Cleveland Clinic

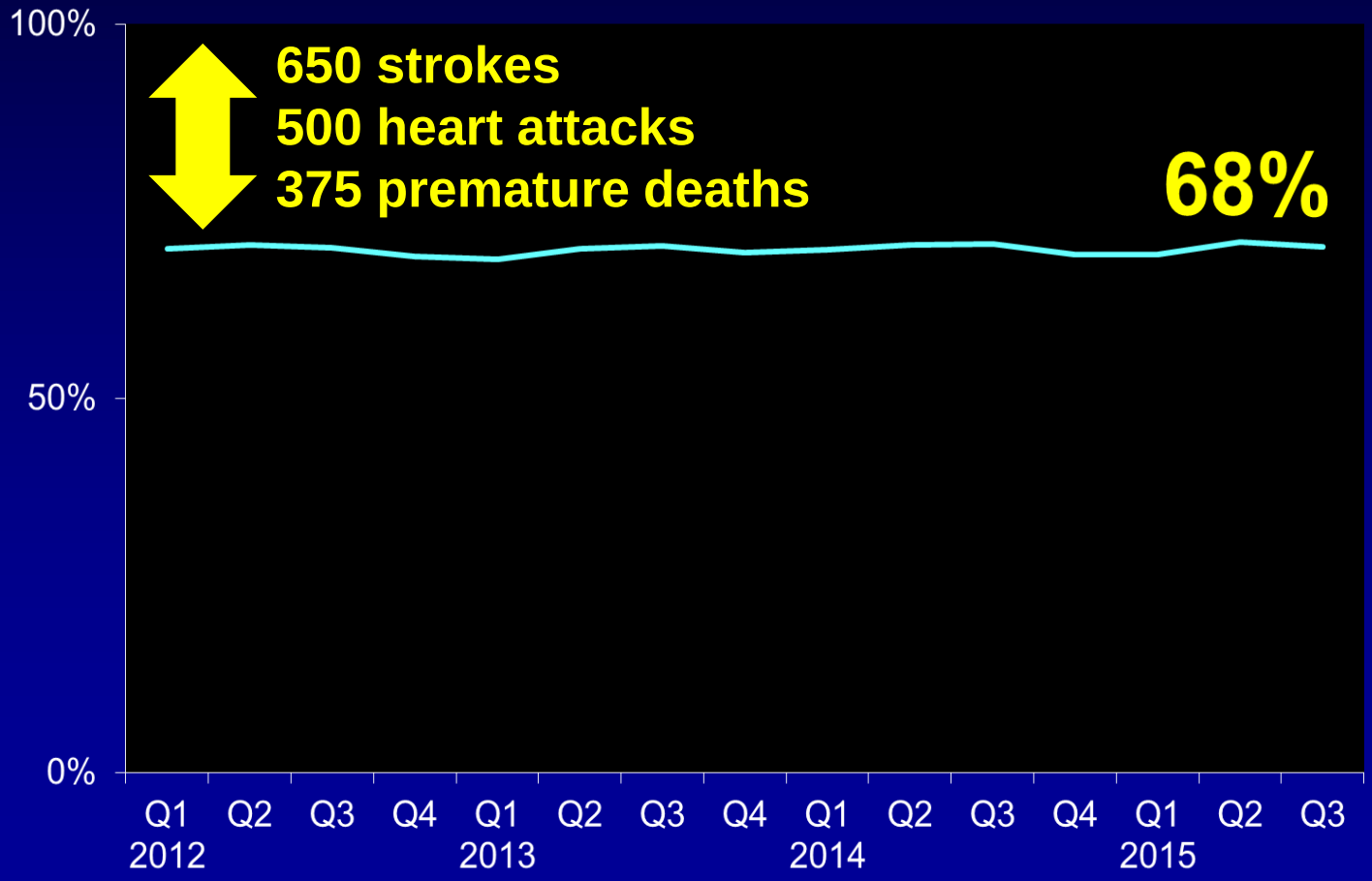
# Hypertension Improvement

# Our Burning Platform

- 70 million Americans
- #1 risk factor for premature death
- $46 billion in excess healthcare
- Important measure for value based care

# Local Problem

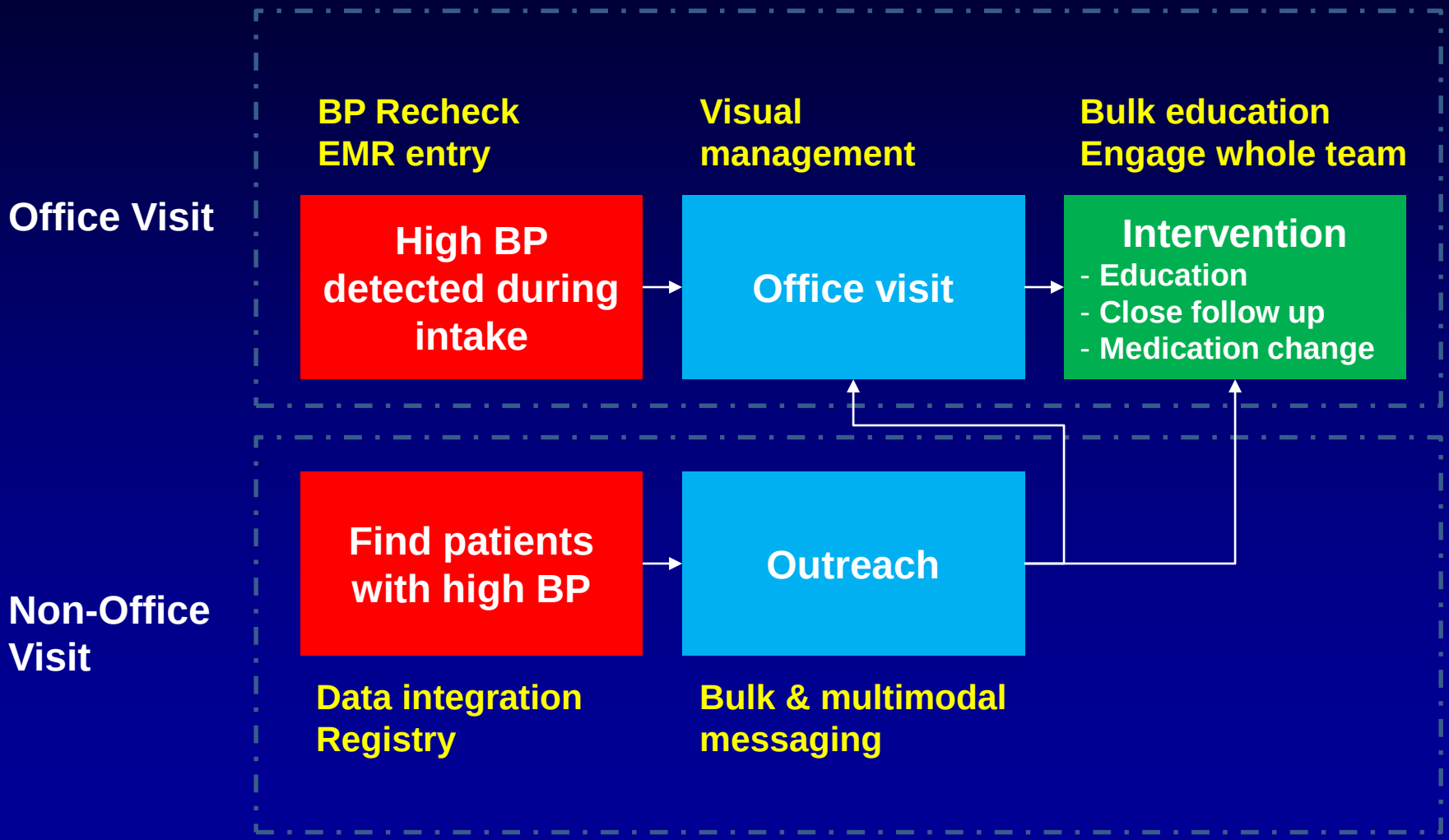
## 160,000 adult patients with HTN



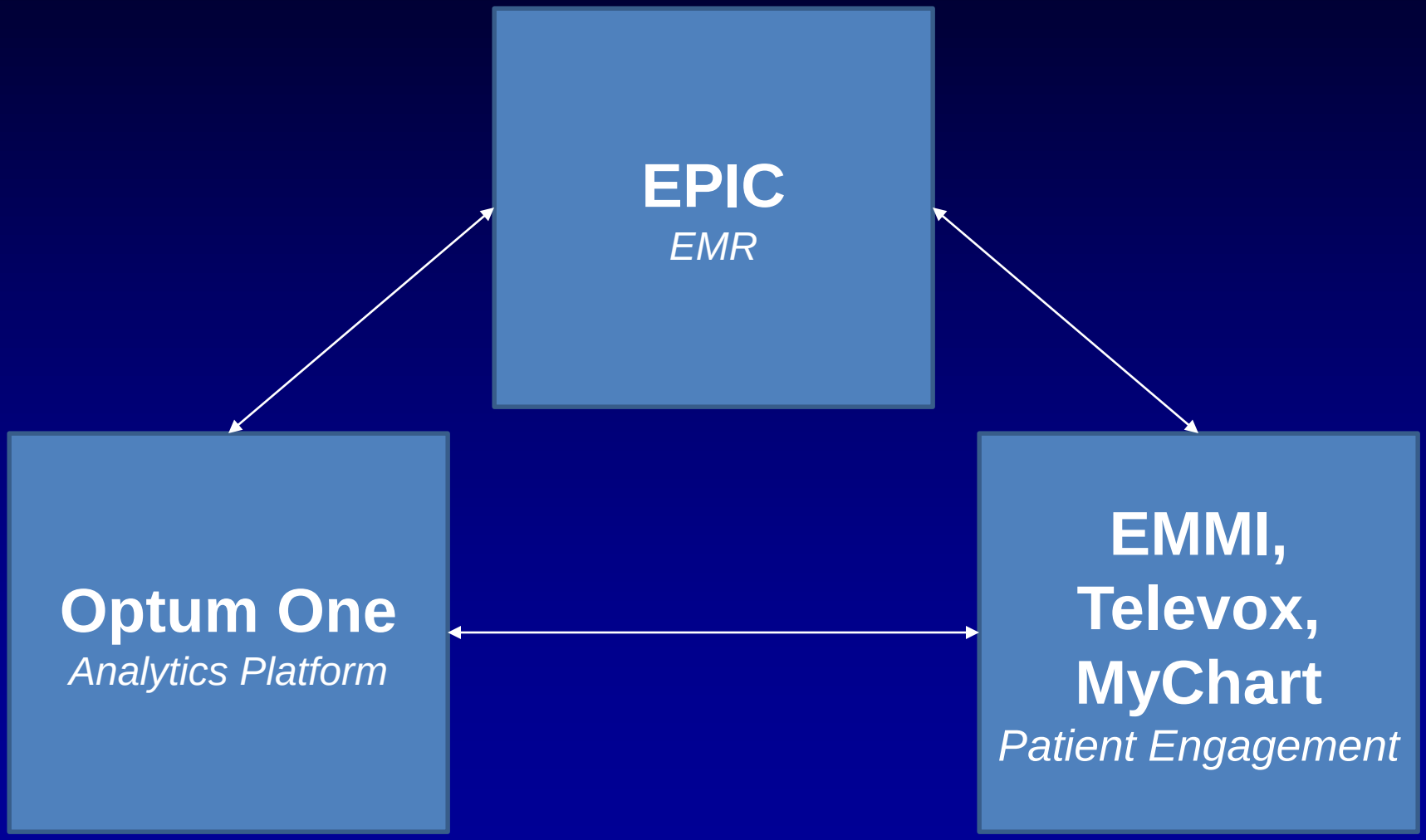
# Adult Primary Care
# Who We Are

| | | |
|---|---|---|
| **400k** adult patients | **300** PCPs | **50** care coordinators |
| **51** ambulatory sites | **6** social workers | **8** clinical pharmacists |

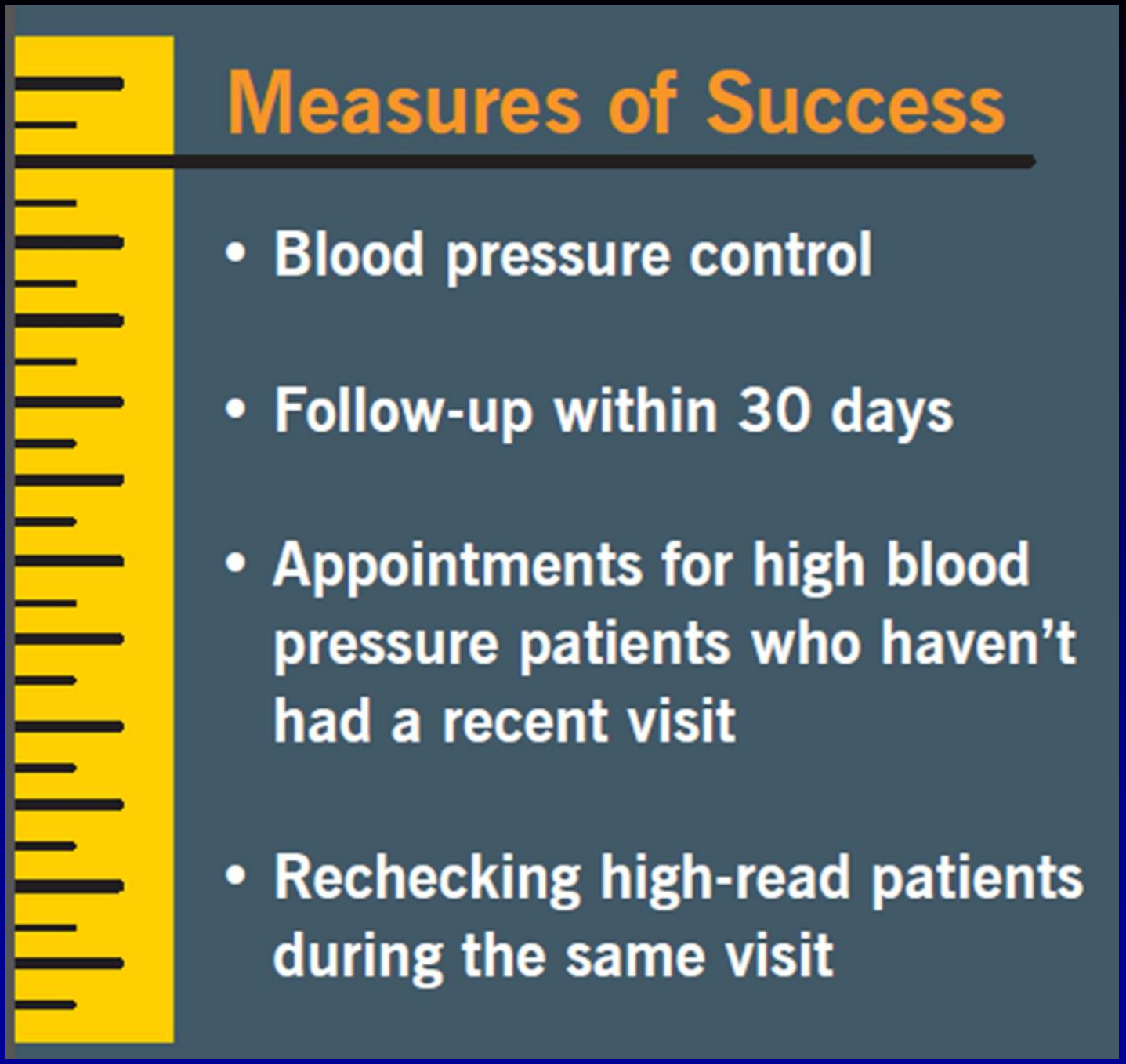
# BP Control Workflow



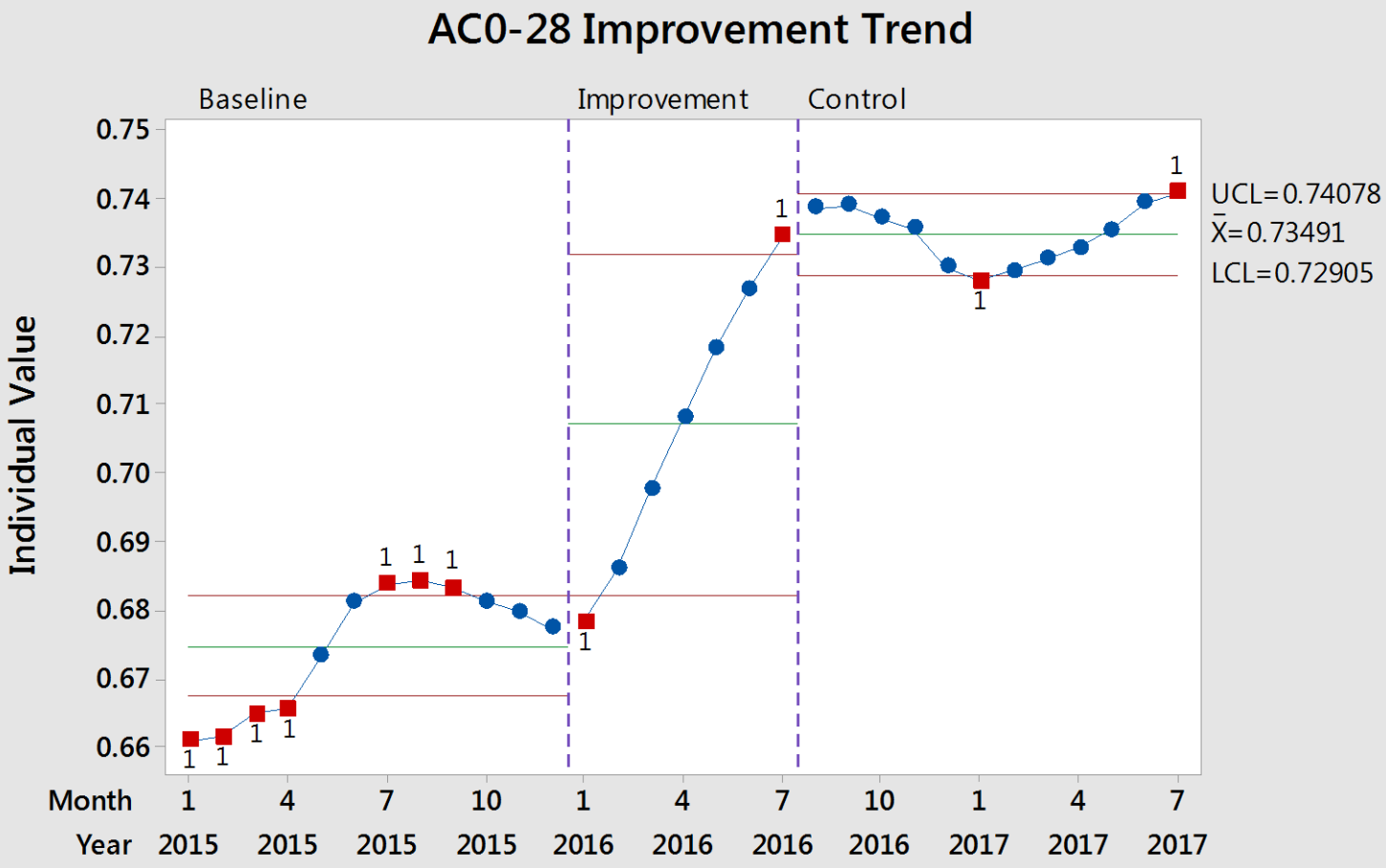
# Technology Utilization



# HTN Improvement Structure


Measures of Success
• Blood pressure control
• Follow-up within 30 days
• Appointments for high blood pressure patients who haven't had a recent visit
• Rechecking high-read patients during the same visit

# Hypertension Improvement




*Each monthly data point represents a rolling 12 month average*

## People

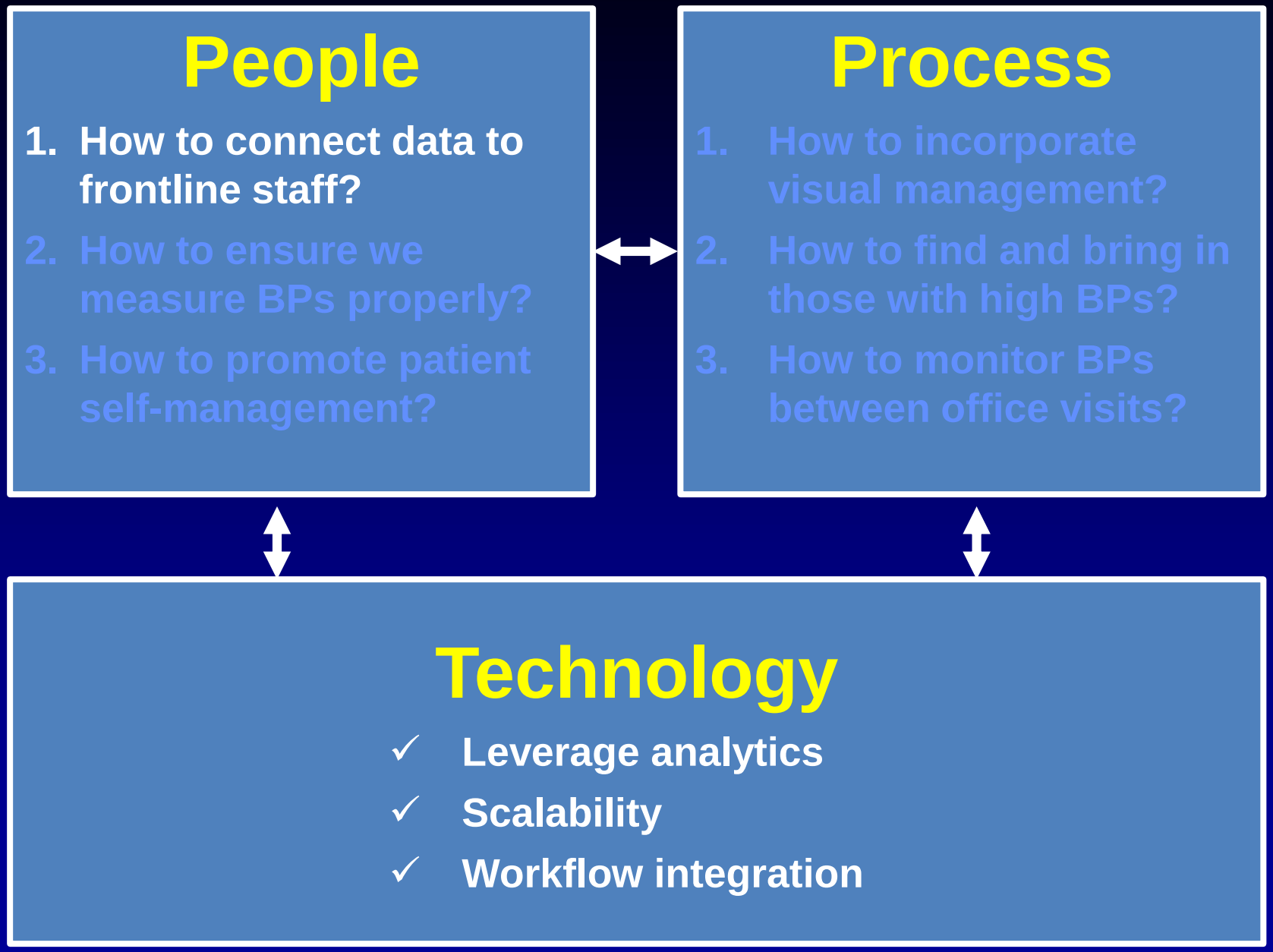
1. How to connect data to frontline staff?
2. How to ensure we measure BPs properly?
3. How to promote patient self-management?

## Process

1. How to incorporate visual management?
2. How to find and bring in those with high BPs?
3. How to monitor BPs between office visits?

## Technology

- ✓ Leverage analytics
- ✓ Scalability
- ✓ Workflow integration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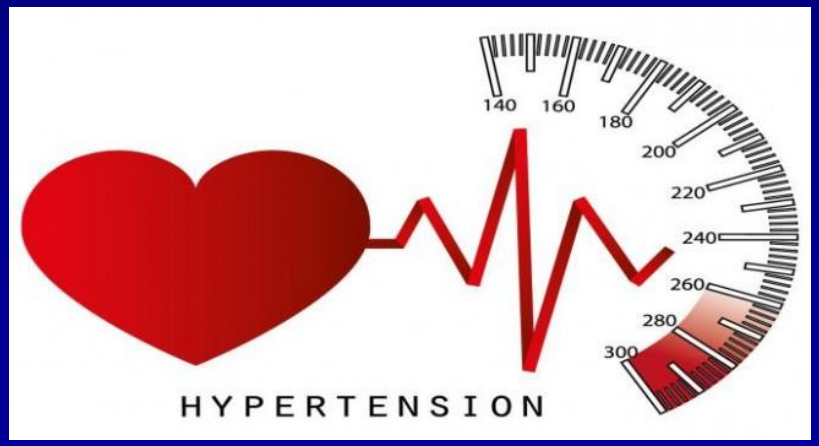
# Cohort Definitions

**120,000**
**"off the shelf" definition**

**VS**

**160,000**
**custom definition**



# HTN Cohort Definition

**Clinical Data (e.g. EMR)** + **Financial Data (e.g. claims)**

| **Hypertension** | |
|---|---|
| **Parameters** | |
| | >=18 yrs old |
| **AND** | Pts w Dx of Elevated BP w/o HTN Dx Ever (False) |
| **AND at least 1 of:** | 1.) Pts with HTN on the problem list, **OR** |
| | 2.) # of HTN Related ED/IP/OBS/Amb Visits >=2, **OR** |
| | 3.) Pt Had SBP >= 150 or DBP >= 90 >=4 times in separate encounters |

Cleveland Clinic

Data Dictionary

# Ambulatory Care Dashboard

Drill Method: By Center | Institute: Medicine Institute | Center: All Centers

Time Frame: Month | Month: December 2016 | Provider Attribution: PCP

| ACO | | | | |
|---|---|---|---|---|
| ACO Care Coordination/Patient Safety | 1 | 0 | 0 | 0 |
| ACO Preventative Health | 3 | 1 | 3 | 0 |
| ACO At Risk Populations | 1 | 0 | 4 | 0 |

Page 1 of 1

Detail Report | Printable Summary

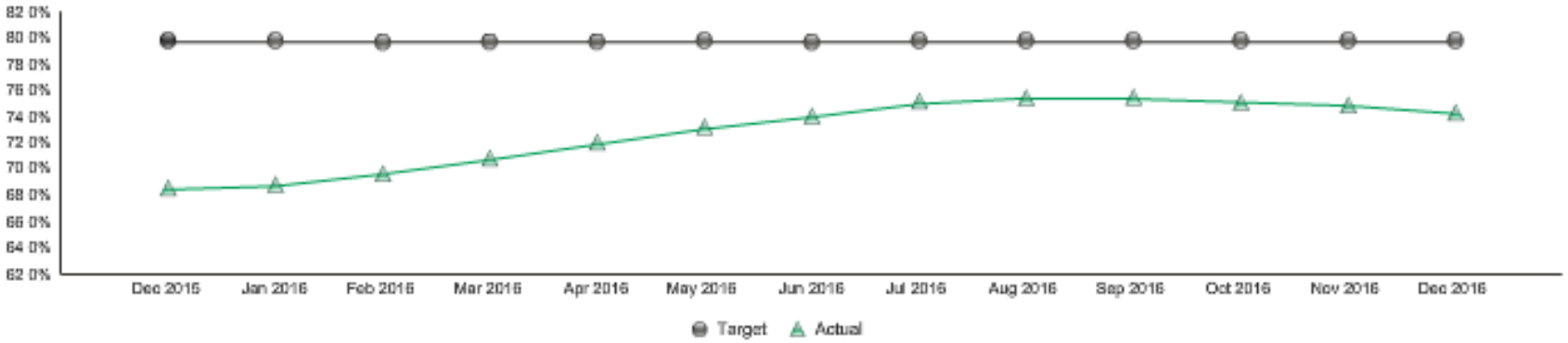
| | Actual | Target | | N | Through Date |
|---|---|---|---|---|---|
| ACO 22: DM HbA1c < 8% | 68.9% | 65.3% | ✓ | 36,338 | Dec 2016 |
| ACO 27: DM HbA1c > 9% | 20.1% | 10.0% | ✗ | 36,338 | Dec 2016 |
| ACO 28: HTN Control | 74.2% | 79.7% | ✗ | 121,052 | Dec 2016 |
| ACO 30: IVD Use ASA/Antithrombotic | 88.1% | 97.9% | ✗ | 34,860 | Dec 2016 |
| ACO 41: DM Eye Exam | 53.8% | 90.0% | ✗ | 36,338 | Dec 2016 |

Trend | Comparison

ACO 28: HTN Control

Medicine Institute - All Centers - All Locations - All Physicians

N-Size: 121,052 (Dec 2016)



# Hypertension Improvement 16k IN '16

+5100

as of April 30th

**5100 more patients with controlled BP means:***

- 76 LESS STROKES
- 51 LESS HEART ATTACKS
- 41 LESS EARLY DEATHS

## Let's Keep Up the Momentum!

**Recheck All High BPs**
**Ensure Proper Measurement**
**Close Follow up for High BPs**
**Outreach to Patients Not Coming In**

"Hypertension remains one of the most important preventable contributors to disease and death."
- JNC VIII

Questions or Ideas? Send them to einlotc@ccf.org

* Evidence-based estimates of numbers needed to treat. References available.

# Hypertension Improvement 16k IN '16

+10240

## Uh Oh. We're slowing down!

Our monthly improvement has leveled off.
We need your help to get moving again!


131 less strokes
100 less heart attacks
75 less early deaths

## RECIPE FOR SUCCESS

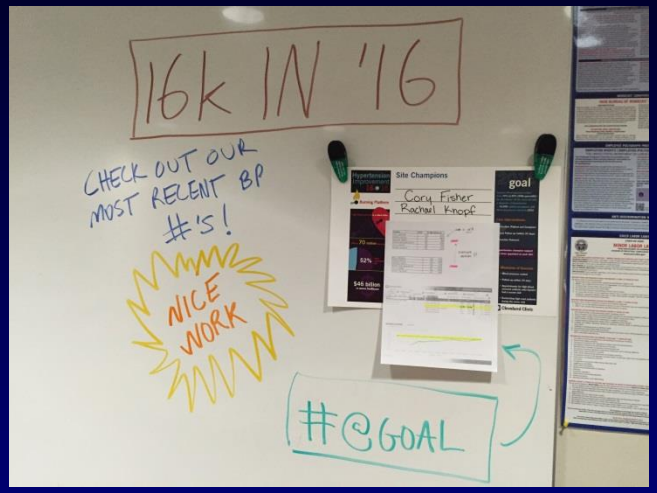
Review your practice-level data
Work your outreach lists
Reboot 30 day follow up efforts
- 85% of nurse BP visits = no copay
- Express Care for BP checks (North Olmsted, STJ, Solon, Sagamore Hills and Wadsworth)

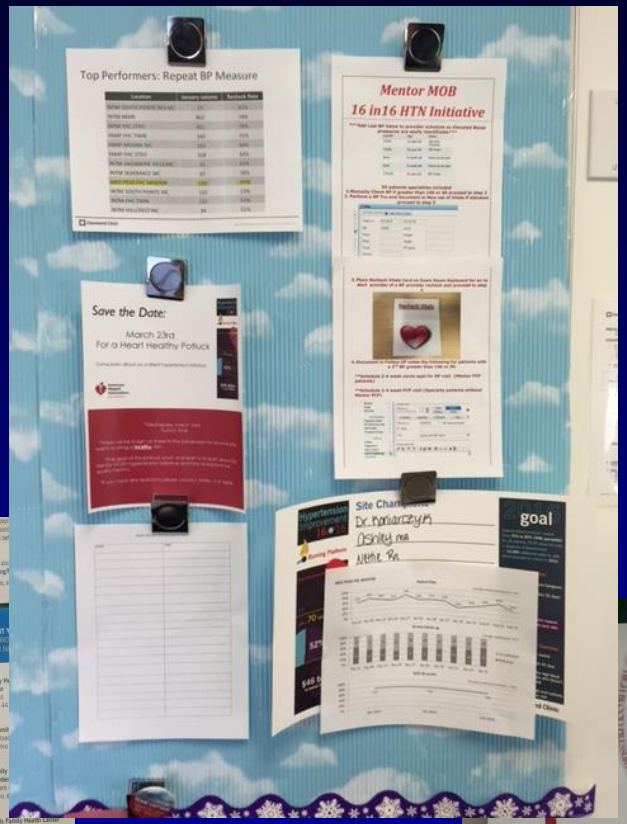
## FYI

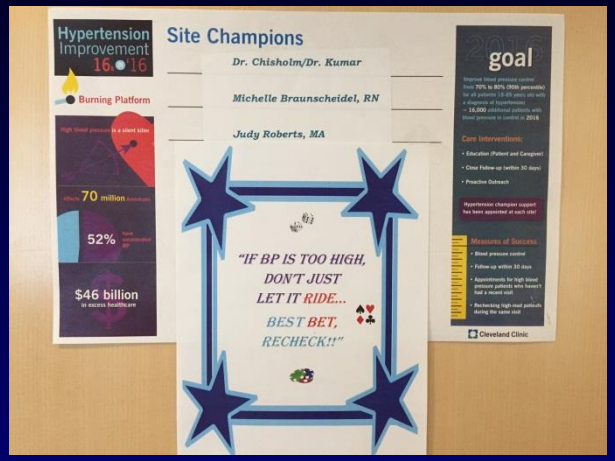
ACO patients with high BP and no follow up will be sent a MyChart note in October suggesting PCP follow up or Express Care drop-in.

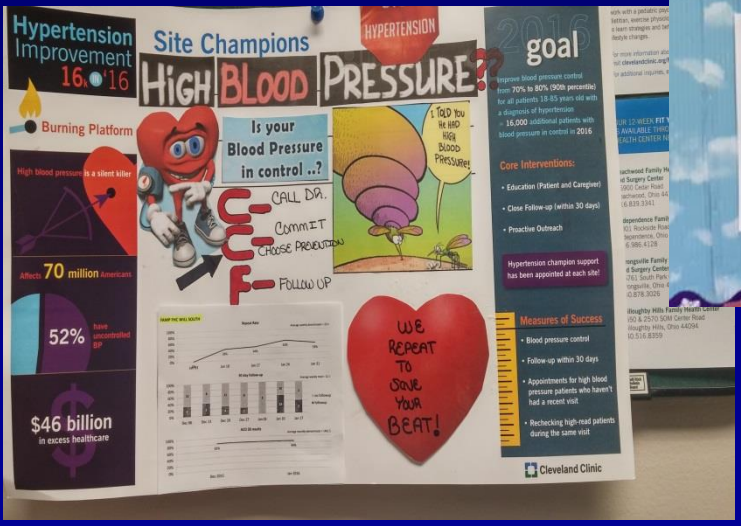
# Visual Management

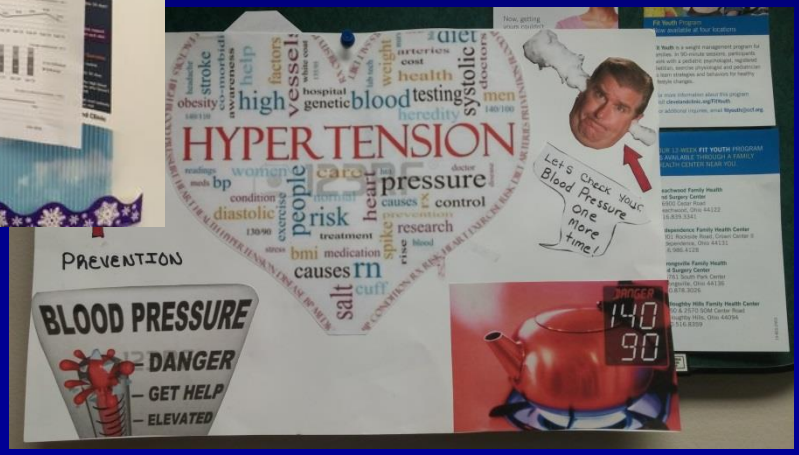
Site Engagement – Poster Shares



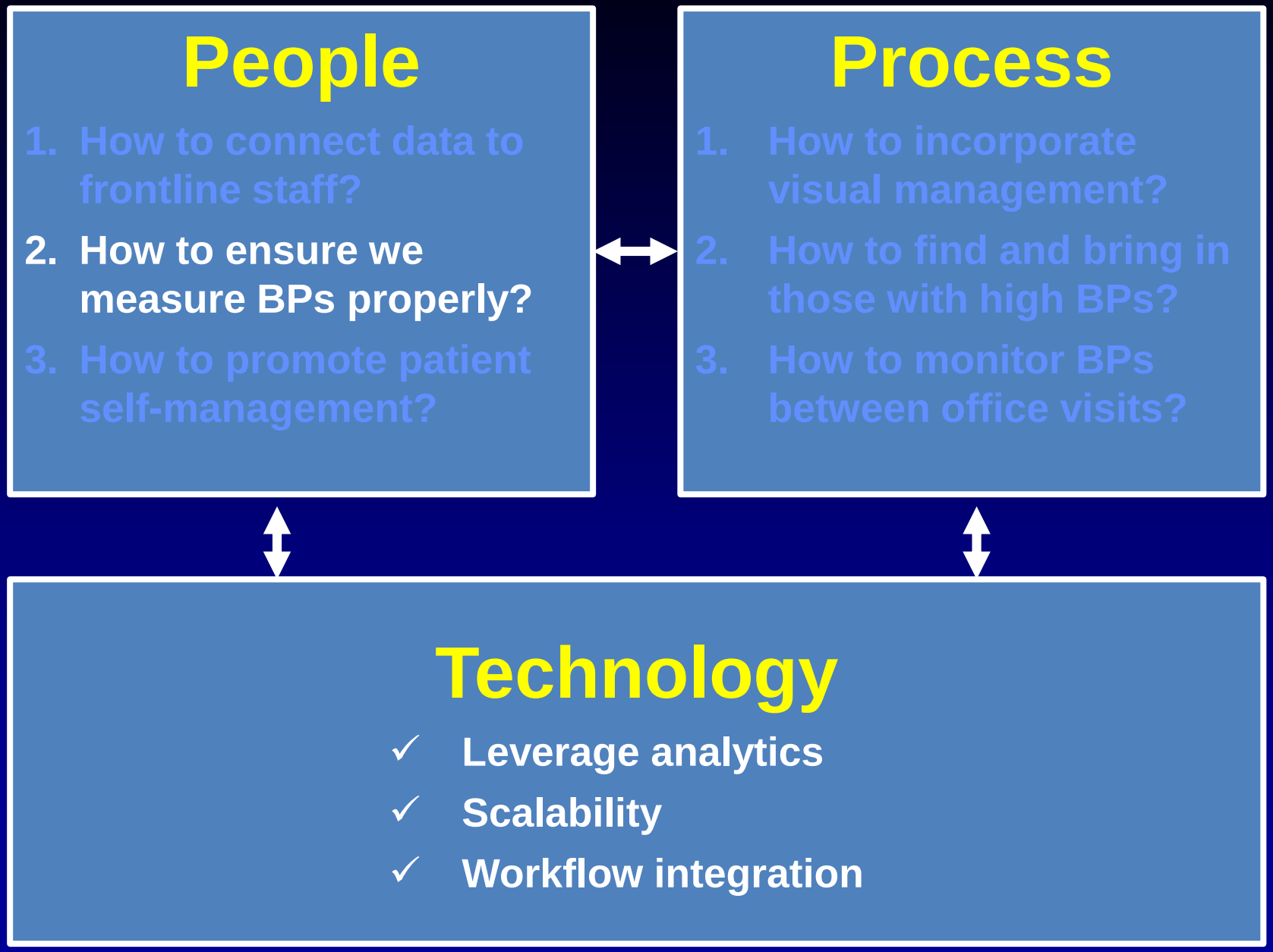



# Friendly Competition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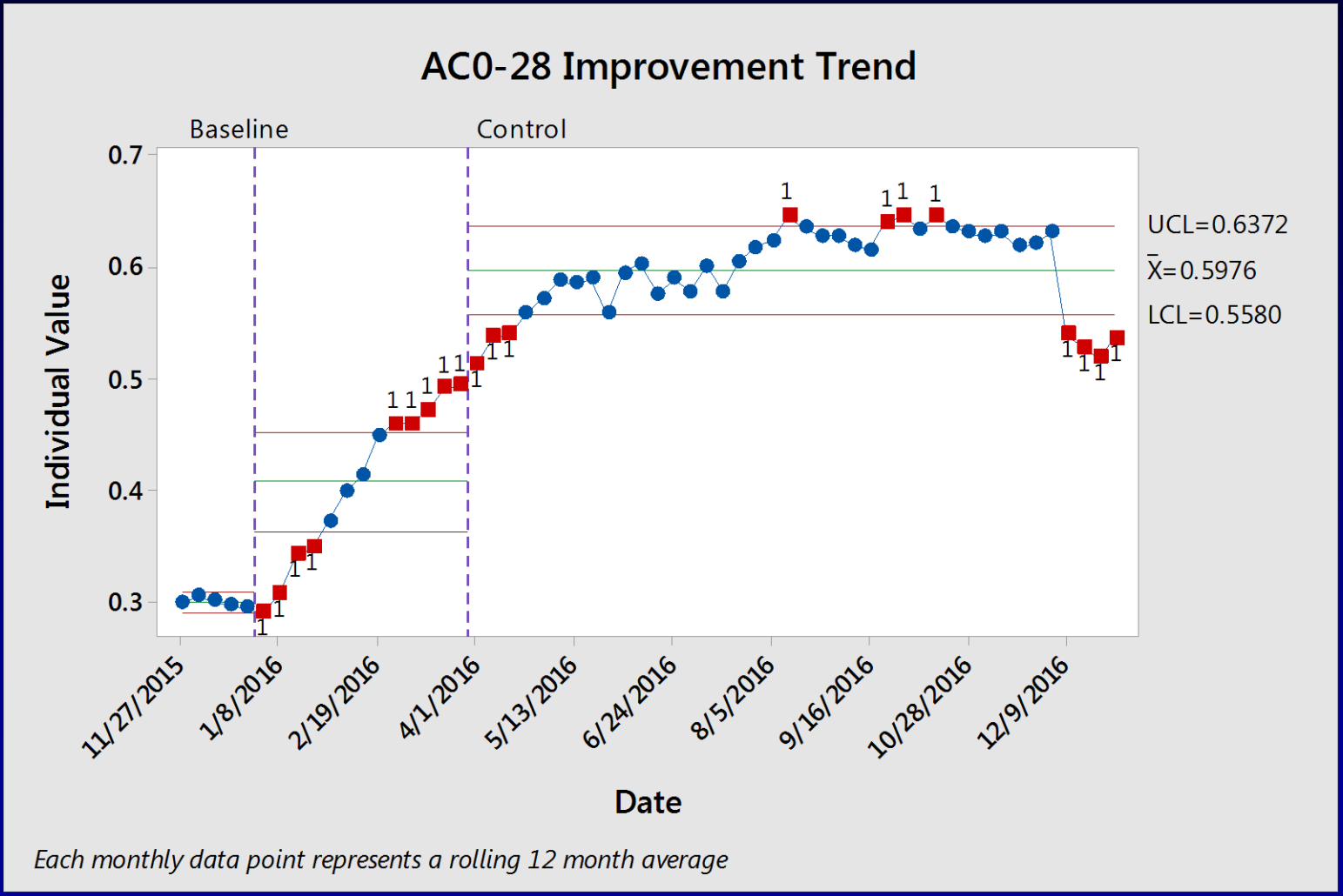
Technology
✓ Leverage analytics
✓ Scalability
✓ Workflow integration

# Ensuring Accurate BPs

- Competency refresher
- Rechecking  BPs when high initially
- Recording BP values correctly in the EMR

# Rechecking BPs

*% of office visits with elevated initial reading where BP was repeated*

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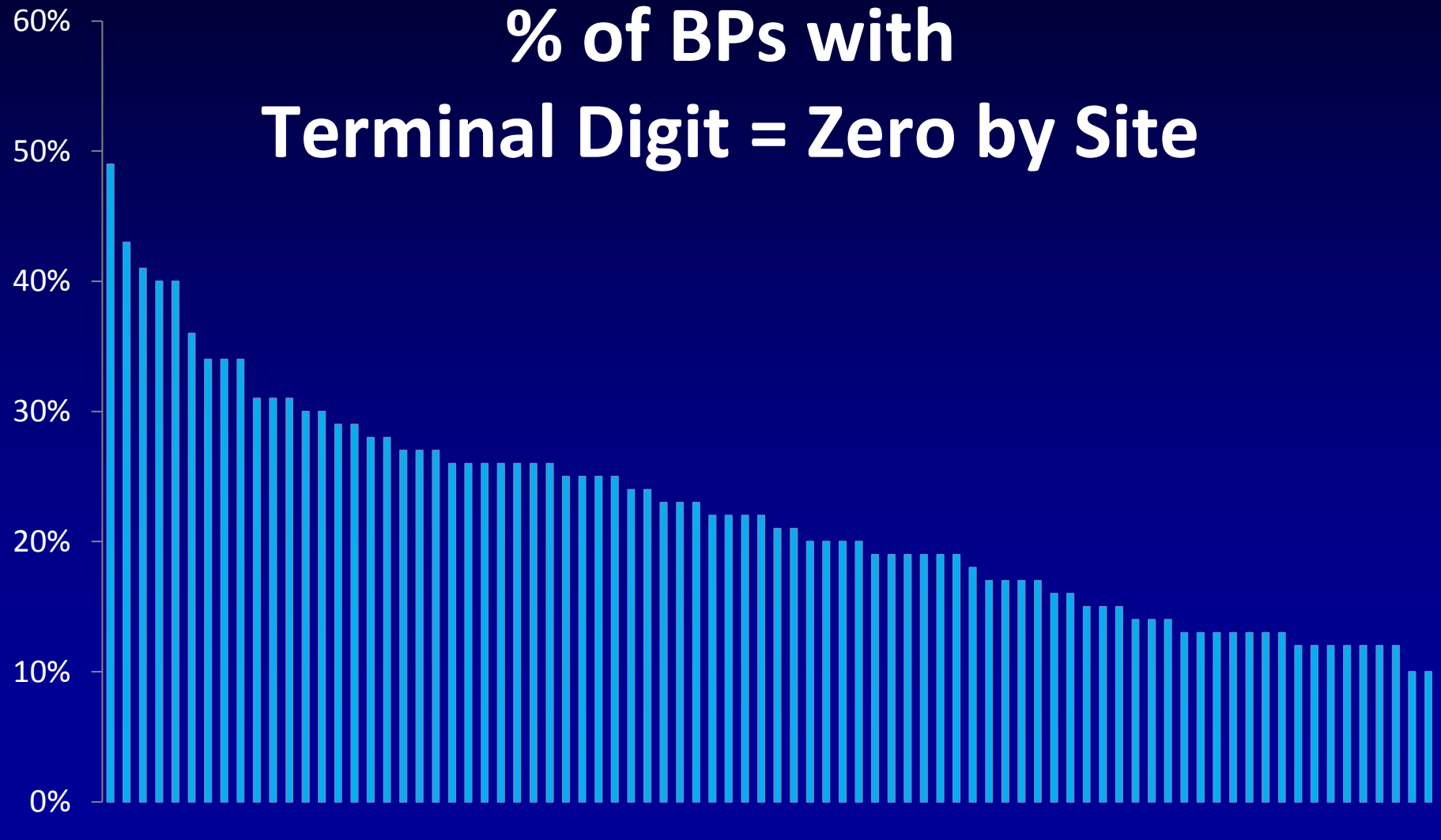
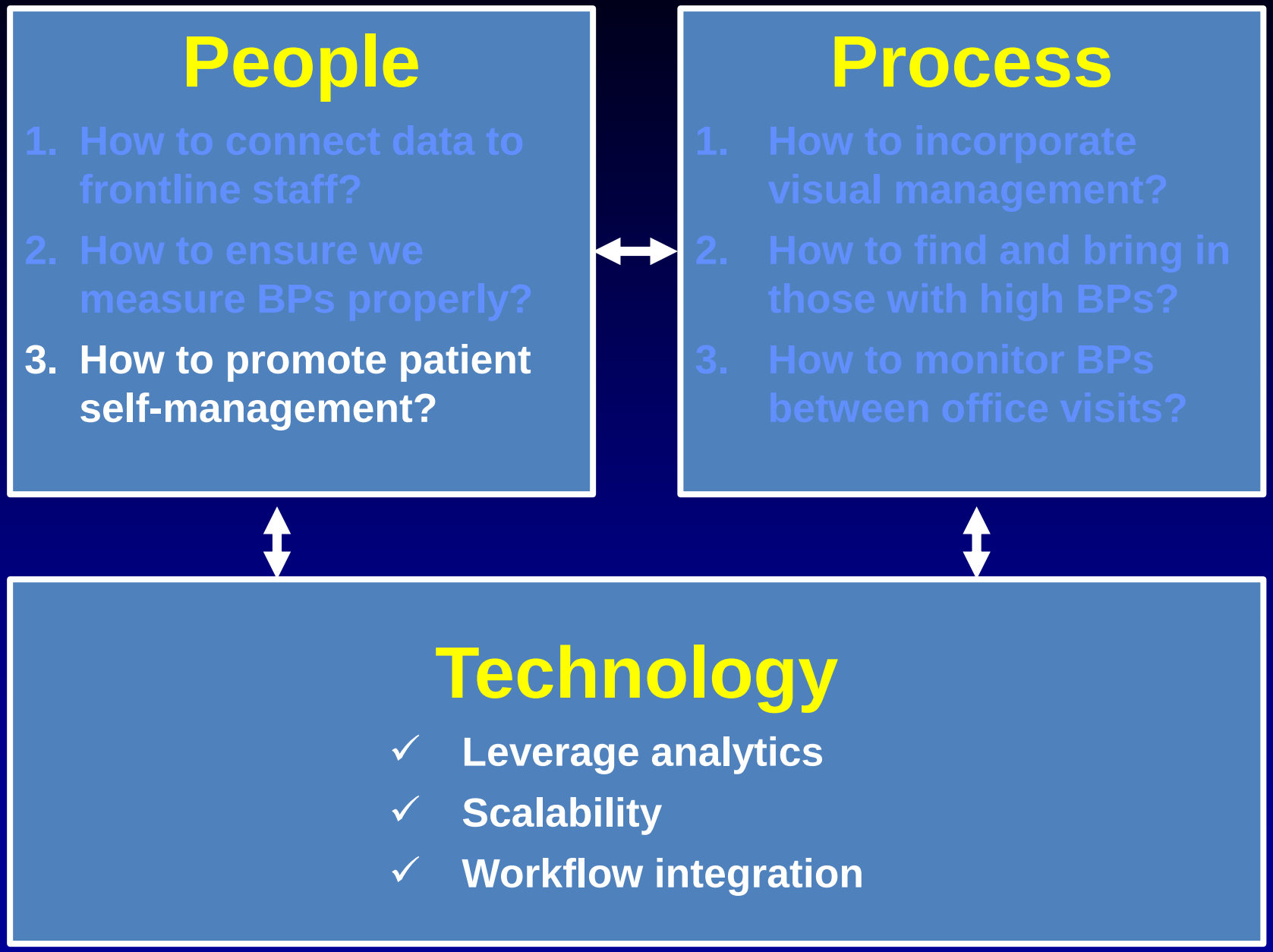
# Recording BPs Correctly

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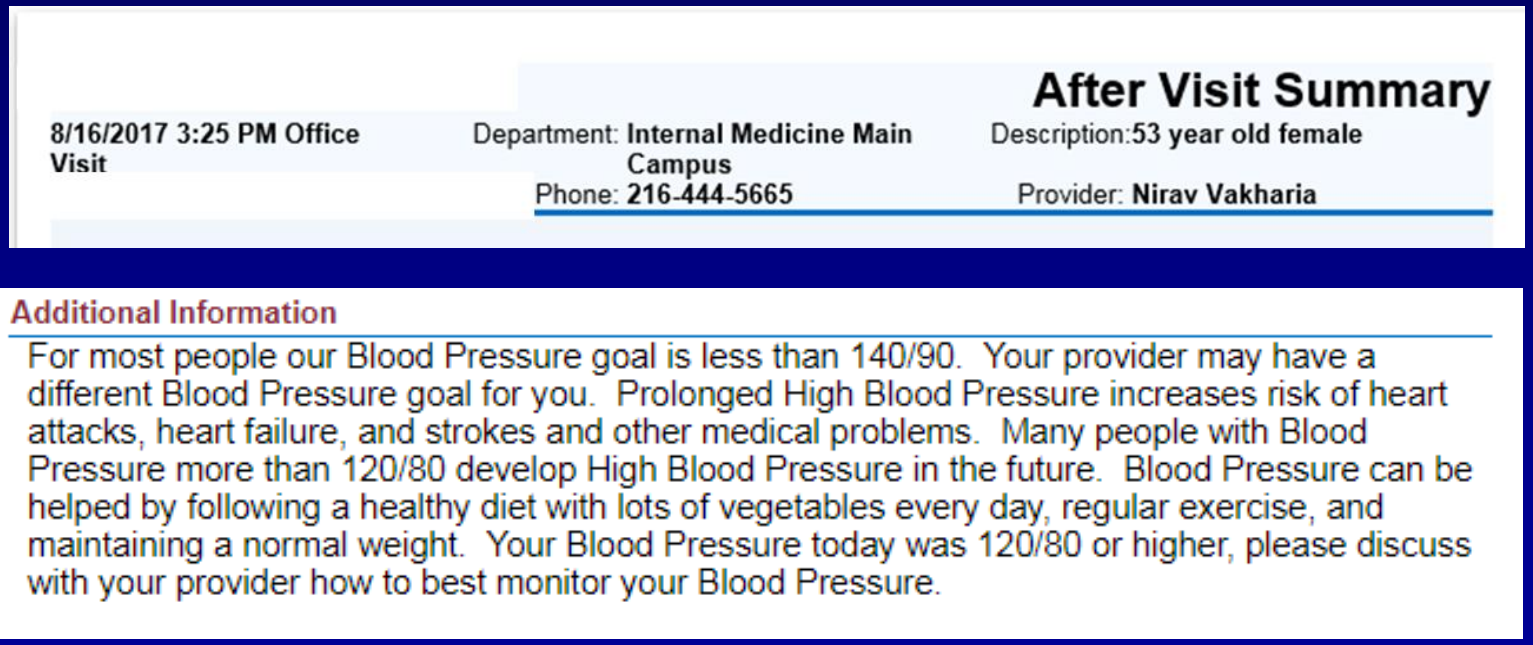
# After Visit Summary Education

- **Automatically prints if known hypertension & BP is elevated at the visit**
- **Enabled across the Enterprise**



**After Visit Summary**

**8/16/2017 3:25 PM Office Visit**

Department: **Internal Medicine Main Campus**
Phone: **216-444-5665**

Description:**53 year old female**
Provider: **Nirav Vakharia**

**Additional Information**

For most people our Blood Pressure goal is less than 140/90. Your provider may have a different Blood Pressure goal for you. Prolonged High Blood Pressure increases risk of heart attacks, heart failure, and strokes and other medical problems. Many people with Blood Pressure more than 120/80 develop High Blood Pressure in the future. Blood Pressure can be helped by following a healthy diet with lots of vegetables every day, regular exercise, and maintaining a normal weight. Your Blood Pressure today was 120/80 or higher, please discuss with your provider how to best monitor your Blood Pressure.

# Education @ Scale with EMMI

## PROGRAM UTILIZATION

**87,758**
Programs Issued

**23,731**
Programs Started

**4,317**
Surveys Completed

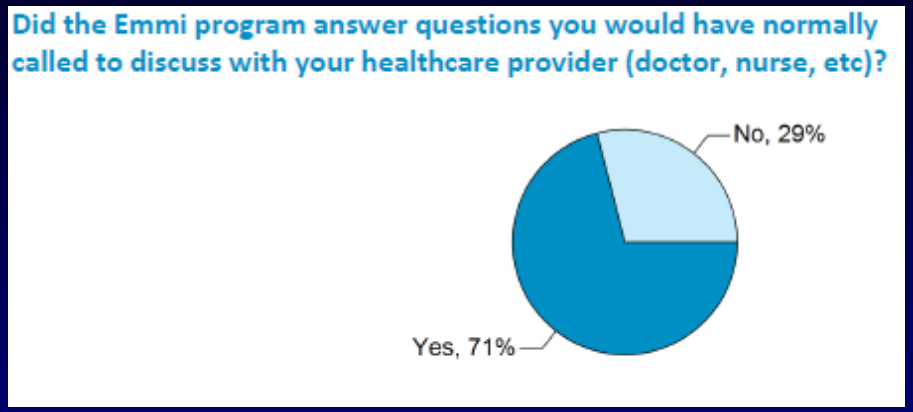
## PATIENT FEEDBACK

**82%**
Patients who indicated they will now take new action in managing their health

**81%**
Patients who indicated they are now more aware of how their lifestyle impacts their health

**81%**
Patients who indicated they are now more motivated to change their lifestyle

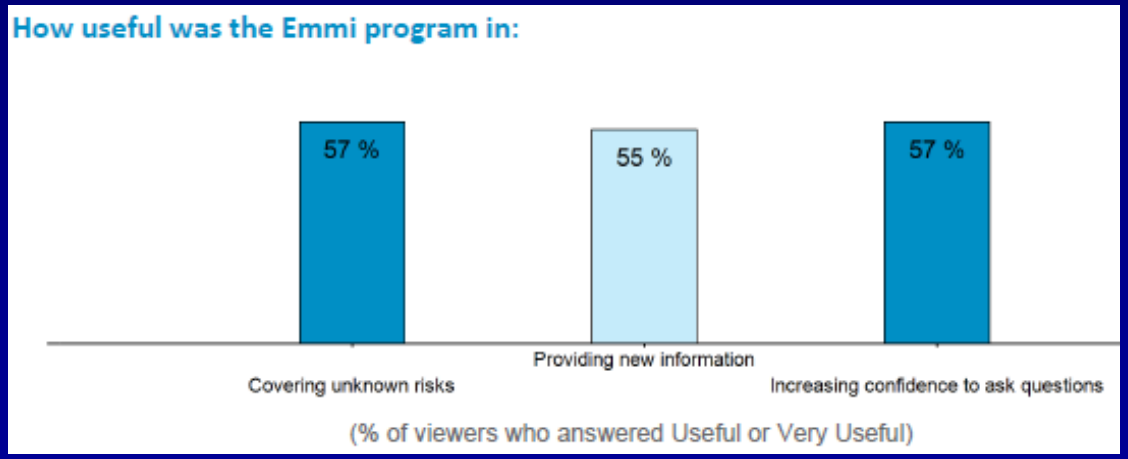
# Patient Feedback re EMMI (n=4317)

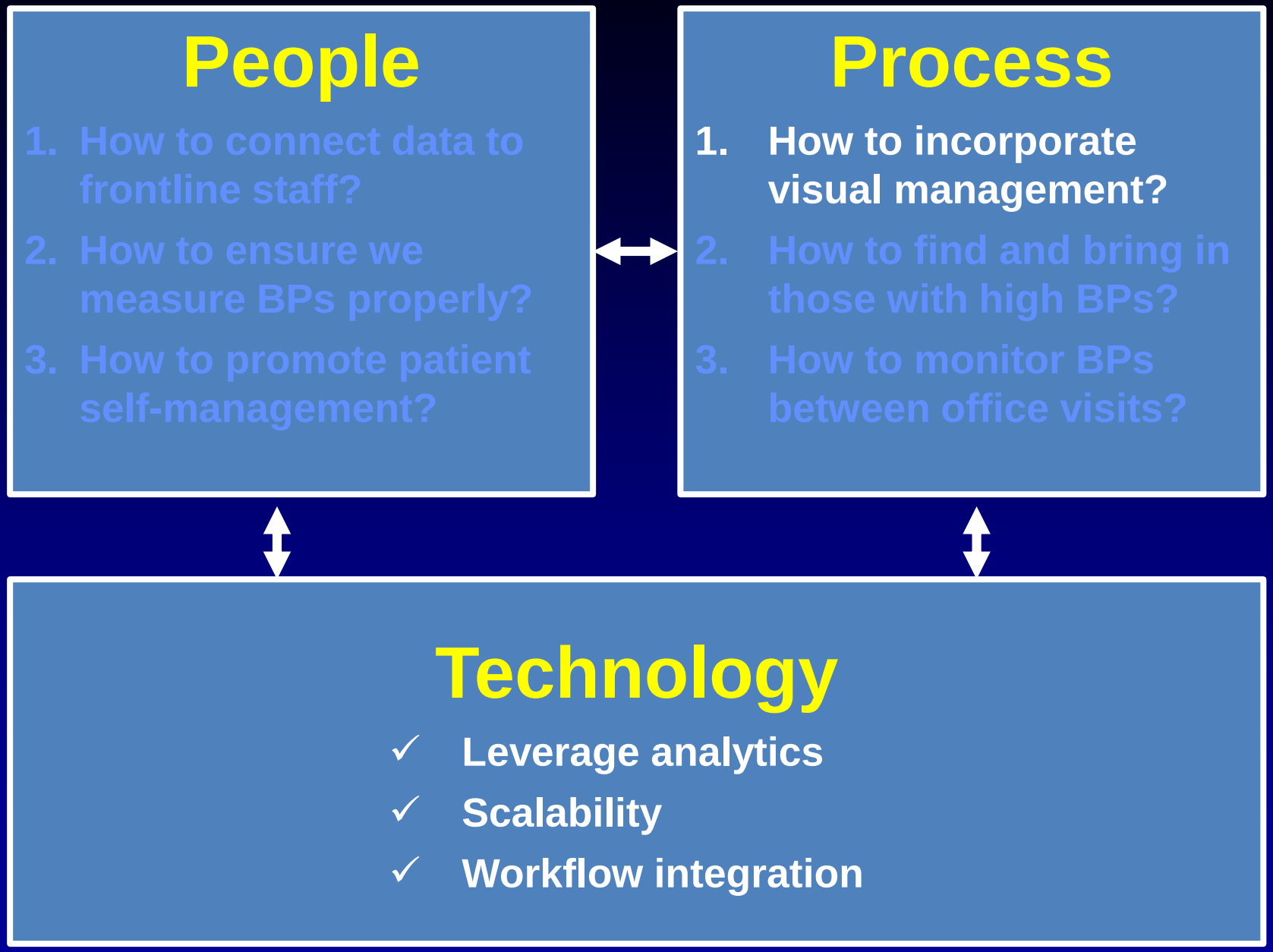



*"This was a great presentation. It is informative without being judgmental. Great tips for lowering blood pressure. I would recommend this to anyone who is diagnosed with high blood pressure."*

*"Very good. Gave me information I may not have asked my doctor for simply because I would not have thought of it."*

*"It was helpful. Reminders are always beneficial. It's so easy to lose focus and resume bad habits and diets."*

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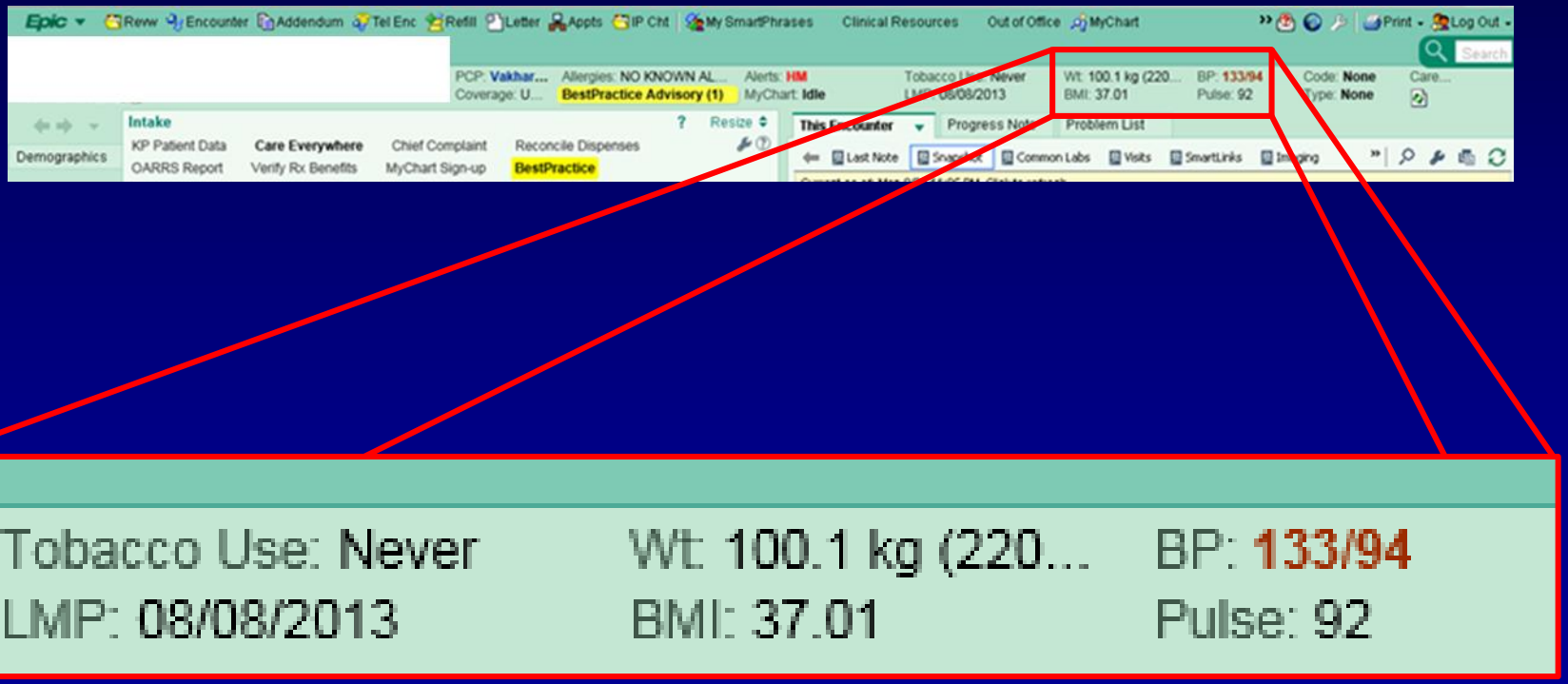
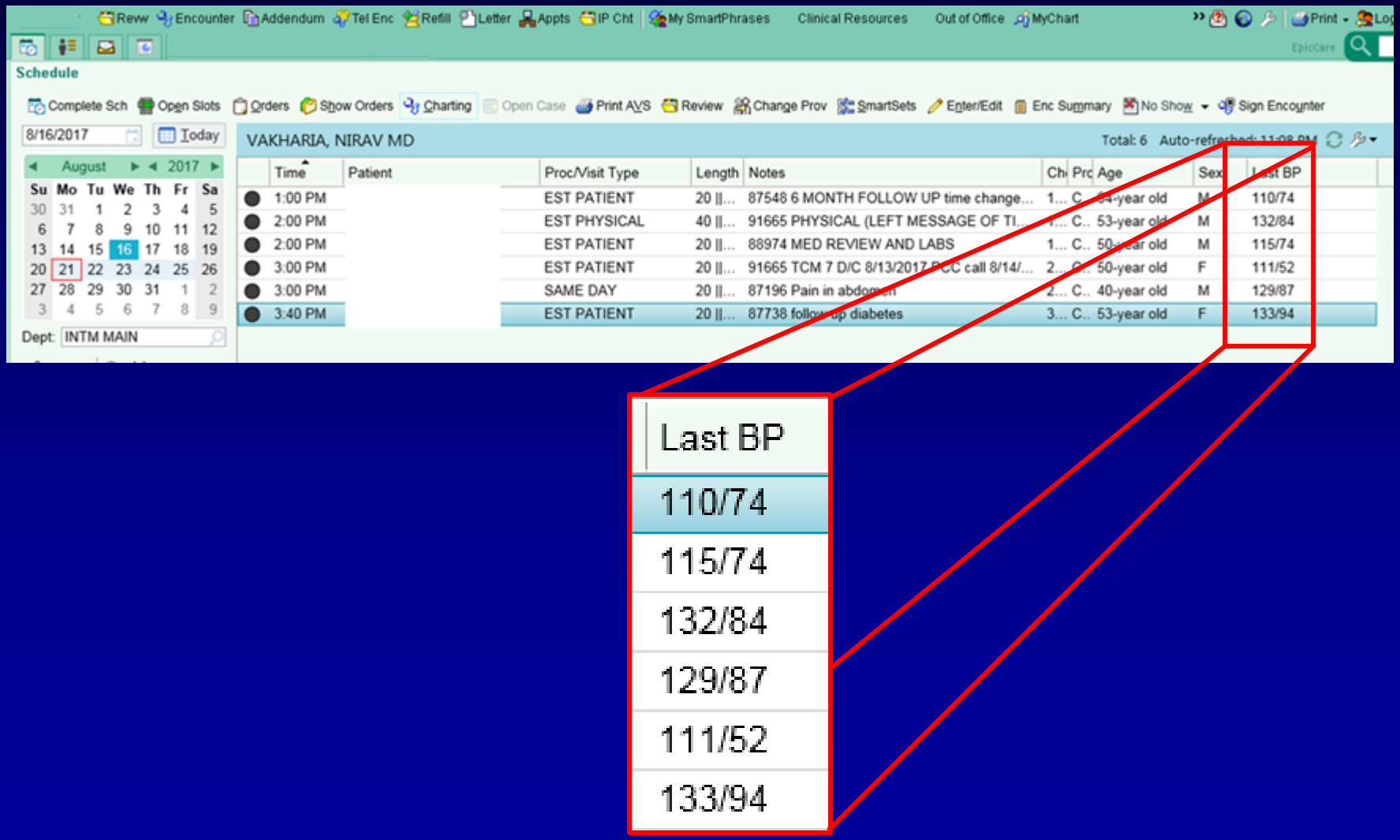
# Visual Management

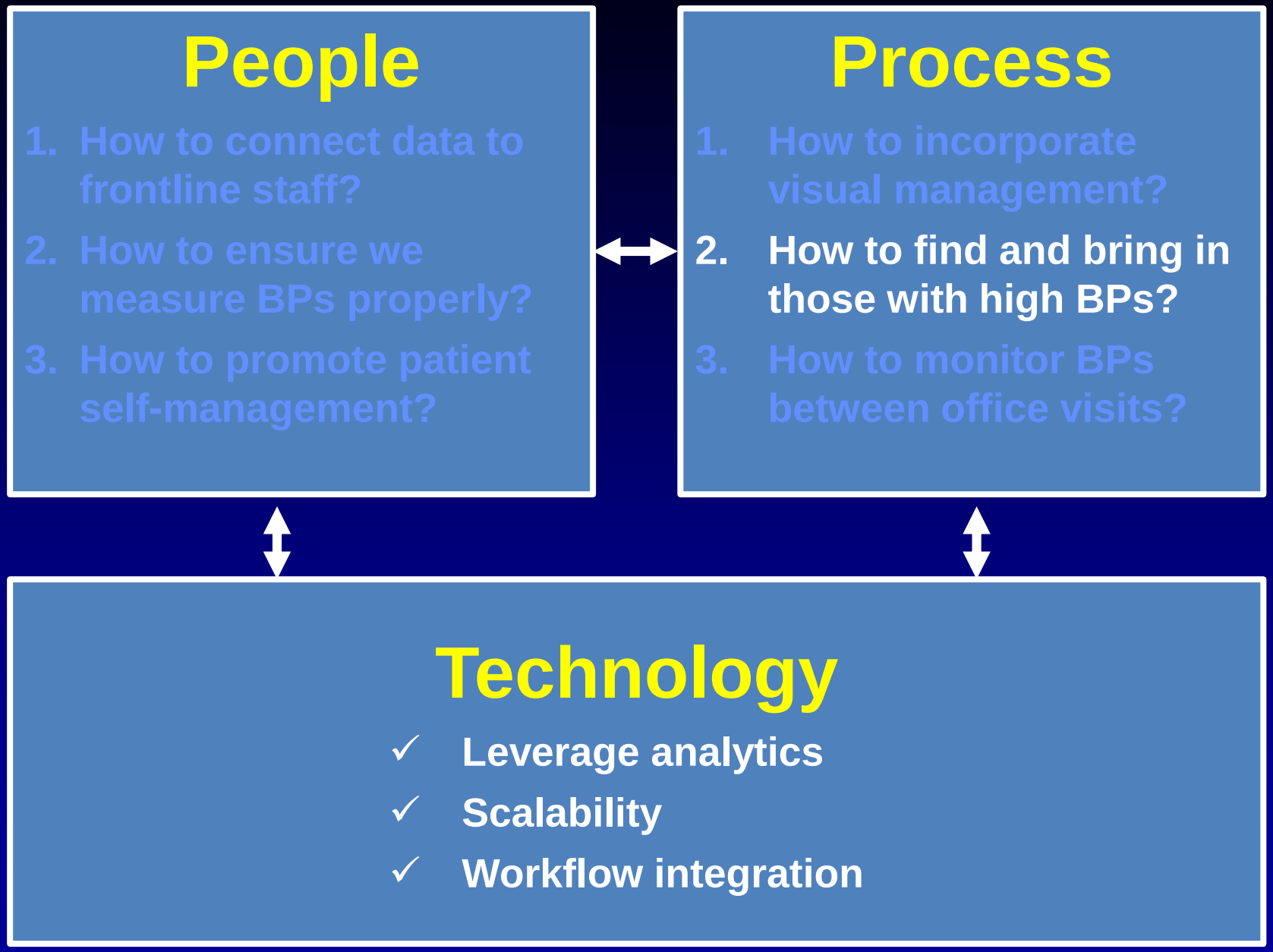
## Individual Chart View



# Visual Management

## Patient List View

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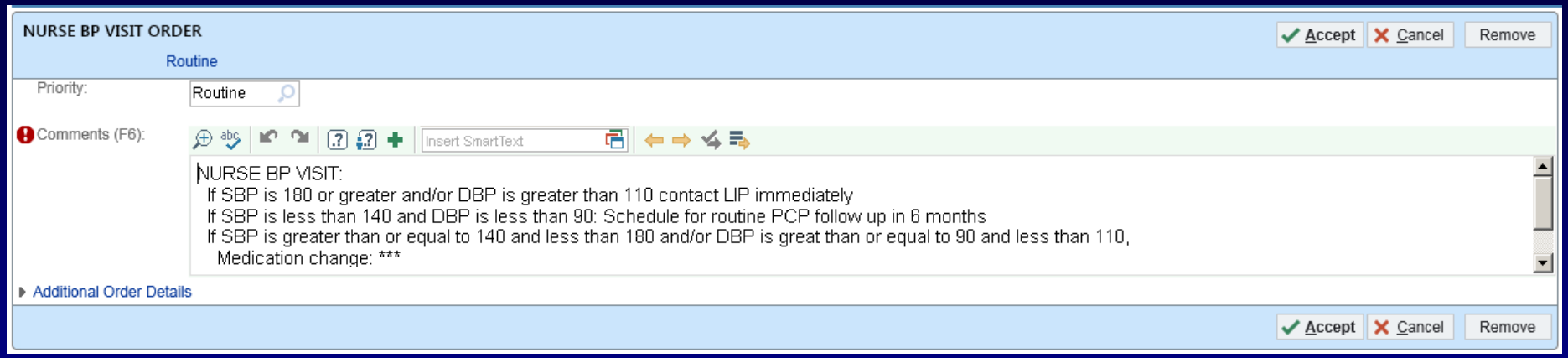
# Facilitating Close Follow Up

## Nurse BP Visit Clinic Order

## Order Entry

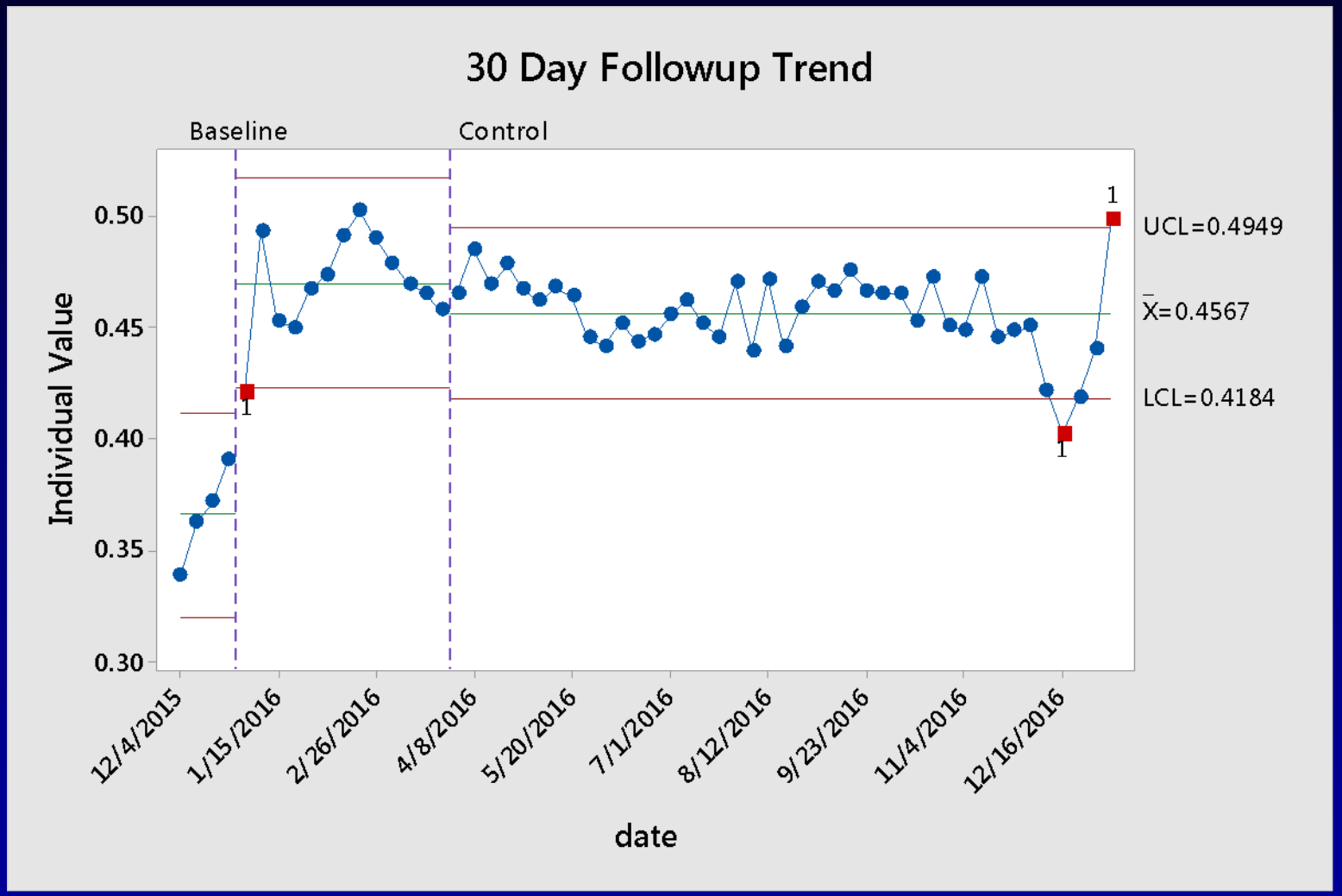



## @ Nurse Visit (within 30 days, up to 3 visits)

Comments

```
NURSE BP VISIT:
  If SBP is 180 or greater and/or DBP is greater than 110 contact LIP immediately
  If SBP is less than 140 and DBP is less than 90: Schedule for routine PCP follow up in 6 months
  If SBP is greater than or equal to 140 and less than 180 and/or DBP is great than or equal to 90 and less than
110,
    Medication change: increase amlodipine to 10mg
    Labs to Order: None
    Follow-up visit to be scheduled within 21 days with: RN
```

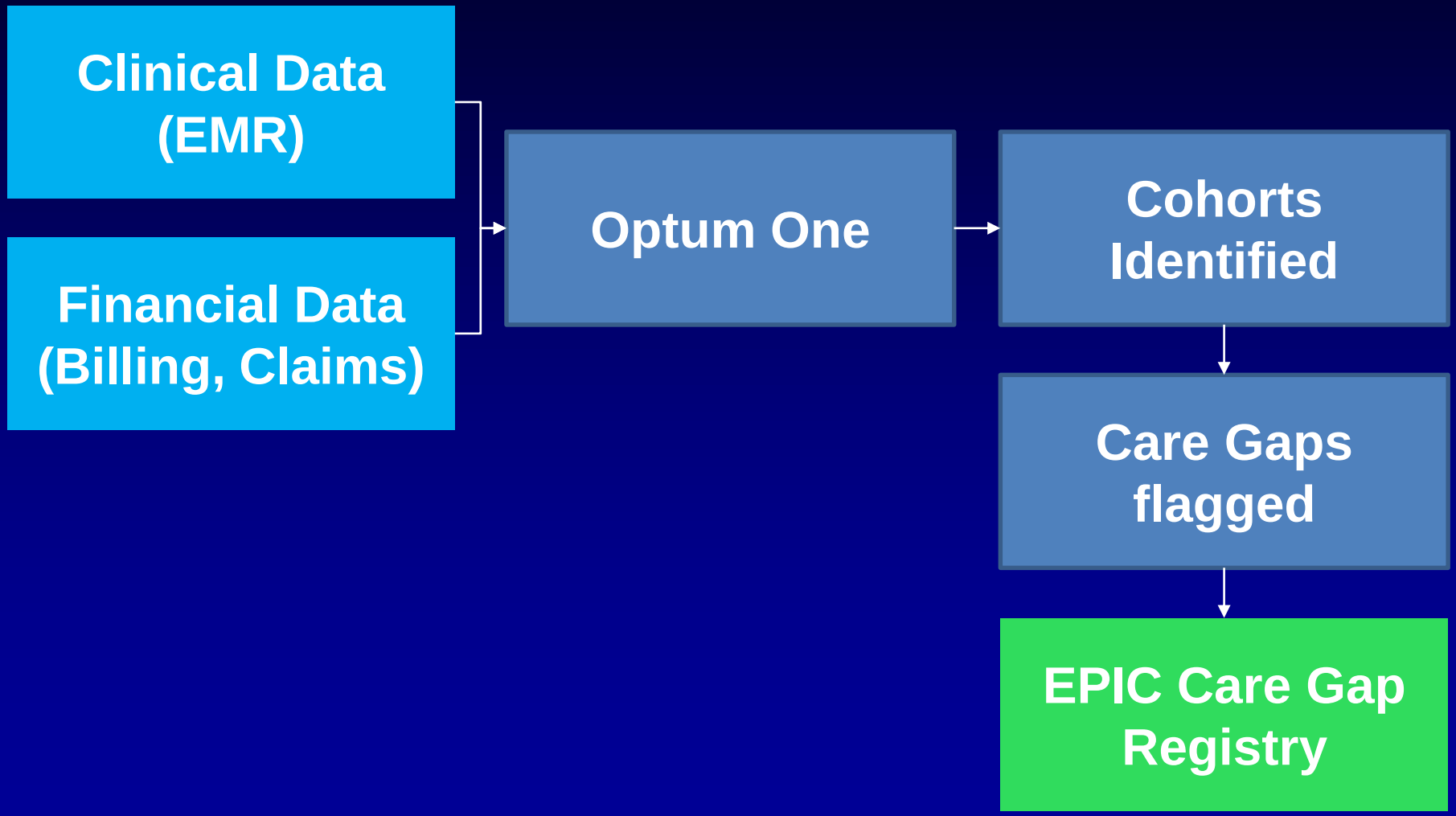
# Facilitating Close Follow Up



# Outreach to those with High BPs

- 1/3 of abnormal BPs measured outside of primary care in our system
- Caregivers express desire to address all care gaps during an outreach encounter
- Opportunity: a single source of truth for all evidence based care gaps

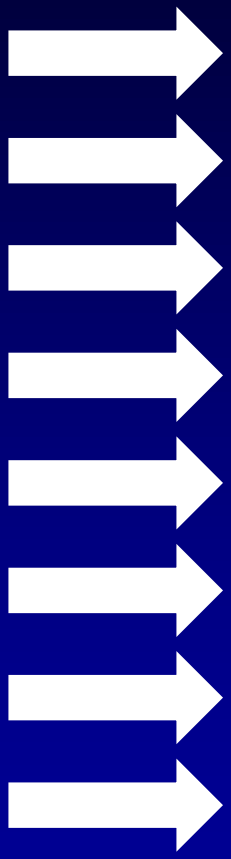
# Identifying & Managing Care Gaps



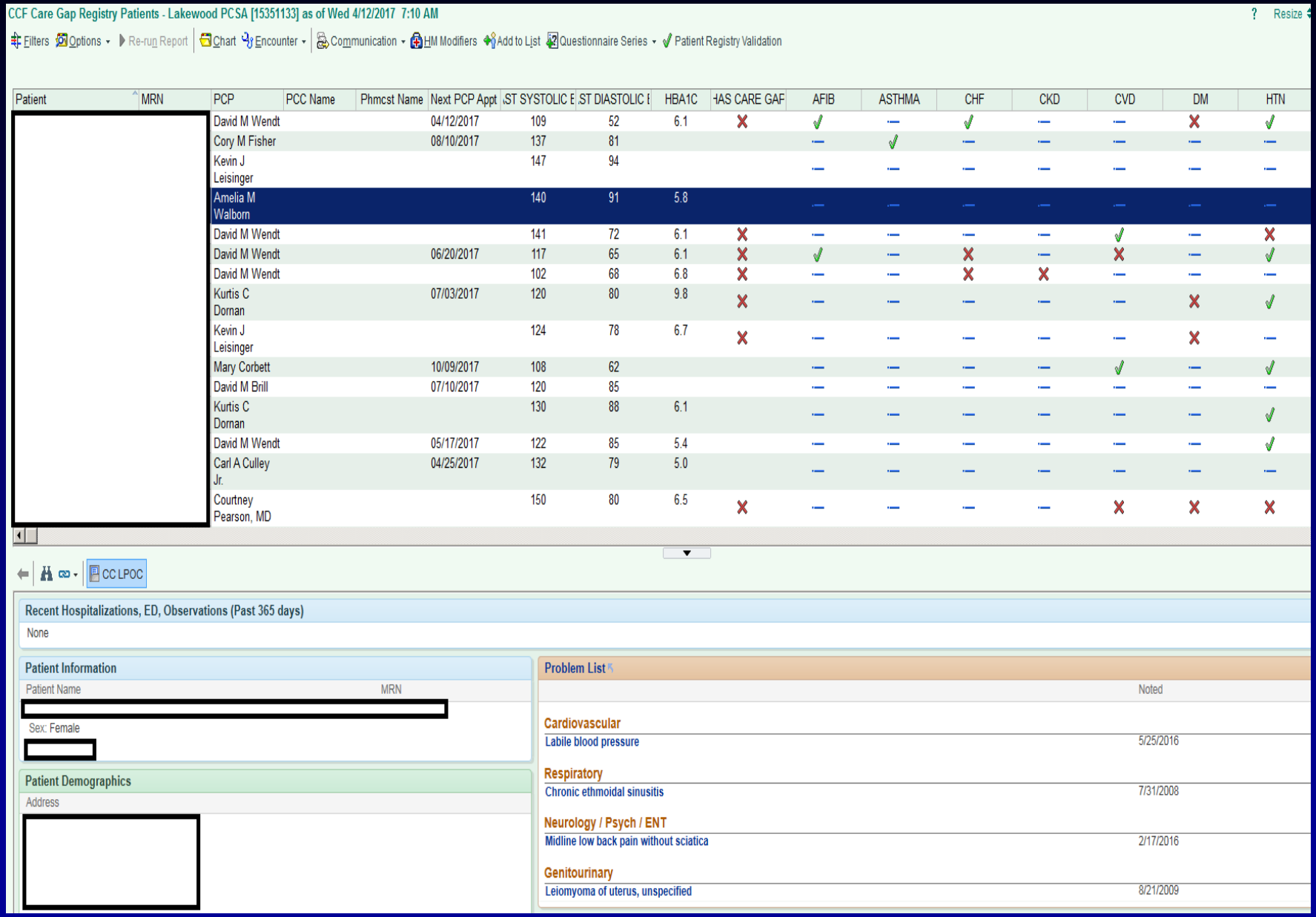
# Care Gap Registry

**Evidence-based Care Gaps**

- Atrial Fibrillation
- Asthma
- Cardiovascular disease
- Chronic kidney disease
- Congestive heart failure
- COPD
- Diabetes
- Hypertension

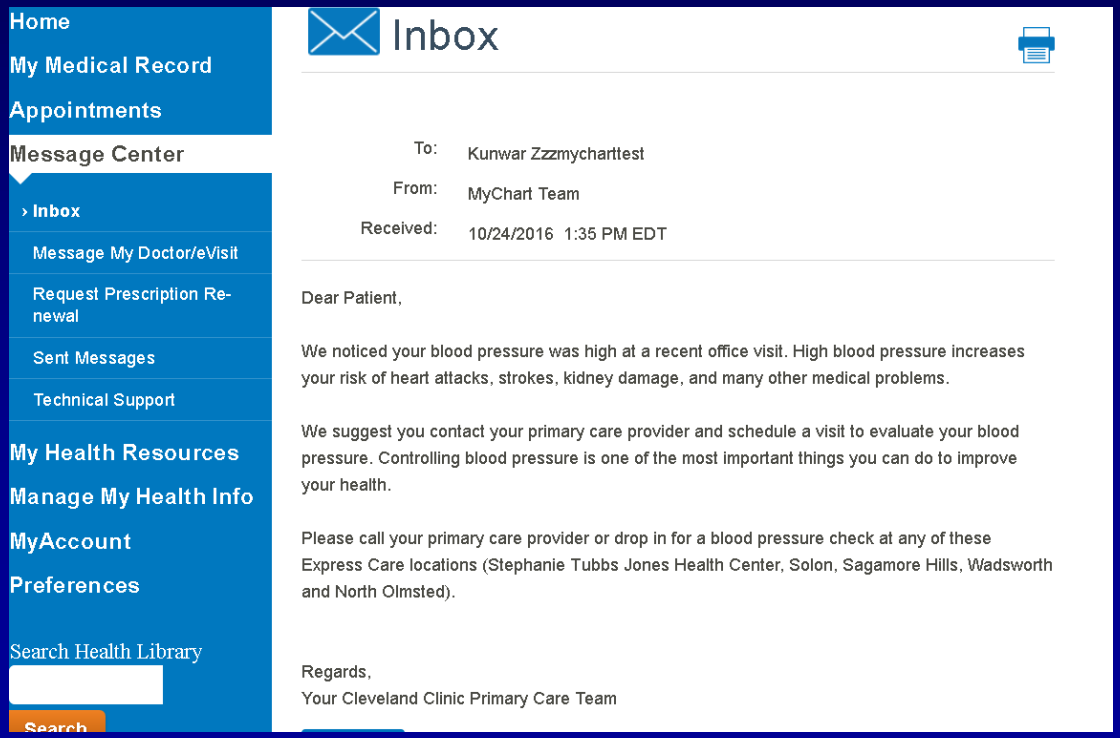


**Single EPIC registry to manage the population**


CCF Care Gap Registry Patients - Lakewood PCSA [15351133] as of Wed 4/12/2017 7:10 AM
Resize
Filters
Options
Re-run Report
Chart
Encounter
Communication
HM Modifiers
Add to List
Questionnaire Series
Patient Registry Validation
Patient
MRN
PCP
PCC Name
Phmcst Name
Next PCP Appt
ST SYSTOLIC E
ST DIASTOLIC E
HBA1C
HAS CARE GAF
AFIB
ASTHMA
CHF
CKD
CVD
DM
HTN
David M Wendt 04/12/2017 109 52 6.1
Cory M Fisher 08/10/2017 137 81
Kevin J Leisinger 147 94
Amelia M Walborn 140 91 5.8
David M Wendt 141 72 6.1
David M Wendt 06/20/2017 117 65 6.1
David M Wendt 102 68 6.8
Kurtis C Dornan 07/03/2017 120 80 9.8
Kevin J Leisinger 124 78 6.7
Mary Corbett 10/09/2017 108 62
David M Brill 07/10/2017 120 85
Kurtis C Dornan 130 88 6.1
David M Wendt 05/17/2017 122 85 5.4
Carl A Culley Jr. 04/25/2017 132 79 5.0
Courtney Pearson, MD 150 80 6.5
CC LPOC
Recent Hospitalizations, ED, Observations (Past 365 days)
None
Patient Information
Patient Name
MRN
Sex: Female
Patient Demographics
Address
Problem List
Noted
Cardiovascular
Labile blood pressure 5/25/2016
Respiratory
Chronic ethmoidal sinusitis 7/31/2008
Neurology / Psych / ENT
Midline low back pain without sciatica 2/17/2016
Genitourinary
Leiomyoma of uterus, unspecified 8/21/2009

# Bulk Outreach

- MyChart
- Email
- Autodial
- Text



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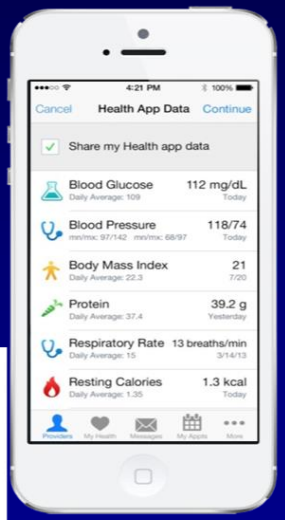
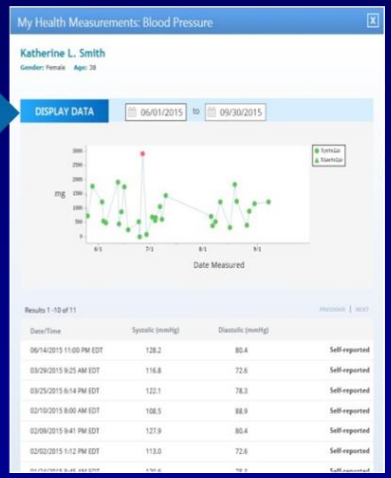
# Data Integration into Epic



Express Care® Online

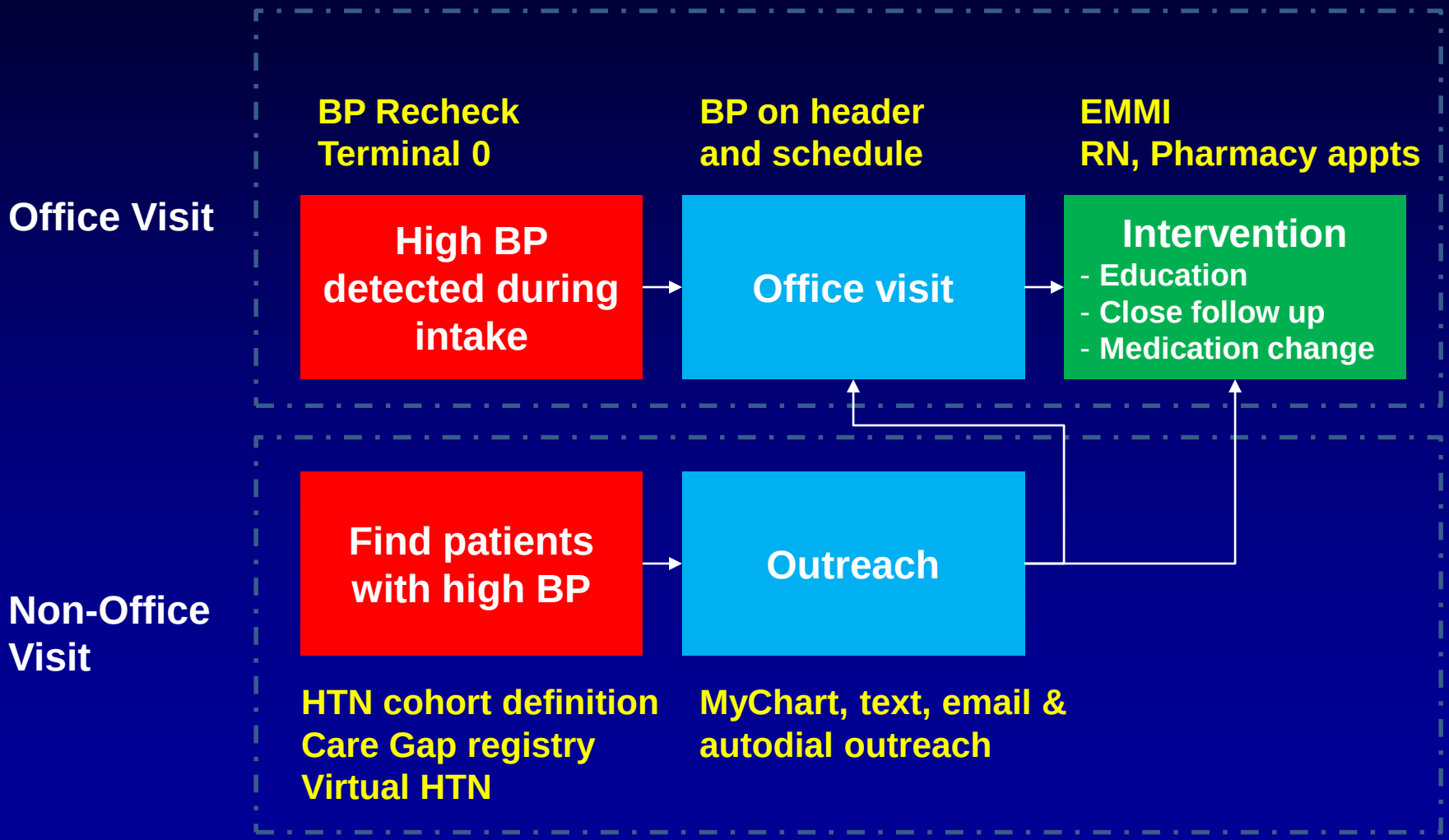


# Virtual HTN Pilots

- Phase 1 (late 2016)
  - Bluetooth enabled BP cuffs
  - Virtual visits with providers & health coaches
  - BP control increased from 46% to 54%

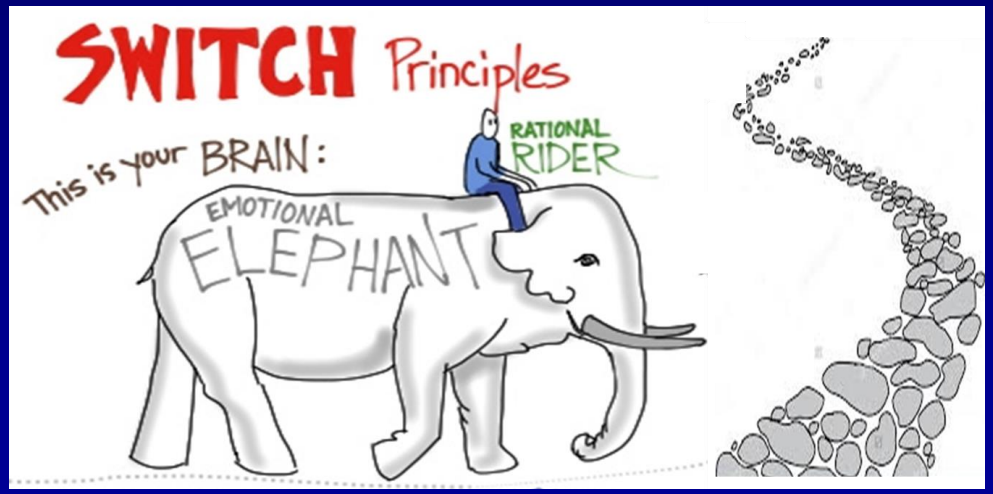
- Phase 2 includes Phase 1 interventions plus:
  - Addition of clinical pharmacist
  - Direct EPIC referral
  - Automated EMR integration of home BP cuff readings

# BP Control Workflow



# Lessons Learned

- Rational vs. emotional case for change
- Standard tools vs. local autonomy
- Trust & team integration
- Change fatigue




Adapted from SWITCH – How to Change Things When Change is Hard, Chip Heath & Dan Heath

# Technology Investment

- Build the following:
  - Nurse BP order
  - Registry
  - Bulk communication
  - Visual management
  - Virtual Hypertension integration
- Provide Clinical Support to caregivers

- Total estimated Salary cost:  $50,000

# Financial Impact

**87%**

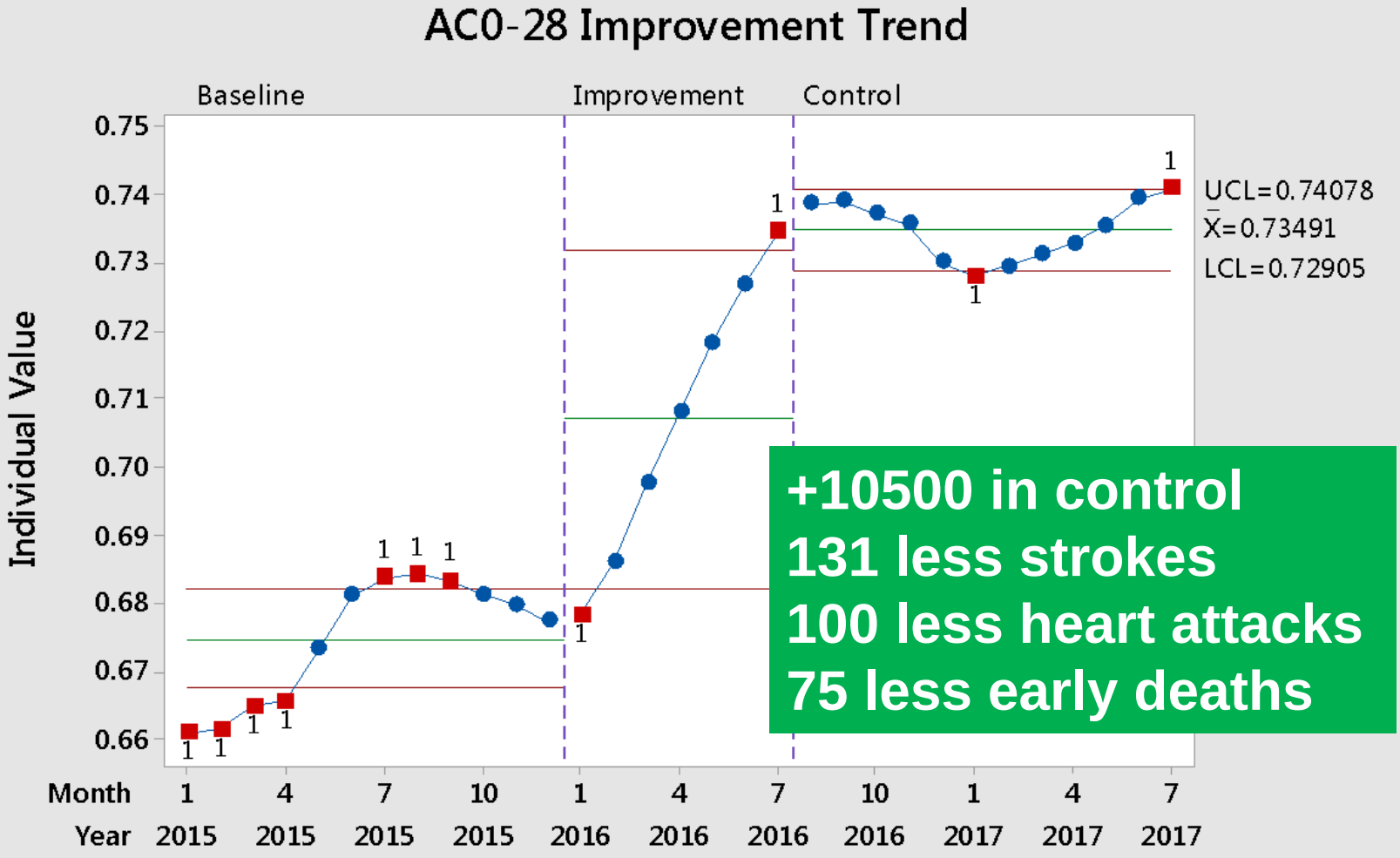
**2015 ACO quality points achieved**

**96%**

**2016 ACO quality points achieved**

**Quality improvement in 2016 will translate to an extra ~$3M distribution to our ACO**

# Impact to Patients & Caregivers



# Key Takeaways

- Use of technology vital in:
  - Leveraging analytics to guide efforts
  - Increasing the efficiency of caregivers
  - Providing new options for patient engagement

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Every life deserves world class care.