

# HOP 2017 Evaluation Report

MODIFIED OCTOBER 25, 2017

Prepared Under Contract to the  
SC Department of Health and Human Services

Prepared by the

University of South Carolina  
Institute for Families in Society  
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USC Institute for Families in Society Division of Medicaid Policy Research



# ACKNOWLEDGMENTS

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- The SC Department of Health and Human Services (DHHS) for the leadership and vision that made the HOP intervention possible to implement
- The HOP partners and participants whose experiences helped to inform this presentation
- The HOP Data Team for their efforts in support of this evaluation – SCHA and RFA
- The HOP Evaluation Team at the Institute for Families in Society, Division of Medicaid Policy Research at USC

**DISCLAIMER:** This document was prepared under contract to the SC Department of Health and Human Services. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the SC Department of Health and Human Services.



# FRAMING THE HOP PROGRAM: Background & Contextual Factors

# Envisioning a New Service Delivery Future: Hospital and Clinic Innovation Proviso

- SC's HOP supports participating hospitals' delivery models to coordinate care for chronically ill, uninsured, high utilizers of emergency department (ED) services (at least 5 avoidable ED visits).
- Size of the hospital determined the target number of participants HOPs were required to identify and serve.

Minimum target  
of **50** for smallest  
hospitals



Target of at least **750**  
for each of the 3  
largest metropolitan  
hospitals



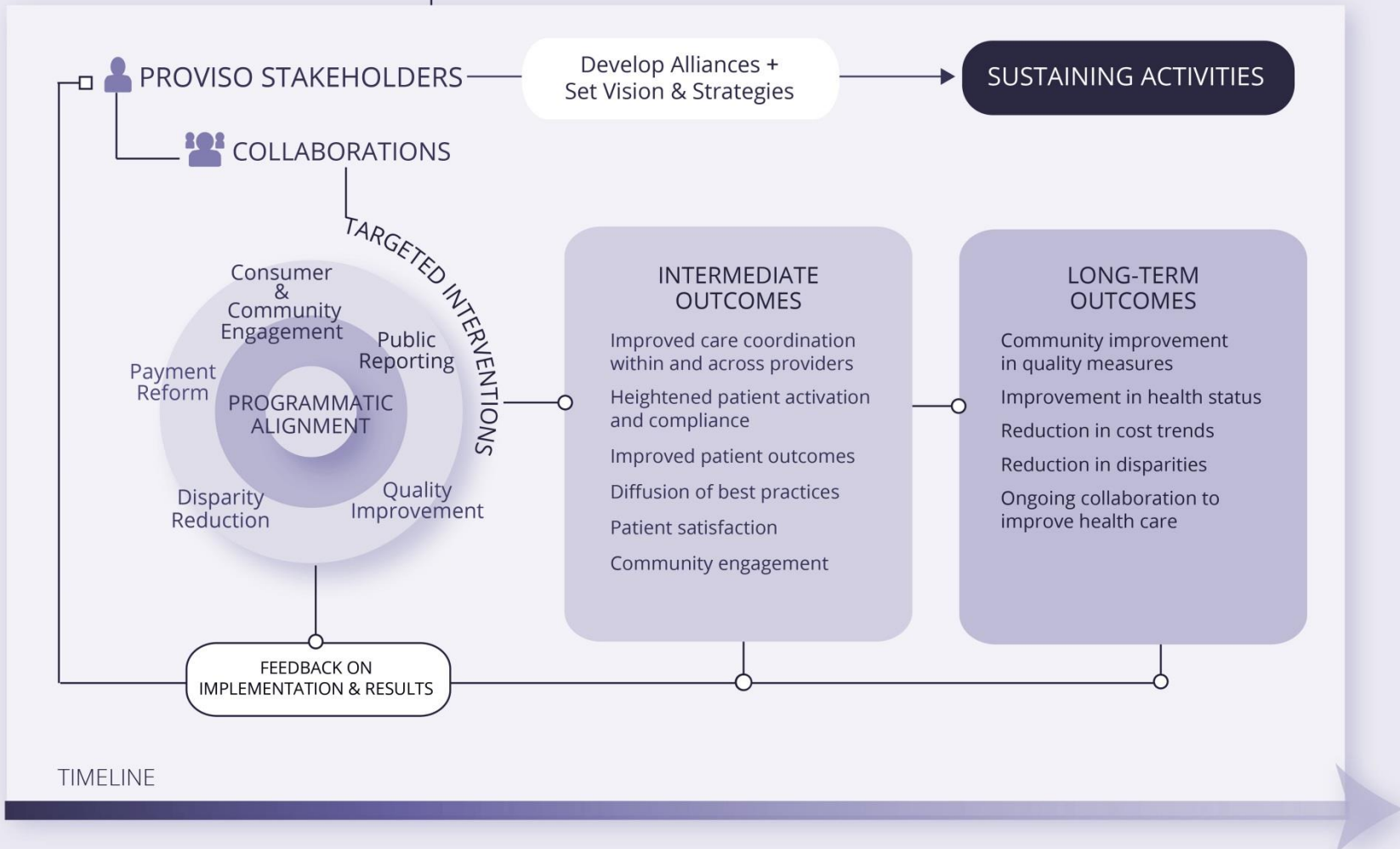
All SC hospitals  
with EDs are in  
the program.



# Hospital and Clinic Proviso EVALUATION FRAMEWORK

 TECHNICAL ASSISTANCE

 **PROVISO CONTEXT:**  
Health Care Reform

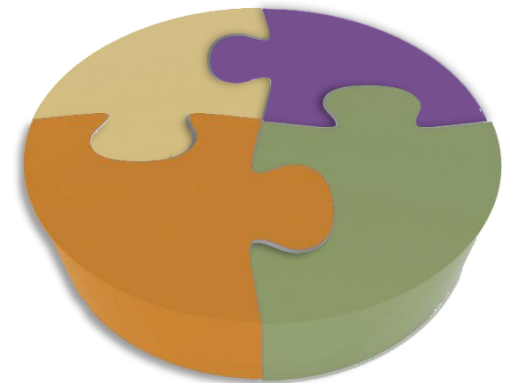


# HOP Intervention Key Components

(July 2013 – Current)

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- Patient Medical Home (Comprehensive Physical Exam)
- Initiation of Care Plan
  - Social Determinants Assessment and Intervention Efforts
  - Patient Activation Measure<sup>©</sup> (PAM)
  - Global Appraisal of Individual Needs - Short Screener (GAIN-SS)
- Wilder Collaboration Index (Partnership Assessment)
- Robust Clinical and Economic Evaluation



# Key Findings

- Statistically significant reductions in:
  - ED visits & inpatient stays (overall and preventable)
  - ED patients & inpatients
  - ED & inpatient procedures
  - ED & inpatient cost

HOP  
Population  
Analysis:  
Enrollment &  
Disenrollment





# HOP Enrollment Trends

24,995 HOP Participants as of March 31, 2017

20,531 HOP participants analyzed after exclusion populations removed

10,914 Continuously Actively Enrolled as of March, 2017

Disenrolled (9,617)

2,328 (24%) disenrolled prior to 6 months of enrollment

3,445 enrolled during Implementation Year I (FFY15)

Average months of enrollment: 18

4,007 enrolled during Implementation Year II (FFY 16)

Average months of enrollment: 6

3,462 enrolled during Feasibility Year 1 (FFY14)

Average months of enrollment: 30

Only cohort with enough pre- and post-data to look at long-term trends over time

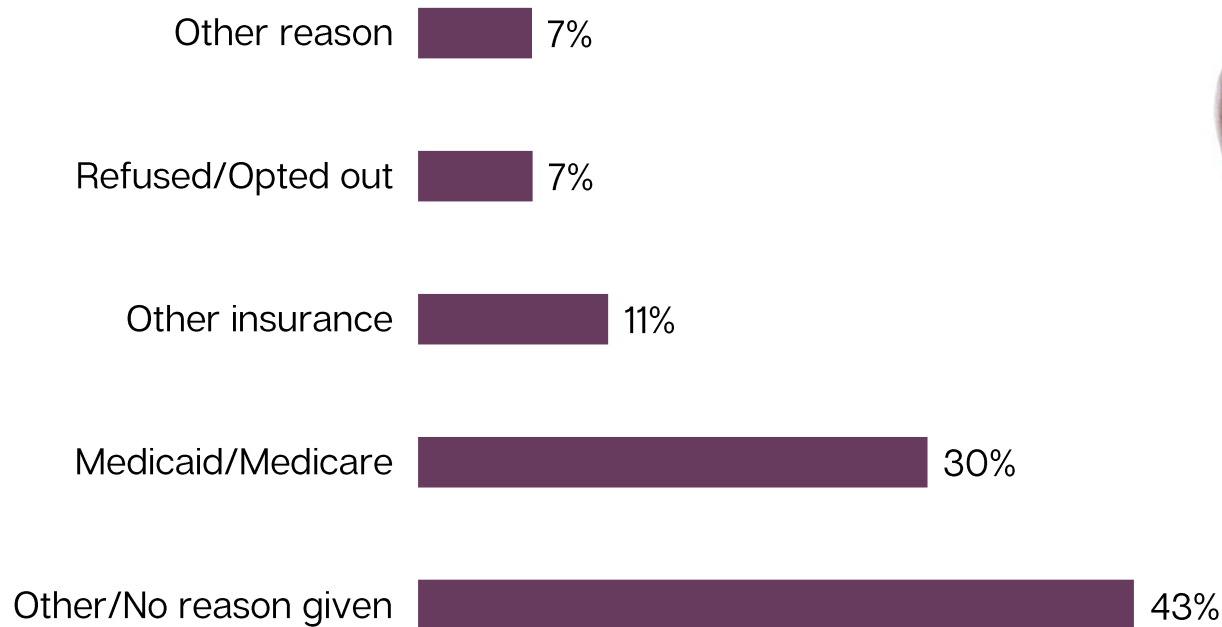
# Demographics


Total in FFY Analysis Cohort = 3,462

Mean Enroll. Months	Mean Age	% Female	% Male	% White	% Black	% Other Race	% with a Care Plan
30	43	56	43	50	45	4	86

# Reasons For HOP Disenrollment

Among Current Disenrollees (as of March 31, 2017)





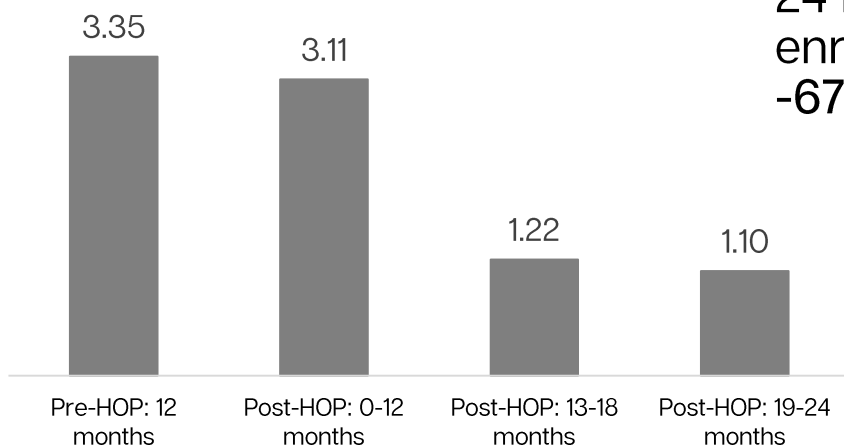
# Cost Analysis & Clinical Outcomes



# Emergency Department Utilization

# Reduction in ED Visits & Patients

Mean ED Visits per FFY14 Enrollee

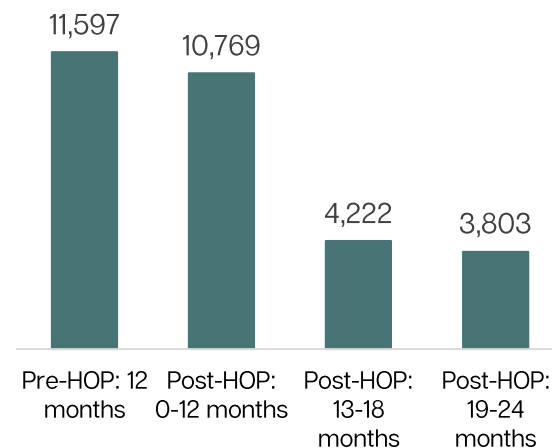


Relative change from pre-HOP to 19-24 months of enrollment: **-67%**



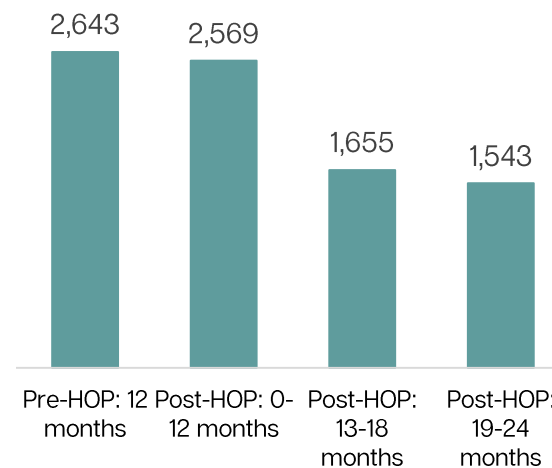
*T-Test Comparing Pre-HOP: 12 months to Post-HOP: 19-24 months:  $t(3,461) = 28.86, p = 0.0000$*   
*Repeated Measures ANOVA:  $F(3,10,383) = 669.66, p = 0.0000$*

Total ED Visits



RR = (0.65)

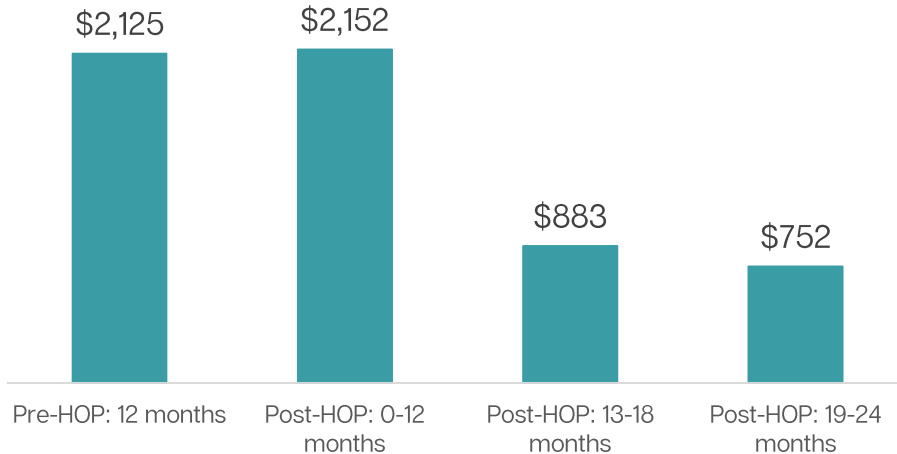
Total ED Patients



RR = (0.81)

# Reduction in ED Cost

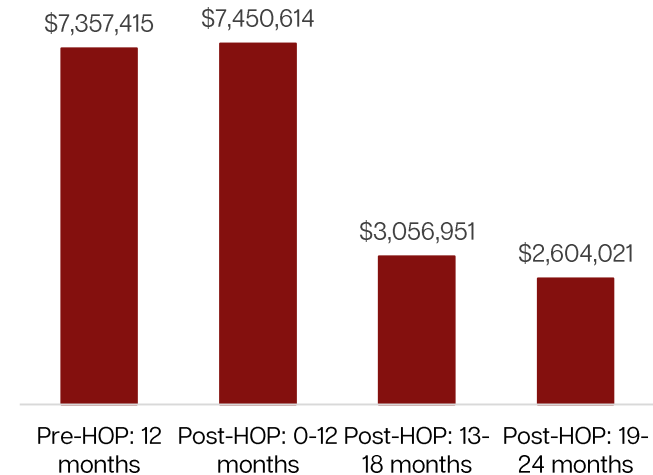
Mean ED Cost per FFY14 Enrollee



There was a 65% reduction in mean ED cost from pre-HOP to 19-24 months of enrollment, a reduction on average of \$1,373 per person within 24 months.

T-Test Comparing Pre-HOP: 12 months to Post-HOP: 19-24 months:  $t(3,461) = 22.61, p = 0.0000$   
Repeated Measures ANOVA:  $F(3,10,383) = 377.32, p = 0.0000$

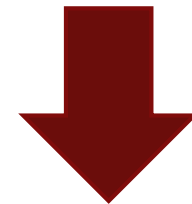
Total ED Cost



RR = (0.67)

**ED COST**

**65%**



What if the ED cost reduction was applied to all continuously active HOP enrollees?









## What if the ED cost reduction was applied to all continuously active HOP enrollees?

- Assuming that relative change in cost remains the same, apply the average -\$1,373 reduction per person to all 10,914 continuously active enrollees (as of March, 2017)
- Without adjusting for further price inflation, ED savings would then be:

**\$14,984,922**

**Within 24 months**

# ED Visits by Category

Category	Difference between Means (Pre-HOP to 19-24 months)	Relative Improvement
NYU ED ALGORITHM TYPE		
<b>ED Care Needed, Preventable/Avoidable</b>	-0.02	-39% 
CHRONIC DISEASE		
<b>Cardiovascular Disease</b>	-0.02	-31% 
<b>Diabetes</b>	-0.05	-33% 
<b>Hypertension</b>	-0.10	-25% 
BEHAVIORAL HEALTH CONDITIONS		
<b>Substance Abuse</b>	-0.16	-56% 
<b>Mental Health</b>	-0.04	-38% 

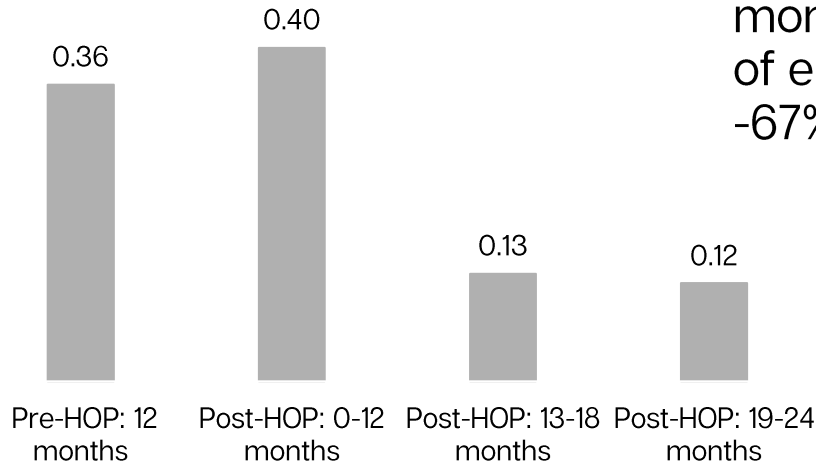
\*  $p = 0.0000$  for both tests



# Inpatient Hospital Utilization

# Reduction in Inpatient Stays & Inpatients

Mean Inpatient Stays per FFY14 Enrollee

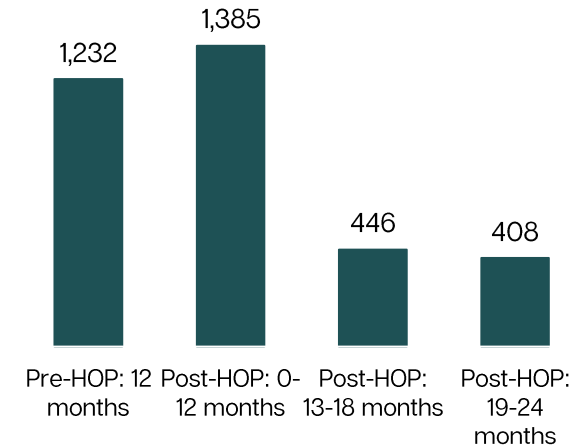


Relative change from pre-HOP to 19-24 months of enrollment: -67%



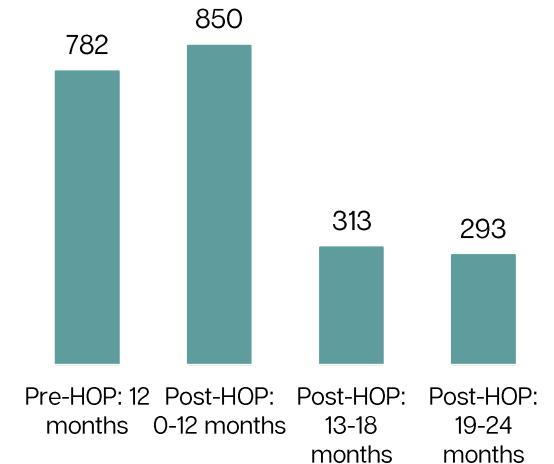
T-Test Comparing Pre-HOP: 12 months to Post-HOP: 19-24 months:  $t(3,461) = 15.72, p = 0.0000$   
 Repeated Measures ANOVA:  $F(3,10,383) = 200.13, p = 0.000$

Total Inpatient Stays



RR = (0.64)

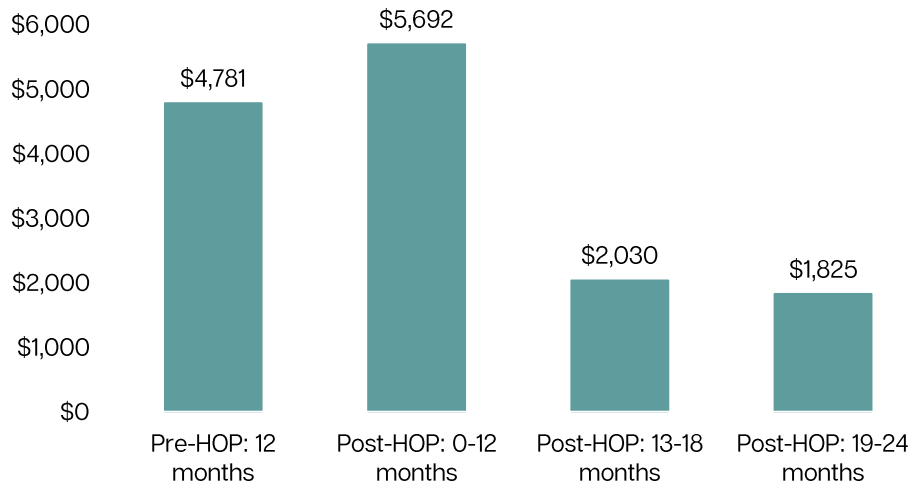
Total Inpatients



RR = (0.67)

# Reduction in Inpatient Cost

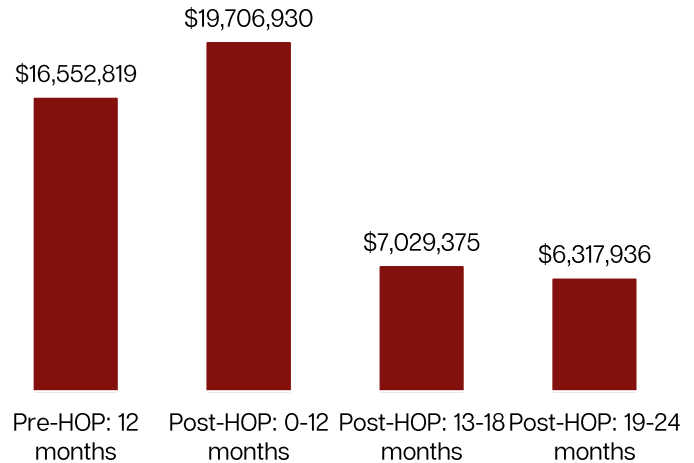
Mean Inpatient Cost per FFY14 Enrollee



There was a 62% reduction in mean inpatient cost from pre-HOP (\$4,781) to 19-24 months of enrollment (\$1,825), a reduction on average of \$2,956 per person within 24 months.

T-Test Comparing Pre-HOP: 12 months to Post-HOP: 19-24 months:  $t(3,461) = 9.43, p = 0.0000$   
Repeated Measures ANOVA:  $F(3,10,383) = 74.73, p = 0.000$

Total Inpatient Cost



RR = (0.67)

Cost cut more than half!

What if the inpatient cost reduction was applied to all continuously active HOP enrollees?

## What if the inpatient cost reduction was applied to all continuously active HOP enrollees?

- Assuming that relative change in cost remains the same, apply the average -\$2,956 reduction per person to all 10,914 continuously active enrollees (as of March, 2017)
- Without adjusting for further price inflation, inpatient savings would then be:

**\$32,261,784**

**Within 24 months**

# Inpatient Stays by Category

Category	Difference between Means (Pre-HOP to 19-24 months)	Relative Improvement
PREVENTION QUALITY INDICATOR		
<b>Chronic</b>	-0.03	-72% ↓
CHRONIC DISEASE		
<b>Cardiovascular Disease</b>	-0.04	-57% ↓
<b>Diabetes</b>	-0.04	-51% ↓
<b>Hypertension</b>	-0.07	-61% ↓
BEHAVIORAL HEALTH CONDITIONS		
<b>Substance Abuse</b>	-0.09	-69% ↓
<b>Mental Health</b>	-0.03	-51% ↓

\*  $p = 0.0000$  for both tests





# Key Finding

# Key Finding

If these 2-yr enrollment costs (due to the reduction in ED visits and inpatient stays) were applied to all current, continuously active enrollees, the cost avoidance would be approximately **\$47 million** within the first 24 months of enrollment.

# Next Steps

- Replicate evaluation with Access Health population.
  - HOP Access vs. HOP Non-Access
  - HOP Access vs. Uninsured

# CONTACT



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