Health Quality Transformation 2014

Partnering to accelerate best care, best health, best value

Putting Data in the Hands of Providers:

Using Personalized Reports to Fuel Quality Care

Presenter Disclosure

- **Presenters:** Mark Dobrow, Nancy Lefebre, Sharon Straus, Tim Jackson, Michelle Greiver

- **Relationships with commercial interests: None**

  - Grants/Research support
  - Speakers Bureau/Honoraria
  - Consulting fees
  - Other

Disclosure of Commercial Support

- This session has received no commercial support

Mitigating Potential Bias

- Not applicable

Learning Objectives

1. Learn how providers from all sectors are leveraging data to inform quality improvement initiatives in order to improve outcomes

2. Discover how personalized reports can be optimized to improve their usability and increase their impact on quality of care

Welcome and Speaker Introductions

- Dr. Mark Dobrow – Health Quality Ontario
- Ms. Nancy Lefebre – Saint Elizabeth Health Care
- Dr. Sharon Straus – Li Ka Shing Knowledge Institute
- Dr. Tim Jackson – University Health Network
- Dr. Michelle Greiver – North York Family Health Team

HQO Personalized Reporting Activities

- *Primary Care Practice Report: over 275 physicians have signed up since April 2014*
  - Joint HQO/ ICES effort in partnership with the Association of Family Health Team Organizations and Ontario College of Family Physicians
  - Re-design of the report to better reflect evidence (e.g., more guidance on guidance) and the needs of physicians currently underway

- Exploration of other personalized report topic areas underway

Primary Care Practice Report Content

- 8 semi-annual data points
- Physician report containing
  - Physician
  - Group
  - LHIN
  - Province
- Group report containing
  - Group
  - LHIN
  - Province
- 12 demographic indicators
- 16 health service utilization indicators
- 13 chronic disease prevention and management indicators

To consent, go to:
http://www.hqontario.ca/pcreport

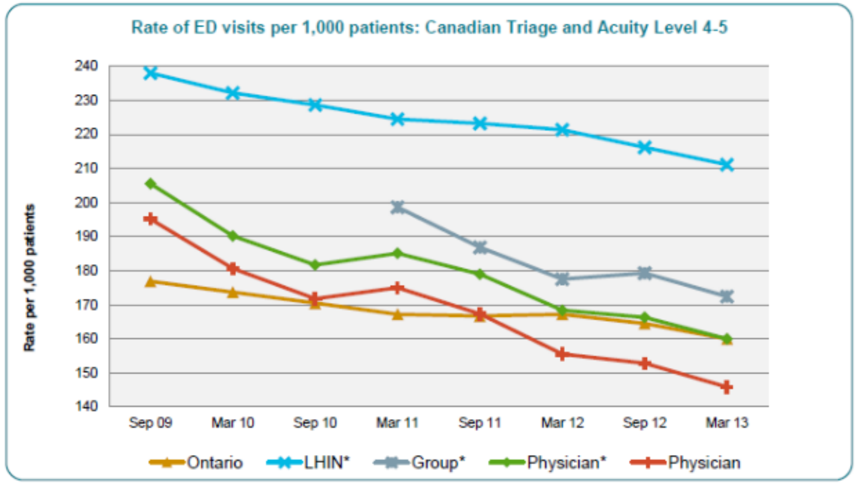
Rate of ED visits per 1,000 patients: Canadian Triage and Acuity Level 4-5

This graph and accompanying table show the rate of ED visits measured as level 4 or 5 on the Canadian Triage and Acuity Scale (CTAS)[8] per 1,000 patients by the physician (unadjusted and adjusted), the group (adjusted), LHIN (adjusted) and the province during the previous year. The table also shows in brackets the number of times your patients visited the ED as level 4 or 5 on CTAS.

CTAS level:

CTAS level 4	Less urgent	Conditions that related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within 1 –2 hours.
CTAS level 5	Non-urgent	Conditions that may be acute but non-urgent as well as conditions which may be part of a chronic problem with or without evidence of deterioration. The investigation or interventions for some of these illnesses or injuries could be delayed or even referred to other area of the hospital or health care system.

ED visits were calculated from the NACRS database. Age, sex and morbidity were used to calculate adjusted rates. Compare the rates of your patients to those of your group, LHIN and the province.



Reporting Period	Sep 09	Mar 10	Sep 10	Mar 11	Sep 11	Mar 12	Sep 12	Mar 13
Physician	195.2 (323)	180.7 (298)	171.8 (283)	175.0 (284)	167.3 (270)	155.5 (249)	152.8 (243)	145.9 (230)
Physician*	205.6 (323)	190.2 (298)	181.7 (283)	185.1 (284)	179.0 (270)	168.4 (249)	166.3 (243)	160.0 (230)
Group*	N/A	N/A	GDS	198.6 (4,925)	186.9 (4,441)	177.5 (4,247)	179.3 (4,338)	172.4 (4,300)
LHIN*	238.0 (212,640)	232.2 (206,659)	228.6 (204,511)	224.5 (202,099)	223.2 (201,596)	221.3 (199,952)	216.2 (196,049)	211.1 (189,736)
Ontario	176.9 (2,308,007)	173.7 (2,268,659)	170.5 (2,232,219)	167.2 (2,200,564)	166.7 (2,199,574)	167.2 (2,206,829)	164.5 (2,188,423)	160.0 (2,129,536)

*Adjusted for age, sex, and morbidity
GDS=data suppressed; physician group size <6
N/A=data not available

Evidence Overview on Audit and Feedback

- Good evidence that audit and feedback is an effective intervention[1], especially if:
  - Feedback comes from supervisor or respected colleague
  - Feedback is provided frequently (i.e., weekly better than monthly, better than quarterly…
  - Action plan and measurement target are provided
  - Aim is to decrease behavior
  - Baseline performance is lower

[1] Ivers et al., “Growing Literature, Stagnant Science? Systematic Review, Meta-Regression and Cumulative Analysis of Audit and Feedback Interventions in Health Care.”

Context

- Lessons from one sector may apply to others

- Many quality improvement initiatives in Ontario
  - Personalized reporting one additional support

- Many organizations are active in personalized reporting

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Accessing and using data to improve care in Family Health Teams

Michelle Greiver, MD CCFP
North York Family Health Team

EMRs in primary care

- EMRs are now used by the majority of primary care physicians.
- $$$ and time spend on subsidizing, buying, implementing, certifying EMRs.

- Evidence that this has **made difference in care or outcomes** for patients?
- Meaningful use of EMRs or of EMR data?
- **Measurement and use of information** in primary care teams?

EMR vs paper charts: MSc thesis

- Was there a **difference** in the change in **preventive services** targeted by Ontario's P4P incentives between community-based family physicians **implementing EMRs** and those using paper-based records?

- 0.7% less increase in services in EMR group (p=0.55, 95% CI -2.8 , 3.9)

- **NO difference between EMR and paper**

Greiver M, Barnsley J, Glazier RH, Moineddin R, Harvey BJ. Implementation of electronic medical records: effect on the provision of preventive services in a pay-for-performance environment. *Canadian Family Physician* 2011

Changes in primary care

- **Before year 2000**:
  - Mainly **solo** family doctors
  - Earnings largely from **Fee for service**
  - **Paper** based
- **Today**:
  - Organized in **groups**
  - Significant proportion of earnings from **Capitation** (a set fee for each patient enrolled in the practice)
  - Over 80% on **EMR**
  - 25% interprofessional Family Health Teams (FHTs)

North York FHT

- 71 physicians
- 40 Allied Health Providers
- Over 220 EMR users
- **70,000 patients**

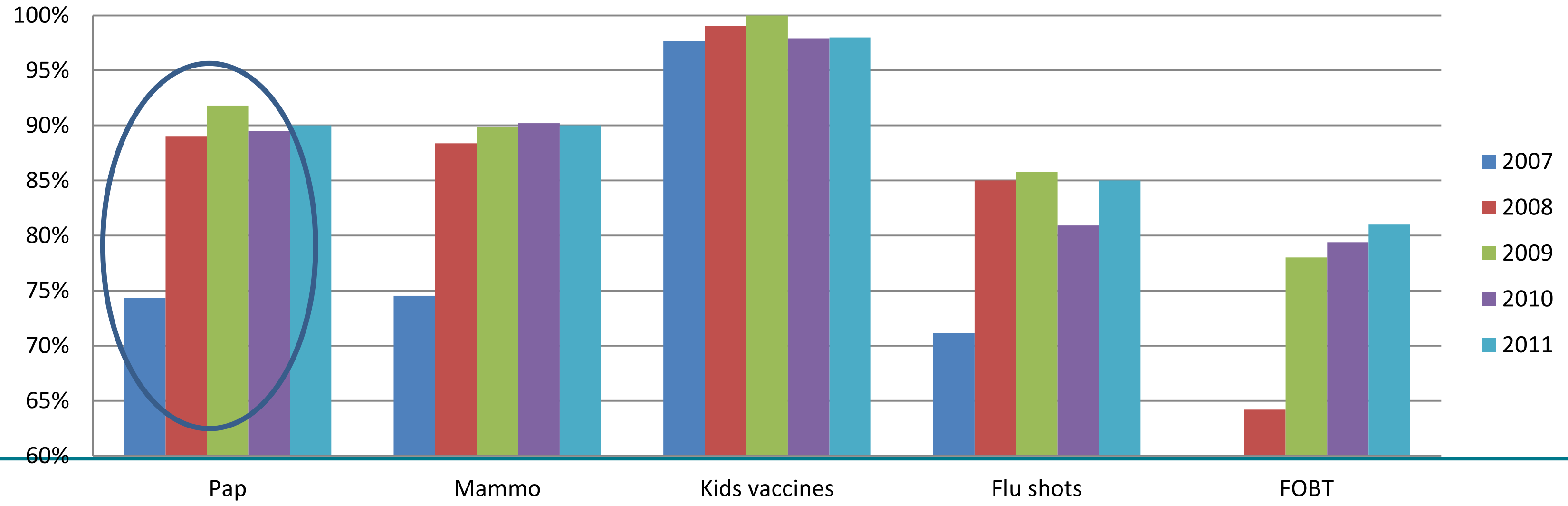
- **Individual** cases of Excellent Care in some practices, BUT:

  Nearly every physician had **their own way** of entering data and doing things:
  - **No consistent reminders or alerts** across many offices;
  - Very **difficult to build disease registries** (example, diabetes).

- Allied Health Providers had to learn **different** ways of **doing the same thing:**
  - Difficult to plan consistent programs or implement consistent approaches to care.

From Individuals to Teams

- QI traditionally targeted at **individual physician**.
- Need **Team-based standardized data and processes** to obtain larger, systematic, sustained improvement.
- Six sigma: **minimize variability, improve processes**



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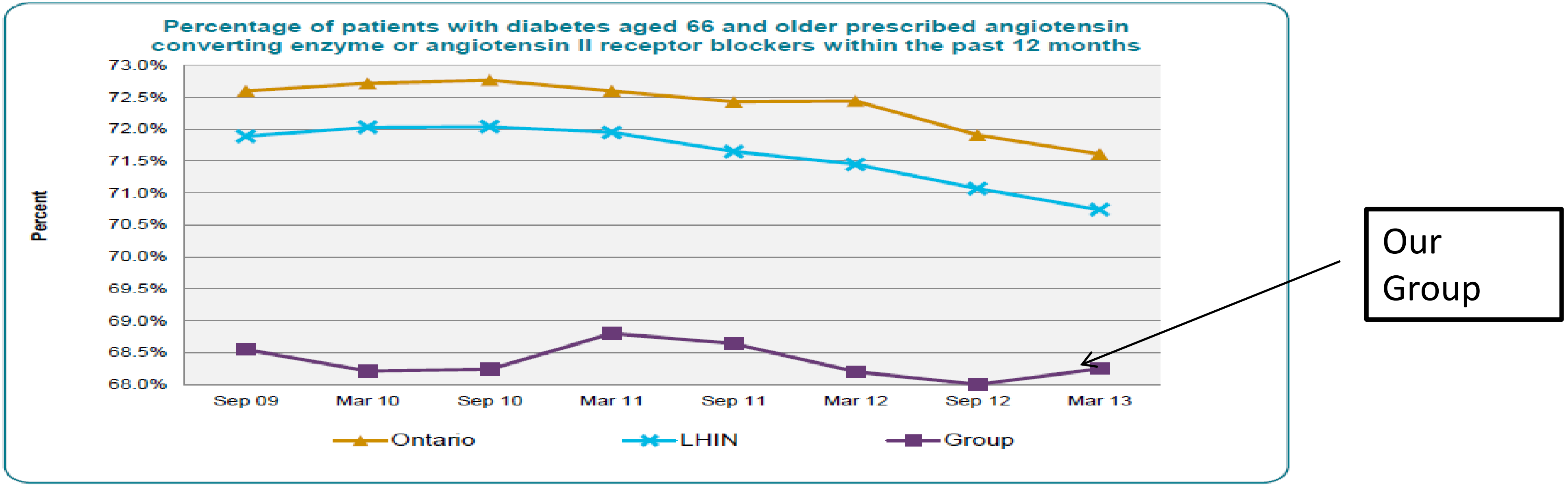
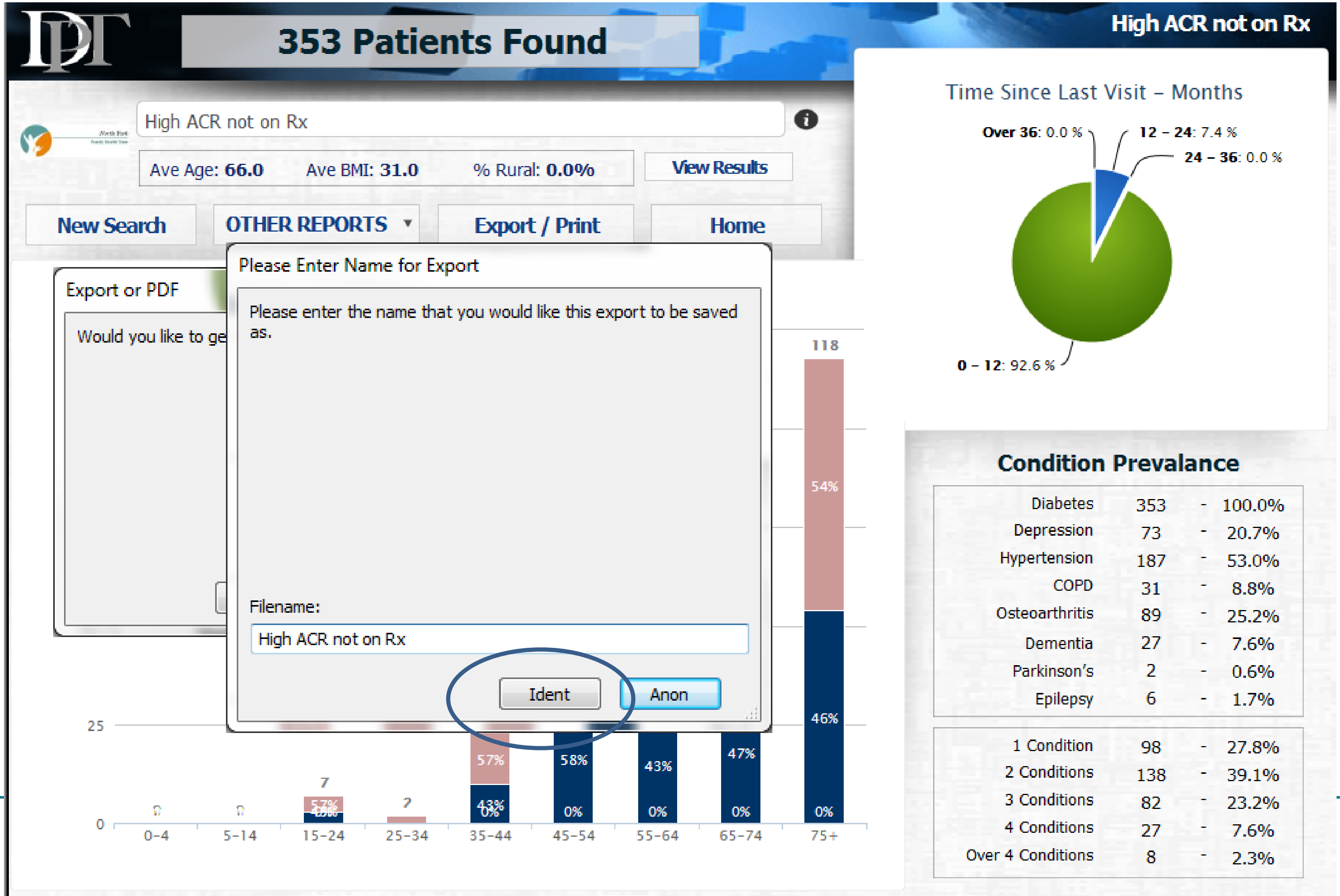
Using data from HQO's personalized reporting

- "Our Group's Diabetics get less ACEIs or ARBs than others in LHIN or province; can we do something about this?"



Reporting Period	Sep 09	Mar 10	Sep 10	Mar 11	Sep 11	Mar 12	Sep 12	Mar 13
Group	68.55% (460)	68.21% (382)	68.24% (391)	68.80% (397)	68.64% (405)	68.20% (401)	68.00% (425)	68.25% (460)
LHIN	71.89% (37,480)	72.03% (38,366)	72.04% (40,095)	71.95% (41,915)	71.65% (43,514)	71.45% (45,093)	71.07% (46,636)	70.74% (48,078)
Ontario	72.60% (292,018)	72.72% (302,256)	72.77% (312,954)	72.60% (323,073)	72.43% (333,897)	72.44% (344,868)	71.91% (356,596)	71.61% (366,496)

From **contemplation to action**: DPT



Return the data to physicians

- "We found that 33% of diabetics in our Team with high ACR may **not be on appropriate medications**"
- We will return your list to you; **you know your patients** best
- Please indicate which patients need the Rx
- Please return the list to our **Team's Data Manager**
- We will add alerts to EMR for all those patients: "High ACR, discuss ACEI / ARB"
- **Change being measured now**

Published in Canadian Family Physician

"**Team-based data**, combined with the thoughtful use of **evidence**, can be used to inform **population-based clinical care**, monitor **quality improvement** efforts, and **plan programs** in primary care using **standards agreed upon** by the team."

Greiver M, Wintemute K, Griffis S, Moeinedin M. Using evidence for the care of practice team populations. Can Fam Physician 2014

Team based Improvement

- **Start where you are**
  - Use HQO reports to identify areas for improvement for your Team
  - Contemplation
- **Use what you have**
  - Return of cleaned data, data mining tools like DPT and Team Analytics
  - Preparation
- **Do what you can**
  - Standardize and improve what is possible for you using tools at hand
  - Action

Using Data to Drive Quality Improvement in Surgery

Timothy Jackson BSc, MD, MPH, FRCSC, FACS
University Health Network, Toronto

Presenter Disclosure

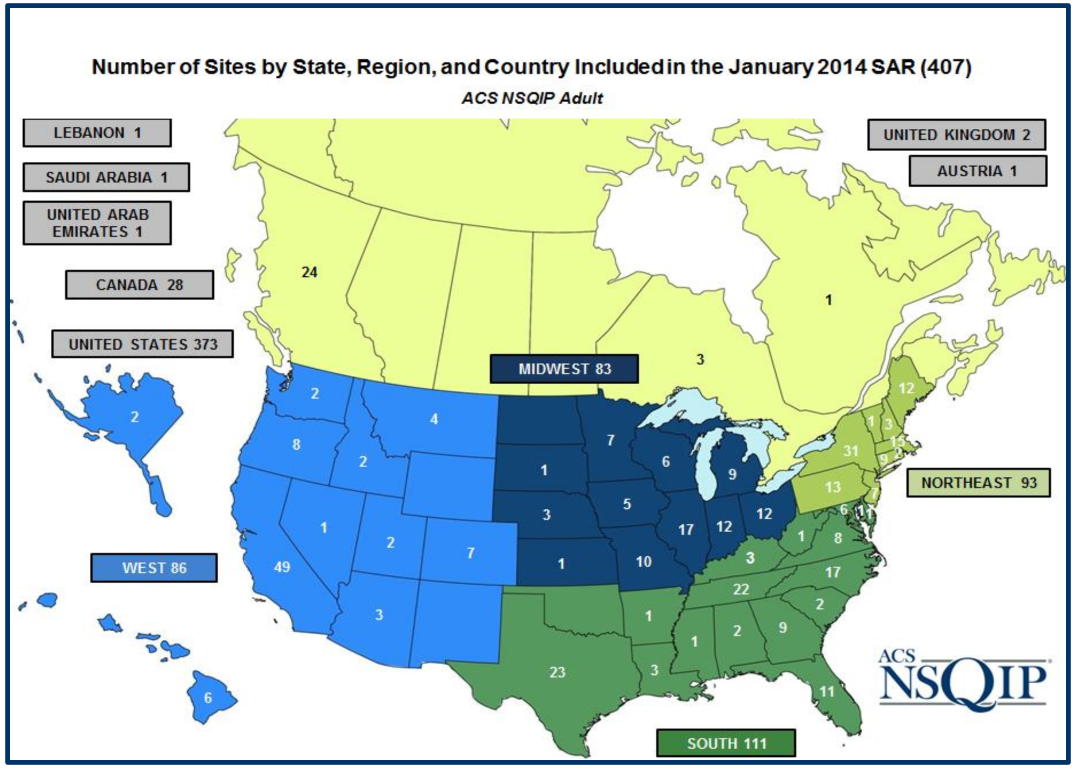
- **Presenter: Timothy Jackson**

- **Relationships with commercial interests: None**

What is the National Surgery Quality Improvement Program (NSQIP)?

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

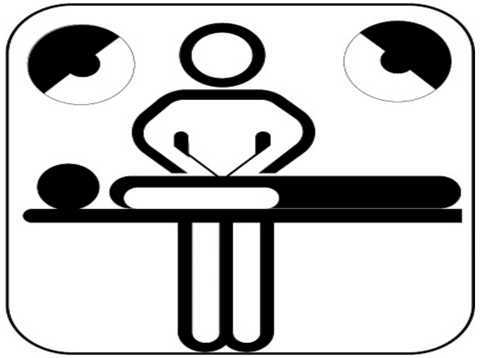
- <u>Benefits include</u>:
  - Improved patient care and outcomes
  - Decreased healthcare costs



Getting Started…. Get Good Data

Data is a Quality Diagnostic Tool

Good Data: Allows for meaningful comparisons of surgical outcomes



Different:

Hospitals,

Patients,

Surgeries

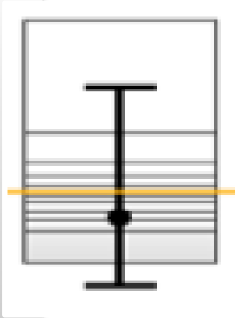
Statistical Model

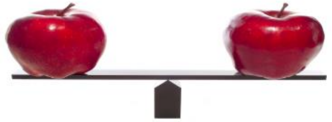
- Risk Adjustment for patient and case mix
- Shrinkage Adjustment

Site Level

Quality

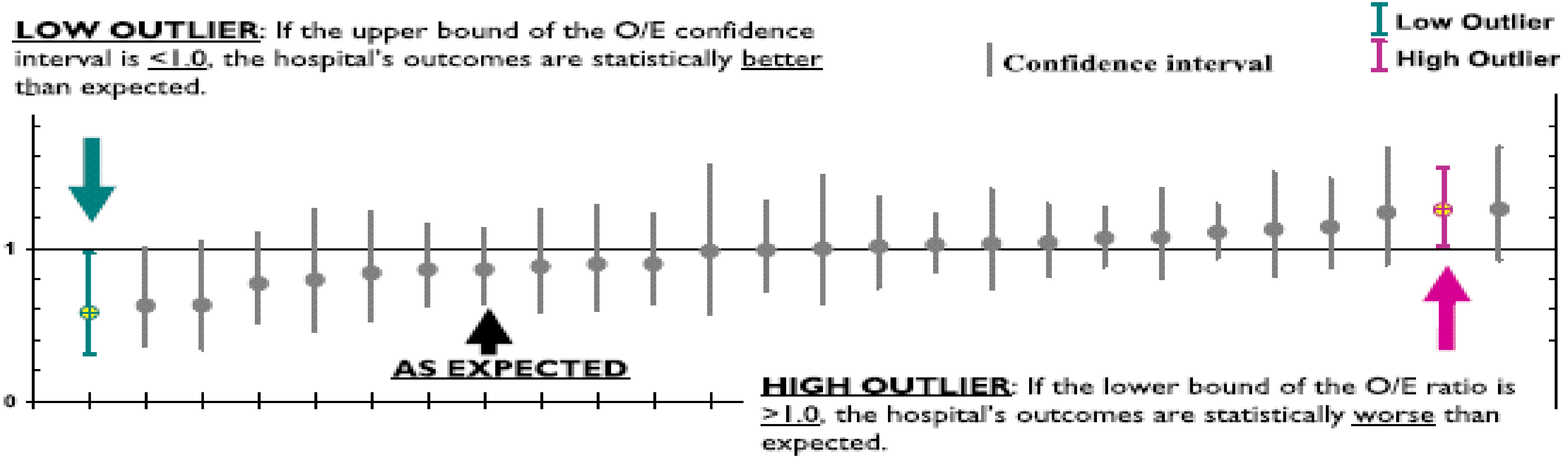
Metrics





Define the Problem… know how you are performing

Benchmarking → High quality data allows for risk adjustment and comparison of observed-to-expected (O/E) ratios for each hospital:



Benchmarking can identify areas for targeted quality improvement

Continuous Quality Improvement

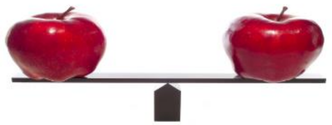
Targeted Quality Improvement

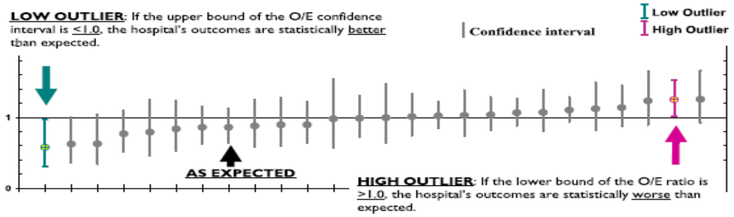
Collection of High Quality Data

Risk Adjustment

Benchmarking to other Hospitals

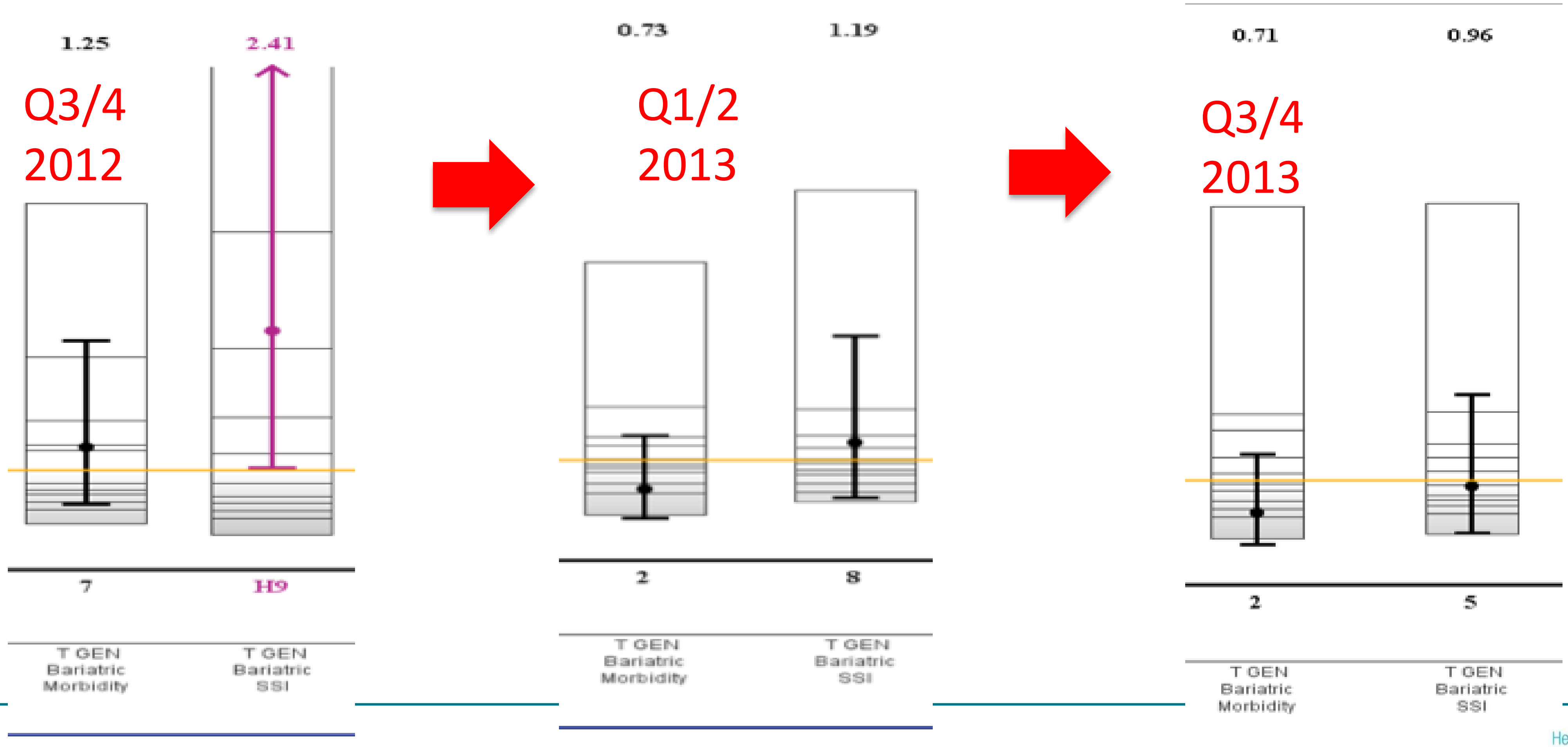
Feedback/Action





Designing and Testing Change… “Continuous QI”

Measurable Improvements in Care: Bariatric Morbidity & SSI:



Custom Cost Reports: Applying Behavioral Economics to Cost Containment

Reporting Parameters

Thresholds

Green: less than group average

Black: equal to group average

Yellow: up to 5% greater

Red: up to 10% greater

Frequency

Every 2 weeks

Mechanism

Receipt-tracked email message

Surgeon Cost Report Card 01-Jan-14 to 31-Mar-14

Hello Dr. X,

Here's how you performed between January-01-14 and March-31-14:

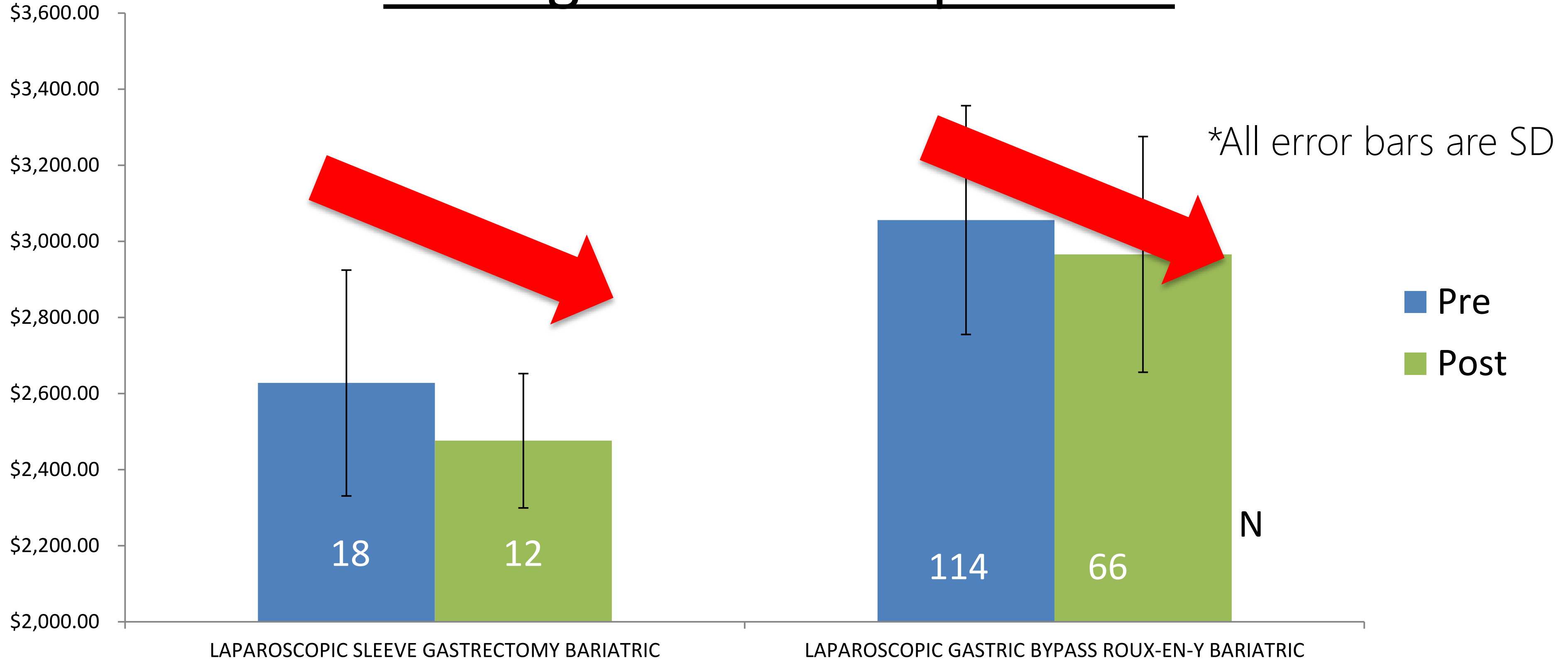
LAP GASTRIC BYPASS ROUX-EN-Y BARIATRIC
GROUP BEST: $2609.98 (Dr. Y)

Your Average	Group Average
$3296.09	**$3070.93**
(N = 18)	(N = 75)

COST (N)	TYPE	(N) COST
1755.91 (7.3)	STAPLER RELOADS	(7.3) 1718.28
679.17 (1.0)	SHEARS	(0.2) 163.00
343.13 (11.3)	SUTURES	(11.3) 97.39
207.97 (1.0)	STAPLERS	(1.0) 202.23
193.92 (2.0)	TROCARS	(2.7) 256.89
95.50 (34.1)	MISC	(36.2) 100.21
5.42 (1.1)	CLIPS	(2.0) 24.99
0.00 (0.0)	LIGATION DEVICES	(0.8) 481.20

Surgeon Cost Reports:
Data Driven Cost Containment

Average Cost Per Operation



Summary – Lesson Learned

1. Surgical quality is measureable

2. High quality data that provides meaningful, timely, actionable information can be used to improve surgical care.

3. Data driven QI represents a “Triple Win”
   – Patients → decrease complications
   – Providers → opportunity to improve care
   – Payers → potential to reduce cost

4. An opportunity to prepare for and inform future health policy

Fueling Quality Care
Putting Data in the Hands of Home Care Clinicians

Nancy Lefebre
Chief Clinical Executive
SVP, Knowledge and Practice
Saint Elizabeth

0ver 8000 staff
18,000 visits per day
40,000 km’s travelled

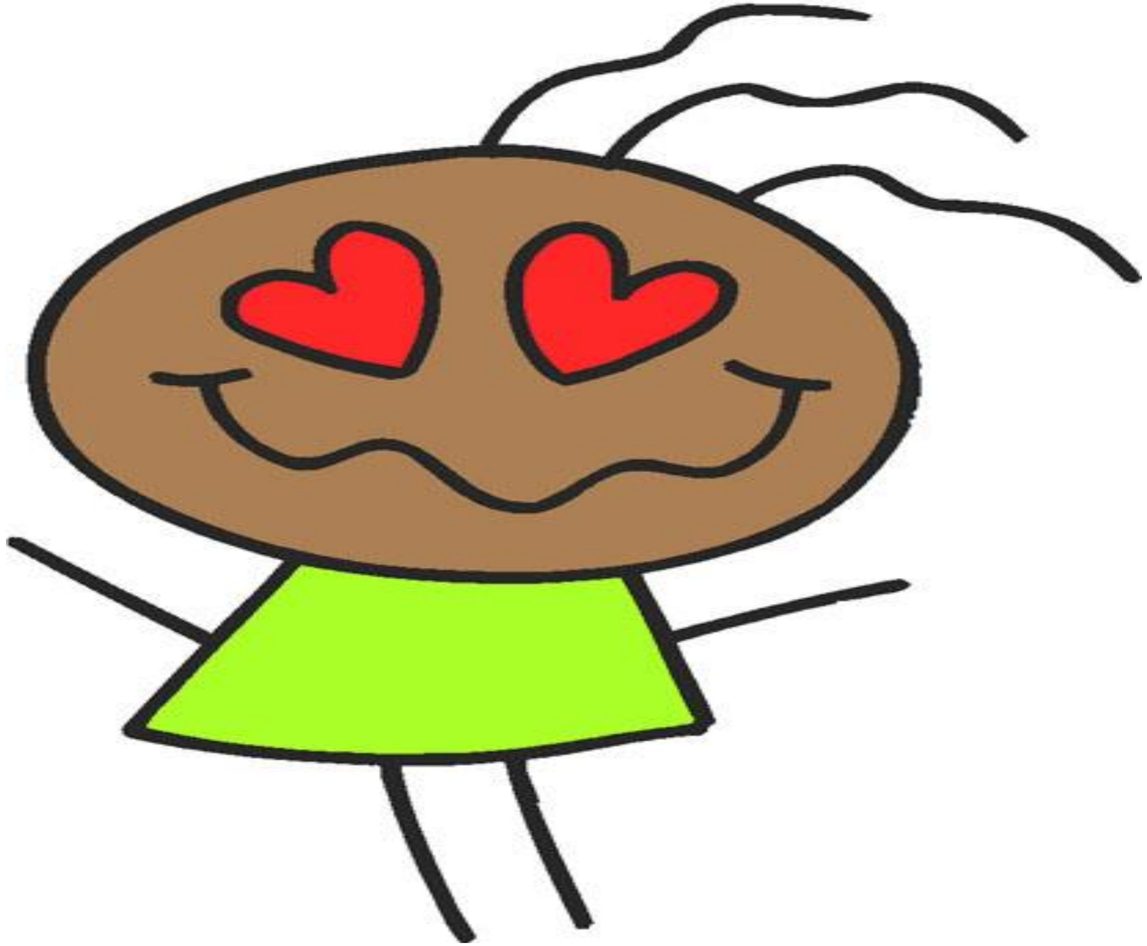
Responding to the Context

Built on Strengths

Incorporated Technology

Cannot Lead with Data

Infatuated with Data



Cannot Lead with Data

Wedded to Uptake

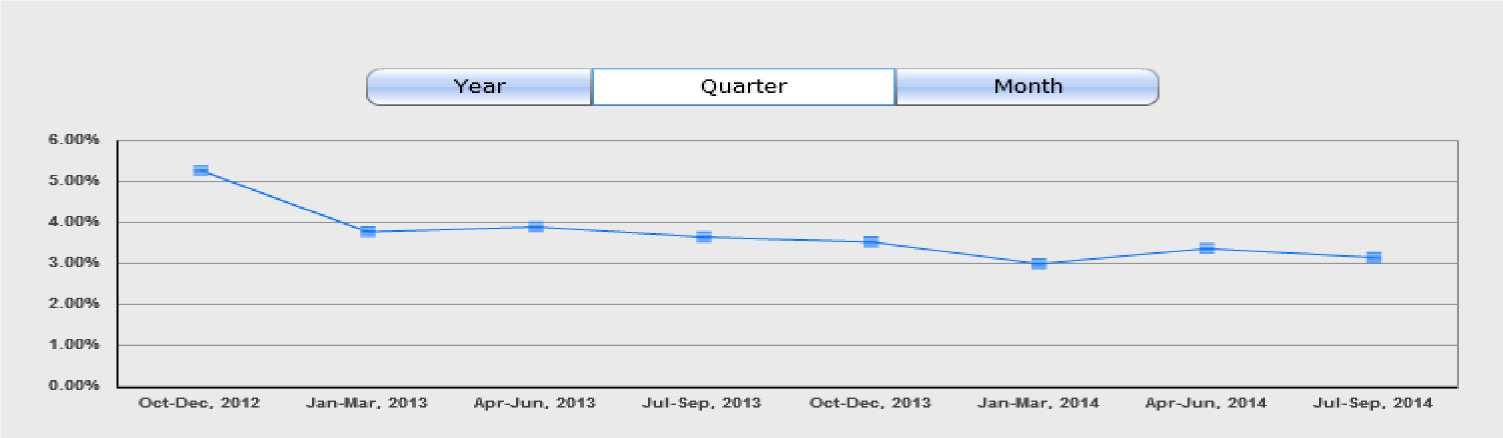
"The Power of One"

How is Data Used?

- Presented at the right level for our various stakeholders
  - at the client level for front line practitioners to allow them to action individual care plans to improve outcomes
  - Summary data is provided to our mid and senior leadership teams to understand outcomes at the aggregate and better understand how programs of improvement can be created to benefit as needed

Data is Trended

Data presented within our dashboards allows the viewer to look at key measures trended over different timeframes



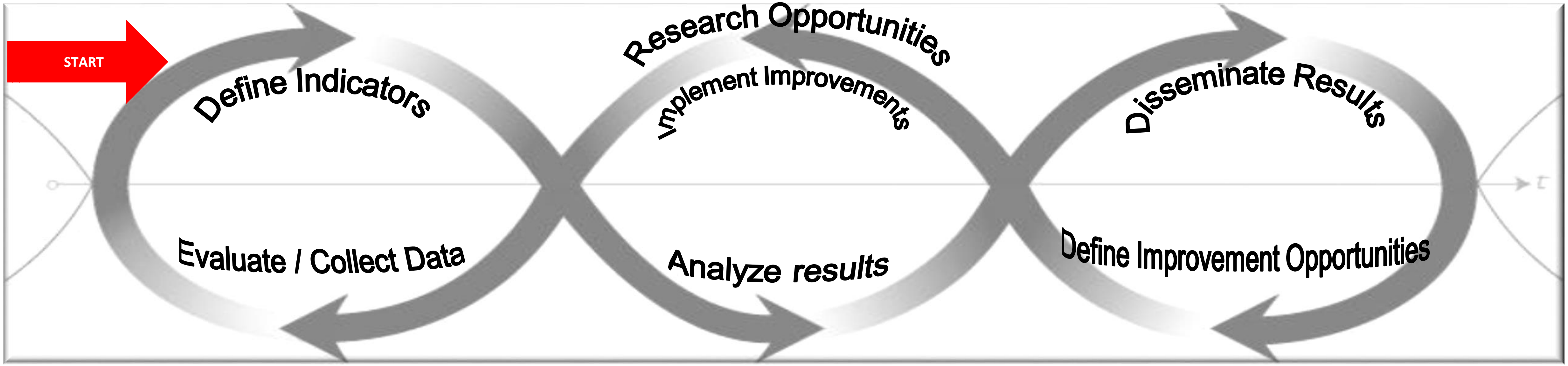
Data is Presented in Context: The Clinical Matrix

- To better understand outcomes like wound healing, it is viewed within the context of associated data such as:
    - Visit frequency
    - Pain management
    - Overall client satisfaction
    - LOS
    - Hand washing (client perception)
    - Risks / Occurrences

Embedding the process for sustainability

- It takes a village to raise a child……

Quality Process



Key Learnings

- Importance of Understanding the Context
- You cannot lead with data
- The Power of One
- It takes a Village

Thank you!

Nancy Lefebre

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Sharon Straus

Director, Knowledge Translation Program

St. Michael's

Inspired Care. Inspiring Science.

Summary

Tentative 'Best Practices' for A and F

Audit components	Data are valid
	Data is based on recent performance
	Data are about the individual/team's own behavior(s)
	Audit cycles are repeated, with new data presented over time
Feedback components	Presentation is multi-modal including either text and talking or text and graphical materials
	Delivery comes from a trusted source
	Feedback includes comparison data with relevant others
Nature of the behaviour change required	Targeted behavior is likely to be amenable to feedback
	Recipients are capable and responsible for improvement
Targets, goals, and action plan	The target performance is provided
	Goals set for the target behaviour are aligned with personal and organizational priorities
	Goals for target behaviour are specific, measurable, achievable, relevant, time-bound
	A clear action plan is provided when discrepancies are evident

Ivers et al Impl Sci 2014;9:14

Feedback components: Is there an actionable message?

- Lack of knowledge isn’t the most significant barrier to implementation
- Message should include how the advice should be prioritized

Lack of knowledge is not the most significant barrier to KT

- Systematic review of barriers to guideline implementation by physicians
  - 76 trials
  - 293 barriers
    - Including:
      - Lack of awareness of the guideline,
      - Lack of awareness of the recommendations,
      - Lack of agreement with the recommendations
      - Lack of belief that can implement recommendations
      - Presence of external barriers
        - JAMA 1999;282:1458-65

Lack of knowledge is not the most significant barrier

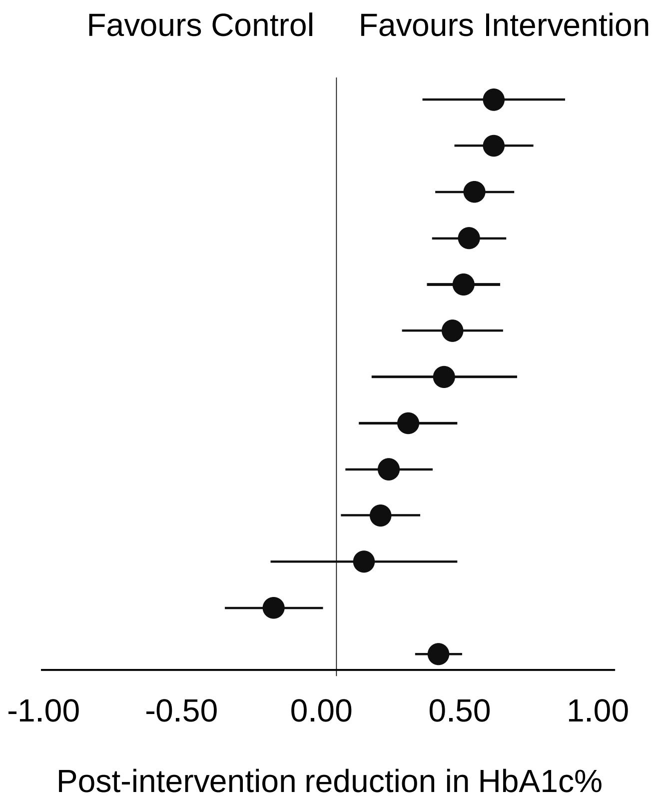
- Providing preventative services to a typical roster of patients would require 7.4 hours per working day
  - 3.5 hours per day required to manage top 10 chronic diseases in primary care
    - » Ann Fam Phys 2005;3:209-14
- Implementing the top 8 chronic disease guidelines in Canada would take more than 266 days to implement
    - » Kerr et al. CGS 2013,

Recipient for intervention: Clinicians should not be the only target

- To examine the influence of KT/QI interventions on the following:
  - glycemic control
  - vascular risk factor management
  - microvascular complication monitoring
  - smoking cessation
  - harms
    - » Tricco et al. Lancet 2012; 379:2252-61

Results: Glycemic - HbA1c meta-analysis

Quality Improvement Strategy	# RCTs	MD	95% CI	
Promotion of Self-management	60	0.57	0.31	0.83
Team Changes	48	0.57	0.42	0.71
Case Management	57	0.50	0.36	0.65
Patient Education	52	0.48	0.34	0.61
Facilitated Relay	32	0.46	0.33	0.60
Electronic Patient Register	27	0.42	0.24	0.61
Patient Reminders	21	0.39	0.12	0.65
Audit and Feedback	8	0.26	0.08	0.44
Clinician Education	15	0.19	0.03	0.35
Clinician Reminders	18	0.16	0.02	0.31
Financial Incentives	1	0.10	-0.24	0.44
Continuous Quality Improvements	2	-0.23	-0.41	-0.05
All Interventions	**120**	**0.37**	**0.28**	**0.45**



★ PLUS health systems/provider intervention

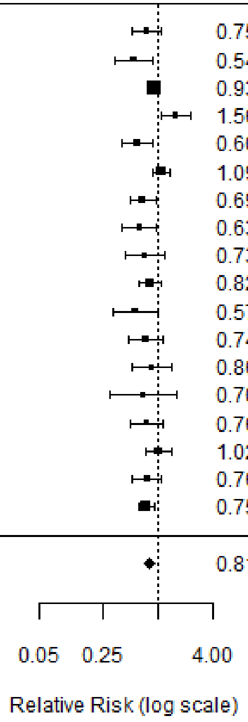
Tricco et al. Lancet 2012; 379:2252-61

Interpretation – HbA1c meta-regression

- All categories of QI/KT interventions appeared effective but larger effects observed for:
  - Team changes
  - Facilitated relay
  - Promotion of self management
  - Case management
  - Patient education
  - Electronic patient register
  - Patient reminders

Frequent Users of the Health Care System

Author(s) and Year	Treatment (n)	Control (n)	Relative Risk [95% CI]
Beck 1997	160	161	0.75 [0.51 , 1.09]
Botha 2014	32	24	0.54 [0.34 , 0.87]
Burns 1999	353	355	0.93 [0.82 , 1.04]
Franklin 1987	213	204	1.56 [1.10 , 2.23]
Lafave 1996	24	41	0.60 [0.41 , 0.88]
Puschner 2011	241	250	1.09 [0.89 , 1.33]
Rich 1995	142	140	0.69 [0.50 , 0.95]
Salkever 1999	91	53	0.63 [0.41 , 0.96]
Rich 1993	63	35	0.73 [0.44 , 1.20]
Kasper 2002	102	98	0.82 [0.62 , 1.08]
Courtney 2009	49	58	0.57 [0.33 , 0.98]
Castro 2003	50	46	0.74 [0.48 , 1.13]
Burns 2014	110	313	0.86 [0.53 , 1.42]
Koehler 2009	20	21	0.70 [0.30 , 1.61]
Ruchlewska	70	73	0.76 [0.50 , 1.14]
Laramee	131	125	1.02 [0.74 , 1.40]
Stewart	49	48	0.76 [0.53 , 1.08]
Lichtenberg 2008	122	95	0.75 [0.62 , 0.90]
RE Model			0.81 [0.72 , 0.91]



Consideration of sustainability of the intervention shouldn't be left until the end

- Systematic review of the diffusion of innovations in health services organizations noted that only two of 1000 sources screened mentioned the term sustainability
  - » Greenhalgh T et al. A systematic literature review. Blackwell Publishing, BMJ Books, 2005

Discussion and Q&A

Vision for the Road Ahead…

- Continue to strengthen knowledge exchange and translation/ quality improvement supports for personalized reports

- Streamline personalized reports across the province to ease access to information, whenever reasonable

- Develop an online ecosystem for personalized reports (e.g., standard dashboards with ability for users to customize reports)

- Inclusion of non-administrative data (EMR, patient experience) into reports