OUTCOMES MEASUREMENT FOR DUMMIES…AND SMARTIES

DMPC

Disease Management

Purchasing Consortium Advisory Council

Agenda

- Introduction and Challenge
  - Who am I? Why am I here?
- Some Warmup Numbers
- The 3 Most Popular Ways to Lie
- Spotting the Lies Yourselves

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"Who Am I? Why am I here?"

- <u>Outcomes evaluation and procurement</u> consulting for DM and wellness, through Disease Management Purchasing Consortium
- The popular course/certification in <u>Critical Outcomes Report Analysis</u> so you don't have to rely on vendor/consultant ROIs
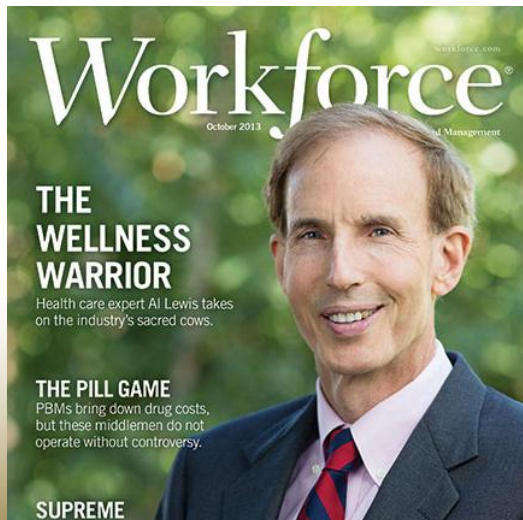- "<u>Unsung Hero Changing Healthcare Forever</u>," Leah Binder, *Forbes*

Bloomberg

Harvard Business Review

THE WALL STREET JOURNAL

HEALTH AFFAIRS
The Policy Journal of the H

FOX NEWS

Forbes

The Health Care Blog

Workforce
October 2013

THE WELLNESS WARRIOR
Health care expert Al Lewis takes on the industry's sacred cows.

THE PILL GAME
PBMs bring down drug costs, but these middlemen do not operate without controversy.

SUPREME

CNN Money.com

FORTUNE
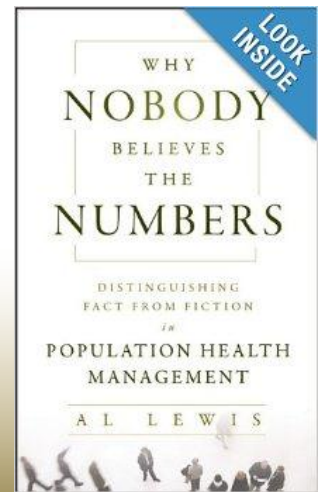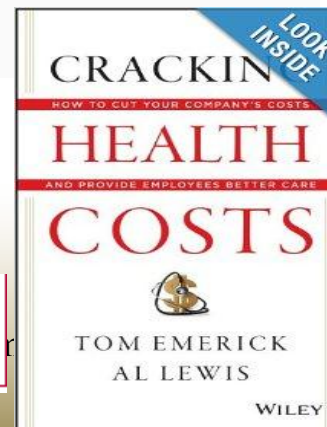
Bloomberg BNA
BNA's Health Care Policy Report

CRACKIN
HOW TO CUT YOUR COMPANY'S COSTS
HEALTH
AND PROVIDE EMPLOYEES BETTER CARE
COSTS
TOM EMERICK
AL LEWIS
WILEY

WHY NOBODY BELIEVES THE NUMBERS
DISTINGUISHING FACT FROM FICTION *in* POPULATION HEALTH MANAGEMENT
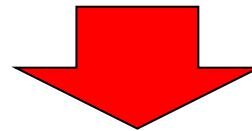AL LEWIS

To paraphrase the immortal words of the great philosopher Frank Morgan

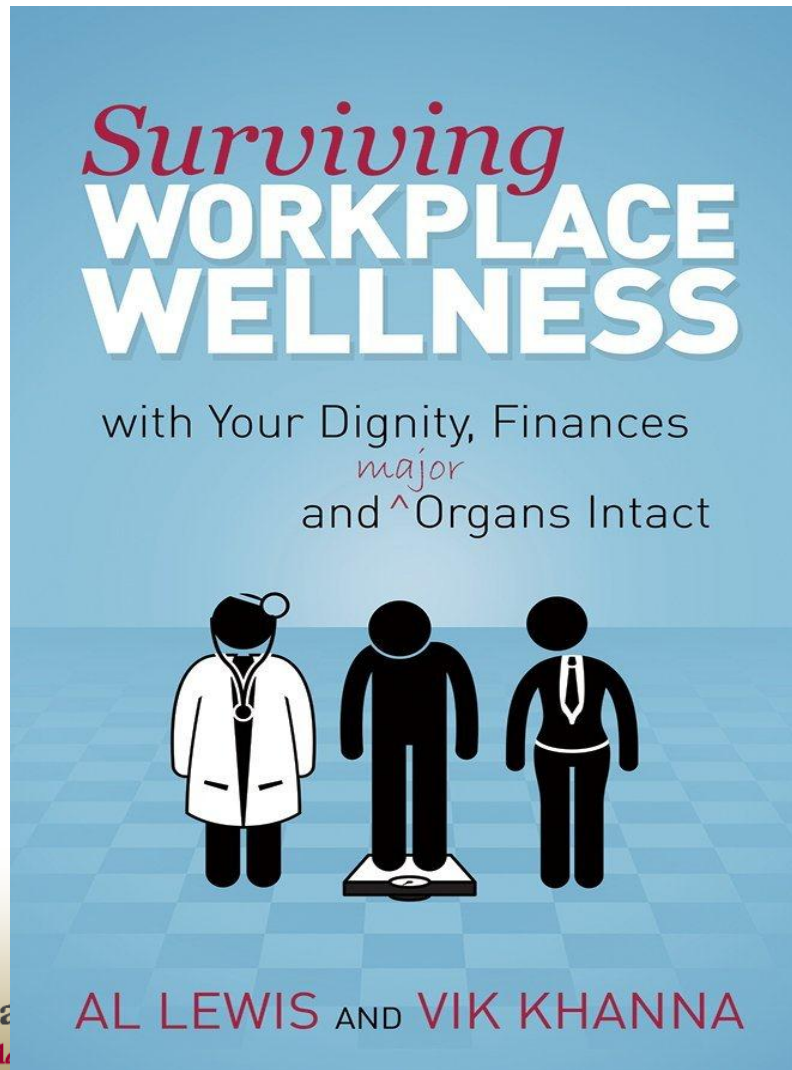# Pay no attention to that man behind the podium (regardless of qualifications)

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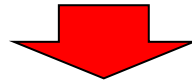
"Who are you gonna believe, me or your own eyes?"

Raise your hand if I make a mistake and you get a free
Copy of my new wellness book…

Wellness from the employees' viewpoint

…And just to show you how easy this is…

I am going to plant 4 major numerical errors in this presentation

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- Spotting the Lies Yourselves

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First, some Warm-Up Numbers

#1 *New York Times* Bestseller

Because this is a quantitative
session about health ,
let's look at some of
the more quantitative
health facts in this
book, the CDC website, and the
Cleveland Clinic

NO WONDER WE'RE FAT

During your lifetime, you will eat sixty thousand pounds of food—the weight of six elephants.

The average American chews 190 sticks of gum, drinks 600 sodas and 800 gallons of water, and eats 135 pounds of sugar and 19 pounds of cereal per year.

The biggest-selling restaurant food is french fries.

The estimated number of M&Ms sold each day in the United States is two hundred million.

The amount of potato chips Americans eat each year weighs six times more than the *Titanic*.

A can of SPAM is opened every four seconds.

Americans on average eat eighteen acres of pizza every day. Saturday night is the biggest night of the week for eating pizza.

Dunkin' Donuts serves about 112,500 doughnuts each day.

More popcorn is sold in Dallas than anywhere else in the United States.

Two million different combinations of sandwiches can be created from a Subway menu.

p. 99: "Dunkin Donuts serves 112,500 donuts a day"

The largest hamburger in the world weighed in at 5,520 pounds.

The largest ketchup bottle is a 170-foot water tower.

INTERNATIONAL PALETTES

Dinner guests during the medieval times in England were expected to bring their own knives to the table.

In eighteenth-century France, visitors to the royal palace in Versailles were allowed to stand in a roped-off section of the main dining room and watch the king and queen eat.

In certain parts of India and ancient China, mouse meat was considered a delicacy.

Each year, Americans spend more on cat food than on baby food.

It is estimated that Americans consume ten million tons of turkey on Thanksgiving Day. Due to turkey's high sulfur content, Americans also produce enough gas to fly a fleet of seventy-five *Hindenburgs* from Los Angeles to New York in twenty-four hours.

p. 103: "Americans consume 10-million tons of turkey on Thanksgiving Day."

The Consequences of Overeating are bad for your weight…

Chronic Diseases are the Leading Causes of Death and Disability in the U.S.

"Almost 1 in 5 youth between the ages of 6 and 19 is obese (BMI ≥ 95th percentile …)"

…for your digestive health too…

HealthHub
from Cleveland Clinic

You Have the Power to Stop Colon Cancer (Infographic)

By Digestive Health Team | 3/13/14 6:01 a.m.

Tags: cancer, colon cancer, colonoscopy, health screenings, infographic

Nearly 144,000 Americans will be diagnosed with colon cancer this year. That's 1 out of 19 people in the United States. But the good news is that colon cancer is one of the most preventable cancers. Find out how to reduce your risk.

▸ Read more   in Share ‹ 13   f Like ‹ 4.3k   ⅴ Tweet ‹ 19   g+1 ‹ 25   ✉ Email ‹ 17

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Any Questions?

- In the immortal words of the great philosopher Irving Berlin
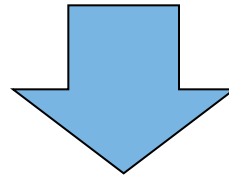
Oops—there should have been questions

Here's Why: All these "facts" are dead wrong

- Each is off by almost TWO decimal points

And yet no reader, no reviewer, no editor noticed…and the book has been in print for 6 years.   Everyone assumed that if experts said it, it had to be right.

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Dunkin' Donuts serves about 112,500 doughnuts each day.

More popcorn is sold in Dallas than anywhere else in the United States.

Two million different combinations of sandwiches can be created from a Subway menu.

Look harder at numbers you are shown

p. 99: "Dunkin Donuts serves 112,500 donuts a day"

Did you **think**: "Wait, there must be thousands of Dunkin Donuts stores – that's only a few dozen donuts a day/store" ?

The largest hamburger in the world weighed in at 5,520 pounds.

The largest ketchup bottle is a 170-foot water tower.

INTERNATIONAL PALETTES

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p. 103: "Americans consume 10-million tons of turkey on Thanksgiving Day."

Did you *think*:
"Wait, that's 20-billion pounds,
About 67 pounds per person" ?

How can you put almost 20% of people in the 95% percentile and above?

Chronic Diseases are the Leading Causes of Death and Disability in the U.S.
 Almost 1 in 5 youth between the ages of 6 and 19 is obese (BMI ≥ 95th percentile …)"

144,000 people is barely 1 out of 19 people in greater Cleveland…

HealthHub from Cleveland Clinic

You Have the Power to Stop Colon Cancer (Infographic)

By Digestive Health Team | 3/13/14 6:01 a.m.

Tags: cancer, colon cancer, colonoscopy, health screenings, infographic

Nearly 144,000 Americans will be diagnosed with colon cancer this year. That's 1 out of 19 people in the United States. But the good news is that colon cancer is one of the most preventable cancers. Find out how to reduce your risk.

▸ Read more   in Share 13   f Like 4.3k   Tweet 19   g+1 25   Email 17

What did we just prove in a real-time experiment?

- Most people won't challenge something that an expert tells them in a credible setting (example: it's in a bestselling book)

- Don't believe a self-anointed "expert," including me.   Believe your own eyes.

You need to do this for anything you see that isn't done to FDA specs

(c) 2014 DMPC
www.dismgmt.com

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- Introduction and Challenge
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- The 3 Most Popular Ways to Lie
  - #1—reducing a number by more than 100%
- Spotting the Lies Yourselves

Lie #1: Reducing a Number by More than 100%

1. You cannot reduce a number by more than 100%

This Is True No Matter How Hard You Try

(c) 2014 DMPC www.dismgmt.com

AND (You're probably wondering where I'm going with this one…)

This Is Not One of Those Things That's the Opposite in the Southern Hemisphere
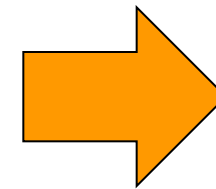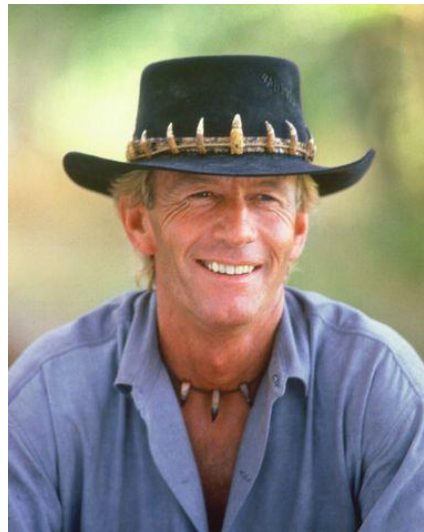
So this rule
Is ironclad…

…And Yet…

Wellness Program Case Study
The Children's Hospital

The Children's Hospital of Denver (TCH) started their first comprehensive wellness program in 2007, implementing a personalized approach focused around a high trust, high engagement strategy with US Corporate Wellness. The following provides data resulting directly from this program.

Access and Participation
All benefit eligible employees at TCH - approximately 3,200 people - were granted access to participate in the program. Those receiving benefits – approximately 2,400 people – were provided a moderate incentive to participate. The program grew quickly to 1,400 active participants upon launch and has since exceeded 2,000 active participants at the end of 2009. This comprised 63% of total eligible employees and a full **83% of incentivized employees**. Active participation was not based simply on completion of an online document or logging onto a site to register. Rather, it involved ongoing discussions with the individual's own personal wellness coach in setting goals, identifying areas for change, etc.

Sick Time
Like many organizations, TCH combines the first 16 hours of sick time along with vacation into a PTO bank. Hours tied to sick time beyond 16 hours are categorized as EIB (Extended Illness Benefit), and this was the focus of the analysis. Maternity and anomalies (totaling 3%) were pulled out and the remaining 97% plus of the total population was analyzed at TCH, with the following results:
- Wellness program participants are **230% less likely to utilize EIB** than non-participants

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Luckily Math is not a popularity contest because here is another vote for >100% reductions (since removed from website)

Press Release

PCMH Effectiveness: The Proof Is In

HI-WIRE

George Miller

January 04, 2010

A five-year prospective evaluation of the model yields a 129% increase in patients receiving optimal diabetes care and a 48% increase for heart-disease patients. The model also achieved a 350% reduction in appointment waiting time

Let's see what one of the country's most respected healthcare nonprofits has to say about vendors-gone-wild

IHI response:
"Where do we sign?"

PCMH Effectiveness: The Proof Is In

HI-WIRE

George Miller

January 04, 2010

A five-year prospective evaluation of the model yields a 129% increase in patients receiving optimal diabetes care and a 48% increase for heart-disease patients. The model also achieved a 350% reduction in appointment waiting time, as reported by the Institute for Healthcare Improvement.

Clearly We Need Some Actuaries to Straighten This Out

Milliman Report for North Carolina Medicaid Shows Savings of $261MM in Children's Admissions in 2009 through their statewide PCMH vs. 2006 baseline

North Carolina Division of Medical Assistance
Estimated Cost Savings Calculated Using Method 1 by Fiscal Year and Eligibility Group

| Fiscal Year	ABD Medicaid Only	ABD Dual Eligibles	Children age 20 and under (excluding ABD)	Adults (excluding ABD)	Totals
FY07	($82,000,000)	($14,000,000)	$177,000,000	$22,000,000	$103,000,000
FY08	($34,000,000)	($9,000,000)	$202,000,000	$45,000,000	$204,000,000
FY09	($13,000,000)	($11,000,000)	$261,000,000	$58,000,000	$295,000,000
FY10	$53,000,000	($6,000,000)	$238,000,000	$97,000,000	$382,000,000

Unfortunately the 2006 baseline amount –the maximum amount reducible—was only $114 million (according to state's own data)

North Carolina Division of Medical Assistance
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2006 baseline spending

Aggregate costs		of discharges	Medicare	Medicaid
Total number of discharges		1,100,005	423,602	226,190
		########	########	########
Age group	<1	136,849	19	69,019
		390,703,783	68,228	217,790,451
	1-17	44,546	1	22,394
			1,365,9 9	114,620,426
	18-44	289,755	21,669	97,859
		########	178,553,996	487,584,960
	45-64	265,992	72,447	36,442
		########	729,137,435	369,788,731
	65-84	299,251	264,785	429
		########	########	4,874,779
	85+	69,595	64,563	39
		531,179,285	495,677,349	335,28
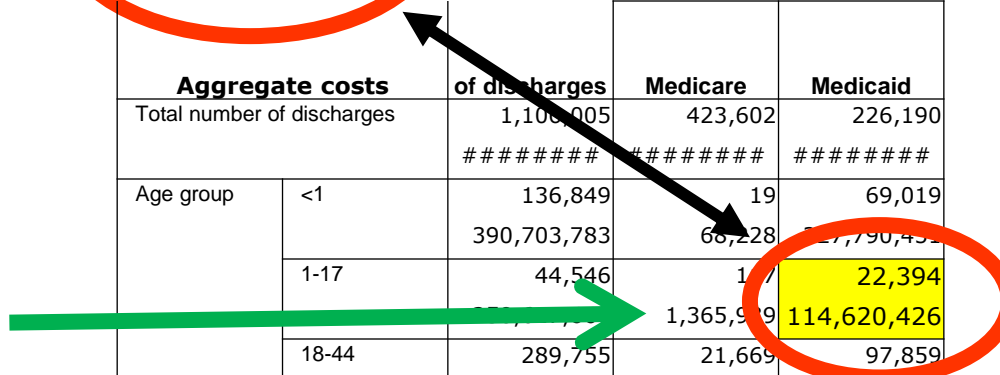
Postscript: It turned out there was no admissions reduction at all in NC Medicaid PCMH

- However, there was one true statement in their report…

A true statement in that Milliman Report

- "Other Milliman consultants may hold different views."

Wellsteps "ROI Calculator" —Spending Goes Below Zero

Let's Change The Assumptions – Maybe These Assumptions Weren't Fair

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Let's Hand Out Big Macs and Cigarettes in the Lobby and See How Much Costs Increase

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Costs Still Go Below Zero

$1,000,000

Annual % Cost Increase   **Number of Employees**

0%   1,000

% Employees That Are Obese:

0%

% Employees That Are Smokers:

0%

Enter Target Data

-Obese Employees-

Enter Target Percent: 99%

-Employees Who Smoke-

Enter Target Percent: 99%

CALCULATE

IMPACT OF REDUCING SMOKING   **IMPACT OF WELLNESS PROGRAMS**

Project the impact of effect of a high impact wellness program on health care costs. Compare these projections with the cost of doing nothing.

Impact of Wellness Programs

Health Care Cost Trend

Costs (y-axis): $1,000,000 / $800,000 / $600,000 / $400,000 / $200,000 / $0 / -$200,000 / -$400,000

Years (x-axis): 2013, 2014, 2015, 2016, 2017, 2018, 2019

Do Nothing   **High Impact**

Projected After Cost Health Care Savings			
Year	Do Nothing	High Impact Wellness	Savings
Last Year	$1,000,000	$1,000,000	$0
2014	$1,000,000	$927,200	$72,800
2015	$1,000,000	$781,610	$218,390
2016	$1,000,000	$538,960	$461,040
2017	$1,000,000	$296,310	$703,690
2018	$1,000,000	$5,130	$994,870
2019	$1,000,000	$-358,850	$1,358,850

DM

After Wellsteps ROI Was "Profiled" on The Health Care Blog 4/28, They Apologized

After Wellsteps ROI Was "Profiled" on The Health Care Blog 4/28, They Apologized (NOT!)

From: Dr. Steven Aldana [mailto:steve@wellsteps.com]
Sent: Thursday, May 1, 2014 10:34 AM
To: Frank
Subject: 11,000 Producers Can't Be Wrong

Frank,

So far this year 11,000 brokers and consultants have used the FREE worksite wellness ROI calculator to show clients the financial impact wellness can have on health care costs, presenteeism and absenteeism. This calculator is based on every wellness ROI study ever published.

The output gives brokers client-specific reports on the financial impact of wellness. We built the WellSteps ROI calculator and provide it free to help professionals like you make a business case for wellness.
We invite you to try the calculator for yourself. See how you can:

- Estimate the impact of wellness on health care costs, absenteeism and presenteeism
- Produce client-specific reports that show wellness impact
- Help your clients implement effective wellness programs

With WellSteps and our free worksite wellness tools, you'll gain client loyalty and new business.

Try the calculator.

Sincerely,
Steven Aldana, Ph.D.
CEO WellSteps
(801) 864-7625
email: steve@wellsteps.com

Here's a vendor that doesn't even need you to wait until 2019 to reduce costs by >100%
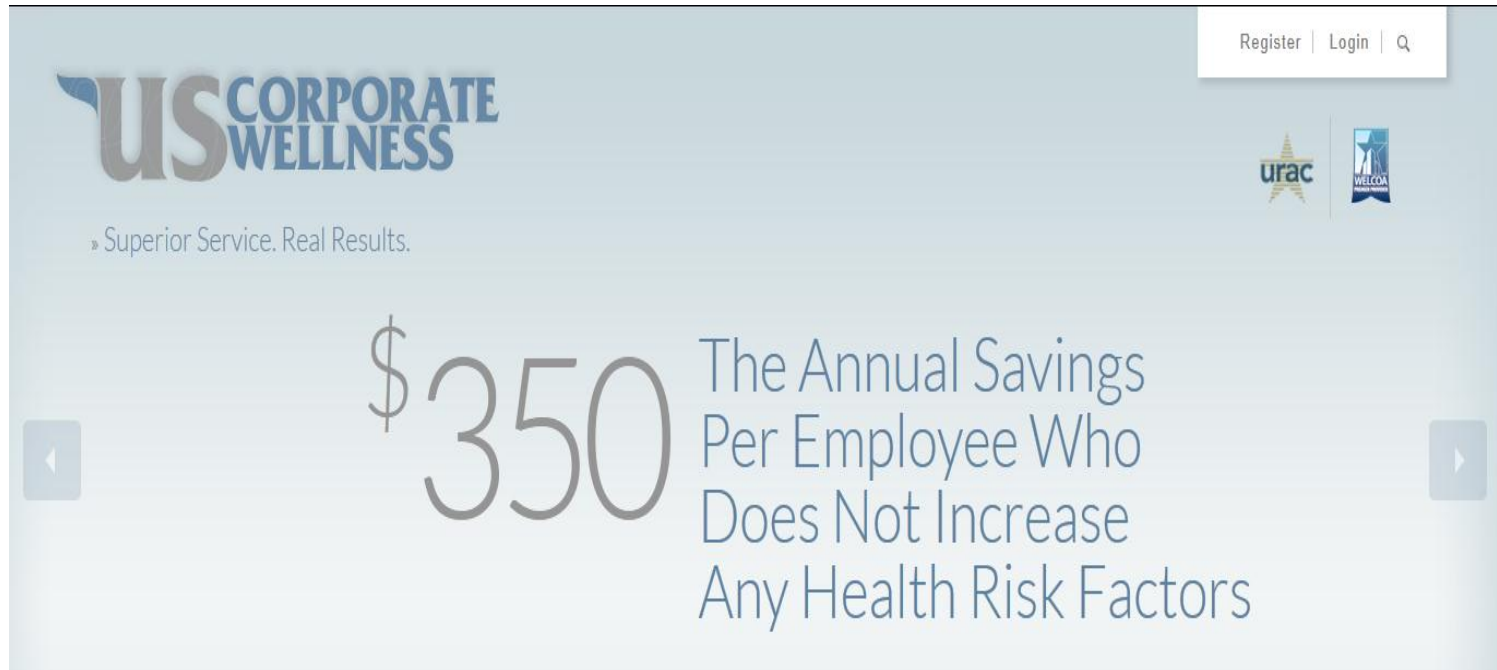
SAVINGS ESTIMATOR

Total number of plan members	1000
Percentage of plan members are employees:	100
Estimate the risk level in your population:	High Risk ▼
Assumed rate of participation:	High Participation ▼
Projected rate of risk reduction:	High Rate ▼

YOUR POTENTIAL SAVINGS

EMPLOYEES	NON EMPLOYEES	TOTAL
$6,120.00	$0.00	$6,120.00

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  - Lie #2: Making up data
- Spotting the Lies Yourselves

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Lie #2: Making Up Data
This Vendor Will Save Money if Nothing Happens

Seinfeld meets Wellness:
Achieving Savings by Doing Nothing to reduce risk factors

Did Kaiser's vendor Avivia increase adherence?

CAD Lipid Rx Adherence Rate

Baseline | Program Year 1 | Program Year 2

- Jul 08: 75.6%
- Aug 08: 75.2%
- Sep 08: 74.0%
- Oct 08: 74.0%
- Nov 08: 74.6%
- Dec 08: 75.4%
- Jan 09: 76.5%
- Feb 09: 77.0%
- Mar 09: 75.8%
- Apr 09: 75.4%
- May 09: 76.5%
- Jun 09: 76.6%

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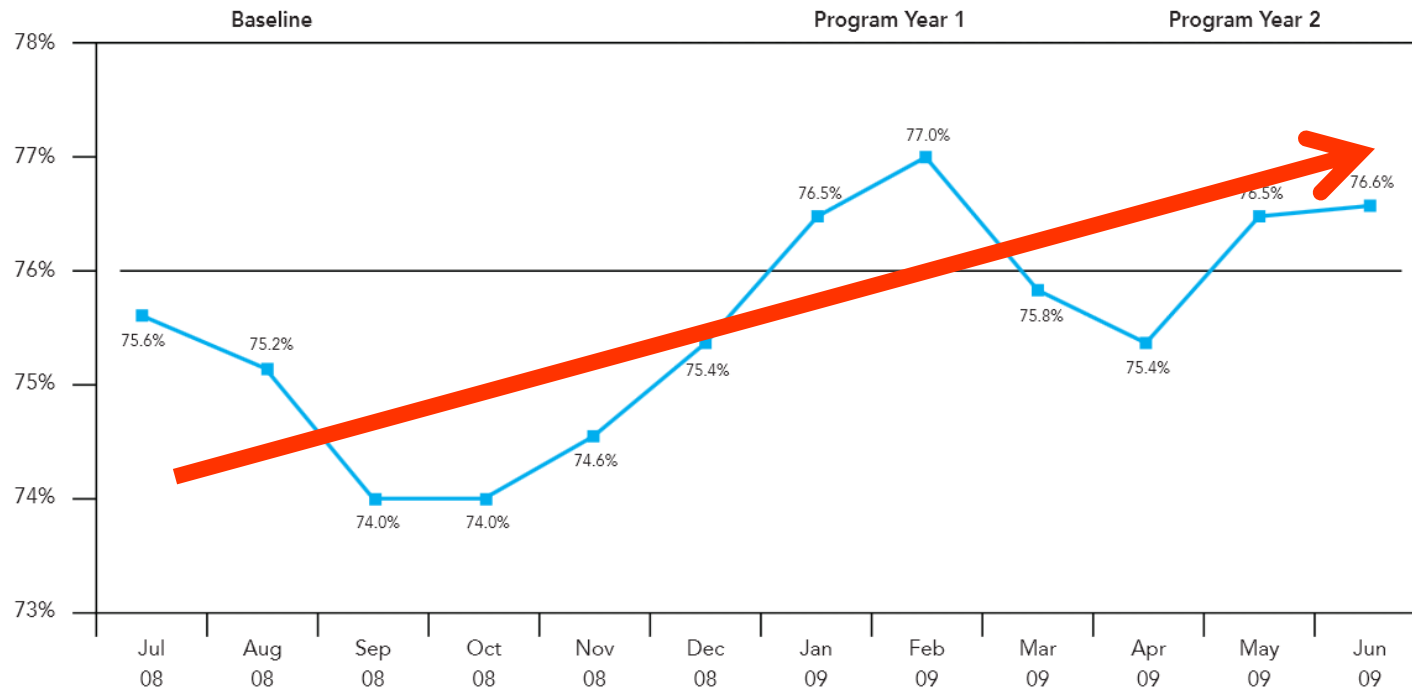
Or Simply Start the Y-Axis at 73%?

CAD Lipid Rx Adherence Rate
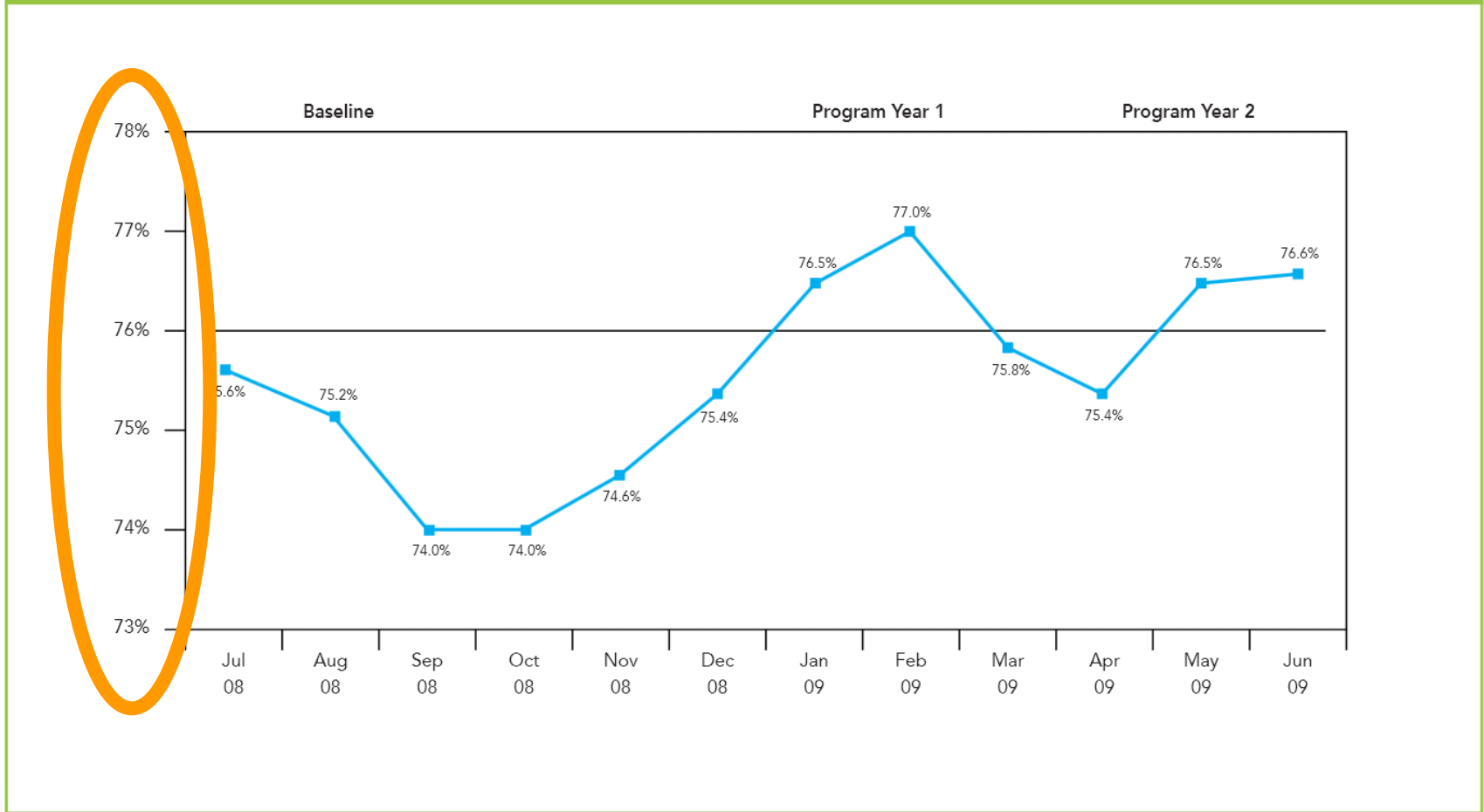
Here's What Happens to That Slide When You Start the Y-Axis at 0%

% Adherence

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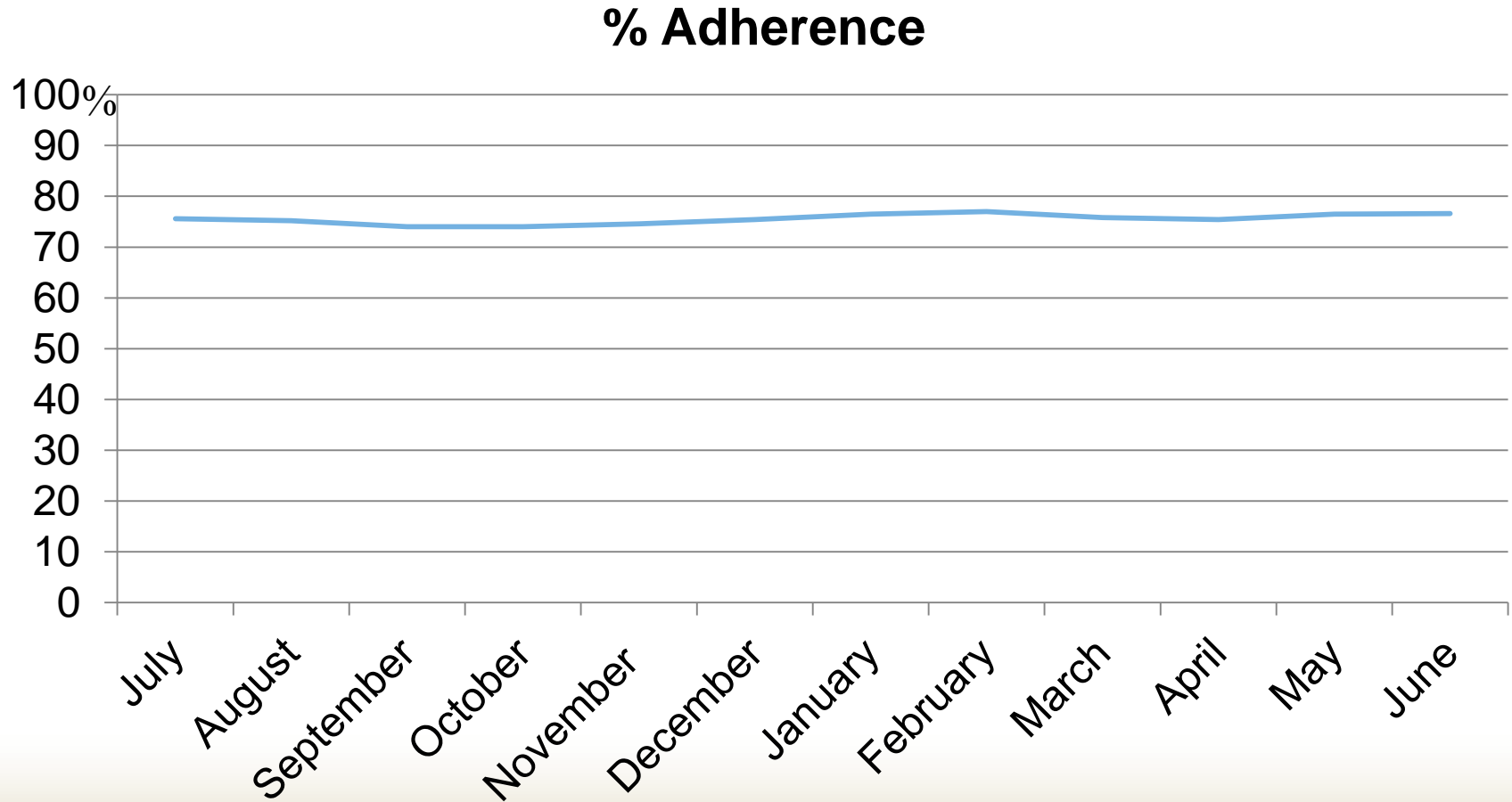
What Else Do You Notice About This 3-Year Study?

CAD Lipid Rx Adherence Rate

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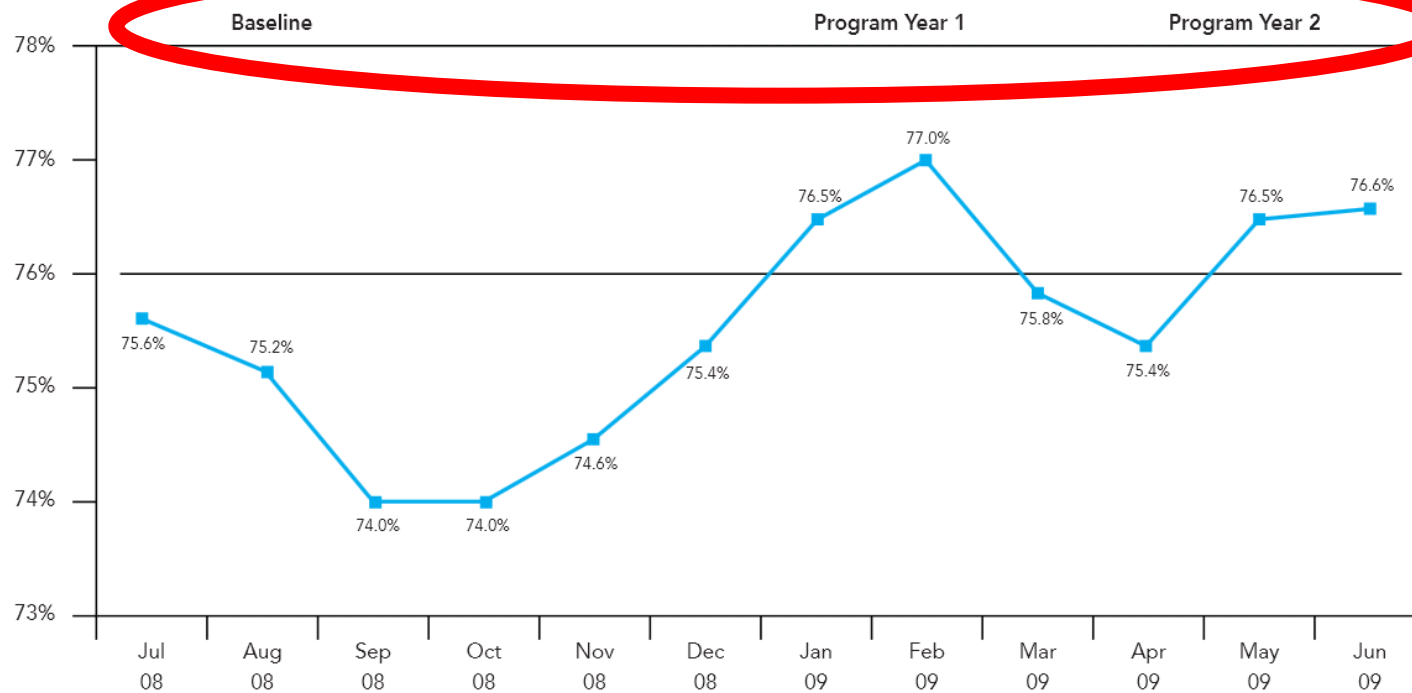
Squeeze Three Years into One

CAD Lipid Rx Adherence Rate

Squeeze Three Years into One
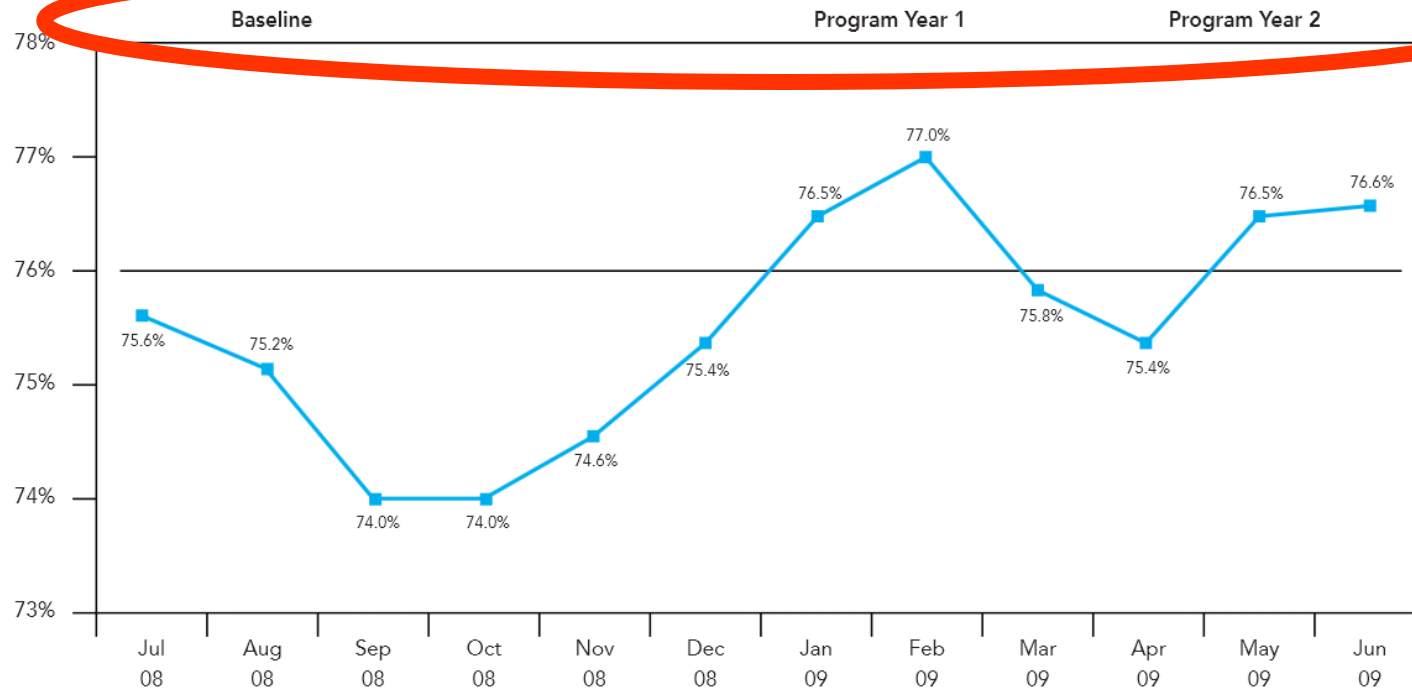
CAD Lipid Rx Adherence Rate
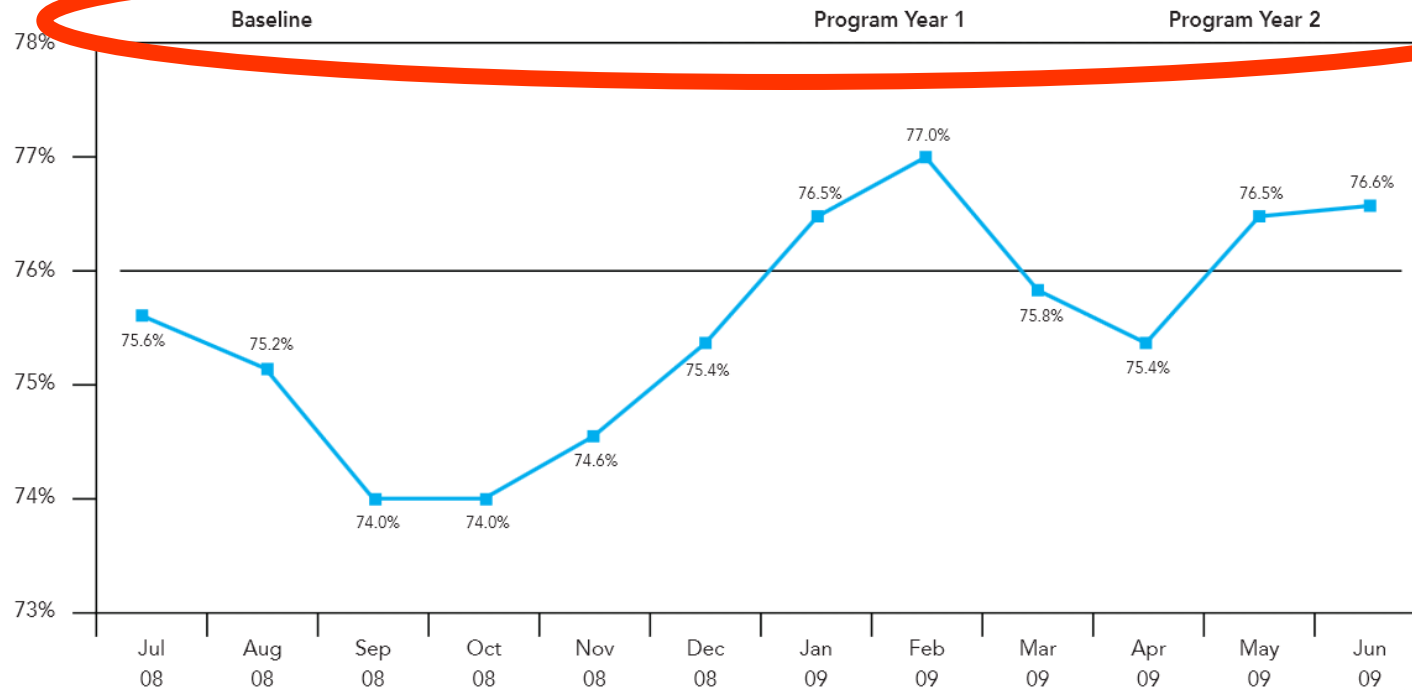
Highlights of Pharos Findings (according to their website)

- 79% reduction in admissions
- 85% reduction in total cost

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Pharos Results not just validated…

Pharos Results not just validated…

According to their website, their results are "strongly validated"

Pharos Results not just validated…

According to their website, their results are "strongly validated"

Regular validation is for sissies

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Alleged Pharos "Results"
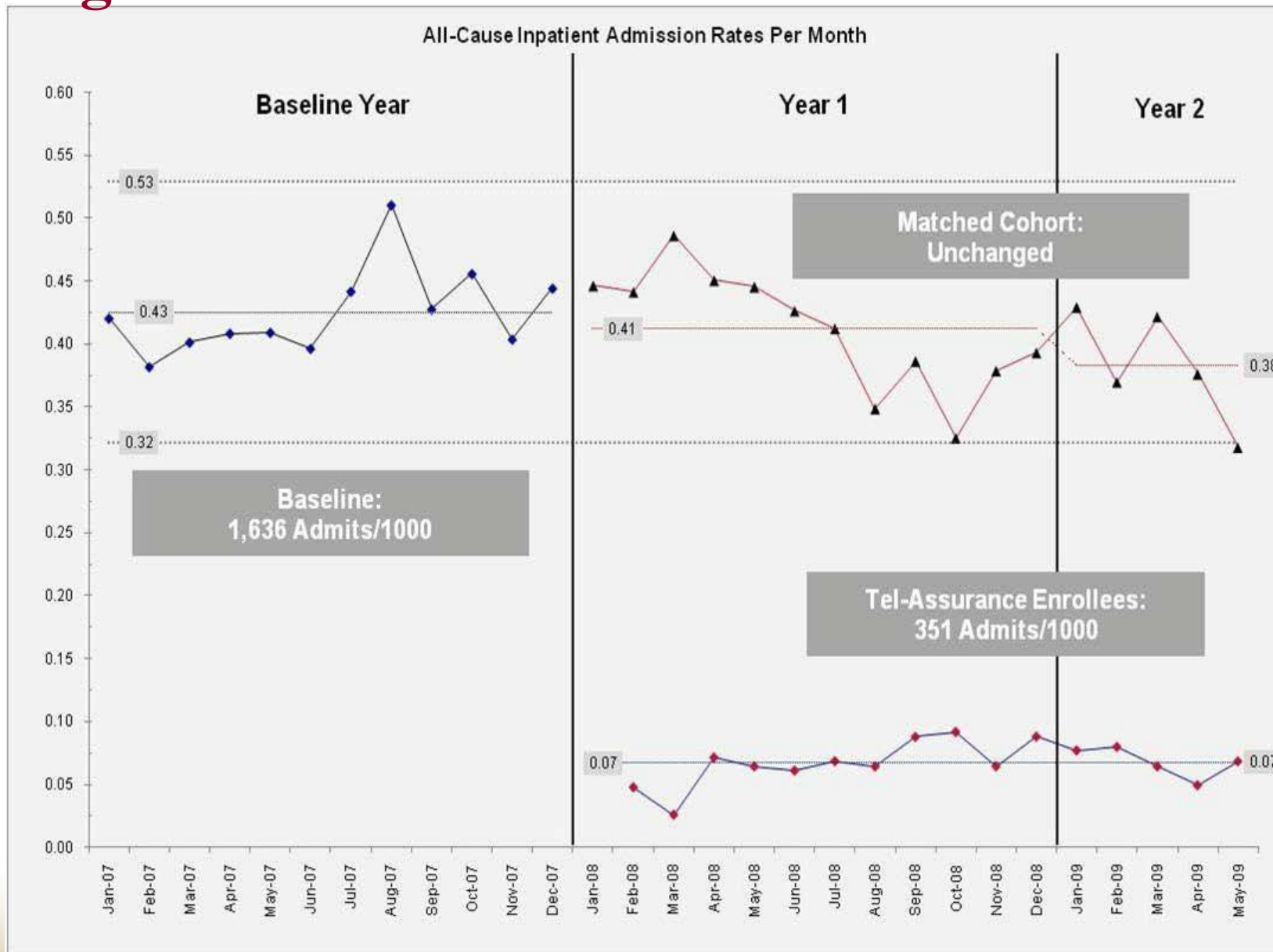
Alleged Pharos "Results"
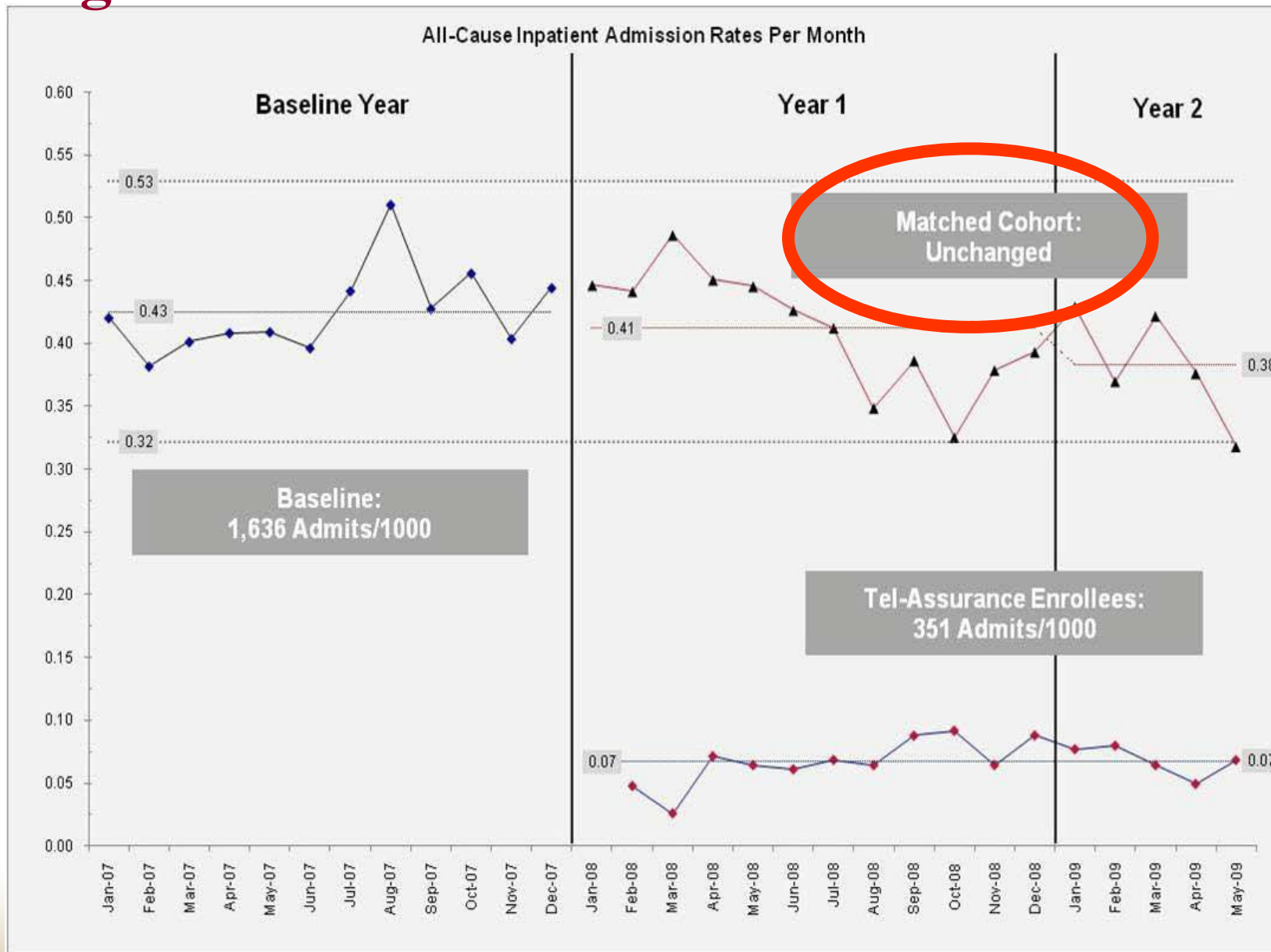
All-Cause Inpatient Admission Rates Per Month

Baseline Year — Year 1 — Year 2

0.53
0.43
0.32

Matched Cohort: Unchanged

0.41

0.38

Baseline: 1,636 Admits/1000

Tel-Assurance Enrollees: 351 Admits/1000

0.07   0.07

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*Where "unchanged" is defined as "declining 25%"
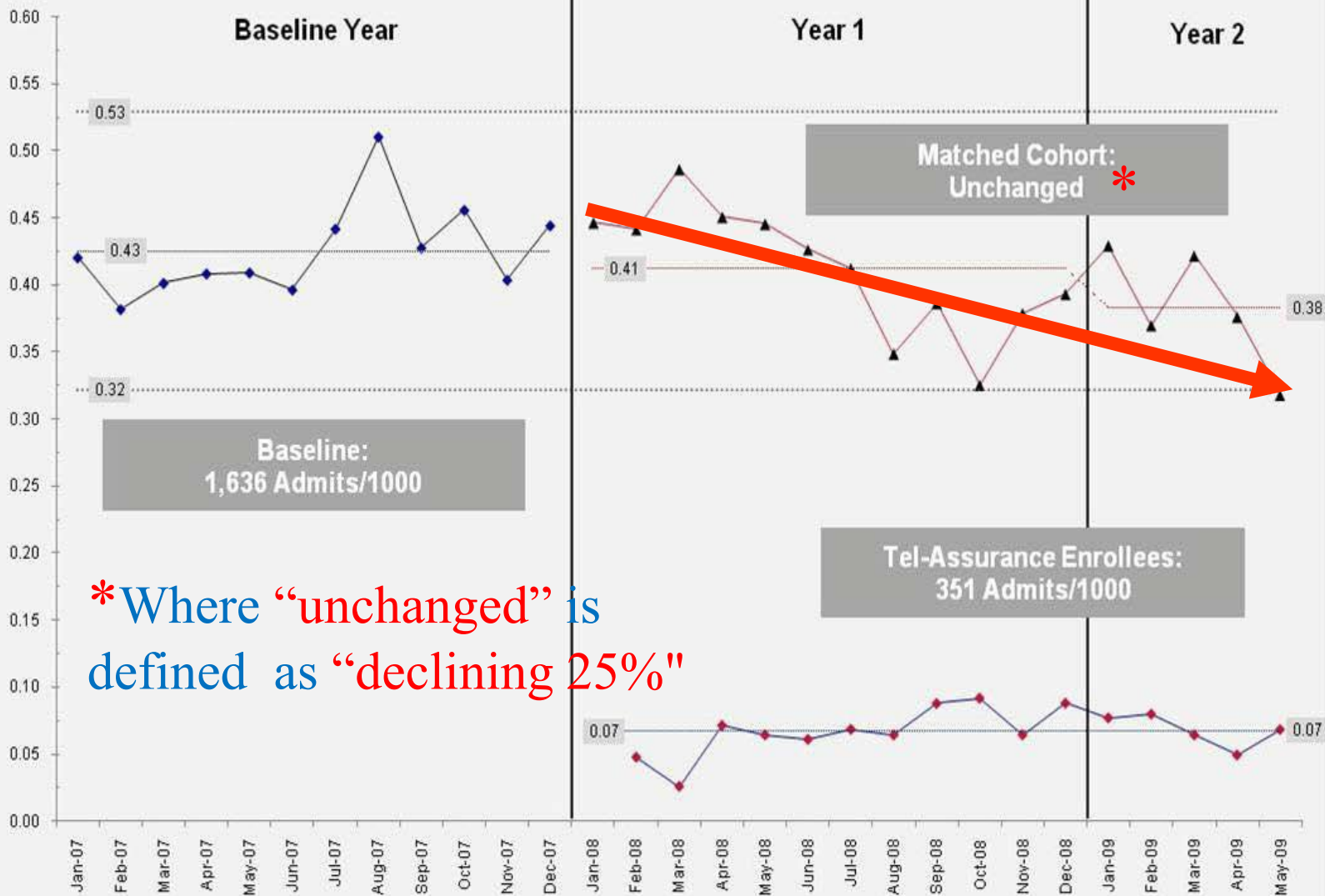
In case anyone still has any doubt about Pharos results

"There were no significant differences between the two groups with respect to the secondary end points or the time to the primary end point or its components."

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- Introduction and Challenge
- Some Warmup Numbers
- The 3 Most Popular Ways to Lie
  - Lie #3: Playing with biostatistics and study design, using "natural flow of risk, phony control groups, and projecting a high trend
- Spotting the Lies Yourselves

Cigna Guarantees that 30% of High and Medium Risk will decline in risk:
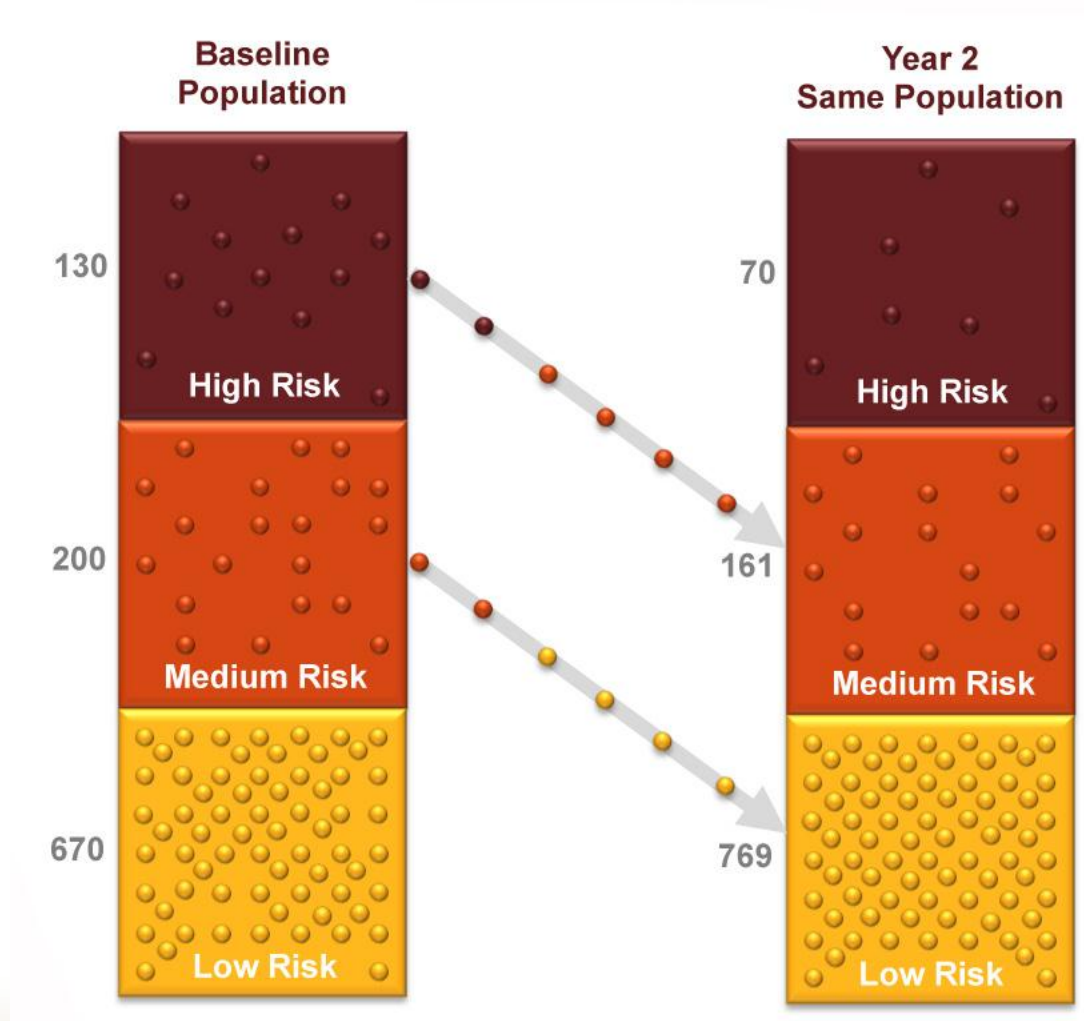
First question: Isn't that just guaranteeing that 30% of heads will flip to tails?
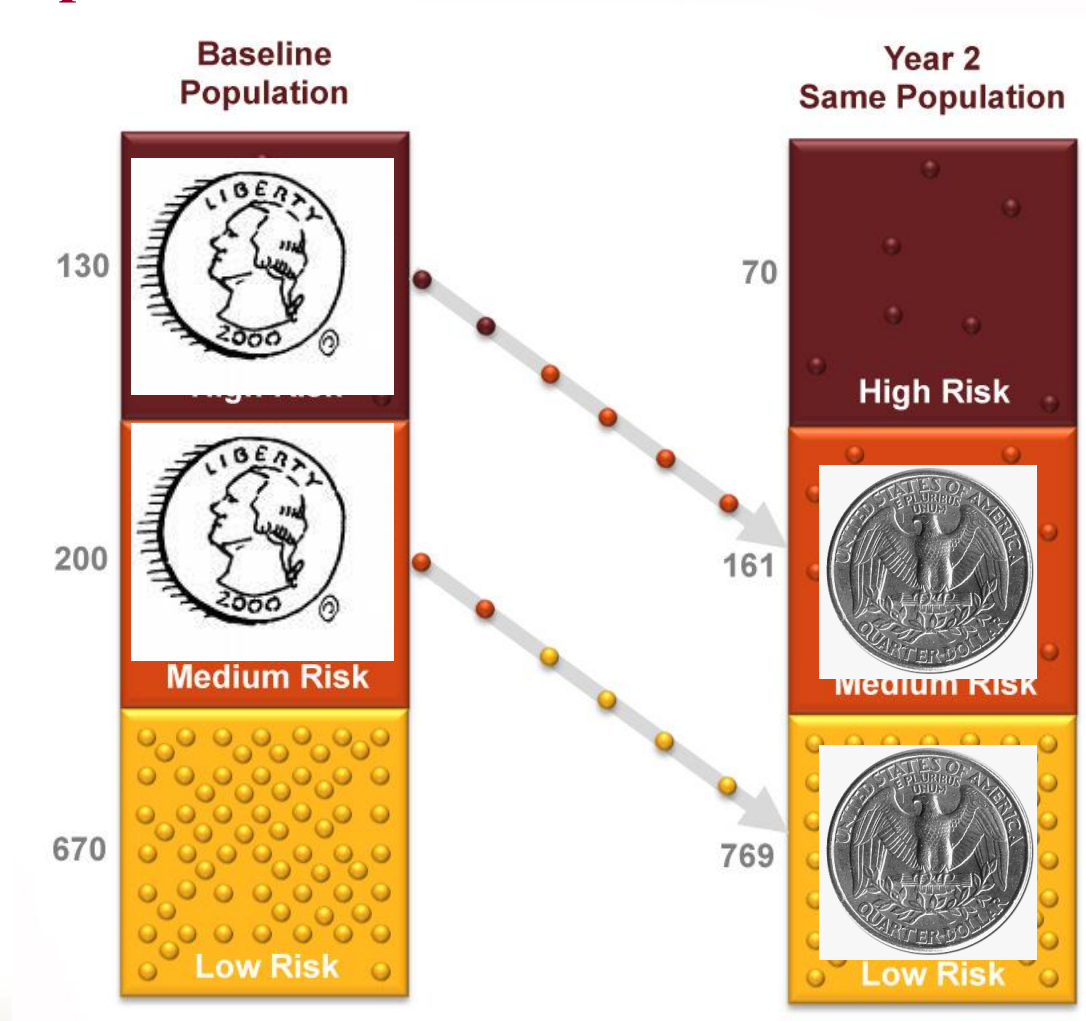
Second question: What about these people flipping from tails to heads? Shouldn't they be counted too?
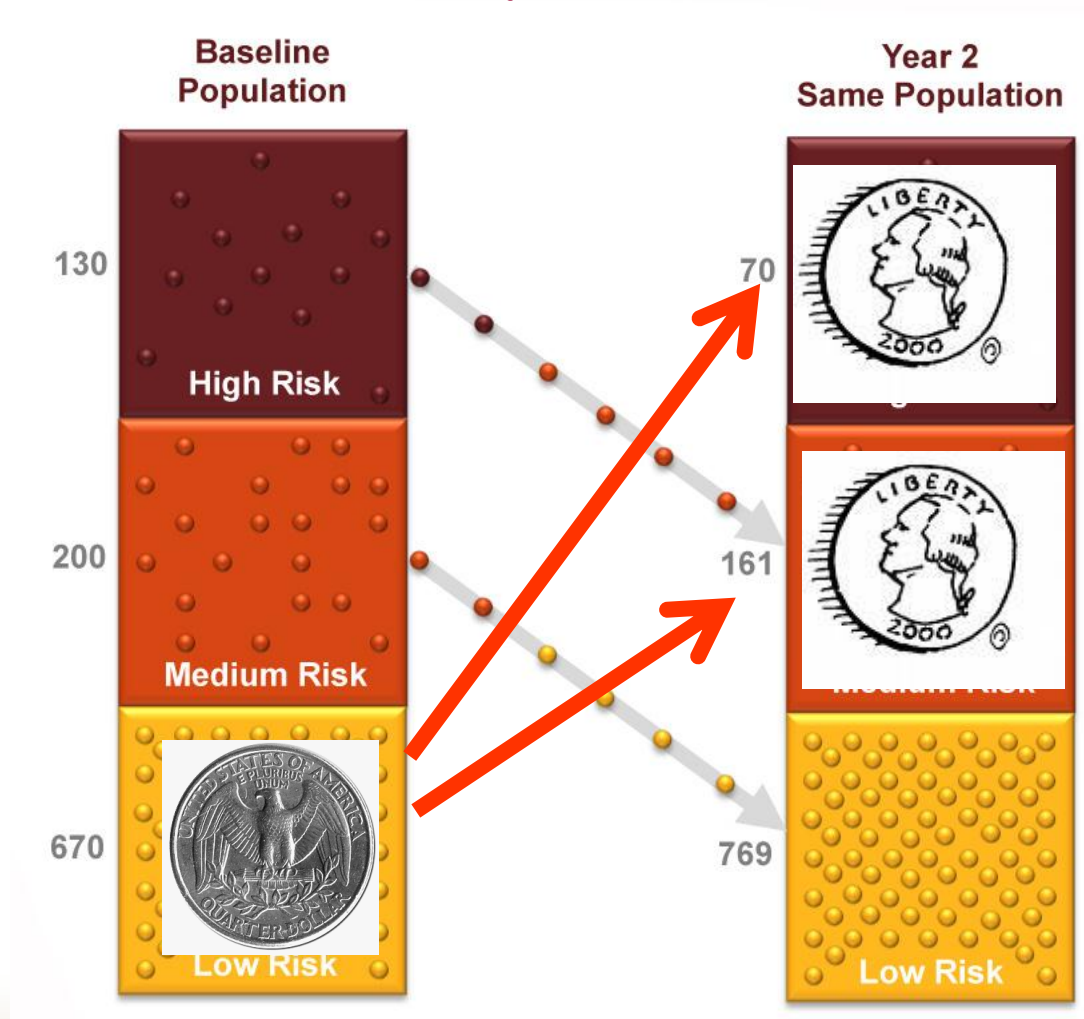
Risk factors go up and down on their own: Dee Edington's "natural flow"
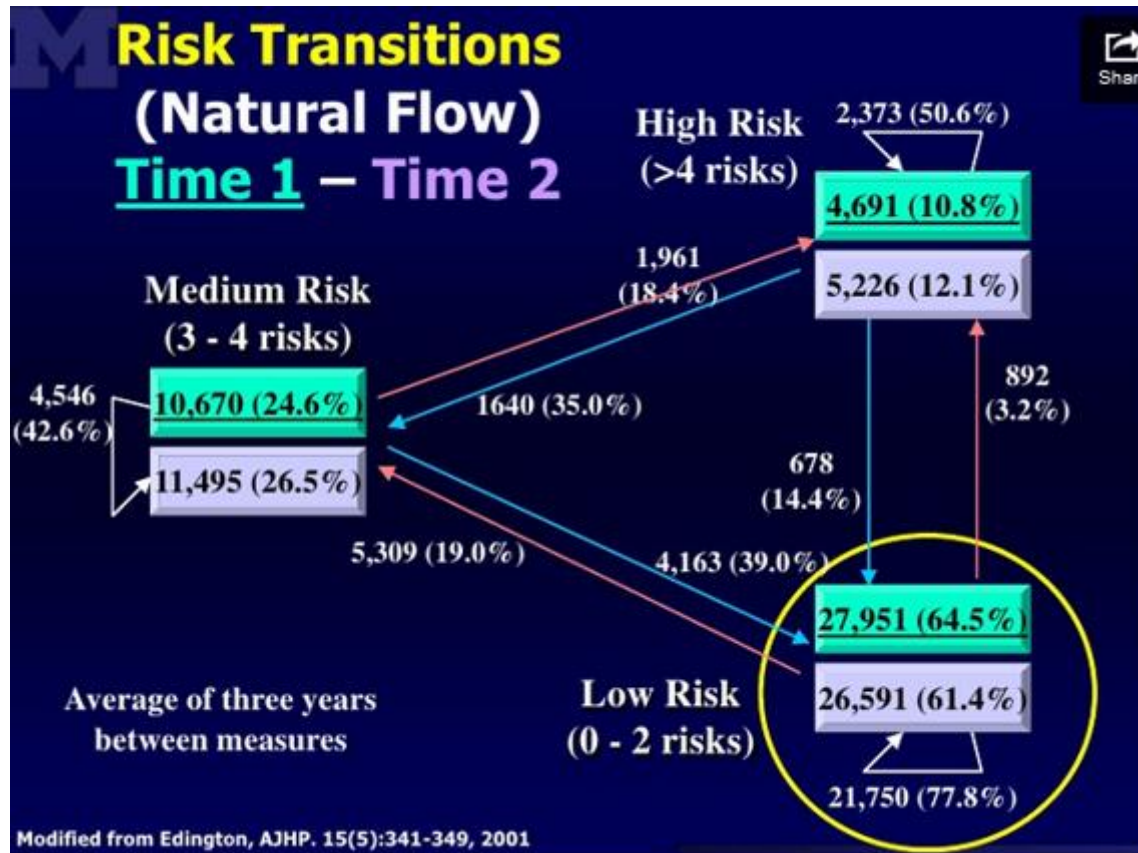
Third question: Should Cigna have drawn the 670-person low-risk segment larger than the 200 and 130?
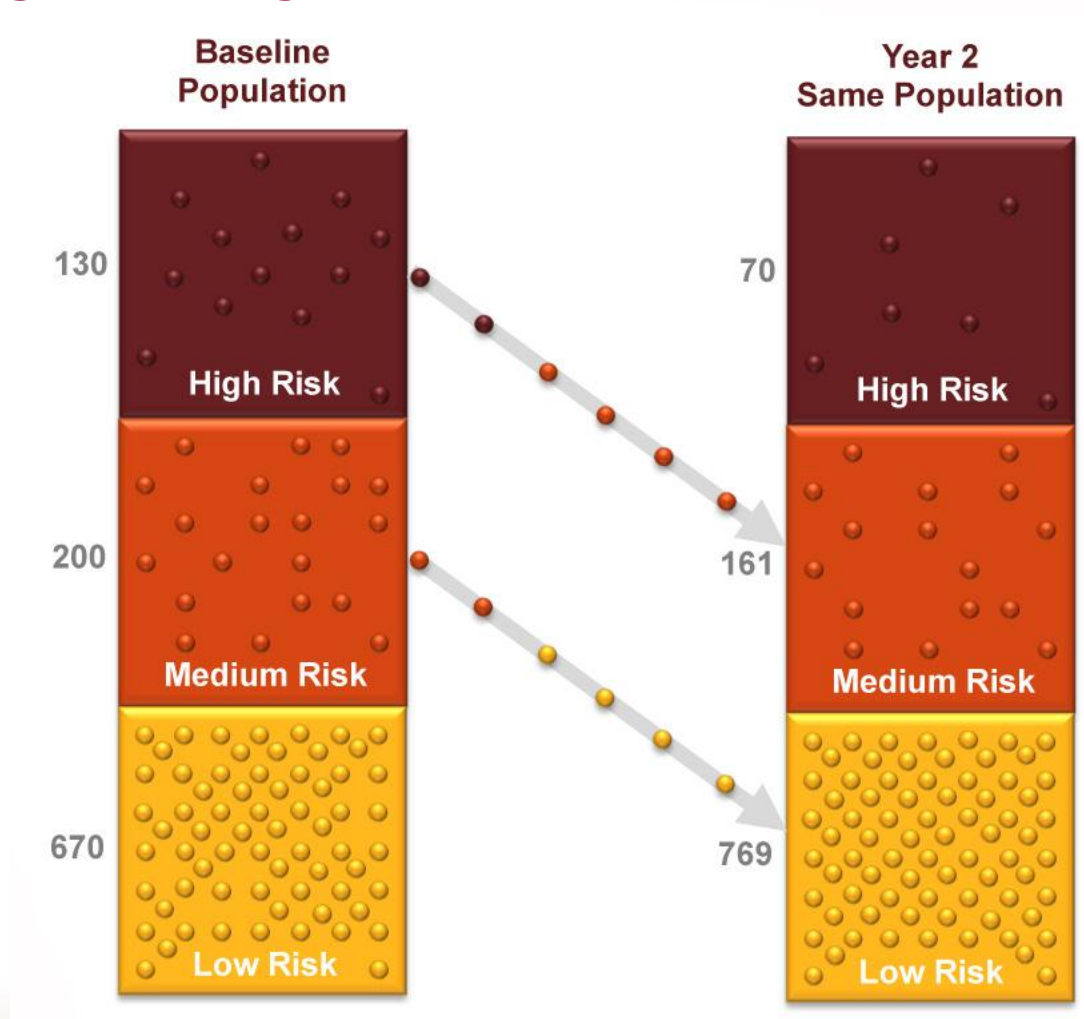
Example from Wellness using Cigna methodology: Smoking Cessation

Smoking hypothetical

- Suppose everyone in your organization smokes and quits in alternate years, and that smoking is the only risk factor
- So the 50% of the workforce smokes every year but it's a different 50% each year

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Smoking hypothetical

- Suppose everyone in your organization smokes and quits in alternate years, and that smoking is the only risk factor
  - Only smokers are high-risk
- So the 50% of the workforce smokes every year but it's different 50%
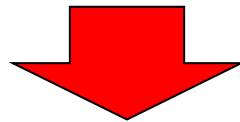
This methodology would find a 100% reduction
Every year even though the smoking rate remains unchanged

Are you **ready to improve the health** of your employees?

Better Health. Guaranteed.[SM]

A promise only CIGNA can make.

The best example of a vendor misunderstanding Dee Edington

Figure 4: Aggregate Change in Risk

This chart compares the first and last health evaluations for each employee and spouse in the Study Group. The data indicates that Interactive Health programs positively impacted the Study Group with 85% of the members maintaining or reducing their health risk.

Aggregate Change in Risk

Risk Escalated	791	15.0%	
Risk Maintained	3415	64.7%	85.0% reduced or maintained risk
Risk Reduced	1069	20.3%	

Risk Level	Risk	Persons	% First Risk	High	Elevated	Moderate	Low
IHI Score > 50	High	528	10.0%	5.1%	2.1%	1.5%	1.3%
IHI Score = 26 to 50	Elevated	698	13.2%	1.8%	4.1%	4.1%	3.3%
IHI Score = 1 to 25	Moderate	1,042	19.8%	1.0%	3.4%	7.4%	8.0%
IHI Score = -20 to 0	Low	3,007	57.0%	.7%	1.9%	6.2%	48.2%
		5,275		8.6%	11.5%	19.2%	60.7%
					% Last Risk		

Yellow = Risk Maintained

Red = Risk Escalated

Green = Risk Reduced

Blue = shading represents change over the time period studied from first to last risk

71

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Watch how data can be interpreted…

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Blue = shading represents change over the time period studied from first to last risk

74
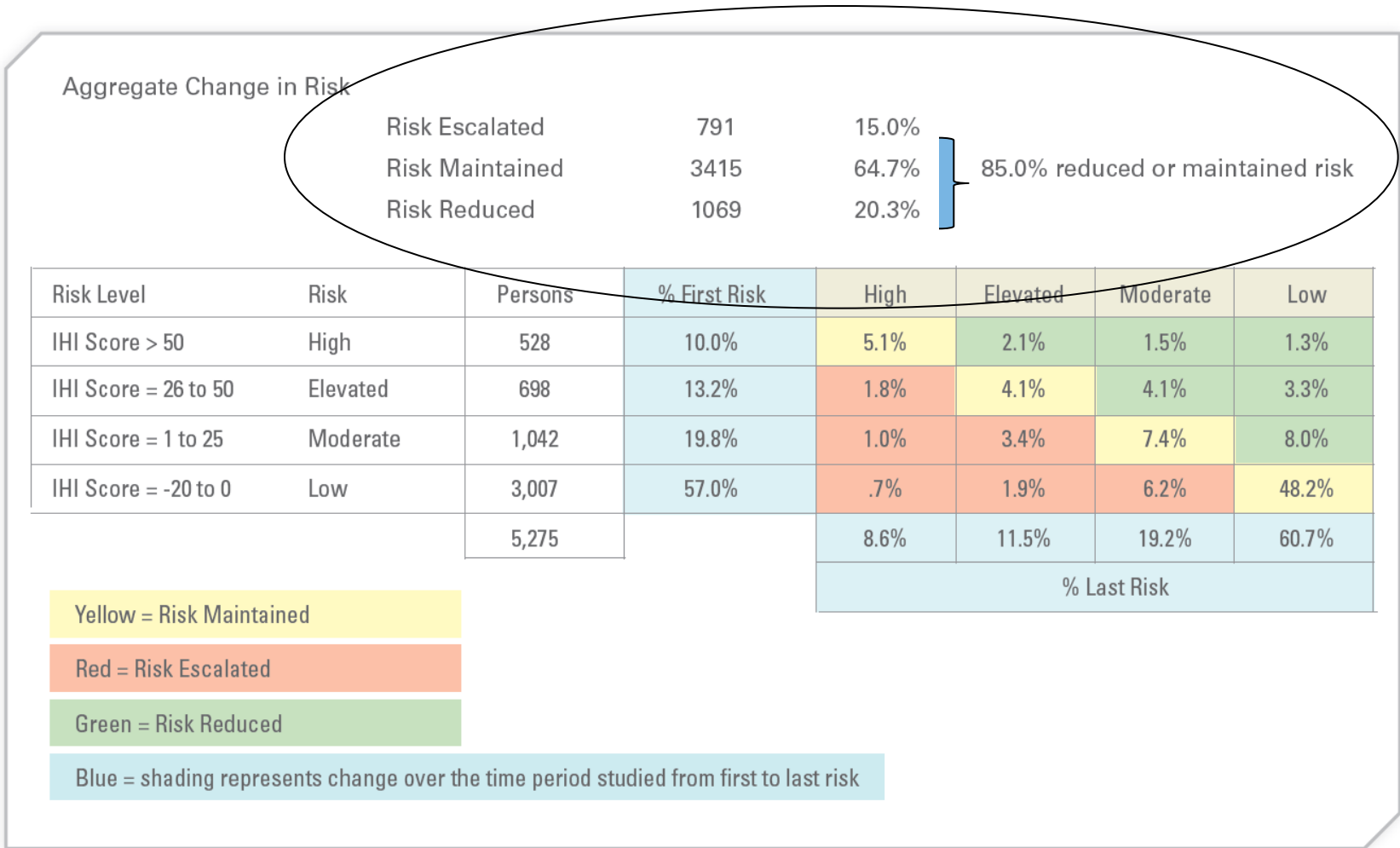
But couldn't you also say…

Figure 4: Aggregate Change in Risk

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Aggregate Change in Risk

Risk Escalated	791	15.0%	"79.7% increased or failed to Reduce their risk factors"
Risk Maintained	3415	64.7%	
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Risk Level	Risk	Persons	% First Risk	High	Elevated	Moderate	Low
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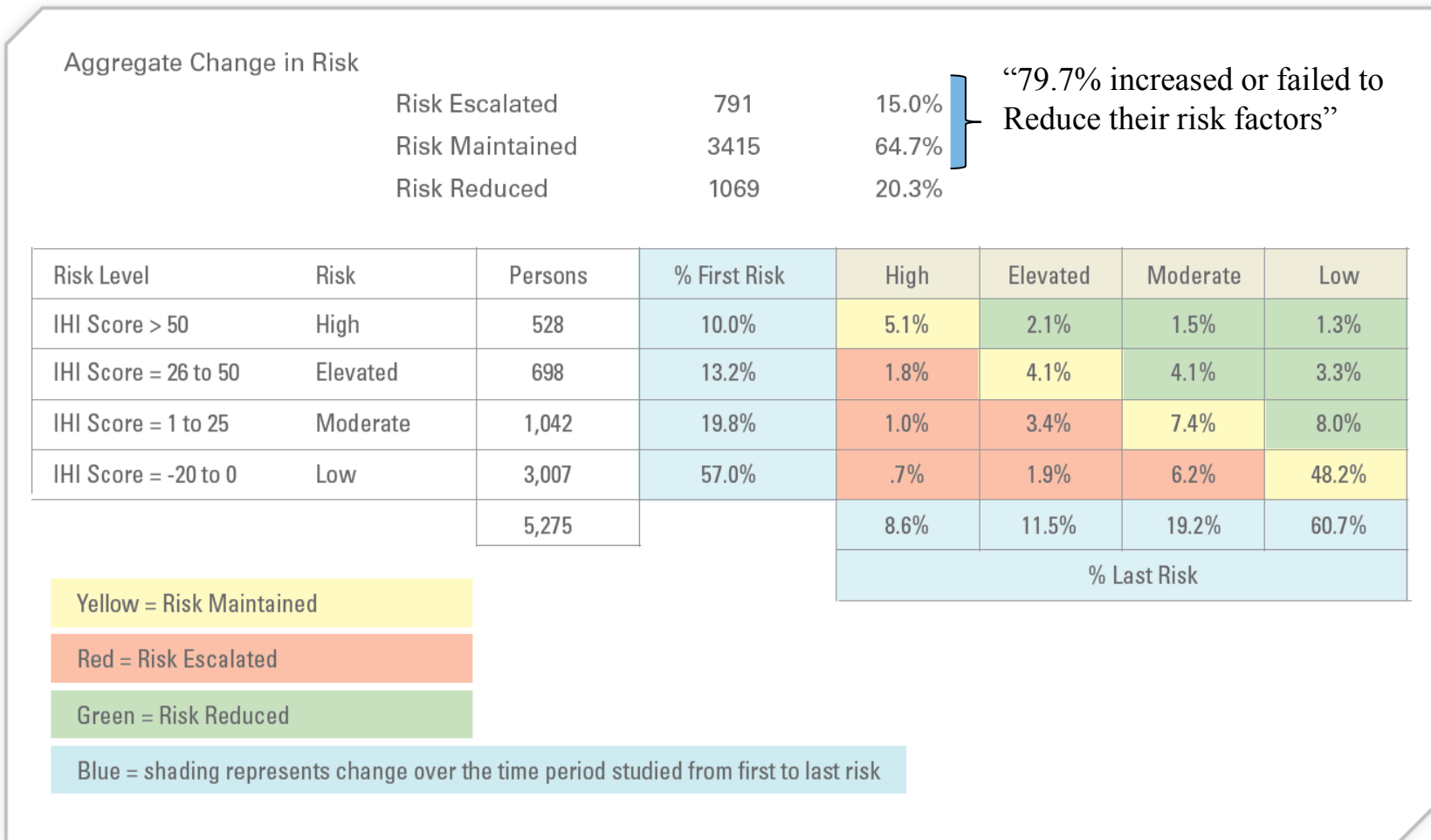
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Aggregate Change in Risk

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Net % people reducing ris

20.3% - 15.0% = 5.3%

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% Last Risk

Yellow = Risk Maintained

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Somehow even though the net change in risk factors was only 5% (among ACTIVE participants and excluding dropouts and non-participants) they got a massive savings

- "The results showed a 6% average annual cost trend reduction with 85% of the population maintaining or improving their health risk level over the study period."   ($972/person in savings)

Net Risk Change translated into Cost change

a. **5.3%** more people reduced than increased risk factors
b. **$972** savings/person (on all people combined)
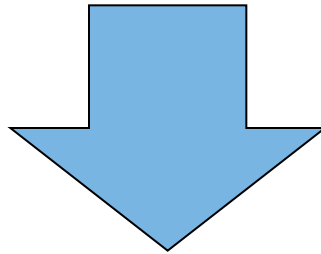
c. (b/a) $18,339/person in savings for each participant whose risks went down

The biggest liars of all: Nebraska and Health Fitness Corporation

Compare Nebraska's risk reduction to the savings
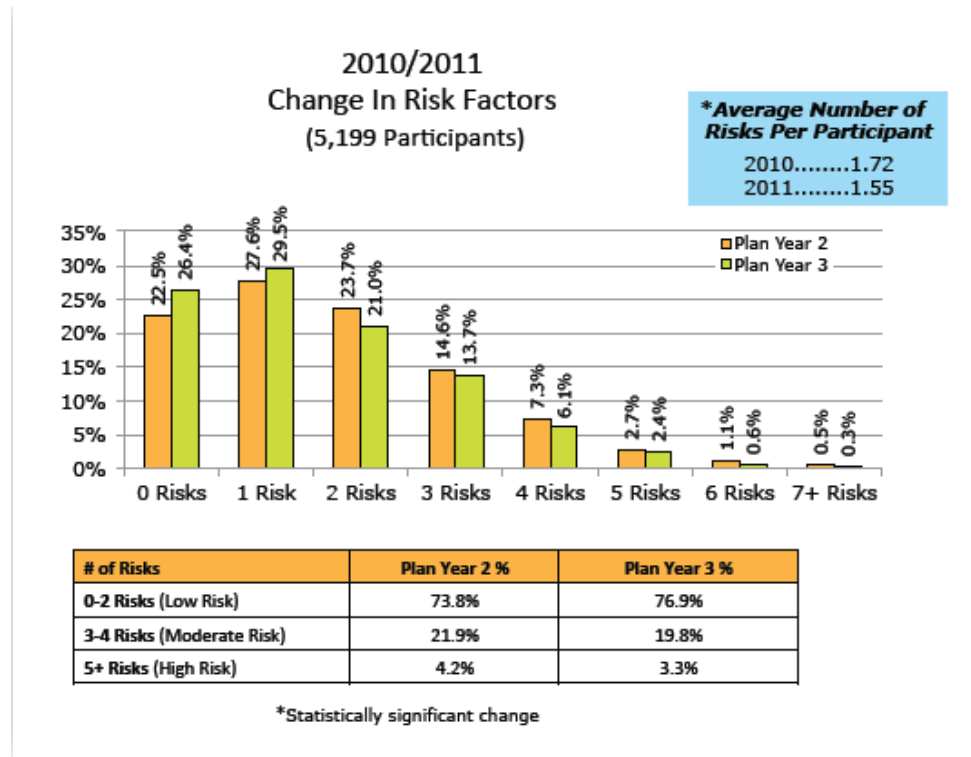
2010/2011
Change In Risk Factors
(5,199 Participants)

*Average Number of Risks Per Participant
2010........1.72
2011........1.55

# of Risks	Plan Year 2 %	Plan Year 3 %
0-2 Risks (Low Risk)	73.8%	76.9%
3-4 Risks (Moderate Risk)	21.9%	19.8%
5+ Risks (High Risk)	4.2%	3.3%

*Statistically significant change

Specifically, the analysis of medical and pharmacy costs has demonstrated $4.2 million in reduced medical and pharmacy claims spending during the first two years when comparing wellness program participant's health cost experience to non-wellness participants. The resulting return on investment is above industry average at

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How do you save $4.2-million when only about 160 active participants reduced a risk factor?
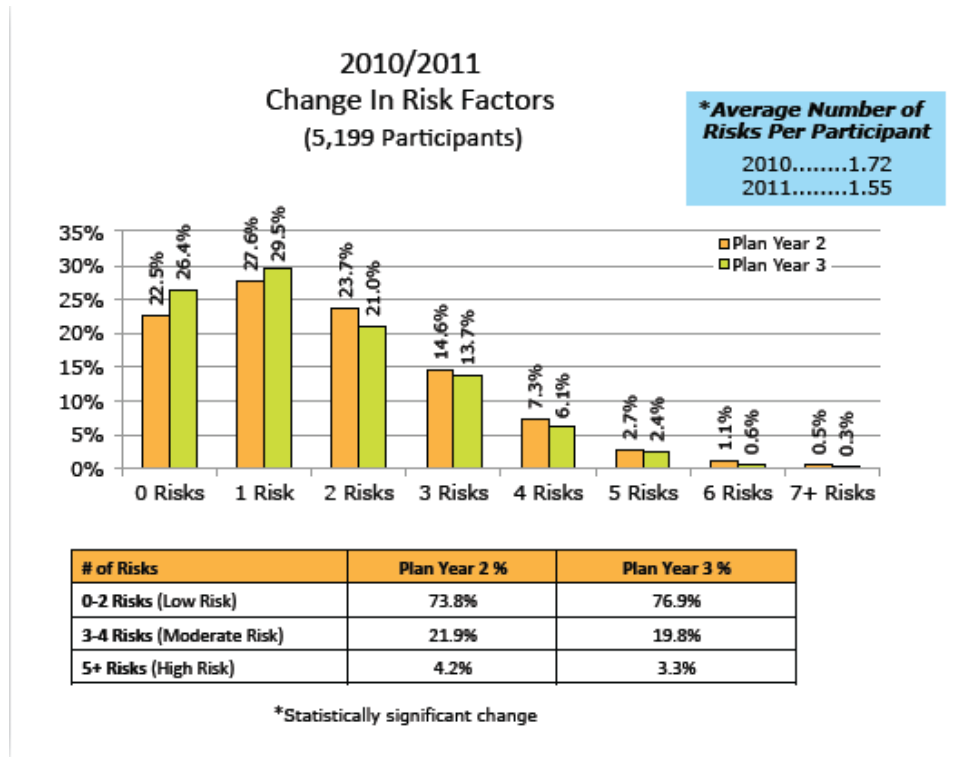
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Purchasing Consortium Advisory Council

How does risk reduction translate into cost savings in reality?

- Use the following formula
- You can vary it a little depending on your situation

Start out with the change in risk levels (Eastman Chemical and Health Fitness)

Employee Population Risk Levels 2006-2009

Legend:
- 2009
- 2008
- 2007
- 2006

Categories (% At Risk):
- Physical Activity (<4/week)
- Tobacco Use
- Overweight (BMI 25-29.9)
- Obese (BMI 30+)
- Pre-Diabetes Blood Glucose >100
- Diabetes Blood Glucose >140
- Cholesterol (200+)
- Hypertension (140+ or 90+)
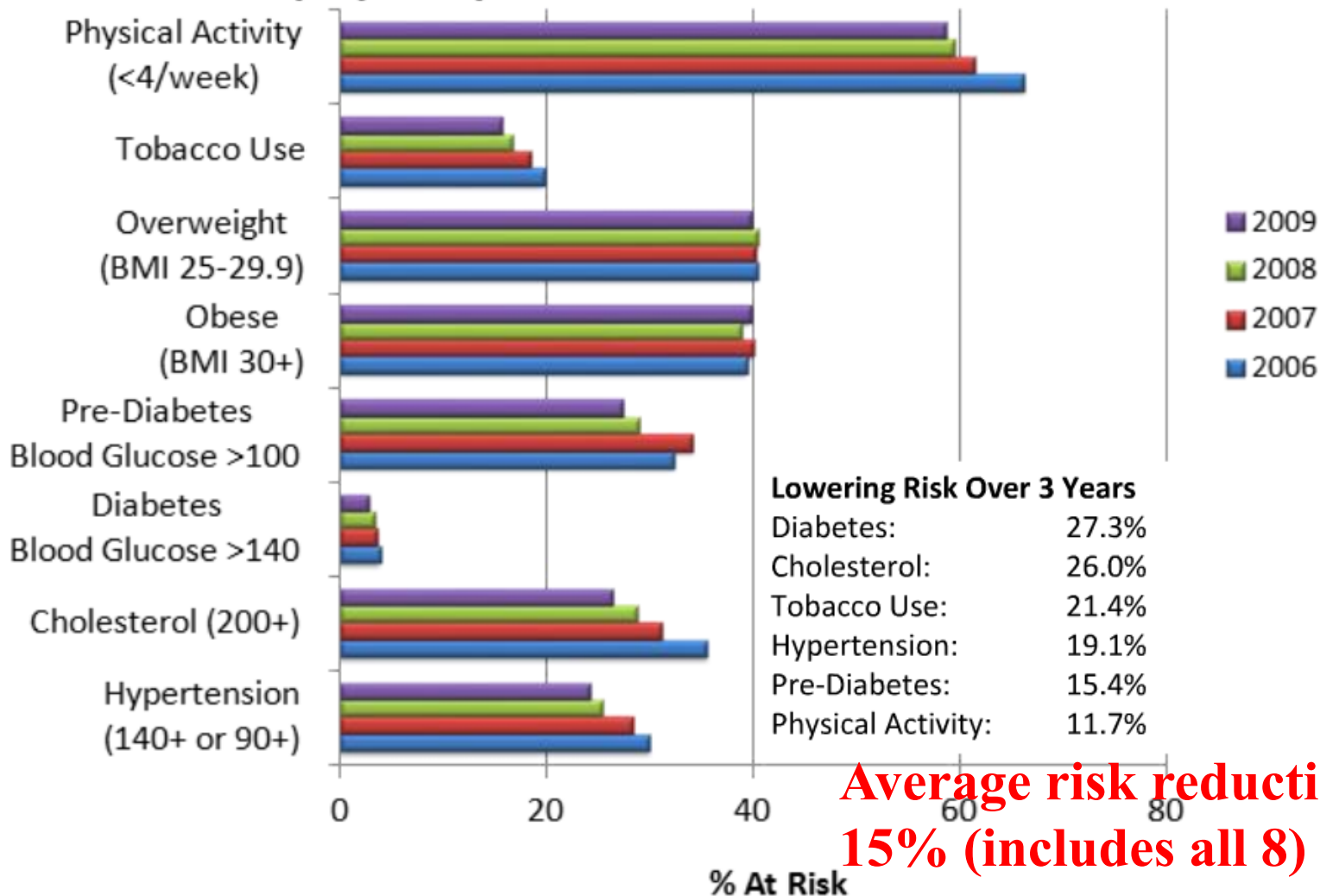
Lowering Risk Over 3 Years

Diabetes:	27.3%
Cholesterol:	26.0%
Tobacco Use:	21.4%
Hypertension:	19.1%
Pre-Diabetes:	15.4%
Physical Activity:	11.7%

Average risk reduction: 15% (includes all 8)

INTEGRATED CARE

How Risk Reduction Drives Cost Reduction

Category	Factor (in %)
Risk Reduction	15% -- from previous slide
Risk-Sensitive Hospital/ER Events	
Hospital/ER Events as a % of Total Spend	
Total Savings	

(c) 2012 DMPC www.dismgmt.com

How Risk Reduction Drives Cost Reduction

Category	Factor (in %)
Risk Reduction	15%
Risk-Sensitive Hospital/ER Events	20% of all Hospital Events*
Hospital/ER Events as a % of Total Spend	
Total Savings	

*Heart events and diabetes events combined account for about 7%. Let's assume generously that another 13% just can't be found but are happening

How Risk Reduction Drives Cost Reduction

Category	Factor (in %)
Risk Reduction	15% achieved
Risk-Sensitive Hospital/ER Events	20% estimated
Hospital/ER Events as a % of Total Spend	50% calculated (approx.)
Total Savings	

How Risk Reduction Drives Cost Reduction

Category	Factor (in %)
A) Risk Reduction	15% achieved
B) Risk-Sensitive Hospital/ER Events	20% estimated
C) Hospital/ER Events as a % of Total Spend	50% calculated
Total Savings (A x B x C)	15% x 20% x 50%

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How Risk Reduction Drives Cost Reduction

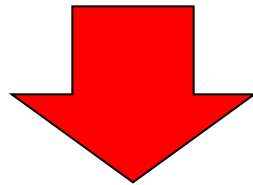| Category	Factor (in %)
Risk Reduction	15% achieved
Risk-Sensitive Hospital/ER Events	20% estimated
Hospital/ER Events as a % of Total Spend	50% calculated
Total Savings	1.5%

Simplified biostatistical "mediation analysis" translates
15% risk reduction into 1.5% cost reduction -- unless you are…

…Eastman Chemical and Health Fitness Corp…

Total Savings

PMPY savings: $460

ROI: 3.2
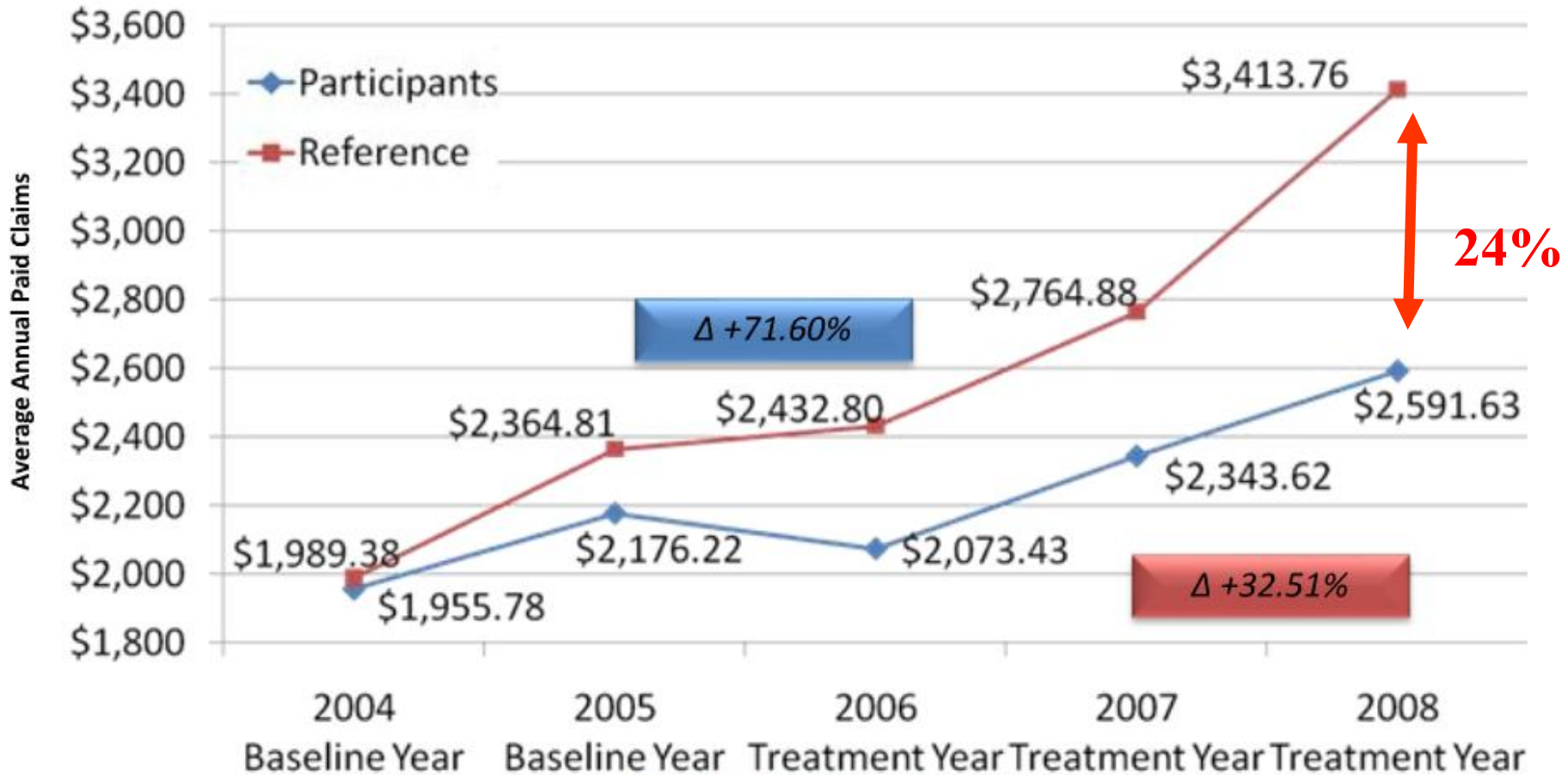
Lie #3 (cont'd): Phony Control Groups

- You can't split a group into active motivated participants vs. non-participants
  - The latter will always outperform the former (the "volunteer effect")
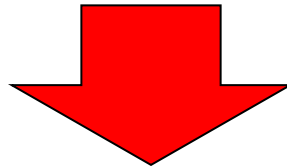
- Let's pick up the Koop Award-winning Eastman Chemical-Health Fitness Corp example

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Anyone notice anything curious about the separation of participants and non-participants?
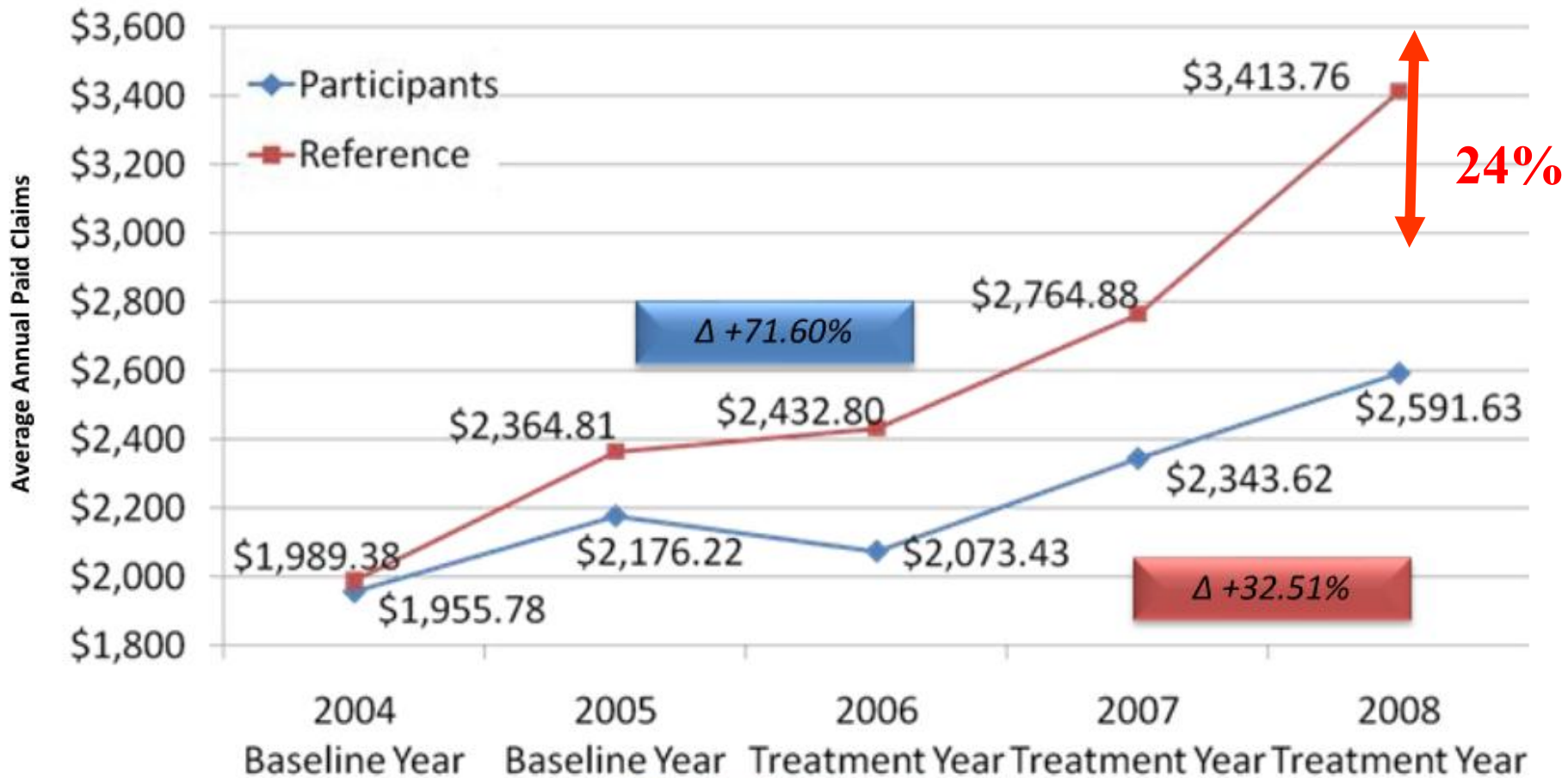
"Matched controls" don't control for participants' motivation

Total Savings

PMPY savings: $460

ROI: 3.2

Example: Paladina Health

AOL Desktop 9.7 - Connected, Signed-On - [New Tab]

File Edit Mail News Finance Entertainment Lifestyle Community Services Safety Window Keyword Sign Off Help

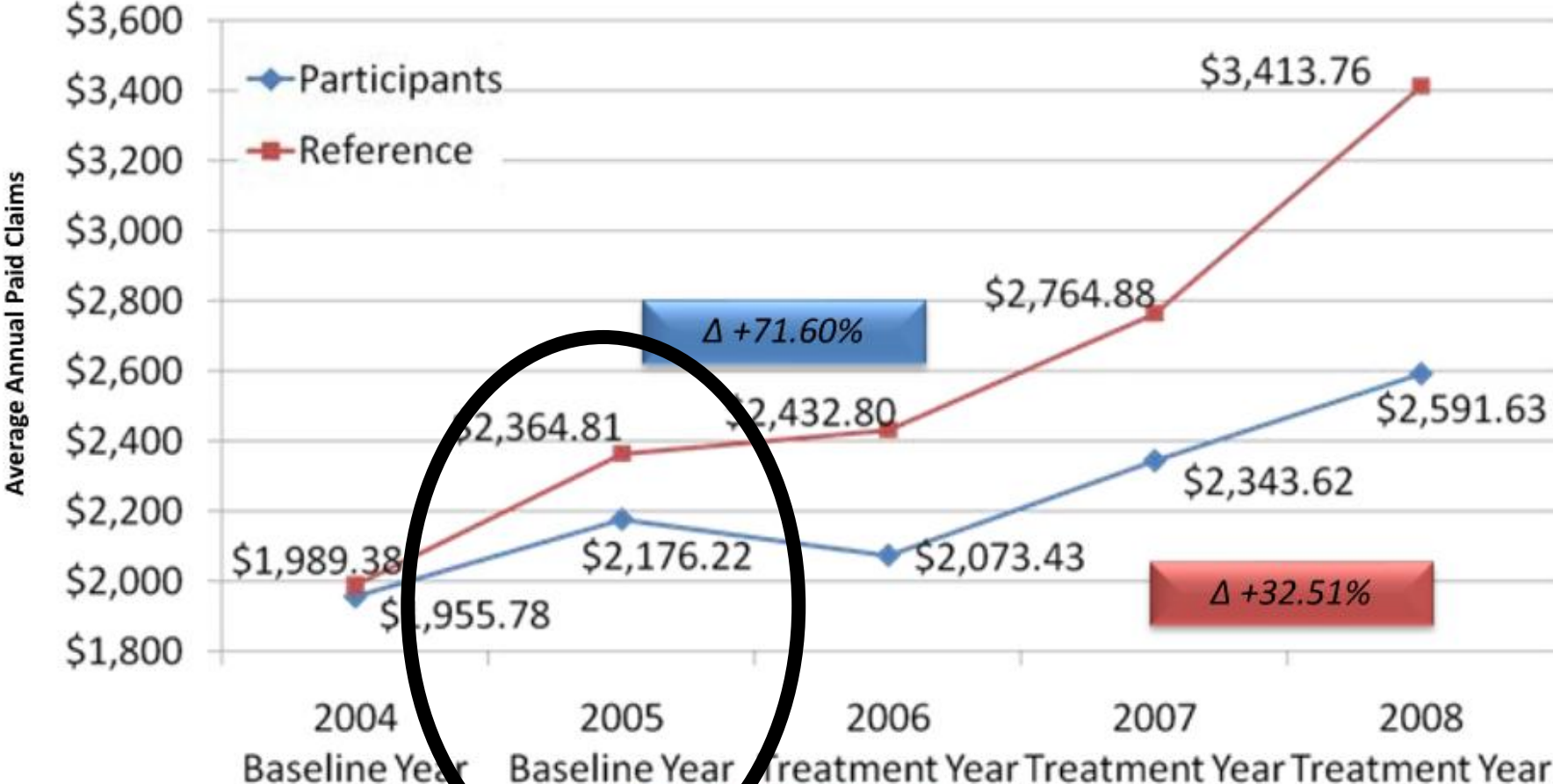Read²⁶⁹ Write IM Lifestream News Settings AOL Radio Finance   Games Moviefone Safety MyBenefits Weather Travel MapQuest Engadget Sports Add Icon

Welcome http://www.dismgmt.com/sites/default/files/PaladinaHealthCaseStudy%284%29.pdf   Go   SEARCH   Favorites

New Tab   New Tab

CHALLENGE

A self-insured employer with a large billing office in Washington was experiencing annual healthcare cost increases of 7-8%. This employer had previously implemented a wellness program and a consumer-driven health plan with an HSA feature, but it was unclear whether these programs had delivered the promised savings or health improvements. Costs continued to rise and employees' overall health was declining, with continued high prevalence of obesity and hypertension. Moreover, employee productivity and quality-of-life were suffering. Having already implemented the most popular tactics, the employer was looking for a new strategy that would have a more tangible and long-lasting impact.

THE SOLUTION

Employer implemented a Paladina Health near-site clinic that was located 2 blocks from the corporate office and offered no-cost memberships to all employees and dependents enrolled in their group health plan. Approximately 600 members initially enrolled (50% of eligible) and the members who enrolled were older with a higher incidence of chronic disease than those who did not enroll. Members used the Paladina Health medical home for their primary, preventive, wellness and basic urgent care needs and for help in finding the most appropriate outside care.

RESULTS

. Healthcare costs decreased by 10% for members enrolled in Paladina Health vs. a 28% increase for non-members

> 31% decline in inpatient costs

RESULTS: HEALTH AND SERVICE EXPERIENCE

MEDICAL HOME IMPROVED CHRONIC DISEASE CONDITIONS FOR MEMBERS
CHRONIC DISEASE IMPACT

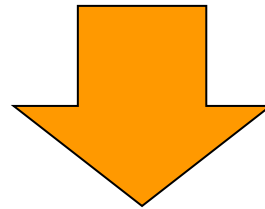Speed™ ON   Find Similar Pages   Window (1)   Blocking Pop-ups (0)

So…

- Trend was 7-8%
- 50% enrolled and their costs declined 10%
- 50% didn't enroll and their costs increased 28%

So…

- Trend was 7-8%
- 50% enrolled and their costs declined 10%
- 50% didn't enroll and their costs increased 28%

- Average -10% and +28% = **9%** trend now

Vitality Healthcare Takes Inactive vs. Active Study Design a Step Further

VITALITY MEMBERS ENGAGED IN THE PROGRAM

NOT ACTIVE IN FITNESS ACTIVITIES

% AT HIGH RISK

38% First Measure

33% Last Measure

↓ 13%

ACTIVE IN FITNESS ACTIVITIES

% AT HIGH RISK

27% First Measure

21% Last Measure

↓ 22%

The analysis looks at individual risk factor transitions using a consistent base of members within each risk factor. To be included, members must have at least two recorded measurements on file with at least 90 days between the first and last measurements for all 10 risk factors (BMI, systolic blood pressure, diastolic blood pressure, total cholesterol, fasting glucose, physical activity, tobacco use, nutrition, alcohol and stress). High-risk individuals are characterized as having five or more risks out of range.

Predicted vs. Actual PMPM Results for North Carolina: "Trend" means what the vendor/consultant chooses it to mean
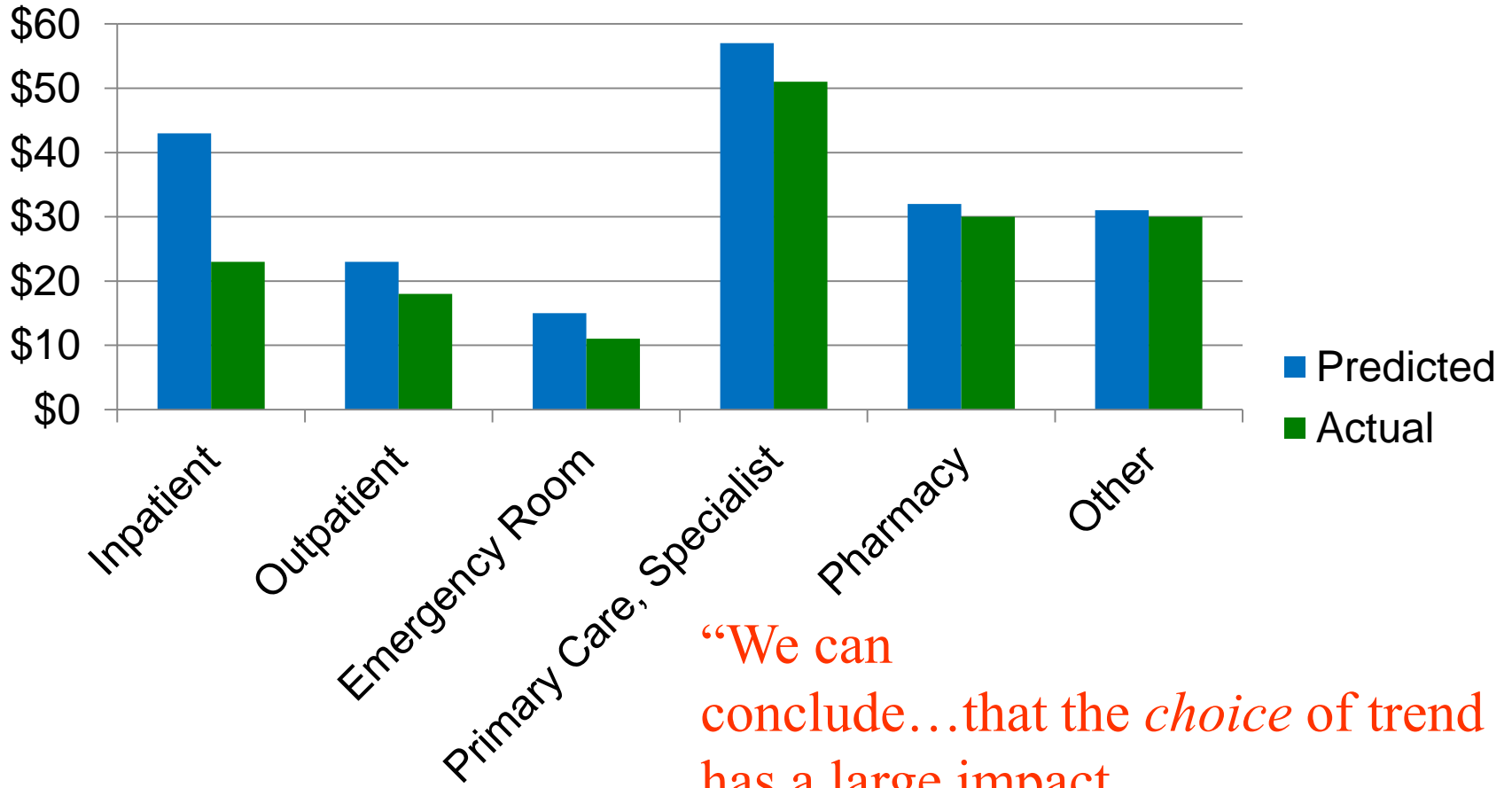
"We can conclude…that the *choice* of trend has a large impact on estimates of financial savings."
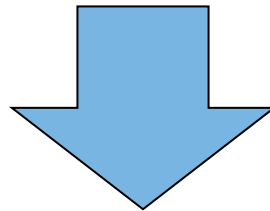
--Mercer

Agenda

- Introduction and Challenge
- Some Warmup Numbers
- The 3 More Popular Ways to Lie
- Spotting the Lies Yourselves

You've now seen 3 big lies

- Mathematically impossible reductions
- Made-up numbers
- Misstating "natural flow of risk, compariingh participants to non-participants and making up trends

- See how many lies you can spot on your own

You could do a whole class just on this 18-week Highmark weight loss program by ShapeUp*

Results & Benefits

- **Wellness Participation:** 46% of Highmark's employees participated in the program.

- **Improved Health:** Average weight loss was 5.6 pounds per participant. 163 employees lowered their BMI status from obese to overweight or from overweight to healthy weight.

*Highmark has 19,600 employees

Wellnet and Cumulus Media

KEY FACTS

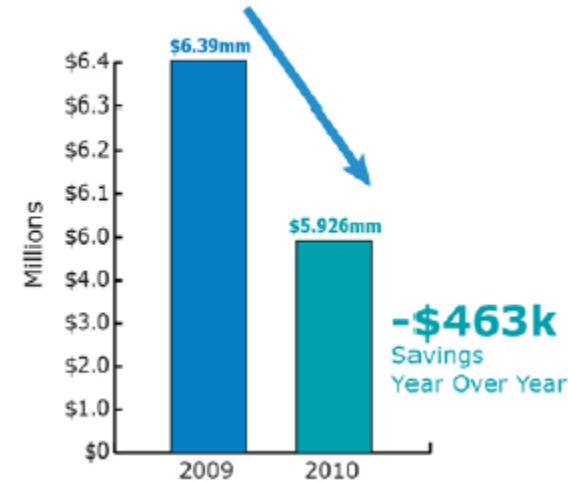Headquarters: Atlanta, Georgia
Start Date: January, 2009
Business: National Radio Station Operator
Population: 1,454 ee's/2,572 members
Executive Endorsement: Strong
Member Participation: 79%
Member Communication: Ongoing
Incentive: Premium Reduction
Medical Plan Trend Reduction: 8% to .06%
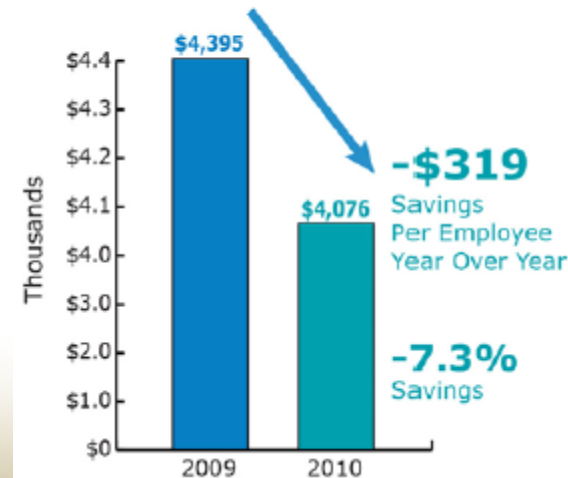
RETURN ON INVESTMENT: 18:1

INTEGRATED CARE MANAGEMENT

High Risk Members: 55 members
                          2% of population
                          5.5 conditions per member
                          $4mm in undetected claims cost

Medium Risk Members: 453 members
                          18% of population
                          3 conditions per member
                          $17mm in undetected claims cost

MEDICAL/Rx PAID CLAIMS

$6.39mm (2009)
$5.926mm (2010)
-$463k Savings Year Over Year

MEDICAL/Rx PER EMPLOYEE PER YEAR

$4,395 (2009)
$4,076 (2010)
-$319 Savings Per Employee Year Over Year
-7.3% Savings

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Savings by Category of Utilization per 1000 members per month – Study Year vs. Baseline Year
(note: The *difference* between the bars is the savings)