The Port of
LONG BEACH
The Green Port

Health Care Mitigation Grants Program Final Report

Grant Recipient:	**Mattel Children's Hospital, UCLA (Breathmobile)**
Contract Number:	A15-02122
Award Amount:	$188,360.00
Date Submitted:	11/30/15

Total POLB Expenditures:	$188,369.67
Total Number Beneficiaries Served:	422 pediatric patients across 844 Breathmobile school visits; more than 100 people served at local health fairs.
Please describe how you determined the number of beneficiaries served.	

The UCLA Breathmobile provided care to 422 pediatric patients across 844 visits during the time period September 1, 2013 to December 31, 2014. Additionally, the Breathmobile participated in several health fairs including the 2013 Health Fair Extravaganza, The 4th Annual Operation Backpack and the 2013 Northeast Los Angeles Health and Community Fair. At the Health Fairs, asthma and allergy screenings were conducted on attendees and education and referrals were provided.

Provide a narrative description of the project.

During the grant cycle, from October 1, 2013 to September 30, 2014, The UCLA Breathmobile provided services at 20 schools in Long Beach in zones 1a, 2a, and 3a. Visits were made to the schools at least 3 days per week. Visits to each school site occurred every 6-8 weeks or sooner depending on need. Special visits were made for school fairs, health fairs, nurse meetings and administrative meetings/school outreach. The regular visits to the schools included registration of patients and assessment of eligibility to qualify for health care programs such as Healthy Families and Medi-Cal. Efforts were made to enroll families in these programs where applicable. Intake by the Nurse included assessment of vital signs, height, weight, spirometry, evaluation of environmental risk factors, and knowledge of their treatment plan (for return patients only). A detailed evaluation by a physician and development of a respiratory health management plan was made. Following the visit with the physician, all patients received education by a registered nurse about their respiratory condition, medications, asthma action plan and a follow up appointment was made if indicated. Additionally, the Breathmobile participated in several Community Health Fairs where asthma and allergy screenings were conducted on attendees and education and referrals were provided.

The UCLA Long Beach Breathmobile program provided care to 422 pediatric patients across 844 visits to schools in zones 1a, 2a and 3a at the preselected sites during the time period: September 1, 2013 to December 31, 2014. Patients were predominately Hispanic (53%) or African-American (35%) and 57% were male. A total of 350 (83%) diagnosed with asthma had the following baseline severity: 33% intermittent, 42% mild, 19% moderate and 6% severe.

In children who returned for follow-up care, 78.5% achieved well controlled asthma by their third visit to the program. Children who visited the Breathmobile program for at least six months showed a significant reduction in ED (Emergency Department) visits and hospitalizations. In 98% of follow-up visits, patients reported no ED visits or hospitalizations during the interval preceding the visit. In the year preceding treatment on the Breathmobile, a total of 121 ED visits for asthma occurred compared to only 17 ED visits for children engaged in the Breathmobile program for at least six months. In the year preceding treatment on the Breathmobile, a total of 10 hospitalizations occurred compared to only 1 hospitalization for children following engagement in the program for at least six months.

Children who participated in the Breathmobile program showed significant reduction in school absenteeism due to asthma. A total of 59.4% of children missed school due to asthma in the year preceding treatment on the Breathmobile compared to only 26.2 % of children in the year following treatment on the Breathmobile. 6.8% of children missed greater than 10 days of school due to asthma symptoms pre-treatment year compared to only 1.7 % following treatment on the Breathmobile. 19.5% of children engaged in the Breathmobile program missed 5-10 days of school due to asthma in the pre-year compared to only 2.5% in children engaged in the Breathmobile program during the post year of treatment. 33.1% of children missed 1-4 days of school due to asthma in the preceding year compared to only 22% in the post year of treatment on the Breathmobile. Though we did not track missed work days, one can estimate that there were significant decreases in parents' missed work days due to their child's asthma following treatment on the Breathmobile with numbers that would correlate with missed school days.

The following information regarding a cost analysis of UCLA Breathmobile operations was also included in the last quarterly report:

In May, 2014 Coro Fellow, Akhil Rao, conducted a cost analysis of Breathmobile operations extending Tricia Morphew et al's work in 2013. The estimates from the analysis show that the UCLA Breathmobile was saving local Long Beach hospitals between $12,000 and $27,000 per school year in prevented emergency department visits. The overall return on investment in the 2012-2013 school-year was $4.69 per dollar invested.

The following tables highlight the above mentioned data for the UCLA Breathmobile for the time period of September 1, 2013 to December 31, 2014.

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Interim Report – UCLA (Long Beach) Breathmobile Program
Patients Treated September 1, 2013-December 31, 2014

Section 1: Pediatric Patients **N=422**
Total
129 Operational Days [a]
844 Visits
422 Patients
Age (mean=8.1 yrs, Std.Dev=2.7)
57% Male, 43% Female
53% Hispanic
35% African-American
2% Caucasian
10% Other
83% Dx w/Asthma

Section 2: Pediatric Asthma Patients **N=350**
Baseline Severity:
33% Intermittent
42% Mild Persistent
19% Moderate Persistent
6% Severe Persistent
Morbidity year prior to entry due to asthma [b]:
40% had been to the ED (196 total ED visits)
7% had been hospitalized (27 total hospitalizations)
49% had missed school (837 total school days missed)
246 New patient visits
509 Follow-up visits

Section 3: Pediatric Asthma Patients w/Follow-up Care
N=211

Asthma Control NAEPP/NHLBI 2007 Guidelines (Valid %):	ALL Follow-up Visits	LAST Health Encounter
	N=509	N=211
1. Day Sx ($\leq$2 d/wk)	84.6%	82.4%
2. Night Sx ($\leq$2 x/mos.)	79.1%	76.6%
3. Interference:	85.3%	82.9%
Exer. limitations (<usual)	87.9%	84.7%
ED visits/Hosp. (none)	97.2%	97.6%
School missed (<5 d)	98.2%	98.1%
4. SABA ($\leq$2 d/wk)	94.1%	83.7%
5. LF not impaired	85.0%	88.8%
Risk: No Steroid bursts [c]	94.5%	95.3%
Asthma Control Assessed[d]	N=505	N=208
Asthma Well Controlled:	58.2%	55.8%
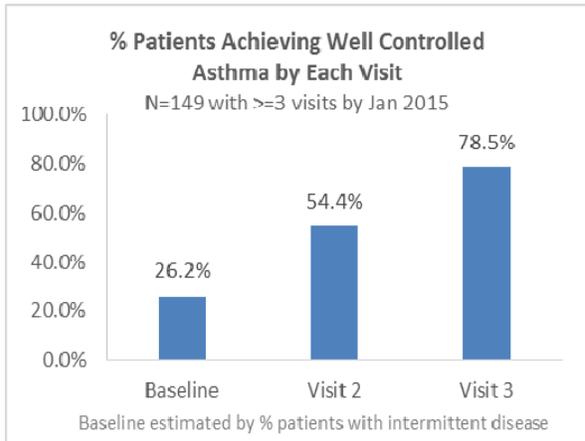
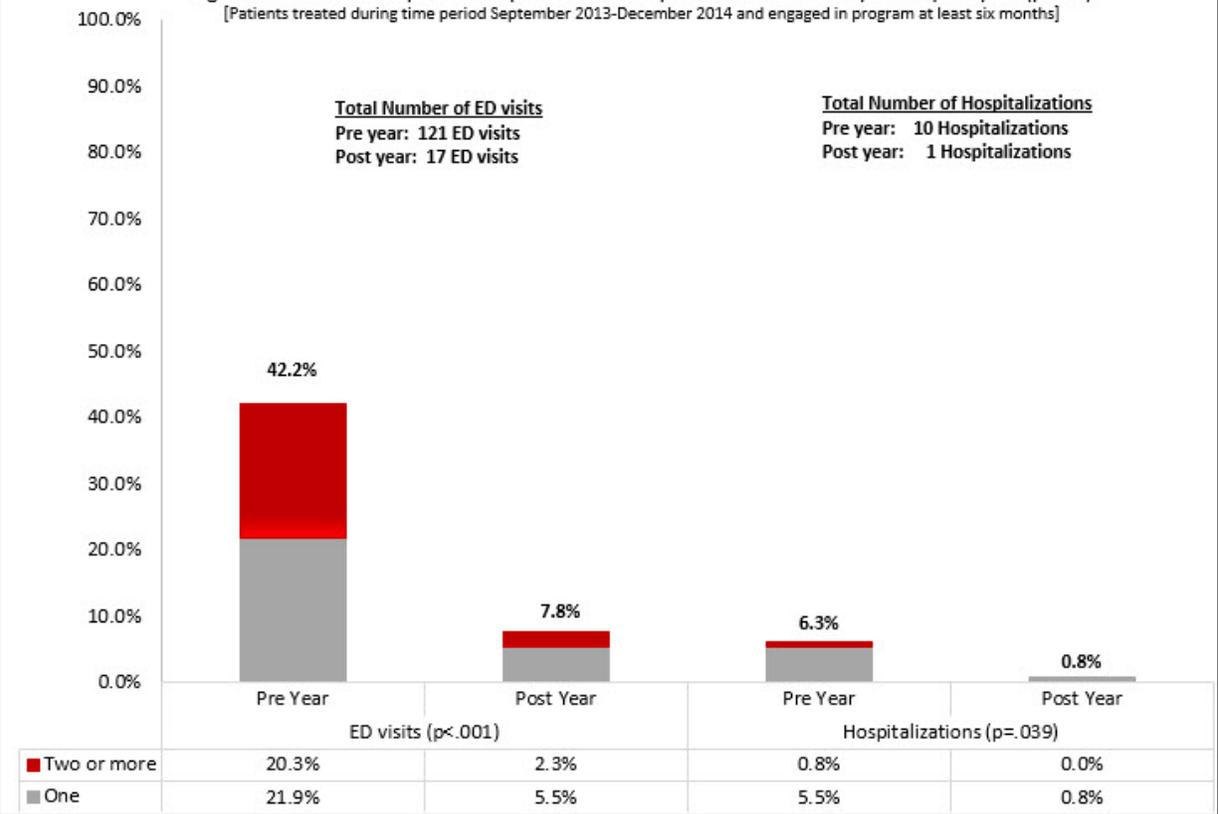[a] Operational day defined as date when at least one patient treated
[b] Morbidity pre year: Normalized based on duration of disease (lifetime morbidity/duration of disease). School absenteeism adjusted denominator to reflect duration of disease since age five years (school age years). Pre year represents earlier time period in return patients who entered prior to September 1, 2013.
[c] Risk: No steroid bursts required since last visit or at current visit
[d] Denominator: At least three components 1-4 entered; asthma considered well controlled when patient reports corresponding control across components 1-5 & no steroid bursts since last visit

% Patients Achieving Well Controlled Asthma by Each Visit
N=149 with >=3 visits by Jan 2015

Baseline: 26.2%
Visit 2: 54.4%
Visit 3: 78.5%

Baseline estimated by % patients with intermittent disease

Figure 1. Reduced ED visits and Hospitalizations Post Year (N=128)

Significant decrease in percent of patients who experienced a morbidity event post year (p<.05)

[Patients treated during time period September 2013-December 2014 and engaged in program at least six months]

Total Number of ED visits
Pre year: 121 ED visits
Post year: 17 ED visits

Total Number of Hospitalizations
Pre year: 10 Hospitalizations
Post year: 1 Hospitalizations

	ED visits (p<.001)		Hospitalizations (p=.039)	
	Pre Year	Post Year	Pre Year	Post Year
	42.2%	7.8%	6.3%	0.8%
■ Two or more	20.3%	2.3%	0.8%	0.0%
■ One	21.9%	5.5%	5.5%	0.8%

Figure 2. Reduced School Days Missed Post Year (N=128)

Significant decrease in percent of patients who missed >=5 school days due to asthma post year (p<.05)

[Patients >=5 years of age at entry, treated during time period Sep 2013-Dec 2014, and engaged in program at least six months]

Total Number of School Days Missed
Pre year: 445 School days missed
Post year: 109 School days missed

	Pre Year	Post Intervention Year
	59.4%	26.2%
■ >10 days	6.8%	1.7%
■ 5-10 days	19.5%	2.5%
□ 1-4 days	33.1%	22.0%