



Vermont Health Care Innovation Project

Aaron Truchil & Kelly Craig

January 13, 2015



Camden  
Coalition  
of Healthcare Providers

***Improving Care  
& Reducing Costs  
with Hotspotting &  
Community-Based  
Care Management***

# Agenda

afternoon session

## 1 CCHP's Care Management Strategies

- .1 Care Planning
- .2 Individual Engagement
- .3 Community Engagement

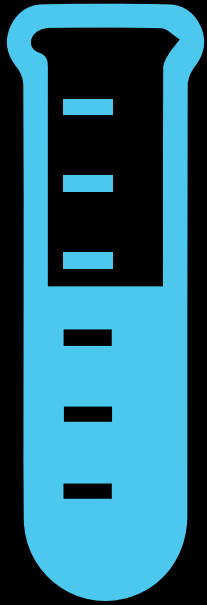
## 2 Continuous Improvement and Operational Efficiency

- .1 Purposeful design and planning
- .2 Using data to drive operations

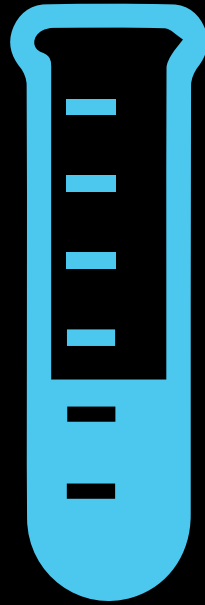
## 3 Growing your hotspotting program

- .1 Evaluating and Scaling
- .2 Telling patient stories

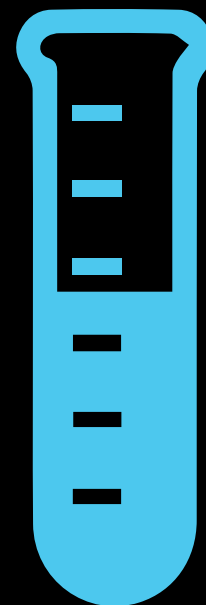
**§1 Patient  
Engagement**



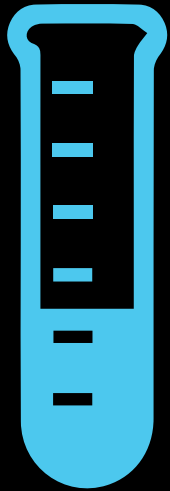
IMPORTANCE



BELONGING

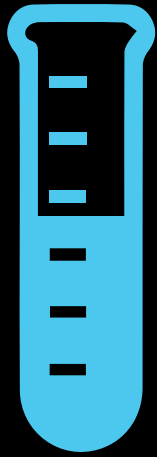


SECURITY

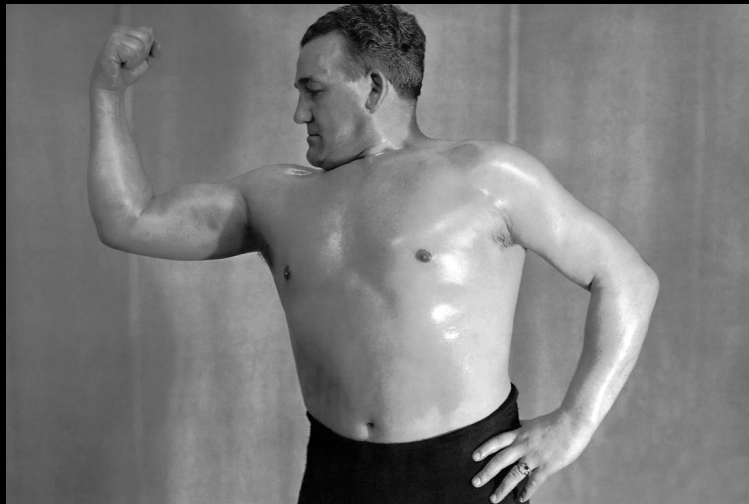


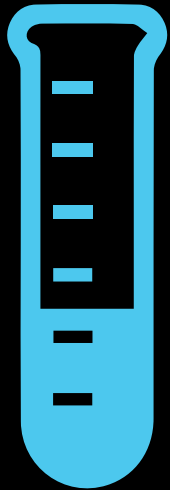
BELONGING= The deep desire to feel accepted and cared for





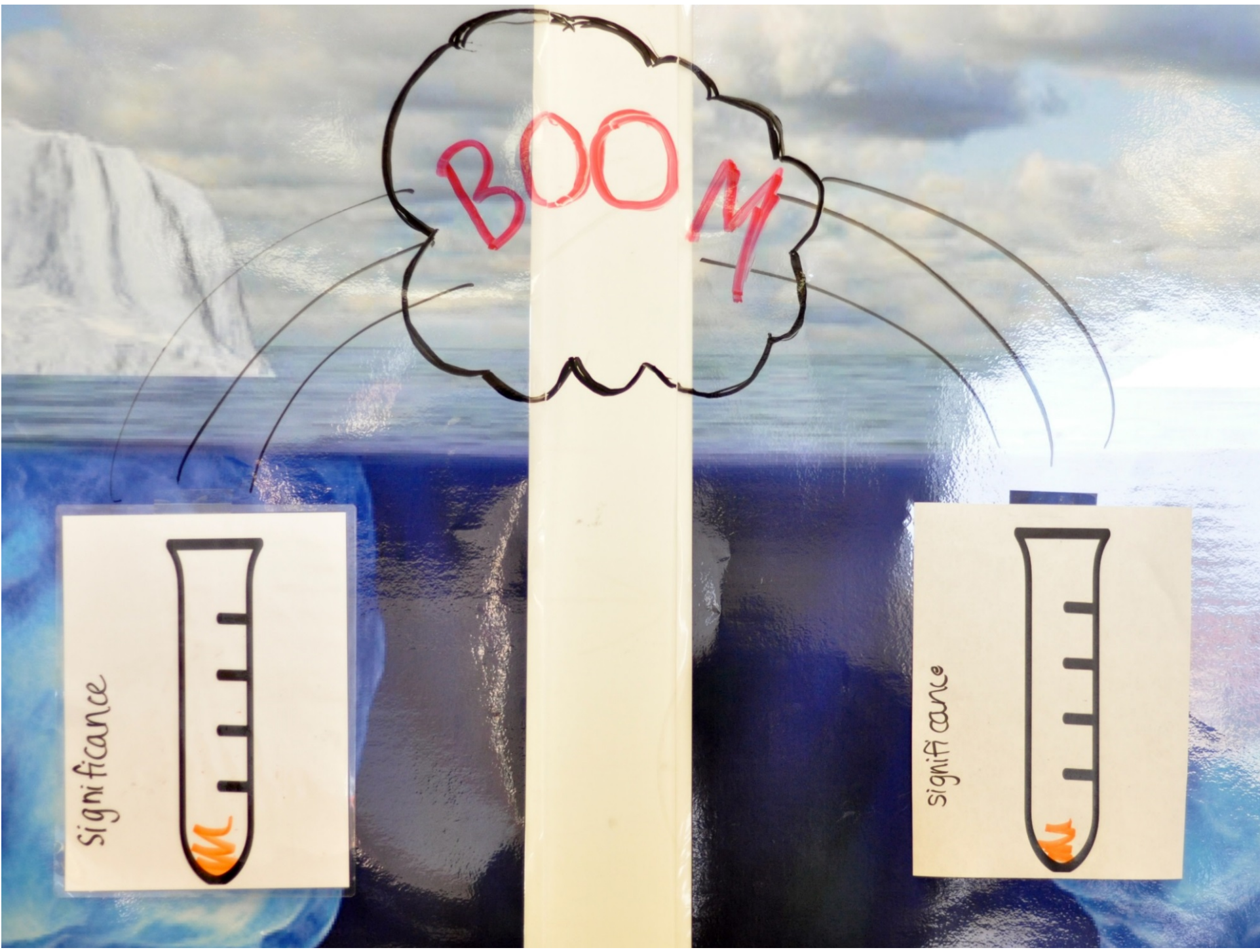
IMPORTANCE= The deep desire to feel significant and recognized





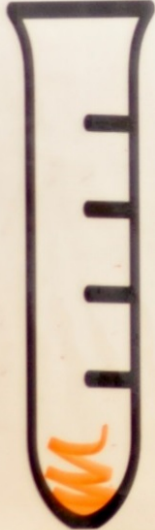
SECURITY= The desire to know what's coming next, and to have controlled surroundings



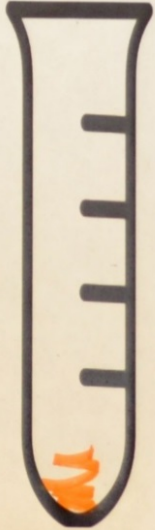


BOOM

significance



significance





# CMI Case Conference WhiteBoard

## ▼ PATIENT INFORMATION

First Name

Patient Photo Consent Form

## Patient Test Tube

- Significance
- Love and Belonging
- Certainty and Safety

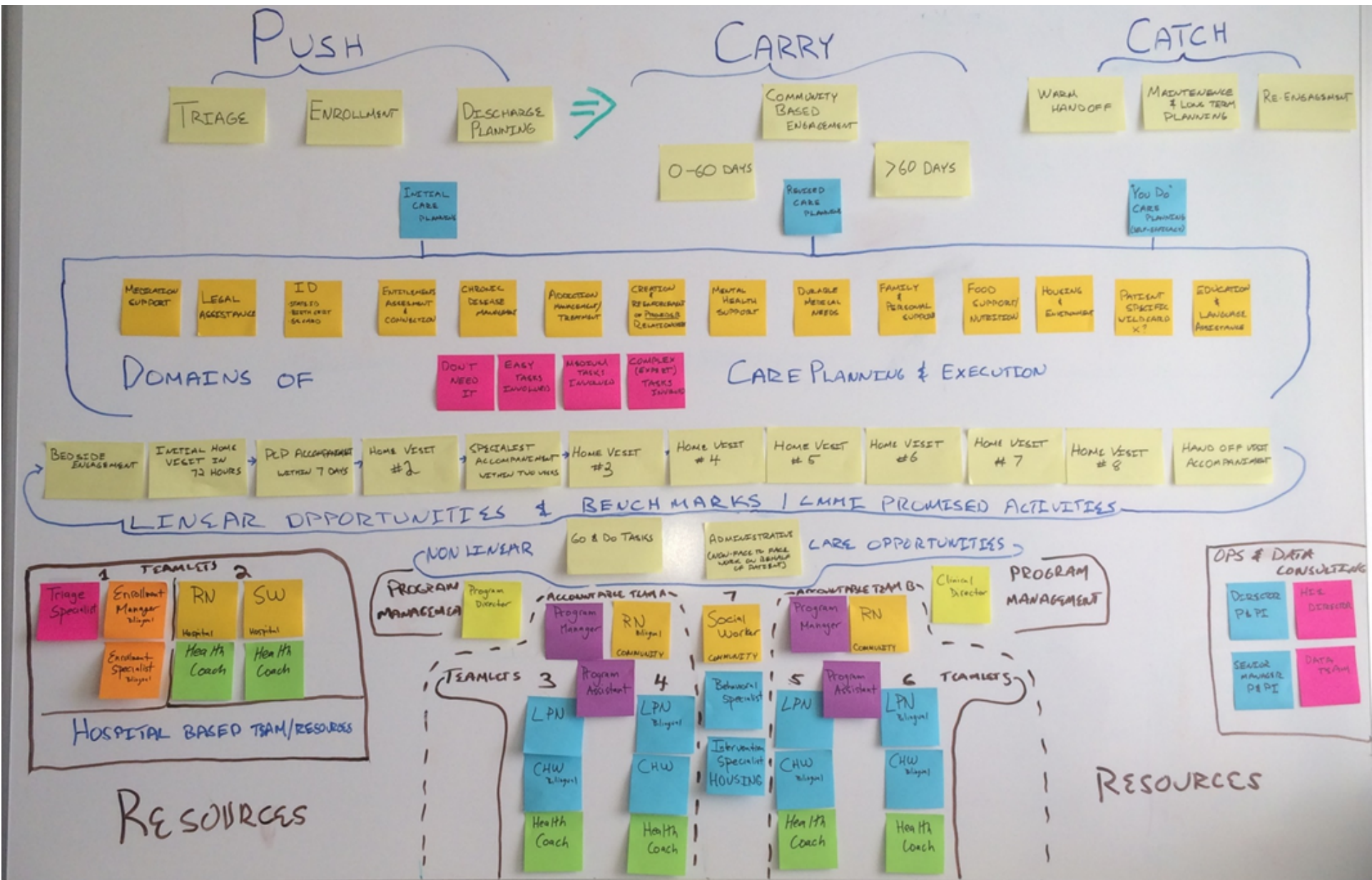
## Patient Test Tube Description

Using the worksheet provided, please write about an experience where you had a strong emotional reaction to an interaction you had with a patient. Ideally this should be something that happened within the past week. Please consider the following:

- What were your test tubes?
- What were the patient's test tubes?
- Name one strategy you can use when coping with this feeling in the future.

# *§1.2 Care Planning*





# Care Planning: Domains

# Domains of Care Planning

- Addiction
- Advocacy & Activism
- Benefits & Entitlements
- Education and Employment Connection
- Family, Personal, Peer Support
- Food and Nutrition Support
- Health Maintenance, Management, and Promotion
- Housing & Environment
- ID Support
- Legal Assistance
- Medication and Medical Supplies
- Mental Health Support
- Provider Relationship Building
- Transportation Support
- Patient-Specific Wildcard

**PATIENT DRIVERS**

Please Insert quotes from the patient that represent their goals and drivers that inform the Care Plan

Patient Driver 1

Patient Driver 2

Patient Driver 3

Patient Driver 4

**CARE PLAN**

Care Plan Created?

 Yes

Date Care Plan Created

Medical Appointments

**CARE PLAN DOMAINS**  
Please check off the domains we are working in with the client and describe the interventions to address within the domain

**Addiction** ⓘ

Addiction Interventions  
Example

**Advocacy and Activism**

**Benefits and Entitlements** ⓘ

Benefits & Entitlements

**Education and Employment Connection**

**Family Personal and Peer Support Interventions**

**Food and Nutrition**

**Health Maintenance Management and Promotion**

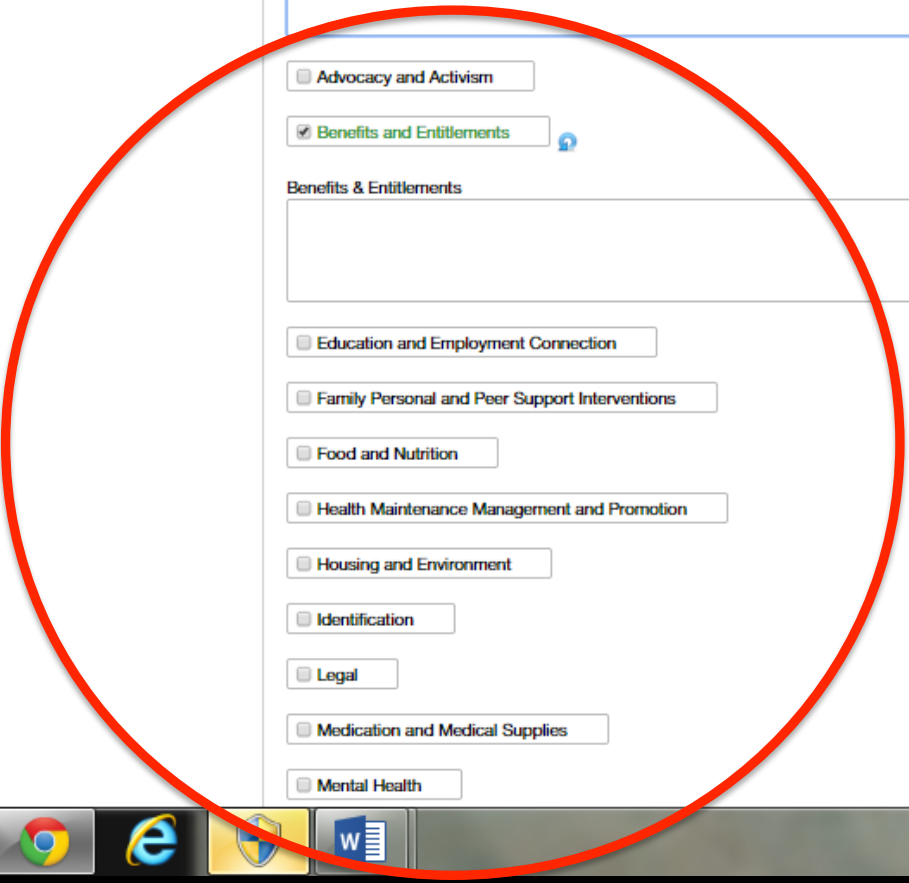
**Housing and Environment**

**Identification**

**Legal**

**Medication and Medical Supplies**

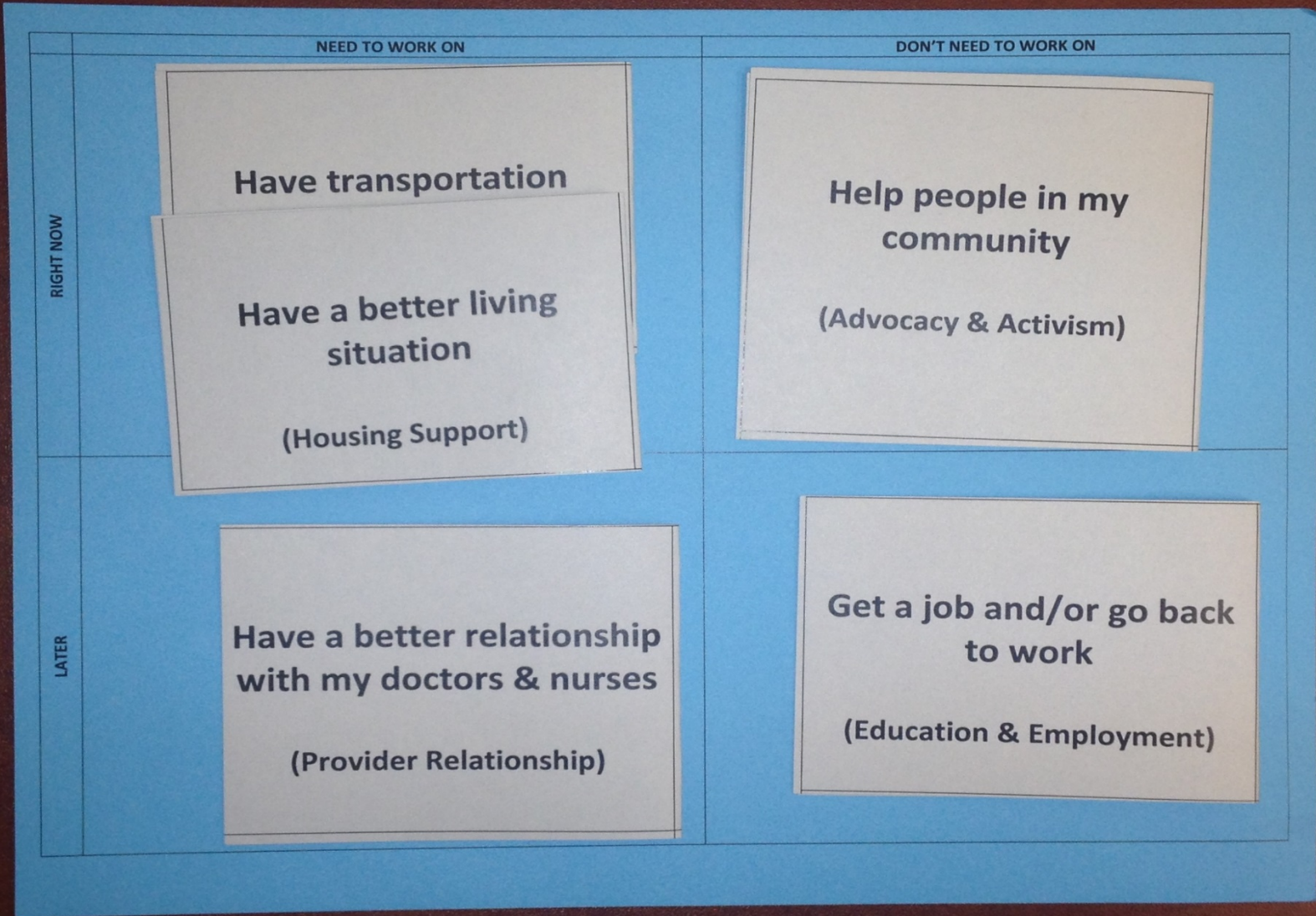
**Mental Health**





	NEED TO WORK ON	DON'T NEED TO WORK ON
NOW		
LATER		

## Backwards Planning: Gameboard



NEED TO WORK ON

DON'T NEED TO WORK ON

RIGHT NOW

LATER

Have transportation

Have a better living situation

(Housing Support)

Help people in my community

(Advocacy & Activism)

Have a better relationship with my doctors & nurses

(Provider Relationship)

Get a job and/or go back to work

(Education & Employment)

“Real Play”

# Debrief: What did you notice?

- What did you notice about the interaction?
- What was hard about it?
- How did it make you feel?

We will call on audience members to share their experiences.

**§1.3 *Engaging  
Community Partners***



# Why Build a Healthcare Coalition?



- Develop a cadre of resources
- Build support for your program as it grows
- Identify barriers to good care at a community level

# Strategies for Engagement

- Outreach to individuals as you make connections
- Encourage them to invite colleagues
- Focus on frontline staff
- Build meetings around patient case presentations



# Potential Participants

- VA medical clinics
- Local hospital physicians/nurses/social workers
- Visiting nurse/home health agencies
- Durable medical equipment providers
- Nursing home and sub-acute rehabilitation representatives
- Wound care clinics
- Care management/care coordination agencies
- Homeless service providers
- HIV/AIDS service providers
- County jail representatives
- Board of Social Services (local Medicaid office)
- Pharmacies
- Behavioral Health providers
- FQHCs
- Other(s)

**§2 Purposeful  
design & planning**

# Purposeful Design and Planning



# Camden's Health Information Exchange

## Admitted Past Month (High Use)

[Back to ApplicationDashboard](#)

User: aaron.truchil | [Sign Out](#) | [My Profile](#) | [Provide Feedback](#)



Select Report

Reports

**Population**

[Admitted Past Month \(High Use\)](#)

[ED or Inpatient Past 2 Months](#)

[CAMCare](#)

[Cooper UHI](#)

[NGII](#)

**United**

[Cooper Ambulatory](#)

[Cooper Family Med](#)

[Cooper Physicians](#)

[Lourdes](#)

**Teams**

[Awesome](#)

[Dynamite](#)

[IDC](#)

[Unassigned](#)

**Historical Load**

[Cooper Historical](#)

[Lourdes Historical](#)

[Virtua Historical](#)

Report Preferences

[Add To Favorites](#)

[Hide](#)

Facility: Any Unit: Any Provider: Any

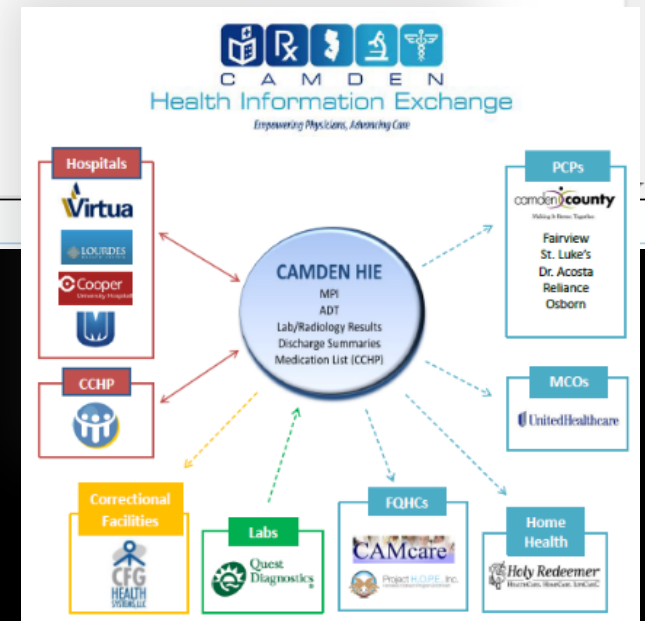
Displaying 170 results

Generated:

[Subscribe](#) [Export](#) [PDF](#)


Name	DOB	Age	Gender	Admit Date	Discharge Date (Day)	Facility	Total Days (6mo)	Inp (6mo)	ED (6mo)	Provider	Practice	Insurance	Adm Diagnoses
		50	M		(Day 2)	CUH	30	3	4				
		VO											
		56	F		(Day 1)	CUH	8	4	5				
		VO											
		80	F		(Day 1)	CUH	8	3	1				
		VO											
		92	M		(Day 1)	LGA	7	3	3				
		VO											
		53	F		(Day 1)	CUH	4	3	2				
		VO											
		36	F		(Day 1)	VIRTUA	40	11	3				
		VO											
		65	M		(Day 1)	CUH	26	3	1				
		VO											
		48	F		(Day 3)	CUH	17	3	0				
		VO											
		52	M		(Day 2)	CUH	5	4	1				
		VO											
		61	M		(Day 3)	CUH	15	5	1				

[Show Query Definition](#)



# Web-based Event Triggering & Data Capture

**Pre-Enrolled Pending Enrollment**  
Enter Discharge Date Once Individuals are Discharged



**Master Patient Table**

**CMI.Pre-Enrolled Pending Enrollment** Search this view... Add patient

	First Name	Last Name	UniquelD	CMI Group	Care Team Assignment	Care Team Assignment Date	Team Lead	Pre-Enrollment Interview Date	DischargeS
<b>Still Admitted (7 patients)</b>									
<input type="checkbox"/>				RCT	Awesome	Jul 10, 2014		Jul 11, 2014	Still Admit
<input type="checkbox"/>				RCT	Awesome	Aug 20, 2014		Aug 21, 2014	Still Admit
<input type="checkbox"/>				RCT	Supreme	Aug 20, 2014		Aug 21, 2014	Still Admit
<input type="checkbox"/>				RCT	Awesome	Aug 31, 2014		Sep 2, 2014	Still Admit
<input type="checkbox"/>				RCT	Awesome	Aug 28, 2014		Sep 2, 2014	Still Admit
<input type="checkbox"/>				ACO	Supreme	Aug 18, 2014		Aug 25, 2014	Still Admit
<input type="checkbox"/>				ACO	Supreme	Aug 26, 2014		Aug 26, 2014	Still Admit
<b>In sub-acute rehab (3 patients)</b>									
<input type="checkbox"/>				RCT	Supreme	May 26, 2014	Kim Pa		
<input type="checkbox"/>				RCT	Supreme	Aug 21, 2014			

Showing 1 - 10 of 10


**Enrolled Individuals Initial Home Visit Needed**  
Sorts all enrolled patients by home visit status

**Master Patient Table**

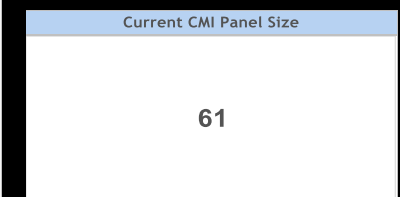
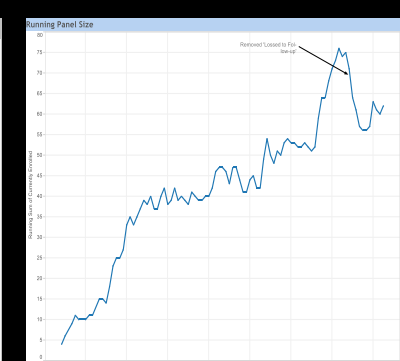
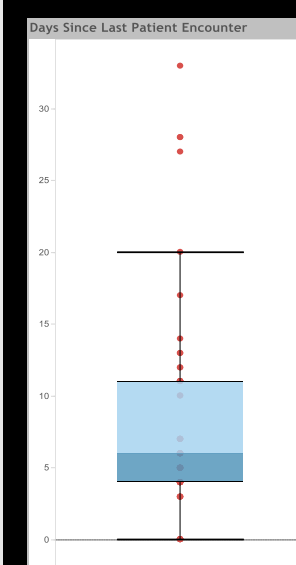
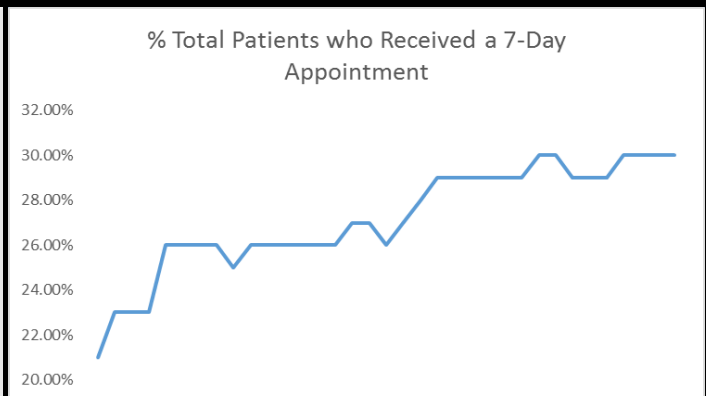
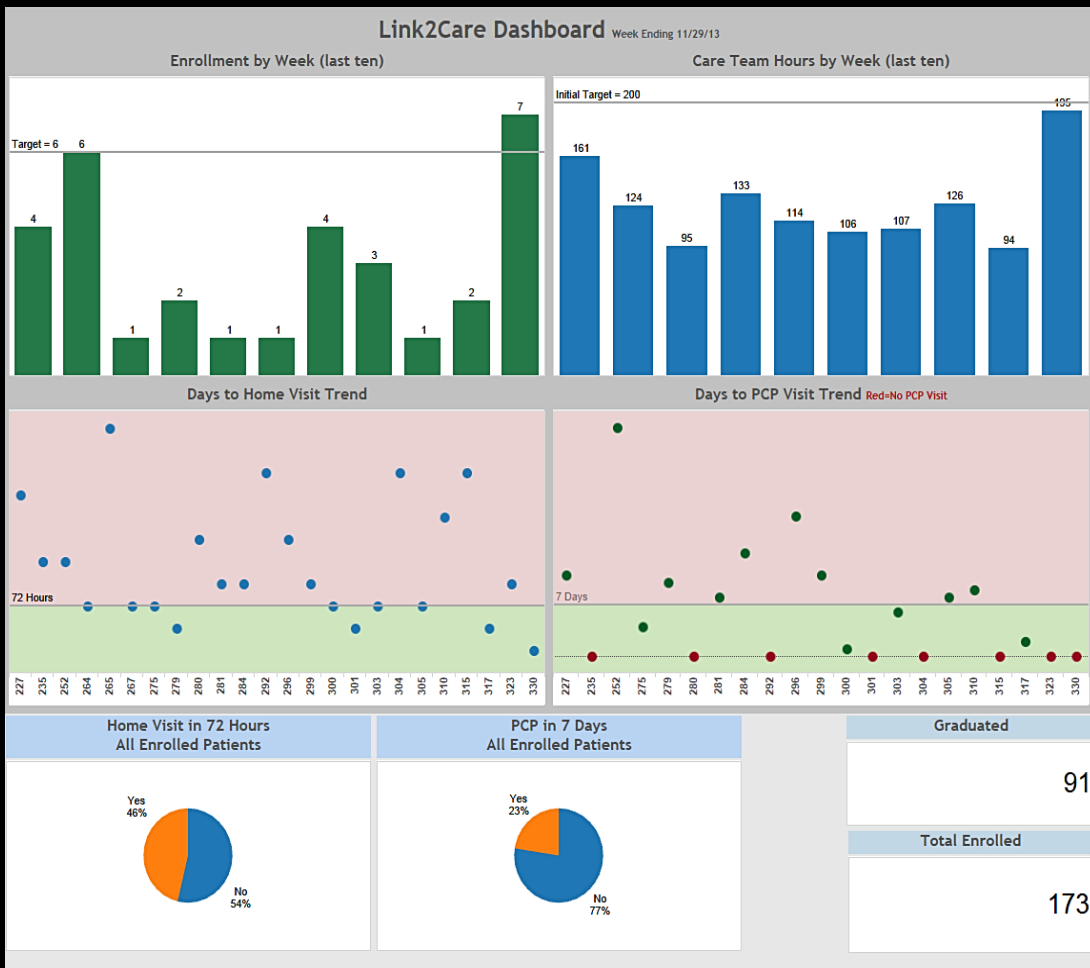
**CMI. Enrolled Initial Home Visit**

	UniquelD	Enrollment Date	Re-Engagement Patient	Number of Days Post-Discharge	Initial home visit complete
<b>(none) &gt; Supreme (1 patient)</b>					
<input type="checkbox"/>		Aug 29, 2014		4	

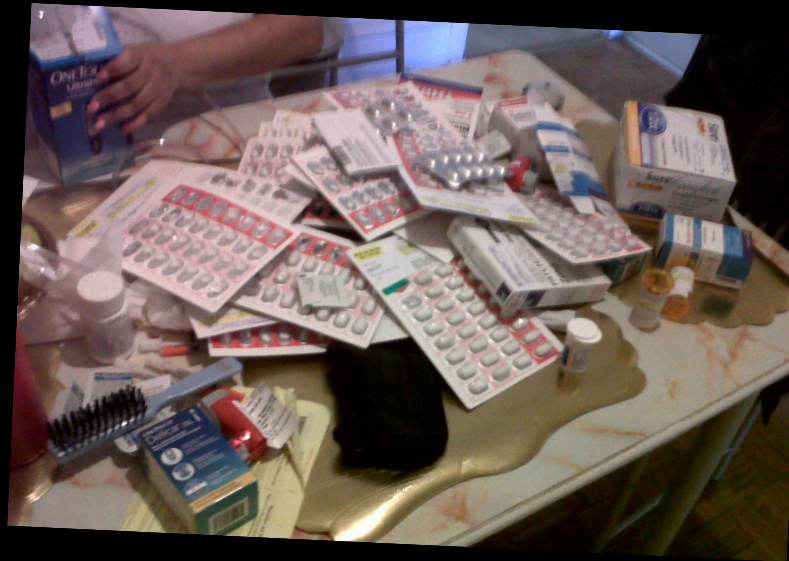
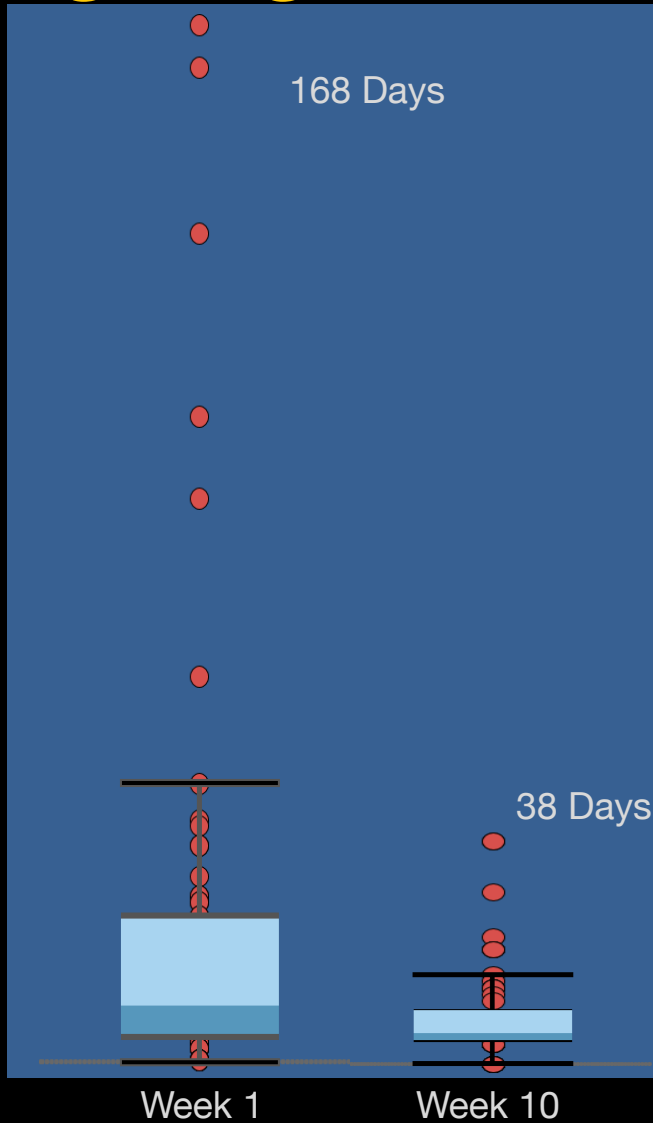
Showing 1 - 1 of 1



# Real-time Feedback Loops: Weekly Scorecards

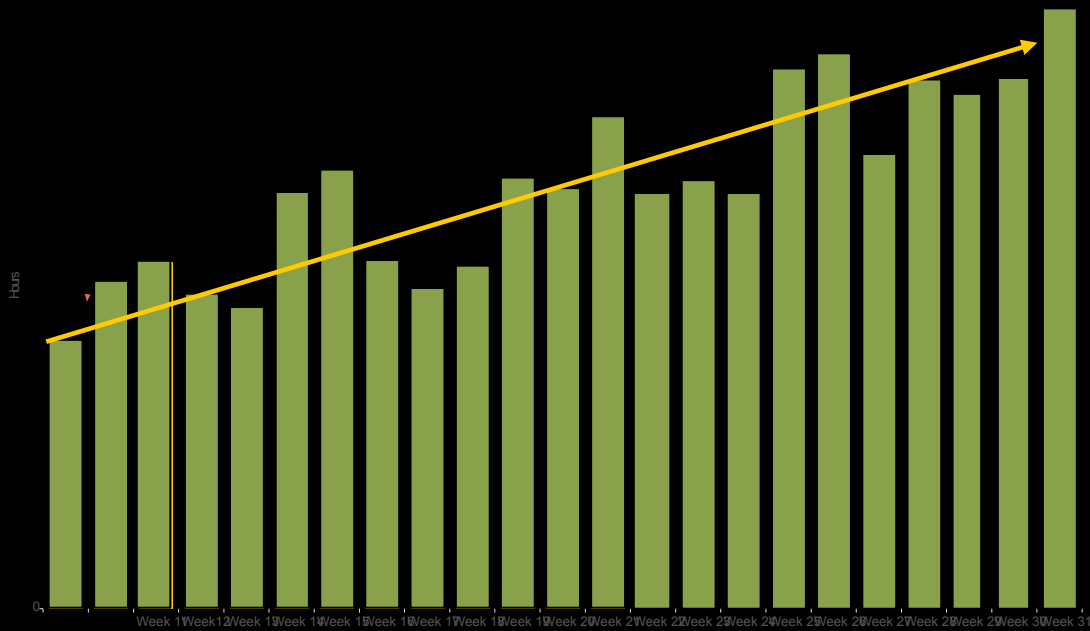


# Ongoing Patient Engagement



**Days Since Last Engagement**

# Ongoing Patient Engagement



**weekly staff hours  
with patients**





**§3 *Evaluating &  
demonstrating  
success***

# §3.1 Why is evaluating difficult?

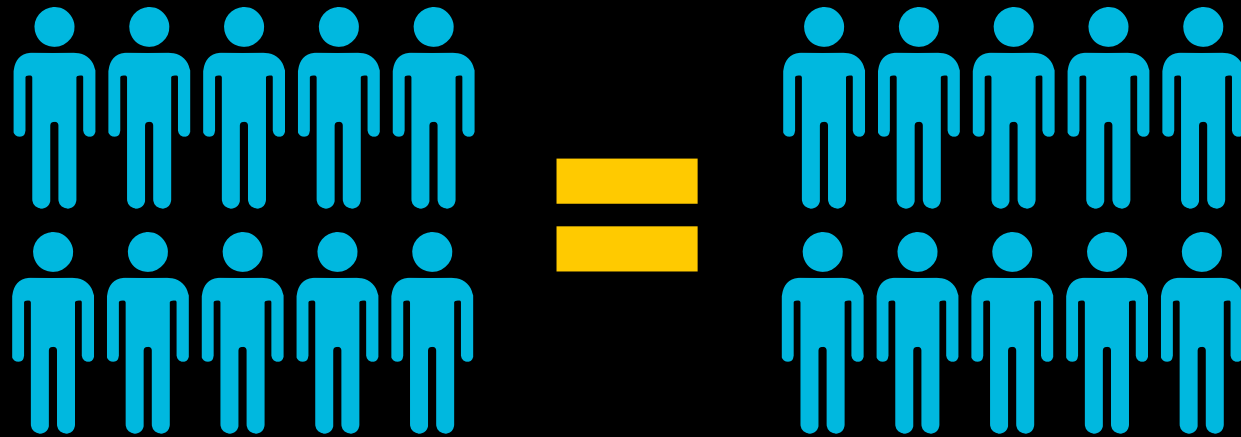
ID	Evl	Name	DOB
414	E	CAIN ANGIE	21-Jan-74
414	E	CAIN ANGIE	21-Jan-74
723	I	LAWRENCE DEBBIE	02-Jun-90
1520	E	CARR SANDY	21-Mar-77
1520	E	CARR SANDY	21-Mar-77
2156	E	GRIFFITH LEROY	06-May-84
2156	E	GRIFFITH LEROY	06-May-84
2156	E	GRIFFITH LEROY	06-May-84
2156	E	GRIFFITH LEROY	06-May-84
2156	E	GRIFFITH LEROY	06-May-84
2156	E	GRIFFITH LEROY	06-May-84
2156	E	GRIFFITH LEROY	06-May-84
2156	E	GRIFFITH LEROY	06-May-84
2156	E	GRIFFITH LEROY	06-May-84
2156	E	GRIFFITH LEROY	06-May-84
2283	I	VASQUEZ EDDIE	02-Apr-65
2283	E	VASQUEZ EDDIE	02-Apr-65
2283	E	VASQUEZ EDDIE	02-Apr-65
2696	I	STONE JESSE	10-Aug-07

having data

# patients w/ complexities = complex intervention

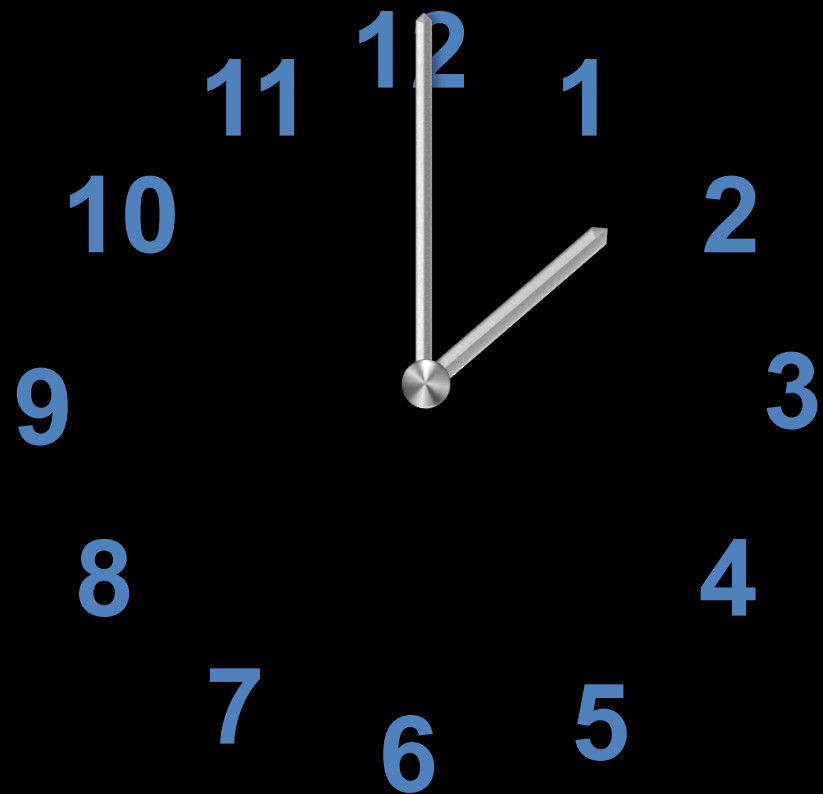


# *finding an appropriate comparison group*



# regression to the mean

***it takes time!***



# §3.2 Choosing an appropriate timeline



# Program Timeline

**Piloting & Early  
Evaluation**

**Scaling**

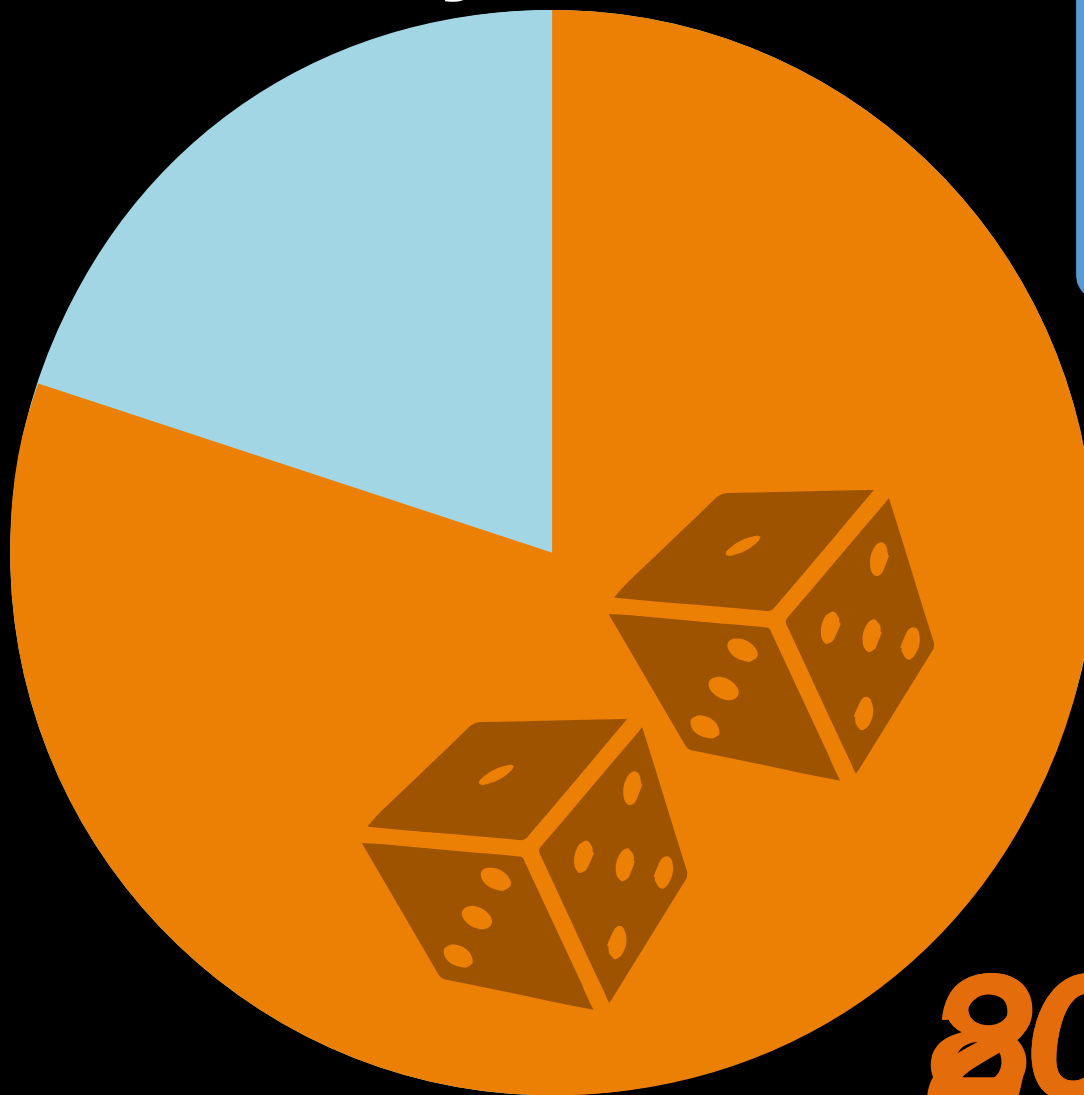
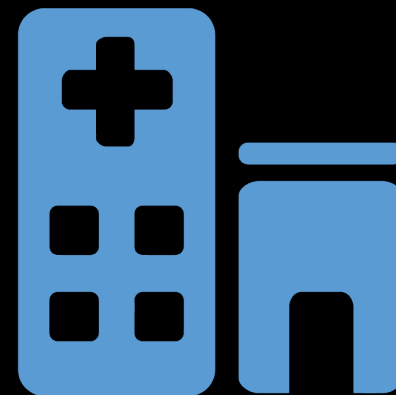
**Planning  
& Data  
Analysis**

**More Robust  
Evaluation:  
Randomization  
& Qualitative  
Dialogue**

# §3.3 Two frameworks in dialog

# ***Randomized Trials***

# Medical & Delivery Studies



80%

## ***Why?***

Clear, credible results on causal effects  
Helpful in attracting sustainable funding  
and scaling a program

## ***When?***

Timing – not too early and not too late  
Time, expertise, and funding to do it right

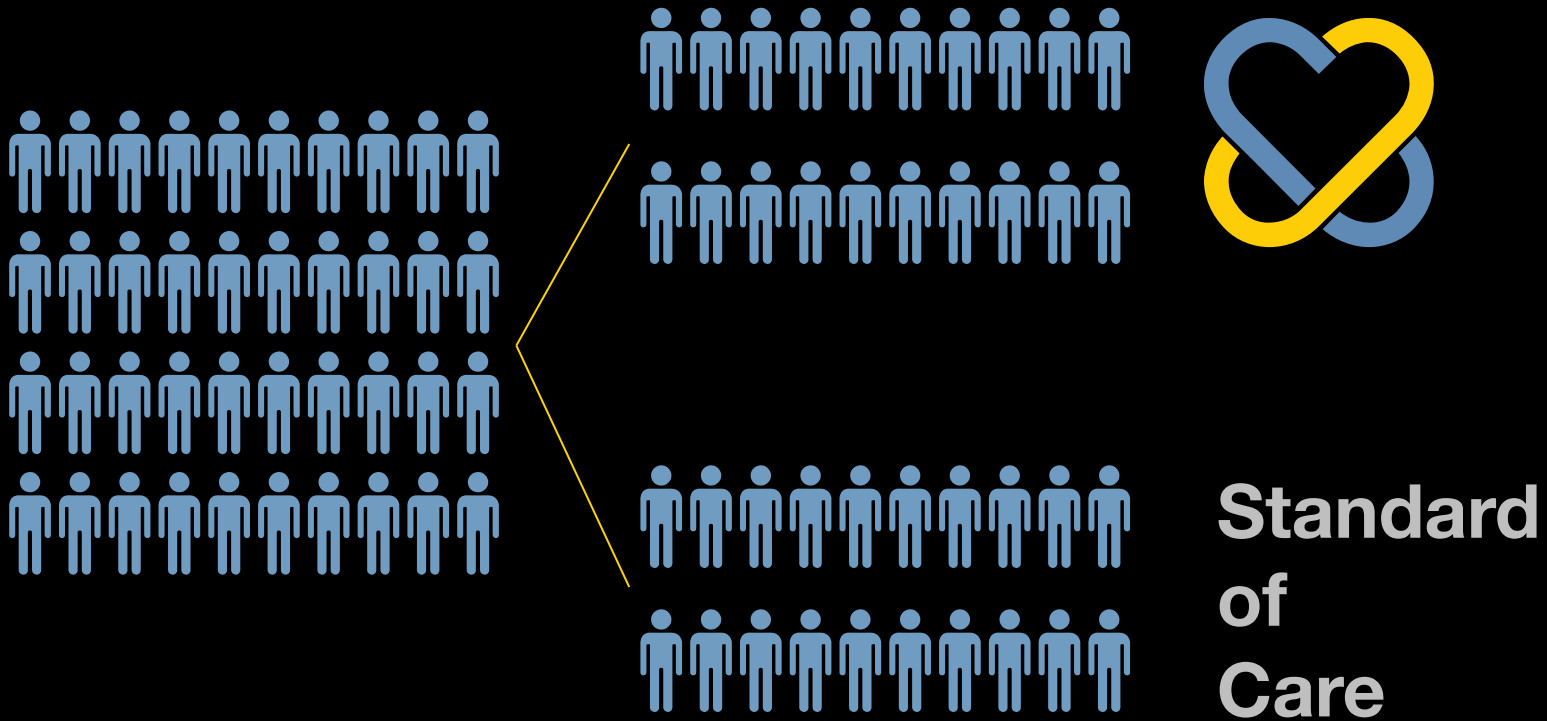
Sample Size

## ***Key Issues***

Randomizing before or after consent?

Data (what's collected administratively?  
-available for the control group?)

# CCHP's Care Management RCT



**Key Outcomes:** reduced re-hospitalizations and ED visits in 12 month period following discharge

current N = 220 / 800



# Findings:

## Transitional Care of Older Adults Hospitalized with Heart Failure: A Randomized, Controlled Trial

*Mary D. Naylor, PhD,<sup>\*†</sup> Dorothy A. Brooten, PhD,<sup>||</sup> Roberta L. Campbell, PhD,<sup>\*</sup> Greg Maislin, MS, MA,<sup>¶</sup> Kathleen M. McCauley, PhD,<sup>\*</sup> and J. Sanford Schwartz, MD<sup>†‡§</sup>*

## HealthAffairs

[HOME](#) | [ABOUT](#) | [ARCHIVE](#) | [TOPICS](#) | [BLOGS](#) | [BRIEFS](#) | [THEM](#)

### **Six Features Of Medicare Coordinated Care Demonstration Programs That Cut Hospital Admissions Of High-Risk Patients**

Randall S. Brown<sup>1,\*</sup>, Deborah Peikes<sup>2</sup>, Greg Peterson<sup>3</sup>, Jennifer Schore<sup>4</sup>  
and Carol M. Razafindrakoto<sup>5</sup>

# Qualitative Evaluation



# Why ?

**Useful for describing complex phenomena**

**Explores the how, and why,  
behind an effect or phenomenon**

**Gives more recognition to the individuals in  
the processes**

# How ?



**Interviews** gathered & coded, become **Data** from which we extract **Themes**

“She talked to me as a person, not as a patient”

“They showed me how to bring myself back”

# Finding:

## Generating Hypotheses About Care Needs of High Utilizers: Lessons from Patient Interviews

Dawn B. Mautner, MD, MS<sup>1,2,\*</sup> Hauchie Pang, MPH<sup>3,\*\*</sup> Jeffrey C. Brenner, MD<sup>4,5</sup> Judy A. Shea, PhD<sup>6,7</sup>  
Kenneth S. Gross, PhD<sup>4,5</sup> Rosemary Frasso, PhD, MSc, CPH<sup>3</sup> and Carolyn C. Cannuscio, ScD, ScM<sup>6,8,9</sup>

Population Health  
Management

## The Heart of Healthcare: The Role of Authentic Relationships in Caring for Patients with Frequent Hospitalizations

Charlotte Weisberg, BA, Margaret Hawthorne, MPH, Marianna LaNoue, PhD, Jeffrey Brenner, MD,  
and Dawn Mautner, MD, MS



# Camden Coalition of Healthcare Providers Operations & Engagement Strategies for Community Based Care\*

poster by Andrew Katz, Program Manager, Care Management Initiatives

## CARE MANAGEMENT INITIATIVES (CMI): the Results to Date

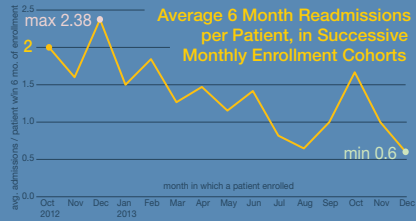
Ultimately the CMI intervention aims to reduce costs by increasing the quality of care. While cost results have yet to be directly calculated, several strong proxy metrics suggest we are moving towards that goal.

We have seen a **statistically significant reduction in patients' risk scores and unhealthy days** at 30, 60, and 180 days after discharge. Patients' **perception of care has also improved** between baseline and program graduation.

Our first 186 clients have demonstrated a **statistically significant reduction of inpatient hospital admissions** in the first six months after their date of enrollment in the intervention to a **mean of 1.28** from **2.86** in the 6 months prior.

post min 0 pre min 2 11 max 10 max

The monthly downward trend in hospitalizations during those six months after enrollment further suggests continued improvement in the efficacy of the intervention over time.

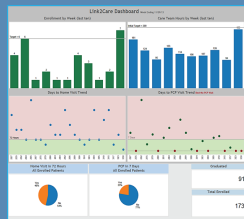


## INTERVENTION: CMI Operations

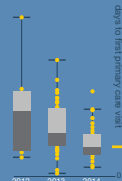
To maximize the CMI intervention's chances of success, the Camden Coalition merges a patient-centered focus with business best practices. Staff continually log care plan progress, home and primary care visits, re-admissions, staff hours spent with patients, and the care plan domains among which that time was divided. Activity tracking informs our daily and weekly conversations around operational efficiency and allows management to monitor performance indicators in real time and begin quality improvement projects where necessary.

**Example: Patients connect to primary care too slowly.**

**Action:**  
Create a scoreboard.



Measure weekly successes and failures transparently.



**Results:**  
By constraining process variability and addressing outliers, we were able to reduce the average days to PCP visit by 40%.

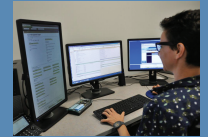
## DATA: the Building Blocks of Care Management

Hospital billing data allowed us to identify, investigate, and segment our population retrospectively. We filter real time Admissions-Discharge-Transfer (ADT) feeds to activate our community operations team and trigger our intervention.



Hospital Data

H.I.E.



Triage Process

Daily Feed

## INTERVENTION: CMI Timeline

Home visit in 72 hours → PCP visit in 1 week

**COACH:**  
a new approach =

- Connect tasks with vision & priorities.
- Observe normal routine.
- Assume a coaching style.
- Check backwards plan. & Highlight progress with data.

Weekly care planning & home visits (RN, LPN, CHW, HC's)

Day 60: handoff to HC's

The COACH model helps staff to

- identify clients' strengths and weaknesses, clarify clients' internal motivations for bettering their health, and guide clients through the stages of behavioral change.

≈Day 90 after hospital discharge: clients graduate

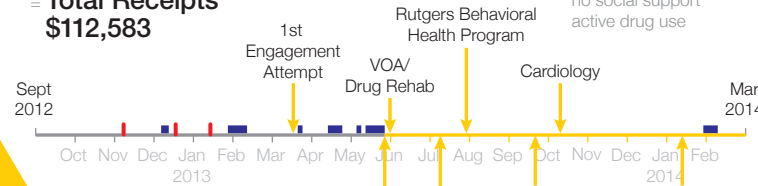
## Miguel the Patient Experience

**System Failures**  
misspelling on SS card  
slowed paperwork  
follow-up paperwork mis-filed  
common name compounded  
simple mistakes

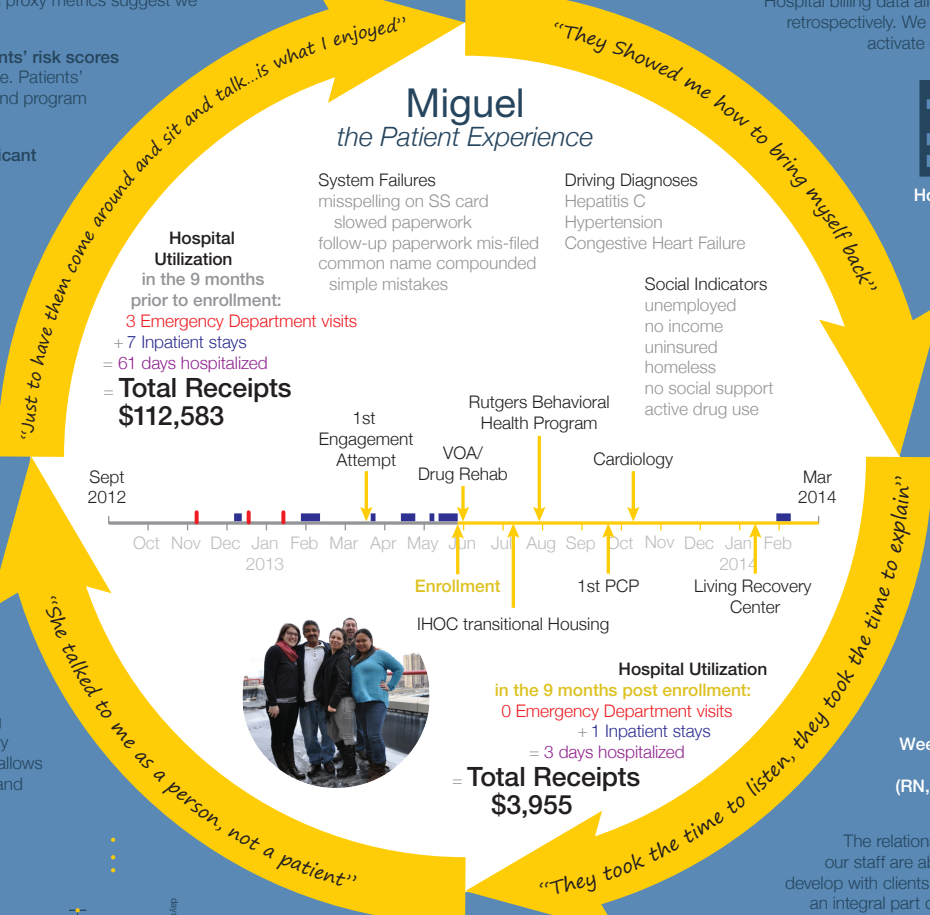
**Driving Diagnoses**  
Hepatitis C  
Hypertension  
Congestive Heart Failure

**Social Indicators**  
unemployed  
no income  
uninsured  
homeless  
no social support  
active drug use

**Hospital Utilization in the 9 months prior to enrollment:**  
3 Emergency Department visits  
+ 7 Inpatient stays  
= 61 days hospitalized  
= **Total Receipts \$112,583**



**Hospital Utilization in the 9 months post enrollment:**  
0 Emergency Department visits  
+ 1 Inpatient stays  
= 3 days hospitalized  
= **Total Receipts \$3,955**



\*The Link2Care program, a Cooper University Hospital initiative operated by the Camden Coalition of Healthcare Providers

The project described was supported by Cooperative Agreement Number 1C1CMS330967-01-00 from the Department of Health and Human Services, Centers for Medicare & Medicaid Services. The contents of this publication are solely the responsibility of the authors and do not necessarily represent the official views of the U.S. Department of Health and Human Services or any of its agencies. The research presented here was conducted by the awardee. These findings may or may not be consistent with or confirmed by the independent evaluation contractor.

reduce costs by increasing the quality of care. While correlated, several strong proxy metrics suggest we

it reduction in patients' risk scores 30 days after discharge. Patients' risk scores dropped between baseline and program

a statistically significant reduction in readmissions in the first six months of the intervention to a level similar to the 6 months prior.

Readmissions in Successive Cohorts

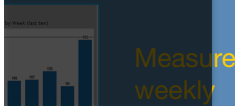


Aug Sep Oct Nov Dec

Generations

Successes of success, patient-centered focus, annually log care plan, re-admissions, staff plan domains among, checking informs our daily, transitional efficiency and allows, indicators in real time and are necessary.

care too slowly.



Hospital billing data allowed us to identify, investigate retrospectively. We filter real time Admission data to activate our community operation



Hospital Data

H.I.

Admitted past month, 6 month summary

Admission	Discharge	ICD-9	ICD-10	Diagnosis	Procedure	Referral	Referral	Referral	Referral	Referral
10/15/13	10/22/13	99.02	Z00.00	Office visit						
10/22/13	10/29/13	99.02	Z00.00	Office visit						
10/29/13	11/05/13	99.02	Z00.00	Office visit						
11/05/13	11/12/13	99.02	Z00.00	Office visit						
11/12/13	11/19/13	99.02	Z00.00	Office visit						
11/19/13	11/26/13	99.02	Z00.00	Office visit						
11/26/13	12/03/13	99.02	Z00.00	Office visit						
12/03/13	12/10/13	99.02	Z00.00	Office visit						
12/10/13	12/17/13	99.02	Z00.00	Office visit						
12/17/13	12/24/13	99.02	Z00.00	Office visit						
12/24/13	12/31/13	99.02	Z00.00	Office visit						

Daily Fee

INTERV

Home visit in 72 hours

COACH: a new approach =

Obs  
Assur  
Check  
Highlight

Weekly care planning & home visits (RN, LPN, CHW, HC's)

The model helps

The relationships our staff are able to develop with clients form an integral part of our intervention. Staff undergo multiple

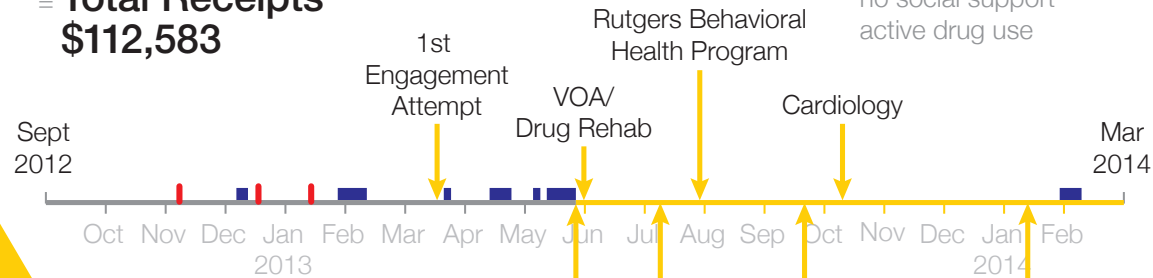
# Miguel the Patient Experience

**System Failures**  
misspelling on SS card  
slowed paperwork  
follow-up paperwork mis-filed  
common name compounded  
simple mistakes

**Driving Diagnoses**  
Hepatitis C  
Hypertension  
Congestive Heart Failure

**Social Indicators**  
unemployed  
no income  
uninsured  
homeless  
no social support  
active drug use

**Hospital Utilization in the 9 months prior to enrollment:**  
3 Emergency Department visits  
+ 7 Inpatient stays  
= 61 days hospitalized  
= **Total Receipts \$112,583**



**Hospital Utilization in the 9 months post enrollment:**  
0 Emergency Department visits  
+ 1 Inpatient stays  
= 3 days hospitalized  
= **Total Receipts \$3,955**

*"Just to have them come around and sit and talk...is what I enjoyed"*

*"They Showed me how to bring myself back"*

*"She talked to me as a person, not a patient"*

*"They took the time to listen, they took the time to explain"*



# Breakout 2