

1	1	-1	1	1	-1	17		
-1	-1	-1	-1	-1	-1	1	2	
2	1	11	10	4	140	199		
1	-1	-1	-1	-1	1	8		
2	1	-1	-1	3	10	35		
5	-1	-1	1	2	1	15		
1	<b>Population</b>	<b>Health</b>	<b>Management systems</b>			<b>101</b>	5	
57	1	4	-1	-1	107	215		
7	3	<b>Using</b>	<b>data to</b>	<b>improve</b>	<b>health</b>	<b>outcomes</b>		
-1	1	-1	-1	-1	-1	2		
3	1	-1	-1	2	6	5		
-1	1	6	14	1	1	1		
33	<b>Chuck Amos, MBA: Health Care for the Homeless, Baltimore MD</b>							
-1	1	6	14	3	1	50		
-1	1	-1	-1	-1	21	50		
1	-1	-1	-1	-1	-1	3		
-1	-1	-1	5	2	1	11		
0	1	0	3	5	-1	-1		
1	1	1	8	2	1	-1		
0	1	0	1	5	-1	-1		

# Introductions & Handouts

# Goals

1. Learn what population health is, and why it is important
2. Understand the differences between EHR systems and population health management (PHM) systems
3. Compare and contrast at least two different PHM systems that are tailored to FQHCs
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THE STORY of  
**FERDINAND**

by MUNRO LEAF



Waverly  
5 (E) (3/4)  
- PC doc



We need our data to tell us a story ...

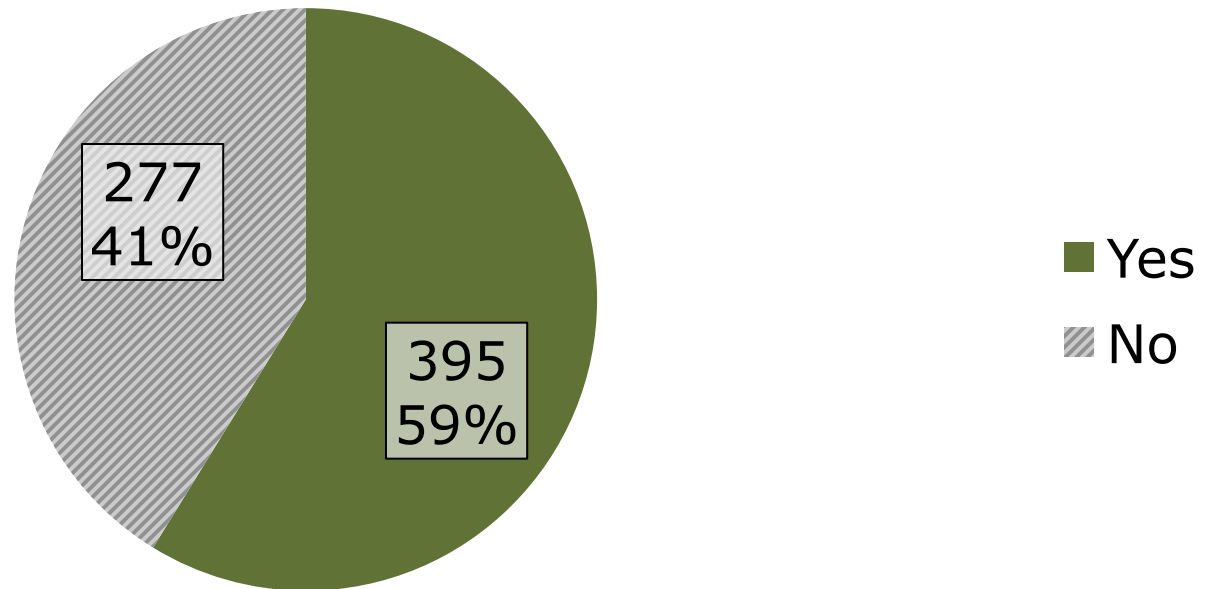
# FERDINAND

by MUNRO LEAF



# Maybe a story about how our diabetics are doing ...

## Diabetics with A1c at or below 9%



# ... and who our diabetics are ...

## Diabetic Patients for Dr. Pepper

Name	Age	Last Visit	Next Visit	Last A1c Date	Last A1c value	Last LDL Date	Last LDL Value	Last Foot Exam	Last Eye Exam
Doe, John	43	11/14/14		11/14/14	11.1	11/14/14	85	6/6/14	
Smith, Jane	44	3/19/15	6/19/15	1/27/15	7.2	10/1/14	94		
Jones, Joe	68	9/6/13							
Patient, Test	49	4/21/15	5/21/15	4/21/15	6.7	4/21/15	133	4/21/15	4/21/15

Our data tells a different story ...



166	M	1	1	-1	-1	1	2	1	-1	-1	-1	7	
126	M	1	1	-1	-1	4	1	1	-1	-1	1	13	
446	M	1	0	-1	-1	1	5	-1	-1	6	1	4	27
20	F	-1	-1	1	0	5	-1	-1	-1	-1	-1	21	33
34	F	1	1	1	1	3	53	2	5	1	-1	119	202
07	F	-1	-1	1	0	-1	1	-1	-1	-1	-1	1	2
61	M	1	1	-1	-1	2	-1	1	-1	2	-1	1	9
45	F	1	0	1	0	-1	3	-1	-1	-1	-1	-1	4
91	M	1	0	-1	-1	2	-1	-1	-1	-1	-1	-1	3
52	M	1	1	-1	-1	3	-1	-1	-1	-1	-1	-1	7
40	F	-1	-1	1	1	9	2	-1	-1	-1	-1	3	20
87	F	-1	-1	1	0	1	-1	-1	-1	-1	-1	-1	2
14	F	1	1	1	1	8	4	-1	2	2	6	7	52
20	M	1	1	-1	-1	6	-1	2	-1	-1	1	2	11
33	F	-1	-1	1	1	3	1	1	-1	2	3	1	17
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00	F	-1	-1	1	0	1	-1	-1	-1	-1	-1	-1	1
82	F	-1	-1	1	0	-1	1	-1	-1	2	-1	1	4
10	F	-1	-1	1	0	4	-1	-1	-1	-1	-1	3	7
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87	M	1	1	-1	-1	2	1	3	4	6	2	1	28
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00	F	-1	-1	1	0	1	-1	-1	-1	-1	-1	-1	1
56	F	-1	-1	1	0	-1	1	-1	-1	-1	-1	-1	2
93	F	-1	-1	1	0	1	-1	-1	-1	1	-1	1	4





# Solution

Use population health management systems to convert data into clinical quality information ...

166	M	1	1	-1	-1	1	2	1	-1	-1	-1	7	
126	M	1	1	-1	-1	4	1	1	-1	-1	1	13	
46	M	1	0	-1	-1	1	5	-1	-1	6	1	4	27
20	F	-1	-1	1	0	5	-1	-1	-1	-1	-1	21	33
34	F	1	1	1	1	3	53	2	5	1	-1	119	202
07	F	-1	-1	1	1	-1	1	-1	-1	-1	-1	1	2
61	M	1	1	-1	-1	-1	-1	-1	-1	2	-1	1	9
45	F	1	0	1	-1	-1	3	-1	-1	-1	-1	-1	4
91	M	1	0	-1	-1	2	-1	-1	-1	-1	-1	-1	3
52	M	1	1	-1	-1	3	-1	-1	-1	-1	-1	-1	7
40	F	-1	-1	1	1	9	2	-1	-1	-1	-1	3	20
87	F	-1	-1	1	0	1	-1	-1	-1	-1	-1	-1	2
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33	F	-1	-1	1	0	5	1	-1	-1	3	1	17	
51	F	-1	-1	1	0	2	-1	-1	-1	-1	-1	3	7
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33	M	1	0	-1	-1	-1	1	-1	-1	1	-1	29	33
00	F	-1	-1	1	0	1	-1	-1	-1	-1	-1	-1	1
82	F	-1	-1	1	0	-1	1	-1	-1	2	-1	1	4
10	F	-1	-1	1	0	4	-1	-1	-1	-1	-1	3	7
92	F	-1	-1	1	0	2	2	1	10	22	-1	16	72
18	F	-1	-1	1	0	-1	1	1	1	2	-1	1	14
83	F	1	1	1	1	4	1	5	9	10	2	5	50
39	F	-1	-1	1	0	4	1	2	10	-1	-1	64	97
02	F	-1	-1	1	0	3	1	1	-1	-1	1	-1	9
73	F	-1	-1	1	0	1	2	-1	-1	-1	1	-1	4
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34	M	1	0	-1	-1	1	1	-1	-1	-1	-1	2	5
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87	M	1	1	-1	-1	2	1	3	4	6	2	1	28
61	F	-1	-1	1	1	9	-1	-1	-1	-1	-1	-1	10
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61	F	-1	-1	1	0	9	-1	1	6	7	-1	1	33
17	F	-1	-1	1	1	6	3	-1	-1	-1	2	1	19
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04	F	-1	-1	1	0	5	-1	-1	-1	-1	-1	3	9
00	F	-1	-1	1	0	1	-1	-1	-1	-1	-1	-1	1
56	F	-1	-1	1	0	-1	1	-1	-1	-1	-1	-1	2
93	F	-1	-1	1	0	1	-1	-1	-1	1	-1	1	4

# Solution

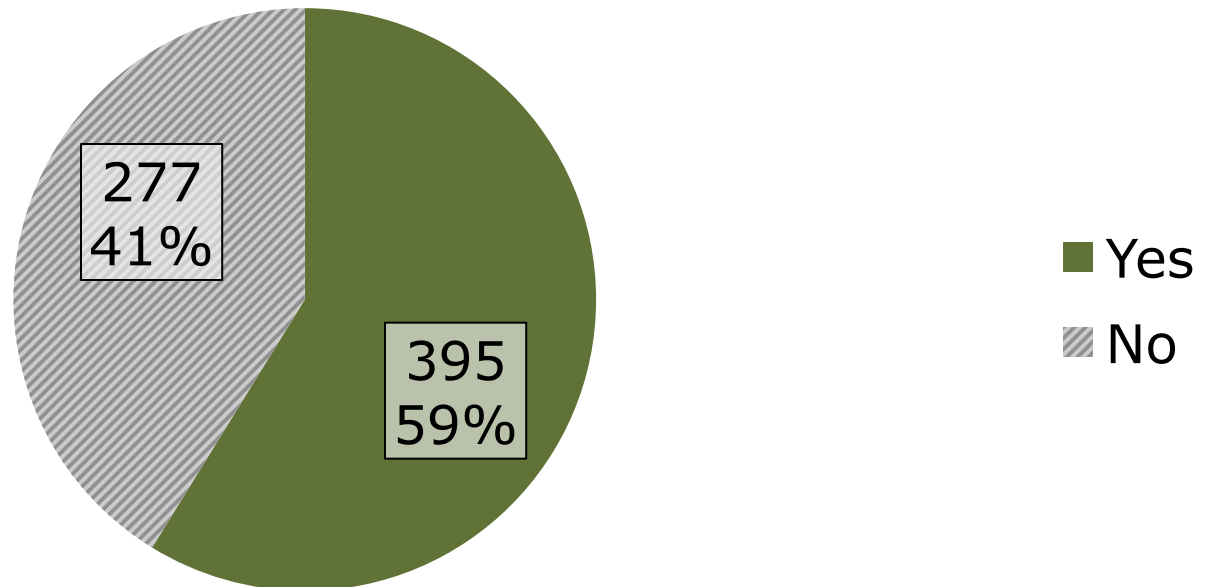
to convert data ...



... into stories

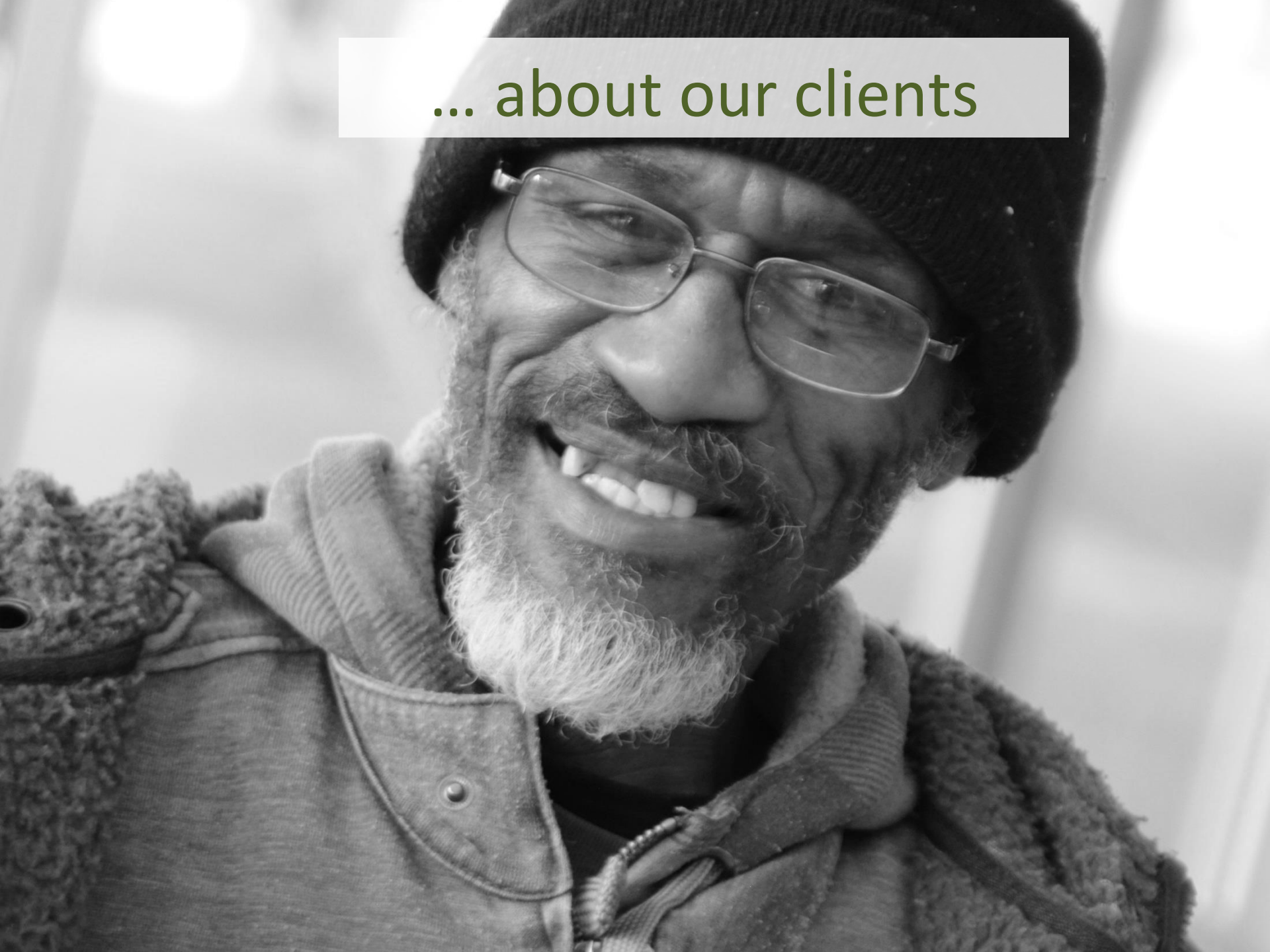
# Stories about our care ...

## Diabetics with A1c at or below 9%



... and most importantly ...

... about our clients



Who they are...





... and what they need.

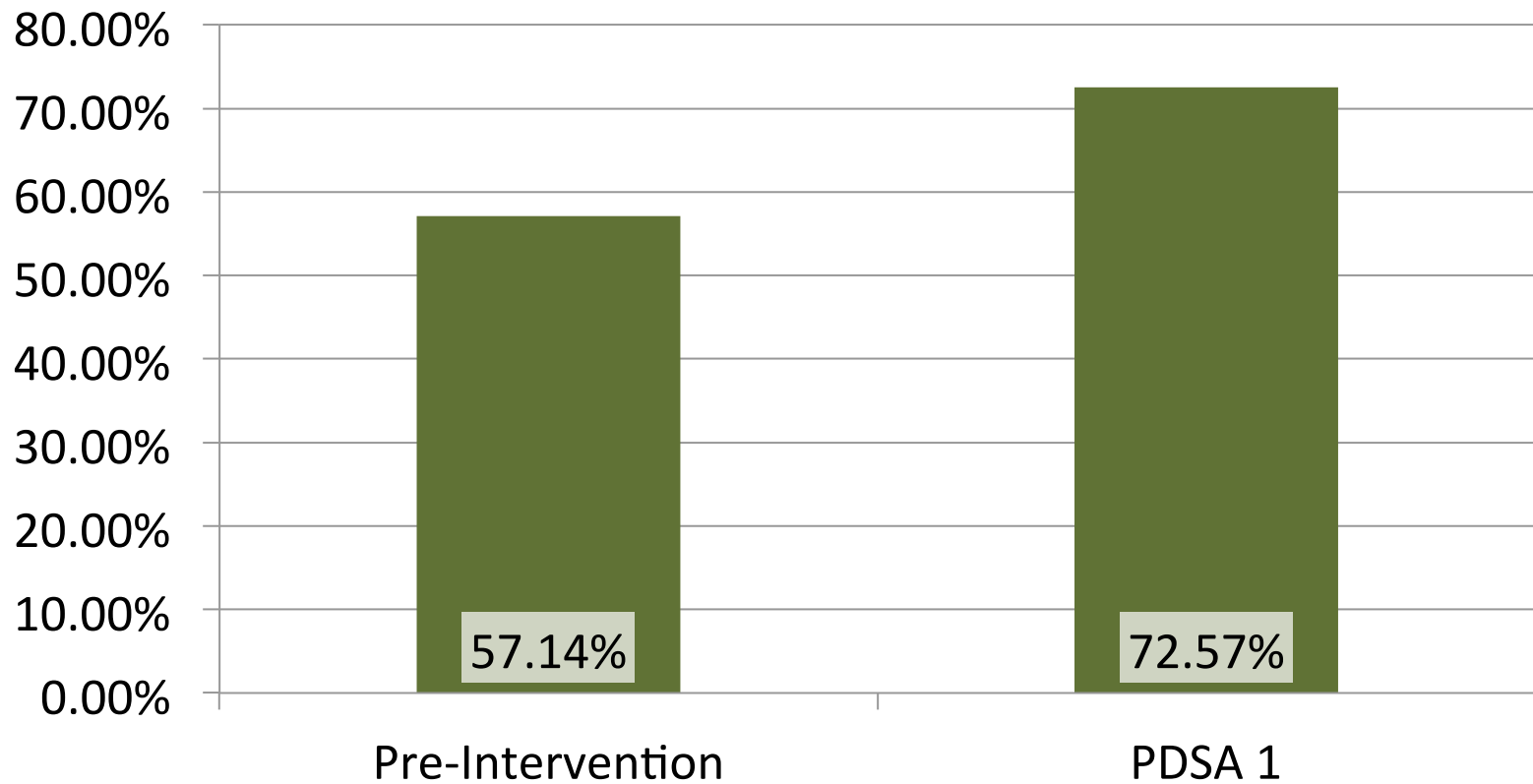


# Background

- 2013
- Baltimore researching better use of data
- Missed opportunities to test A1c in diabetics
- Manual proof-of-concept
- And a story started to emerge ...

# Background

## A1c Tests Ordered for Diabetics

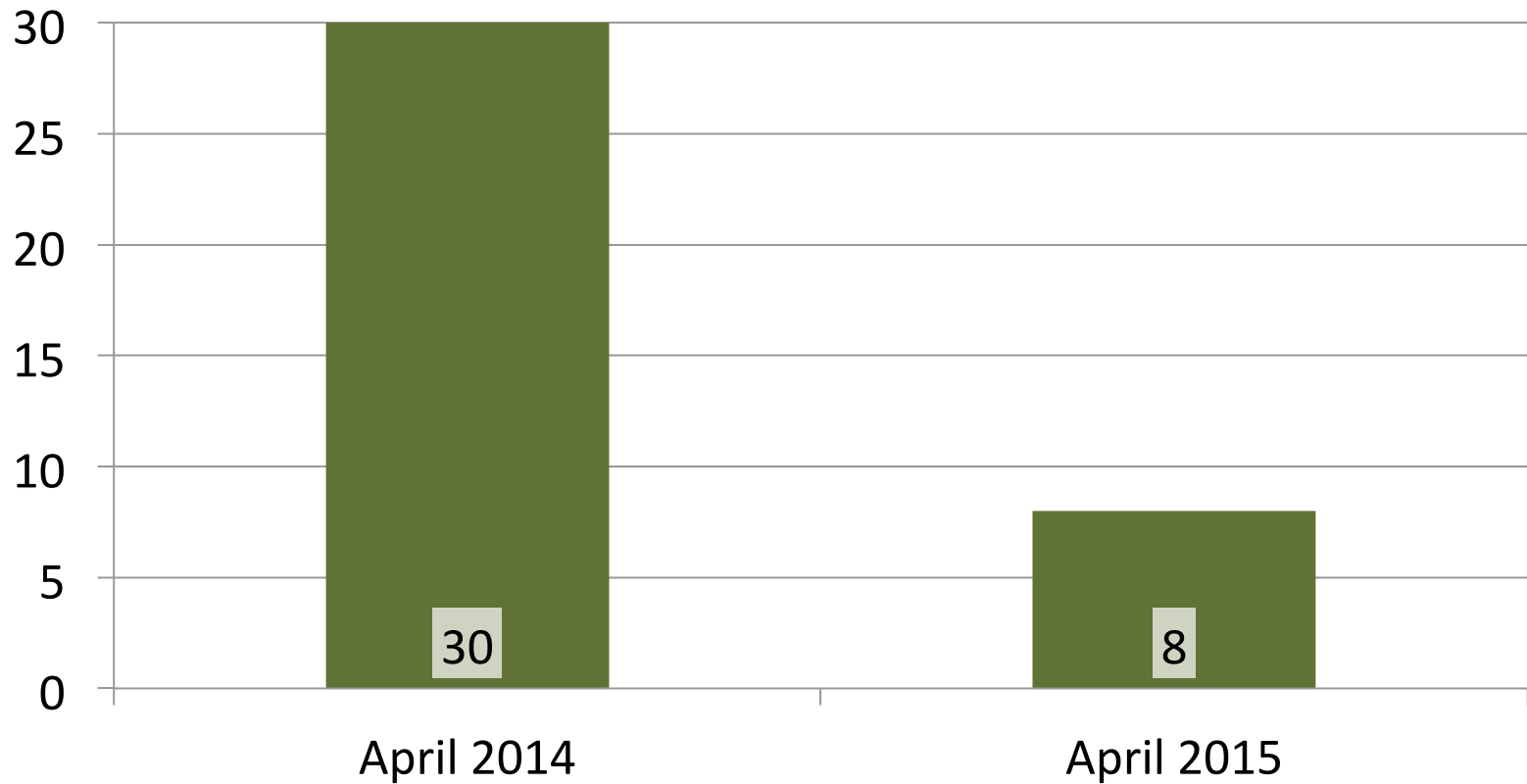


# Background

- 2014
- Realized we had data integrity issues
- Investigated our Pap smear data
- And another story started to emerge ...

# Background

## Ways to Order a Pap Smear





# Background

- Time to invest in a population health management system
- Considered several options
- Consulted with several health centers
- Implemented Azara DRVS in late 2014
- Process is replicable! Want to share with other health centers

# Goals

1. Learn what population health is, and why it is important
2. Understand the differences between EHR systems and population health management (PHM) systems
3. Compare and contrast at least two different PHM systems that are tailored to FQHCs
4. Explore a tool to assess what, if any, PHM system is right for your health center
5. Review real-world examples of how a PHM system can drive quality improvement at your health center

# What is population health?

- Many definitions
- IHI definition: “the health outcomes of a group of individuals, including the distribution of such outcomes within the group”
- HCH’s CMO: “how we take care of all of our patients, including the ones who aren’t in front of us”

# Why is population health important?

- Engages and re-engages patients
- Reduces missed opportunities
- Reduces overall costs while improving quality
- Improves integrated care
- Creates chances to improve outcomes for the most difficult patients

# Goals

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Deception & Mystery

HOT FOLKLORE

FANTASY

SCIENCE FICTION

Book

KEN

Doom Fox

FRANCE  
FYFIEL

Photo: Samantha Marx



# CHECKOUT





# EHR vs. PHM

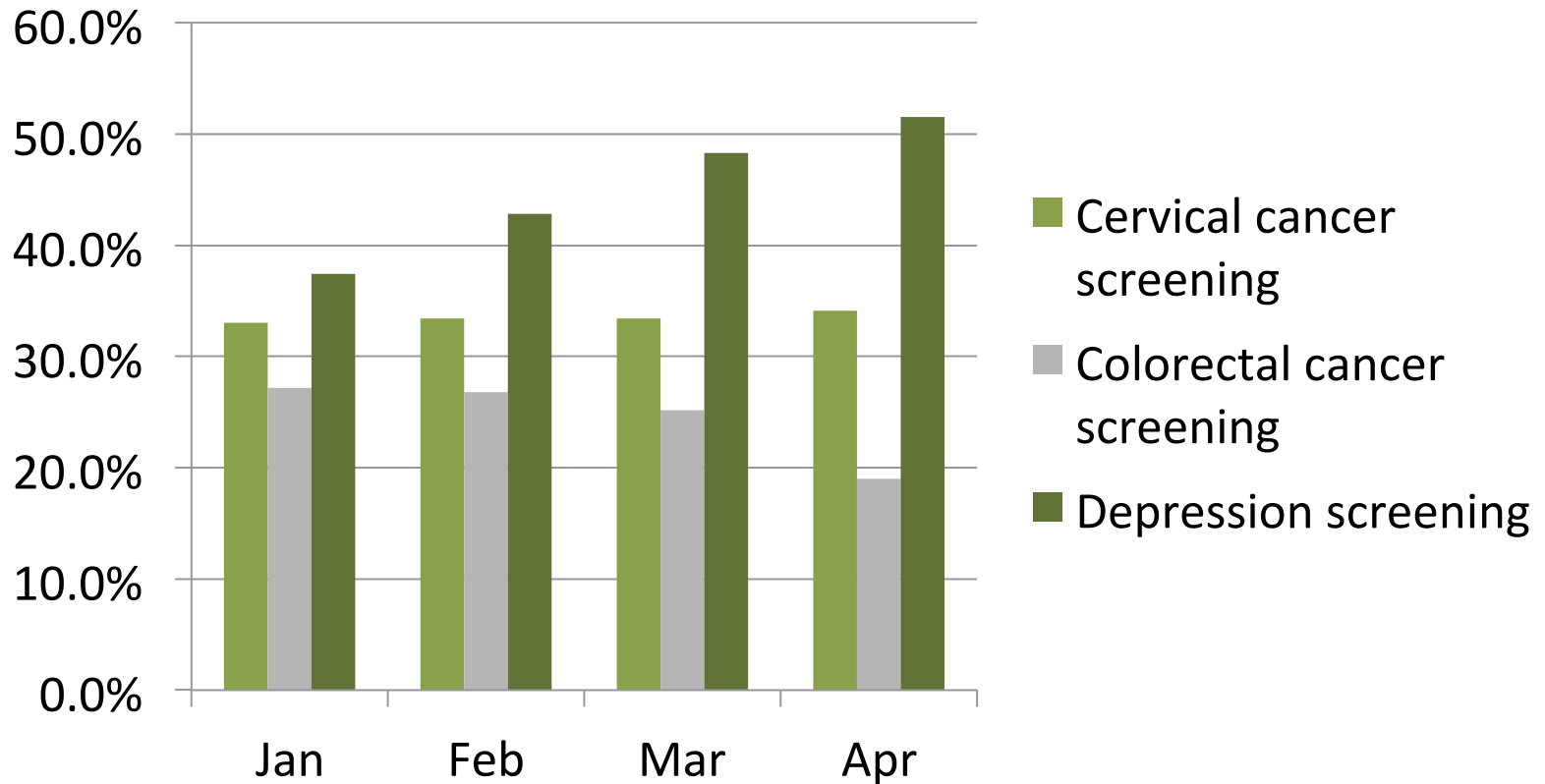
- EHRs store data
- PHM turns data into stories

# EHR vs. PHM

- Reports are important; they allow us to:
  - see if we're (not) improving
  - intervene when problems arise
  - share real-time information with our staff, patients, board, and community partners
  - work proactively, not reactively
  - treat our entire population, not just easy patients

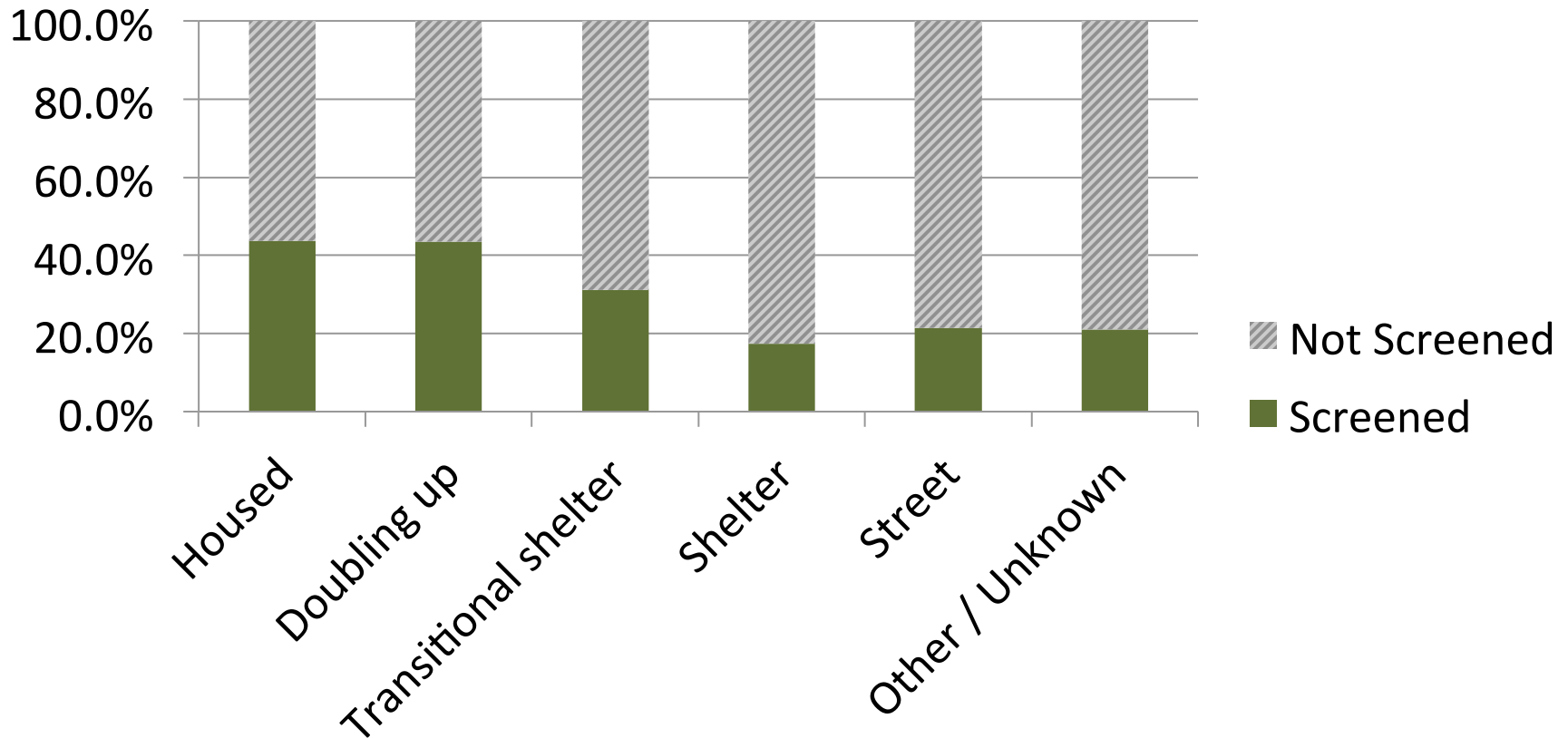
# EHR vs. PHM

## Sample: Monthly view of UDS data



# EHR vs. PHM

## Cervical Cancer Screening by Housing Status



# EHR vs. PHM

- HRSA OSV – No. 8: Quality Improvement / Assurance Plan
  - Health center has an ongoing Quality Improvement/Quality Assurance (QI/QA) program that includes ... periodic assessment of ... the quality of services provided ... based on the systematic collection and evaluation of patient records

# Goals

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# Comparing PHM Systems

- Key approaches:
  - Homegrown
    - Plus: Customized, total control, fast updates
    - Minus: Expensive, no community, slow build
  - Not-for-profit
    - Plus: Know FQHCs, HRSA funded, community, cost
    - Minus: Often slower than for-profit, limited resources
  - For-profit
    - Plus: Know FQHCs, community, maintained, fast build
    - Minus: Cost, not mission oriented



# Comparing PHM Systems

- Many systems:
  - Alliance of Chicago
  - Azara DRVS
  - i2i Tracks
  - OCHIN
  - Phytel
- Some EMRs have built-in or add-on PHM
  - Centricity + Visualutions
  - AthenaHealth

# Comparing PHM Systems

## Azara DRVS

DRVS is a web-based model that centers around Azara's community of users. It utilizes a homogenous data warehouse to provide approximately 200 canned reports and dashboards to all customers. Customers then use filters to tailor the reports to their clinic's specific needs.

Instead of focusing on custom reports for each clinic, Azara's developers look for reports that serve the common needs of the community. Custom reports are available for a significant charge.

Azara serves 80+ health centers, including the PCA for Massachusetts.

## i2i Tracks

Tracks is a SQL Server based model that centers around the specific needs of each customer.

The first step in implementing Tracks is defining a "Project Charter" that identifies each customer's unique reporting requirements. The vendor then builds a customized report menu based on a library of existing reports. i2i takes a "quality, not quantity" approach to reporting, and prefers to deliver fewer reports that are tailored to a customer's specific needs instead of a long list of irrelevant reports.

i2i serves over 1,000 health centers, including PCAs

# Goals

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# Before You Buy a System ...

- Buying a system is easy. The work before and after you buy a system is what matters.
- First, the work before ...

# Before You Buy a System ...

- Identify key partners in your health center
- Not just the CEO & CMO
  - Medical Assistants
  - Providers
  - Nurses
  - Front Desk
  - Quality Team / PI Committee
  - Grants / Fundraising Team
- Now include all these people in the process!

# Before You Buy a System ...

- Identify what you need the system to do
  - UDS
  - Meaningful Use
  - Ryan White
  - HEDIS
  - Registries
  - Huddle Reports
  - Dashboards

# Before You Buy a System ...

- Identify other goals you have for the system
  - Improving your population's health
  - Improving quality measures
  - Creating visual dashboards for staff and board
  - What else???



# Before You Buy a System ...

- How we answered some of these questions:
  - Huddle reports and registries are critical
  - System needs to be for providers, nurses, medical assistants, and administrators, NOT just the quality team
  - Providers need the ability to see real-time UDS and Meaningful Use stats at an individual level
  - System must eliminate bottlenecks in data requests

# After You Buy a System ...

- Buying a system is easy. The work before and after you buy a system is what matters.
- Signing a contract means the true work begins

# After You Buy a System ...

- Validate! Validate! Validate!
- Your data is dirty, but this helps clean it
- Do more than the vendor tells you to do
- Set realistic expectations for staff

# After You Buy a System ...

- Identify a team of key data validators. At HCH, we used:
  - Director of PI (MBA)
  - PI Clinical Data Analyst (MPH)
  - Database Manager

# After You Buy a System ...

- Identify a team of clinical data validators. At HCH, we used:
  - Director of Internal Medicine
  - Director of Nursing
  - Director of Pediatrics
  - Chief Medical Officer
- Respect their time!!! You do not need them for
  - Demographics
  - Scheduling
  - 1<sup>st</sup> pass at basic clinic information

# After You Buy a System ...

- We asked the clinical team to be available for the 10-week validation process
- We were able to excuse them for the first 5 weeks
- By showing them we respected their time, they responded incredibly quickly when we had questions that only they could answer

# After You Buy a System ...

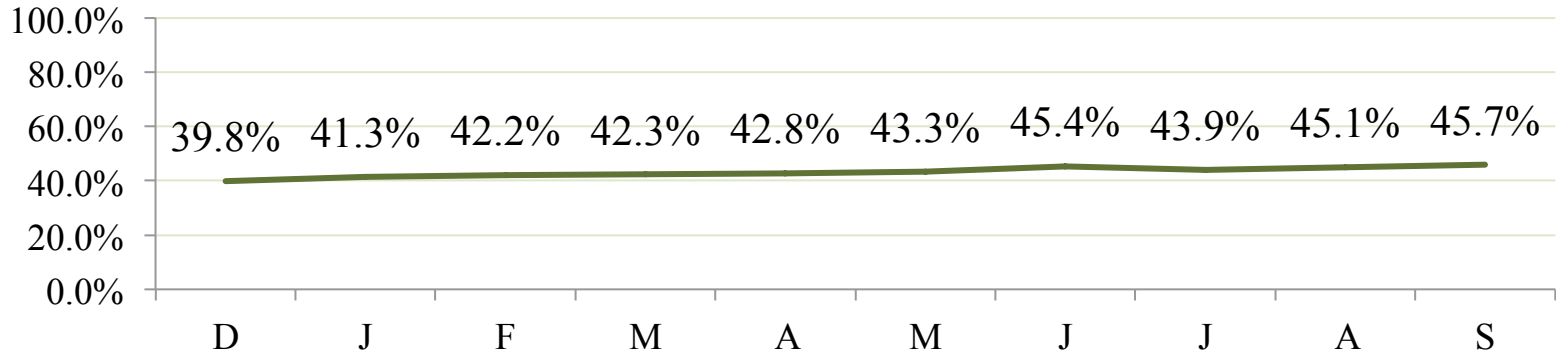
- Once you go live
  - Continue to validate
  - Engage staff in identifying problematic data
  - Create open lines of communication when problems arise

# Goals

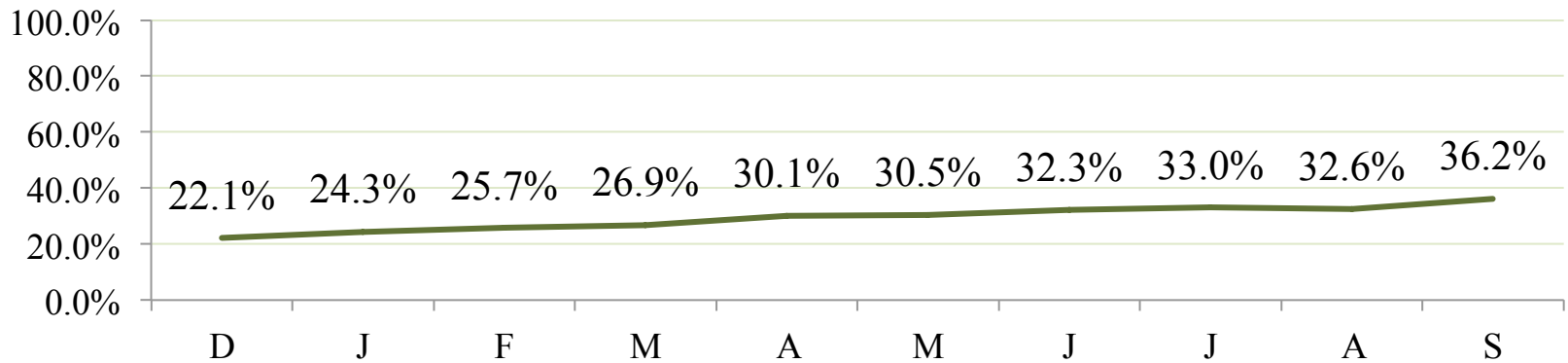
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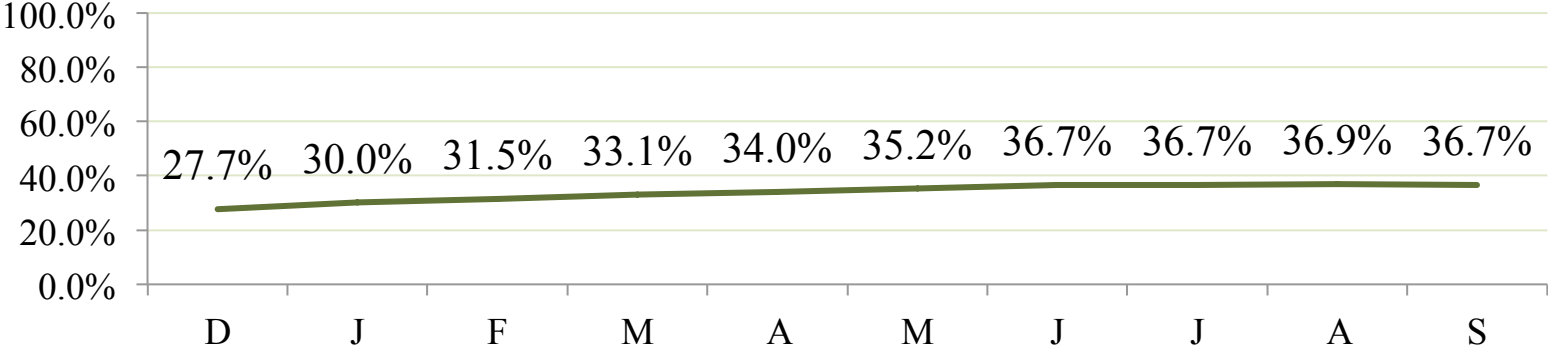
### Adult Weight: Trailing Year



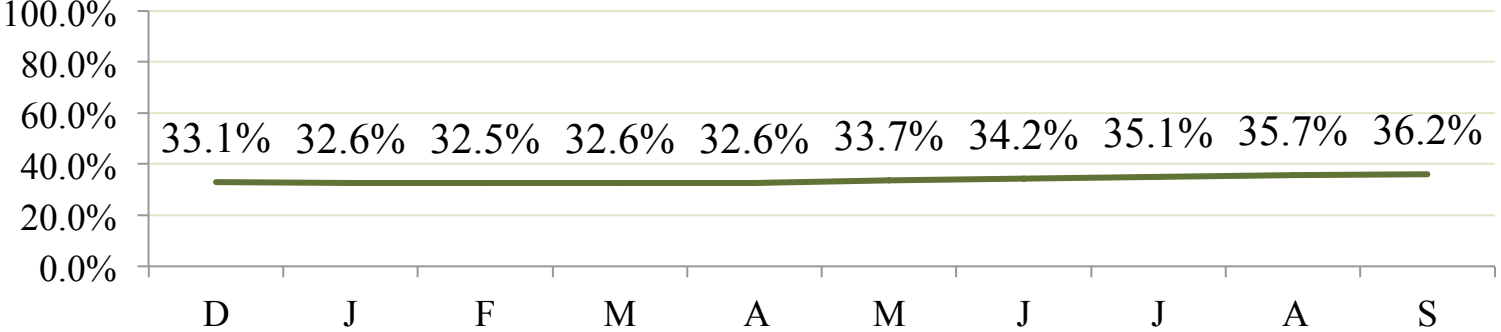
### Child / Adolescent Weight: Trailing Year




































### Colorectal Cancer Screening: Trailing Year



### Cervical Cancer Screening: Trailing Year



		Measure	Target	Result	Numerator	Denominator
		Adult Weight Screening and Follow-Up (UDS)	 0 %	36 %	227	632
		Asthma Pharmacological Treatment (UDS)	 0 %	100 %	10	10
		CAD Lipid Therapy (UDS)	 0 %	90 %	9	10
		Childhood Immunizations (UDS)	 0 %	57 %	4	7
		Weight Assessment and Counseling for Children and Adolescents (UDS)	 0 %	32 %	9	28
		Colorectal Cancer Screening (UDS)	 0 %	47 %	149	319
		IVD Use of Aspirin (UDS)	 0 %	87 %	39	45
		Pap Tests (UDS)	 0 %	50 %	101	204
		New HIV Cases With Timely Follow Up (UDS)	 0 %	100 %	4	4
		Tobacco Use Assessment and Cessation (UDS)	 0 %	82 %	487	597
		Depression Screening and Follow-up (UDS)	 0 %	16 %	61	381

**Carroll LGSW, Kimberly**

1 scheduled appointment

[REDACTED]		English	PCP: Zurek CRNP, Elizabeth
[REDACTED]		Diabetes Hypertension CHF	Risk Factors:
[REDACTED]	Follow Up 30 - Supportive Housing		
<u>Alert Type</u>	<u>Message</u>	<u>Most Recent Date</u>	<u>Most Recent Result</u>
Depression Screening	Overdue		
A1c	Overdue	3/31/2015	5.9
Foot Exam	Overdue		

**Cornell CRNP, Tyler**

18 scheduled appointments

[REDACTED]		English	PCP: Unassigned Provider
[REDACTED]		COPD	Risk Factors: Tobacco User OBS
[REDACTED]	Follow Up - Medical		
<u>Alert Type</u>	<u>Message</u>	<u>Most Recent Date</u>	<u>Most Recent Result</u>
Depression Screening	Overdue		
Colorectal Cancer Screening	Overdue		
[REDACTED]		Spanish	PCP: Unassigned Provider
[REDACTED]			Risk Factors:
[REDACTED]	Follow Up - Medical		
<u>Alert Type</u>	<u>Message</u>	<u>Most Recent Date</u>	<u>Most Recent Result</u>
Pap	Overdue		
Depression Screening	Overdue		

A	B	C	D	E	F	G	I	J	K	L	M
Name	MRN	Language	Phone	Gender	Date of Birth	Usual Provider	Denomina	Numeratc	PAP Date	Most Recent Enc	Provider
x	x	English	x	F	1/1/1900	Hobongwana CRNP, Lindi	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/2/1900	Smith MD, Tobie-Lynn	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/3/1900	Unassigned Provider	Y	N		x	Pfeifer RN, Adam
x	x	English	x	F	1/4/1900	Resnick NP, Daniel	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/5/1900	Vrasich MD, Chuck	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/6/1900	Richert CRNP, Amber	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/7/1900	Richert CRNP, Amber	Y	N		x	Pfeifer RN, Adam
x	x	English	x	F	1/8/1900	Richert CRNP, Amber	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/9/1900	Richert CRNP, Amber	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/10/1900	Richert CRNP, Amber	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/11/1900	Richert CRNP, Amber	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/12/1900	Richert CRNP, Amber	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/13/1900	Richert CRNP, Amber	Y	N		x	Cornell CRNP, Tyler
x	x	English	x	F	1/14/1900	Richert CRNP, Amber	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/15/1900	Resnick NP, Daniel	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/16/1900	Richert CRNP, Amber	Y	N		x	Richert CRNP, Amber
x	x	English	x	F	1/17/1900	Kawasaki MD, Sarah	Y	N		x	Kawasaki MD, Sarah
x	x	English	x	F	1/18/1900	Garcia NP, Laura	Y	N		x	Garcia NP, Laura
x	x	English	x	F	1/19/1900	Richert CRNP, Amber	Y	N		x	Resnick NP, Daniel

# Real World Examples

- Primary Care Inc., Iowa
  - System: i2i Tracks
  - Director of PI: Chris Espersen

# Goals

1. Learn what population health is, and why it is important
2. Understand the differences between EHR systems and population health management (PHM) systems
3. Compare and contrast at least two different PHM systems that are tailored to FQHCs
4. Explore a tool to assess what, if any, PHM system is right for your health center
5. Review real-world examples of how a PHM system can drive quality improvement at your health center

Final thought ...



Smart investments in quality  
pay for themselves