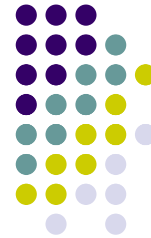
Building on Results

G. Ross Baker, Ph.D.
University of Toronto
November 18, 2005



Rapid Cycle Change

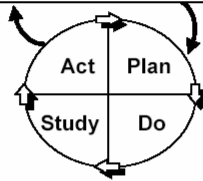
- Rapid cycle change methods (“the Model for Improvement”) were designed to correct for the failures in quality improvement methods
  - To fit into busy work lives
  - Link clinical knowledge to improvement knowledge
  - Provide “just enough” skills to identify issues and make changes
  - Build small wins into larger system changes

Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What changes can we make that will result in an improvement?



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Breakthrough Series

- Developed as a strategy for improvement by IHI in 1995
- Initially focused on "Eleven Worthy Aims"
  - Asthma, Intensive care, heart failure, adverse drug events, others
- Used by more than 2000 teams on dozens of topics in IHI work
- Key platform for major system initiatives in the UK to improve cardiac, cancer and other care
  - Primary care collaborative included more than 2000 practices and helped reduce waiting times for appointments by 60% in NHS
- Other Canadian examples
  - QHN CHF and stroke care improvement (1997)
  - BC chronic disease improvement
  - ICU collaborative
  - Primary care leadership program in Ontario
  - Safer Healthcare Now!

Improvements in BTS model

- Faster starts by encouraging pre-work
  - Aims and baseline measures
- Development of “bundles”
- Greater involvement by senior leaders and team sponsors
- Reduction in length of collaboratives and use of other models
- Linkage to chronic care model

“Care Bundles”

- Ventilator associated pneumonia bundle:
  - Elevation of the head of the bed to between 30 and 45 degrees
  - Daily “sedation vacation” and assessment of readiness to extubate by performing an SBT
  - Use of oral versus nasal tubes for access to the trachea or stomach
  - Use of EVAC tubes for the drainage of subglottic secretions
  - And two “optional elements”
    - Peptic ulcer disease prophylaxis
    - Deep venous thrombosis prophylaxis

www.saferhealthcarenow.ca

Results

- Chronic Care Collaborative Evaluation
  - 42 organizations in 3 chronic care collaboratives
  - More than 30 changes in each organization with results of 17 to 76% improvement
- Veterans Health Care
  - Reduced waiting times in primary care clinics from 60 to 28 days (53%)
- OSF Healthcare in 6 hospitals reduced ADEs from 4 per 1000 doses to 1/1000

Challenges of Using Rapid Cycle Change

- Setting aims is easy; maintaining focus is hard
- Most organizations have few supports to help teams use measurement in assessing change assess change
- It is still difficult to engage physicians in many organizations
- Leadership is required to take to status quo “off the table”
- Small scale tests of change are not the usual way we change
- Teams need support to carry out changes

Based on Evaluation of IHI BTS and NICQ 2000

Strategies for Maintaining Momentum

- Measure key outcomes
- Graph over time
- Share results
- Tell stories about patients
- Find ways to engage leaders
- Reward team for their results
- Spread the learning
  - New units that face similar problems
  - New problems

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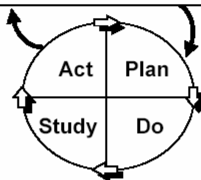

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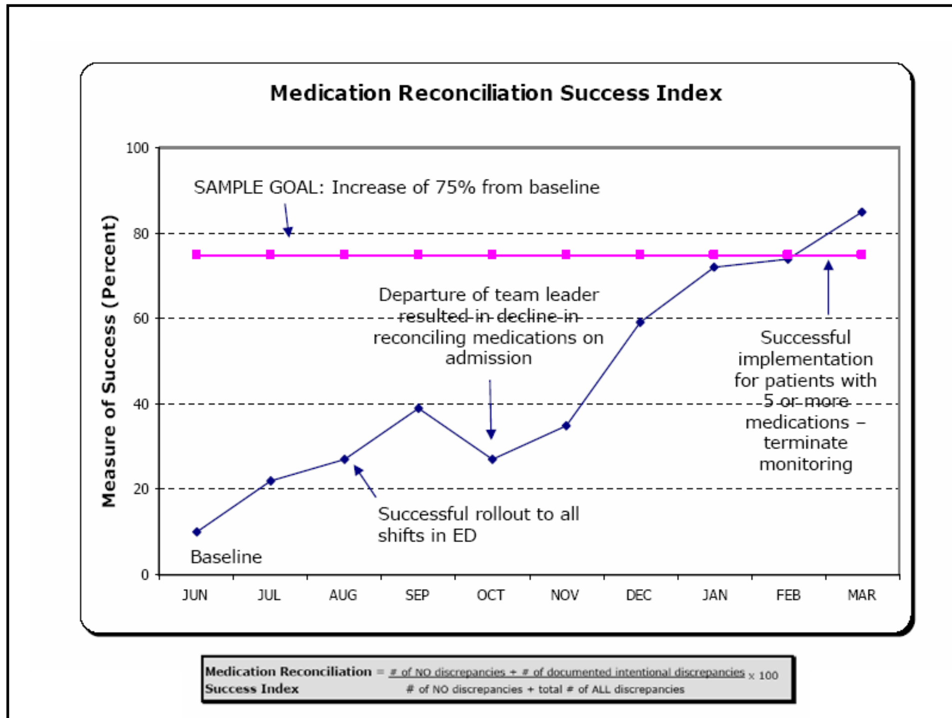
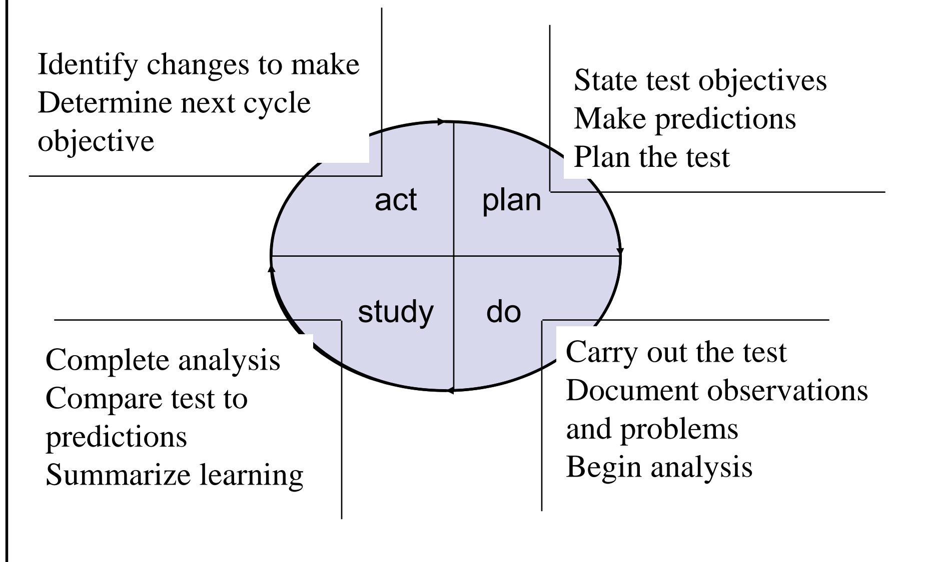


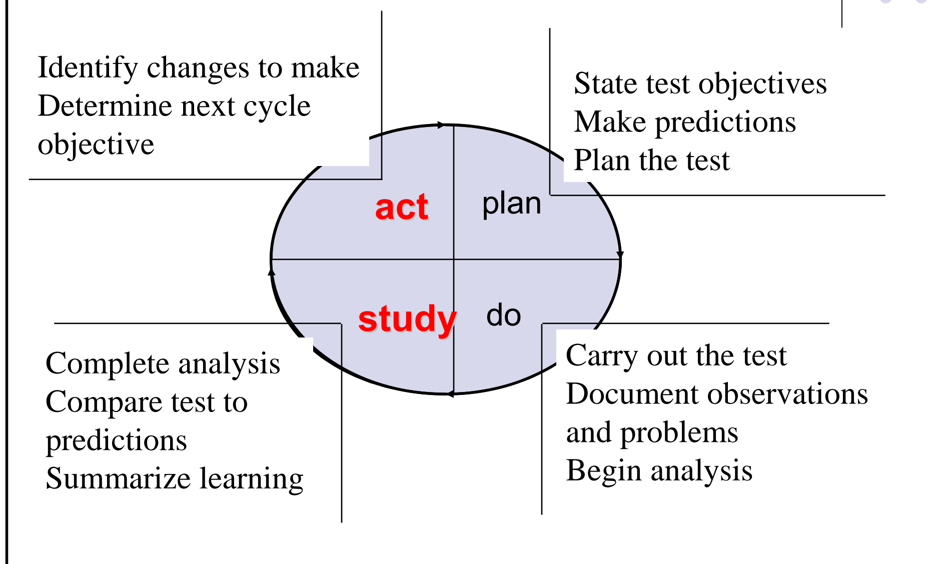
More Resources.. More Time

- The change model is designed to be useful in busy environments where “no one has more time”
- Use huddles…involve others….practice PDSA on small cycles
- Trust that effective use of the Change Model and PDSA requires practice
  - Use the model to speed results

Using PDSA Cycles in Tests



Using PDSA Cycles in Tests



Testing changes

- Scale down the scope of the change to be tested…sample the next 10 patients, not 200 for the next 3 months
- Stay a cycle ahead
- Pick willing volunteers
- Don’t reinvent the wheel
- Pick easy changes to test
- Avoid technical slow downs (the new computer)
- Reflect on the results of each cycle
- Be prepared to end the test if the change is not working (failed changes are more effective)

Reframe from Scarcity to Abundance

- Framing our efforts in terms of scarcity emphasizes the things we lack rather than the resources we have
- “Seeing” scarcity limits our vision and reduces our efforts
- “Seeing” abundance creates energy and broadens our reach

Can Quality Improvement Be Used To Change A Wider Healthcare System?

"The discipline and methods of quality improvement could help planners and policy makers think differently about how to improve the design of healthcare buildings and systems. It is important that this happens as there is little point of improving front line clinical delivery if it is embedded in a wider system that is dysfunctional. QI methods offer the chance to find innovative ways to solve some of the most intractable problems…….."

N Edwards Qual Saf Health Care 2005;14:75

The Esther Project

- Improvement project in Jönköping County, Sweden
- Key results:
  - A 20% reduction in hospital admissions over 5 years
  - 30 percent decrease in hospital days for heart failure
  - Reduction in waiting time for referral appointments with neurologists from 85 days to 14 days
  - Decrease in the waiting time for referral appointments with gastroenterologists from 48 days to 14 days.
- Success in the Esther project is due to:
  - Concentrating on what patients value, not on what professionals value.
  - Involving all suppliers and caregivers in prioritizing those patient values.
  - Understanding that each step in a process is dependent for its success on the steps that precede and follow it.

Mats Bojestig

Who Is Esther?

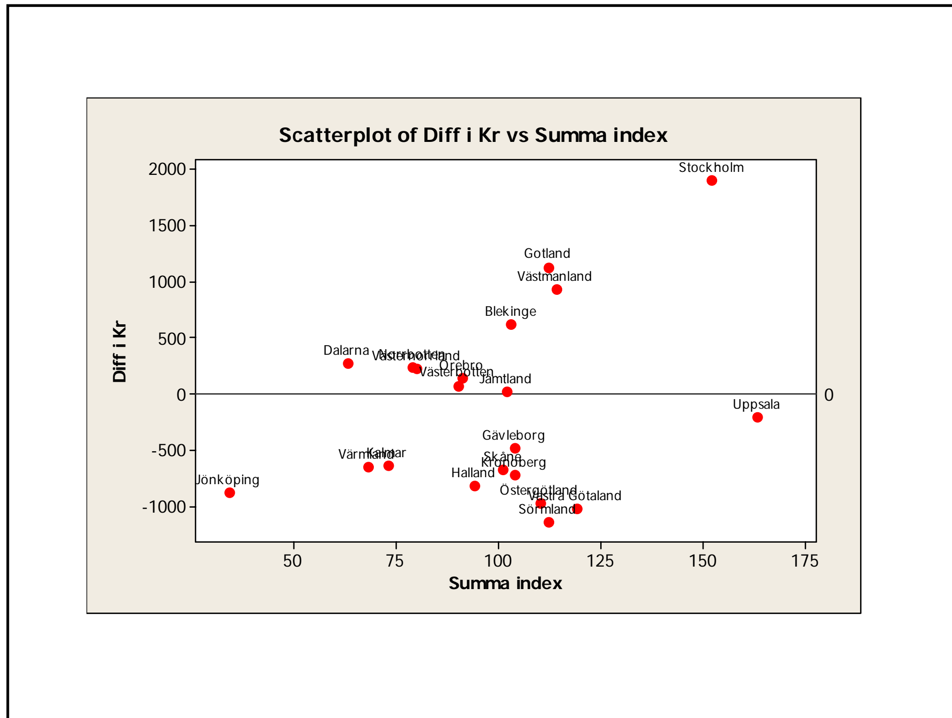
- Esther is 88 and lives alone in a small apartment with severe edema and problems in breathing….how can the health system best serve her?
- Esther's needs
  - Security
  - Better working relationships between caregivers
  - Higher competence throughout the care system
  - Shared medical documentation
  - Communication and documentation of improvements

Mats Bojestig, Chief of Medicine, Hoglandet Hospital

Leadership for success

- A strong commitment and support from political leaders and the Board
- Transparent and united leadership
- Core values
- Develop understanding for improvement and collaborate over boundaries
- Pursue system changes and create a context that at the same time works with finances and the value for the patient
- More focus on all the good things you are and have instead of focusing on new projects and new resources
- Use measurement, benchmarking and results
- Long term strategy and reliability

Sven-Olof Karlsson and Göran Henriks
Jönköping County Council



UK Cardiac Improvement

- Coronary Health Disease Collaborative established by the UK Modernization Agency as a key element of the National Service Framework for CHD
  - Began in April 2000 with a pilot program with 10 teams
  - Expanded to 30 teams across England in 2002
  - 6 elements
    - Secondary prevention
    - AMI
    - Heart failure
    - Angina
    - Cardiac Surgery
    - Cardiac Rehabilitation

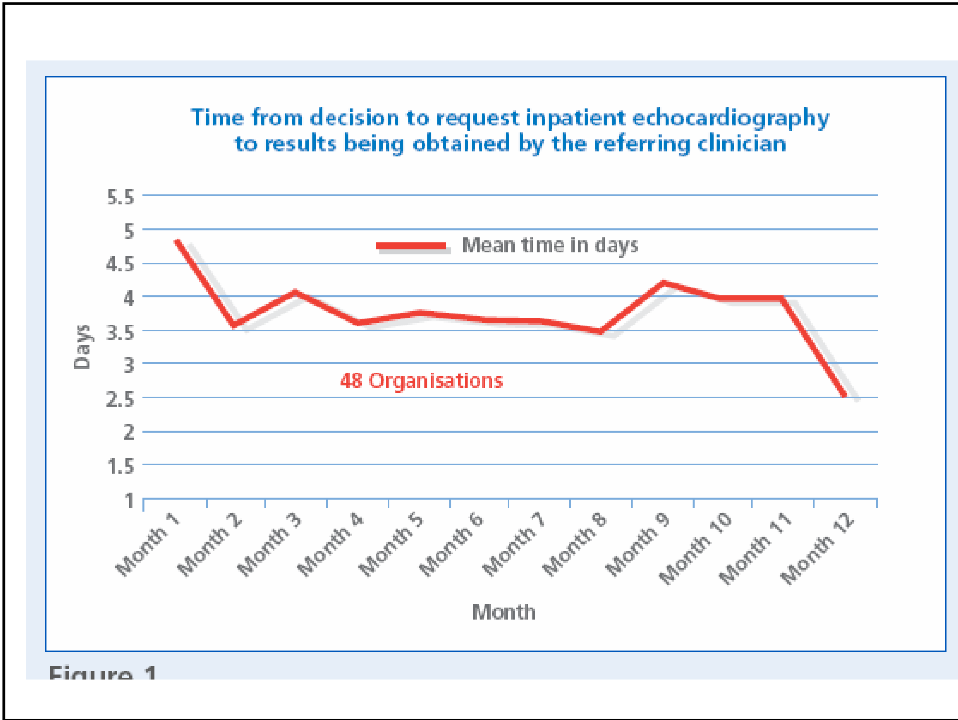
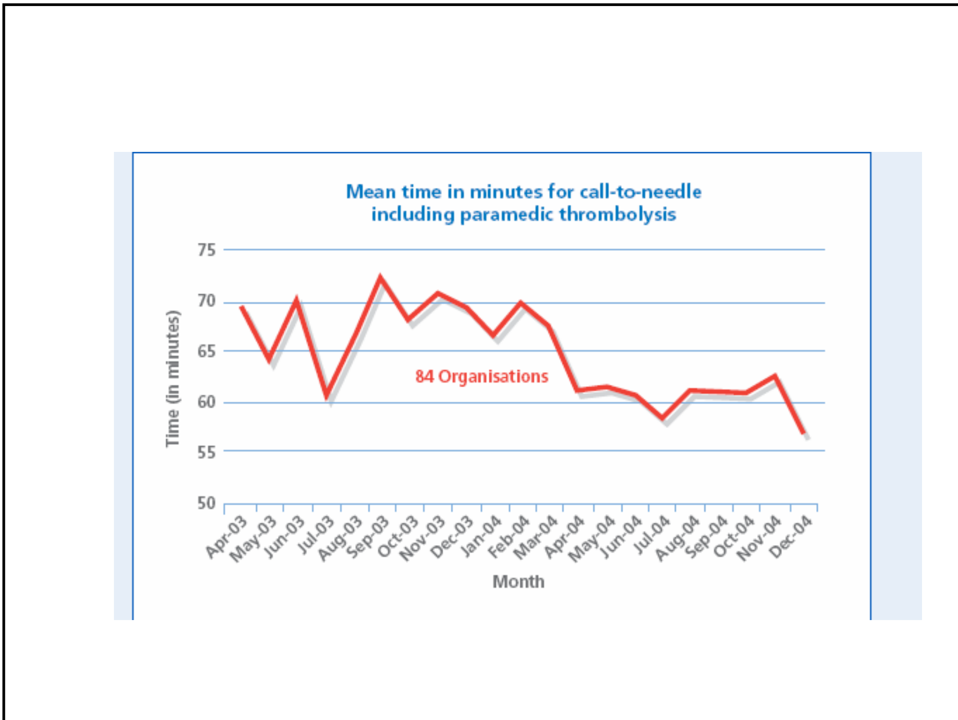
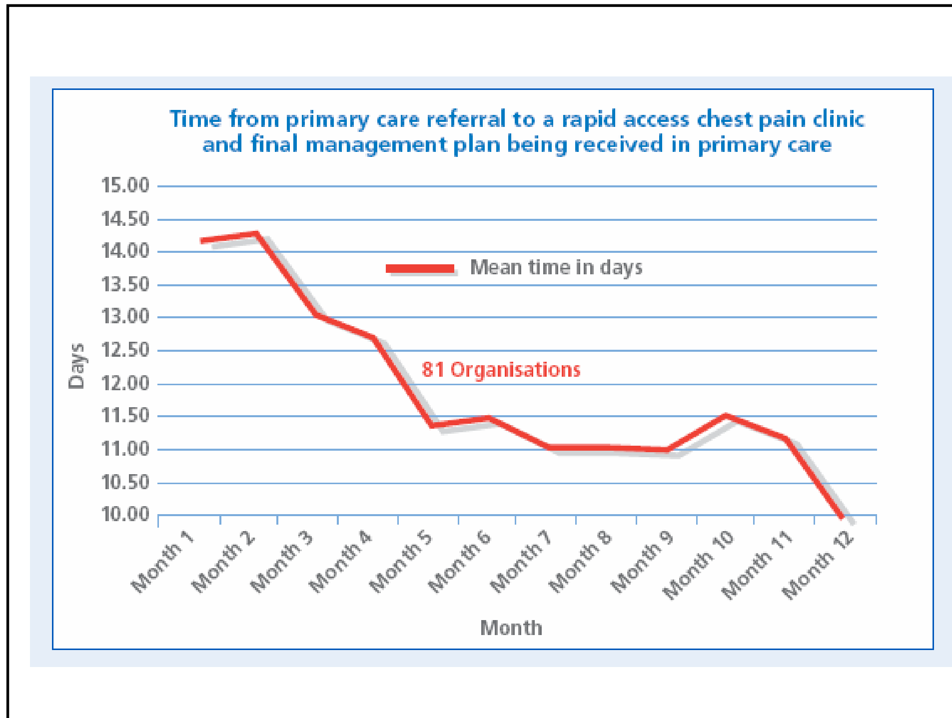


Figure 1

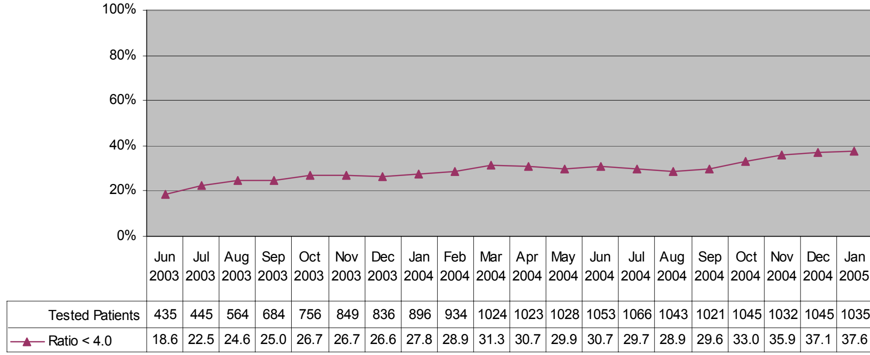




Vancouver Island Health Authority CDM Collaborative

- Uses chronic care model and rapid cycle change efforts with primary care physicians on Vancouver Island

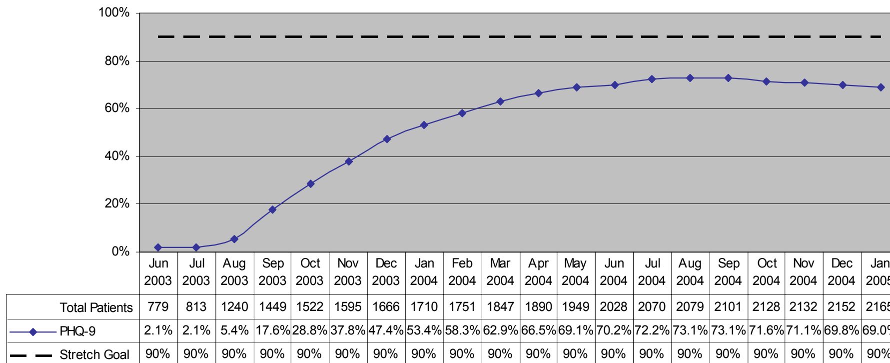
VIHA CDM Collaborative - "Triple Whammy" Index



	Jun 2003	Jul 2003	Aug 2003	Sep 2003	Oct 2003	Nov 2003	Dec 2003	Jan 2004	Feb 2004	Mar 2004	Apr 2004	May 2004	Jun 2004	Jul 2004	Aug 2004	Sep 2004	Oct 2004	Nov 2004	Dec 2004	Jan 2005
Tested Patients	435	445	564	684	756	849	836	896	934	1024	1023	1028	1053	1066	1043	1021	1045	1032	1045	1035
Ratio < 4.0	18.6	22.5	24.6	25.0	26.7	26.7	26.6	27.8	28.9	31.3	30.7	29.9	30.7	29.7	28.9	29.6	33.0	35.9	37.1	37.6

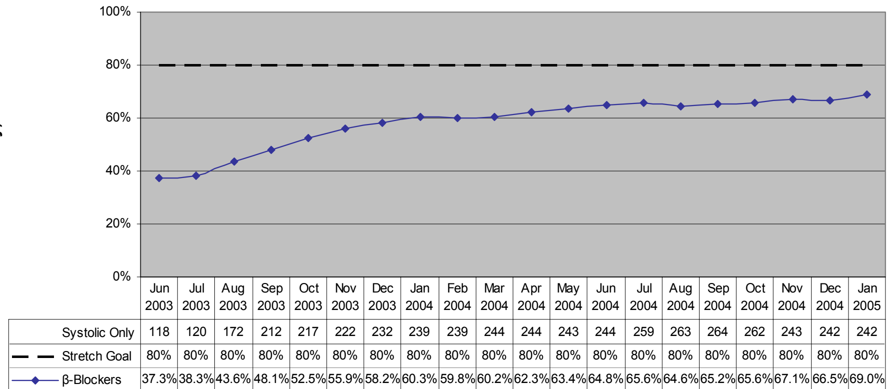
***Patients With Diabetes Having an HbA1C Test within 6 months, a BP Test within 6 months, and a Chol/HDL Ratio Test within 12 months previous to the month indicated**

VIHA CDM Collaborative - PHQ-9 Completion Rate (All Patients With Depression, within 12 months previous to the month indicated)



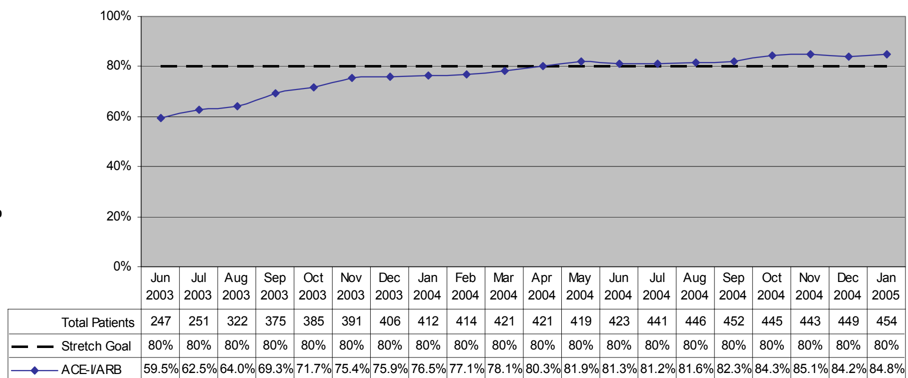
	Jun 2003	Jul 2003	Aug 2003	Sep 2003	Oct 2003	Nov 2003	Dec 2003	Jan 2004	Feb 2004	Mar 2004	Apr 2004	May 2004	Jun 2004	Jul 2004	Aug 2004	Sep 2004	Oct 2004	Nov 2004	Dec 2004	Jan 2005
Total Patients	779	813	1240	1449	1522	1595	1666	1710	1751	1847	1890	1949	2028	2070	2079	2101	2128	2132	2152	2165
PHQ-9	2.1%	2.1%	5.4%	17.6%	28.8%	37.8%	47.4%	53.4%	58.3%	62.9%	66.5%	69.1%	70.2%	72.2%	73.1%	73.1%	71.6%	71.1%	69.8%	69.0%
Stretch Goal	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%

VIHA CDM Collaborative - β-Blockers Prescribing Rate (Systolic Only)



	Jun 2003	Jul 2003	Aug 2003	Sep 2003	Oct 2003	Nov 2003	Dec 2003	Jan 2004	Feb 2004	Mar 2004	Apr 2004	May 2004	Jun 2004	Jul 2004	Aug 2004	Sep 2004	Oct 2004	Nov 2004	Dec 2004	Jan 2005
Systolic Only	118	120	172	212	217	222	232	239	239	244	244	243	244	259	263	264	262	243	242	242
Stretch Goal	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
β-Blockers	37.3%	38.3%	43.6%	48.1%	52.5%	55.9%	58.2%	60.3%	59.8%	60.2%	62.3%	63.4%	64.8%	65.6%	64.6%	65.2%	65.6%	67.1%	66.5%	69.0%

VIHA CDM Collaborative - ACE-I/ARB Prescribing Rate (All Patients With CHF)



	Jun 2003	Jul 2003	Aug 2003	Sep 2003	Oct 2003	Nov 2003	Dec 2003	Jan 2004	Feb 2004	Mar 2004	Apr 2004	May 2004	Jun 2004	Jul 2004	Aug 2004	Sep 2004	Oct 2004	Nov 2004	Dec 2004	Jan 2005
Total Patients	247	251	322	375	385	391	406	412	414	421	421	419	423	441	446	452	445	443	449	454
Stretch Goal	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
ACE-I/ARB	59.5%	62.5%	64.0%	69.3%	71.7%	75.4%	75.9%	76.5%	77.1%	78.1%	80.3%	81.9%	81.3%	81.2%	81.6%	82.3%	84.3%	85.1%	84.2%	84.8%

Key Resources Needed

- Support for teams
- Ongoing measurement to demonstrate results and focus improvements
- Clinical expertise
- Improvement knowledge
- Senior leaders support
- System wide focus