



# Online Study Monitoring for Large Multi-Center Trials via a Data Dashboard

Ryan Bailey  
Rho, Inc.

# The Challenge of Managing Large NIH Networks

- Number of multicenter networks is growing
- Managing these networks is increasingly difficult
- Senior management is struggling to stay informed

We need to provide a “snapshot” view of the current status of the entire network

# Inner City Asthma Consortium (ICAC)

- NIH-funded, multi-center research program
- By the numbers
  - 8 active studies
  - 10 clinical centers
  - 3500 participants
- Rho serves as the Coordinating Center

# As a Coordinating Center...

we monitor, analyze, store, and provide

massive amounts of information

concerning every aspect of every study

# The Dilemma

Our tools are...

robust  
detailed critical  
comprehensive  
state-of-the-art thorough  
powerful  
vital

# The Dilemma

But...

**Study Leadership does not use them**

# Why?

Excessive information

Complex hierarchical design

+ Tedious navigation

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We ask too much of our end users

# The Solution: A Better Tool

# Dashboard

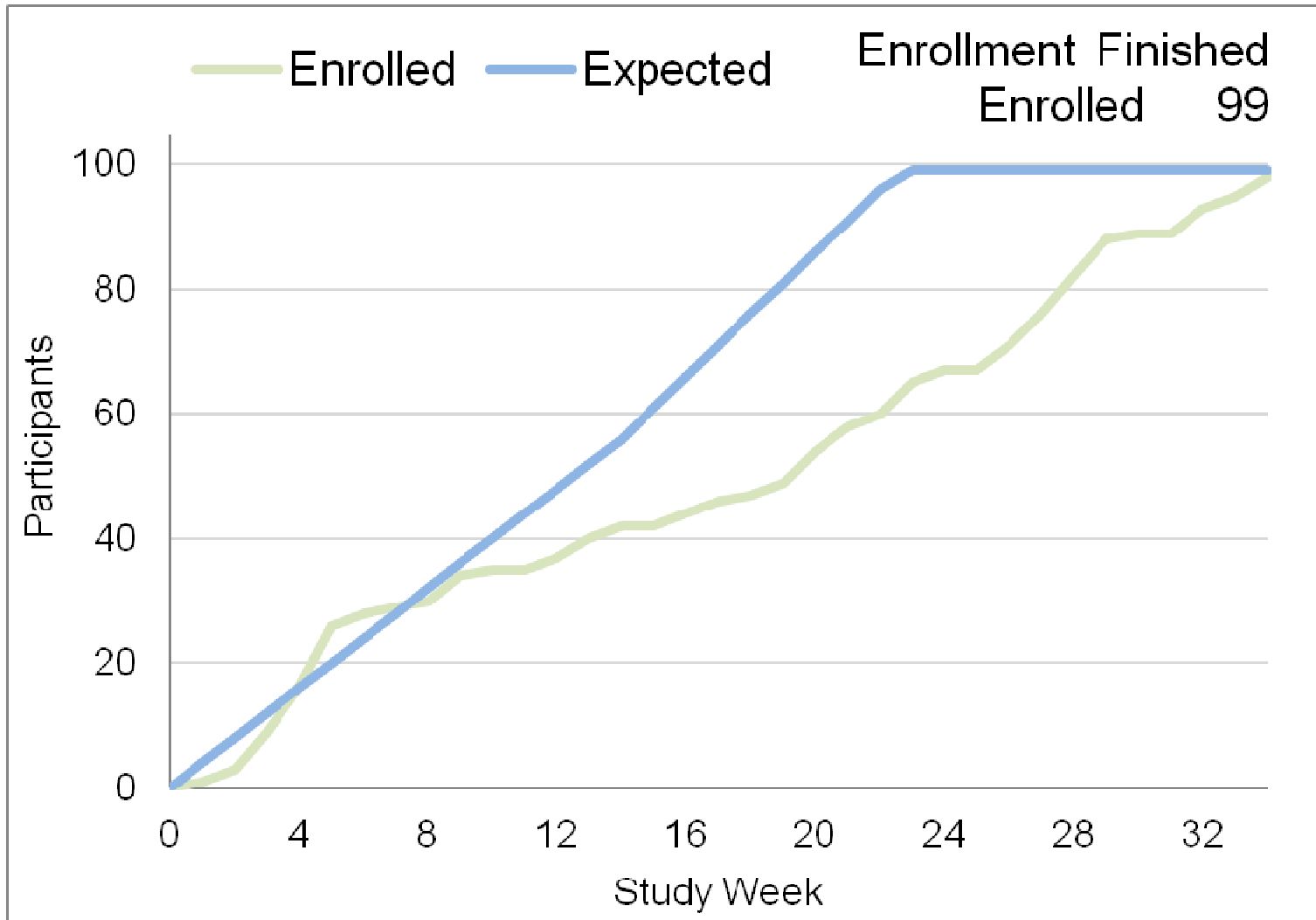


# The Solution: A Better Tool



# What Does That Mean for Us?

- Summarize critical study information
- Display information on a single page
- Emphasize graphics over text



HOME

Study A

Study B

Study C

Study D

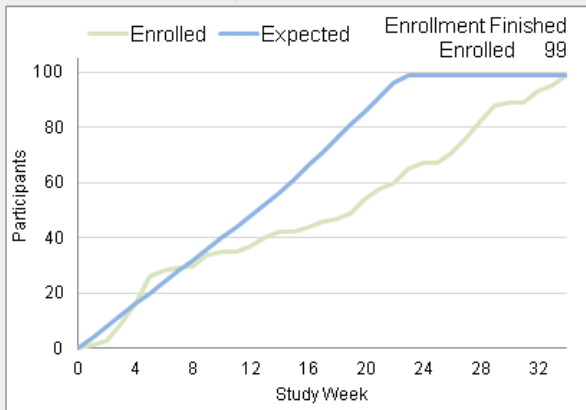
Study E

Study F

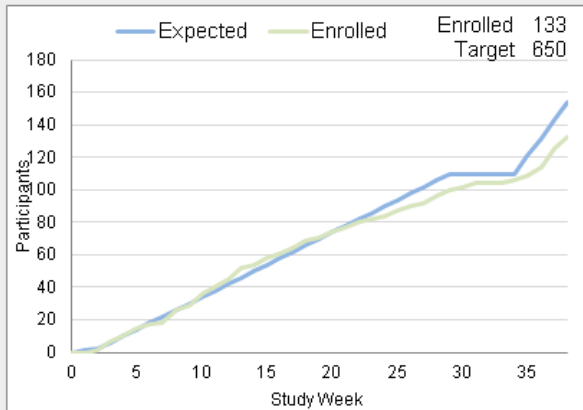
Study G

Study H

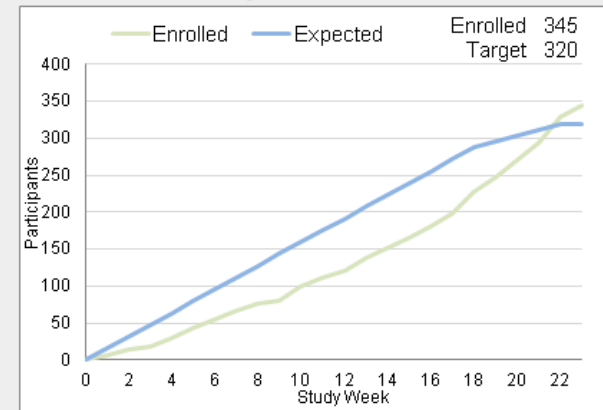
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### Study A Enrollment



### Study E Enrollment



	Closeout		Follow-up		Enrollment		
	StudyC	StudyG	StudyH	StudyB	StudyF	StudyA	StudyE
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Site9			178				
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Target	200	10	550	99		650	533

HOME

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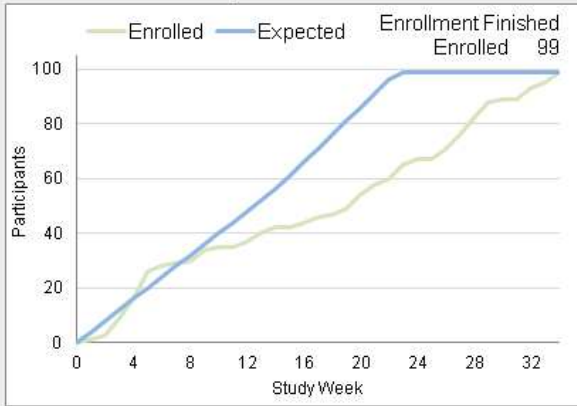
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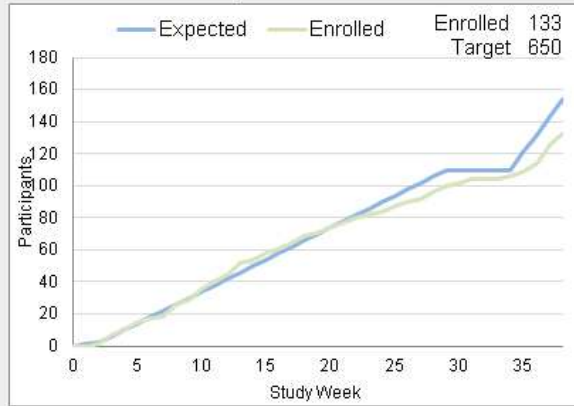
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Study H 2012 Site Visits have begun	9-May-12

### Meetings

SC Meeting - Washington (Location TBD)	Aug 13-14, 2012
DSMB Meeting	Oct 25-26, 2012

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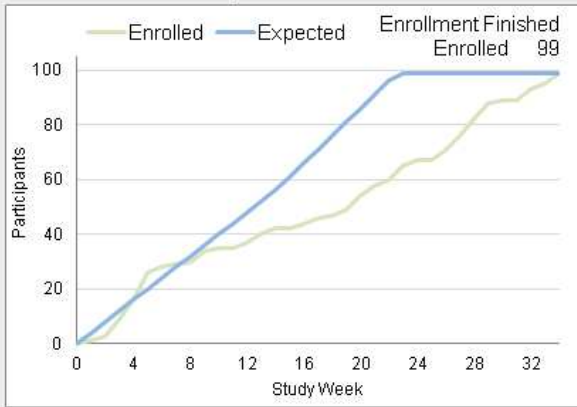
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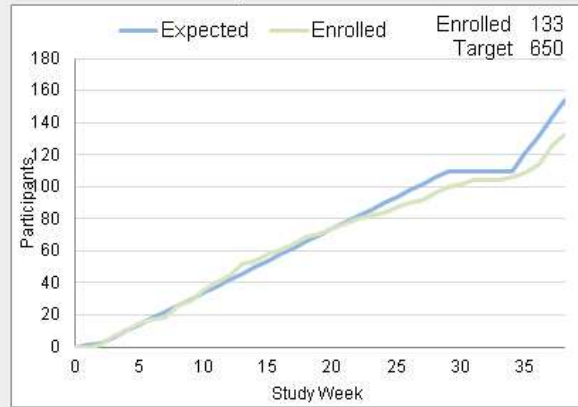
[Study G](#)

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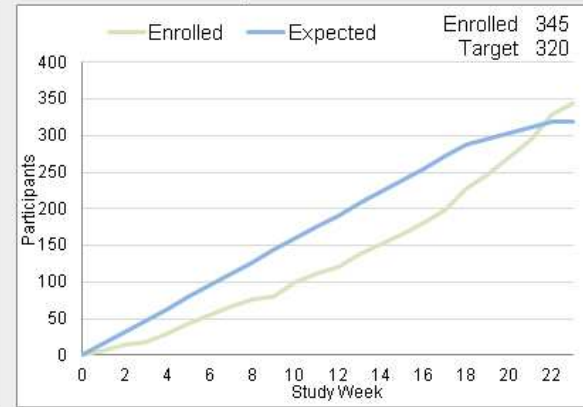
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3 Submitted

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### Priority Manuscripts

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Study C	Genetics - L. McLeod	MP to be submitted
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### Upcoming Conferences

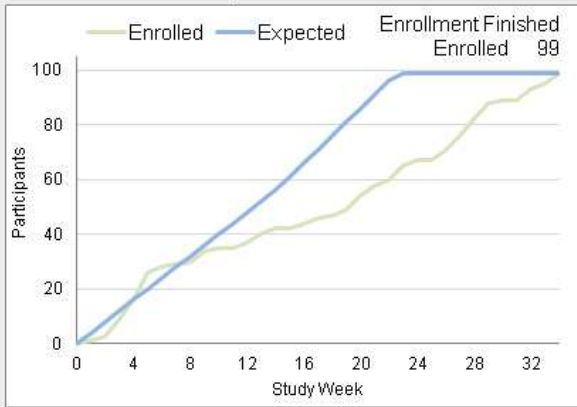
SCT

Miami - May 20-23, 2012

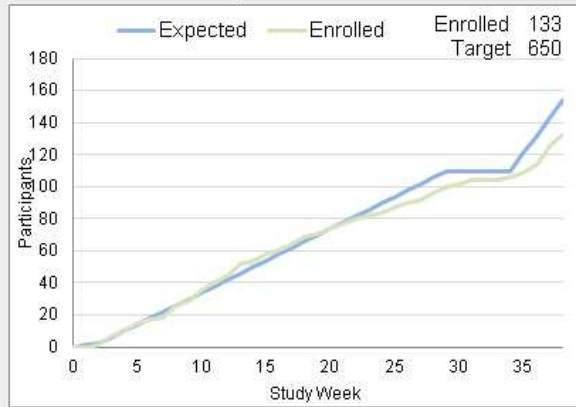
Posters/Presentations: 1

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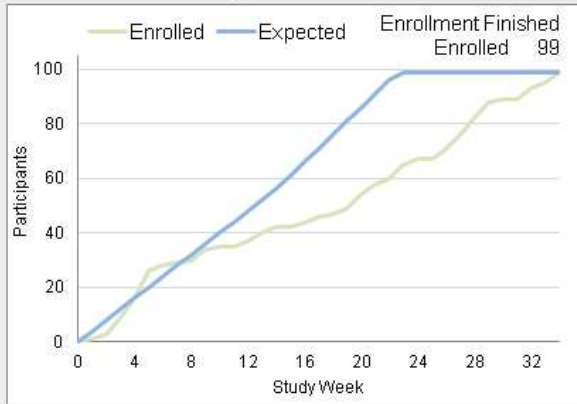
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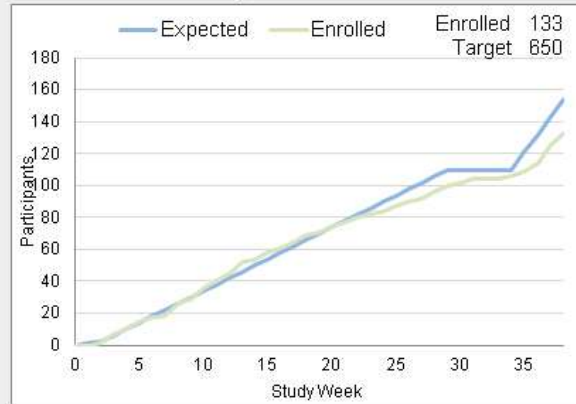
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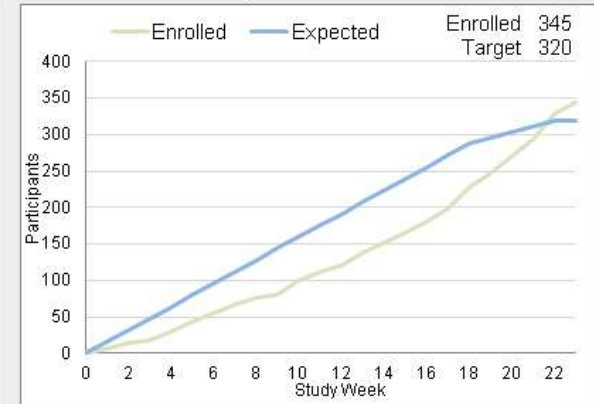
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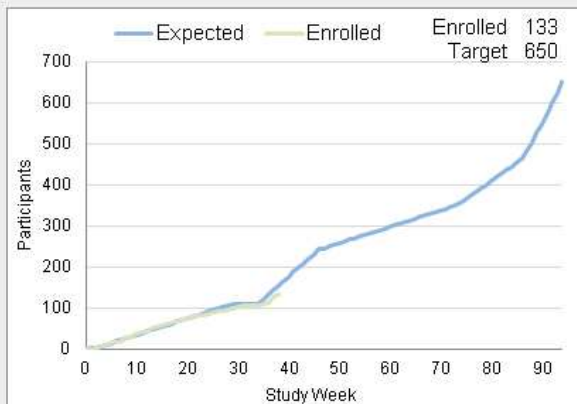
Study E

Study F

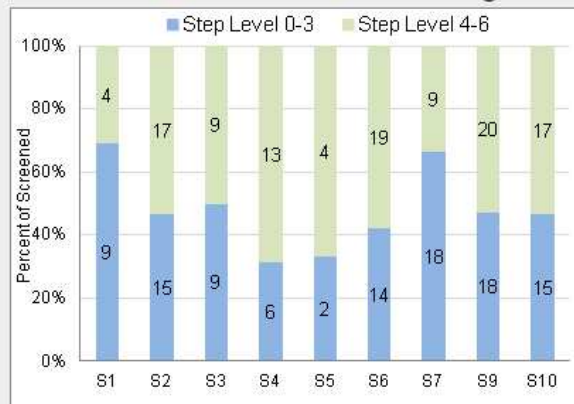
Study G

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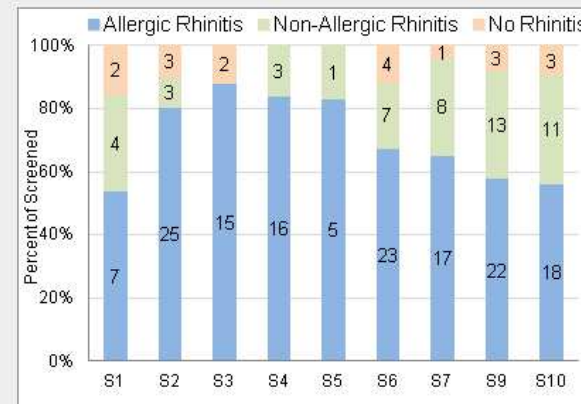
## Enrollment



## Treatment Levels at Screening

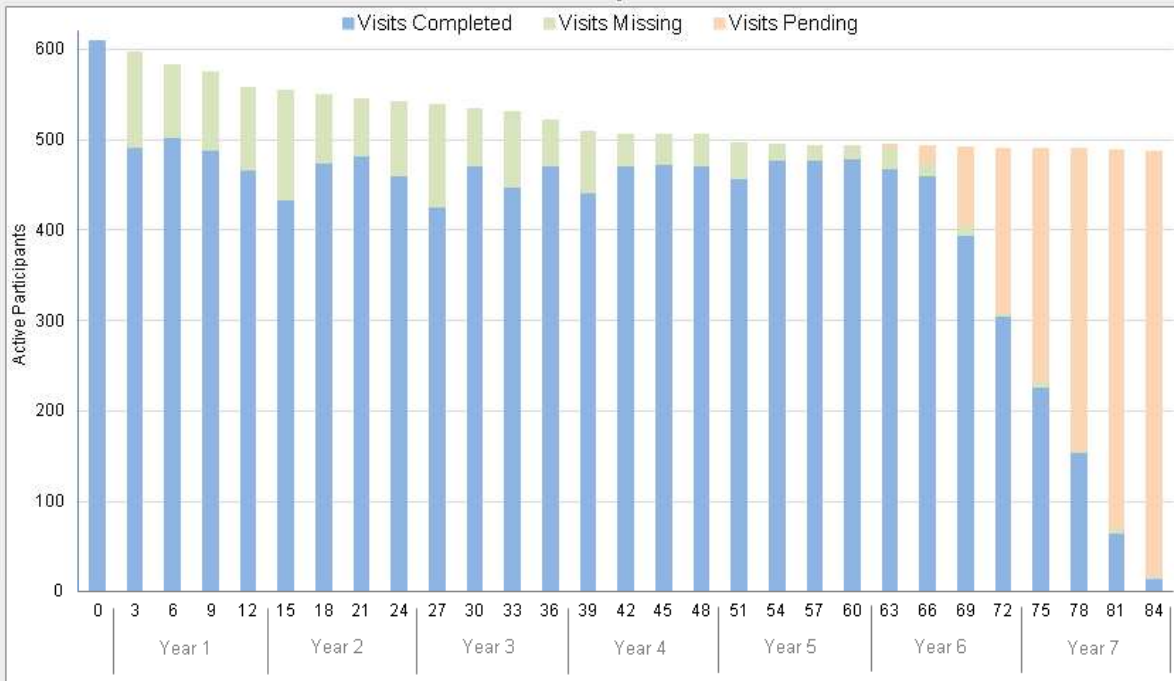


## Rhinitis Status



<a href="#">Full Status Report</a>	Site1	Site2	Site3	Site4	Site5	Site6	Site7	Site9	Site10	Total
Recruited (Call Complete)	30	37	28	21	41	43	45	74	49	<b>368</b>
Eligible (Agreed to Screening)	28	33	26	14	36	36	42	43	41	<b>299</b>
% Eligible of Recruited	93%	89%	93%	67%	88%	84%	93%	58%	84%	<b>81%</b>
Screening Visits Complete	14	33	18	6	34	28	39	36	21	<b>229</b>
Eligible at Screening	10	32	15	6	33	27	38	32	19	<b>212</b>
% Eligible at Screening	71%	97%	83%	100%	97%	96%	97%	89%	90%	<b>93%</b>
Enrollment Visits Complete	5	32	6	0	29	7	37	31	3	<b>150</b>
Failed Eligibility at Enrollment	0	1	0	0	4	1	7	3	0	<b>16</b>
Enrolled	5	31	6	0	25	6	30	28	2	<b>133</b>
Expected to Date	10	30	9	6	26	6	30	26	6	<b>154</b>

Visit Completion



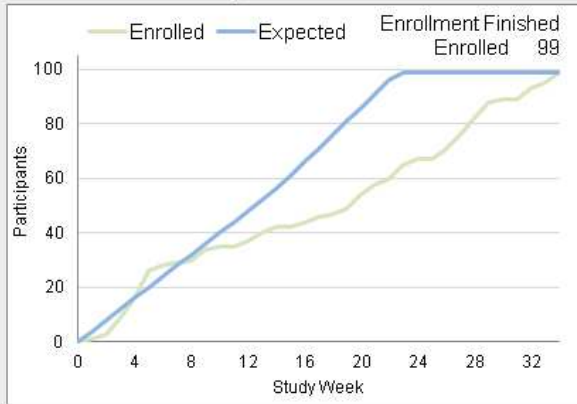
Recent Missed Events

	Site1	Site2	Site8	Site9	Total
63-Month Calls Occurred	141	108	93	126	<b>468</b>
Missed	3	4	1	15	<b>23</b>
Missed % of Active	2.1%	3.6%	1.1%	10.6%	<b>4.7%</b>
66-Month Calls Occurred	140	101	93	126	<b>460</b>
Missed	3	8	1	2	<b>14</b>
Missed % of Active	2.1%	7.3%	1.1%	1.6%	<b>3.0%</b>
69-Month Calls Occurred	128	83	74	109	<b>394</b>
Missed	4	4	1	3	<b>12</b>
Missed % of Active	3.0%	4.6%	1.3%	2.7%	<b>3.0%</b>
72-Month Visits Occurred	97	64	63	81	<b>305</b>
Missed	1	1	0	1	<b>3</b>
Missed % of Active	1.0%	1.5%	0.0%	1.2%	<b>1.0%</b>
75-Month Calls Occurred	86	36	41	64	<b>227</b>
Missed	3	2	0	2	<b>7</b>
Missed % of Active	3.4%	5.3%	0.0%	3.0%	<b>3.0%</b>
78-Month Calls Occurred	59	25	25	45	<b>154</b>
Missed	2	0	0	1	<b>3</b>
Missed % of Active	3.3%	0.0%	0.0%	2.2%	<b>1.9%</b>
81-Month Visits Occurred	18	12	16	19	<b>65</b>
Missed	4	0	0	1	<b>5</b>
Missed % of Active	18.2%	0.0%	0.0%	5.0%	<b>7.1%</b>
84-Month Visits Occurred	4	1	8	3	<b>16</b>
Missed	2	0	0	0	<b>2</b>
Missed % of Active	33.3%	0.0%	0.0%	0.0%	<b>11.1%</b>
Overall Missed % Ages 5-7	2.9%	4.1%	0.6%	4.5%	<b>3.1%</b>

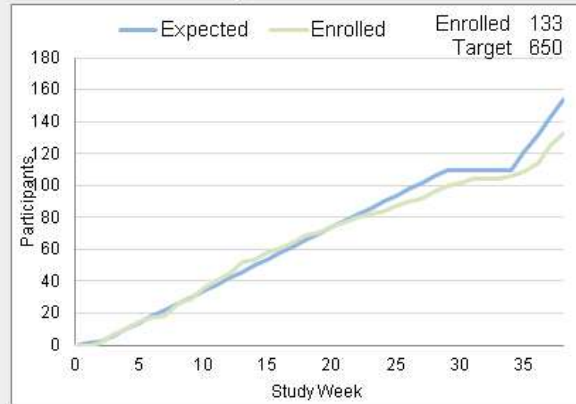
<a href="#">Full Status Report</a>	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Percent Retention	91%	89%	86%	83%	81%	80%	80%
Percent Visits Completed	84%	84%	86%	92%	95%	83%	24%

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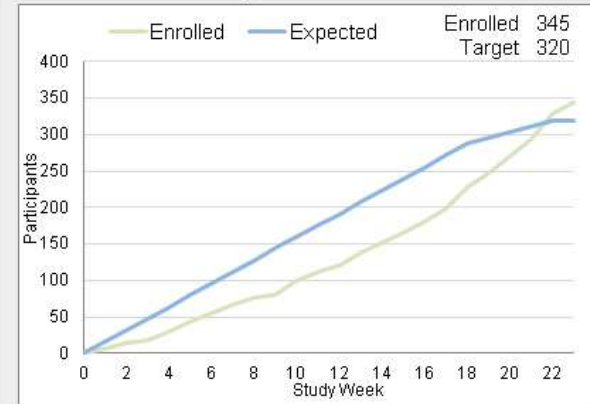
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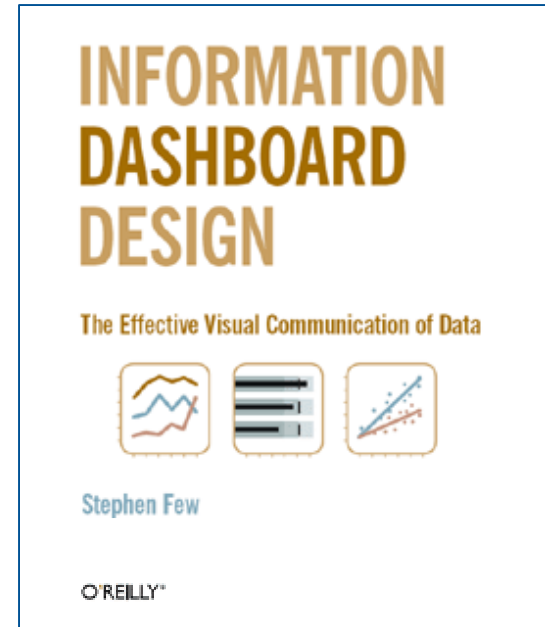
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# How to Create Your Own

- Do Your Research
  - Dashboards
  - Information visualization
  - Web design
  - Color theory
- Determine whether to build or buy
- Follow good web-design principles
  - Design with end user in mind
  - Finish designing before programming



# Acknowledgments

- Laurie McLeod
- Jeremy Wildfire
- Katy Jaffee
- William Taylor
- Tee Bahnson
- Rich Budrevich
- Cynthia Visness, PhD
- Herman Mitchell, PhD
- Samuel Arbes, PhD



Questions

Comments

Discussion