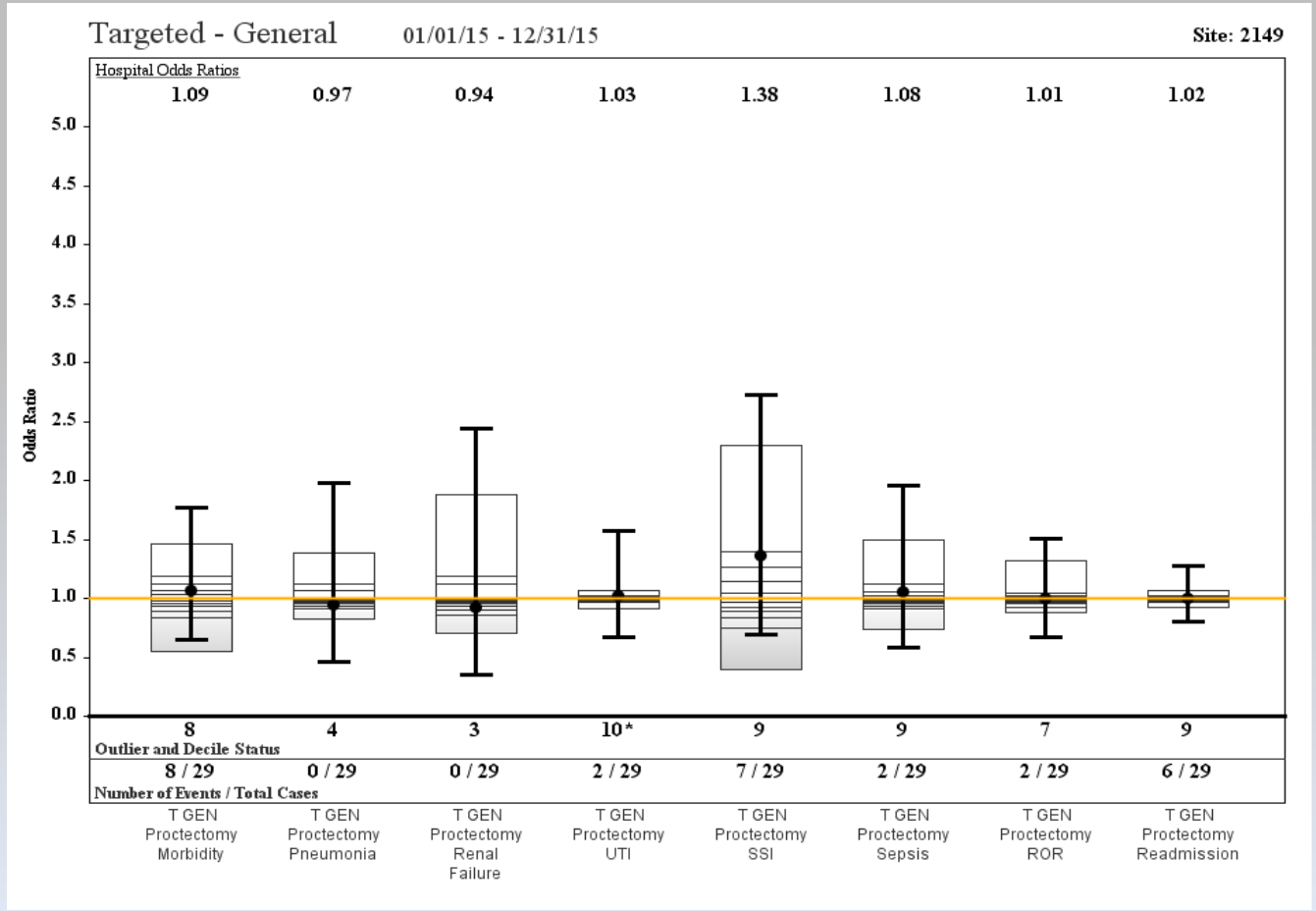
Unplanned return to OR

Mortality

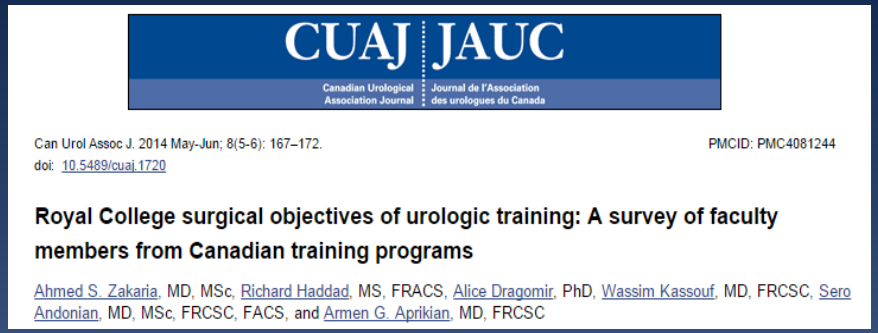
Length of Stay



Targeted - General



Resident and Faculty Perception on the training of Radical Cystectomy in Canada

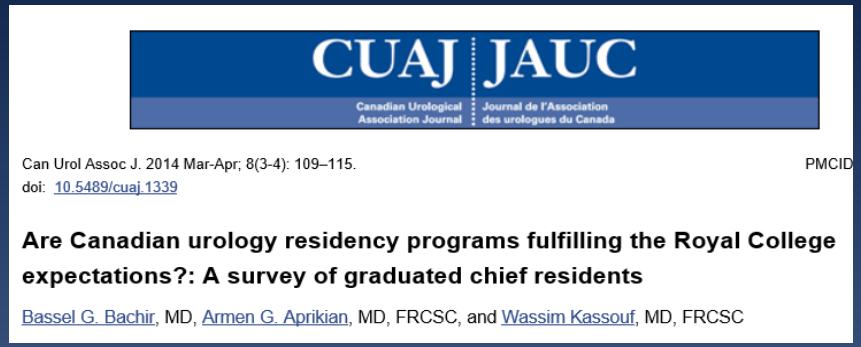


CUAJ | JAUC
Canadian Urological Association Journal | Journal de l'Association des urologues du Canada

Can Urol Assoc J. 2014 May-Jun; 8(5-6): 167–172. PMCID: PMC4081244
doi: 10.5489/cuaj.1720

Royal College surgical objectives of urologic training: A survey of faculty members from Canadian training programs

Ahmed S. Zakaria, MD, MSc, Richard Haddad, MS, FRACS, Alice Dragomir, PhD, Wassim Kassouf, MD, FRCSC, Sero Andonian, MD, MSc, FRCSC, FACS, and Armen G. Aprikian, MD, FRCSC



CUAJ | JAUC
Canadian Urological Association Journal | Journal de l'Association des urologues du Canada

Can Urol Assoc J. 2014 Mar-Apr; 8(3-4): 109–115. PMCID
doi: 10.5489/cuaj.1339

Are Canadian urology residency programs fulfilling the Royal College expectations?: A survey of graduated chief residents

Bassel G. Bachir, MD, Armen G. Aprikian, MD, FRCSC, and Wassim Kassouf, MD, FRCSC

- Almost 50% of teaching faculty felt radical cystectomy should not be a level A procedure for training
- Almost 35% of graduating residents felt they did not achieve level A proficiency to perform radical cystoprostatectomy
- Almost 60% of graduating residents felt they did not achieve level A proficiency to perform anterior pelvic exenteration

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Regionalization of Surgical Oncology – Bladder Cancer

- Transparency – report results, data driven
- Resources ?
- Bladder Cancer Quality Initiative
- Bladder cancer committee being launched
- Modification of urology training
- Urologic Oncology Subspecialty?

Quality indicators in the management of bladder cancer: A modified Delphi study
Kassouf, Aprikian et al, Urologic Oncology, 2017

“Volume” not an adequate indicator

- Access (delays)
- Volume
- Post-operative mortality
- Morbidity
- Pathology
- Disease-specific mortality
- Overall survival
- Cost

Surgical Scorecard

McGill