User-Centered Reporting for Frontline MOVE! Providers:

Aiming for Pyramid Analytics and Ending up in Excel

Laura Damschroder, Caitlin Kelley, Jenny (Davis) Burns

January 24, 2017

The objectives of this cyberseminar are:

After this presentation, the audience will understand how to:

- Incorporate user values into data driven products
- Create deliverables that help anchor the development team in user perspectives
- Develop a process for creating monthly data reports

Poll #1: Your role as a data user

What is your role in research and/or quality improvement?

- Research investigator
- Methodologist
- Data manager, analyst, or programmer
- Project coordinator
- Other – please describe via the Q&A function

Poll #2: Your experience with VA data

How many years of experience do you have working with VA data?

- One year or less
- More than 1, less than 3 years
- At least 3, less than 7 years
- At least 7, less than 10 years
- 10 years or more

Poll #3: Familiarity with MOVE!

How familiar are you with the MOVE! weight management program?

- What's MOVE!?
- I am on a team who helps with MOVE!
- I have done simple analysis of MOVE! data
- I have deep experience with MOVE! and weight data

Agenda

- Background on LEAP and the reports
- Finding and incorporating user values and needs
- Using CDW and Excel to create reports
- Conclusions

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Partners

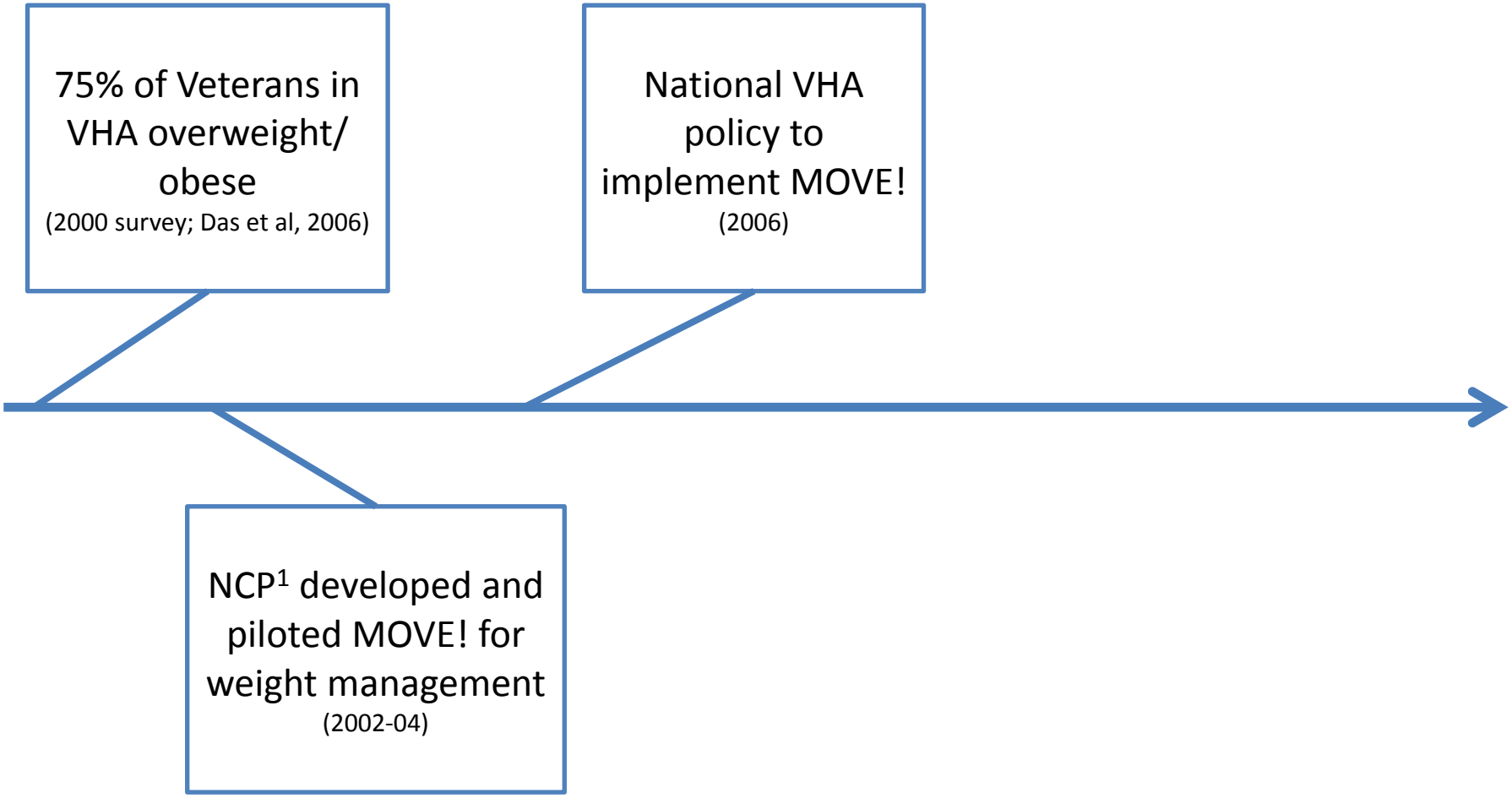
PeRsonalizing Options for Veteran Engagement
QUERI
www.queri.research.va.gov

Learn. Engage. Act. Process

VA National Center for Health Promotion and Disease Prevention (NCP).
www.prevention.va.gov/

VA MOVE! Weight Management Program
https://www.move.va.gov

Weight Management in the VA



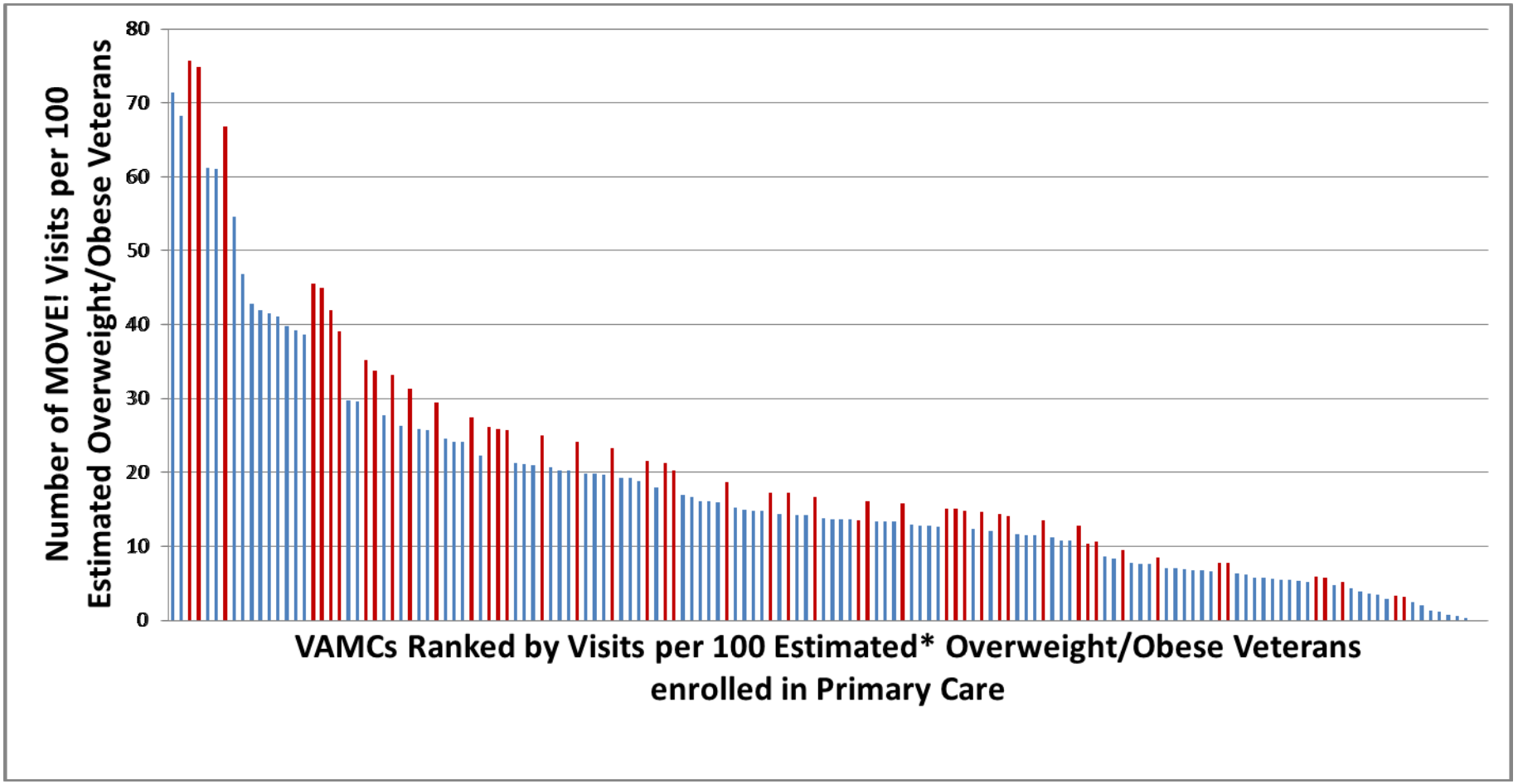
[1]*National Center for Health Promotion and Disease Prevention (NCP)*

- Among the best population-based weight management programs in the world
  - Obesity screening and brief counseling is nearly universal (90%+)
  - Modest and clinically meaningful weight loss
    - Among MOVE! participants with > 2 visits, 1 in 5 achieve *clinically meaningful* weight loss
    - Especially laudable in context of many Veterans who were on a weight *gain* trajectory before participating in MOVE!

Opportunities for Improvement

- Enroll more Veterans
- Engage more Veterans in more sessions

Opportunities for Improvement



Opportunities for Improvement

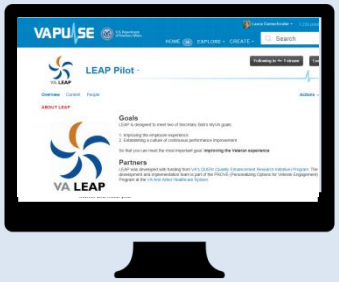
- Enroll more Veterans
- Engage more Veterans in more sessions
- Help more Veterans lose a meaningful amount of weight

Skills and capacity for program improvement
Measurement-based care

What is LEAP?

Key Components

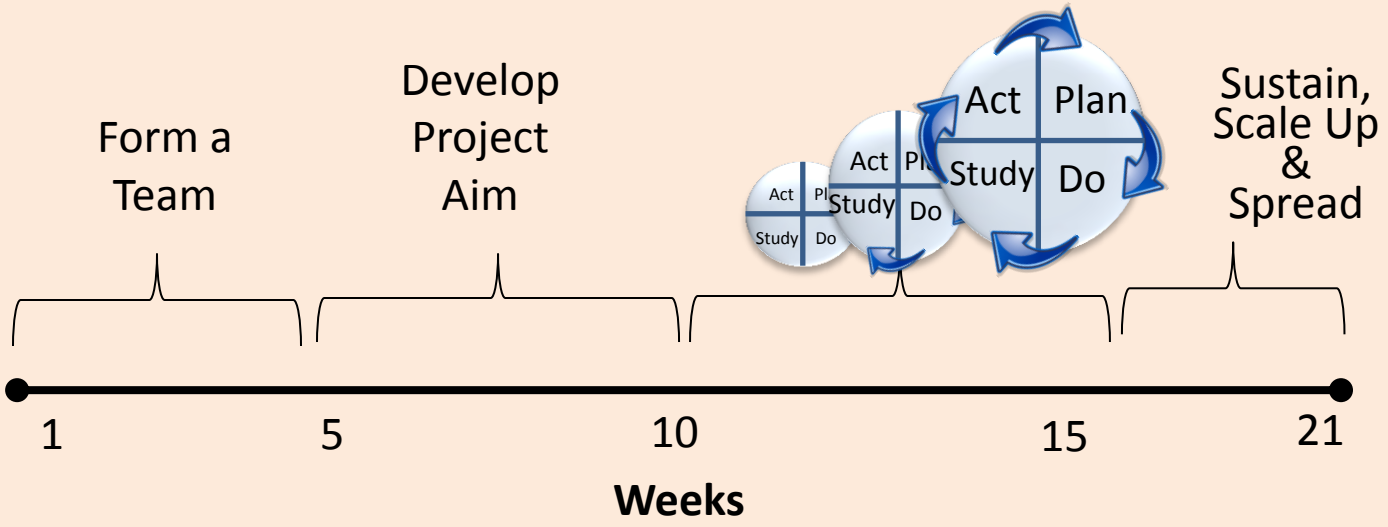
Coaching
(IHI Improvement Coach Professional Training)



Online environment

Virtual collaborative

Curriculum



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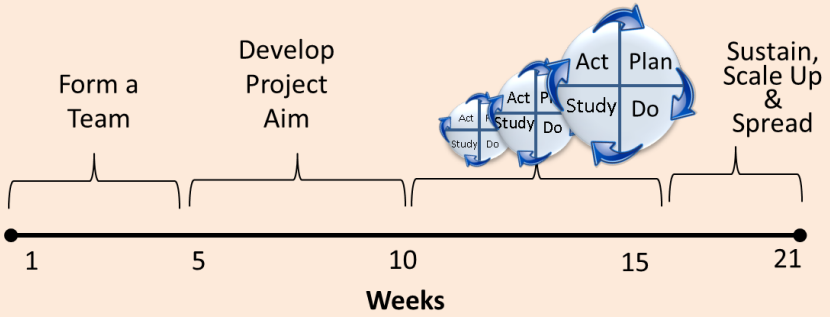

- High team functioning
- Team learning
- Success in achieving your goal
- Continue change beyond LEAP

Empowered to make change

- Improved work satisfaction

Improved Veteran experience and outcomes

Goals of Information Portal

Using CDW workload data, create reporting system for the continuous evaluation and improvement of the MOVE!

Use program (CDW) data

- To suggest improvements to current reporting system
- Understand program processes and outcomes
- Monitor program changes over time

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User-centered design

discover the
who and *why*

before the *how*

Understand what your users are experts in and focus on those topics.

Expertise our users have:

- How they work
- What they care about

Expertise our users DON'T have:

- Graphic design
- Data visualization
- Data science

…so we didn't ask them to design or create business rules for us

We started by asking a lot of questions

What are your main day-to-day tasks for keeping the program running?
Who helps you?
Can you briefly describe your group-based MOVE!?
Can you think about a time when you made a change to group MOVE!? Can you tell us the story?
What kinds of tools could help you/sites predict possible barriers to making that change?
What types of data do you/sites access about MOVE!?
How confident are you that the data is accurate?
How do you/sites use this data?
How do you/sites access data about MOVE!?
How difficult is it for you/sites to access and extract that data?
What would make it easier for you/sites to access?

Anita Jones, RD • MOVE! Coordinator • Administrative focus

"I have a clinical background, but now I see patients infrequently, and I spend most of my time trying to promote and coordinate the MOVE! program."

Behaviors

None — Planning and coordinating — A lot

Anita coordinates MOVE!, including scheduling sessions, reserving space, and finding facilitators for sessions.

None — Teaming — A lot

Anita engages in a lot of teaming; she works with her prevention colleagues to run MOVE!, but is not their supervisor.

None — Facilitating — A lot

Anita does not facilitate MOVE! sessions unless she needs to fill in for another facilitator.

None — Evaluating — A lot

Anita does her best to evaluate MOVE! success by reviewing data in VSSC/PA and compiling data. However, she has limited success in this realm due to the complexity of the data sources and elements.

None — Championing — A lot

Anita champions MOVE! by promoting it with staff.

LEAP Objectives

- Learn how to foresee and overcome barriers to implementation of new initiatives
- Learn how to communicate effectively to leadership using data to obtain more support
- Learn how to review aggregate clinical data: review weights as well as labs (blood sugar, blood pressure, and triglycerides) and medications in order to demonstrate the success of MOVE! to leadership
- Learn how to review aggregate visit data: review MOV5-7 and associated workload in order to justify MOVE! staffing to leadership

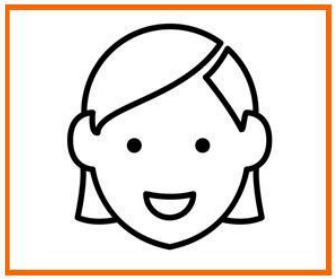
Challenges

- Resources: Obtaining and maintaining resources (i.e., staffing, space, technical support for technologically-mediated MOVE!)
- Data Extraction: Collecting aggregate data on patient outcomes and experience
- Supervision: Coordinating but not supervising MOVE! program facilitators

Background

Anita has 15 years experience at the VA. She is trained as a nurse and transferred to the MOVE! program 8 years ago. She spends most of her time coordinating staff and maintaining the program.

Meagan Lott, RD • MOVE! Coordinator • Clinical focus



"Sometimes I think National just dreams up these new ideas and completely forgets what it's like to be in the field. I'm already at capacity with my program and don't know how I'll add more."

Behaviors

None — Planning and Coordinating — A lot

Meagan is responsible for planning and coordinating MOVE!, but these tasks are lower priority than teaching.

None — Teaming — A lot

Meagan has little support from other NCP Prevention Roles, e.g., HPDP, HBC, because roles are not integrated or are vacant; she does not coordinator or supervise a team of staff.

None — Facilitating — A lot

Meagan facilitates most of the MOVE! sessions.

None — Evaluating — A lot

Meagan extracts individual patient data, e.g., weight loss, to discuss with patients; she tried to compile this data for all patients in a spreadsheet in order to review overall success, but the process was too time-consuming and not sustainable.

None — Championing — A lot

Meagan has limited ability to champion MOVE!.

LEAP Objectives

- Learn how to facilitate dynamic sessions that 1) motivate patients to complete the weekly sessions and 2) help patients lose weight
- Learn how to review clinical data: review weights as well as labs (blood sugar, blood pressure, and triglycerides) and medications in order to help patients understand the impact of exercise and diet on health

Challenges

- Clinical Scope of Practice: Uncomfortable teaching physical activity and limited administrative experience and skills
- Staffing: Limited capacity to complete tasks

Background

Meagan has 17 years experience at the VA. She started out her career as an outpatient nurse, but became the MOVE! coordinator when the program started 10 years ago. She is passionate about helping patients achieve a healthy weight and became a certified diabetes educator in order to better educate patients about the role of diet and exercise in managing this condition.

Selecting Data Elements

Topic	Data element	Data level
Weights	Weight	Class level data
	BMI	Class level data
	weight loss /weight/% change	Organized by number of encounters/sessions completed (1, 4, 8, 12+)
	Waist circumference/change waist circumference	Organized by number of encounters/sessions completed(1, 4, 8, 12+)
	BMI	Organized by number of encounters/sessions completed(1, 4, 8, 12+)
	change, loss, % change for weight loss and BMI	Site level data
Visits	Visits #/retention % (not as imp as clinical data-1001)- probably on site level? 1, 4, 8, 12+	Site level data
Enrollment	New pts each year (enrollment)- on site level. Number legible, number (new) scheduled, number attended their scheduled visit (first visit-orientation), number who attended first real session 1, 4, 8, 12+	Site level data
Lab	BP	Organized by number of encounters/sessions completed
	cholesterol	Organized by number of encounters/sessions completed
	A1C (and/or fasting glucose)	Organized by number of encounters/sessions completed
	Changes in meds	Organized by number of encounters/sessions completed
Other	Cohort type specialty groups (SMI, women only, PTSD, OEF/OIF)	Site level data

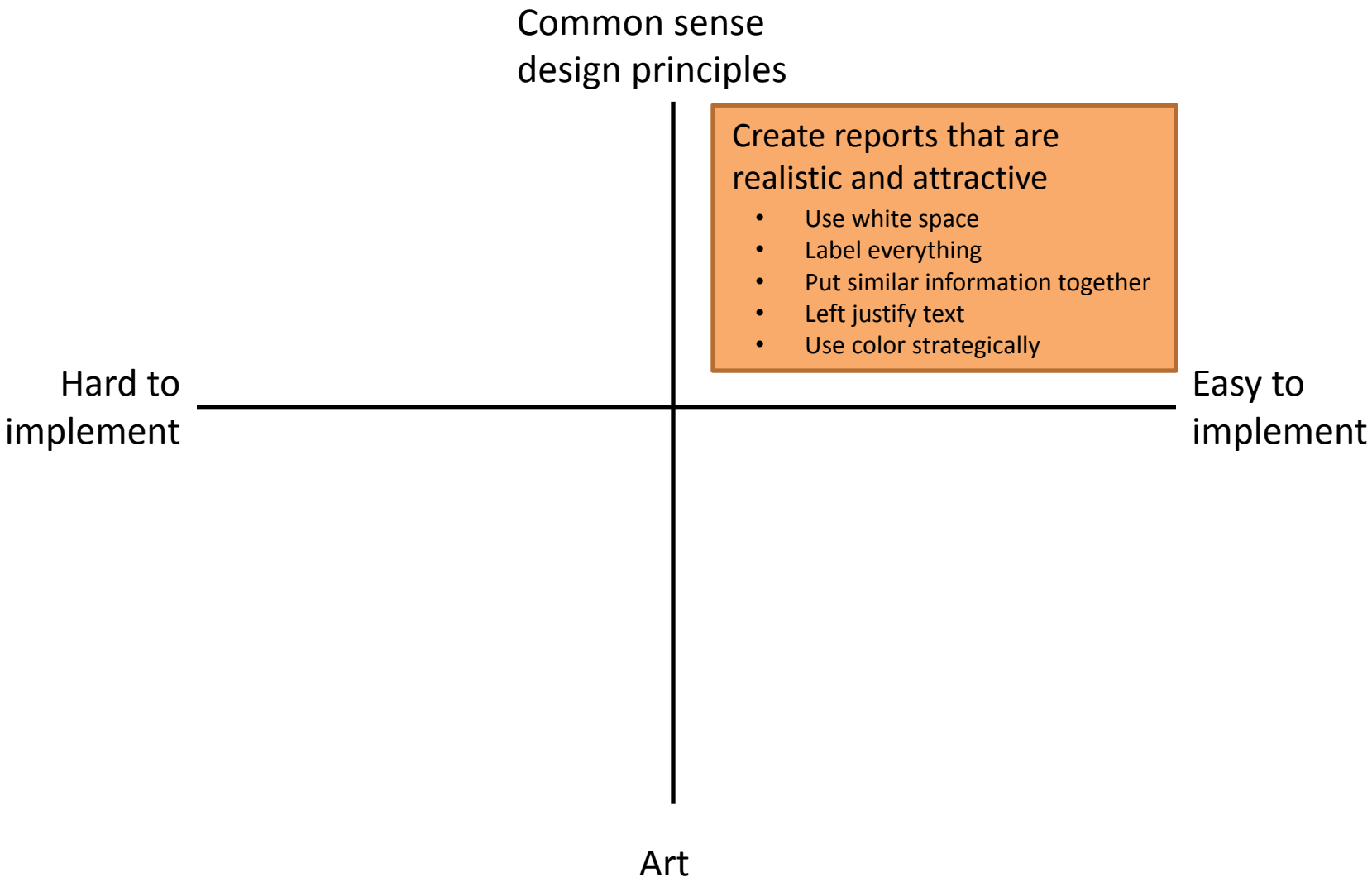
Needed REPORTS:

1. New patients and participation
2. Big picture weight change
    1. Missing weights
    2. Average weight change
    3. 5% weight loss
3. Short term weight change
    1. Six-in-six individual patient graphs
    2. Six-in-six weight change by cohort

Considerations in choosing a reporting platform

Potential Platform	Pros	Cons
Excel	• Easy to control data input through CDW • Process is self contained- we didn't need help	• Limited visualization capacity • Semi-automated, at best
Pyramid Analytics	• Advanced visualization capacity	• Can only build off existing cubes
Cube	• Advanced visualization capacity	• Requires extreme data security measures

The Design Approach



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THE REPORTS:

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Creating rules

- We were interested in only “Group MOVE!” patients, so new patients were defined using only Group MOVE! Visits.
- Patients were defined as a new MOVE! Patient if they had not had a group MOVE! Visit at that facility in the last 6 months. Monthly cohorts were used in all reports (patients ‘new’ in that month).
- When looking at several years of data, a patient could potentially be included in more than 1 cohort.
- Once the cohorts were created, then both Group and Individual MOVE! visits were included in the participation reports.
- The weights to be included depend on the report. For the longer term weight reports, we included ALL weights, whether at a MOVE! Visit or other visit. For the 6 in 6 weight reports, only weights recorded within 7 days of a MOVE! Visit were included.

Process for making the reports each month

1. Data are extracted each month for our participating sites from the CDW tables Outpatient Workload (MOVE! Visits) and Vital Signs (weight data).

2. A master data set is created with aggregate data by site and time frame (year/quarter/month depending on the report) and output into an excel file with data for all sites.

3. A report template for each site has been created and we cut/paste updated data from the master into the template each month. Minor tweaks are required to add new months or quarters to graphs, charts.

4. A little bit of automation. Patient level data is imported into SAS for creating the individual patient graphs—these are exported into a pdf file for each site. With more time, other graphs may be able to be automated but adding all the descriptive information currently included in the excel files may be a barrier to doing all of the reports in SAS.

THE REPORTS:

1. **New patients and participation**
2. Big picture weight change
    1. Missing weights
    2. Average weight change
    3. 5% weight loss
3. Short term weight change
    1. Six-in-six individual patient graphs
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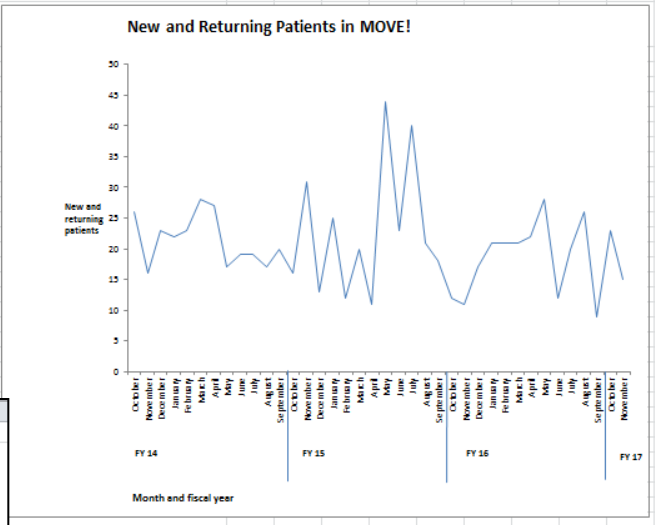
New and Returning Patients in your MOVE! program

Defnition: Counts unique patients in a group or individual MOVE! program who are brand new to your site regardless of any previous MOVE! participation or haven't participated in any MOVE! program in 6 months.

When looking at multiple years, some patients may be counted more than once if more than 6 months elapsed between visits or if they are new to your site.

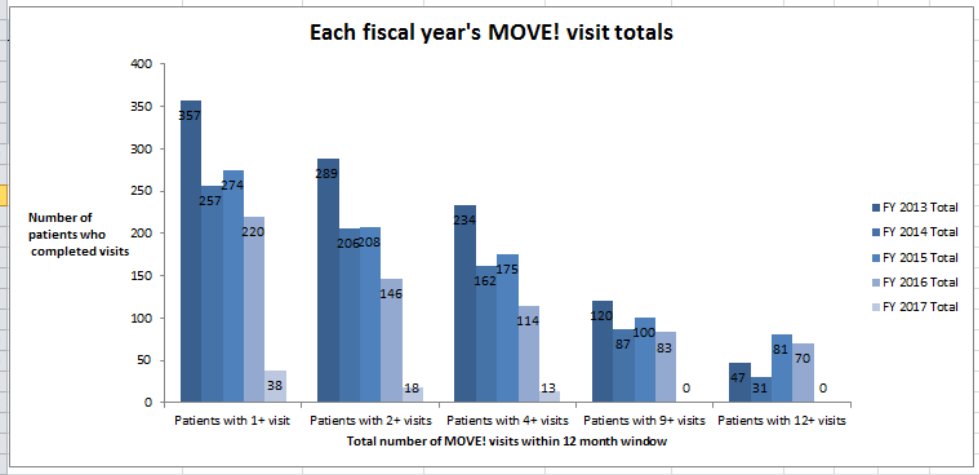
Fiscal Year and Month	New and Returning Patients
FY 2014	**257**
October	26
November	16
December	23
January	22
February	23
March	28
April	27
May	17
June	19
July	19
August	17
September	20
FY 2015	**274**
October	16
November	31
December	13
January	25
February	12
March	20
April	11
May	44
June	23



Participation in MOVE! Sessions

Patients with x+ visits: Counts of patients with x or more MOVE! visits in the 12 months since they became a new patient. For example, patients counted in the "patients w/2+ visits" have had 2 or more MOVE! visits in the 12 months since they became a new patient.

Percent with #+ visits: Patients with 2 or more visits as a percentage of new patients. For example, "percent with 2+ visits" reflects new patients with 2 or more visits as a percentage of "New Patients"



Amount of Participation	FY 2013 Total	FY 2014 Total	FY 2015 Total	FY 2016 Total	FY 2017 Total*
Patients with 1+ visits	357	257	274	220	38
Percentage with 1+ visits	100%	100%	100%	100%	100%
Patients with 2+ visits	289	206	208	146	18

THE REPORTS:

1. New patients and participation
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    1. **Missing weights**
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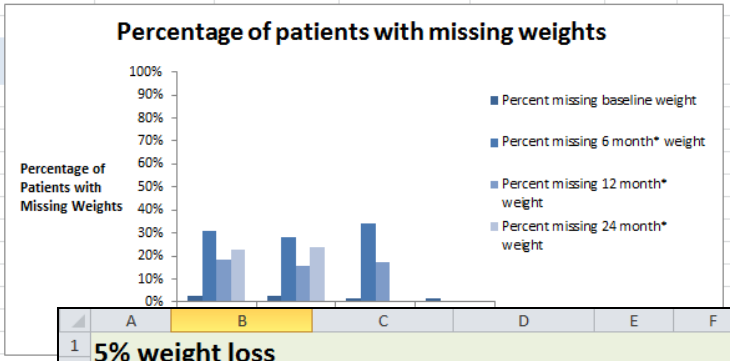
Patients with missing weights

Counts MOVE! participants who do not have a recorded weight in CPRS vitals package within the defined timeframe before or after a MOVE! participation milestone.

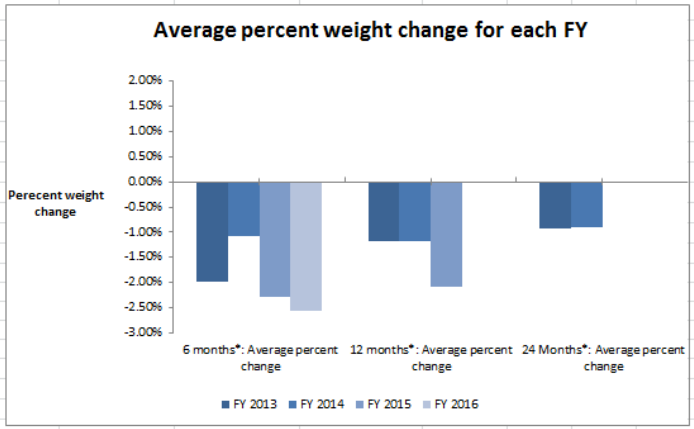
Percent missing weights = 100% x ((total number of patients with at least 1 visit - total number of patients with at least 1 weight in timeframe)/number of patients with at least one move visit)



Average weight change

An average of all individual patient percent weight change.

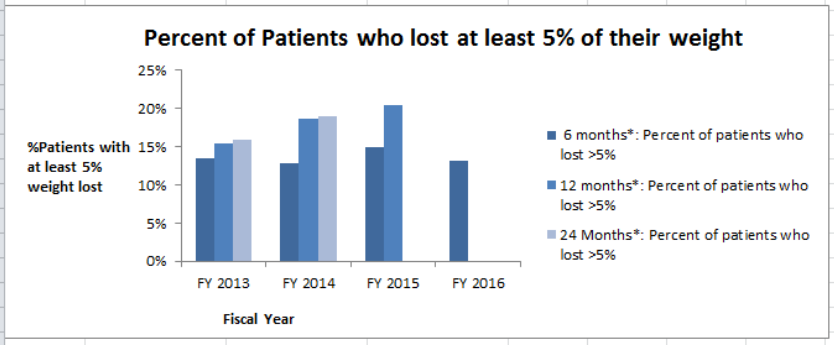
Individual patient percent weight change = ((Milestone weight - Baseline weight)/weight at baseline) x 100



Fiscal Year	6 months*: Average percent change	12 months*: Average percent change	24 Months*: Average percent change
FY 2013	**-1.99%**	**-1.19%**	**-0.93%**
Quarter 1	-0.96%	-0.19%	0.55%
Quarter 2	-3.13%	-0.56%	-0.75%
Quarter 3	-2.02%	-1.83%	-0.10%

5% weight loss

Percent of patients who have lost at least 5% body weight = (Number of patients who lost at least 5% body weight)/(Number of patients who attended at least 1 MOVE! visit) x100



Fiscal Year	6 months*: Percent of patients who lost >5%	12 months*: Percent of patients who lost >5%	24 Months*: Percent of patients who lost >5%
FY 2013	**13.45%**	**15.41%**	**15.97%**
Quarter 1	14.29%	15.71%	7.14%
Quarter 2	17.24%	9.48%	16.38%
Quarter 3	12.22%	17.78%	14.44%
Quarter 4	8.64%	20.99%	24.69%

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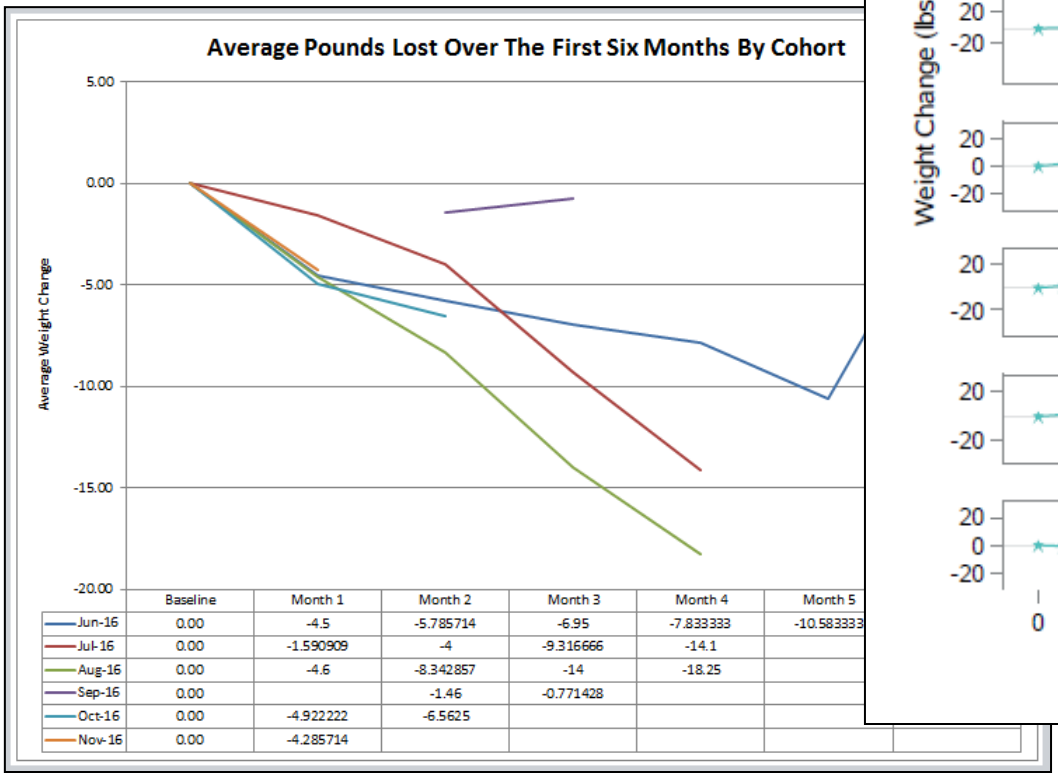
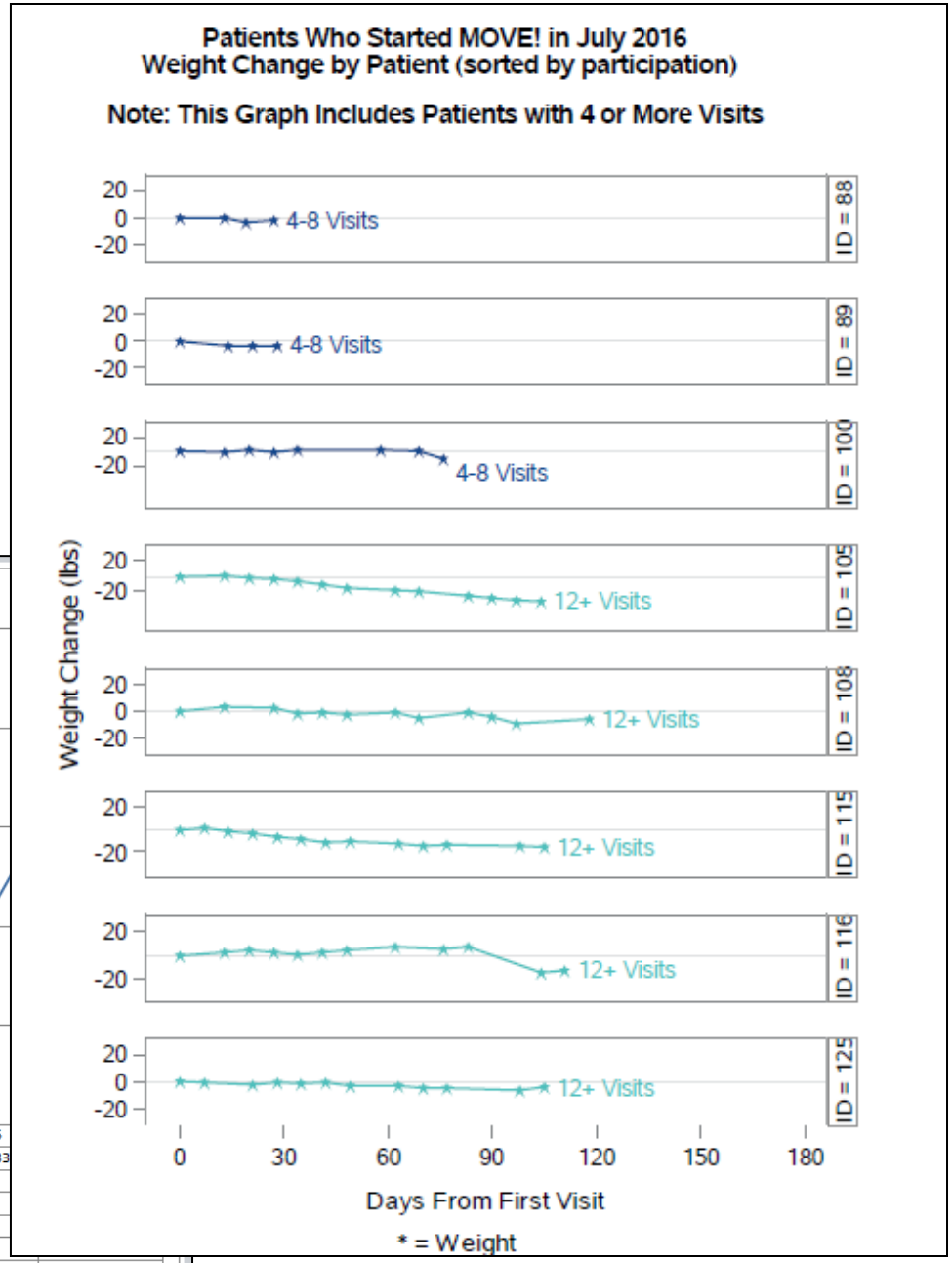


	Baseline	Month 1	Month 2	Month 3	Month 4	Month 5
Jun-16	0.00	-4.5	-5.785714	-6.95	-7.833333	-10.583333
Jul-16	0.00	-1.590909	-4	-9.316666	-14.1	
Aug-16	0.00	-4.6	-8.342857	-14	-18.25	
Sep-16	0.00		-1.46	-0.771428		
Oct-16	0.00	-4.922222	-6.5625			
Nov-16	0.00	-4.285714				



Calculation of New and Returning Patients

New and returning patients* =

1. Brand new to MOVE! program at your site,

OR

2. Re-engaging in MOVE! after at least a six months* break

Group MOVE! visits are the only encounters included in these counts.

*A six month absence signifies that a patient is no longer engaged in care

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Example #1

The brand new patient

New and returning patients =
1. Brand new to MOVE! program at your site, OR
2. Re-engaging in MOVE! after at least a six month break

Hello! I'm Bill!

I've never been to MOVE! before I went for the first time in September FY14.

Bill is considered a New Patient in September of FY14

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Example #2

Big gaps, but not "new"

New and returning patients =
1. Brand new to MOVE! program at your site, OR
2. Re-engaging in MOVE! after at least a six month break

Hi! I'm Carol!

I went to MOVE! 2 times in June FY14.

I decided to try MOVE! again in October FY15.

Carol is considered a new patient in June FY14

(but not FY15 because less than six months elapsed between sessions)

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Example #3

The re-engaged new patient

New and returning patients =
1. Brand new to MOVE! program at your site, OR
2. Re-engaging in MOVE! after at least a six months break

Hello! I'm Louis!

I tried MOVE! for 2 sessions in Oct FY14, then quit

I got started again in Jan FY15

Louis counts as a new patient in Oct FY14 AND Jan FY15

(because more than six months elapsed between his Oct FY14 and Jan FY15 sessions)

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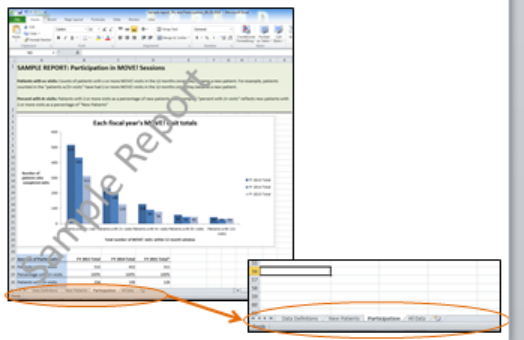
Introducing the Participation Report



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Calculation of Participation

Patients with x+ number of sessions:

Start date	Further participation for one year	Calculation
Date patient started MOVE! (for example, February 2015)	March 2015 June 2015 November 2015 January 2016	5 total sessions, would be counted in the 2+ and 4+ MOVE! sessions category

Percent with x+ sessions:

Percent with x+ number sessions = Patients with x+ number of sessions / All new patients

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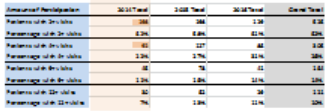
Example #1

Hey there, it's Bill again!

After I started MOVE in Sept FY 14, I attended sessions in October, November, and February FY 15.

Bill's 12 month total: 4 visits

Counted in the 2+ and 4+ categories in FY 14 (the year he started)



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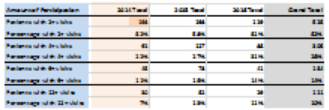
Example #2

It's Carol again!

After I went to MOVE! twice in June FY 14, I went again in Oct and FY15.

Carol's 12 month total: 3 visits

Counted in the 2+ categories



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Example #3

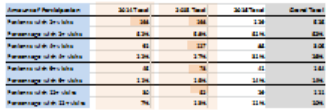
Hey there, it's Louis again!

I only attended 2 sessions back in October 2014.

I started MOVE again and I attended every week in Jan, Feb, and Mar FY 15.

Louis' 12 month total: 14 visits

Counted in the 2+ categories in FY 14 and 12+ category in FY 15



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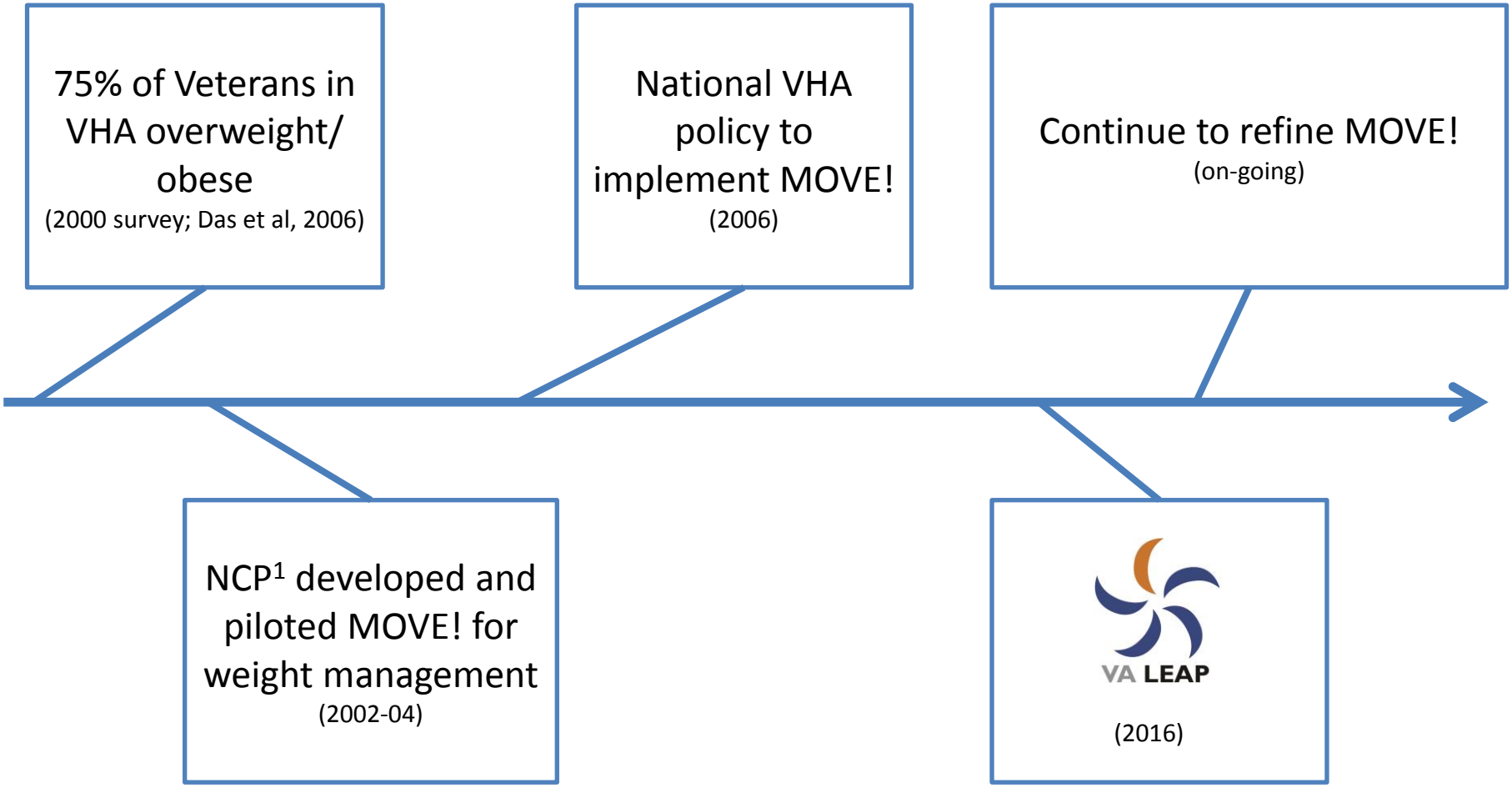
Conclusions/Lessons Learned

- 2 general types of users → implications for coaching
  - Focus on individual patients
  - Focus on program
- Power of human-centered design
  - Essential to understand their world
- Good design is iterative!
- Lack of technology "sand box" is limiting factor

Weight Management in the VA



[1]*National Center for Health Promotion and Disease Prevention (NCP)*

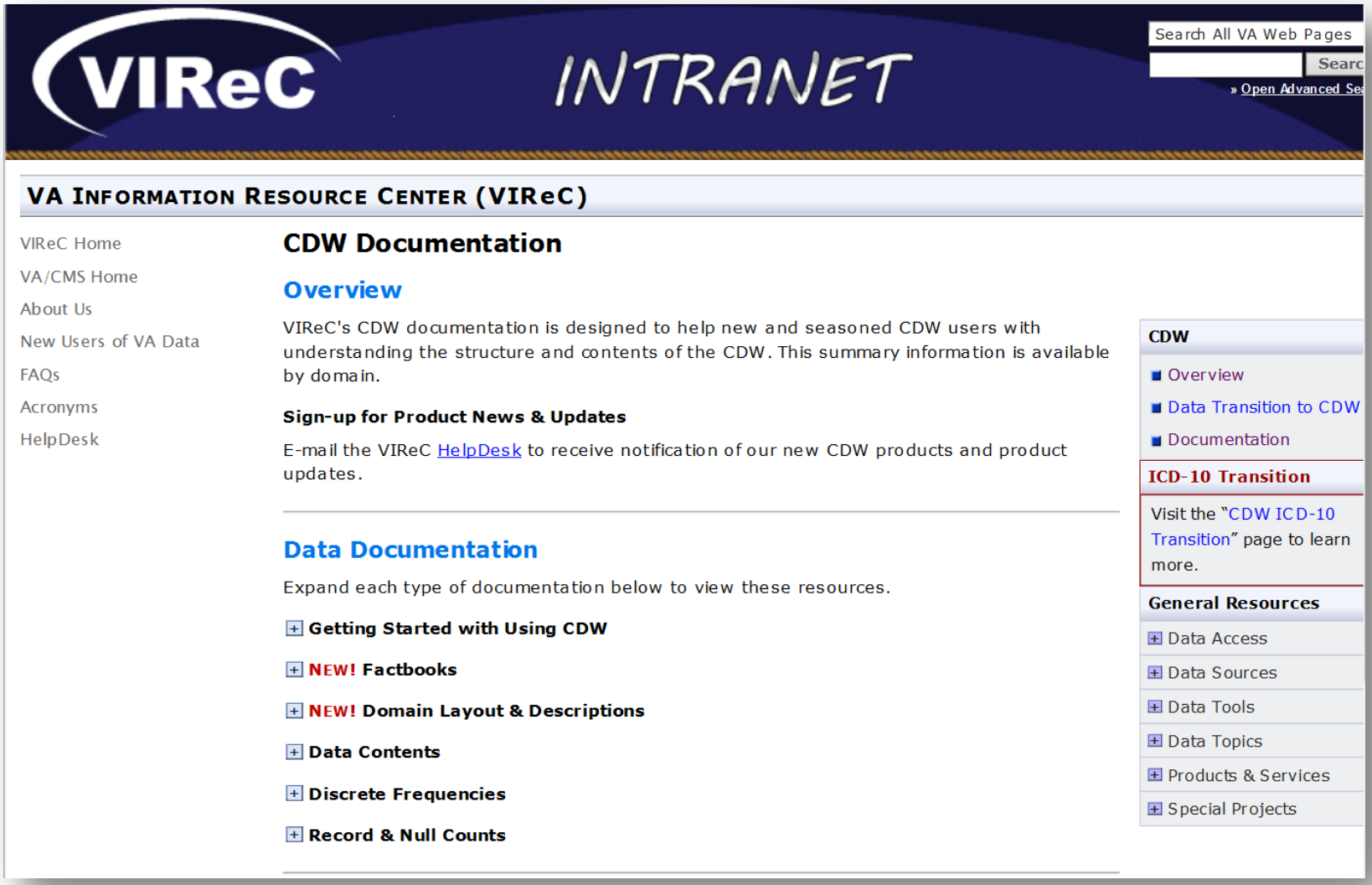
You might be wondering…

- How did we define “new patient”?
- How did we define weights?
- How were the reports received?
- What’s next?

Or other questions for us?

- Laura Damschroder (Laura.Damschroder@va.gov): PI, study design
- Caitlin Kelley (Caitlin.Kelley@va.gov): User experience research and design
- Jenny (Davis) Burns (Jennifer.Davis@va.gov): Data guru

VIReC resources for CDW data



http://vaww.virec.research.va.gov/CDW/Documentation.htm

(VA Intranet)

Seminars on Demand

Archived VIReC cyberseminars

CDW Fundamentals

CDW: A Conceptual Overview

CDW: Locating Its Documentation

Building Your Dataset in CDW: Joining Tables within a Domain

Getting the Information You Need From CDW: SQL Starter Language

Getting CDW Back Together: Joining CDW Tables (Continued)

Data Management in SQL: Selected Intermediate SQL Skills

Quick links for VA data resources

Quick Guide: Resources for Using VA Data
http://vaww.virec.research.va.gov/Toolkit/QG-Resources-for-Using-VA-Data.pdf (VA Intranet)

VIReC: http://vaww.virec.research.va.gov/Index.htm (VA Intranet)

VIReC Cyberseminars: http://www.virec.research.va.gov/Resources/Cyberseminars.asp

VHA Data Portal: http://vaww.vhadataportal.med.va.gov/Home.aspx (VA Intranet)

VINCI: http://vaww.vinci.med.va.gov/vincicentral/ (VA Intranet)

Health Economics Resource Center (HERC):http://vaww.herc.research.va.gov (VA Intranet)

CDW: https://vaww.cdw.va.gov/Pages/CDWHome.aspx (VA Intranet)

Archived cyberseminar: What can the HSR&D Resource Centers do for you?
http://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=101

Using Data and Information Systems in Partnered Research

Next Topic: Virtual Specialty Care QUERI Program

Date/Time: February 28, 2017 12:00pm-1:00pm ET

Presenter: Carolyn Turvey

Visit our Education page for more information & registration links.
www.virec.research.va.gov