# Managing Hypertension

THEDACARE™
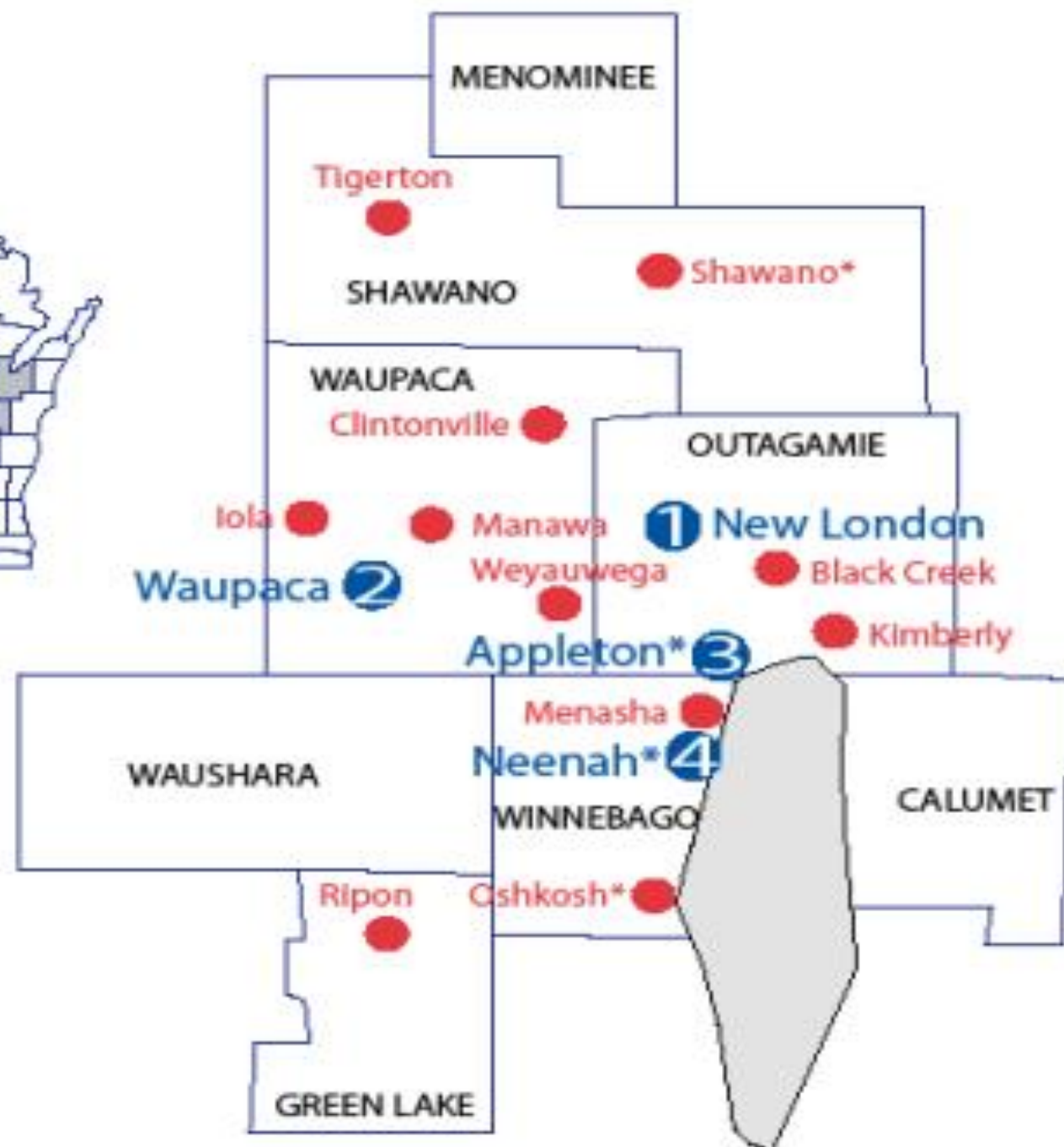
Appleton, WI
Lori Arnoldussen
Kim Wildes

The speaker has no actual or potential conflict of interest in relation to this presentation.

MENOMINEE

Tigerton

SHAWANO

Shawano*

WAUPACA

Clintonville

OUTAGAMIE

Iola

Manawa

❶ New London

Waupaca ❷

Weyauwega

Black Creek

Appleton* ❸

Kimberly

Menasha

WAUSHARA

Neenah* ❹

CALUMET

WINNEBAGO

Ripon

Oshkosh*

GREEN LAKE

www.thedacare.org

**Data Warehouse**

**Integrated Patient EMR**

**ThedaCare Physicians**
- 200 Providers
- 27 Clinic locations
- 480, 260 office visits–2012

- Cadence
- EpicCare
- My Chart
- Prelude
- OpTime
- Radiant
- Resolute
- Softmed
- Voice
- Stork

**Independent Specialty**
- 150 Physicians
- 17 Specialty Practices

| Hospitals | Beds |
|---|---|
| • Appleton | 160 |
| • Theda Clark | 260 |
| • New London | 40 |
| • Waupaca | 26 |
| • Shawano | 25 |

- ADT
- Cadence
- ASAP
- E–ICU
- EpicCare
- Beaker
- OpTime
- EpicRX
- Radiant
- Resolute
- Softmed Transcription
- Voice
- Stork

**Home Care**
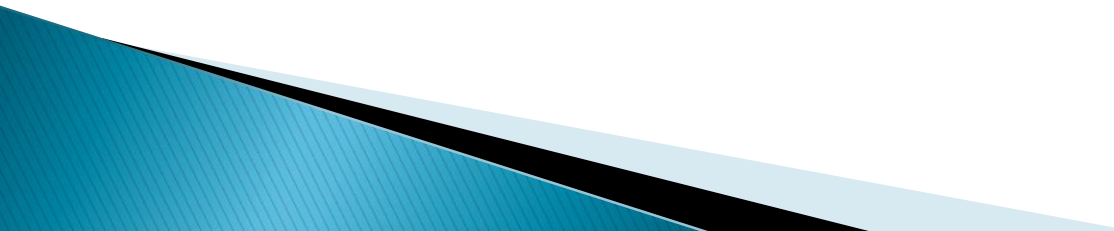- 160 admits/month

- Epic Home Care

# Hypertension:
# Why it's important to be controlled

- Approximately 50 million individuals in the United States have Hypertension.  The higher the BP, the greater the risk of heart attack, heart failure, stroke, and kidney disease.
- Hypertension is the #1 diagnosis at ThedaCare (16,000+ patients).
- AMGA HTN Learning Collaborative
- AMGF Measure Up/Pressure Down campaign
- Million Hearts Hypertension Control Challenge
  - Reference: (JNC-7)  The seventh report of the Joint National Committee on prevention, detection, evaluation, and treatment of high blood pressure.

# Goals

- Control to $< 140/90$ mm Hg
- System Quality Goals
  - 90th percentile in Wisconsin Collaborative for Healthcare Quality (WCHQ)
  - 20% improvement year to year
- Division Quality Goal
- Ambulatory Physicians Pay for Performance

# AMGA Hypertension Collaborative Project Goal and Objectives

- Primary goal of project was to see BP improvement in those patients with HTN who are currently not at goal ($\geq$140/90 mm Hg)
  - Baseline rate = 72%
  - Goal = 80%
  - AUGUST 2013 Rate = 83%
- Target providers' processes to increase HTN control
- Patient self-management

# Resources

- Senior leadership support of QI initiatives
- Physician compensation plan
- EMR, data warehouse, HTN registry
- Worksheets
- Physician Scorecards
- Transparent results
- Wisconsin Collaborative for Healthcare Quality (WCHQ)
- Community involvement (i.e. pharmacy)
- LEAN tools

# Challenges

- Clinical
  - Variation
- Operational
  - Competing priorities
- Data
  - Volume

# Interventions

- Clinical
  - Pharmacist
  - HTN Guideline (providers)
  - Training and yearly competency on blood pressure measurement
  - Patient-Self Management: Under Pressure program
- Operational
  - Pre-visit "scrub" of chart
  - Add BP goal to problem list
  - Standard Work for Nurse & MA BP visits
  - After-Visit Summary
  - Monthly site-level, multi-disciplinary Disease Management meetings
- Data
  - Larger lists than they were used to
  - Develop trust in data

# Disease Management Worksheet

| PCP Name | Patient Name | | Birth Date | All Conditions | New to Population | | Not At Goal | Office Visit Dates (1/year, diab 2/year) | Next Scheduled OV Date | Next Scheduled Lab Date | Blood Pressure and Date (<140/90) | A1c dates (2 per year) | A1c Values (<7.0, High Risk <8.0) | LDL Dates (1 per year) | LDL Values (<100) | Diab Eye Exams (1 per year) | Last Neph Lab Date (1 per year) | Aspirin Therapy? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | HMnRO | - | N | 1 | 8/12/2013 7/31/2013 | - | - | 140 / 72 8/12/13 | | | | | | | |
| | | | | hmnRO | - | N | 1 | 7/1/2013 4/23/2013 | - | - | 138 / 92 7/1/13 | | | | | | | |
| | | | | hmr | - | N | 2 | 2/25/2011 7/23/2008 | - | - | 126 / 82 2/25/11 | | | | | | | |
| | | | | hdnO | - | Y | 2 | 6/4/2013 3/1/2013 | - | - | 112 / 66 6/4/13 | 6/4/2013 3/1/2013 | 8.8 8.9 | 3/1/2013 3/2/2012 | 75 69 | | 03/01/13 | N |

Values > 140 or >90

Values older than 1 year

# Indicator Performance by Provider
## Disease Management>Compensation   View: COMP-BREAK-IMPRV-MONTR by Care Group

| | Asthma Assessment_CG | Asthma Influenza_CG | Breast CA_CG | CVC Antiplatelet Therapy_CG | DIAB BP Control 140/90_CG | Diab A1C control_CG | Diab A1c > 9.0_CG | HTN < 140/90_CG | Immun-1 HPV by 16_Peds_CG | Immun-3 HPV by 18 Peds_CG | Immun-PED(2 Flu)_CG_Peds | Medicare AWV_CG | Osteoporosis Screening_CG | Senior Pneumo(Internal)_CG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 | Jul 2013 |
| Target | 80.60% | 63.09% | 86.0% | 90.45% | 88.2% | 73.6% | 5.9% | 83.2% | 70.57% | 67.52% | 83.21% | 30.0% | 86.9% | 91.5% |
| Overall Current | 74.44% | 6.91% | 83.8% | 91.29% | 86.9% | 67.4% | 9.0% | 82.2% | 61.10% | 60.32% | 77.95% | 32.9% | 85.7% | 90.2% |
| THEDACARE PHYS IN | | | 88.3% | 93.88% | 81.8% | 76.6% | 3.9% | 83.7% | | | | 30.8% | 83.5% | 85.5% |
| THEDACARE PHYS IN | | | 86.4% | 94.55% | 86.7% | 75.2% | 8.0% | 83.6% | | | | 0.0% | 88.8% | 88.3% |
| THEDACARE PHYS IN | | | 88.5% | 91.72% | 85.4% | 69.1% | 8.1% | 80.6% | | | | 52.6% | 93.1% | 92.2% |
| THEDACARE PHYS LO | | | 50.0% | 100.00% | 100.0% | 75.0% | 0.0% | 100.0% | | | | 2.3% | 93.3% | 83.9% |
| THEDACARE PHYS NE | | | 82.5% | 91.37% | 85.7% | 67.2% | 8.4% | 81.4% | | | | 19.0% | 85.4% | 90.2% |
| THEDACARE PHYS NE | | | 80.1% | 91.86% | 87.7% | 69.3% | 8.6% | 82.9% | | | | 23.3% | 86.7% | 90.9% |
| THEDACARE PHYS NO | | | 83.8% | 90.90% | 84.0% | 68.0% | 10.3% | 78.1% | | | | 45.9% | 83.7% | 90.4% |
| THEDACARE PHYS OS | | | 84.5% | 91.53% | 89.1% | 62.5% | 10.4% | 85.1% | | | | 57.8% | 86.9% | 90.2% |
| THEDACARE PHYS OS | 67.44% | 0.00% | | | | | | | 33.33% | 33.33% | 66.22% | | | |
| THEDACARE PHYS PE | 74.64% | 7.11% | | | | | | | 61.33% | 60.64% | 78.47% | | | |
| THEDACARE PHYS SH | | | 80.0% | 89.35% | 85.7% | 68.3% | 10.6% | 81.7% | | | | 28.1% | 80.4% | 88.7% |
| THEDACARE PHYS SO | | | 87.5% | 91.34% | 89.9% | 66.3% | 8.0% | 84.9% | | | | 15.6% | 84.7% | 91.0% |
| THEDACARE PHYS WA | | | 84.5% | 92.92% | 90.5% | 63.6% | 8.1% | 87.6% | | | | 34.1% | 88.3% | 90.2% |

Aug 21, 2013 09:56:32
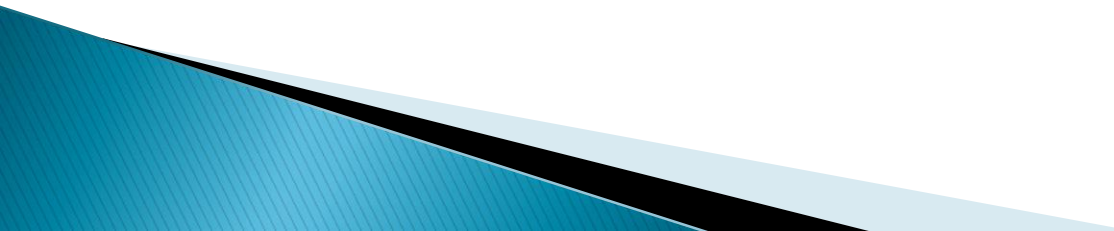
**Data from 9/1/12 to 8/31/13**

| | Target Tiering | | | | CLINIC/PROVIDERS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tier 4 (tier 1-4%) | Tier 3 (tier 1-5%) | Tier 2 (Tier 1-3%) | Tier 1 (Target) | | | | | | | | | | | | | | |
| **TOTAL POINTS:** | | | | | #### | 86.66 | 86.66 | #### | 38.88 | ### | #### | #### | ### | ### | 84.99 | 84.98 | 49.99 | 65.54 |
| **Diab A1c < 7.0 (<8.0 if HR)** | | | | | | | | | | | | | | | | | | |
| Rate | 66.6% | 68.6% | 70.6% | 73.6% | 70.1% | 82.0% | 82.0% | 66.8% | 57.1% | 57.1% | 70.5% | 64.9% | 76.6% | 66.7% | 62.0% | 67.4% | 100.0% | 45.5% |
| Points | 5.55 | 8.33 | 10.00 | 11.11 | 8.33 | 11.11 | 11.11 | 5.55 | 0 | 0 | 8.33 | 0 | 11.11 | 5.55 | 0 | 5.55 | 11.11 | 0 |
| Num To Goal | | | | | 33 | 0 | 0 | 38 | 2 | 5 | 6 | 4 | 0 | 1 | 9 | 6 | 0 | 4 |
| **Diab - A1c > 9.0** | | | | | | | | | | | | | | | | | | |
| Rate | 12.9% | 10.9% | 8.9% | 5.9% | 9.1% | 7.4% | 7.4% | 8.88% | 28.6% | 10.7% | 10.5% | 8.1% | 8.0% | 16.7% | 2.8% | 10.5% | 0.0% | 9.1% |
| Points | 5.55 | 8.33 | 10.00 | 11.11 | 8.33 | 8.88 | 10.00 | 8.33 | 0 | 8.33 | 8.33 | 10.00 | 10.00 | 0 | 11.11 | 8.33 | 11.11 | 8.33 |
| Num To Goal | | | | | 31 | 2 | 2 | 28 | 2 | 2 | 9 | 1 | 3 | 1 | 0 | 4 | 0 | 1 |
| **Diab - BP <140/90** | | | | | | | | | | | | | | | | | | |
| Rate | 81.2% | 83.2% | 85.2% | 88.2% | 86.5% | 95.9% | 95.9% | 85.3% | 100.0% | 85.7% | 78.4% | 86.5% | 83.9% | 66.7% | 90.1% | 91.9% | 100.0% | 81.8% |
| Points | 5.55 | 8.33 | 10.00 | 11.11 | 10.00 | 11.11 | 11.11 | 8.88 | 11.11 | 10.00 | 0 | 10.00 | 8.33 | 0 | 11.11 | 11.11 | 11.11 | 5.55 |
| Num To Goal | | | | | 17 | 0 | 0 | 21 | 0 | 1 | 19 | 1 | 6 | 2 | 0 | 0 | 0 | 1 |
| **IVD Arpirin Therapy** | | | | | | | | | | | | | | | | | | |
| Rate | #### | 85.45% | 87.45% | #### | 92.27% | ##### | ##### | 91.06% | ##### | #### | 92.68% | 60.00% | 90.24% | 85.71% | 86.1% | 92.86% | ##### | ##### |
| Points | 5.55 | 8.33 | 10.00 | 11.11 | 11.11 | 11.11 | 11.11 | 8.88 | 11.11 | 0 | 11.11 | 0 | 10.00 | 8.33 | 8.33 | 11.11 | 11.11 | 11.11 |
| Num To Goal | | | | | 8 | 0 | 0 | 8 | 0 | 2 | 0 | 4 | 1 | 1 | 2 | 0 | 0 | 0 |
| **HTN <140/90** | | | | | | | | | | | | | | | | | | |
| Rate | 76.2% | 78.2% | 80.2% | 83.2% | 83.6% | 90.9% | 90.9% | 81.9% | 86.7% | 71.1% | 80.4% | 81.9% | 81.7% | 85.7% | 81.3% | 85.2% | 60.0% | 100.0% |
| Points | 5.55 | 8.33 | 10.00 | 11.11 | 11.11 | 11.11 | 11.11 | 8.88 | 11.11 | 0 | 10.00 | 10.00 | 10.00 | 11.11 | 10.00 | 11.11 | 0 | 11.11 |
| Num To Goal | | | | | 8 | 0 | 0 | 10 | 0 | 5 | 9 | 2 | 4 | 0 | 3 | 0 | 9 | 0 |
| **Pneumo - internal** | | | | | | | | | | | | | | | | | | |
| Rate | 84.5% | 86.5% | 88.5% | 91.5% | 91.4% | 91.5% | 91.9% | 91.7% | 80.0% | 81.0% | 94.1% | 94.3% | 92.5% | 62.5% | 94.4% | 89.7% | 84.0% | 95.0% |
| Points | 5.55 | 8.33 | 10.00 | 11.11 | 10.00 | 11.11 | 11.11 | 11.11 | 0 | 0 | 11.11 | 11.11 | 11.11 | 0 | 11.11 | 10.00 | 0 | 11.11 |
| Num To Goal | | | | | 2 | 0 | 0 | 0 | 2 | 7 | 0 | 0 | 0 | 3 | 0 | 4 | 4 | 0 |
| **Breast CA** | | | | | | | | | | | | | | | | | | |
| Rate | 79.1% | 81.1% | 83.1% | 86.1% | 80.1% | 77.3% | 77.5% | 83.88% | 75.0% | 82.1% | 81.1% | 83.8% | 84.0% | 66.7% | 87.5% | 79.2% | 69.8% | 81.5% |
| Points | 5.55 | 8.33 | 10.00 | 11.11 | 5.55 | 0 | 0 | 8.33 | 0 | 8.33 | 8.33 | 10.00 | 10.00 | 0 | 11.11 | 5.55 | 0 | 8.33 |

Data from 9/1/12 to 8/31/13



|  |  | Target Tiering | | | | CLINIC/PROVIDERS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | Tier 4 (tier 1 - 7%) | Tier 3 (tier 1 - 5%) | Tier 2 (Tier 1 - 3%) | Tier 1 (Target) |  |  |  |  |  |  |  |  |  |
| **HTN <140/90** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Rate | 76.2% | 78.2% | 80.2% | 83.2% | 83.6% | 90.9% | 90.9% | 81.9% | 86.7% | 71.1% | 80.4% | 81.9% | 81.7% |
|  | Points | 5.55 | 8.33 | 10.00 | 11.11 | 11.11 | 11.11 | 11.11 | 10.00 | 11.11 | 0 | 10.00 | 10.00 | 10.00 |
|  | Num To Goal |  |  |  |  | 0 | 0 | 0 | 18 | 0 | 5 | 9 | 2 | 4 |

# HTN Control Rate
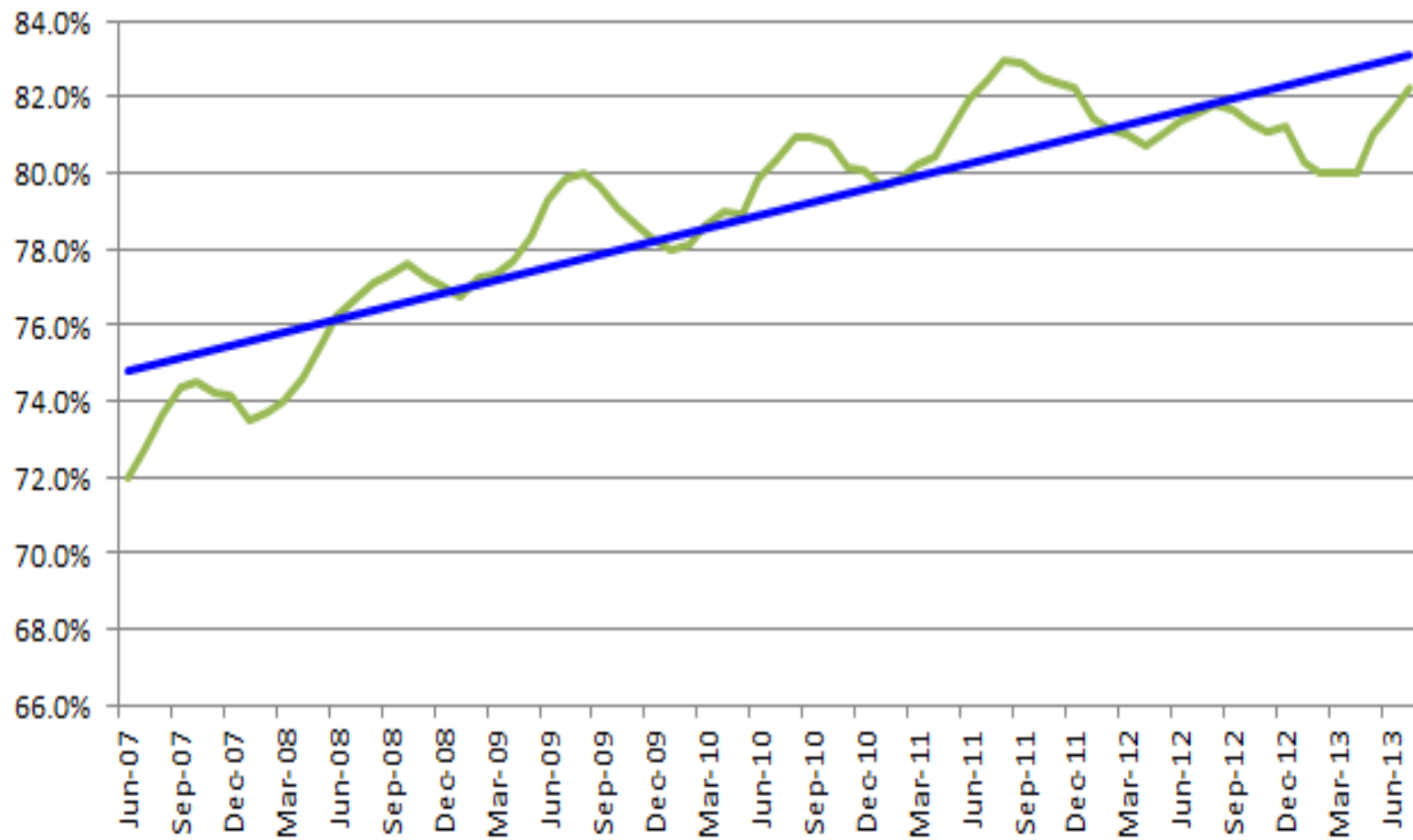
# What's Next?

- JNC 8
- CME
- Remember the 17% that are not controlled…
- Continuous discussion, focus, improvement, reminders

# Thank you

**THEDA♥CARE**

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# HTN Best Practice: Billings Clinic's Journey through the lenses of Complexity and Adaptive Leadership

Elizabeth L. Ciemins, PhD, MPH, MA

September 26, 2013

*Health Care, Education and Research*

*"I learned it because my friends were all doing it and it looked fun. My friend taught me, not my teacher."*

~Cameron Leo, age 11, on why she learned "The Cup Song," July 2013

"*We yearn for frictionless, technological solutions. But people talking to people is still the way that norms and standards change.*"

~Atul Gawande
from "Slow Ideas," New Yorker, July 29, 2013

*Health Care, Education and Research*

# Complexity Science-Informed Approach
# &
# Adaptive Leadership Model

# Complexity Science

- **Science that attempts to**:
  - Understand and explain the behavior and dynamics of systems composed of many interacting elements
  - Uncover the principles and processes that explain how order, change and innovation emerge in these systems
  - Consider health care organizations as "Complex Adaptive Systems"

*Health Care, Education and Research*

# What is a <u>Complex Adaptive System</u>?

**System implies**:
- Multiple Agents
- Agents are Interdependent and Connected

- **Complex implies**:
  - Diversity
  - Many Elements
  - Large Number of Connections

- **Adaptive implies**:
  - Capacity to Alter or Change

*Health Care, Education and Research*
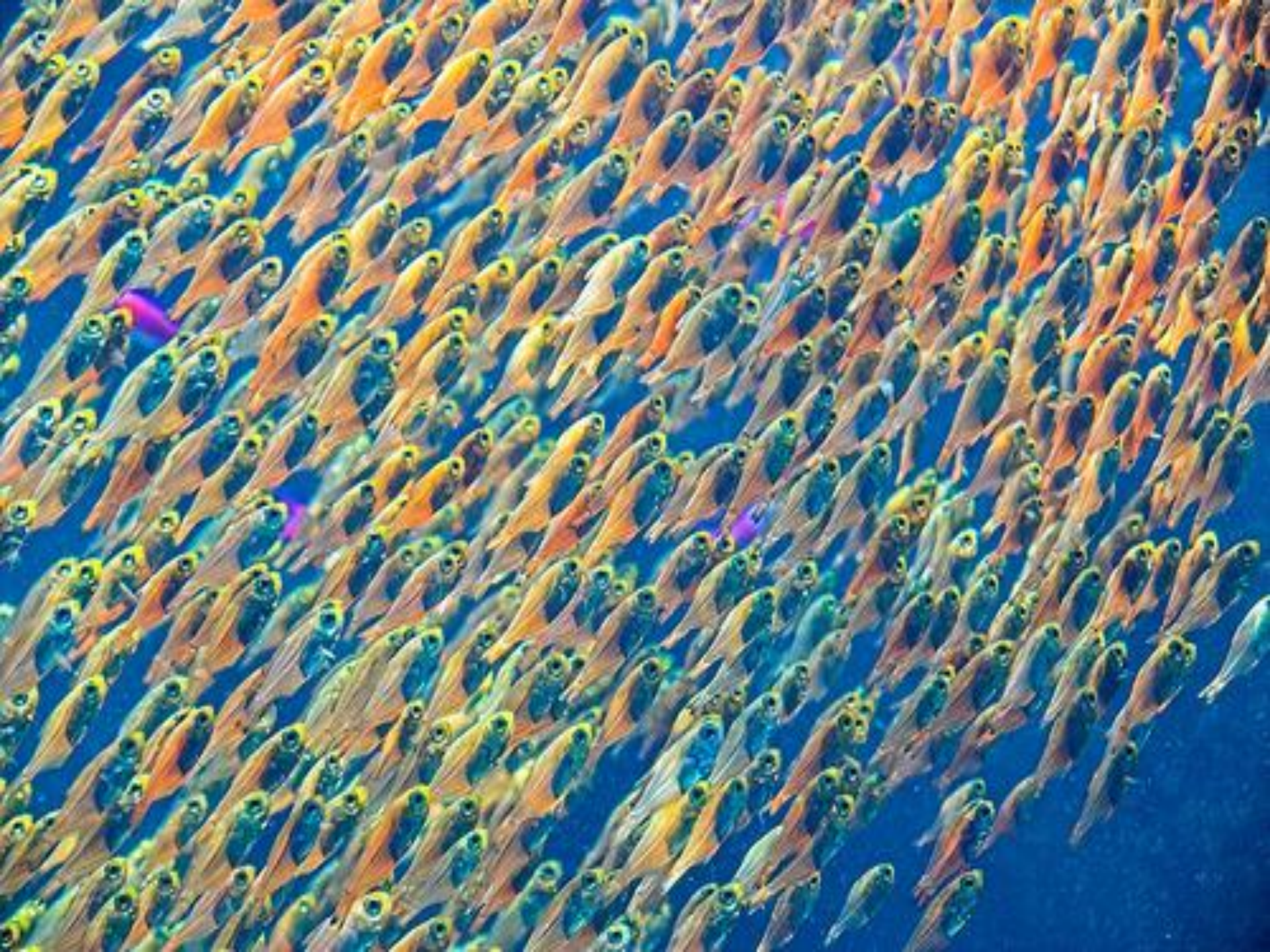
# Interdependent Attributes

Adaptable Elements

Self-Organization & Emergence

Order & Disorder

Embedded Systems

Diversity

Non-Linearity

Distributed Control

*Health Care, Education and Research*
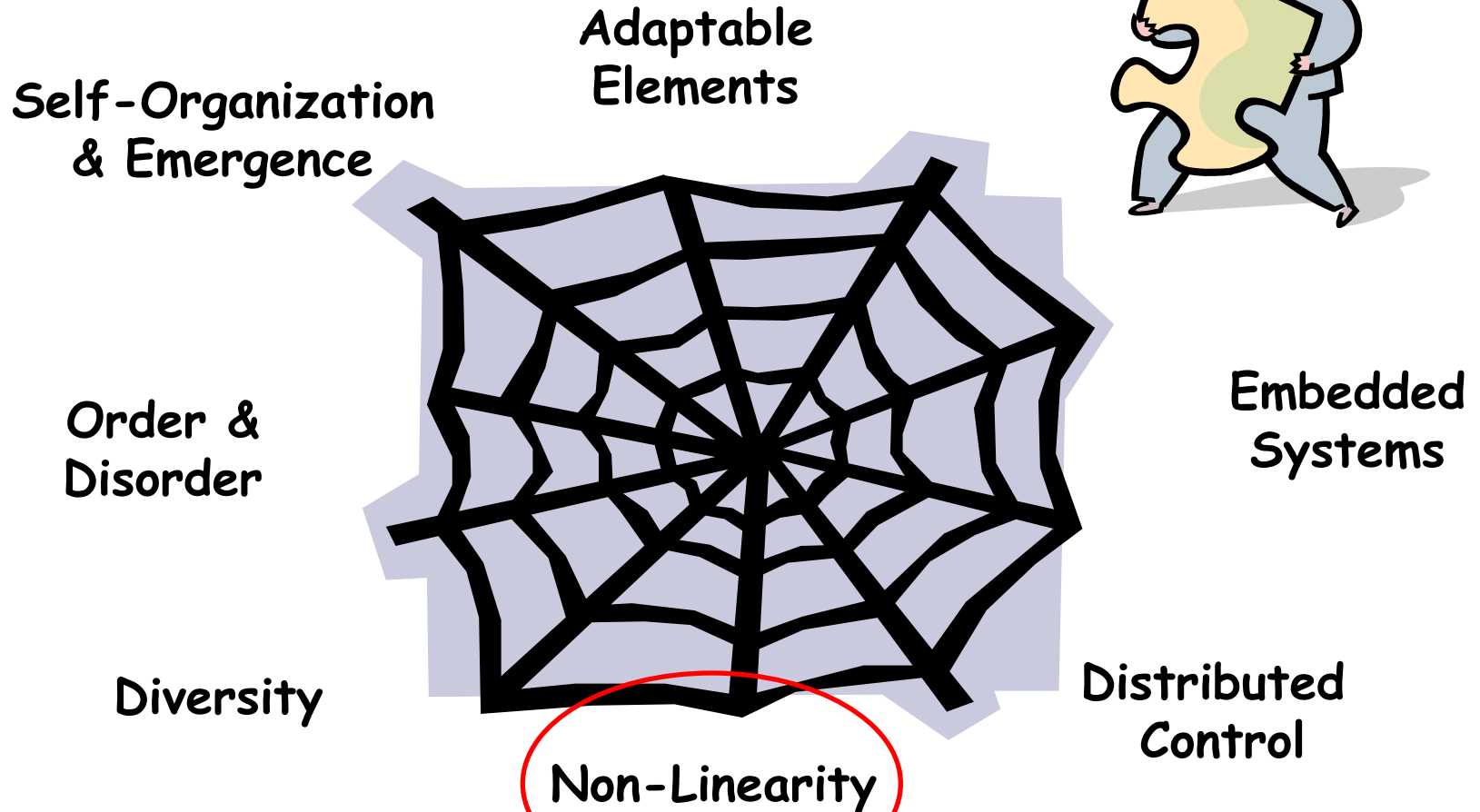
**Billings Clinic**

Because Complex Adaptive Systems are **nonlinear**, a small change may produce a large effect, or a large change may produce a small or no effect.

**Inability to Predict**: Outcomes are unpredictable.
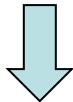
**Think Many Small Action**

The Butterfly Effect

"*We yearn for frictionless, technological solutions. But people talking to people is still the way that norms and standards change.*"

# Adaptive Leadership:
# A Management Theory (Heifetz)
# Problem contexts vary

- Technical Challenges
  - Expertise enables you to do outstanding work using your know-how and procedures and design of your organization

# Adaptive Leadership: Problem contexts vary

- Adaptive Challenges
  - demand a response outside your current toolkit or repertoire;
  - Gap between goals and operational capacity that cannot be closed by existing expertise and procedures

# Adaptive Leadership:



Closing the Gap

- Understanding that problems often have both technical and adaptive challenges

- Avoiding treating adaptive challenge as technical

- Mobilizing people's hearts and minds to operate differently

- Helping staff and managers develop new capacity

- Being able, both individually and collectively, to take on the gradual but meaningful process of adaptation.

"The work being done on your marriage—are you having it done, or are you doing it yourselves?"

# Consider Type of Problem, Match Solution to Problem

## Technical Change        Adaptive Work

Task  Edit  View  Patient  Chart  Links  Notifications  Time Scale  Options  Help

Home  Schedule  Message Center  Tracking Shell  |  Scheduling Appointment Book  Billings Clinic Web  MediRegs  med abbrev  ExitCare  Conversation Launcher

Calculator  Communicate ▼  Depart  Suspend  AdHoc  PM Conversation ▼  Request A Chart  Documents  New Sticky Note  Patient Pharmacy  Explorer Menu

CISTEST MR, ...  ✕  |  ← List →  Recent ▼  MRN  ▼

**CISTEST MR, TJBICKFORD X**  | Age:64 years | Sex:Male | MRN:BCC91034396 | Location: IM Downt...
Allergies: ampicillin, erythromycin, peni... | DOB:01/15/1948 | PCP: | Fin Number: 10099... | Outpatient [07/31/2...
| Pt Hx:02/10/2012

**Flowsheet - All Results**  Print  0 minutes ago

Flowsheet: Blood Pressure Summary  ▼  ...  Level: Blood Pressure Summary  ▼  ⦿ Table  ○ Group  ○ List

◀ ▶  May 24, 2000 13:15 - May 24, 2013 13:15 (Clinical Range)  ◀ ▶

**Navigator**  ✕
☑ In-Office Results
☑ Home Results
☑ Orthostatic Vital Signs

| Blood Pressure Summary | 04/26/2012 09:48 | 04/26/2012 09:47 | 04/26/2012 09:11 | 04/26/2012 09:09 | 03/30/2012 08:29 | 11/14/2011 18:00 | 06/16/20 10:39 |
|---|---|---|---|---|---|---|---|
| **In-Office Results** | | | | | | | |
| ☐ Sys BP | 110 mmHg | 110 mmHg | 100 mmHg | | H 154 mmHg | | 112 mmHg |
| ☐ Dia BP | 60 mmHg | 60 mmHg | 60 mmHg | | H 92 mmHg | | 72 mmHg |
| ☐ MAP | 77 mmHg | 77 mmHg | 73 mmHg | | 113 mmHg | | 85 mmHg |
| BP Site | Arm, upper left | Arm, upper left | Arm, upper right | | | | |
| **Home Results** | | | | | | | |
| ☐ Systolic BP, home | | | | | | 130 mmHg | |
| ☐ Diastolic BP, home | | | | | | 80 mmHg | |
| ☐ Outside Systolic BP #1 | | | | 140 mmHg | | | |
| ☐ Outside Diastolic BP #1 | | | | 92 mmHg | | | |
| ☐ Outside Systolic BP #2 | | | | 130 mmHg | | | |
| ☐ Outside Diastolic BP #2 | | | | 70 mmHg | | | |
| Date/Time of Outside BP #2 | | | | 03/01/2012 08 | | | |
| ☐ Outside Systolic BP #3 | | | | 120 mmHg | | | |
| ☐ Outside Diastolic BP #3 | | | | 60 mmHg | | | |
| Date/Time of Outside BP #3 | | | | 04/15/2012 16 | | | |
| **Orthostatic Vital Signs** | | | | | | | |
| ☐ SBP Sup | | | | | | | |

PROD  WINCHC  May 24, 2012  13:16

Start | PowerChart Or... | CISTEST MR, ... | 3 Microsoft Of... | RE: New inform... | Hypertension R... | 1:16 PM

# Your Blood Pressure Report Card

Name: CISTEST, LILLY
Date: 05/24/12

| "A–B–C's" | Risk Factor: | Your Goals: |
|---|---|---|
| **A** is for "Activity" | **Lack of Physcial Activity** *Increased activity is the NATURAL way to improve your blood pressure control and overall health* | ☐ Exercise 30–60 minutes most days of the week. <br> ☐ Increase to 60–90 minutes most days of the week to lose weight. |
| **B** is for "Blood Pressure" | **High Blood Pressure** *Most recent blood pressure readings:* <br> 05/14/12    180 / 105 <br> 05/24/12    158 / 94 | ☐ **Less than 140/90 if you don´t have diabetes, kidney disease or other complicating disease.** <br> ☐ **Less than 130/80 if you have diabetes or kidney disease.** <br> ☐ You should get your blood pressure checked at every office visit. |
| **C** is for "Cuff" Size" | **A Blood Pressure CUFF that is too small will make your blood pressure look too high** <br> *Your arm circumference is:* <br> **Date: 05/24/12    45.0 cm** | **Arm Circumference:** <br> ☐ 22–26 cm = Pediatric <br> ☐ 27–34 cm = Adult <br> ☐ 35–44 cm = Large Adult <br> ☐ 45–52 cm = Adult thigh |
| **D** is for "Dash food" plan" | A diet high in sodium can increase blood pressure | ☐ Get a DASH food plan from the nurse today. <br> ☐ Your blood pressure would benefit from a visit with one of our nutrition specialists for a personalized diet and exercise plan. |
| **E** is for "Eyes" | **Hypertensive Eye Disease** *Retinopathy is the leading cause of blindness in the U.S.* <br> Date of last eye exam_____ | ☐ Get a dilated eye exam by an eyecare specialist **ONCE A YEAR** or as directed. <br><br> **Date Eye Exam Due:_____** |
| **F** is for "Feelings" | • Stress can raise blood pressure <br> • Chronic disease can increase your risk for depression | ☐ Talk to your provider if you have been feeling increased stress, anger, or frustration. <br> ☐ Talk to your provider if you have been feeling less motivated to take care of yourself. |
| **G** is for "Get Weight" Down" | **Being over ideal weight can increase high blood pressure** <br> Your weight today: _229_ pounds | ☐ Losing 5–10% of your current weight will improve your health and may improve your blood pressure. <br> ☐ 5–10% = _11–23_ pounds |
| **H** is for "Heart and Stroke" | **Unrecognized Risk of Heart Disease and Stroke** *Every increase of 20 mmHG DOUBLES your risk of heart attack and stroke.* | ☐ Lifestyle measures such as diet and exercise will usually improve pressure within 6 weeks. <br> ☐ Most patients with high blood pressure need at least 2 medicines to reach blood pressure goals. |
| **I, J, K** is for "Kidneys" | **Unrecognized kidney disease** *Uncontrolled blood pressure can lead to kidney disease* | ☐ See your doctor at least yearly for blood tests of kidney function. <br> ☐ Keep your blood pressure at goal or lower for optimum kidney health. |
| **L** is for "loose sleeves" | **Fabric beneath the stethoscope or tight sleeves can change blood pressure readings** | ☐ Always wear loose clothing when having blood pressure taken, or slip your arm all the way out of the sleeve before the nurse reads blood pressure. |
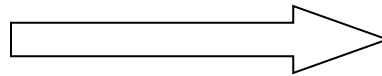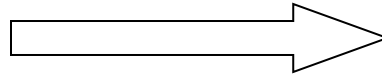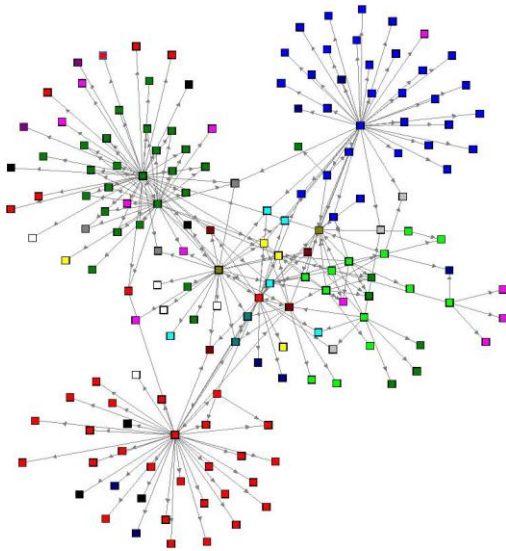
Conventional Change Model
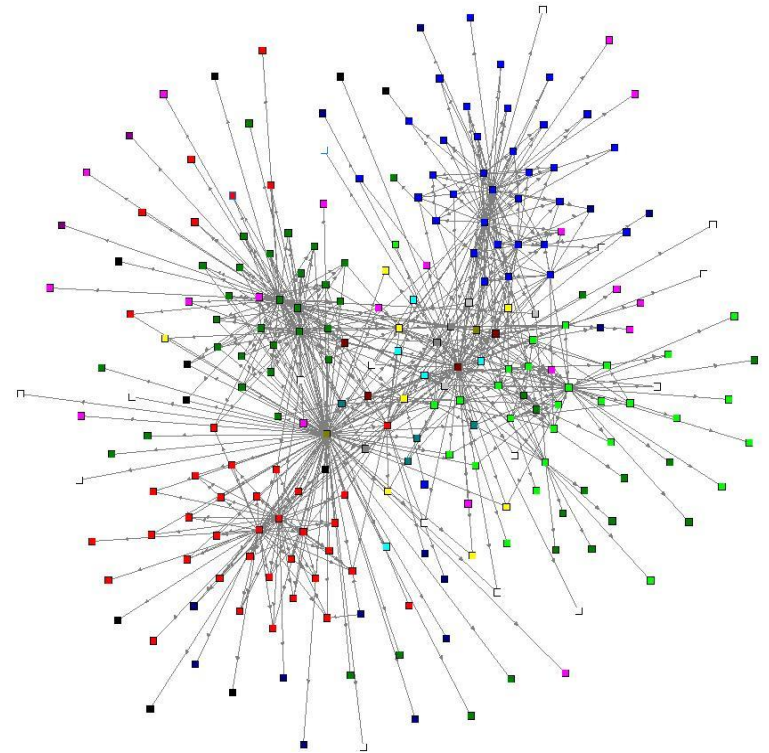
Complexity-informed Change Model

# **Complexity Science Tells Us…..**

1. Relationships matter
2. Look for "bright spots" or positive deviants
3. Foster self-organization
4. Embrace uncertainty

# Adaptive Leadership Model Tells Us…..

1. Solution needs to match the problem
   a. Technical problems need technical solutions
   b. Adaptive problems need adaptive solutions

2. Many (most?) problems are both technical AND adaptive
   a. Need both technical and adaptive solution

3. If solution fails, consider what's missing

# Strategies

Regional

- Face-to-face visits to rural/regional/frontier clinics
- Menus not Mandates
- Telemedicine "lunch and learns"
- Ownership, not buy-in

# Ownership vs. Buy-in*

## Ownership

- Invited to participate at start of project

- Participation a choice

- Helped design change

- Debated alternatives, contributed to decision-making

## Buy-in

- Invited to participate well into project

- Participation mandated

- Asked to accept change designed by others

- Unaware of alternatives discussed, not part of any decision-making

*Henri Lipmanowicz, co-founder Plexus Institute, co-developer, Liberating Structures

# Strategies (cont.):

Billings (aka the Mothership):

- Attended daily/weekly huddles
- Attended existing meetings
- Foster ownership, not buy in
- Train-the-trainer approach
- Bottom up: team creates protocols
- Look for 'bright spots' or 'positive deviants" and spread the word

# Strategies (cont.)

- Join a national campaign
- Explain why
- Solicit input from EVERYONE
- Engage patients

# Why train everyone?

- Team-based care: every discipline plays a role in HTN management
- Patient part of team
- Project ownership (vs. buy-in)

# RESULTS
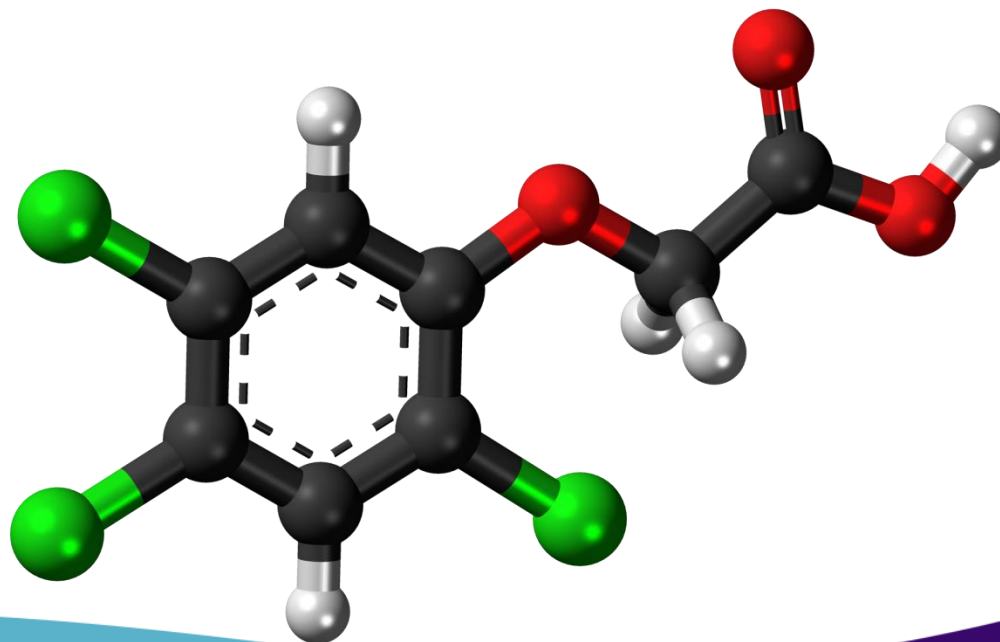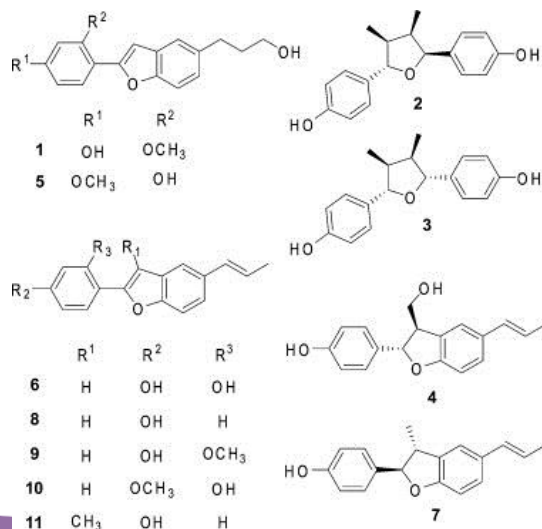
**Complicated HTN Patients with DM or CKD**
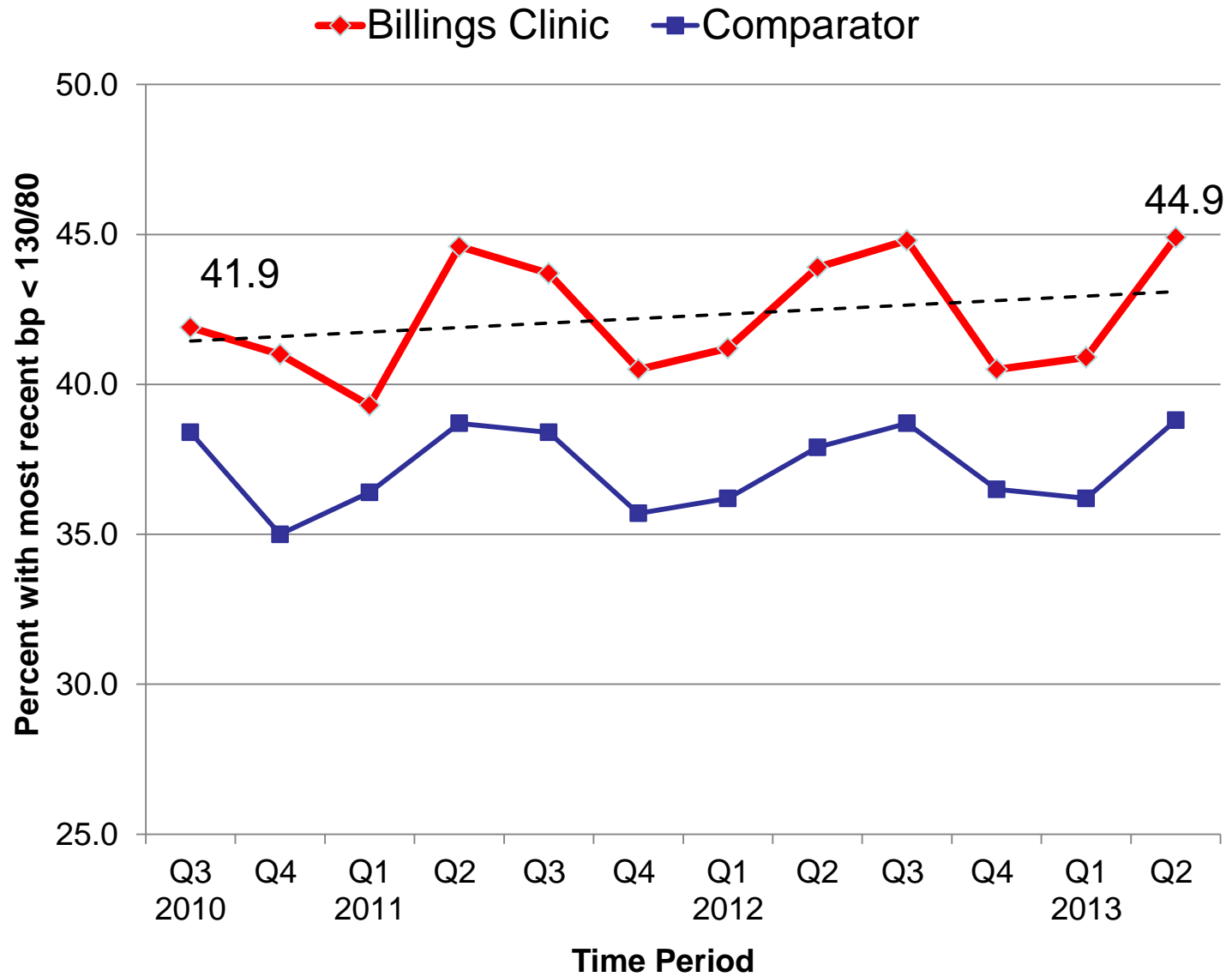
**Billings Clinic: All Patients < 85 years**

**Stillwater Billings Clinic: All Patients ≤ 85 (p=0.004)**

Legend: Billings Clinic, Comparator

Y-axis: Percent of Patients with most recent BP < 140/90

X-axis: Quarter

$y = 0.8563x + 69.126$

69.3

79.5
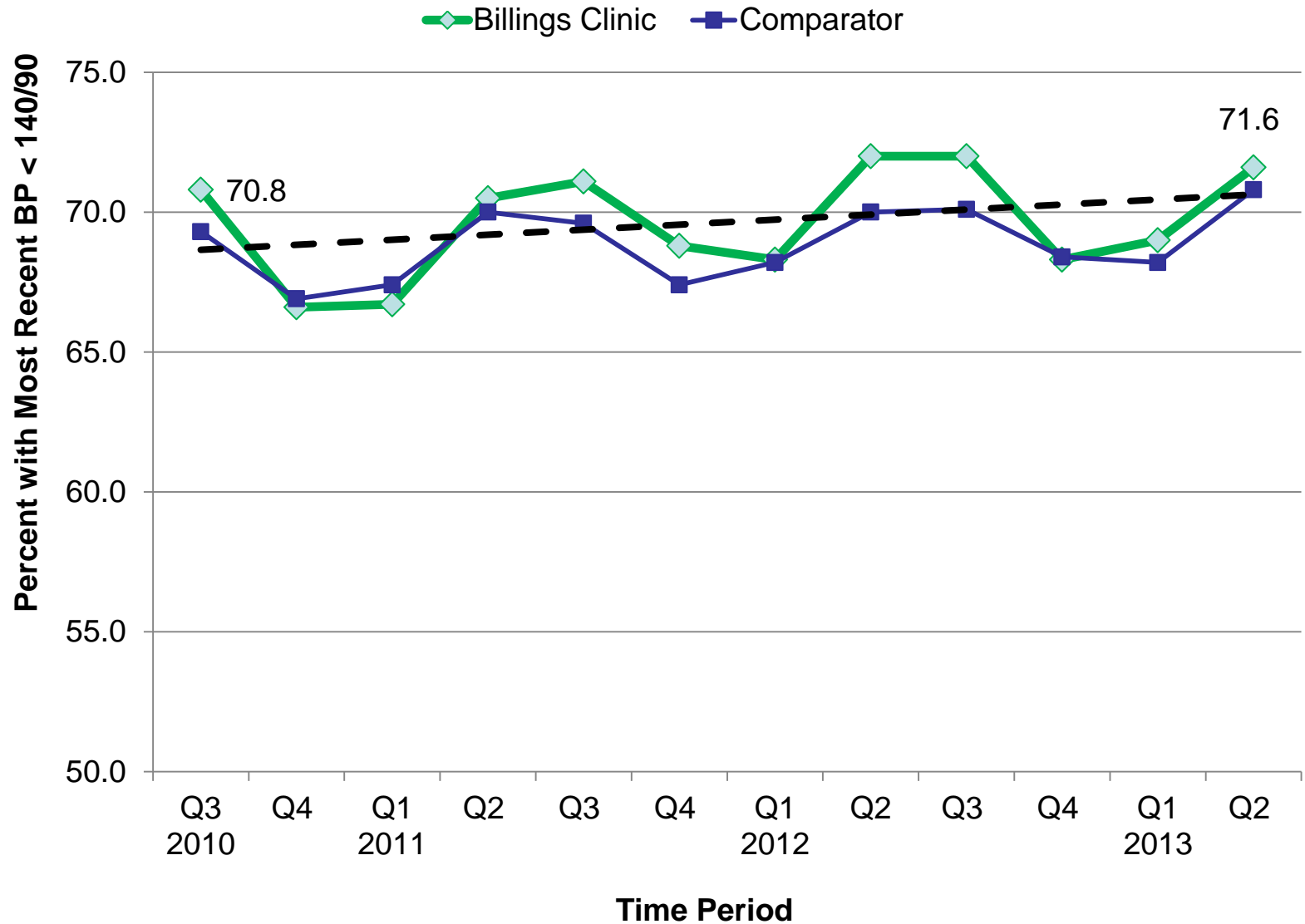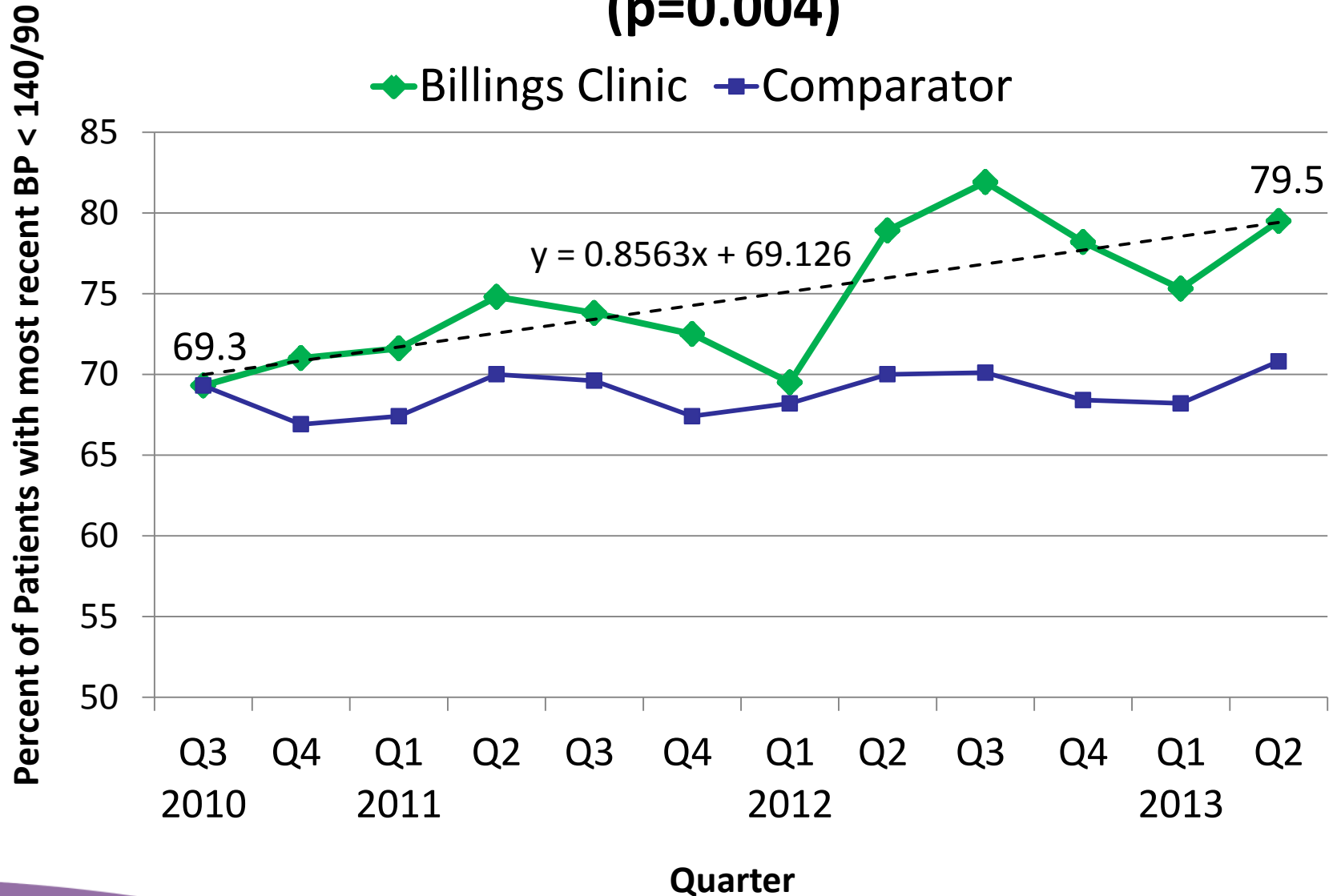
# Billings Clinic: All HTN Patients ≤ 85 (p<0.001)

**Stillwater Billings Clinic: All Patients ≤ 85 (p<.001)**

Percent of Patients with most recent BP < 140/90

70.9 | 75.0 | 80.0

2010 | 2011 | 2012

Year
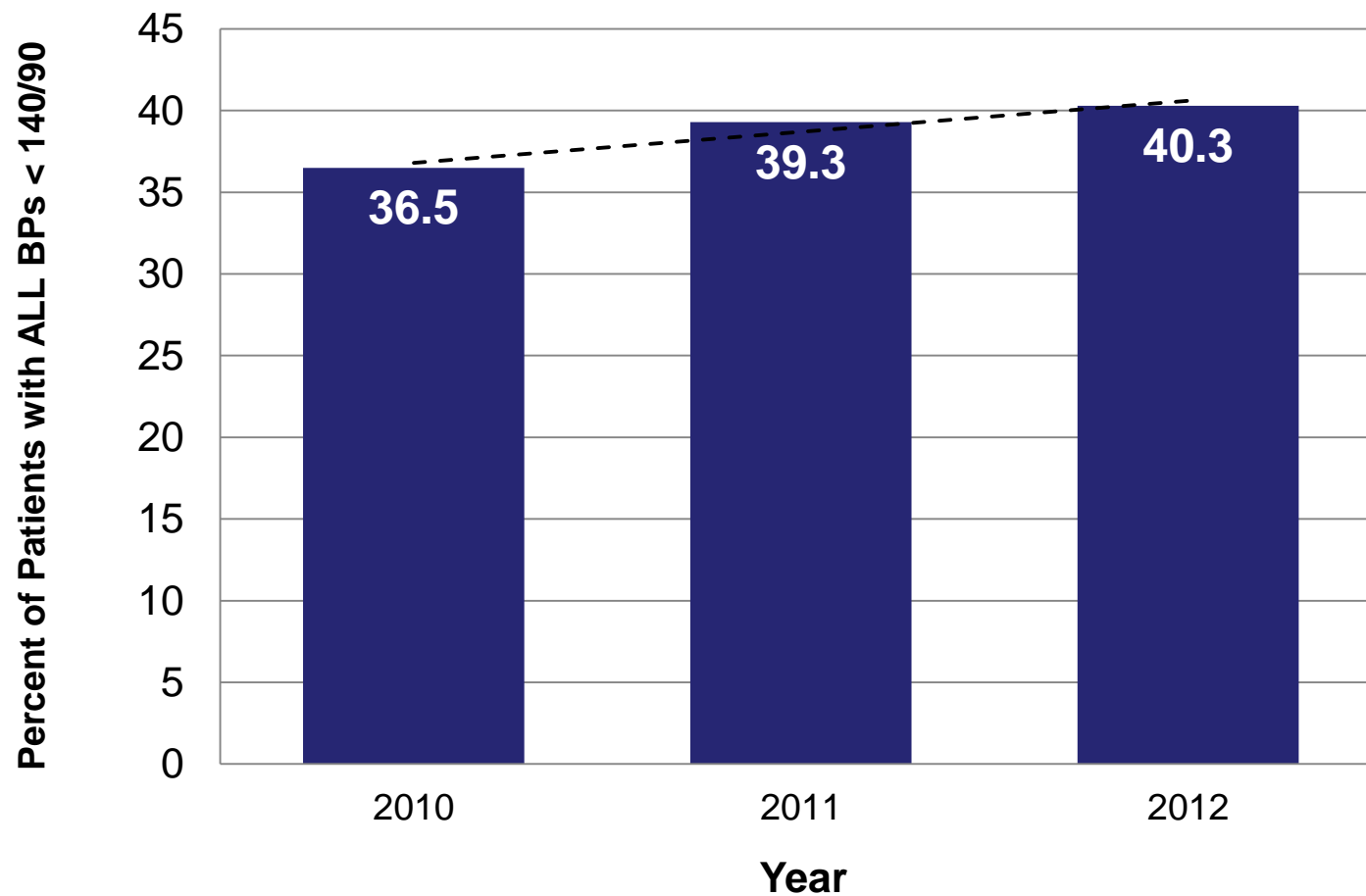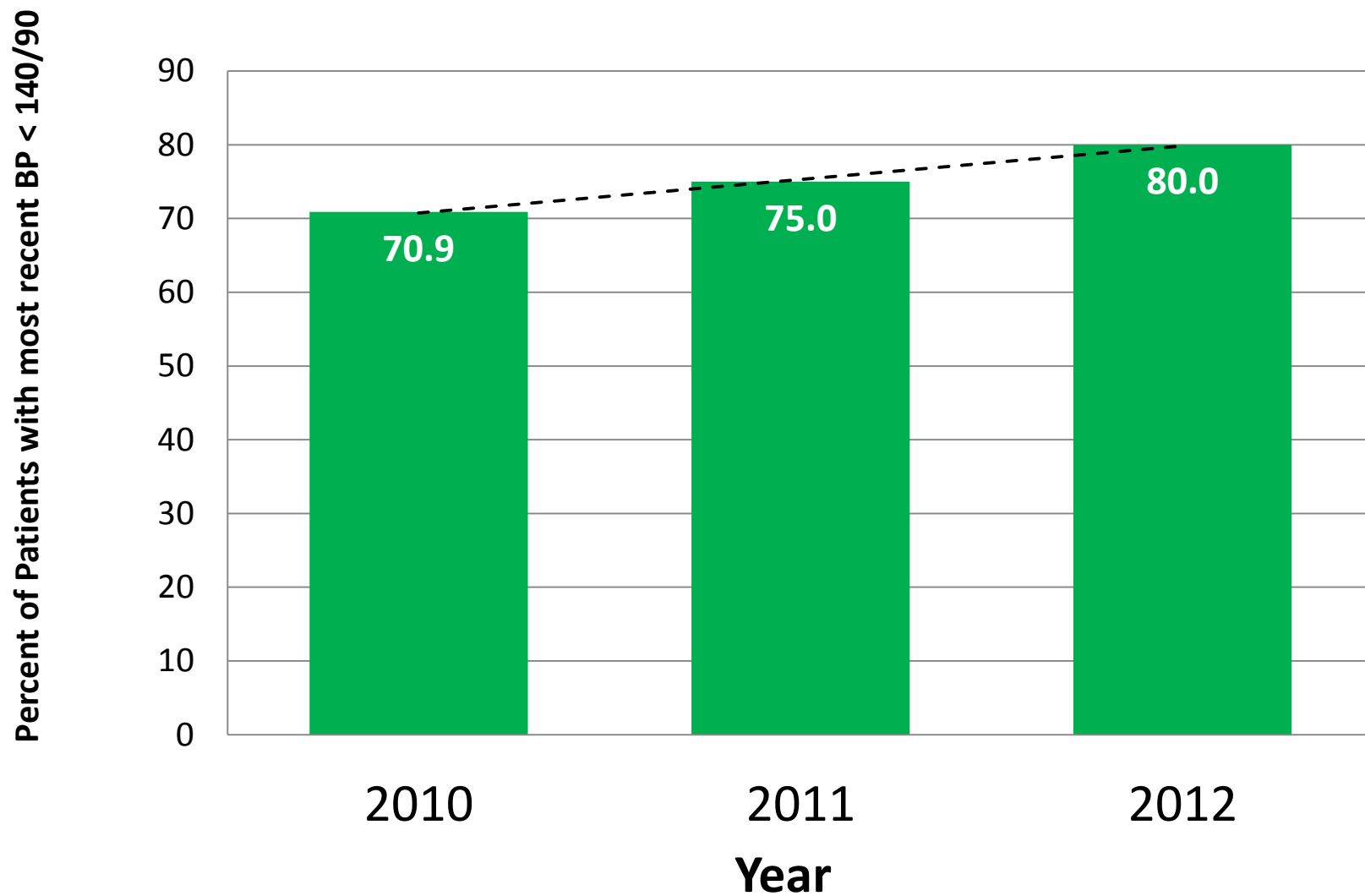
# Summary

1. Examining problem/issue through lens of complexity science, including recognizing health system as a **Complex Adaptive System,** facilitated focus on attributes and design of appropriate interventions.
2. Applying the "Adaptive Leadership Model" helped us match appropriate problems (technical/adaptive) with appropriate solutions (technical/adaptive).
3. <u>Sensemaking</u>: opportunities for teams to talk, discuss, debate ANY TOPIC will result in stronger, more cohesive teams.
4. Spread through self-organization more effective than through centralized approach.
5. Importance of fostering ownership versus persuading buy-in.

# Questions?

Elizabeth Ciemins: eciemins@billingsclinic.org

# How Well Are We Monitoring Blood Pressure?

- 94% have a documented BP measurement within the past 12 months
- **1348 patients do not**
- Rates for annual monitoring vary between practice teams
    - 7 Practice Groups scored ≥ 95%
    - 8 Practice Groups scored between 91-94%
    - The remaining Pratice Groups were charaterized by lower volumes of HTN Patients and their scores were more variable - ranging from 30%-89%

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# How Does BP Monitoring Vary Across Care Teams?

| Group | HTN Patients | Percent w/o BP | Patients w/o BP | Compliance Rates |
|---|---|---|---|---|
| Marinette Family Practice | 59 | 0% | 0 | 95% or better |
| Howard Internal Medicine | 1408 | 3% | 40 | |
| Sheboygan Family Practice | 301 | 3% | 10 | |
| Luxemburg Family Practice | 1380 | 4% | 59 | |
| St Marys Internal Medicine | 2712 | 5% | 128 | |
| East De Pere Family Practice | 2509 | 5% | 137 | |
| East DePere Internal Medicine | 1289 | 5% | 68 | |
| East Mason Internal Medicine | 2559 | 6% | 143 | 91-94% |
| Howard Family Practice | 1724 | 6% | 104 | |
| East Mason Family Practice | 891 | 6% | 53 | |
| Pulaski Family Practice | 757 | 6% | 47 | |
| Allouez Internal Medicine | 2027 | 7% | 143 | |
| Oconto Family Practice | 466 | 8% | 39 | |
| Ashwaubenon Family Practice | 1516 | 9% | 143 | |
| West De Pere Family Practice | 1363 | 9% | 119 | |
| Oconto Internal Medicine | 393 | 11% | 44 | 30-89% |
| St Marys Geriatrics | 435 | 14% | 61 | |
| Plymouth Family Practice | 54 | 28% | 15 | |
| East DePere Geriatrics | 10 | 70% | 7 | |

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# How Well Are We *MANAGING* BLOOD PRESSURE?

- Prevea's rate of achieving target blood pressures is already better than the national average of 53.5%

- The goal of the AMGA's Measure Up Pressure Down initiative is to reach a goal of 80% patients managed to their therapeutic target
  - Patients with diabetes or chronic kidney disease, BP < 130/80
  - All other patients, BP < 140/90

- Of those HTN patients with BP measurement within the year, 30% (6,025) had a measurement indicating they are ABOVE therapeutic target.

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# How We Got HERE

- Automated messaging to identify and notify patients due for recommended care

- Replaced episodic care with coordinated, long-term care through adoption of the Patient Centered Medical Home Model and NCQA Accreditation for all Primary Care locations
  - o 18 onsite Care Managers

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# Never Settle For Better than National Average

- Hypertensive patients who received automated communication messages were significantly more likely to have both a chronic care-related visit and a systolic blood pressure reading recorded in the EMR (odds ratio=3.18, 95% confidence interval 2.90–3.48) [1]

- 76% of Hypertensive patients cared for under the medical home model improved or were at therapeutic target after 12 months vs 52% who were cared for under the traditional delivery system

- Despite this, blood pressure control and compliance outcome measures have remained **static** for over 18 months

[1] Ashok Rai, Paul Prichard, Richard Hodach, and Ted Courtemanche. Population Health Management. August 2011, 14(4): 175-180. doi:10.1089/pop.2010.0033.

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# The 60 Day Challenge

- 4 Pilot sites
  - 8000 Hypertensive patients
- Re-examine delivery system and revise current protocols
  - Extreme variation persisted – care managers could not articulate workflow in response to an elevated blood pressure reading
  - Some departments rechecked blood pressure at the visit, others did not
  - No standard for follow up care - Some had a follow up at 2 weeks, some at 4, others none at all
  - No standard for documenting the second reading, if it was done at all.
- Update educational material on healthy lifestyle behaviors, smoking cessation, increased physical activity, reduced dietary salt, and stress management
- Address barriers to access and patient's non-adherence to treatment
- Find solutions to insufficient access to healthful foods and physical activity

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# The 60 Day Challenge

- Redesigned standards that are easy to follow and quick to implement
  - During rooming, if patient's blood pressure is > 140/90 or >130/80 for patient with chronic conditions, Care Manager will add to Chief Complaint
  - Physician will repeat blood pressure
  - Follow up Care Manager visit scheduled for 2 weeks if no changes to medications
  - Follow up Care Manager visit scheduled for 4 weeks if changes to medications made
  - Care Manager will take blood pressure and pulse at follow up visit and route encounter to physician
  - Physician will provide directives based on reading, follow up instruction and route back to Care Manager

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# Transparency

- Monitor the degree of process compliance and rate at which therapeutic BP goals are achieved
- Results analyzed for individual providers, provider groups, and program average and are compared to performance targets
- Incorporating results into group communications increases familiarity with guidelines and professional accountability for performance
- Visibility to peak performers (best practice indicator) and low performers allows us to learn from others



60
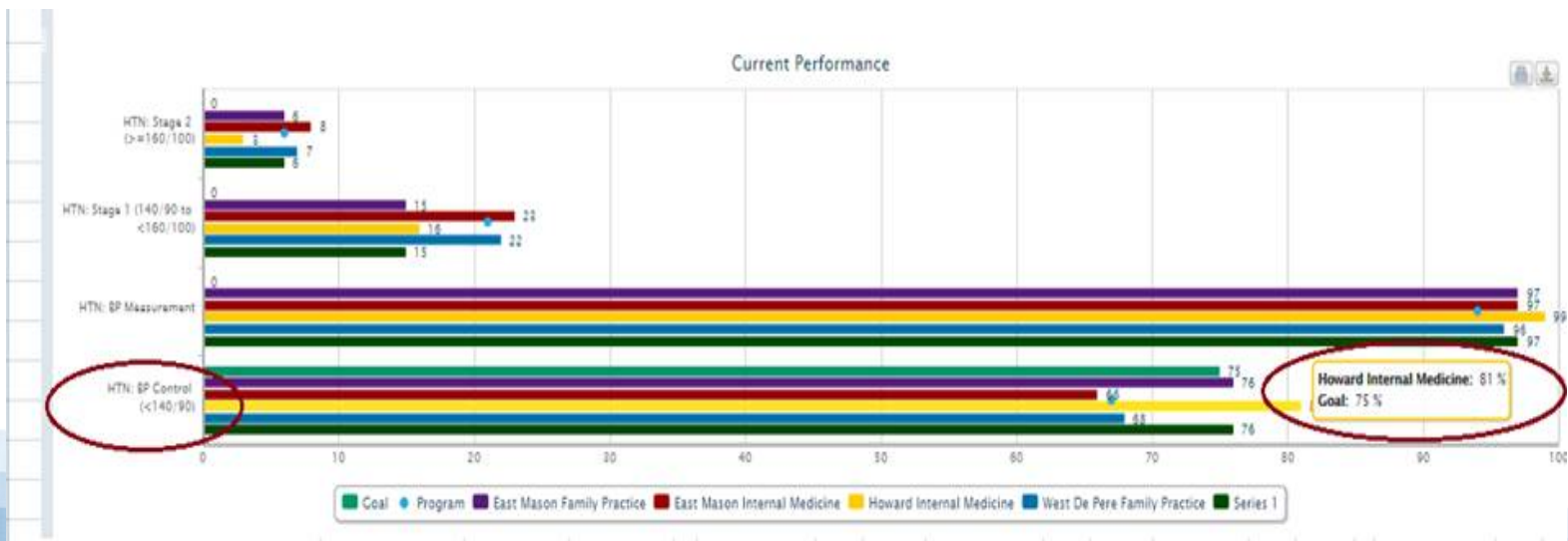
# Registries

- Registries include gaps in care created based on appointment date, provider, care manager assignment to target specific sub-populations for more intensive follow-up, such as assignment to a care manager, specialist referral/coordination of care, and self-management education

# Management on the Individual Patient Level

- BP measurements for a patient over time are summarized on each patient's record in graphic and list format is helpful to review in conjunction with counseling a patient towards a therapeutic goal

- Patients not at treatment goal or with new/modified prescribed medication are seen within 30 days

- In the event that a patient is a "no show", a care manager can identify that event and contact patient to re-engage them
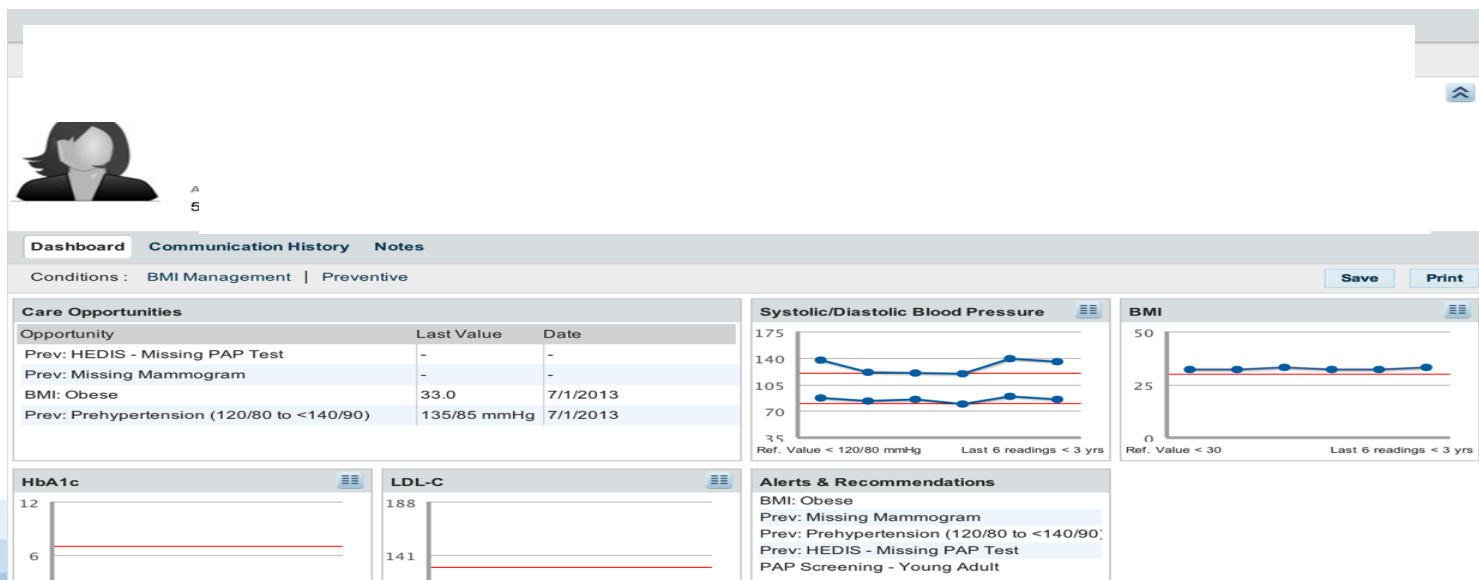
# Routine Blood Pressure Measurement
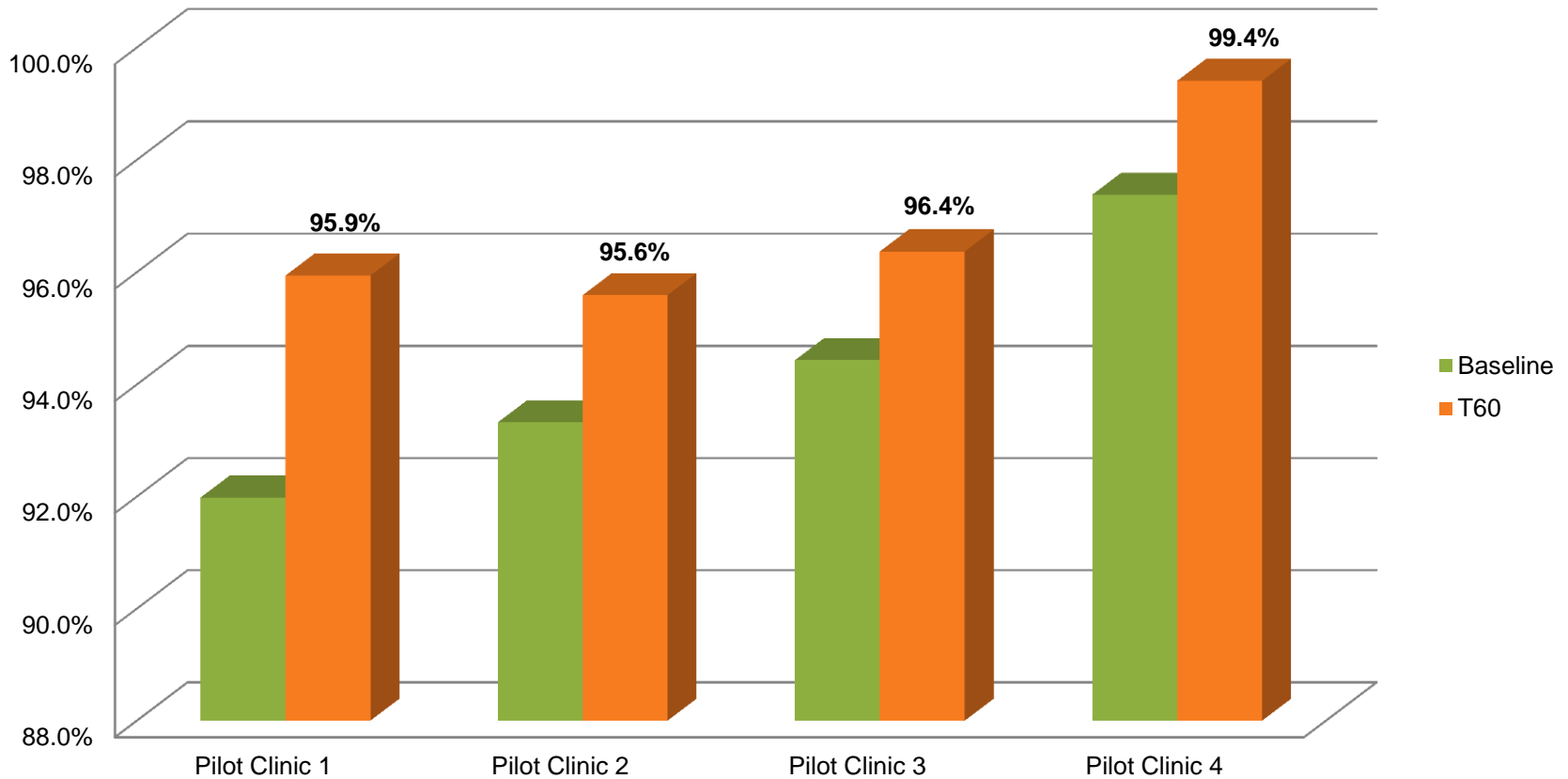
# Blood Pressure Control <140/90
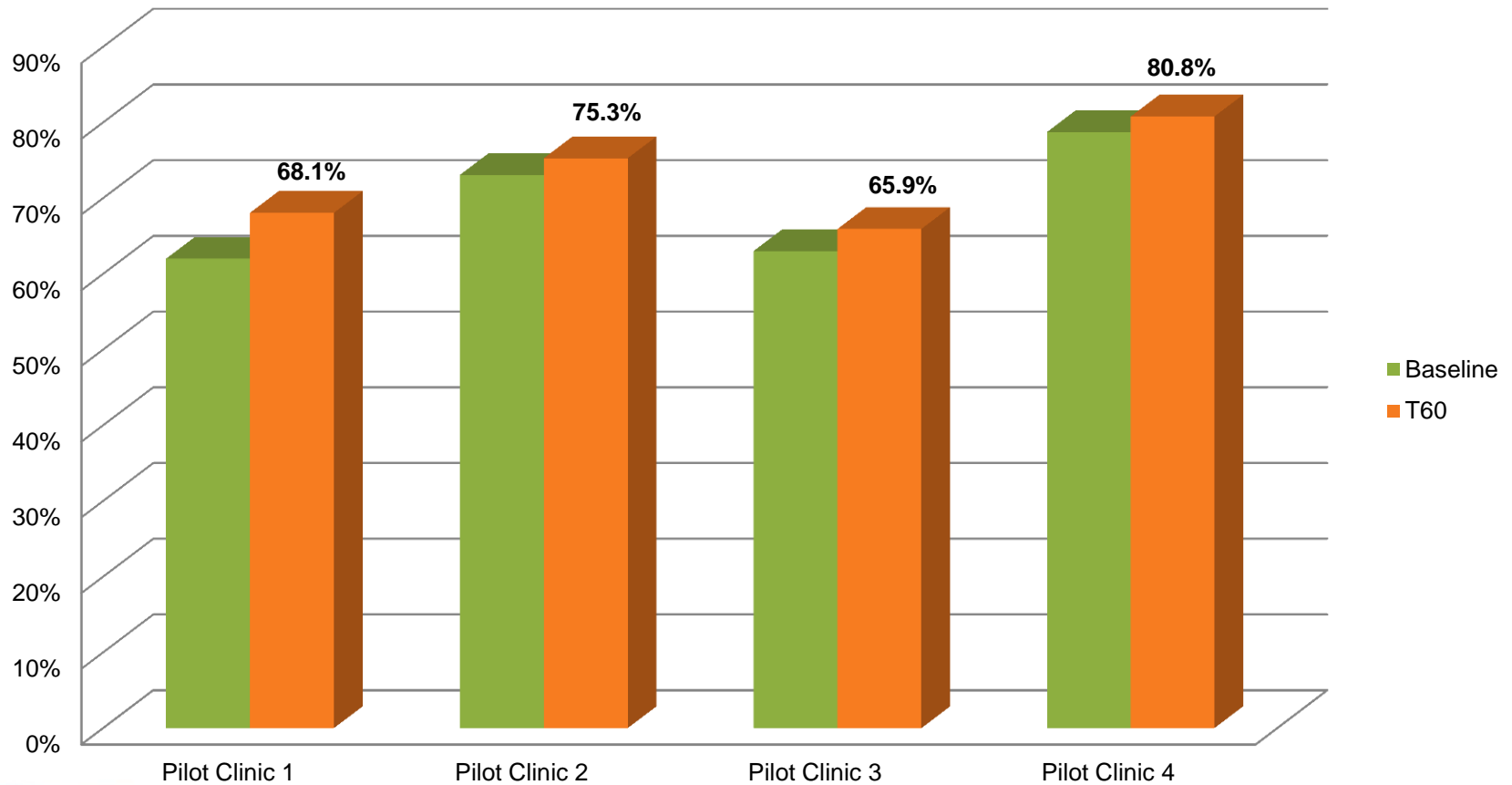
# Next Steps

- Onboarding non-treating departments

- Address physician resistance to allow Care Managers to own major parts of process

- Develop similar model for sites without Care Manager

- Test and retest. Refine process as needed

- Analyze results frequently. What did we expect vs what we observed

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# Questions?

**Thank You.**

**Ashok Rai, MD**

President and Chief Executive Officer

Prevea Health