Healthcare **Report Cards**



University of Regina



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What's the Plan?

- 1. Overview: the report cards, the regions.
- 2. Data: many challenges!
- 3. Details: What's in the report cards?
- 4. Details: Indices and data standardization
- 5. Responses to the report cards
- 6. Provincial Report Cards: In the works!
- 7. Let's Chat!





Why am I Here?

- 1993: Sask sets up new Health Districts (33)
- 1995: Provincial Auditor major concerns
- 1996: Financial Management Reviews
 - 1997: Managerial Accounting / Performance Meas.
 - Both reviews: My indoctrination, trial by fire!
- 1996 Now: My work focus in health care
- 2003-2007: Ph.D. studies: Health Care Performance Measurement

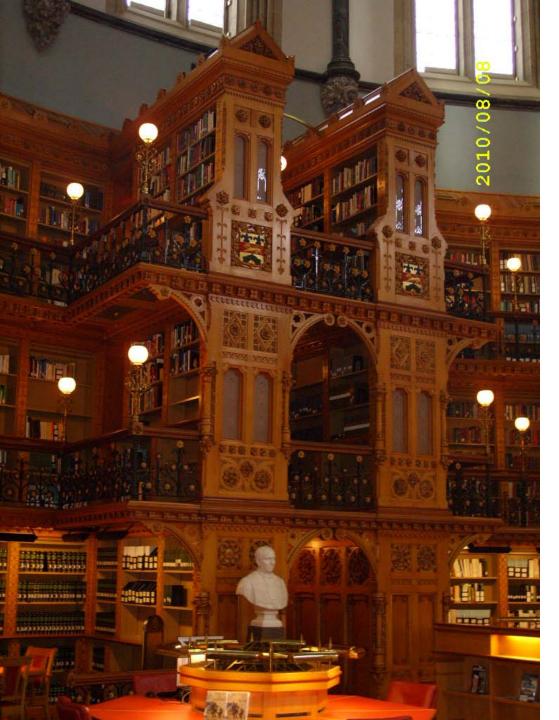






Why Report Cards?

- For managers / policy makers:
 - Benchmarking: How are we doing vs Cdn average
 - Best practices: Who is best; how do they do it?
- For public / patients
 - Accountability: How well is our health system performing? Over time; vs other communities
 - Transparency: Healthcare is a public good; the public deserves information on performance



Which
Health Regions
are included,
and why?





Selection of Regions (58)

- 8 provinces. Not Quebec, PEI (data)
- **Group 1**: (Generally) +200,000, tertiary care N=30
- **Group 2**: 100,000 200,000 & not tertiary N=15
 - (This was not a perfect science. Data availability was a problem for some regions.)
- **Group 3**: < 100,000

N = 13

- Group 3 was added to list based on requests.
- Many other regions left off: insufficient data.







Indicator Selection & Sources

- Criteria:
 - Widely accepted & used in Cdn healthcare
 - Representative of health services provided
 - Multiple dimensions of performance: quality, access, patient satisfaction (not efficiency)
 - Reliability & validity of data
- Result: Limited data & sources: CIHI Health Indicators; Statcan CCHS; HSMR

Missing Data: Readmissions (AMI, Asthma)

CIHI 2010 Health Indicators Health System Performance

Man	Acute Myocardial Infarcti 2006–2007 to 20		Asthma Readmission 2006–2007 to 2008–2009			
Map Code Health Region	Risk-Adjusted Rate (%)	95% CI	Risk-Adjusted Rate (%)	95% CI		
Saskatchewan	5.0	(4.3-5.7)	4.0	(2.5-5.5)		
4701 Sun Country	*	* *	*	* *		
4702 Five Hills	*	* *	*	* *		
4704 Regina	*3.1	(1.6-4.5)	*	* *		
4705 Sunrise	4.3	(1.7–6.8)	*	* *		
4706 Saskatoon	4.8	(3.5-6.2)	*	* *		
4709 Prince Albert	4.8	(2.6-6.9)	*	* *		
4710 Prairie North	7.1	(4.6-9.6)	*	* *		
Alberta	*3.7	(3.2-4.1)	3.5	(2.5-4.5)		
4821 Area 1 (Chinook)	4.2	(2.4-5.9)	*	* *		
4822 Area 2 (Palliser)	5.4	(3.3-7.5)	*	* *		
4823 Area 3 (Calgary)	*3.2	(2.5-3.9)	4.1	(2.1-6.0)		
4824 Area 4 (David Thompson)	4.2	(2.9-5.4)	*	* *		
4825 Area 5 (East Central)	4.7	(2.7-6.6)	*	* *		
4826 Area 6 (Capital)	*2.9	(2.1-3.7)	* 2.1	(0.1-4.1)		
4827 Area 7 (Aspen)	5.6	(3.9 - 7.3)	*	* *		
4828 Area 8 (Peace Country)	6.4	(4.4-8.5)	*	* *		
4829 Area 9 (Northern Lights)	*	* *	*	* *		
British Columbia	4.8	(4.4-5.2)	4.7	(3.8-5.5)		
5911 East Kootenay	4.7	(2.5-6.9)	*	* *		
5912 Kootenay Boundary	* 7.9	(5.7-10.2)	*	* *		
5913 Okanagan	5.5	(4.4-6.6)	*	* *		
5914 Thompson/Cariboo/Shuswap	6.1	(4.7-7.5)	*	* *		
5921 Fraser East	3.3	(1.8-4.9)	*	* *		
5922 Fraser North	3.9	(2.7-5.2)	*	* *		
5923 Fraser South	4.8	(3.7-5.8)	4.2	(2.0-6.4)		
5931 Richmond	3.3	(1.1-5.6)	*	* *		
5932 Vancouver	4.1	(2.9-5.2)	*	* *		





What to include?

We chose:

- Quality (process, outcomes, safety, appropriateness)
- Access (a mix of measures)
- Patient Satisfaction (But is this data reliable? valid?)

Basis for our choice:

- Represent the breadth of services provided
- Survey of stakeholders: Importance of measures
- Comparable to what others report
- Availability of data in each category





What is missing, and why?

- There is a lot missing!
 - Primary / physician care
 - Home care (Despite national standards for 10 yrs)
 - Long-term care, community based, cancer ...
 - Safety: adverse events / CPSI / Safer Healthcare Now
 - TRY THIS: Highest reported adverse events gets high score
- WHY? Availability of comparable data







Accessing Data

- CCHS: Canadian Community Health Survey
- PUMF Files: They're okay ... but limited data.

Accessing the Regional Data Centres:

- Application process, security screening
- Data centre: Security pass, nothing comes out
- Before release: Un/weighted; x-tab n≥5; apply
- ... it is a lot of work ... and this is a good thing!





Data Currency

- Now here's a challenge!
- Data is often 2-3 years old by the time it is aggregated & reported nationally.
- CIHI working on it, toward near-live data.
- CCHS with annual surveys, we can update our report cards every year.
- Other sources / surveys: < annual.





How to Group Data?

- We chose Quality Access Patient Satisfaction
- Donabedian: structure, process, outcomes
- Cdn Quality Councils: accessibility/timeliness, effectiveness, efficiency, safety, patient centredness.
- AHRQ (USA): Effectiveness, safety, timeliness, patient centredness, resource consumption, overall.
- NZ: safety, customer focus, access, effectiveness, efficiency
- Institute of Medicine, NHS ... so many more!





Are the comparisons valid?

- Some (i.e. those with low scores) Say NO.
- HSMR: "Not intended for comparison" (CIHI) –
 yet the data are designed as index scores,
 comparable on a national basis!
- Concerns over reporting consistency / reliability
- "This was two years ago we have improved!"
 - Oh really? Then let's all share the data!









QUALITY 10 Indicators

- Process: Readmissions (4 measures)
- Outcomes: 30 day survival (2 measures)
- Appropriateness: C-Section, ACSC
- Safety: HSMR, In-hospital hip fracture

- Is this representative of the region's service mix?
- What can/should we add? Remove?





ACCESS 6 Indicators

Sources: CIHI, CCHS

- Primary care:
 - GP/100,000; Regular MD; (why both of them?)
 - Place to go when sick (why this one?)
- Prevention: Flu shot
- Wait lists: Hip fracture same/next day
- Utilization: Knee replacement rate





PATIENT SATISFACTION

- Statcan's Canadian Community Health Survey
- 3 measures: overall, hospital, physician care
- 25% of composite index weighting
- From prior studies: Concerns over reliability and validity of patient survey data.
- My response: These are your patients. Their satisfaction should be paramount!
- Your thoughts? That's what we're asking for!

Dig Deeper in the Data ...

CANADA: Relationship Between Factors and Patient Satisfaction (CCHS)						
FACTOR	First Group	Non-Sat	Last Group	Non-Sat	Gap	
DEMOGRAPHICS:						
Age (groups)	60 and Older	9.0%	15-39	15.8%	6.8%	
Gender	Female	13.6%	Male	13.7%	0.1%	
Education	< Secondary	11.0%	Post-Sec	15.1%	4.1%	
Income Level	\$80,000 +	12.7%	< \$39,999	13.8%	1.1%	
Marital Status	Married	13.0%	Single	14.8%	1.8%	
Household Size	5 or More	12.3%	3 to 4	14.7%	2.4%	
Urban and Rural	Rural	10.6%	Urban	14.3%	3.7%	
Immigration	No	12.8%	Yes	16.5%	3.7%	
HEALTH DETERMINANTS	•					
Opinion on Weight	About Right	12.6%	Overweight	14.5%	1.9%	
Type of Smoker	Not at All	12.4%	Daily	18.1%	5.7%	
Type of Drinker	Regular	13.5%	Occasional	14.1%	0.6%	
Freq. Of Physical Activity	Regular	12.7%	Infrequent	16.1%	3.4%	
Worked at Job	No	12.1%	Yes	14.5%	2.4%	
Satisfaction with Life	Very Satisfied	9.9%	N-D	29.0%	19.1%	
Sense of Belonging	Strong	10.2%	Weak	18.0%	7.8%	
Stress Level	Lowest	9.2%	Highest	20.0%	10.8%	
HEALTH STATUS:						
Self-Reported Health	Excellent	9.8%	Good to Poor	20.8%	11.0%	
Mental Health	Excellent	10.6%	Good to Poor	18.3%	7.7%	
HEALTH CARE:						
Has Regular MD	Yes	12.4%	No	21.7%	9.3%	
Consultation with MD	Zero	11.6%	6 and More	18.0%	6.4%	

^{*} Non-Sat: Those indicating neutral, dissatisfied or very dissatisfied with overall health care.





Satisfaction

Percent Neutral / Dissatisfied						
Predictor	Lo	Hi	GAP			
Satisfaction with Life	9.9	29.0	19.1			
Stress Low - High	9.2	20.0	10.8			
Sense of Belonging	10.2	18.0	7.8			
Regular MD No - Yes	12.4	21.7	9.3			
MD Visits 0 - 6+	11.6	18.0	6.4			
Age 60+ 15-39	9.0	15.8	6.8			
Gender F-M	13.6	13.7	0.1			
Income Hi - Low	12.7	13.8	1.1			
Married - Single	13.0	14.8	1.8			
Rural - Urban	10.6	14.3	3.7			
<gr12 -="" degree<="" td=""><td>11.0</td><td>15.1</td><td>4.1</td></gr12>	11.0	15.1	4.1			





What Was That?

- What the data is telling us: The percentage who are not satisfied with healthcare (rating neutral or dissatisfied):
- Does not appear to be significantly influenced by gender, income, marital or employment status, weight, or urban/rural status.
- Appears to vary significantly based on satisfaction with life, self-report health and mental health, stress level, sense of belonging, age, and access to primary care. On the latter: Higher dissatisfaction is related to both not having doctor and frequent access (6+/yr).

So What Does An Index Look Like?



Champlain LHIN Report Card									
Index Scores and Rankings by Indicator, with Regional Comparisons									
		Champlain		Vancover		Capital Healt			
		2	010	Ra	nk				
Indicator	Canada	Score	Index	2010	2009	Index	Rank	Index	Rank
OVERALL QUALITY (4 MEASURES)			106	11	7	101	21	121	1
1. QUALITY: OUTCOMES									
30 Day AMI Survival	8.9	7.8	117	5	5	115	6	137	3
30 Day Stroke Survival	17.7	17.2	104	14	8	101	15	123	4
2. QUALITY: PROCESS									
AMI Readmissions	4.7	3.4	128	6	11	111	12	145	1
Asthma Readmission	4.2	4.7	94	12	12	0	0	147	2
Prostatectomy Readmission	2.5	1.9	115	7	6	90	21	115	7
Hysterectomy Readmission	1.1	1.2	96	18	22	80	24	118	5
3. QUALITY: APPROPRIATE									
ACSC Hospitalization Rate	320	257	114	11	8	131	2	116	9
Caeserian Section Rate	26.9	29.1	91	15	14	85	26	98	10
4. QUALITY: SAFETY									
In-Hospital Hip Fracture	0.8	0.7	109	9	3	92	19	92	19
Hospital Standardized Mortality	98.8	101	96	16	16	107	12	116	7
ACCESS			109	6	8	99	24	96	28
Hip Fracture Wait Same/Next Day	62.7	62	99	18	20	100	16	92	23
Physicians: GP/100,000 population	101.0	110	107	10	9	147	1	118	5
Place to go when sick (CCHS)	78.5	77	95	20	20	92	23	102	15
Knee Replacement Rate	158.0	210	123	6	11	65	30	93	24
Has a Regular MD (CCHS)	86.0	87	104	20	20	89	27	89	27
Flu Shot < 1yr (CCHS)	32.0	40	125	3	3	101	17	83	26
PATIENT SATISFACTION (CCHS)			104	7	7	82	25	80	27
Overall Satisfaction	1.78	1.73	107	10	10	87	24	78	27
Satisfaction - Hospital Care	1.81	1.74	107	4	4	74	28	82	25
Satisfaction - Physician Care	1.52	1.54	97	16	16	86	25	79	27
OVERALL INDEX / RANK * 106 4 4 96 27 104 10									

Note: Ranking among 30 regions with comprehensive data

* Weighting for Overall Index: Overall Quality Index (50%); Access Index (25%); Patient Satisfaction Index (25%)

		Champlain			
		2010		Ra	nk
Indicator	Canada	Score	Index	2010	2009
OVERALL QUALITY (4 MEASURES)			106	11	7
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Satisfaction - Hospital Care	1.81	1.74	107	4	4
Satisfaction - Physician Care	1.52	1.54	97	16	16
OVERALL INDEX / RANK	(*		106	4	4

For each measure: Canada data, region data, region index score.

Ranking (in group) for both 2009 and 2010.







WHY AN INDEX?

- Why not A-B-C? It's a report card give a grade!
 - Maybe in the future. But it is subjective:
 Who decides what level of performance is an A?
- Why not raw data?
 - Every indicator is different numbers, mean scores
- Why an Index?
 - Everyone can relate to it: Our score vs Cdn average
 - Same scale for every indicator: Aggregation is easy





Methodology: Indices

- Base score for each indicator: Score of 100 based on Canadian average for current data
- Data standardization: STDEV = 20 for each.
 - Consistent range of scores for each indicator
 - -95% of scores +/- 2SD: 60 140
 - But why? →





Why Data Transformation?

Goal 1: Limit impact of outliers on overall index.

Goal 2: Avoid subjectivity in setting the scores.

Indicator	No Trans	With Trans
– Reg Md	83-112	53-143
Prost Readm	50- 250	71-157

- Main benefit: outliers do not skew overall score
- Pitfalls: exaggerate small variances, only epidemiologists and data librarians understand it.





Data Transformation: Other Options? Options: one-size: 0

- 1. Eliminate the outliers.
 - But the data is valid, isn't it? Top performers …
- 2. Instead of all scores SD=20, try MAX SD=20
 - Some measures will have closer scores, but top performers are not differentiated from the pack.





Index by Category

- For each of the three general categories (quality, access, patient satisfaction), index score for the category is based on equal weighting of each measure included.
- If a region does not have all measures, score is based on average of what scores are there.
- What should be done with missing data? How many missing scores is too many (i.e. Regina)?





Outliers: Regina

Regina Qu'Appelle Report Card									
Index Scores and Rankings by Indicator, with Regional Comparisons									
			Regi	ina		Moncton		Saskatoon	
		2	010	Ra	nk				
Indicator	Canada	Score	Index	2010	2009	Index	Rank	Index	Rank
OVERALL QUALITY (4 MEASURES)			117	2	2	108	7	108	8
1. QUALITY: OUTCOMES									
30 Day AMI Survival	8.9	8.1	112	8	13	99	20	115	6
30 Day Stroke Survival	17.7	16.6	108	10	3	98	19	117	5
2. QUALITY: PROCESS									
AMI Readmissions	4.7	3.1	138	3	2	115	9	98	21
Asthma Readmission	4.2	No	Data		18	No [)ata	No E)ata
Prostatectomy Readmission	2.5	No	Data			No [)ata	No E)ata
Hysterectomy Readmission	1.1	No	Data		22	151	1	73	28
3. QUALITY: APPROPRIATE									
ACSC Hospitalization Rate	320	501	77	28	29	88	26	106	16
Caeserian Section Rate	26.9	23.1	119	2	2	89	20	114	4
4. QUALITY: SAFETY									
In-Hospital Hip Fracture	0.8	0.6	122	4	3	100	18	109	9
Hospital Standardized Mortality	98.8	79	144	1	1	128	5	133	3





Composite Index

 Based on weighted average of the three component group scores:

	<u>Group 1-2 (19)</u>	<u>Group 3 (14)</u>
Quality	10 Indicators	5 Indicators
Quality	50%	35%
– Access (6)	25%	40%
Satisfaction (3) 25%	25%







Media Release – July 2010

Positive Response:

- Regions / provinces with strong scores / rank
- Regions / provinces who support transparency
- News media! (This was a huge surprise)

Negative Response:

- Some regions with relatively low scores
- Some Ministries: Neg. publicity, specific items
- Some public: Mixed response on news webs





Stakeholder Surveys

- Report Cards sent to regions, provinces, HQCs in May/June 2010
- Low response rate (n=22)
 - So results are not generalizable.
 - -13 RHA, 5 LHIN, 4 other.
 - 10 CEO/VP, 12 other.
 - But they are interesting!
 - -We'll try again with the 2011 report cards.

Survey: Performance Reporting

Rate Current State of Reporting by Service Rate Importance of Reporting by Service

Derived: Magnitude of the Gap (Priorities?)

	% Good to	% Important	GAP
* n=22, small sample	Excellent	/ Very Imp.	(Calc)
Hospital	41%	91%	50%
Primary Care	10%	77%	68%
Public Health / Prevention	25%	57%	32%
Home Care	5%	75%	70%
Other Community	5%	90%	85%
Long Term Care	14%	73%	58%
Diagnostic Services	35%	85%	50%
Adverse Events / Safety	48%	86%	38%
Patient Views / Satisfaction	32%	60%	28%

YOU'RE GOOD ... AT ... WHAT???

	% Good to	<mark>% Important</mark>	GAP
* n=22, small sample	Excellent	/ Very Imp.	(Calc)
Hospital	41%	91%	50%
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Patient Views / Satisfaction =	32%	60%	28%

WHAT IS IMPORTANT, WHAT IS NOT?

* n=22, small sample	% Good to Excellent	% Important / Very Imp.	GAP (Calc)
Hospital	41%	91%	50%
Primary Care	10%	77%	68%
Public Health / Prevention =	25%	57%	32%
Home Care	5%	75%	70%
Other Community	5%	90%	85%
Long Term Care	14%	73%	58%
Diagnostic Services	35%	85%	50%
Adverse Events / Safety	48%	86%	38%
Patient Views / Satisfaction =	32%	60%	28%

Survey: The Report Card

	Agree /
Survey: Views on the Report Card	Strongly
Would like comparative index report card annually.	70%
More headaches than benefits.	5%
Given information available, good comparisons.	52%
Include patient satisfaction indicators.	76%
Too complicated - people won't understand.	10%
Despite concerns, I compared ours to others.	53%

Something to think about: If we do report cards, who are they for?

If Annual Report Card, Who Should Receive it?

Boards	86%
CEOs	86%
Senior Managers	91%
All Staff	68%
Public	68%
Media	68%
Ministry	86%

What is transparency?

*: Over Half selected all.

One selected only senior managers.

One said nobody.

Survey: General Questions

	Agree / Strongly
Survey: General Questions	
We have sufficient quality reporting systems.	14%
We have the patient tracking data we need.	23%
Our information systems resources are sufficient.	19%
Mandate standardized, comparable reports.	68%
Reporting more effective if internal only (not public).	9%
Data in these measures is consistently coded & reported.	14%
Regular benchmarking reports would contribute to our QI.	67%







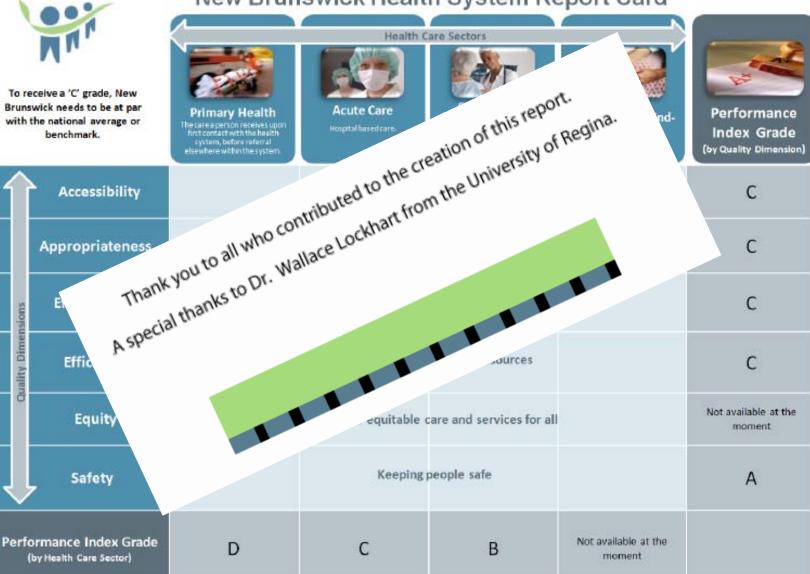
Provincial Report Cards

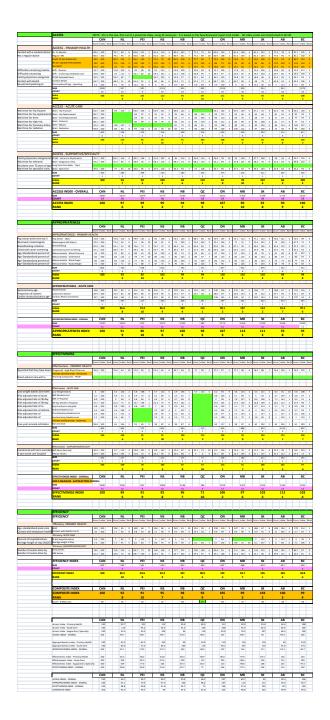
- We're working on this right now.
- Starting with NB Health Council's Report Card dimensions & indicators
- Adding several measures from CCHS.
- Index format will be used (base 100).
- Want to be part of the project? I'll welcome suggestions, critique, project partners!



NB Health Councischool of Business

New Brunswick Health System Report Card





This is the consolidated page: Index scores for each measure, for each province. You can see that the data is quite extensive, but this table shows the sum of it all.

Any questions?





DATA, NUMBERS AND FACTS- OH MY!

- Wide Variety of sources:
 - Canadian Community Health Survey
 - Survey of Household Spending
 - CIHI Health Indicators 2010
 - CIHI Analysis in Brief: Wait Times
 - Nation Physician Survey (RCPSC/CMA/CFPC)
- What are we missing?





ACCESS (18)

Primary, Acute, and Support/Specialty Components

- Had contact with a Dr in 12 months
- Has a regular MD
- Influenza Immunization
- GP/100,000
- Has a place to go when sick
- Flu shot in the past 12 months
- Report difficulties in accessing ongoing care

- Report difficulties in
 accessing immediate
 care
- GP/Physician with extended hours
- Contact with Dental Professional in past 12 months
- Household expenditure on drugs/medication
- Wait times: (Surgery, Hip, Knee, Cataract, Bypass, Radiation Therapy)

- Access to Psychiatrist
- Wait times for MRI/CT scan
- Patients with access to long term care beds
- Wait time for specialists (New condition)





APPROPRIATENESS (11)

- Primary and Acute Components
- Pap smear within 3 yrs
- Mammogram within 2 yrs
- Breastfeeding Initiation
- Colorectal Cancer screening within 5yrs
- Age standardized screening of adults with 1+ chronic conditions (blood pressure, cholesterol, blood sugar, body weight)
- Hysterectomies per 100,000
- Proportion of C-sections
- Cardiac revascularization per 100,000





EFFECTIVENESS (13)

- Primary, Acute, and Support/Specialty Components
- Diagnosed with high blood pressure
- Patient Satisfaction: Physician
- Direct Patient Care (with teaching component)
- Low birth weight
- Risk adjusted rate of re-admission (AMI, asthma, prostectomy, hysterectomy)
- Risk adjusted in-hospital incidence (AMI mortality, hip fracture, stroke mortality)
- Patient Satisfaction: Hospital
- Five year cancer survival rates
- Self harm rates
- Re-admission of mental health issues





EFFICIENCY (6)

Primary, Acute, and Support/Specialty Components

- Hospitalization of Ambulatory Care Sensitive Conditions (ACSC)
- Contact of Health Line in 1 yr
- Hospitalizations related to Alternate Level of Care
- Average Length of Stay
- Number of CT scans
- Number of MRI scans





Weighing and Data - Composites

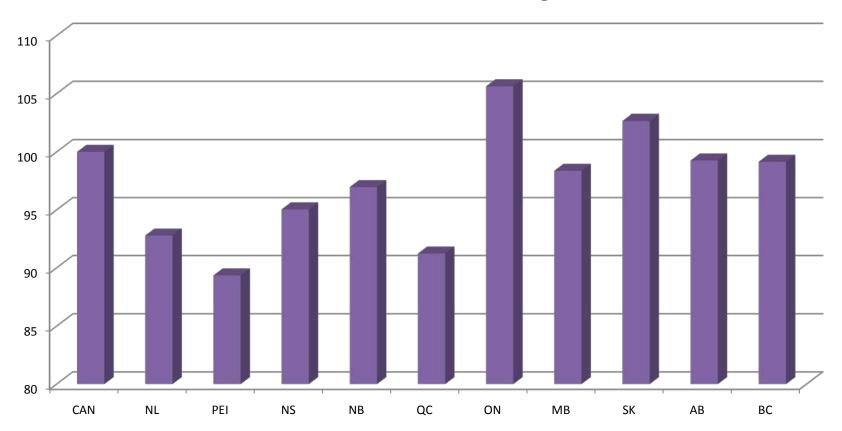
- All measures equal in category
- Composite Average for overall evaluation
- Are these indicators equal?
- Which values matter more?
- Are the values always appropriate? (Is more always better etc.)





How'd They Do?

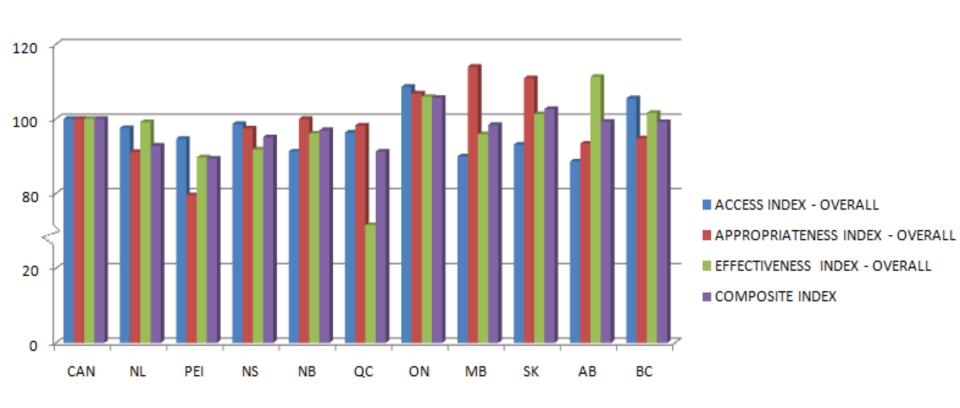
Overall Provincial Ranking







How'd They Do?







How'd they do?

- Clear Winner: ONTARIO
- Leaders: The West
- Laggers: Maritimes and Quebec
- Shortage of data QC
- Does it count?
- What can be learned?
- Love to include Territories No data!!







Discussion

- 1. **YOU** are the data librarians what do you think?
- 2. Regions / Groups (58 regions, 3 groups)
 - Many reported regions ≠ new regional boundaries
- Indicators (19, quality access satisfaction)
 - Which to drop & why; what can be added?
 - Health status / outcomes: locus of control?
- 4. Weighting / importance of indicators
 - ACSC hospitalization: importance; control
 - HSMR: Controversy, transparency, valid?

Have you got 15 minutes to chat, and 3 minutes for a one-page feedback sheet?

