Improving Health Care Access for the Uninsured by Leveraging Community Partnerships: South Carolina's Healthy Outcomes Plan

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

South Carolina's Healthy Outcomes Plan (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). The size of the hospital determined the target number of participants HOPs were required to identify and serve.

Minimum target of **50** for smallest hospitals

All SC hospitals with EDs are in the program

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

HOP Intervention Key Components
(July 2013 – Current)

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

Demographics
Total in 2018 Analysis Cohort = 8,109

HOPs Represented	% Care Plan
All (min: 36, max: 1,802)	89

		%				
Mean Enroll. Months	Mean Age	Female	Male	White	Black	Other/ Unknown Race
35	45	56	44	48	47	5

% Diabetes	% Hypertension	% CVD	% Substance Abuse	% Mental Health
34	66	43	64	43

Methods

- For the 24-months continuous enrollment cohort, inpatient and ED utilization outcomes were summarized for pre- and post-HOP enrollment periods.
- For cost measures, cost-to-charge ratios for the hospitals were applied.
- The medical price index was applied to remove price factor.
- The later fiscal year price was applied to the base year. From 2013 to 2017, if price increased 5%, the adjusted costs in 2017 would be 5% smaller than crude costs.

Statistical Analysis
Outcomes for the cohort were broken into 5 different enrollment time periods.

0-6 months before HOP (Pre-0-6)	0-6 months of HOP enrollment (Post-0-6)	7-12 months of HOP enrollment (Post-7-12)	13-18 months of HOP enrollment (Post 13-18)	19-24 months of HOP enrollment (Post 19-24)
SIX MONTHS PRIOR TO HOP ENROLLMENT	SIX-MONTH **POST-HOP** ENROLLMENT TIME PERIODS			

- Statistical testing on the means per participant per month for each measure were completed by using a paired dependent t-test for two time period comparisons and one-way repeated measures ANOVA for testing throughout the 5 time periods.
- Counts were also tested throughout time using a negative binomial distribution generalized linear regression model with a log link function.
- Total cost was also tested throughout time using a gamma distribution generalized linear model with a log link function.

KEY FINDINGS

Statistically significant reductions in:

ED Visits & Inpatient Stays (Overall & Preventable)

ED & Inpatient Procedures

ED & Inpatient Cost

Total annual cost avoidance–due to the reduction in ED visits and inpatient stays–for this 24-month cohort would be approximately

$31 million.

DISCUSSION

What can states do to leverage cost-avoidance community partnerships to meet the needs of the uninsured?

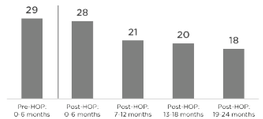
What is the impact of these partnerships on meeting the growing demands of safety net providers?

How do these partnerships leverage funding resources in a changing state and federal fiscal environment regarding expanded access to care?

The approach and lessons learned from the HOP intervention have national significance.

Reduction in ED Visits & Patients

Mean ED Visits
Per 100 Participants Per Month

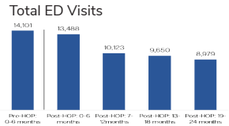


Repeated Measures ANOVA: F(4,32432) = 218.73, p < 0.0001
T-test Comparing Pre-HOP 0-6 months to Post-HOP 19-24 months: t(8,108) = 19.96, p < 0.0001

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

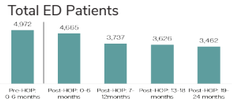
36%

Total ED Visits



RR = 0.88 (p < 0.0001)

Total ED Patients



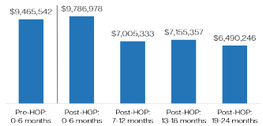
RR = 0.91 (p < 0.0001)

Reduction in ED Cost

Mean ED Cost
Per Participant Per Month

Repeated Measures ANOVA: F(4,32432) = 101.57, p < 0.0001
T-test Comparing Pre-HOP 0-6 months to Post-HOP 19-24 months: t(8,108) = 13.07, p < 0.0001

Total ED Cost



RR = 0.90 (p < 0.0001)

ED Cost: **31%**

ED Visits by Category

Category	Difference between Means per 100 Participants per Month (Pre-HOP to 19-24 Months Post-HOP)	Relative Improvement
NYU ED ALGORITHM TYPE		
ED Care Needed, Preventable/Avoidable *	-0.56	49%
CHRONIC DISEASE		
Cardiovascular Disease	-0.49	19%
------ Hypertension *	-3.55	34%
Diabetes	-0.79	15%
BEHAVIORAL HEALTH CONDITIONS		
Mental Health *	-1.45	35%
------- Substance Abuse	-5.33	49%

* ANOVA tests for trend were significant at p < 0.0001.
All measures had significant pre/post t-test results (< 0.001).

HOP Evaluation Team

Ana Lòpez-DeFede, PhD; Research Professor, Associate Director, and Principal Investigator
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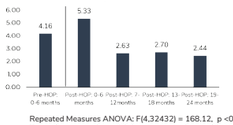
Reduction in Inpatient Stays & Inpatients

Mean Inpatient Stays
Per 100 Participants Per Month

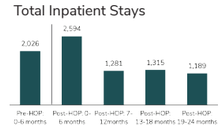


Repeated Measures ANOVA: F(4,32432) = 168.12, p <0.0001
T-test Comparing Pre-HOP 0-6 months to Post-HOP 19-24 months: t(8,108) = 12.31, p < 0.0001

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

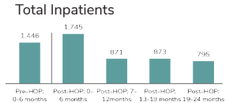
41%

Total Inpatient Stays



RR = 0.83 (p = 0.0004)

Total Inpatients



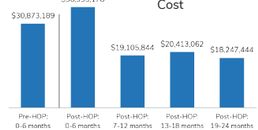
RR = 0.82 (p = 0.0017)

Reduction in Inpatient Cost

Mean Inpatient Cost
Per Participant Per Month

Repeated Measures ANOVA: F(4,32432) = 54.31, p < 0.0001
T-test Comparing Pre-HOP 0-6 months to Post-HOP 19-24 months: t(8,108) = 7.44, p < 0.0001

Total Inpatient Cost



RR = 0.67 (p = 0.0010)

Inpatient Cost: **41%**

Inpatient Stays by Category

Category	Difference between Means Per 100 Participants per Month (Pre-HOP to 19-24 months)*	Relative Improvement
NYU ED ALGORITHM TYPE		
Preventable Chronic Stays	-0.46	47%
CHRONIC DISEASE		
Cardiovascular Disease	-0.69	37%
---Hypertension	-0.97	45%
Diabetes	-0.41	26%
BEHAVIORAL HEALTH CONDITIONS		
Mental Health	-0.41	33%
---Substance Abuse	-1.22	52%

** All measures were significant (< 0.0001).*

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