

PharmaSmart Smart Card User BP Outcome Analysis

Project Completed: October 2013

Research Advisor:

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 PharmaSmart®

Study Details

Objective: To determine the change in blood pressure values, and total blood pressure control rate for a group of individuals who consistently measure and track their blood pressure on PharmaSmart kiosks placed in retail pharmacies.

Data Source: PS DataSmart™ Biometric Repository

Resources

Dr. Ross Tsuyuki: Research Advisor

Lisa Goodwin: PharmaSmart Executive VP of IT

Brett Thompson: PharmaSmart Data Solutions Architect

Qualifying Criteria & Per Month “Enrollment”

Analysis Criteria

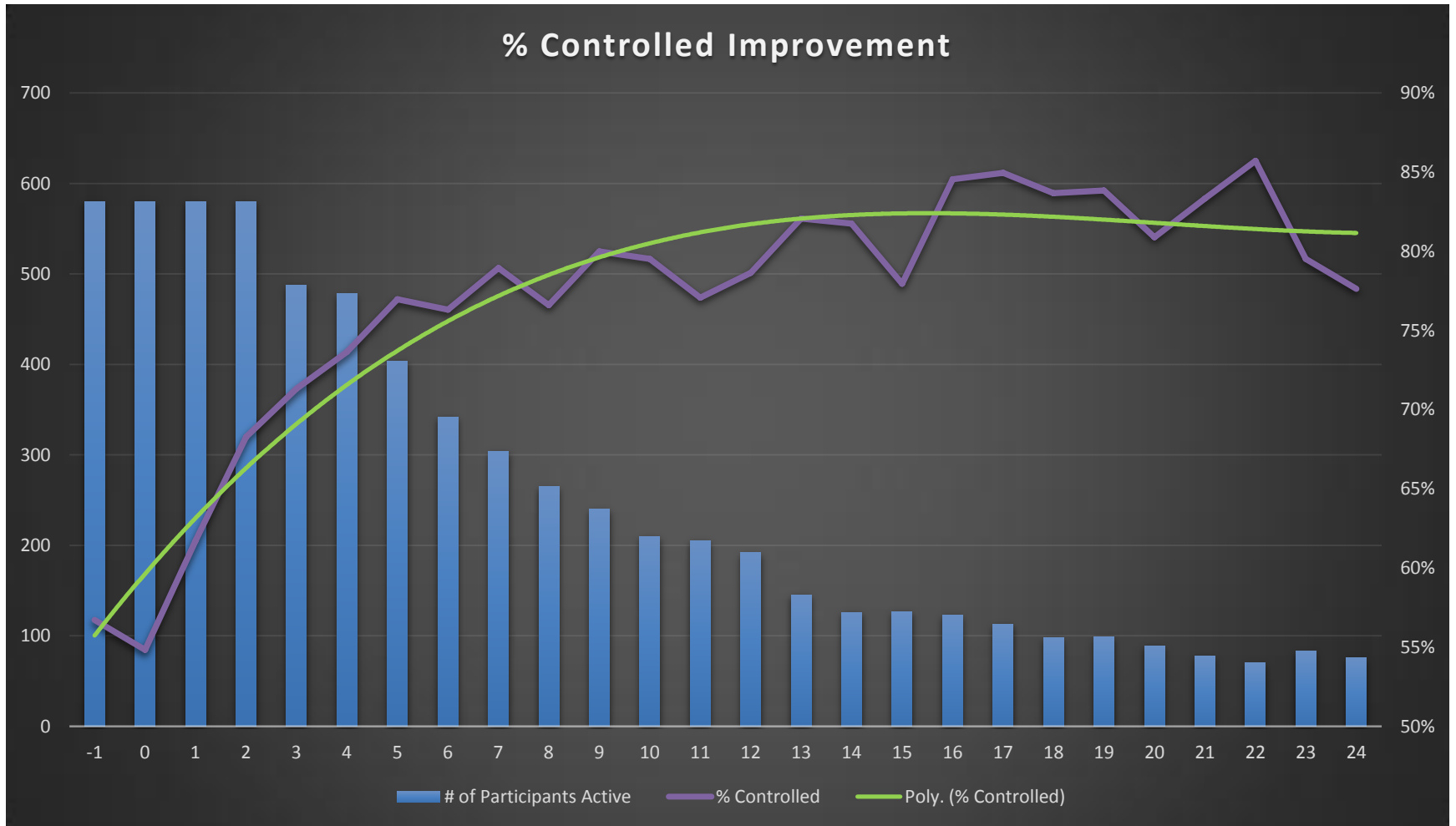
The following criteria was used for patient qualification into analysis. The goal was to find patients with an acceptable baseline blood pressure baseline (3 readings in first 24 hours), and regular kiosk usage for the first 90 days (at least 3 readings per calendar month). This would ensure sufficient data for a meaningful moving average analysis. Note that in this analysis, subjects are excluded from the evaluation as as soon as they fail to take 3 BP readings in a given calendar month.

A: Minimum number of readings that must be present on Smart Card:	10
B: Minimum days of data from start of card use to last reading recorded:	90
C: Number of readings used to establish baseline:	3
D: Maximum hours between baseline measurement's first reading and last reading:	24
E: Minimum BP readings required per month for month's data to be included in analysis:	3
F: Minimum consecutive, initial months that must have minimum BP readings per month for participant to be included in analysis:	3

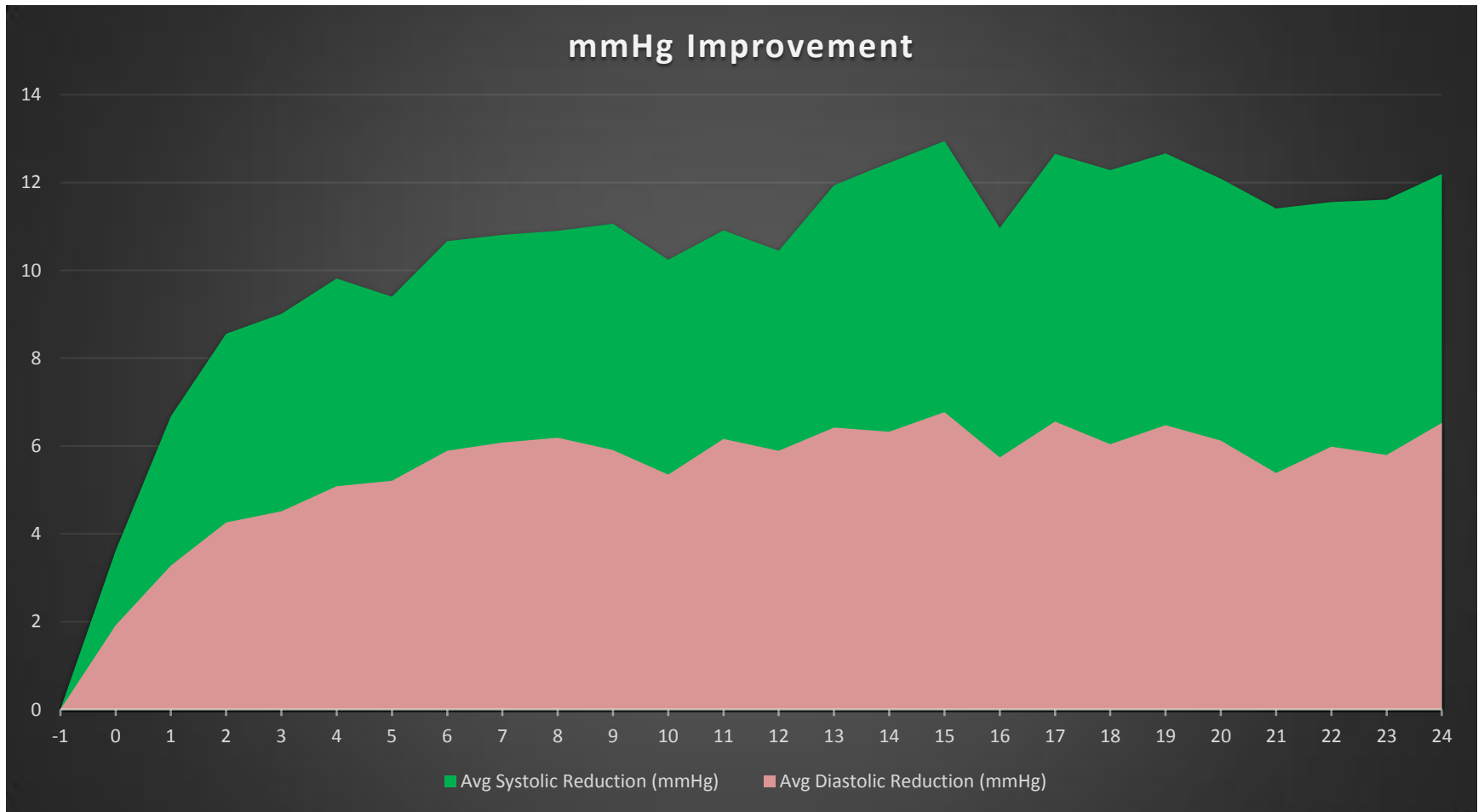
Summary of Results

1) End of Month:	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2) # of Participants:	580	580	580	580	488	478	404	342	304	265	240	210	205	192	145	126	127	123	113	98	99	89	78	70	83	76
3) Systolic Reduction in mmHg:	0.0	3.6	6.7	8.6	9.0	9.8	9.4	10.7	10.8	10.9	11.1	10.2	10.9	10.4	11.9	12.5	12.9	11.0	12.7	12.3	12.7	12.1	11.4	11.6	11.6	12.2
4) Diastolic Reduction in mmHg:	0.0	1.9	3.3	4.3	4.5	5.1	5.2	5.9	6.1	6.2	5.9	5.3	6.2	5.9	6.4	6.3	6.8	5.7	6.6	6.0	6.5	6.1	5.4	6.0	5.8	6.5
5) % Controlled:	57%	55%	62%	68%	71%	74%	77%	76%	79%	77%	80%	80%	77%	79%	82%	82%	78%	85%	85%	84%	84%	81%	83%	86%	80%	78%
6) % Control Delta:	0%	-2%	5%	12%	15%	17%	20%	20%	22%	20%	23%	23%	20%	22%	25%	25%	21%	28%	28%	27%	27%	24%	27%	29%	23%	21%

Results

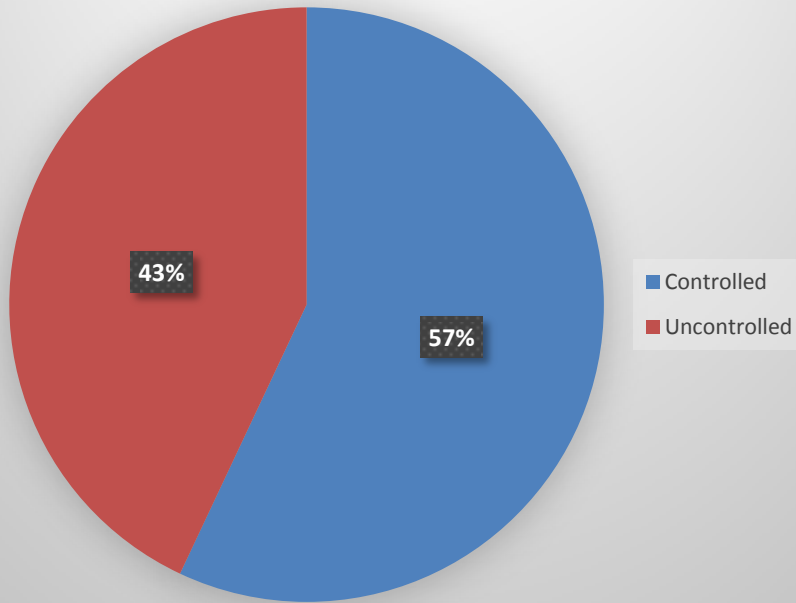


Results

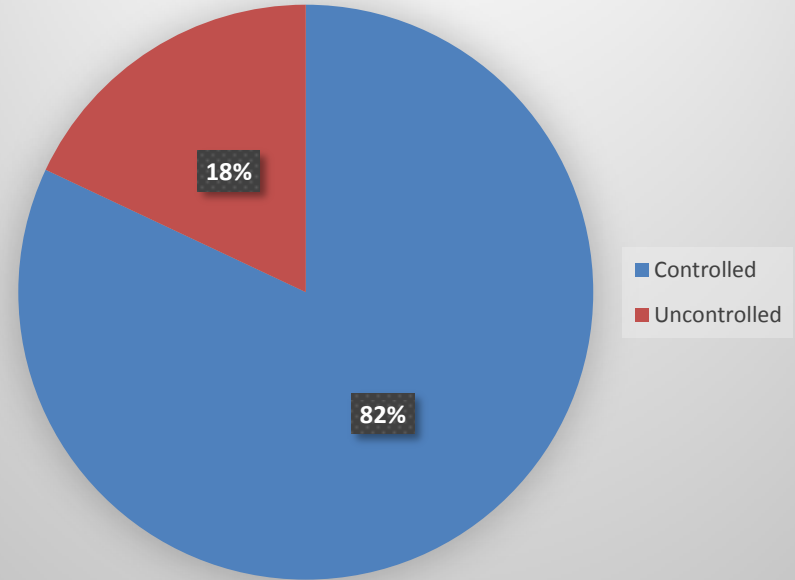


Results

Initially



13+ Months Later (Avg)



HEDIS BP Control Comparison Chart

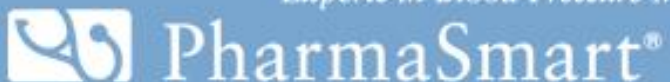
Report Type	# of Plans	Average	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	90+ Percentile
Commercial HMO	204	63%	50%	57%	63%	69%	75%	
Commercial PPO	153	57	49	53	58	62	65	
CBP- Medicare HMO	345	64	51	57	64	70	77	
CBP-Medicare PPO	143	59	44	56	60	66	71	
CBP-Medicaid HMO	148	57	42	50	58	64	69	
PharmaSmart Baseline				57%				
PharmaSmart 3 Months						68%		
PharmaSmart 9 Months								80%

HEDIS, 2013: Controlling High Blood Pressure Performance Data

Source: NCQA Website, Accessed 7/7/2014

<http://www.ncqa.org/Portals/0/HomePage/CBP.pdf>

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Analysis

- Blood Pressure for all 580 subjects was reduced an average of 8.6 mmHg Systolic and 4.3 mmHg Diastolic in the first 90 days.
- Blood pressure control over all 580 subjects improved from 57% to 68% in the first 90 days. This is equivalent to a HEDIS ranking increase from the 25th to 75th percentile.
- 80% Blood Pressure control achieved in first 9 months, with 50% of patients still included. (Included patients each measured 3 times/month consecutively for 9 months).

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