

Population Health

Communities for Well-being



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2016 – 2017 Annual Presentation

Agenda:

- WOW review
- WOW cohort
- Health Center utilization
- Health Center cohort
- Population engagement
- Value on investment
- 2017 enhancements

Cerner's mission: Contribute to the systemic improvement of health care delivery and the health of communities.





24,000+
ASSOCIATES

hospitals
5,741

OVER
450,000
PHYSICIAN USERS

physician practices **13,941**
3,000+ Home Health Care & Long-Term Care Facilities

103 clients named Health Care's Most Wired 2016

52 client hospitals named US News and World Report Most Connected

345+ PATENTS WORLDWIDE



over **25,000**
PROVIDER FACILITIES
in **35+** COUNTRIES

OVER **\$5.6B**
CUMULATIVE R&D INVESTMENT

\$4.8
BILLION ✓
2016 REVENUE

HIMSS **6** **596** ACUTE CLIENTS **50** HIMSS **7**
871 AMBULATORY CLIENTS **412**

What **Makes** Us Healthy



10%
ACCESS
TO CARE



20%
GENETICS



20%
ENVIRONMENT



50%
HEALTHY
BEHAVIORS

What We **Spend** On Being Healthy



4%
HEALTHY
BEHAVIORS



8%
OTHER



88%
MEDICAL
SERVICES

2017 Annual Wellness Review (7/6/16 – 6/30/17)

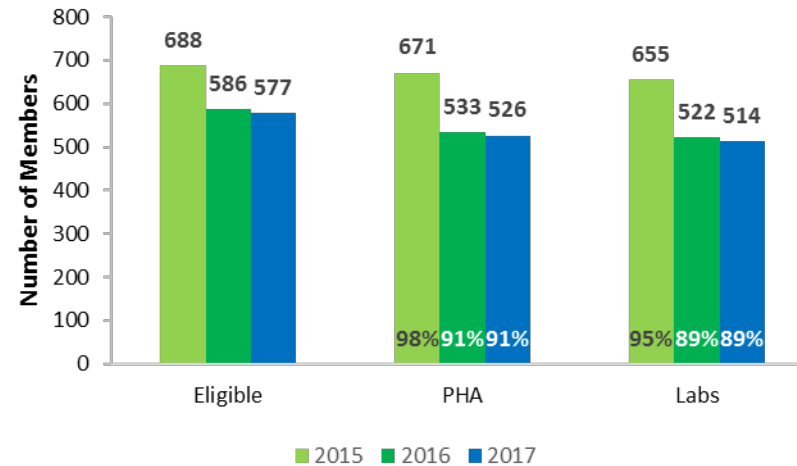
Program Participation

Key Insights

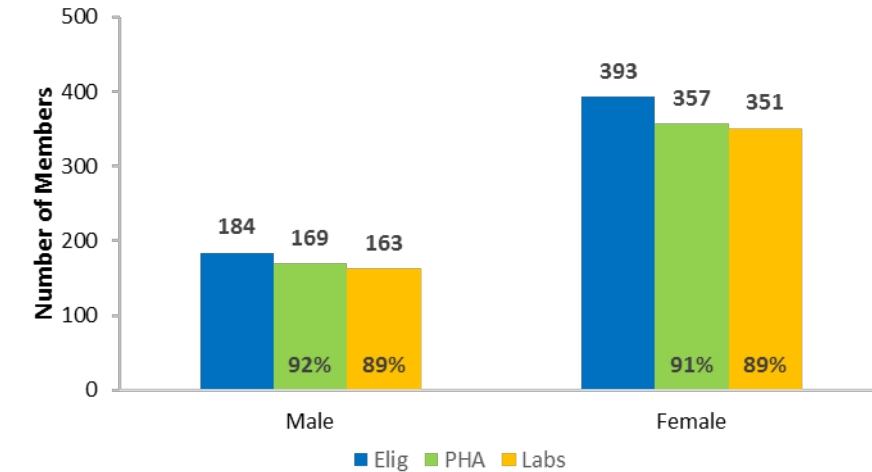
Source: Eligibility, PHA, and Wellness Screenings
(7/6/2016 – 6/30/2017 for PHA / Labs & Biometrics)

- Eligible members decreased by 1.5% (9 members)
- 91% (526 members) completed the PHA
- 89% (514 members) completed screenings
- 54% of the eligible population falls between the ages of 40-59

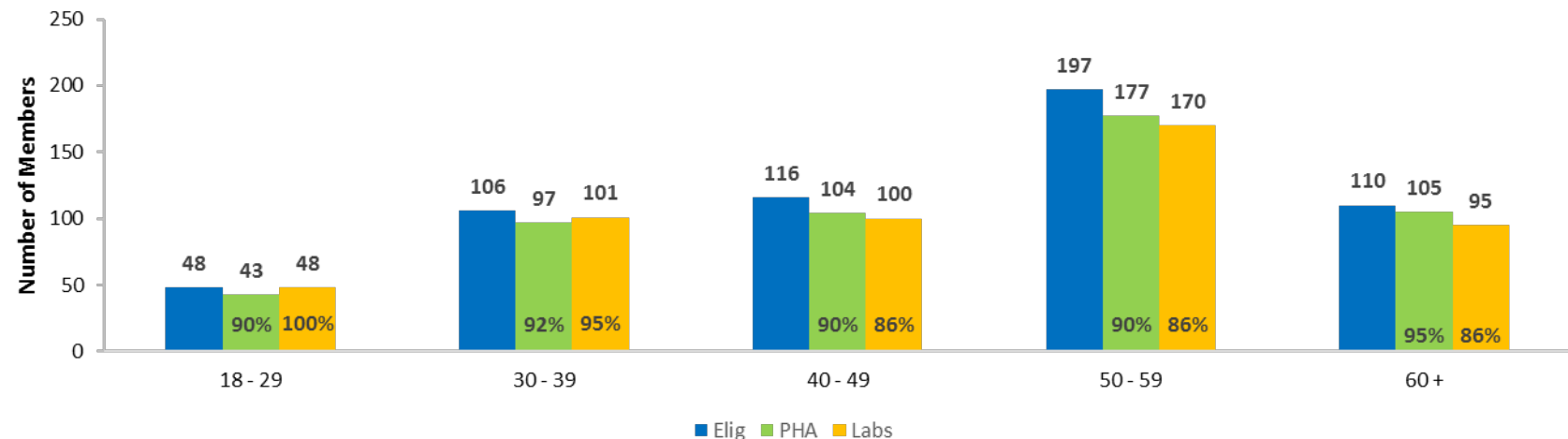
Eligibility and Participation



Participation by Gender



Participation by Age Group



Lab & Biometric Averages – Total Population

Source: Wellness Screenings (7/6/16 – 6/30/17)


- 514 total participants completed Labs and Biometrics
- 6 of 12 are in range
- Average Age - 48

Demographics Averages

2015 2016 2017

Total Participants	655	522	514
Female	67%	68%	68%
Male	33%	32%	32%
Age (Average in Years)	47	49	48
Height (Average in Inches)	67	67	67
Weight (Average in pounds)	178	182	185
HbA1c (mmol/L)	5.5	5.6	5.5
Glucose - Non-Fasting (mg/dL)	86	95	106
Glucose - Fasting (mg/dL)	90	98	101
Total Cholesterol (mg/dL)	179	194	196
HDL (mg/dL)	53	58	58
LDL (mg/dL)	96	109	113
Triglycerides (mg/dL)	128	132	148
Total Cholesterol/HDL Ratio	4.5	3.6	3.7
Blood Pressure Systolic (mm/Hg)	120	119	120
Blood Pressure Diastolic (mm/Hg)	78	78	78
Body Mass Index (kg/m2)	28	29	29
Waist - Females (inches)	34	35	35
Waist - Males (inches)	39	40	40

- In Range (Low Risk) - Out of Range (Moderate Risk) - Out of Range (High Risk) 8

	Lab & Biometric Stratification		
Lab or Biometric	Low	Moderate	High
Hemoglobin (HbA1c)	< 5.7 mmol/L	5.7 - 6.4 mmol/L	>= 6.5 mmol/L
Glucose	< 100 mg/dL fasting, < 140 mg/dL random	100 - 125 mg/dL fasting, 140 - 199 mg/dL random	>= 126 mg/dL fasting, >= 200 mg/dL random
Total Cholesterol	< 200 mg/dL	200 - 239 mg/dL	>= 240 mg/dL
HDL Cholesterol	> 60 mg/dL	40 - 60 mg/dL Male, 50 - 60 mg/dL Female	< 40 mg/dL Male, < 50 mg/dL Female
LDL Cholesterol	< 100 mg/dL	100 - 159 mg/dL	>= 160 mg/dL
Triglycerides	< 150 mg/dL	150 - 199 mg/dL	>= 200 mg/dL
Blood Pressure	< 120/80 mm/Hg	>= 120/80 mm/Hg - < 140/90 mm/Hg	>= 140/90 mm/Hg
Body Mass Index	>= 18.5 - < 25 mg/m2	>= 25 - < 30 mg/m2	>= 30 mg/m2
Waist Circumference	< 31 inches Female, < 37 inches Male	>= 31 - <= 35 inches Female, >= 37 - <= 40 inches Male	> 35 inches Female, > 40 inches Male

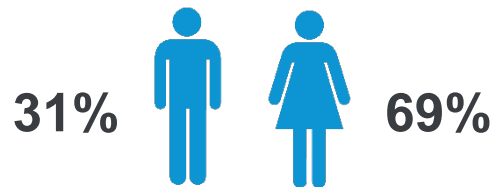
2017 Cohort Wellness Review (7/6/15 – 6/30/17)

Lab & Biometric Averages – Cohort Population

Source: Wellness Screenings (7/6/16 – 6/30/17)

- 381 total participants completed Labs and Biometrics
- 5 of 11 are in range
- Average Age - 50




381 Total Members



Demographics Averages

2015 2016 2017

Total Participants	381	381	381
Female	69%	69%	69%
Male	31%	31%	31%
Age (Average in Years)	48	49	50
Height (Average in Inches)	67	67	67
Weight (Average in pounds)	179	182	185
HbA1c (mmol/L)	5.5	5.6	5.5
Glucose - Fasting (mg/dL)	90	97	99
Total Cholesterol (mg/dL)	179	194	199
HDL (mg/dL)	54	58	58
LDL (mg/dL)	94	108	116
Triglycerides (mg/dL)	130	131	148
Total Cholesterol/HDL Ratio	4.7	3.6	3.7
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Body Mass Index (kg/m2)	28	29	29
Waist - Females (inches)	35	35	35
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 - In Range (Low Risk)  - Out of Range (Moderate Risk)  - Out of Range (High Risk)

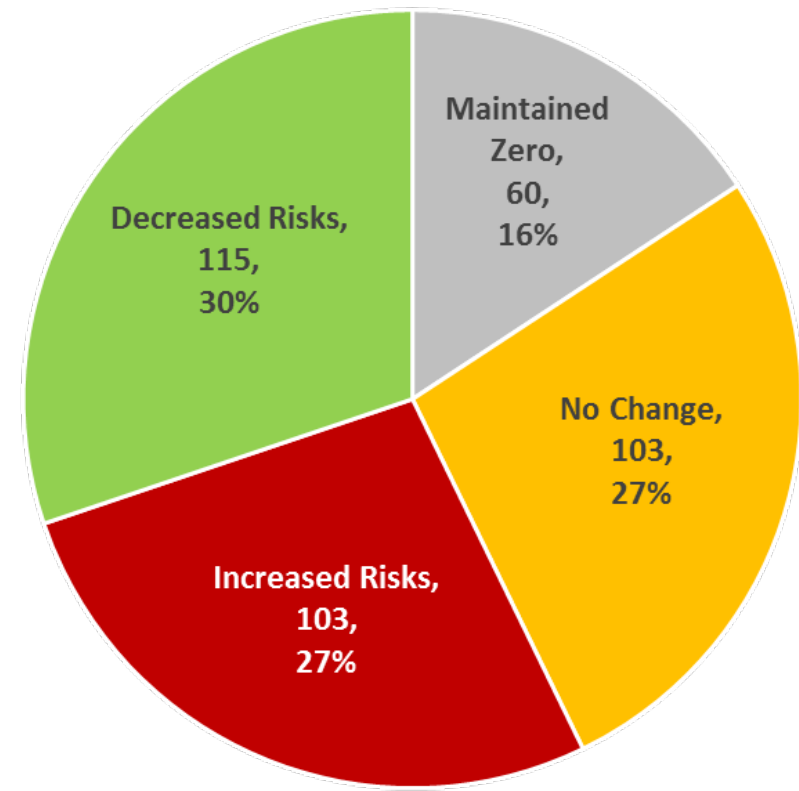
Cohort Risk Migration – PHA & Screenings (2015-2017)

Source: PHA and Wellness Screenings

Cohort Health Condition Risk Shift

- From 2015 to 2017, 175 members or 46% of the cohort reduced their number of high risk factors or maintained zero high risks
 - 115 members or 30% decreased high at-risk condition count from 2015 to 2017
 - 103 members or 27% had no change in high at-risk conditions from 2015 to 2017
 - 60 members or 16% maintained zero high at-risk conditions from 2015 to 2017

Cohort Risk Migration (2015 - 2017)



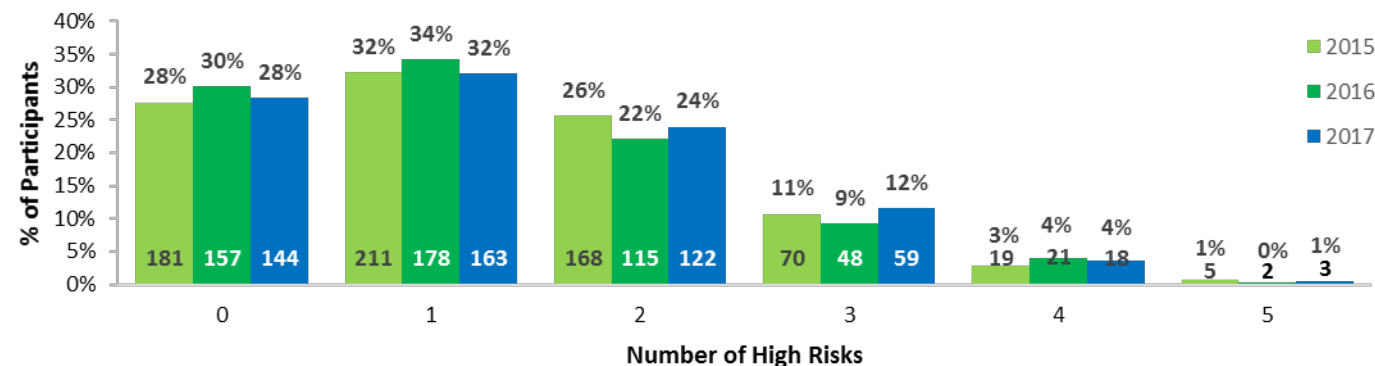
Top Health Conditions

Key Insights

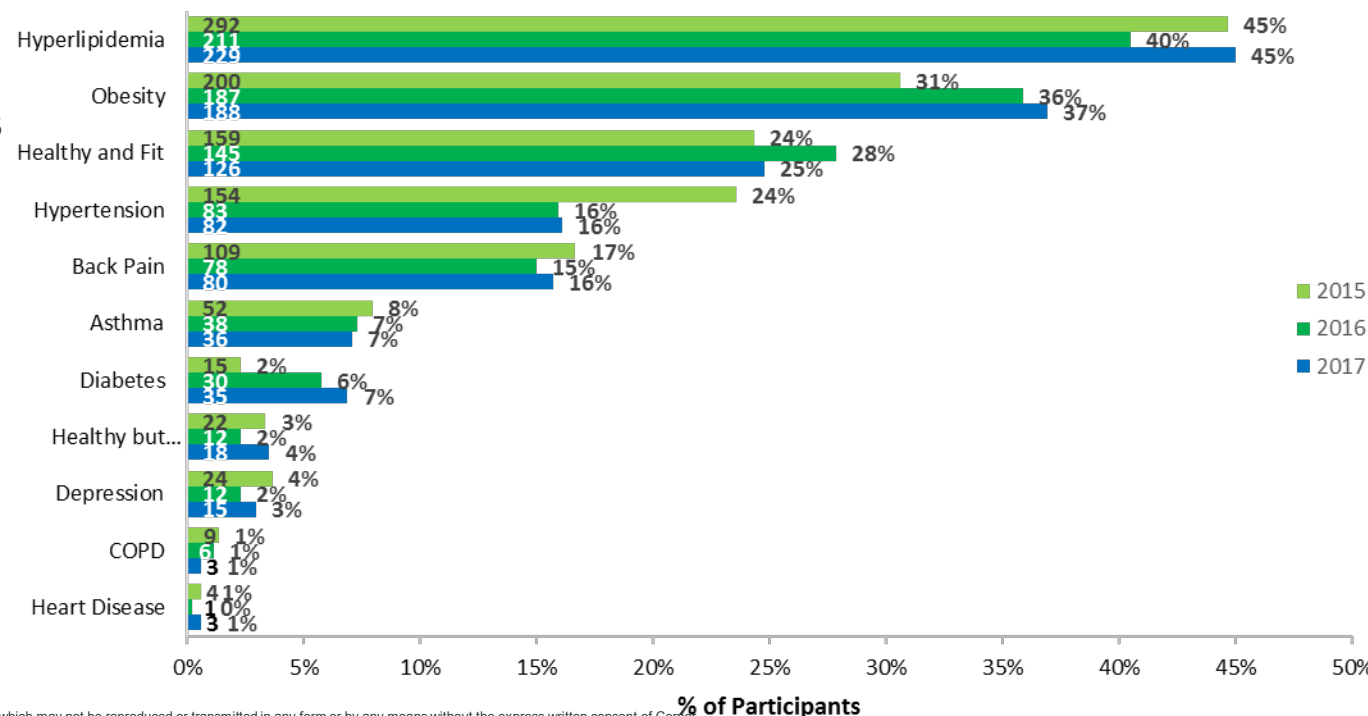
Source: PHA and Wellness Screenings (7/6/16 – 6/30/17)

- Top 3 Health conditions
 - Hyperlipidemia
 - Obesity
 - Healthy and Fit
- 72% of participating members are classified in 1 or more high risk categories
- Wellness Initiatives that were done to target top health conditions:
 - Holiday Nutrition Class
 - Full Plate Diet
 - Ongoing WAVE cooking classes
 - Member education through monthly wellness newsletters and wellness workshops

Number of High Risk Groupings (Total Population)



High Risk Condition Groupings (Total Population)



2016-2017 Annual Health Center Review

Utilization 2016-2017

2016-2017

Eligible Population	704
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2016 - 2017 Utilization

	Jul 2016 - Sep 2016	Oct 2016 - Dec 2016	Jan 2017 - Mar 2017	Apr 2017 - Jun 2017	Annual Total
Total Patient Visits	1,419	1,046	670	1,604	4,739
Unique Patients	546	508	342	603	755
New Patients	47	62	14	9	132
Return Rate	86.63%	56.89%	46.78%	90.55%	90.07%
HC as PCP	428	383	280	474	561

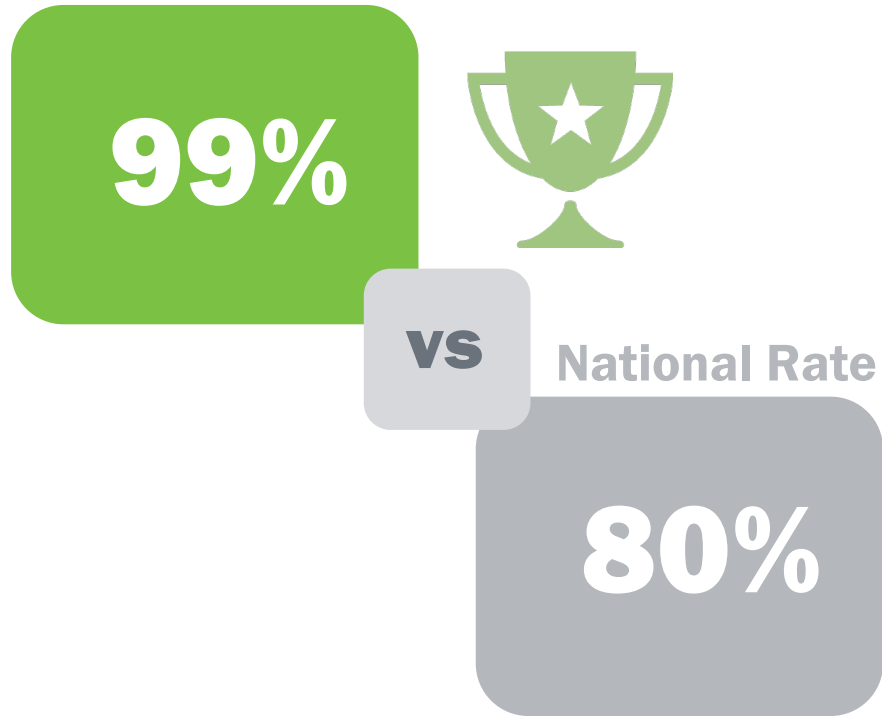
Utilization

	2015 - 2016	2016 - 2017	% Change
Total Patient Visits	4,475	4,739	5.73%
Unique Patients	736	755	2.54%
New Patients	110	132	18.18%
Return Rate	90.14%	90.07%	-0.07%
HC as PCP	633	561	-12.06%

Quality Management & Patient Outcomes

2016-2017: Patient Satisfaction

Cerner Patient Satisfaction Rate



- *I love how knowledgeable all the staff is and friendly. I love Chrissy and feel like I am her only patient when I am with her. LOVE the CLINIC*
- *This clinic is very important to have and the quality of service has always been a better experience than any normal doctor I have had.*
- *Laura was great and very professional. She is very knowledgeable about my needs and previous visits. She always looks very professional, and is professional when we meet. Laura is an asset to your company.*
- *Although busy, I was able to squeeze in because of someone missing an appointment....great care and just the meds I needed to get me back on the road to good health...love the convenience and a group that cares and is dedicated to us*
- *I think the Wellness Center, the NPs, and all the staff are amazing and I am thankful the district has a place like this for the employees.*

2016-2017 Health Center Highlights

Increased Wellness Center Utilization

- **4,739** total visits
 - **5.57%** increase from 2015-2016
- Retention of professional, knowledgeable center staff
- Quality care focus (patient experience) rather than quantity
- Focus on monthly wellness theme with newsletters, classes and handouts
- PCP rate of **73.3%**

Exceptional WOW Program Participation

- **90%** participation rate in the WOW program
 - Appointment at no cost to patient
 - Face to face goal setting & coaching with a provider
 - Employer participation requirements

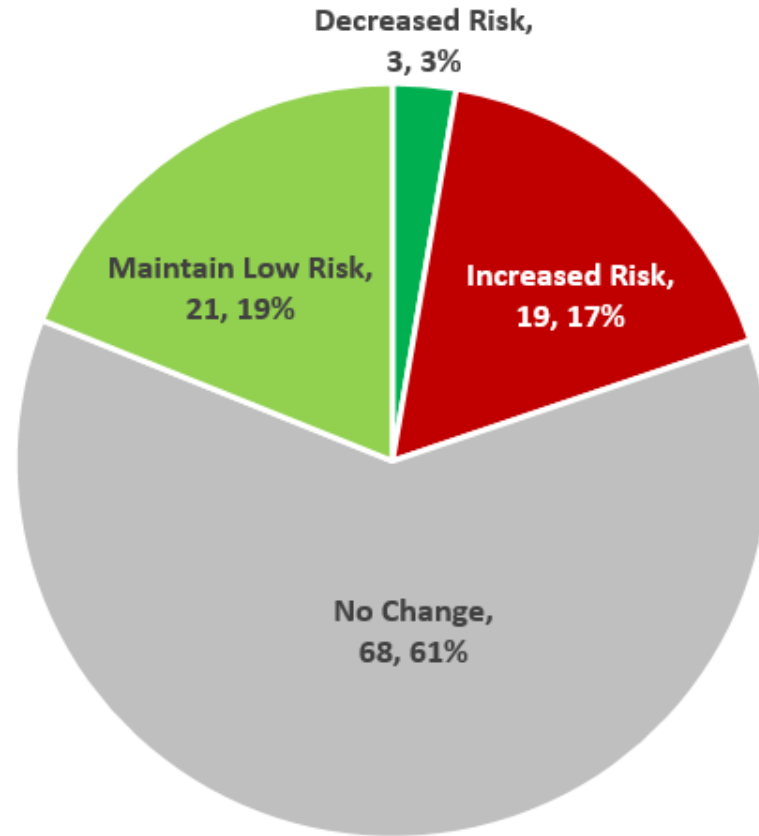
Quality Improvement Goals

- Improved diabetic control among center patients in 2016
- Improving blood pressure outcomes in 2015

Health Center Cohort Analysis 2014-2016

Cohort Analysis - Obesity

Cohort Obesity Risk Migration (2014 - 2016)

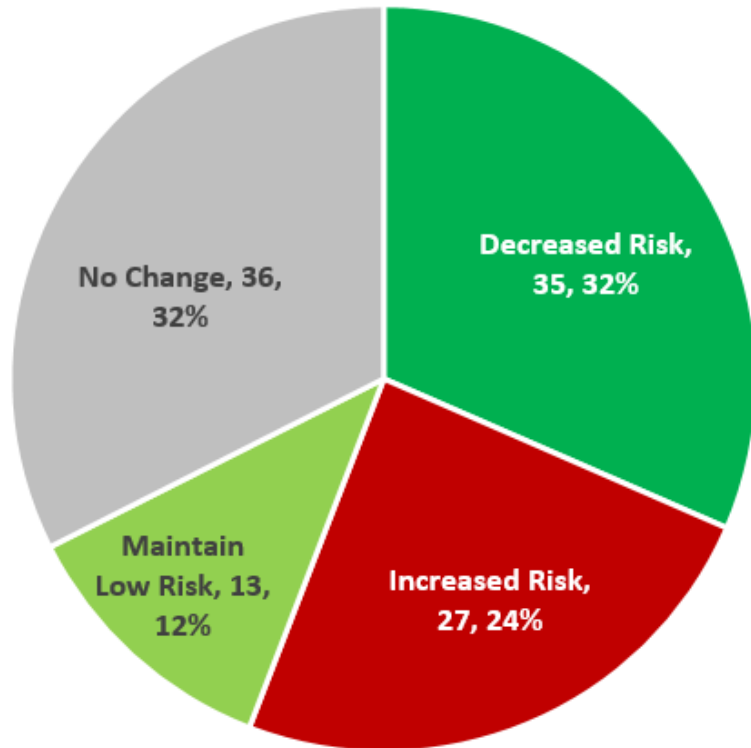


Cohort = 111 patients
Obesity High Risk ≥ 30 BMI

- 83% of cohort maintained or improved risk
 - 8.5 avg. pounds lost
 - 63.4 pounds lost by an individual
- 6.2% total high risk reduction of obesity cohort (BMI 30+)

Cohort Analysis - *Hypertension*

Cohort Hypertension Risk Migration (2014 - 2016)

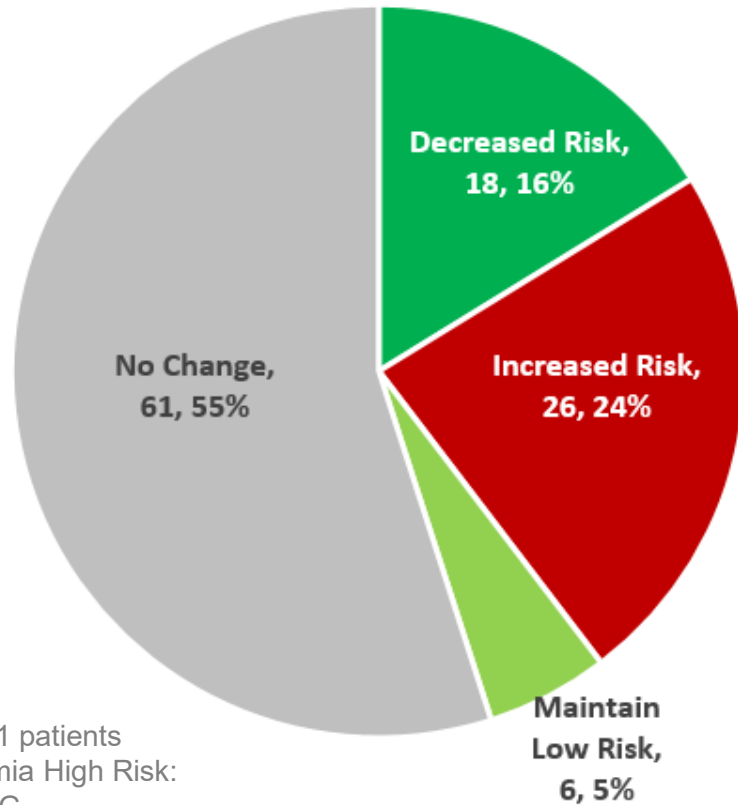


- 76% of cohort had no change or decreased risk
 - 16.4 mm/Hg avg. systolic reduction
 - 7.3 mm/Hg avg. diastolic reduction
- 66% total high risk reduction of hypertension cohort

Cohort = 111 patients
Hypertension High Risk $\geq 140/90$

Cohort Analysis - *Hyperlipidemia*

Cohort Hyperlipidemia Risk Migration (2014 - 2016)

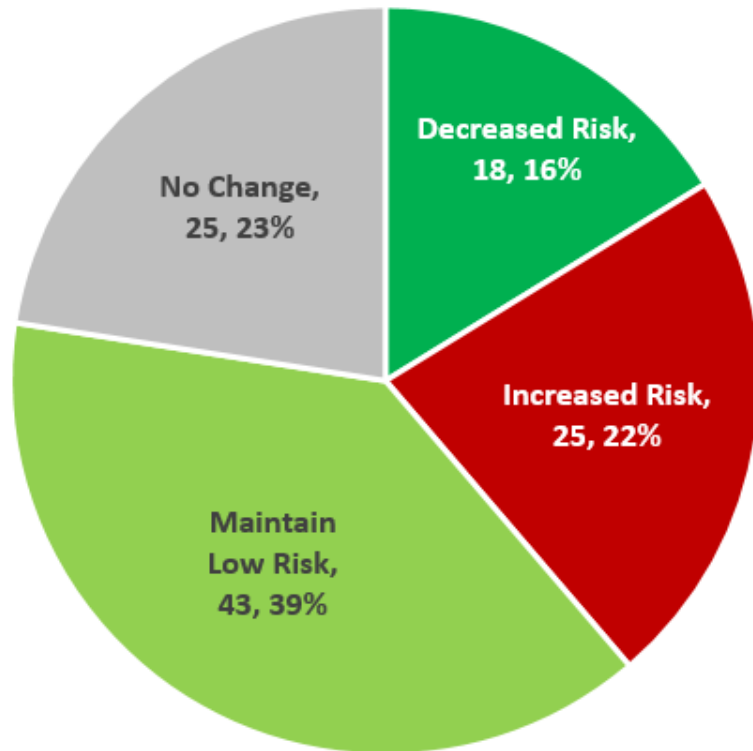


Cohort = 111 patients
Hyperlipidemia High Risk:
≥ 200 TG
≥ 240 TC
≥ 160 LDL
≤ 40 (m) or 50 (f) HDL

- **76%** of cohort maintained or improved risk
 - **38.8 mg/dL** avg. TG reduction
 - **27.3 mg/dL** avg. TC reduction
 - **23.6 mg/dL** avg. LDL reduction
 - **9.3 mg/dL** avg. HDL increase
- **22.5%** total high risk reduction of hyperlipidemia cohort

Cohort Analysis - *Diabetes*

Cohort Diabetes Risk Migration (2014 - 2016)



Cohort = 111 patients
Diabetes High Risk ≥ 6.5 HBA1C

- 78% of cohort maintained or improved risk
 - 0.34 mmol/L avg. HBA1C reduction
- 22% total high risk reduction of diabetes cohort

2016-2017: Population Engagement

Monthly Wellness Themes

- 12 monthly wellness themes marketed
- Marketing materials produced, displayed and distributed
- Health workshop offered on the wellness dashboard
- Promotional items given to participants – i.e. chap stick

WAVE Cooking Classes

- Example topic – *Healthy cooking strategies for busy lifestyles*
- Exposure to non-traditional healthy foods – i.e. tofu
- Offered 3 interactive cooking classes
 - **12-16** participants per class

Full Plate Diet Session #1

- 8 week weight loss jump start program
- Emphasized healthy eating habits to gradually lose or maintain weight
- **10** total participants
 - 7 participants attended 4+ sessions
 - **20 lbs.** total weight lost



2016-2017: Population Engagement

On-site Flu Clinic

- Offered **9** off-site clinics during October 2016
- **198** vaccinations given

Career Day at Thunderbolt

- Attended and presented the healthcare field to students at Thunderbolt Middle School's career day

Holiday Nutrition Class

- Healthy holiday eating tips
- Food samples provided by Taher
- **25** participants

Raffle for Breast Cancer

- Organized and coordinated a raffle to raise money for breast cancer in our community
- **\$202** raised for the Havasu Cancer Association



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Value on investment:
Creating healthier stories one patient at a time.

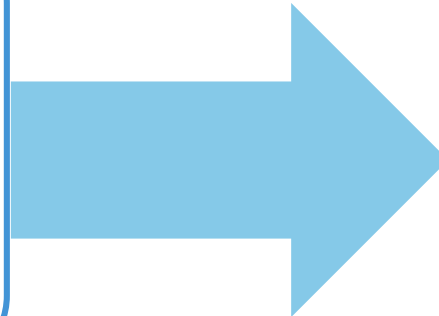
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2016-2017: Value on Investment

The Situation



Patient presented for routine annual physical exam. She was asked, "Have you noticed any changes to your skin?". A skin lesion was identified to be abnormal during the physical exam. A skin biopsy was performed during the same appointment



The Result



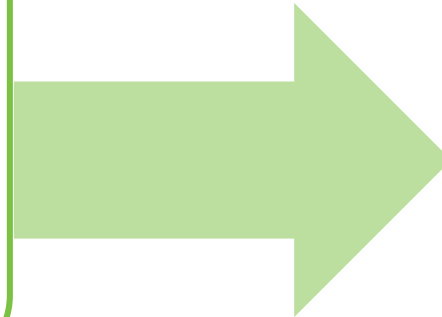
The skin biopsy resulted as a squamous cell carcinoma. She was referred to dermatology and seen 1 month later for a complete excision. Patient says she would have never thought to show us the lesion if we had not asked

2016-2017: Value on Investment

The Situation



A smoker, who failed Chantix therapy, with a new diagnosis of anxiety, insomnia, obesity (BMI 32.5), and Stage 1 HTN. Patient started on an anxiety medication as well as a diet and exercise plan



The Result



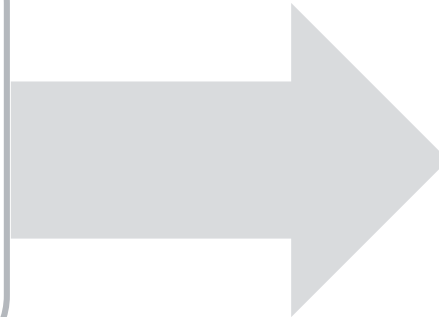
After a few months of treatment, patient was sleeping better and had stopped smoking. He also lost 54 lbs. (BMI of 24.4) with lifestyle modifications such as diet and exercise

2016-2017: Value on Investment

The Situation



A well known, non-compliant diabetic patient now motivated to gain better control of their diabetes. Increased compliance to medications, diet and exercise as well as keeping follow up appointments.



The Result



A point of care A1C was performed in September 2016 and found to be 9.8%. After better compliance with a diabetic program, A1C dropped to 6.9% in April 2017. This patient also lost 12 lbs.

2017 Enhancements

What's New for 2017-2018



National LabCorp Contract

- Cost savings of 30-40%



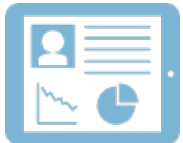
New consumable vendors

- Future cost reductions
 - Rx savings
 - Supplies
- Enhanced work flows



Video Conferencing

- Enhanced technology
 - Virtual health coaching visits



HealthRegistries

- Enables:
 - Quality measurements
 - Scorecard performance
 - Gaps in care display for clinicians to take action

Questions?