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health system performance research network

Linking Interventions for Improvement with Health System Performance Measurement

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Overview

- Health System Performance Measurement
- Current Ontario Performance Measurement
- Measurement Gap
- Example System Improvement Intervention
- Needs for System Performance Measurement

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Health *System* Performance

- System:
  - an organization forming a network especially for distributing something or serving a common purpose
  - a regularly interacting or interdependent group of items forming a unified whole

  (Merriam-Webster.com)

Current Performance Measurement

- Hospital Report 1998-2008
  - Acute Care, Emergency Department, Rehabilitation, Complex Continuing Care, Mental Health
- Ontario Health Quality Council
  - **Annual report on the health system; 2006-**
  - LTC public reporting; 2009-
  - CCAC public reporting; 2009-
- OHA, OACCAC, LHIN, CIHI, Fraser Institute, etc.

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Current Performance Measurement

- Largely provider-centric, based on administrative clinical and financial data, augmented by patient satisfaction in acute care, and historical hospital provider survey.
- Improving coverage of non-institutional sectors
- Considerable gap remaining in human resource management and organizational factors (e.g. collaboration)
  … i.e. … ***the levers for change***.
- For most patients who only use one provider in isolation (e.g. wellness visits, knee surgery, cataracts, etc),
  ...what we have is nearly sufficient

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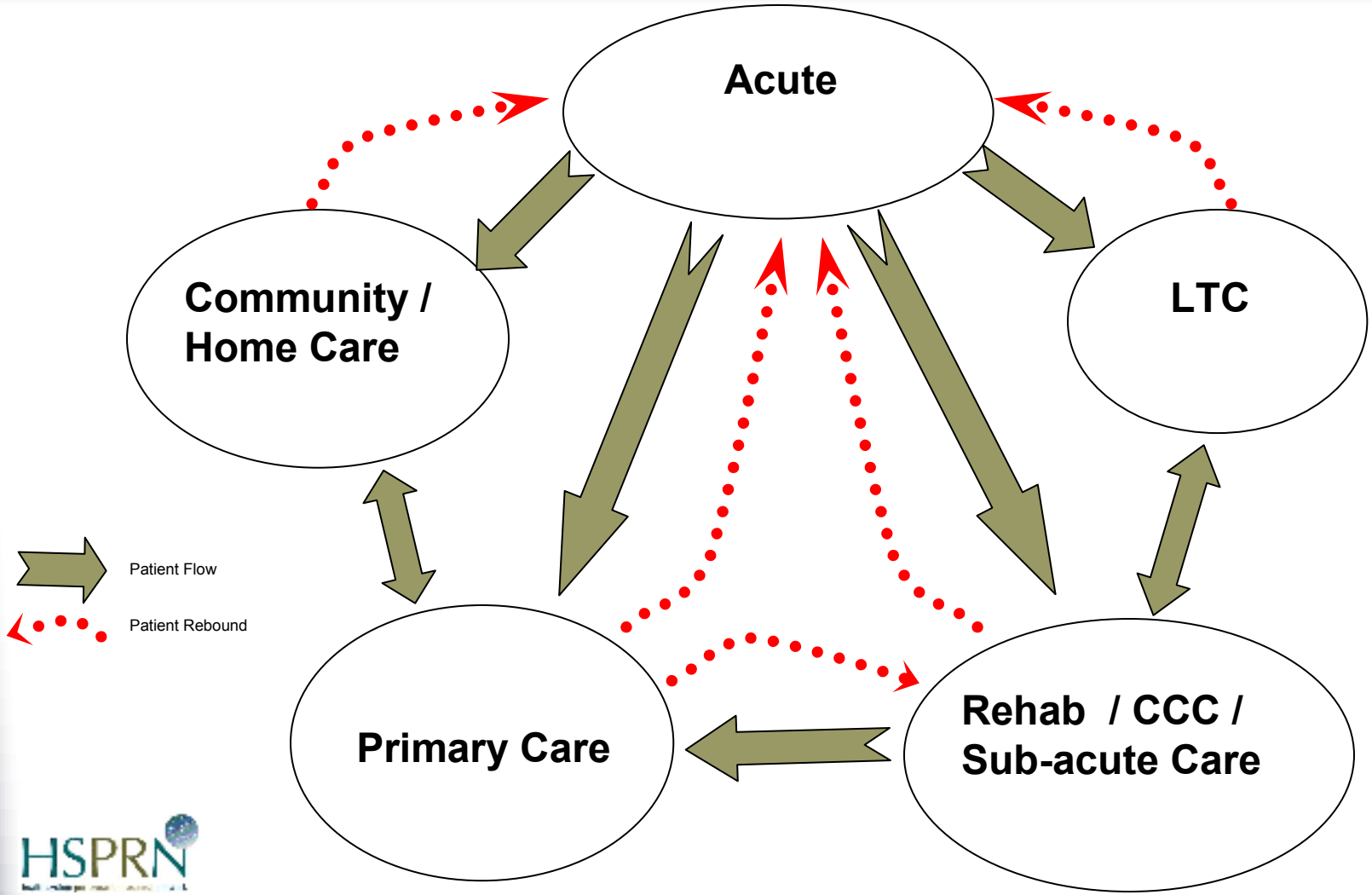
Current Performance Measurement

… but for complex patients who require care from multiple providers, individual provider performance is necessary but insufficient.

- Complex populations at high risk for acute episodes and with complex clinical conditions
  need a high performing health system

Gaps in Performance Measurement

e.g. Integration and Transitions of Care



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Example System Improvement Intervention
e.g. Integration and Transitions of Care

e.g.

Rich et al., (NEJM 1995) RCT of nurse-directed intervention for CHF

- Risk of Readmission = 0.56

Naylor et al., (NEJM 1995) RCT of Advanced Practice Nurse-lead intervention including coordination with primary care physician for CHF

- 1-year Readmissions in intervention group = 1.18/patient vs 1.79 in control

Coleman et al., (AIM, 2006) RCT of APN-lead intervention for select conditions

- 90-day Readmissions in intervention group = 16.7% vs. 22.5% (Odds=0.64)

Common components of these interventions:

1. Case management (including discharge planning)
2. Follow-up care in home (24-72 hours)
3. Medication management / reconciliation
4. Patient education/empowerment (Rich, Coleman) or case management (Naylor) e.g. Patient personal health record

Note: Unclear evidence regarding marginal effect of each component

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Example System Improvement Intervention

e.g. Integration and Transitions of Care

- Target populations that have high health utilization rates and that move from one sector to another have important implications for both the costs and quality of care.

e.g. Target transition interventions with high risk of readmission: 2+ ACSC*, Cardiac Arrhythmia, Stroke, Hip Fracture, Spinal Stenosis, DVT/PE*, PVD* :

- 38,978 acute discharges in Ontario in 2006 (0.003% population)
- 23%, 38%, 55% visit ED within 30, 90, 365 days
- 13%, 22%, 43% readmitted to acute within 30, 90, 365 days
- Average annual cost: $35,935; Total $1.4 billion (3% budget)

* ACSC: Ambulatory Care Sensitive Condition (Angina, Asthma, COPD, Diabetes, Grand Mal Seizure, Heart Failure, Hypertension); DVT/PE: Deep vein thrombosis/pulmonary embolism; PVD: peripheral vascular disease

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Example System Improvement Intervention
e.g. Integration and Transitions of Care

- We found:

Adjusted* Odds Ratio: Readmission to Inpatient Acute		
	7-30 days Odds(95% Conf. Int'l)	**7-90 days** Odds (95% Conf. Int'l)
Home Nursing Visit within 1 day	**0.72Ł** (0.53, 0.98)	**0.70Ł** (0.55, 0.90)
Primary Care Visit within 7 days	0.91 (0.81, 1.03)	**0.85Ł** (0.78, 0.93)
New Filled Prescription	**1.07Ł** (1.04, 1.10)	**1.04Ł** (1.01, 1.06)

* Adjusted for 51 measures of patient characteristics, prior medical treatment, diagnoses and geography

Ł significant at the 5% level

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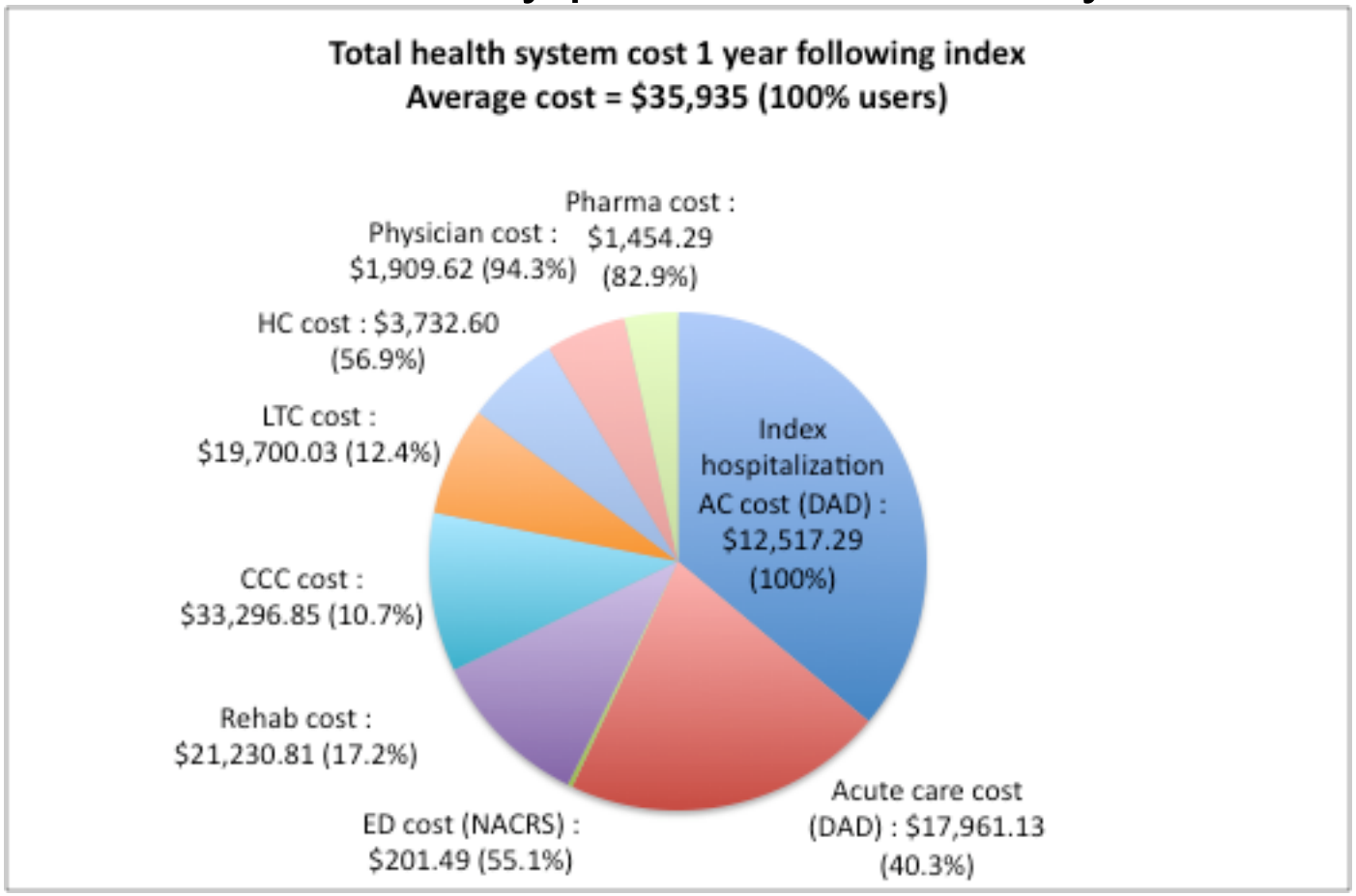
Example System Improvement Intervention
e.g. Integration and Transitions of Care

- We found users for every part of the health system:



What could we say about performance in these key areas

1. Case management (incl. discharge planning)
   - n.a.
2. Rapid follow-up
   - Home care visit within 3 days of any referral (OHQC)
3. Medication management
   - Commonwealth fund survey of sicker adults
4. Patient empowerment
   - Who to contact…explained

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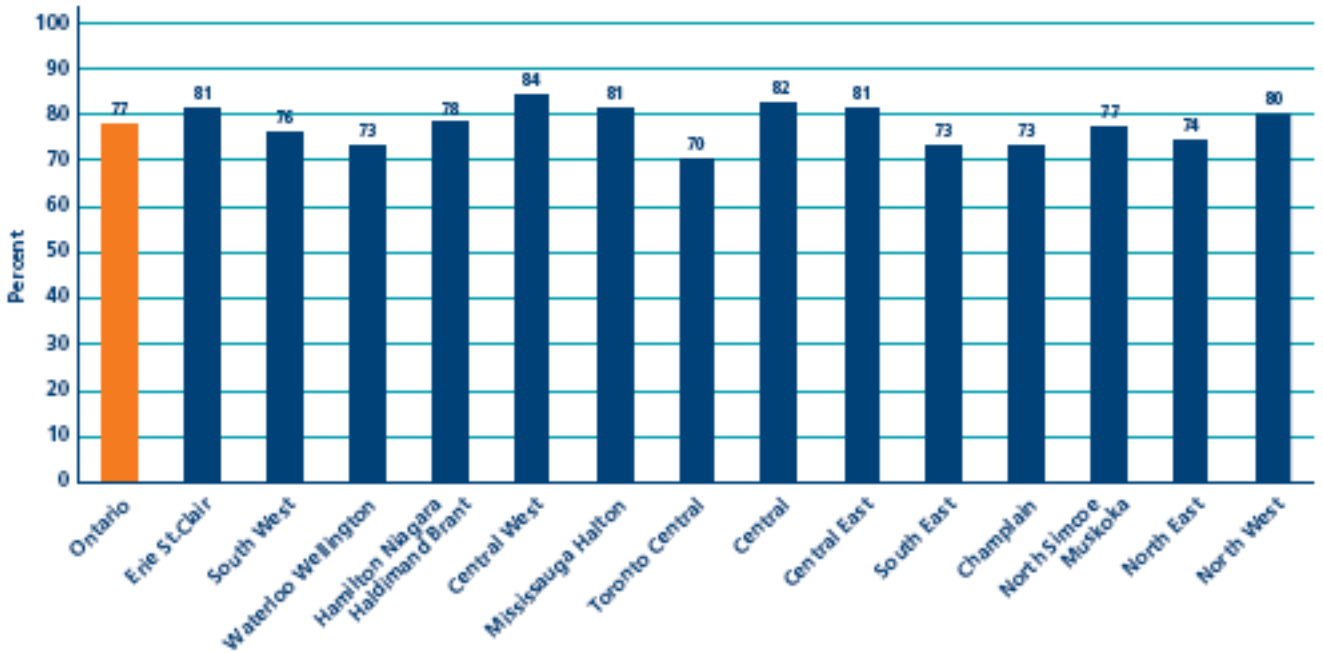
2. Rapid follow-up

Percent of acute clients receiving first service within three days of referral to CCAC across Ontario, 2007/2008



Source: Ontario Association of Community Care Access Centres

Almost 80% of Ontarians referred to community care access centres (CCACs) get their first home care visit within three days and some regions nearly reach 85%. This is a new indicator in the CCACs' accountability agreements for 2009/10. By next year, the home care sector will have a local targets to achieve.

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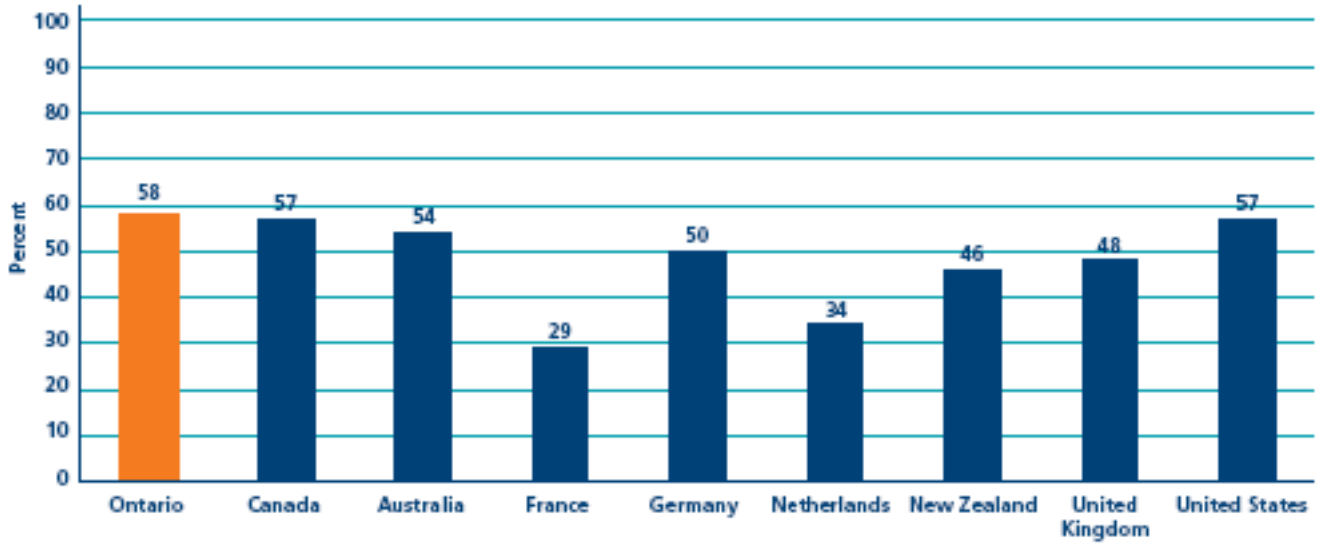
OHQC report on health system performance 2009

3. Medication management

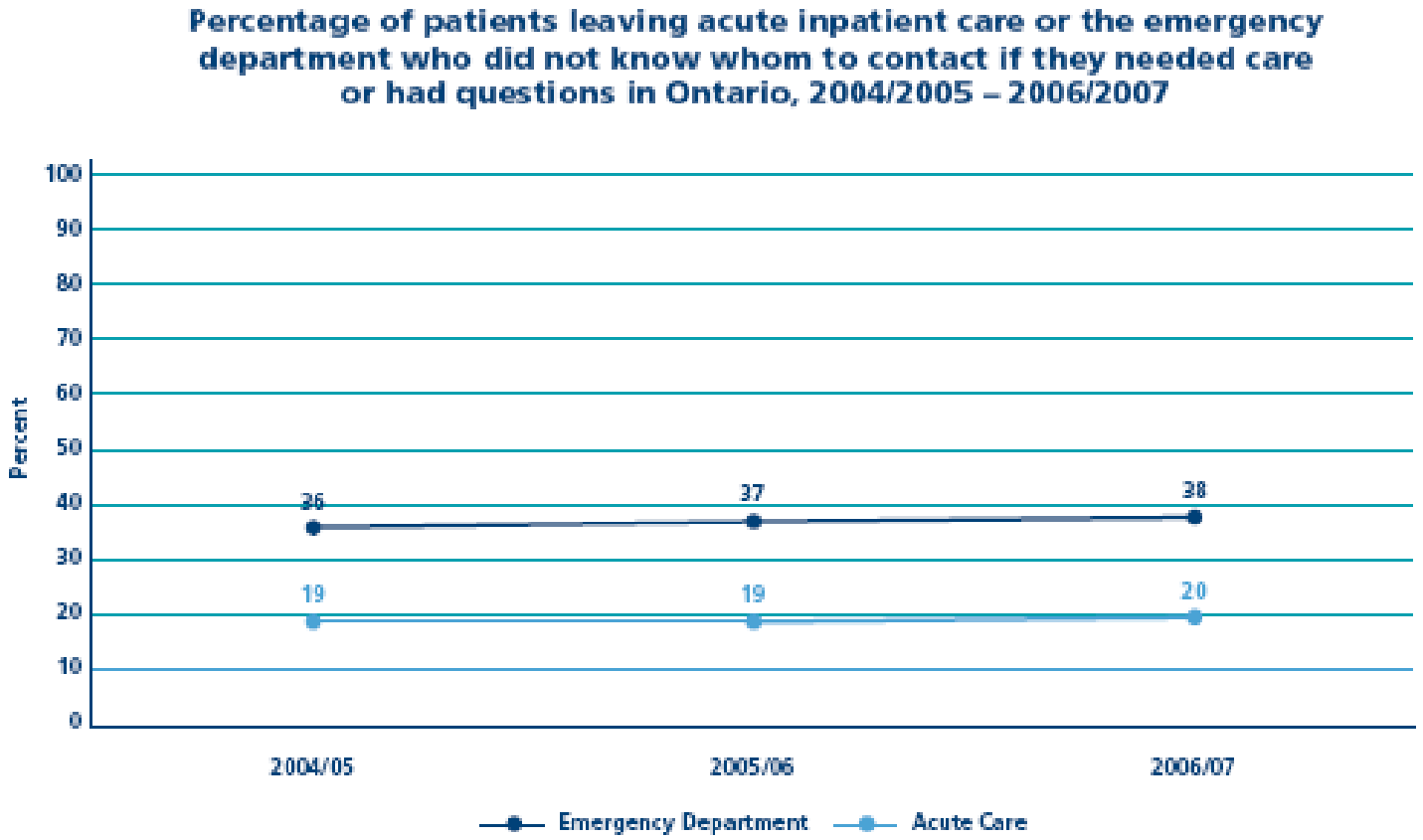
Percent of sicker adults who had their doctors or pharmacists review and discuss all the different medications they were using, including medicines prescribed by other medical doctors in Ontario, Canada and other countries, 2008



Source: Commonwealth Fund International Health Policy Survey of Sicker Adults, 2008

Note: Question was posed to respondents who are taking medications and who, in the last two years, always or often had their medications reviewed by a health professional.

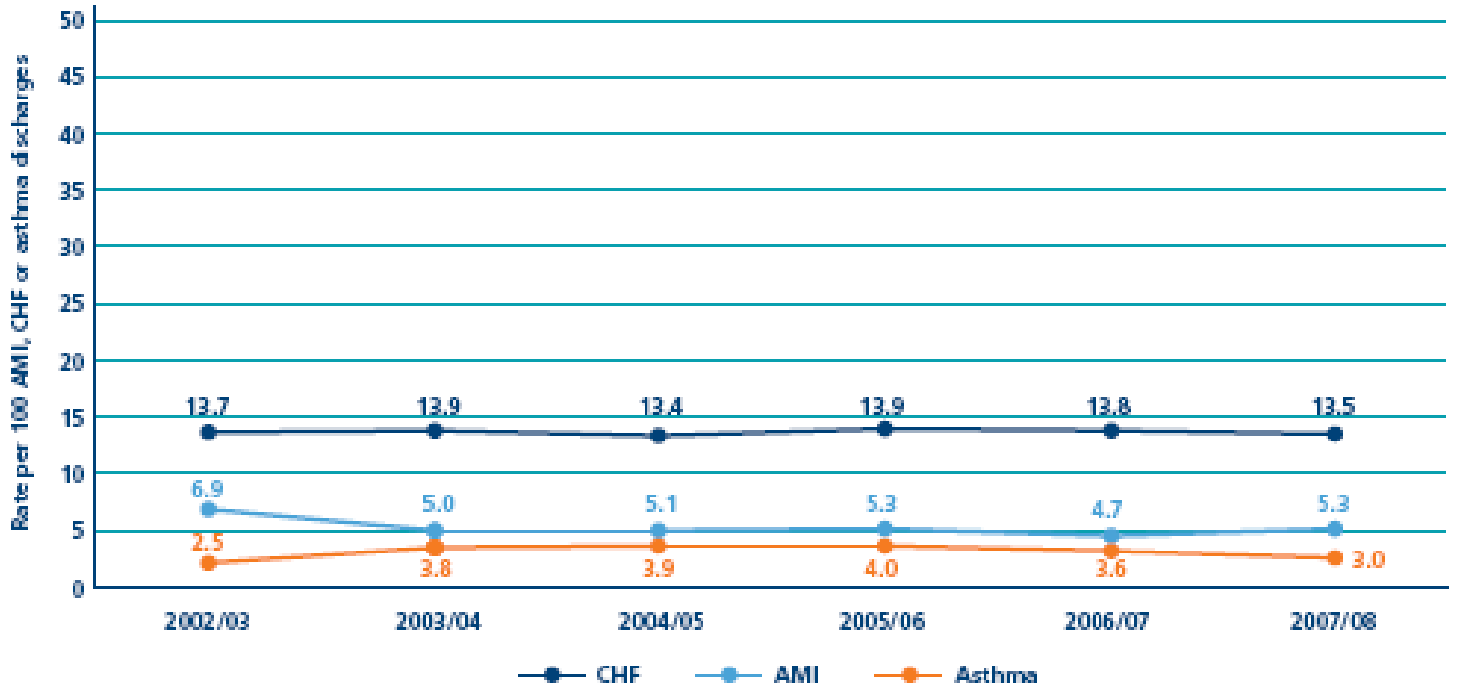
4. Patient empowerment



Source: Canadian Institute of Health Information - The Picker Acute and Emergency Department Survey, 2004/05, 2005/06, and 2006/07

Outcomes

Rate of readmission to the emergency department or acute care within 30 days of being discharged for AMI, CHF or asthma in Ontario, 2002/2003 – 2007/2008



Source: Institute for Clinical Evaluative Sciences – Health system data

Needs for System Performance Measurement

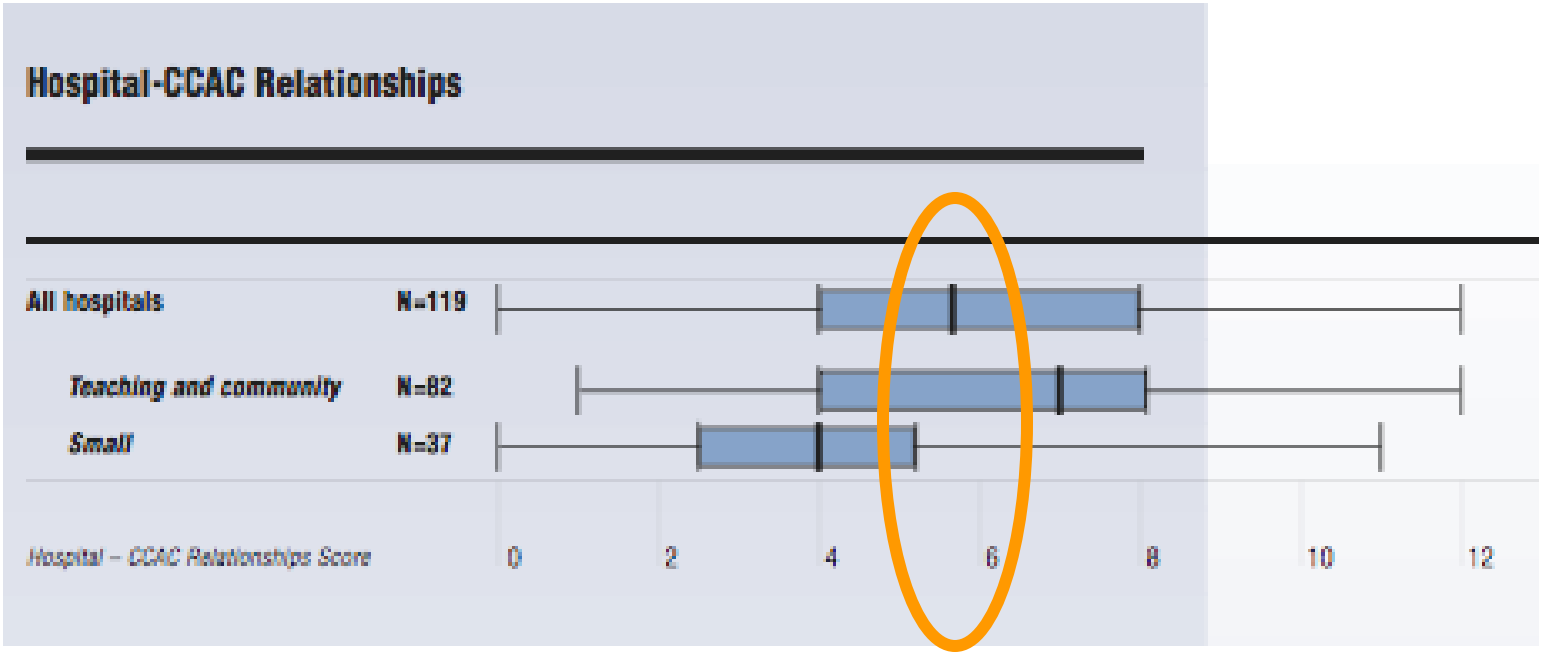
- Integration and communication (HC referrals, medication information, adequate info to GP)
- Medication reconciliation
- Timely follow-up
- Patient knowledge
- Outcomes (readmission, patient reported outcomes)

Other examples where system matters

- Pediatrics
  - Complex pediatrics (new survival successes)
  - Transition from childhood to adult care
- Mental health
- Severely disabled (e.g. spinal cord or brain injury)

Hospital Report 1999

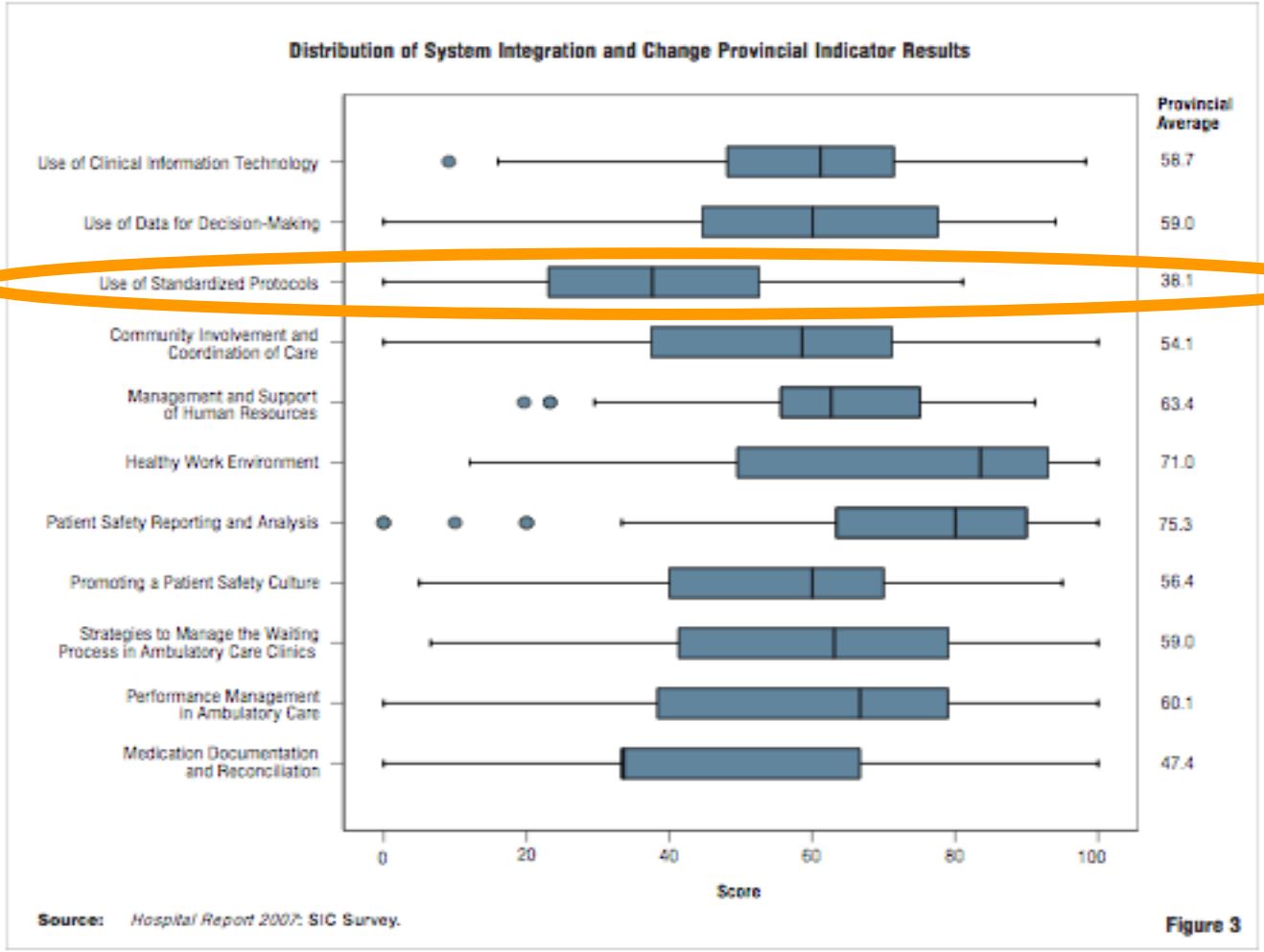
A Measure of Integration (5.7 / 12)



Hospital Report 2007

Still Measuring Integration (54.1 / 100)

SUMMARY OF RESULTS



Source: *Hospital Report 2007*: SIC Survey.

Figure 3

Cancer System Integration Measure
Mapping of Interpreted Themes to Dimensions of CSI

Clinical Integration	Theme 1:	Clinical responsiveness to requests for advice (medical/radiation oncologists, surgeons and pathologists)
	Theme 4:	Multidisciplinary cancer conferences and inter-professional discussions are supported and perceived to be effective
	Theme 5:	Clinical responsiveness to requests for advice (palliative and supportive care)
Functional Integration	Theme 6:	Good regional coordination of resources (staff/personnel, technology/equipment, financial)
	Theme 10:	RCP perceived to have standardized technology use policies and professional training programs
	Theme 11:	Adequate access to computers/internet for clinical/professional needs
Vertical (System) Integration	Theme 2:	Clinical leadership and guidance regarding best practices and innovations
	Theme 3:	Good regional coordination of health promotion and cancer prevention/screening activities
	Theme 7:	RCP leadership role recognized/supported
	Theme 8:	RCP perceived to influence the allocation of resources (staff/personnel, technology/equipment, financial)
	Theme 9:	RCP perceived to be aware of practice variation within/among regions

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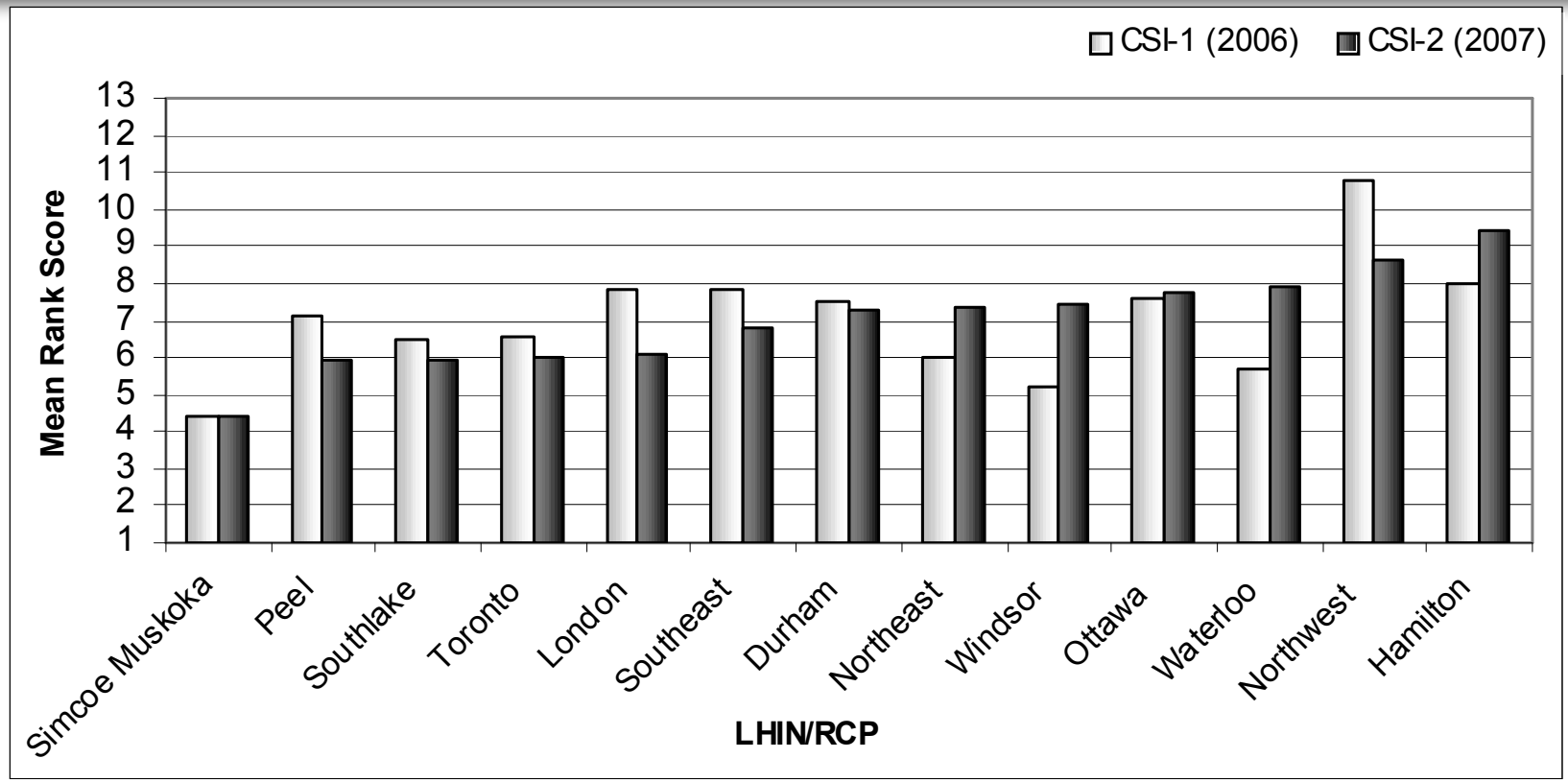
Dobrow et al., CAHSPR, 2008

CSI Survey – Composite Mean Rank Score

Higher composite mean rank score indicates better overall cancer services integration



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Dobrow et al., CAHSPR, 2008

What do we need to know about Performance in these key areas

Examples from the UK Care Quality Commission:

- **Only 53% of GPs said that they received discharge summaries from acute trusts in time for them to be useful, and 81% said that the details that they contained about people's prescribed medicines were incomplete or inaccurate "all" or "most" of the time.**(p56)

- **95% of trusts said that they had protocols for sharing information on children's safeguarding concerns. However, 36% of acute trusts did not have a policy for joint working between maternity services and social services.** (p56)

- **29% of people with disabilities using social care services thought that they were not communicated with in a way that helped them understand things properly.** (p14)

- P45…**17% of [LTC] care homes had not received information about people having infections when they arrive after discharge from hospital.** (p45)

http://www.cqc.org.uk/stateofcare.cfm

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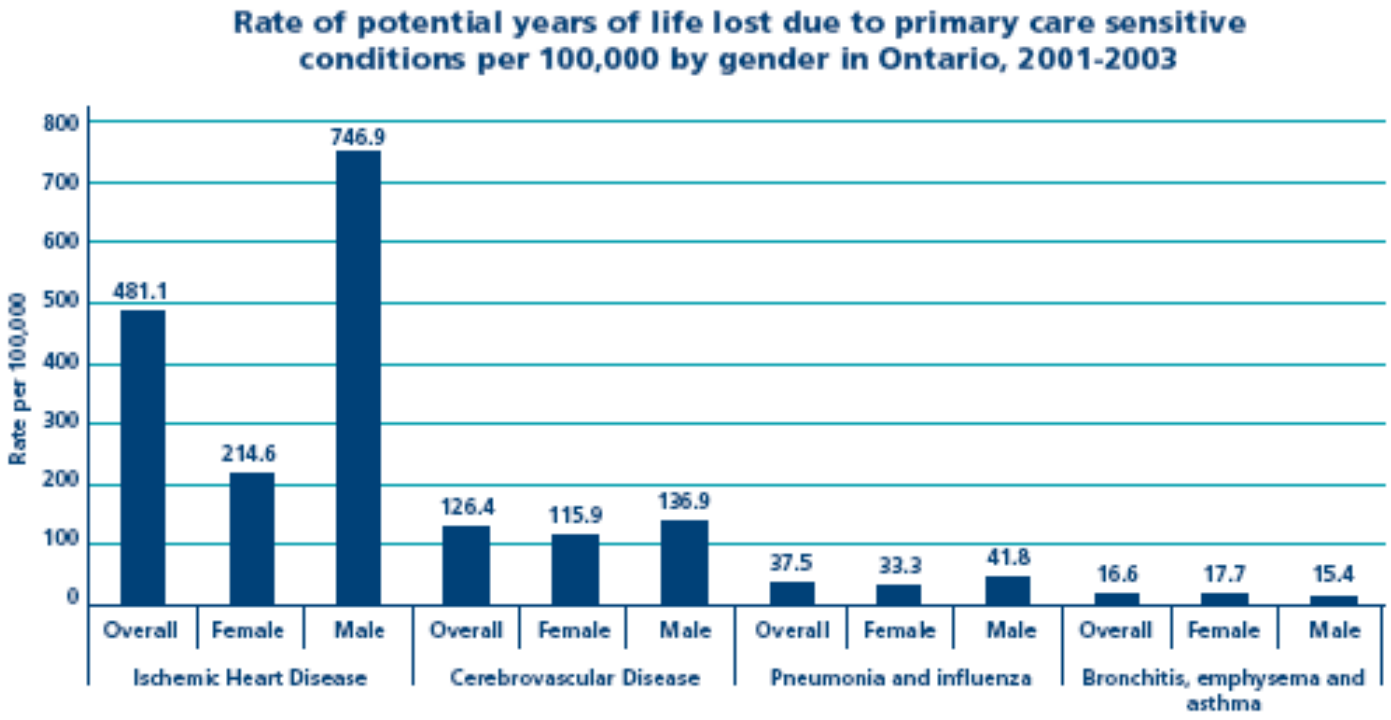
Needs for System Performance Measurement

- Levers for change
  - Collaboration and integration of care protocols between providers
  - Appropriate referrals
  - Timely and appropriate follow-up care by subsequent providers
  - Information exchange between providers
  - Patient navigational aids and empowerment

We have almost no information about these domains

Why?

Change from provider- to patient-focused performance !



Source: Ministry of Health and Long-Term Care, Primary Care Scorecard
Note: Data represents three-year average of 2001 to 2003

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OHQC report on health system performance 2009