Can Quality Improvement Initiatives Improve Diabetes Care:

The Partnerships For Health Project

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Canadian Diabetes Association - Chair in Diabetes Management
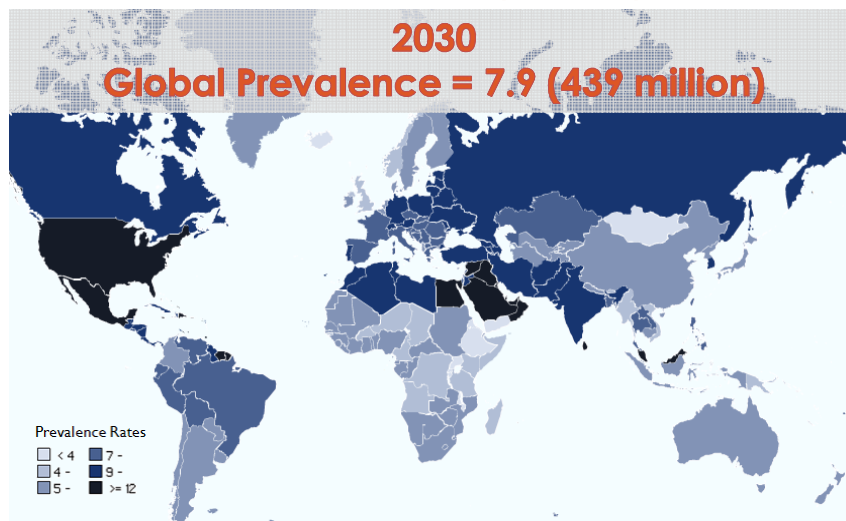Ian McWhinney Chair of Family Medicine Studies

Western

Schulich
MEDICINE & DENTISTRY

October 20, 2011

Diabetes Worldwide Epidemic:
GLOBAL PROPORTION OF PEOPLE WITH DIABETES (20-79 YEARS)

2030
Global Prevalence = 7.9 (439 million)

Prevalence Rates
< 4   7 -
4 -   9 -
5 -   >= 12

Source: IDF Diabetes Atlas 4th ed. © International Diabetes Federation, 2009

IDF. Available at: http://www.diabetes.atlas.org/content/diabetes-and-impaired-glucose-tolerance

Diabetes - strain on healthcare budgets

Canada:

- Currently cost ~ $12.2. billion
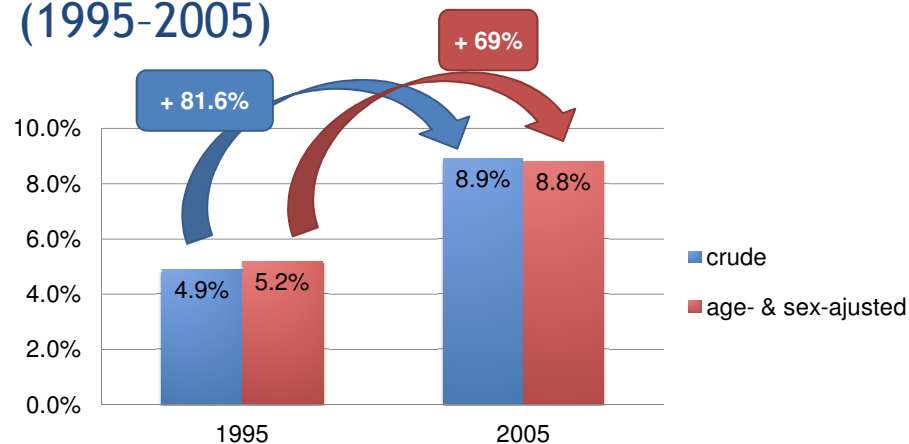
- By 2020 ~ $16.9 billion by 2020

United States

- In 2009 ~ $113 billion

- By 2034 ~ $336 billion

Global in 2025:
7 to 13% of total healthcare budget

1. *Costs of Diabetes*. International Diabetes Federation.
2. Canadian Diabetes Association. An economic tsunami, the cost of diabetes. 2009.
3. Huang ES, et al. *Diabetes Care*. 2009;32:2225-2229.

Prevalence of diabetes in Ontario (1995–2005)

+ 81.6%

+ 69%

- 10.0%
- 8.0%
- 6.0%
- 4.0%
- 2.0%
- 0.0%

8.9%   8.8%

4.9%   5.2%
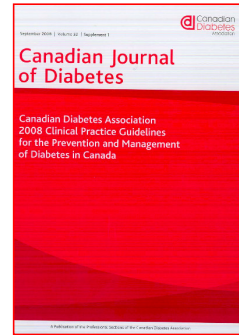
■ crude

■ age- & sex-ajusted

1995   2005

- The number of adults with diabetes increased by 113%, while the population grew by only 17%.
- This is a linear increase of a mean 6.2% per year.

Lipscombe LL, et al. *Lancet*. 2007;369:750–756.

CDA Response:

- Clinical Practice Guidelines published every 5 years (most recently in 2008)

- Best and most current evidence-based clinical practice data for healthcare professionals

Canadian Journal of Diabetes

Canadian Diabetes Association 2008 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada

http://www.diabetes.ca/for-professionals/resources/2008-cpg/

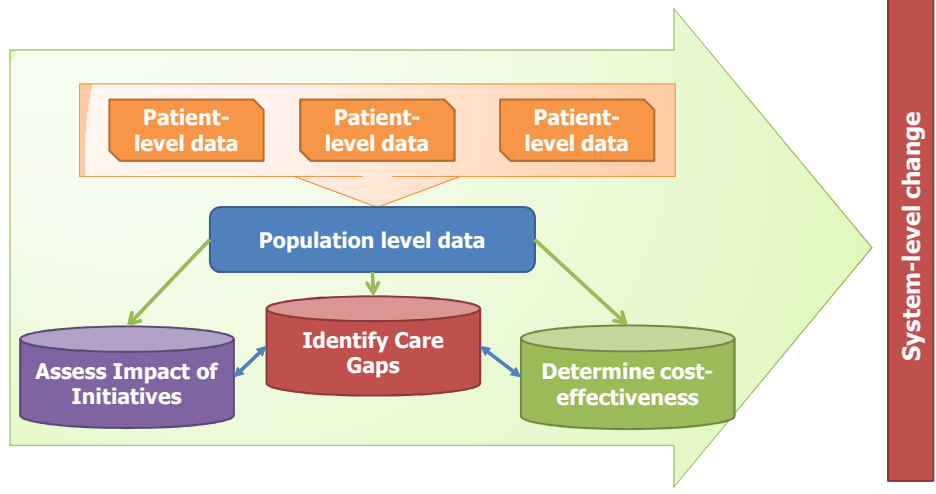## Health Care Policy Response

- Federal Level
  - National Diabetes Strategy
  - Primary care reform
- Provincial Level
  - Ontario Diabetes Strategy
  - Ontario Diabetes Registry
- Primary healthcare teams established to do:
  - health promotion/disease prevention/chronic diseases management

Canadian Diabetes Strategy
A National Partnership

http://www.phac-aspc.gc.ca/cd-mc/diabetes-diabete/index-eng.php

Role of EMR/Registry

- allow data tracking (surveillance) to inform system change

Improvement Initiatives, Research, Evaluation, Knowledge Translation

Partnerships for Health

A Chronic Disease Prevention and Management Initiative

Ontario
Health Quality Ontario

Quality Improvement & Innovation Partnership
Advancing Improvement in Primary Healthcare in Ontario

ICES Institute for Clinical Evaluative Sciences

Diabetes Surveillance Report 2009
Get the latest data

http://www.partnershipsforhealth.ca/
http://qiip.ca/
http://www.ohqc.ca/en/index.php
http://www.ices.on.ca/
http://www.phac-aspc.gc.ca/cd-mc/diabetes-diabete/index-eng.php

Partnerships for Health

## A Chronic Disease Prevention and Management Initiative

- Partnerships for Health (PFH) quality improvement initiative that aimed to improve the management of diabetes in primary care

- Implemented Jan 2008 to Jan 2011

- Made us of the CDPM framework, IHI-BTS methodology and the Model for Improvement

(Institute for Healthcare Improvement, 2003);
(Ministry of Health and Long-term Care, 2007);
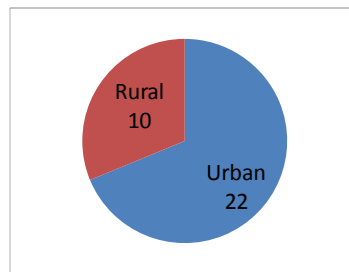Langley, 2009; Wagner, 2001

PFH Intervention

- Educational activities re:
  - Redesigning care processes
  - Applying the CPG in practice
  - Using a team approach (practice/community members)
  - Better us of Technology to establishing a QI mechanism (data tracking) and adhere to CPGs
  - Emphasizing patient self-management
- Supportive activities:
  - teleconferences, onsite coaching, web-based tools, and IT support/training
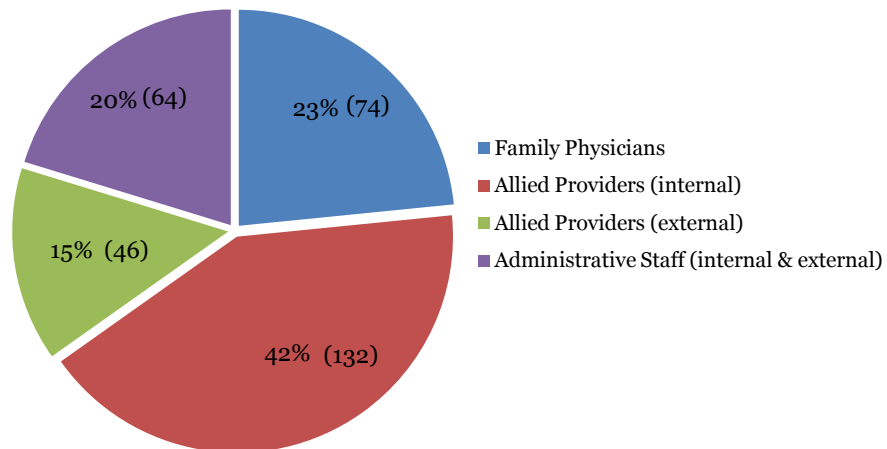
Participating Teams
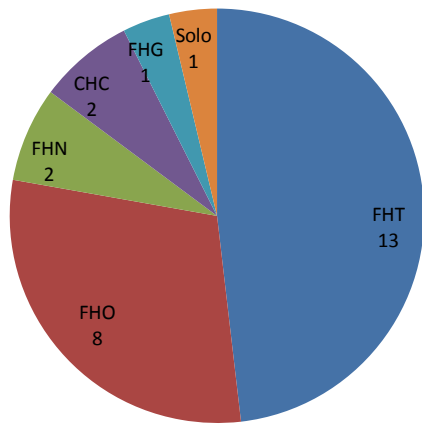
- 32 practices participated in 3 waves implemented in phases over 3 years

Participants by profession

- Family Physicians
- Allied Providers (internal)
- Allied Providers (external)
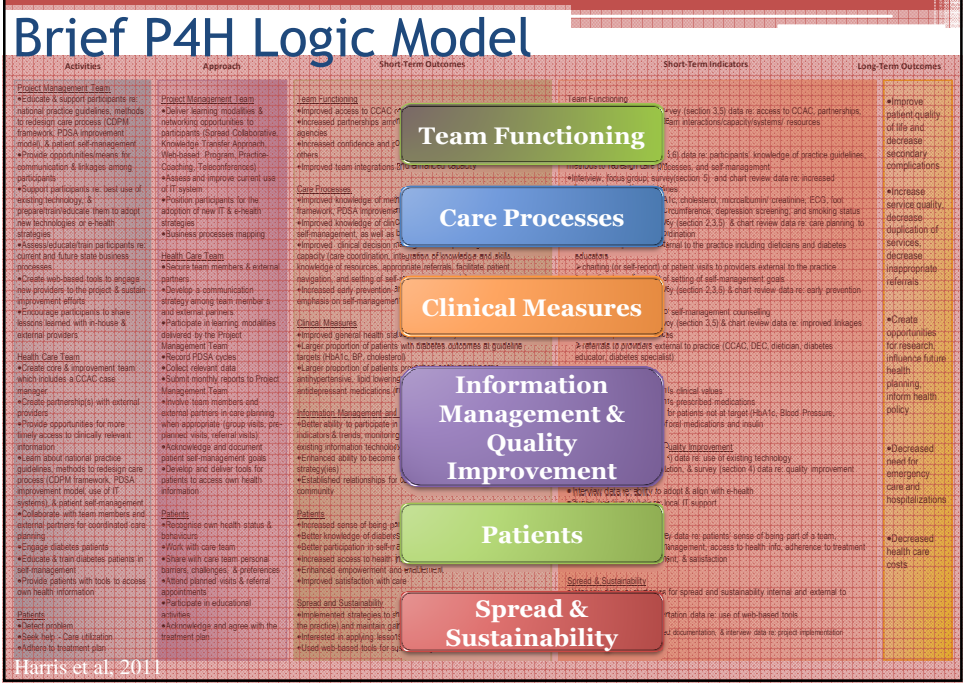- Administrative Staff (internal & external)

6

Evaluation

- Centre for Studies in Family Medicine at UWO was contracted to do an external mixed-method comprehensive evaluation of the project

- Examined if implementation & participation in project resulted in:

  - change in the delivery of chronic care (more aligned with the Ontario CDPM framework)

  - improved diabetes clinical process and outcome measures

Evaluation Framework

- Logic model approach to display links between program activities and anticipated outcomes, and to identify indicators for data collection

- Mixed-method, multi-measure, pre-post design
  - Participant observation & document review
  - Provider/admin surveys and individual interviews
  - Chart reviews
  - Patient surveys and focus groups

- Convergence triangulation of all data

(O'Cathain, Murphy, & Nicholl, 2010).

Brief P4H Logic Model

| Activities | Approach | Short-Term Outcomes | Short-Term Indicators | Long-Term Outcomes |

Team Functioning

Care Processes

Clinical Measures

Information Management & Quality Improvement

Patients

Spread & Sustainability

Harris et al, 2011

Samples and Return Rates

Chart Review
- 1660 sample size

Provider/Admin Survey
- 78% return rate

Patient Survey
- 69 % return rate

Interviews and Focus Groups
- 93 participant interviews
- 82 patients (15 groups)

Results

- The Intervention – What worked well?
- Team Functioning
- Care Processes
- Clinical Outcomes
- Information Management
- Patient Perspective
- Participant Perspective

The intervention:
What Worked Well & Had the Most Impact?

- Formal offsite learning sessions separated by short action period (3-4 months)

- Networking opportunity within teams and with other participating teams

- Ongoing IT support to establish QI mechanism in both EMR and paper-based practices

The intervention:
What Worked Well & Had the Most Impact?

- Practice coaching:
  - Ongoing hands-on support and motivation
  - Sharing of trials and errors of other teams
- Monthly teleconferences:
  - Expert speaker presentations positive, especially for those who could not attend education sessions
- Web-based tools:
  - Facilitated project activities & communication
  - Access to right technologies challenging for some

Team Functioning

P4H resulted in...

- Better understanding & use of skills

- Enhanced communication & coordination

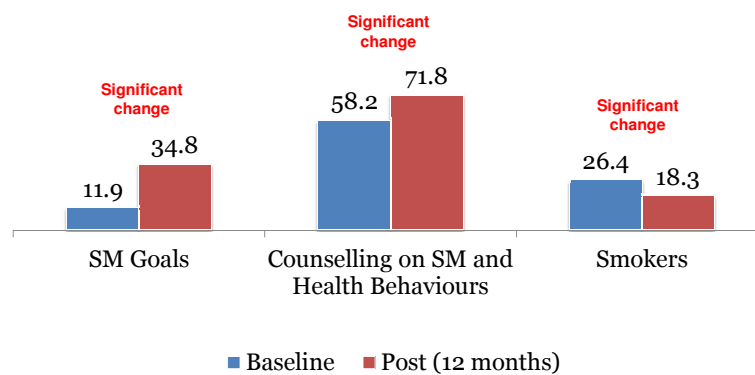- Partnerships with community providers influenced by:
  - Team composition
  - Location of team members
  - Staffing resources
  - Size of practice
  - Access to charting system
  - QI focus

Care Processes

- Better patient flow (i.e. reduced duplication)

- Improved patient monitoring & care planning

- Enriched patient-centeredness

- Significant improvement in the documentation system and practice resulting in better adherence to CPG including intensification of treatment

Care Processes

% patients with documented self-management (SM) goals, counselling on SM and health behaviours, and documented smokers


SM Goals: Significant change — 11.9 (Baseline), 34.8 (Post)
Counselling on SM and Health Behaviours: Significant change — 58.2 (Baseline), 71.8 (Post)
Smokers: Significant change — 26.4 (Baseline), 18.3 (Post)

■ Baseline   ■ Post (12 months)

Clinical Process & Outcomes

- In general, results showed a significant increase in both clinical process measures and clinical outcomes measures
  - ▫ Improved monitoring
  - ▫ Improved number of patients at meeting target
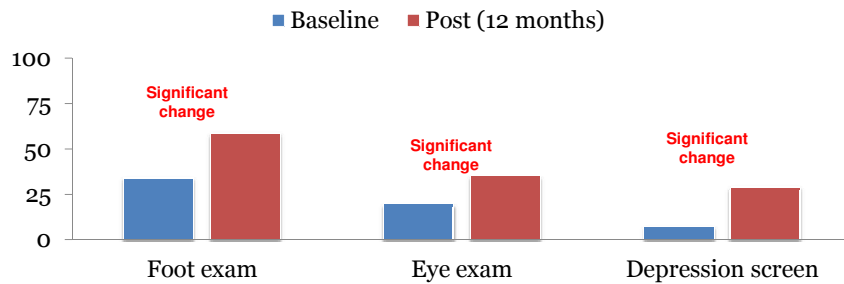 - ▫ Improved HbA1C, LDL, BP values
  - ▫ Intensification of treatment

Clinical Processes – monitoring

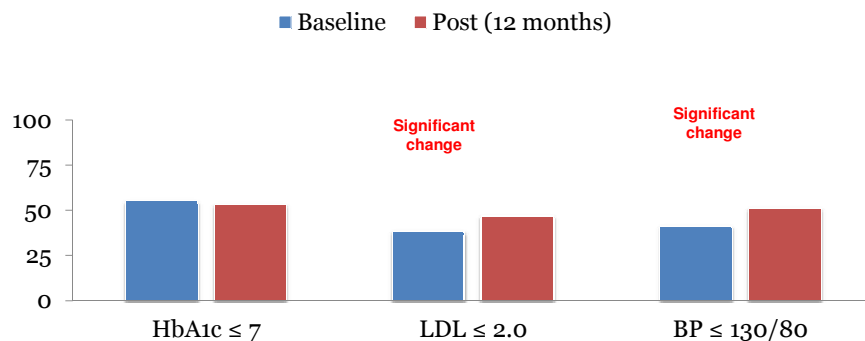**% patient with documented HbA1c test, LDL, ACR test, and BP**

■ Baseline   ■ Post (12 months)
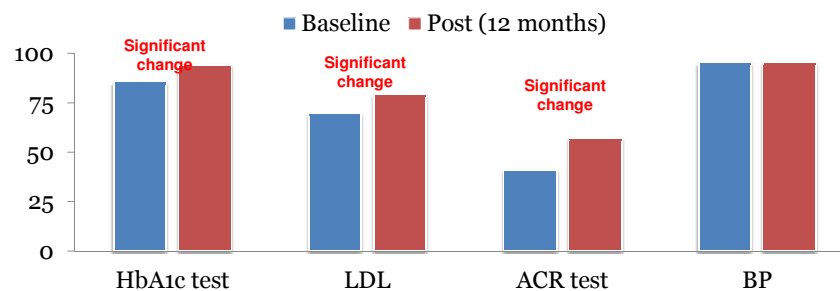
Clinical Processes – monitoring

% patient with documented foot exam, eye exam, and depression screen

■ Baseline   ■ Post (12 months)

Clinical Outcomes – patients at target

% patients at target HbA1c, LDL, and BP

■ Baseline   ■ Post (12 months)

Clinical Outcomes – HbA1c values

Mean HbA1c (%)

■ Baseline   ■ Post (12 months)
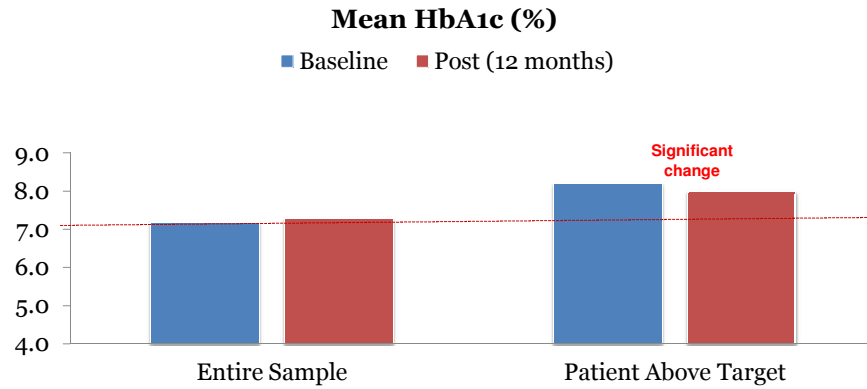
Clinical Outcomes LDL values

Mean LDL (mmol/L)

■ Baseline   ■ Post (12 months)
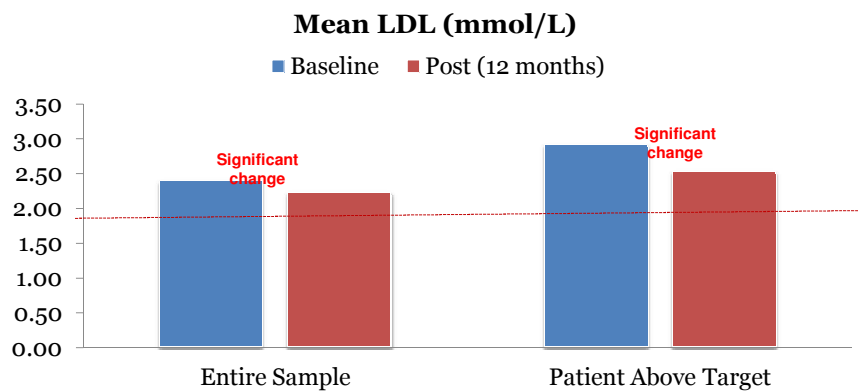
Clinical Outcomes - BP values

Mean BP (mmHg)

■ Baseline Systolic

■ Post Systolic
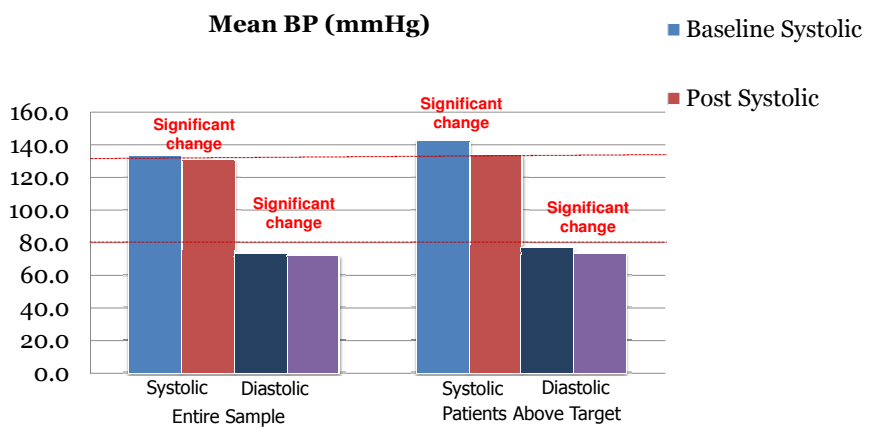
Clinical Outcomes

% of patients at post with intensification of treatment

Waves 1 & 2 (12 months)

■ Glycemic   ■ Hypertension   ■ Lipid
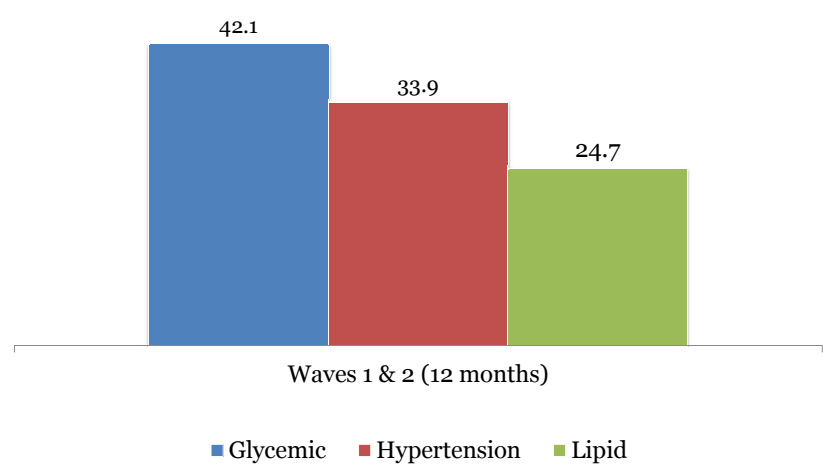
Information Management

- Improved understanding of data & technology
- Better access to patient data
- Data quality limited by:
  - System capacity
  - Accurate/standardized data entry
- EMR enhanced
  - Coordination of care, communication & sharing of patient information, work performance & productivity, & quality decision making

Patients-level Data

- Results we mixed and individualised
- Some increased knowledge of
  - diabetes
  - self-management strategies
- Better participation in
  - self-management
  - treatment plan
- Significant improvement in Enablement*
- No significant improvement in
  - Quality of life**
  - Depression***
  - Empowerment****
- Overall improved patient satisfaction

* Patient Enablement Instrument of 8 item mean score on Likert scale of 1 to 5 (Howie, J. et al., 1998)
** EQ-5D Quality of life visual analog scale of 0 to 100 (The EuroQol Group, 1990)
*** PHQ-9 Depression scale summary score on Likert scale of 0 to 3 (Lowe, B., et. al., 2004)
****Diabetes Empowerment Scale SF of 9 item summary score on Likert scale of 0 to 3 (Anderson, R. et. al., 2003)

Spread & Sustainability

- Spread via
  - sharing data & staff
  - organizing education sessions
  - applying new approach to other diseases

- Lack of comfort & skills in educating co-workers for a change in mindsets/buy-in

- Confident to sustain structured visits & data collection but not monthly meetings, PDSA, etc.

Providers' Perspective re:
Key Lessons Learned

- Recognized need QI mechanism as an ongoing activity which fuels improvement efforts

- More open-minded re: opportunities to improve

- Increase sense of empowerment to facilitate and implement change in the practice

- Better appreciation of the importance of team composition and leadership

Providers' Perspective re: Key Lessons Learned

- Knowledge and adherence to CPG
  - ▫ Increased awareness of and application in practice

- System change takes time & effort
  - ▫ External supports
  - ▫ Program planning and evaluation
  - ▫ Data tracking is a critical element to understanding effectiveness
  - ▫ Benefits occur over time
  - ▫ Always will be room for improvement

Take Away Message from the Providers' Perspective

- Sense of accomplishments
  - ▫ improved knowledge and care processes
  - ▫ made a difference in their patients lives

- Recognized the power of data

- For better care must:
  - ▫ Monitor and meet targets
  - ▫ Be patient-centered
  - ▫ Identify and motivate "lost" patients

Summary

Evaluation results...

- Endorse primary care providers taking part in initiatives like PFH to improve chronic disease care delivery, team functioning/interactions, and diabetes-related clinical processes and outcomes

- Provide evidence of the importance of education programs and ongoing support to assist providers to change practices to contribute to primary care reform

- Support development of QI mechanism and better utilization of IT systems to improve care

Policy Implications

- Team approach can make a difference when provided with the external supports such as education, time, external support, subsidies, etc...
  - Need to go beyond funding models
  - Example need to coordinate incentive programs (ie. OHIP billing bonuses)

Policy Implications

- Sustainability of P4H outcomes is possible because of the intrinsic change in mindset related to QI and care delivery
  - ▫ Difference between system level change and local change
  - ▫ Importance of the flexibility within the intervention to tailor practice change to the needs of the patient population using specific set of resources (skills of team members, available community resources, etc)

Policy Implications

- The evaluation of other QI initiatives will provide more insights into policy implications related to improving healthcare delivery in Ontario

- For example QIIP and the evaluation results of their Learning collaborative program should reveal some valuable information…

Questions and Discussion

QIIP

- Quality Improvement & Innovation Partnership (QIIP) aimed at improving healthcare delivery in Ontario starting with:
  - diabetes care
  - colorectal cancer screening
  - access to primary care

- Meant to assist the 150 newly created Family Health Teams (FHT) shift focus from the traditional reactive model to a proactive planned approach to reduce strain on Ontario's healthcare system by:
  - building inter-professional care teams
  - improving partnerships with community healthcare providers
  - initiating quality improvement programs in practice
  - improving prevention, interventions, care management, and office practice designs

- In 2008, QIIP launched the first of three waves of Learning Collaboratives to accelerate practice change

	Evaluation Objectives	Evaluation Methodology
1	To describe the QIIP Learning Collaborative initiative with a logic model	Logic Model production using Consensus Facilitator guided development
2	To describe and evaluate the intended and actual implementation of the QIIP Learning Collaboratives	• Review of LC program documentation • Key Informant Interviews
3	To document the QIIP Learning Collaborative participation experience	• Key Informant Interviews • Survey (4 members from all QI teams)
4	To document the application of Learning Collaborative teachings to other clinical situations	• Key Informant Interviews • Survey • Health administrative data analysis
5	To measure the clinical changes over time	• Retrospective chart audit of diabetes management and colorectal screening actions pre, during, and post Learning Collaborative • Health administrative data analysis
6	To assess the relationship between team and practice characteristics with the evaluation clinical outcomes	• Retrospective chart audit of diabetes management and colorectal screening actions • Survey (Team functioning; demographics)
7	To compare diabetes, colorectal screening, and access outcomes of the QI teams to control practices	• Cluster, matched sample control, pre-post • Health administrative data analysis
8	To compare the QIIP evaluation results to the Partnerships for Health results.	Parallel mixed methods analysis/review

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QIIP

- What we already know from P4H is that QIIP team reported not realising the full potential of QI until provided with ongoing/onsite IT support

- What we already know from P4H is that offsite education session and time for team building are critical features of the intervention

- This and additional P4H data re: web-based program has implications related to the possible effectiveness of QIIP learning communities