Making It Easy to Do It Right: Improving Health Outcomes to Reduce Care Delivery Costs

Intermountain® Healthcare

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Disclosures

Neither I, Brent C. James, nor any family members, have any relevant financial relationships to be discussed, directly or indirectly, referred to or illustrated with or without recognition within the presentation.

I have no financial relationships beyond my employment at Intermountain Healthcare.

Core idea behind variation research

Apply rigorous measurement tools developed for clinical research

to

routine care delivery performance

The opportunity *(care falls short of its theoretic potential)*

1. ***Massive variation in clinical practices*** *(beyond even the remote possibility that all patients receive good care)*
2. ***High rates of inappropriate care*** *(where the risk of harm inherent in the treatment outweighs any potential benefit)*
3. ***Unacceptable rates of preventable care-associated patient injury and death***
4. ***Striking inability to "do what we know works"***
5. ***Huge amounts of waste, leading to spiraling prices that limit access to care***

W. Edwards Deming

All value-added human work
takes place through processes;
therefore

Organize everything around
value-added (front line) work processes

Quality improvement *is*
the science of process management

Dr. Alan Morris, LDS Hospital, 1991

- ***NIH-funded randomized controlled trial***
  assessing an Italian "artificial lung" vs. standard ventilator management for acute respiratory distress syndrome (ARDS)
- ***discovered large variations in ventilator settings***
  across and within expert pulmonologists
- ***created a protocol*** *for ventilator settings in the control arm of the trial*
- ***implemented the protocol using Lean principles***
  (Womack et al., 1990 - The Machine That Changed the World)
  - built into clinical workflows - automatic unless modified
  - clinicians encouraged to vary based on patient need
  - variances and patient outcomes fed back in a Lean Learning Loop

Problems with “best care” protocols

- ***Lack of evidence for best practice***
  - *Level 1, 2, or 3 evidence available only about 15-25% of the time*

- ***Expert consensus is unreliable***
  - *experts can't accurately estimate rates relying on subjective recall (produce guesses that range from 0 to 100%, with no discernable pattern of response)*
  - *what you get depends on whom you invite (specialty level, individual level)*

- ***Guidelines don't guide practice***
  - *systems that rely on human memory execute correctly ~50% of the time (McGlynn: 55% for adults, 46% for children)*

- ***No two patients are the same;*** *therefore, no guideline perfectly fits any patient (with very rare exception)*

Shared Baseline "Lean" protocols *(bundles)*

1. ***Identify a high-priority clinical process*** *(key process analysis)*
2. ***Build an evidence-based best practice protocol*** *(always imperfect: poor evidence, unreliable consensus)*
3. ***Blend it into clinical workflow*** *(= clinical decision support; don't rely on human memory; make "best care" the lowest energy state, default choice that happens automatically unless someone must modify)*
4. ***Embed data systems to track (1) protocol variations*** *and* ***(2) short and long term patient results*** *(intermediate and final clinical, cost, and satisfaction outcomes)*
5. ***Demand that clinicians vary based on patient need***
6. ***Feed those data back*** *(variations, outcomes)* ***in a Lean Learning Loop*** *- constantly update and improve the protocol*

Results:

- ***Survival*** *(for ECMO entry criteria patients)* ***improved from 9.5%*** *to* ***44%***
- ***Costs fell by ~25%*** *(from ~$160,000 to ~$120,000 per case)*
- ***Physician time fell by ~50%*** *(a major increase in physician productivity)*

-- 2002 --

Patient-Centered Medical Home

(from back before the name “PCMH” had even been coined)

Level 1
Chronic Disease Management

Dorr DA, Wilcox A, Donnelly SM, Burns L, & Clayton PD. Impact of generalist care managers on patients with diabetes. *HSR* 2005; 40(5):1400-21 (Oct)

Diabetes Patient Follow-Up Worksheet: All Patients

Report Period April-01-2008 to March-31-2009

Intermountain℠ Medical Group

Patients that need follow-up are those whose average Blood Pressure > 130/80, last A1c value was > 8.0, last LDL > 100, and/or Triglycerides >= 400, or any of the aforementioned tests were not performed during the reporting period. Please remember "credit" can be given to improve individual scores if patients are contacted by your office but are not compliant or lab information is incorrect.

Provider Name (Provider ID) - Clinic Name

14 Patients That Need Follow-up

				SelectHealth Incentive Benchmark Goals:	50% to 90%			76% to 81%				85% to 90%		54% to 59%			
Total SelectHealth Patients - 21				SelectHealth Current Diabetes Performance:	100%			77%				92%		62%			
SelectHealth Patient Name	IDX MRN	Birthdate	Phone	Last Office Visit	Blood Pressure			Lipid Management				HGA1c		MicroAlbuminuria			
					Date	BP	<=130/80	Date	LDL †	HDL	Trig	Date	HGA1c	Date	MicroAlb ‡		
				12/18/2006	12/18/2006	130/80	Yes	2/26/2007	105	50	227		Not Tested		Not Tested		
Corrections																	
				5/31/2007	5/31/2007	131/79	No	1/13/2007	99	30	230	5/31/2007	4.9		Not Tested		
Corrections																	
				5/11/2007	6/18/2007	108/59	Yes		74		236	1/16/2007	6.9		Not Tested		
Corrections																	
				5/3/2007	5/3/2007	131/73	No	12/13/2006	99	39	232	3/8/2007	NA		Not Tested		
Corrections																	
				3/15/2007	3/15/2007	131/83	No	Not Tested				12/14/2006	6.2		Not Tested		
Corrections																	
				10/2/2006	10/23/2006	131/80	No	10/2/2006	92	53	282	11/13/2006	6.8	10/2/2006	NEG		
Corrections																	
				6/4/2007	6/4/2007	111/63	Yes		23		115	6/4/2007	10.8		Nephropathy Tx		
Corrections																	
				2/16/2007	2/16/2007	144/74	No	8/23/2006	92	29	339	2/16/2007	5.9	8/23/2006	POS		
Corrections																	

Administrative (HEDIS) criteria for diabetes (at least 2 face-to-face contacts in an outpatient facility and an ICD-9-CM code 250.xx; or at least 1 inpatient stay and an ICD-9-CM code 250.xx; or at least 1 prescription for insulin or an oral hypoglycemic agent) in the current measurement period or prior measurement periods.

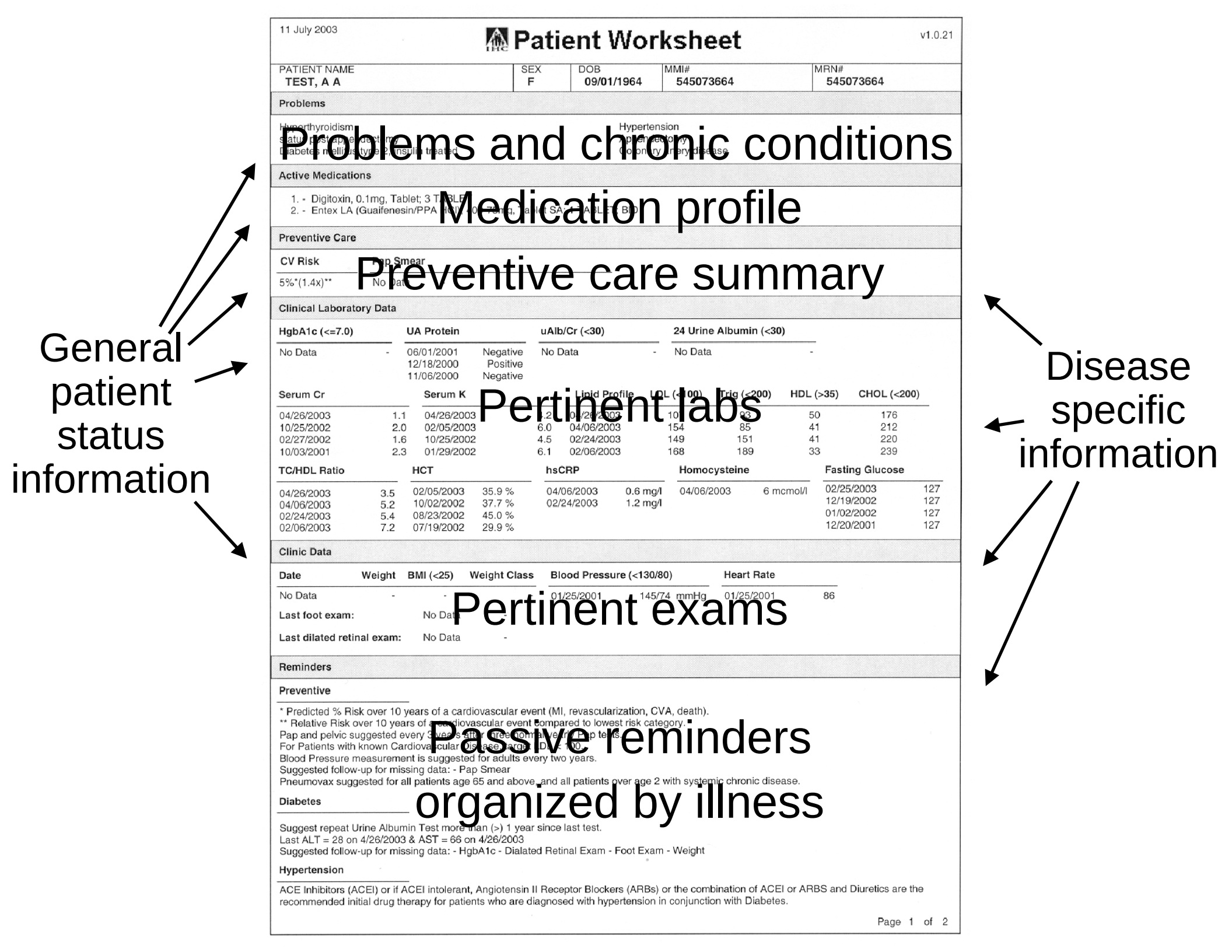
* Indicates a new patient on the list from last reporting period.

** Avg B/P measure is an average of the last three EMR recorded blood pressure results from home or clinic. Blood pressure data only available for physicians with access to Intermountain EMR.

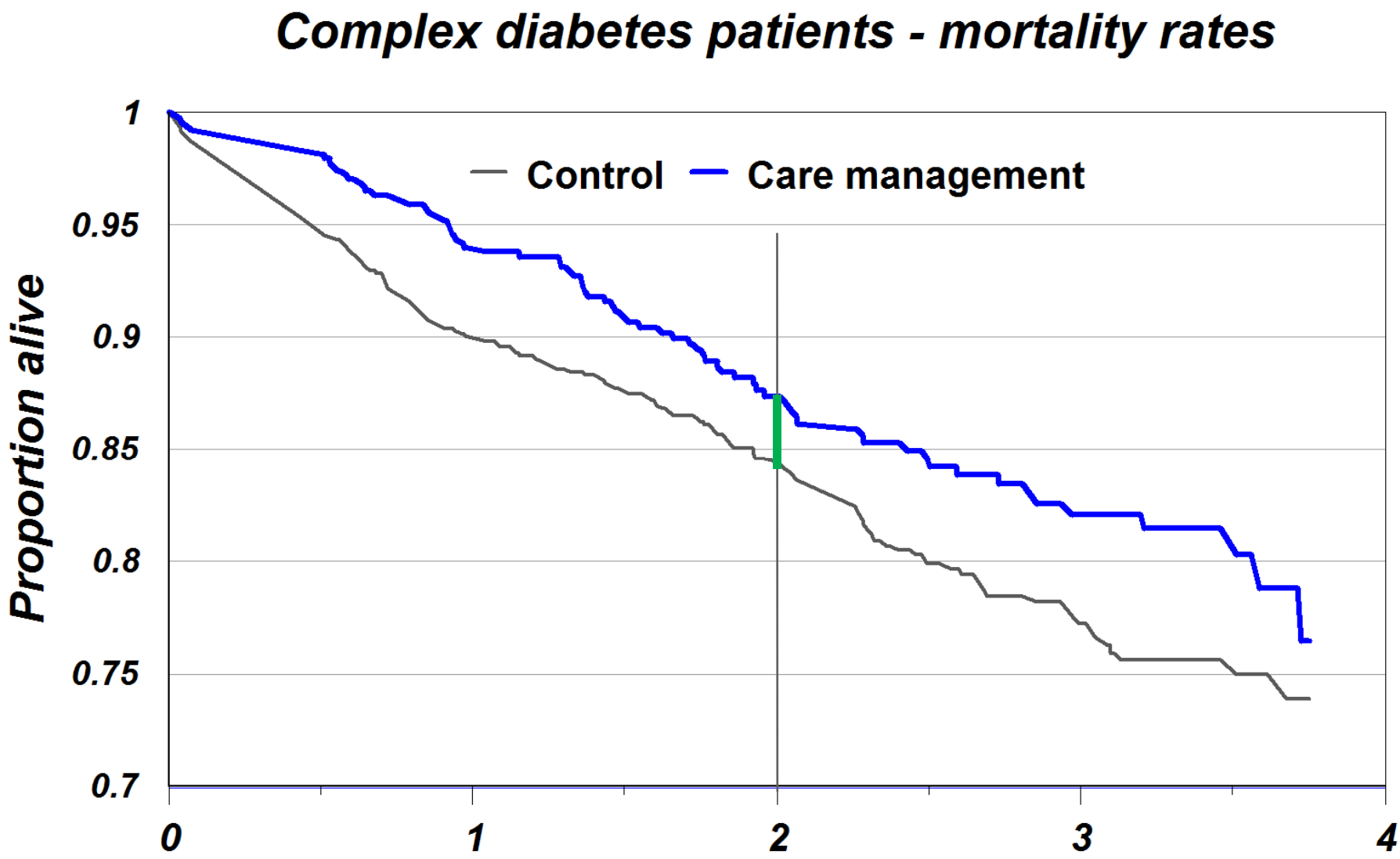
□ Indicates a patient that has been noted in the EMR as having an in-control blood pressure within the last six months.

† Indicates a SelectHealth patient who has a pharmacy benefit, is over 40 years old with an LDL test above 100, and is not on a lipid lowering medication.

‡ Indicates a SelectHealth patient who has a pharmacy benefit, a positive microalbuminuria test and is not on ACEI or ARB medication.


11 July 2003
Patient Worksheet
v1.0.21
PATIENT NAME
TEST, A A
SEX
F
DOB
09/01/1964
MMI#
545073664
MRN#
545073664
Problems
Hyperthyroidism
Hypertension
Diabetes mellitus type 2 insulin treated
Coronary artery disease
Active Medications
1. - Digitoxin, 0.1mg, Tablet; 3 TABLET
2. - Entex LA (Guaifenesin/PPA
Preventive Care
CV Risk
Pap Smear
5%*(1.4x)**
No Data
Clinical Laboratory Data
HgbA1c (<=7.0)
No Data -
UA Protein
06/01/2001 Negative
12/18/2000 Positive
11/06/2000 Negative
uAlb/Cr (<30)
No Data -
24 Urine Albumin (<30)
No Data -
Serum Cr
04/26/2003 1.1
10/25/2002 2.0
02/27/2002 1.6
10/03/2001 2.3
Serum K
04/26/2003
02/05/2003
10/25/2002
01/29/2002
Lipid Profile
LDL (<100)
Trig (<200)
HDL (>35)
CHOL (<200)
04/06/2003 154 85 41 212
02/24/2003 149 151 41 220
02/06/2003 168 189 33 239
TC/HDL Ratio
04/26/2003 3.5
04/06/2003 5.2
02/24/2003 5.4
02/06/2003 7.2
HCT
02/05/2003 35.9 %
10/02/2002 37.7 %
08/23/2002 45.0 %
07/19/2002 29.9 %
hsCRP
04/06/2003 0.6 mg/l
02/24/2003 1.2 mg/l
Homocysteine
04/06/2003 6 mcmol/l
Fasting Glucose
02/25/2003 127
12/19/2002 127
01/02/2002 127
12/20/2001 127
Clinic Data
Date
Weight
BMI (<25)
Weight Class
Blood Pressure (<130/80)
Heart Rate
No Data - -
01/25/2001 145/74 mmHg
01/25/2001 86
Last foot exam:
No Data -
Last dilated retinal exam:
No Data -
Reminders
Preventive
* Predicted % Risk over 10 years of a cardiovascular event (MI, revascularization, CVA, death).
** Relative Risk over 10 years of a cardiovascular event compared to lowest risk category.
Pap and pelvic suggested every 3 years after three normal yearly Pap tests.
For Patients with known Cardiovascular Disease, target LDL < 100.
Blood Pressure measurement is suggested for adults every two years.
Suggested follow-up for missing data: - Pap Smear
Pneumovax suggested for all patients age 65 and above, and all patients over age 2 with systemic chronic disease.
Diabetes
Suggest repeat Urine Albumin Test more than (>) 1 year since last test.
Last ALT = 28 on 4/26/2003 & AST = 66 on 4/26/2003
Suggested follow-up for missing data: - HgbA1c - Dialated Retinal Exam - Foot Exam - Weight
Hypertension
ACE Inhibitors (ACEI) or if ACEI intolerant, Angiotensin II Receptor Blockers (ARBs) or the combination of ACEI or ARBS and Diuretics are the recommended initial drug therapy for patients who are diagnosed with hypertension in conjunction with Diabetes.
Page 1 of 2
Problems and chronic conditions
Medication profile
Preventive care summary
Pertinent labs
Pertinent exams
Passive reminders
organized by illness
General patient status information
Disease specific information

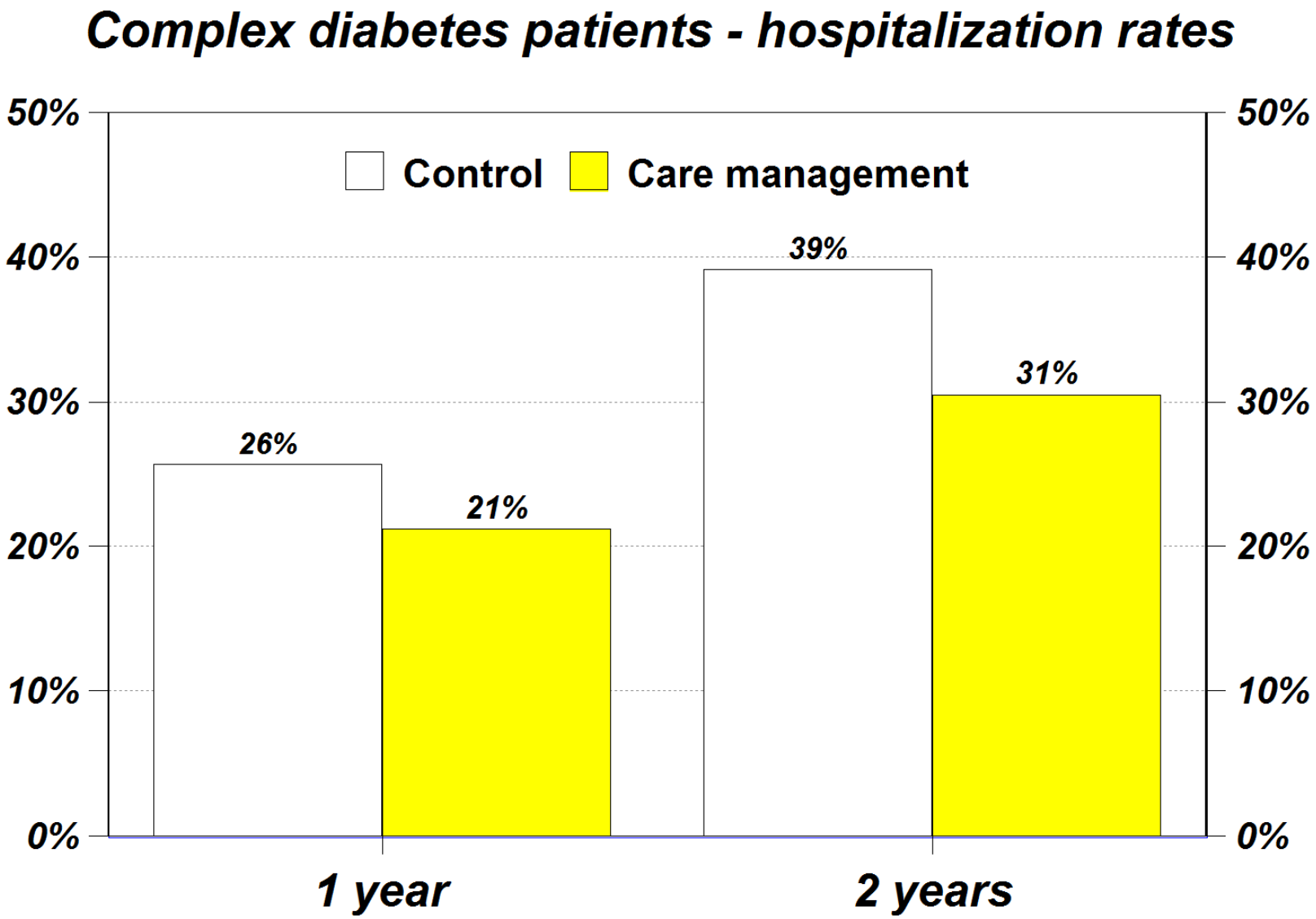
CPM with clinic care managers



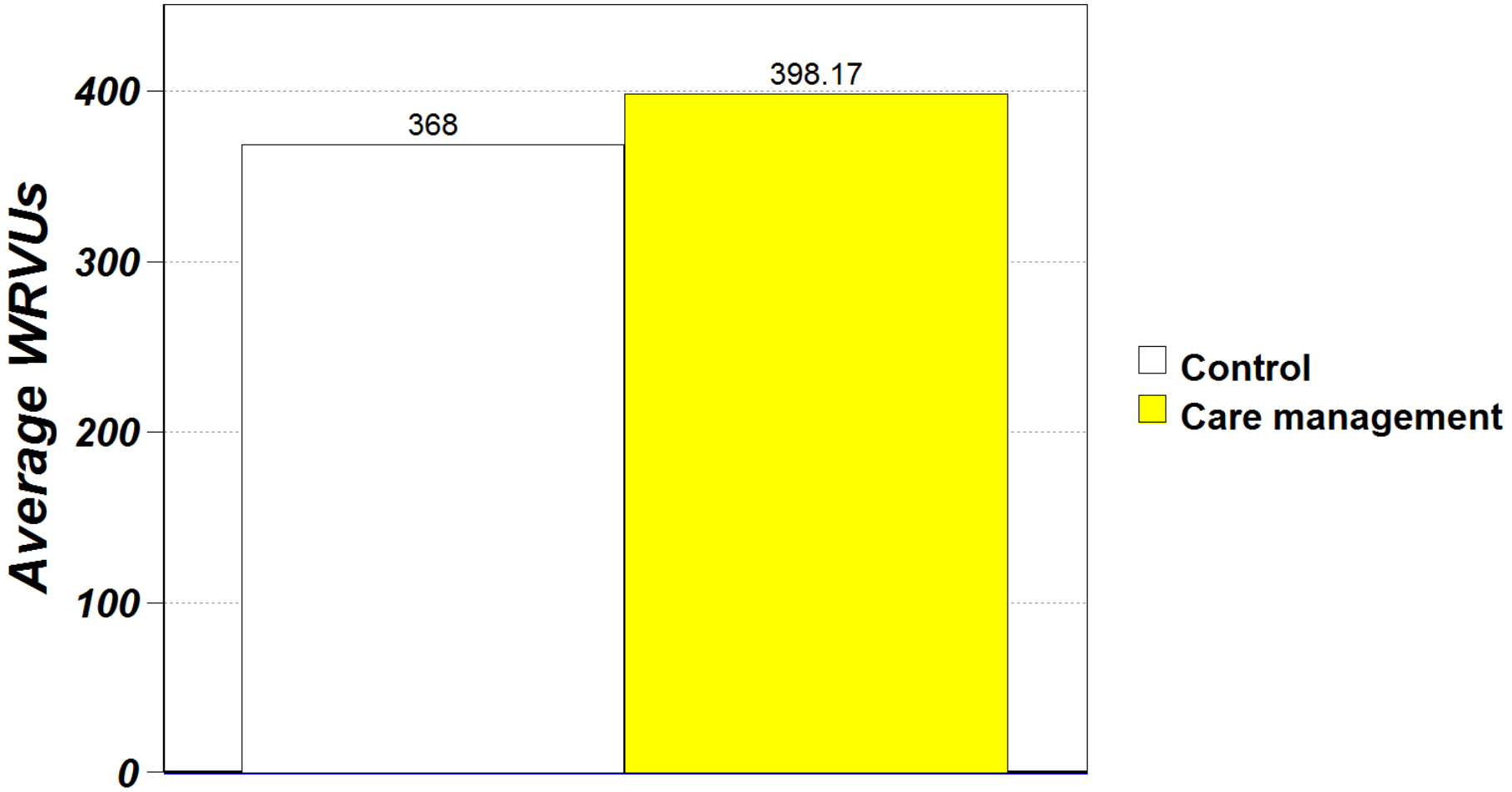
Lesson 1

We count our successes in lives

CPM with clinic care managers



Physician productivity *(WRVUs - work relative value units)*



Physicians with embedded care management support were significantly (8%) more productive than controls

Lesson 2

Most often

(but not always)

better care is cheaper care

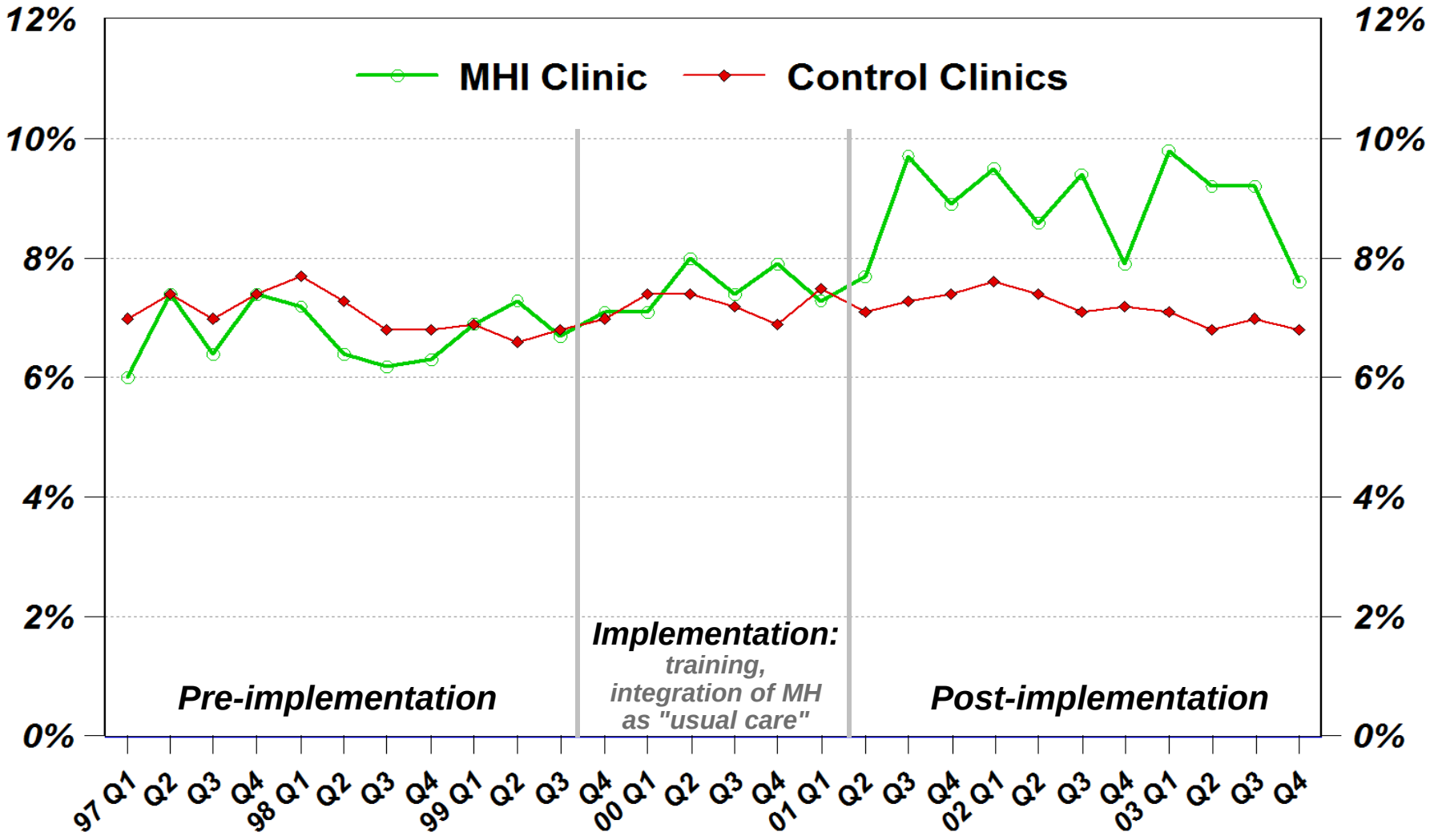
-- 2007 --

Patient-Centered Medical Home

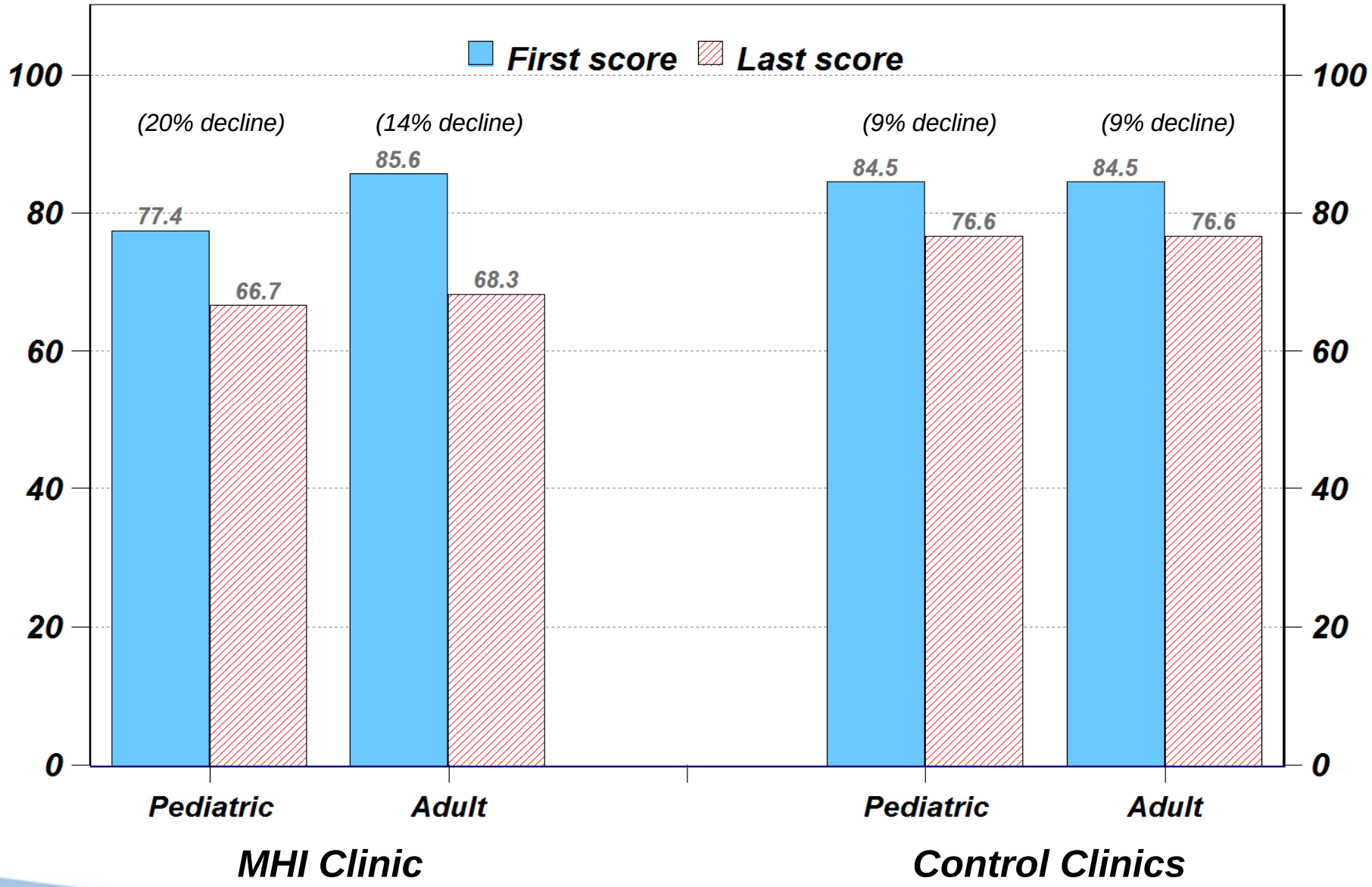
Level 2

Mental Health Integration

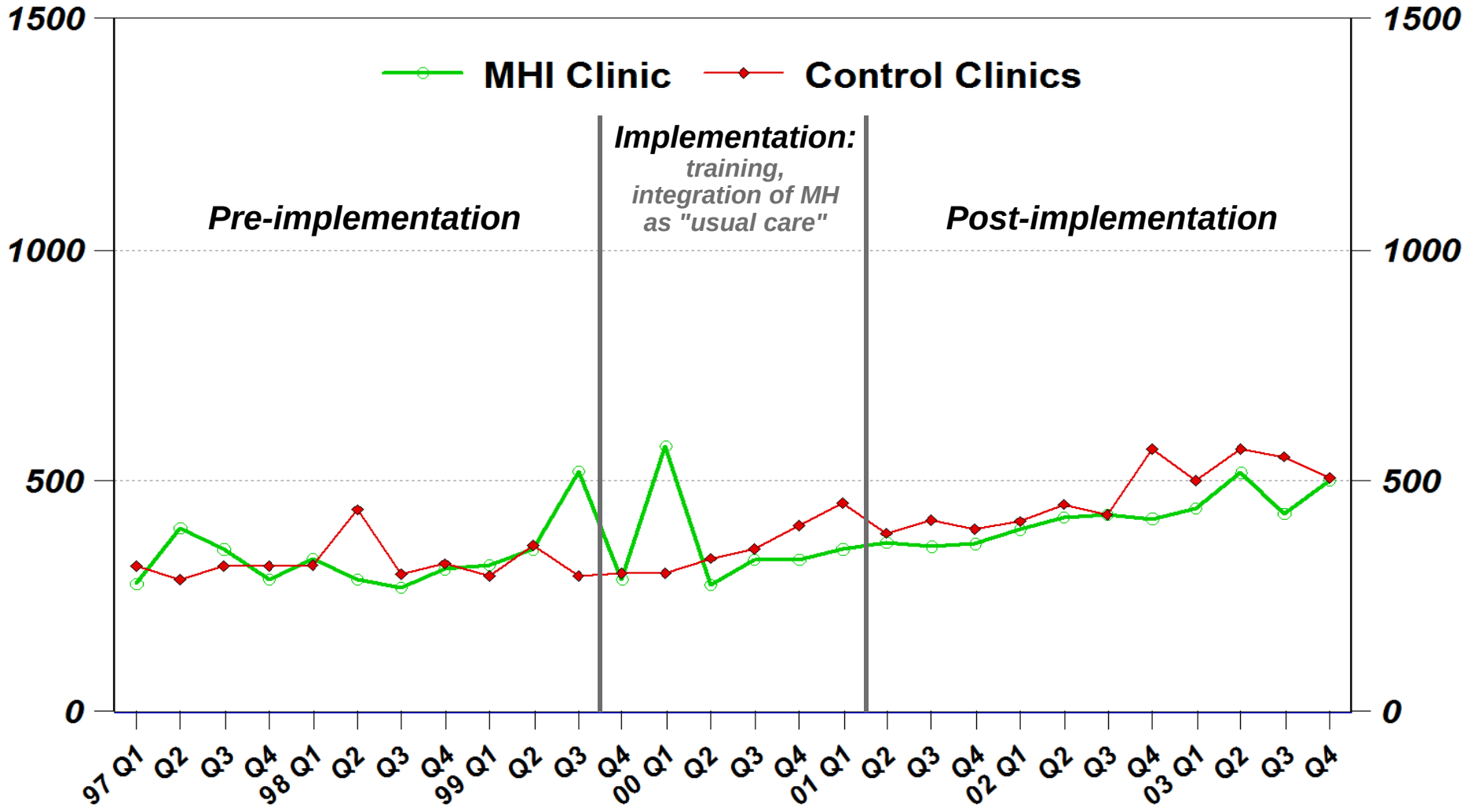
Depression detection in adults



Change in depression scores



Total care costs in adults



-- 2015 --

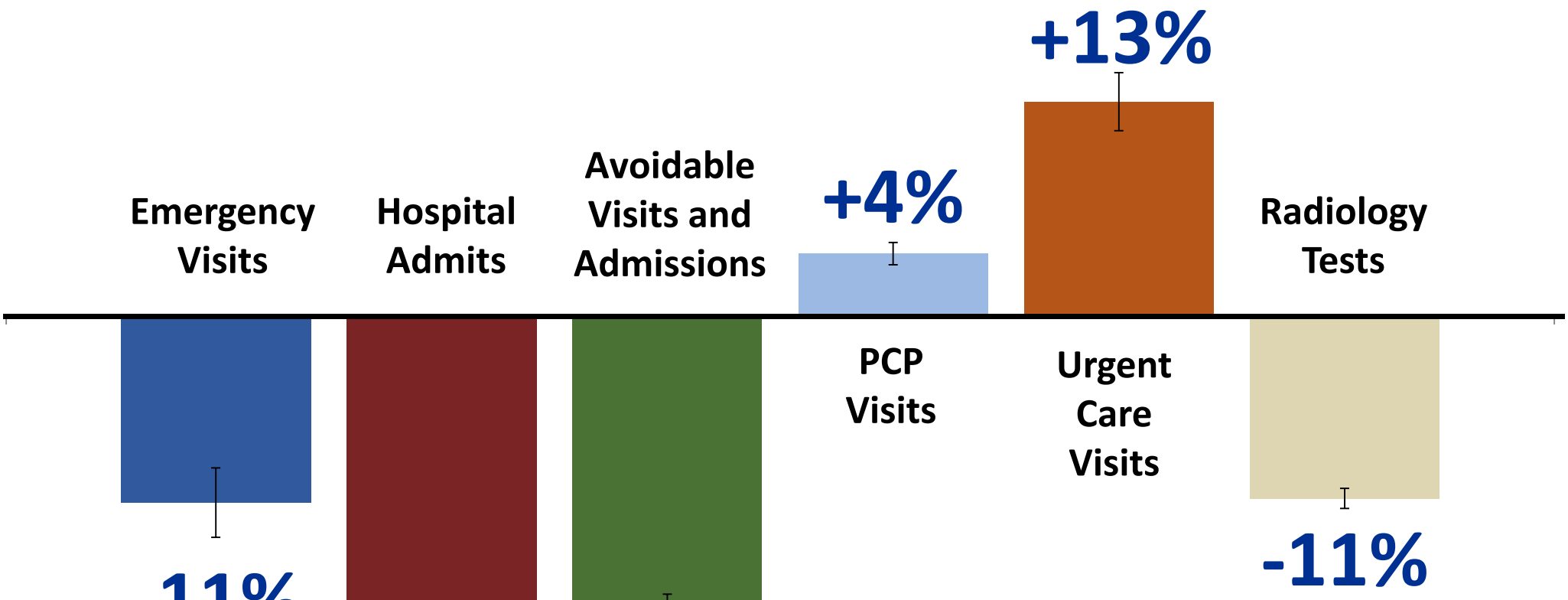
Patient-Centered Medical Home

Level 3

Team Based Care

Team-Based Care

(coordinated medical home)

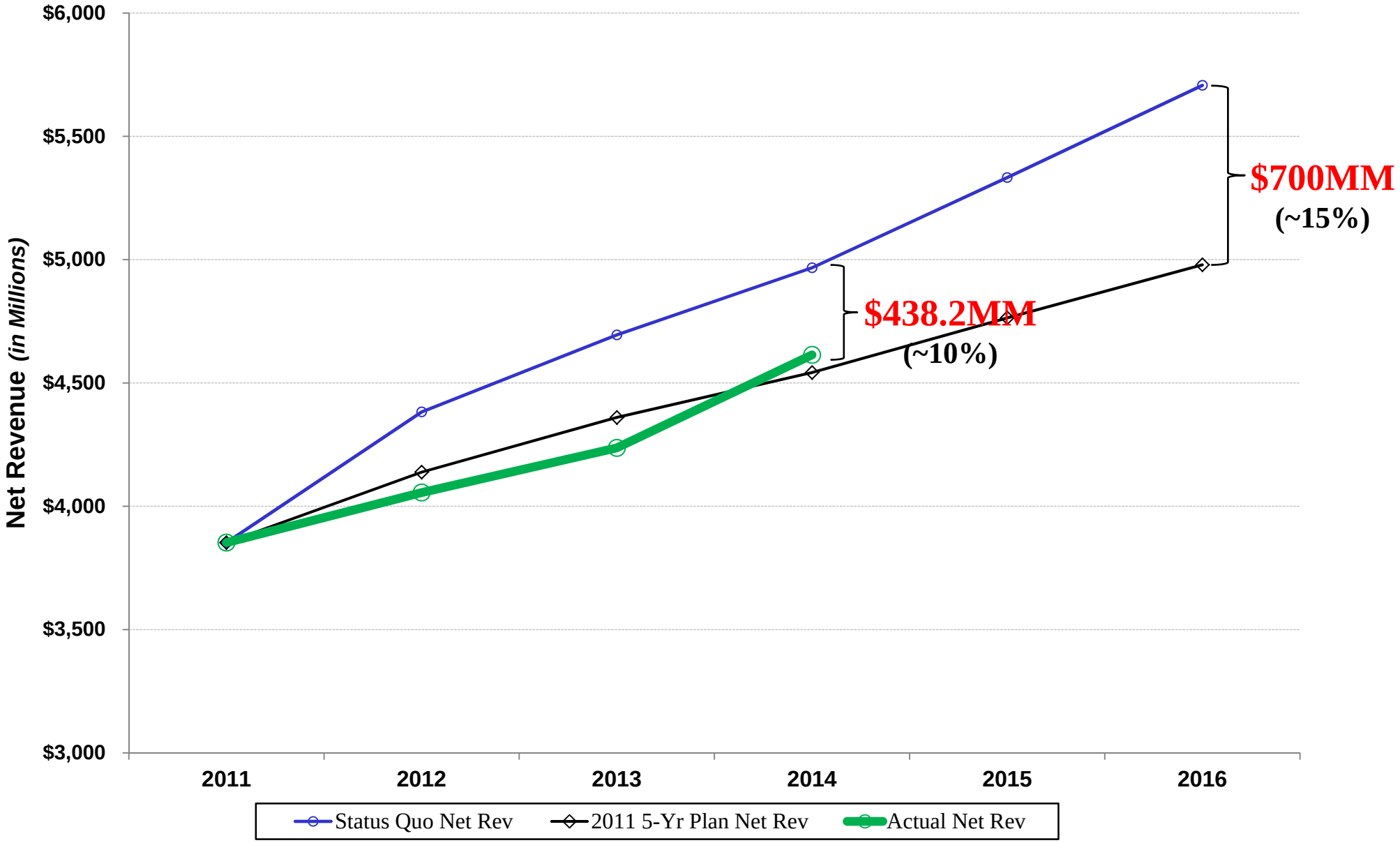


An investment of $22 per-member-per year (PMPY) decreased medical expenses by $115 PMPY

Without access,
“quality” is meaningless;

Accessible means ***Affordable***

Goal: Limit rate increases to CPI+1%



Health Services

Process management is the key

- ***better clinical results produces lower costs***

- ***more than half of all cost savings will take the form of unused capacity*** *(fixed costs: empty hospital beds, empty clinic patient appointments, reduced procedure, imaging, and testing rates)*

- ***balanced by increasing demand:***
  - *demographic shifts (Baby Boom);*
  - *population growth;*
  - *behavioral epidemics (e.g., obesity);*
  - *technological advances*

A new health care delivery world …

- ***All the right care*** *(no underuse)****, but***
- ***only the right care*** *(no overuse)****;***
- ***Delivered free from injury*** *(no misuse)****;***
- ***At the lowest necessary cost*** *(efficient)****;***
- ***Coordinated along the full continuum of care*** *(timely; "move upstream")****;***
- ***Under each patient's full knowledge and control*** *(patient-centered; "nothing about me without me")****;***
- ***With grace, elegance, care, and concern.***

Better has no limit ...

an old Yiddish proverb


Intermountain
Healthcare
Healing for life®