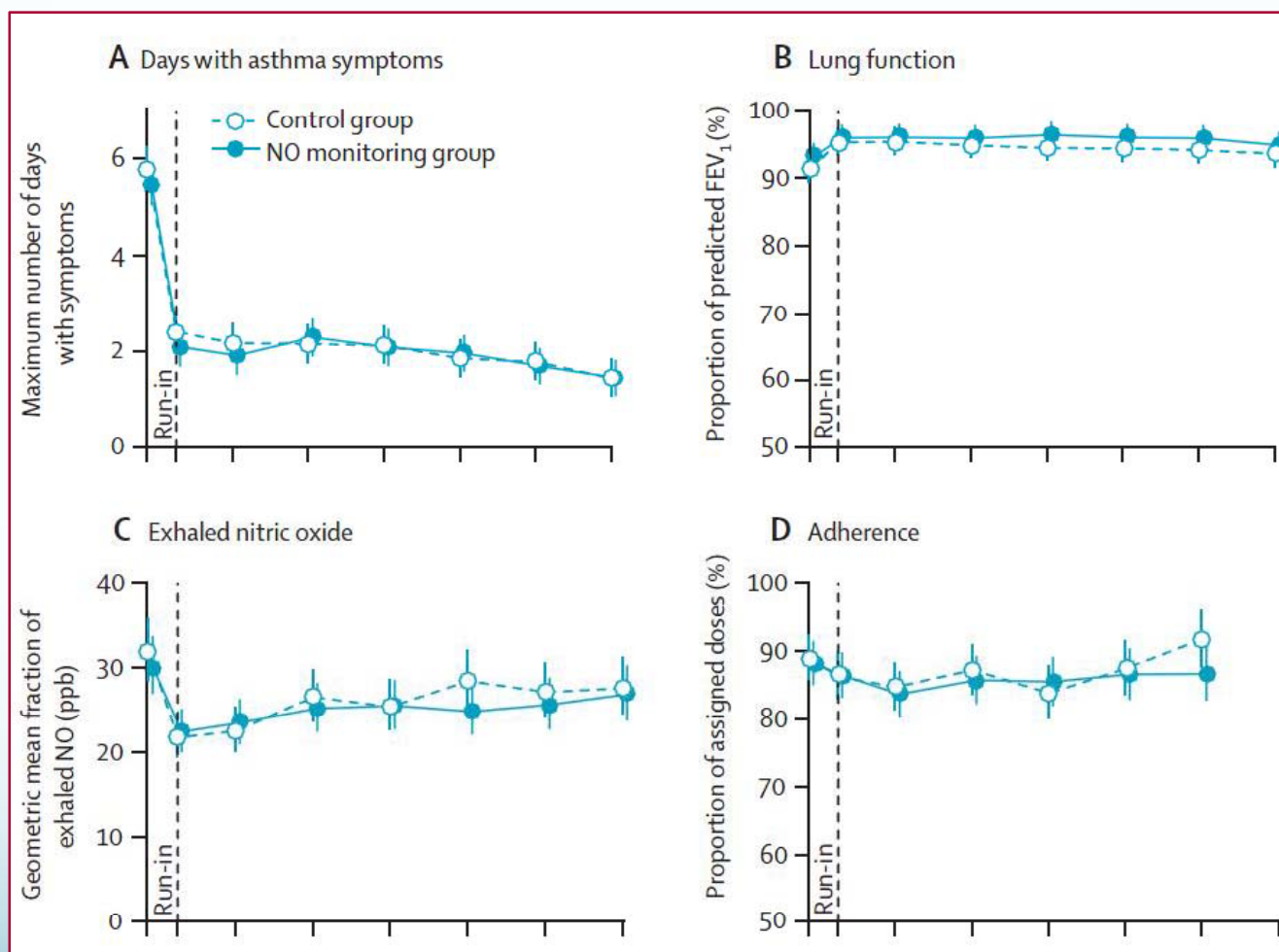


Como Reducir Hospitalizaciones por Asma

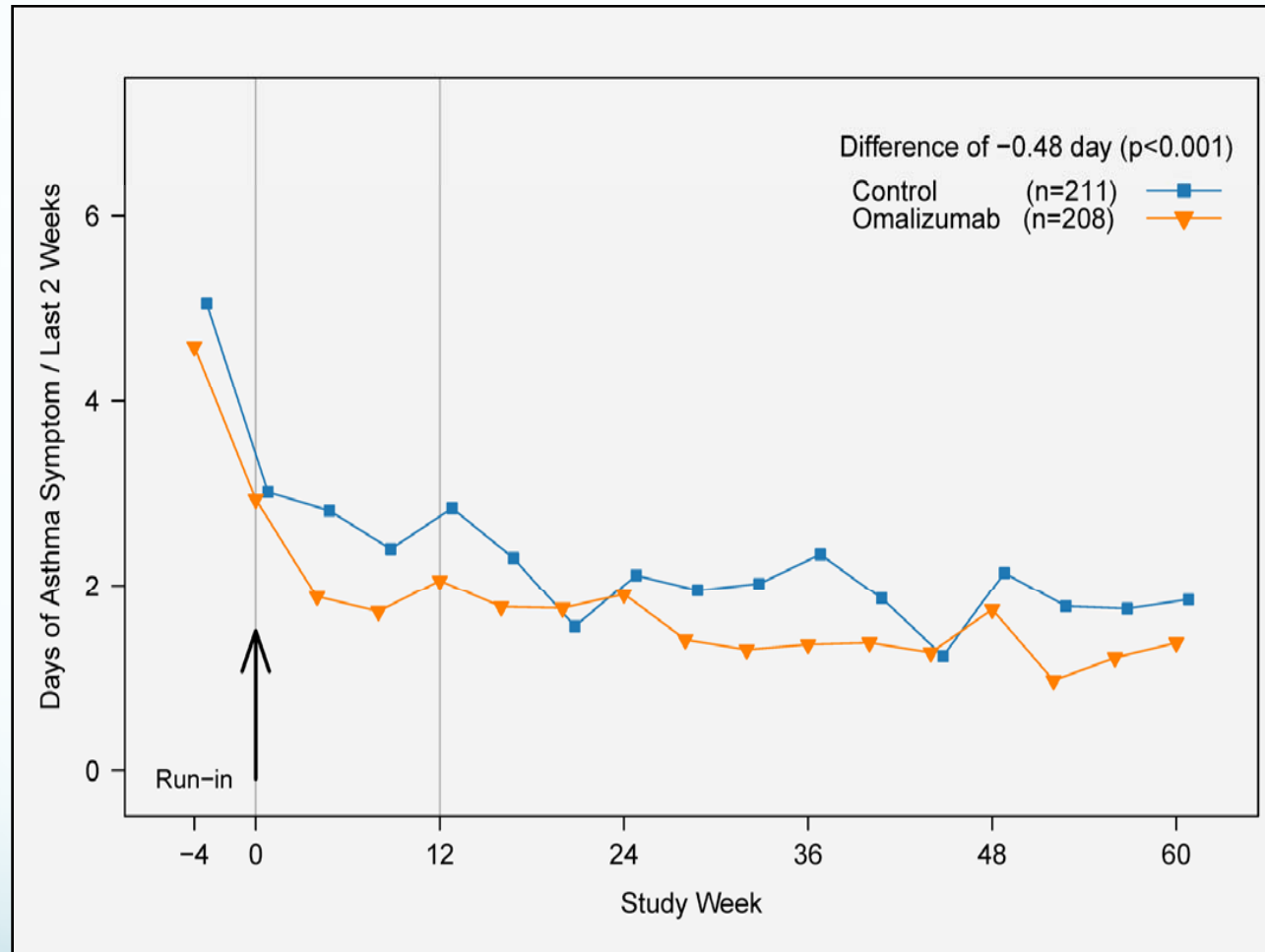
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Guideline-based Treatment Results in Rapid Asthma Control



Szefer SJ, Mitchell H, Sorkness CA, et al. Management of asthma based on exhaled nitric oxide in addition to guideline based treatment for inner-city adolescents and young adults: a randomized controlled trial. *Lancet* 2008;372:1065-72.

Guideline-based Treatment Results in Rapid Asthma Control



Busse WW, Morgan WJ, M.D., Gergen PJ, et al. Randomized trial of omalizumab (anti-IgE) for asthma in inner-city children. *N Engl J Med* 2011; 364:1005-1015.

AAP Chapter Quality Network

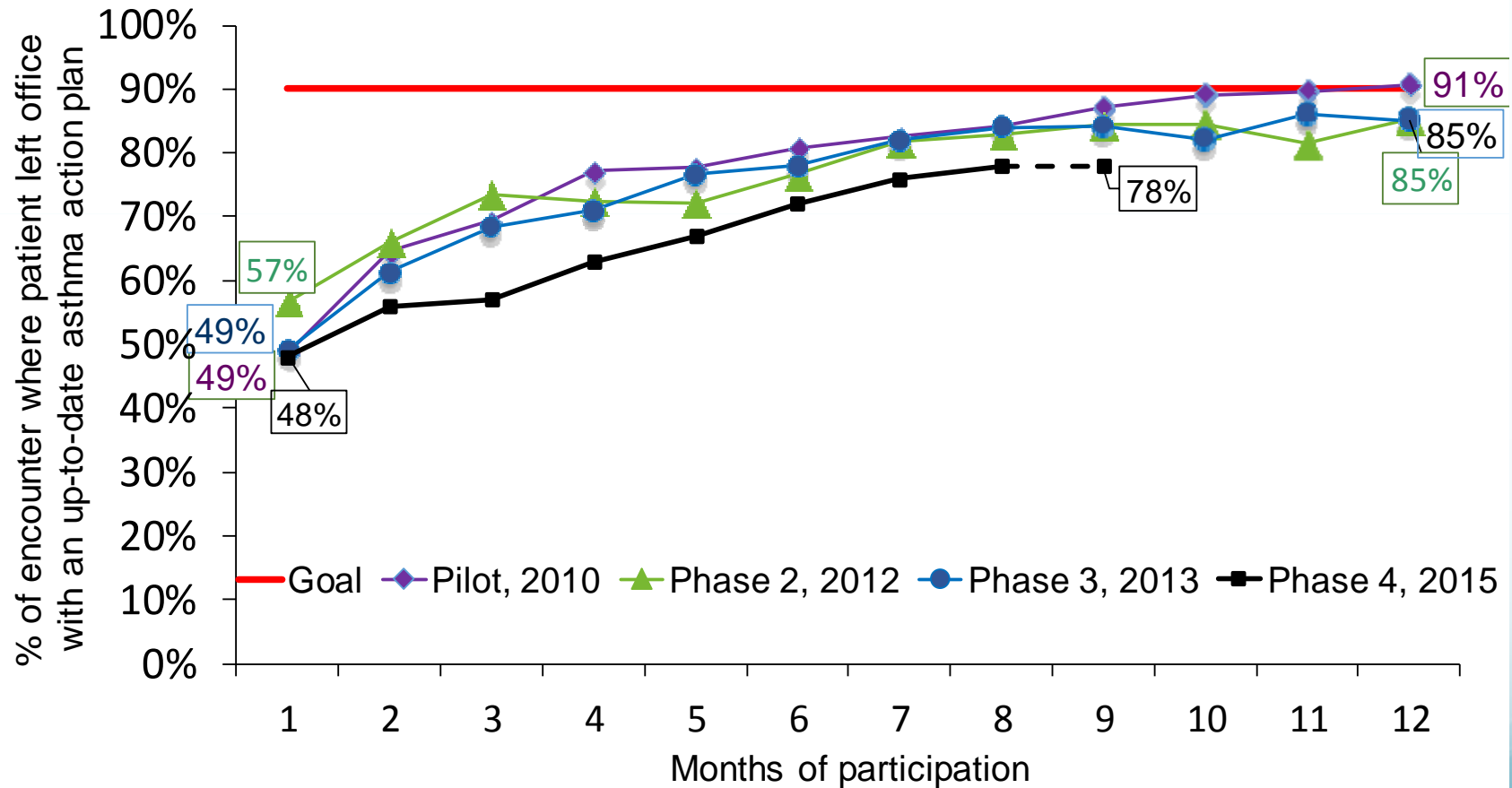


- Works with state/regional chapters through disease-specific initiatives (Asthma, ADHD, Adolescent Substance use)
- Dual focus
 - Develop QI training capacity at the chapter level
 - Train individual providers to incorporate best practices and QI into individual clinical practices
- Uses face-to-face and distance learning technologies, coaching
- Utilizes a registry to track key metrics (“key drivers”)

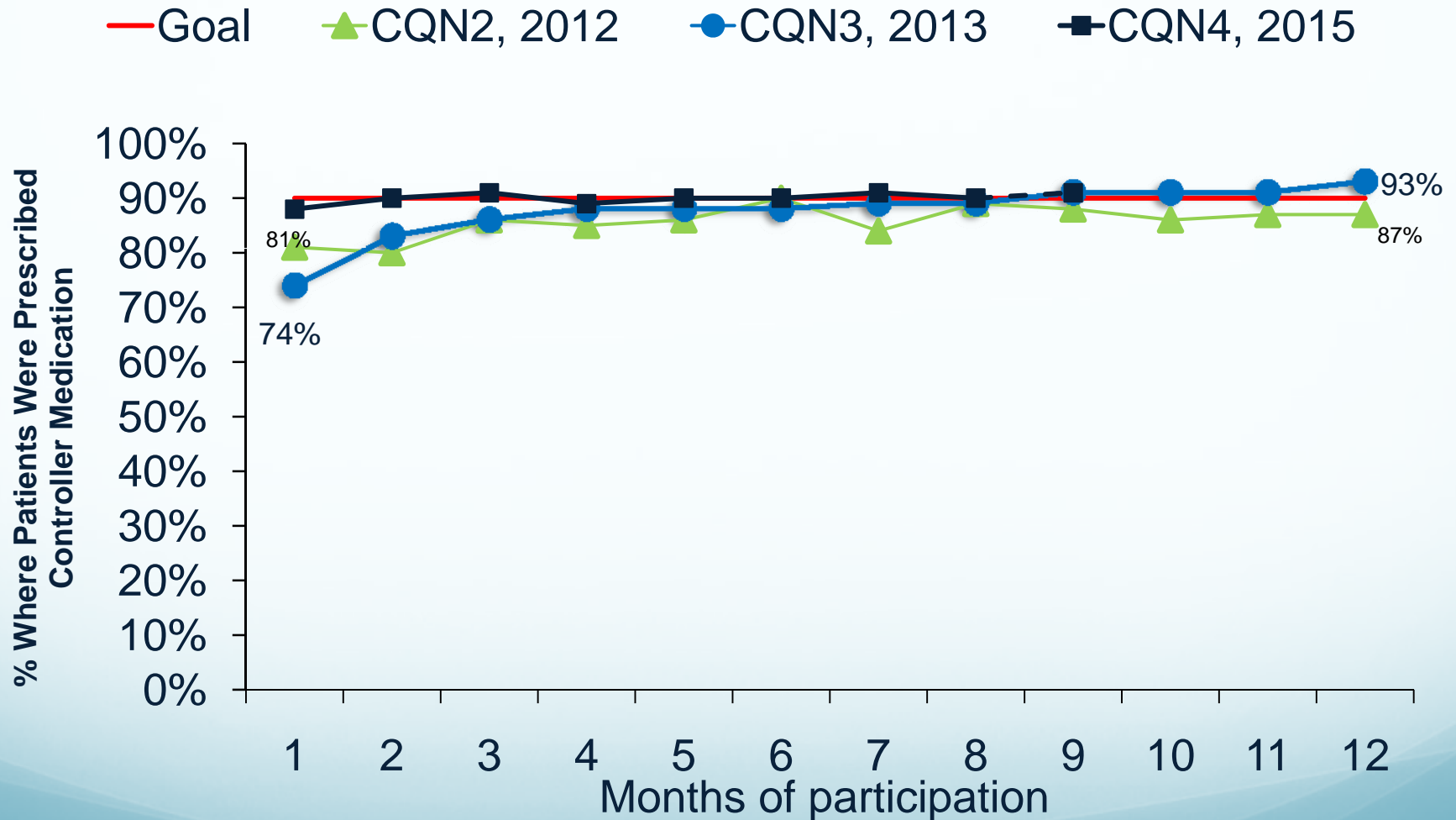
CQN Optimal asthma care



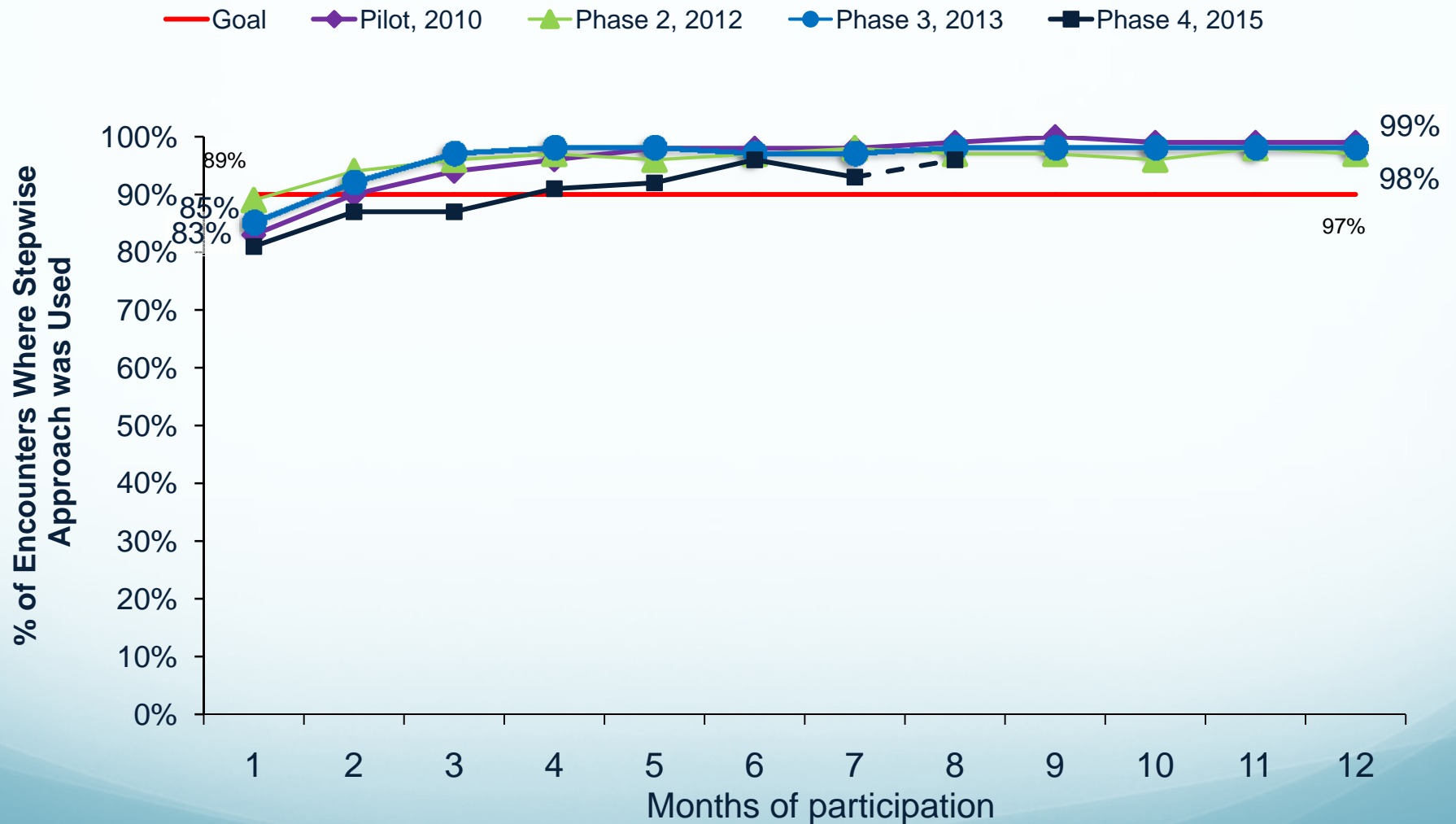
Asthma Action Plans



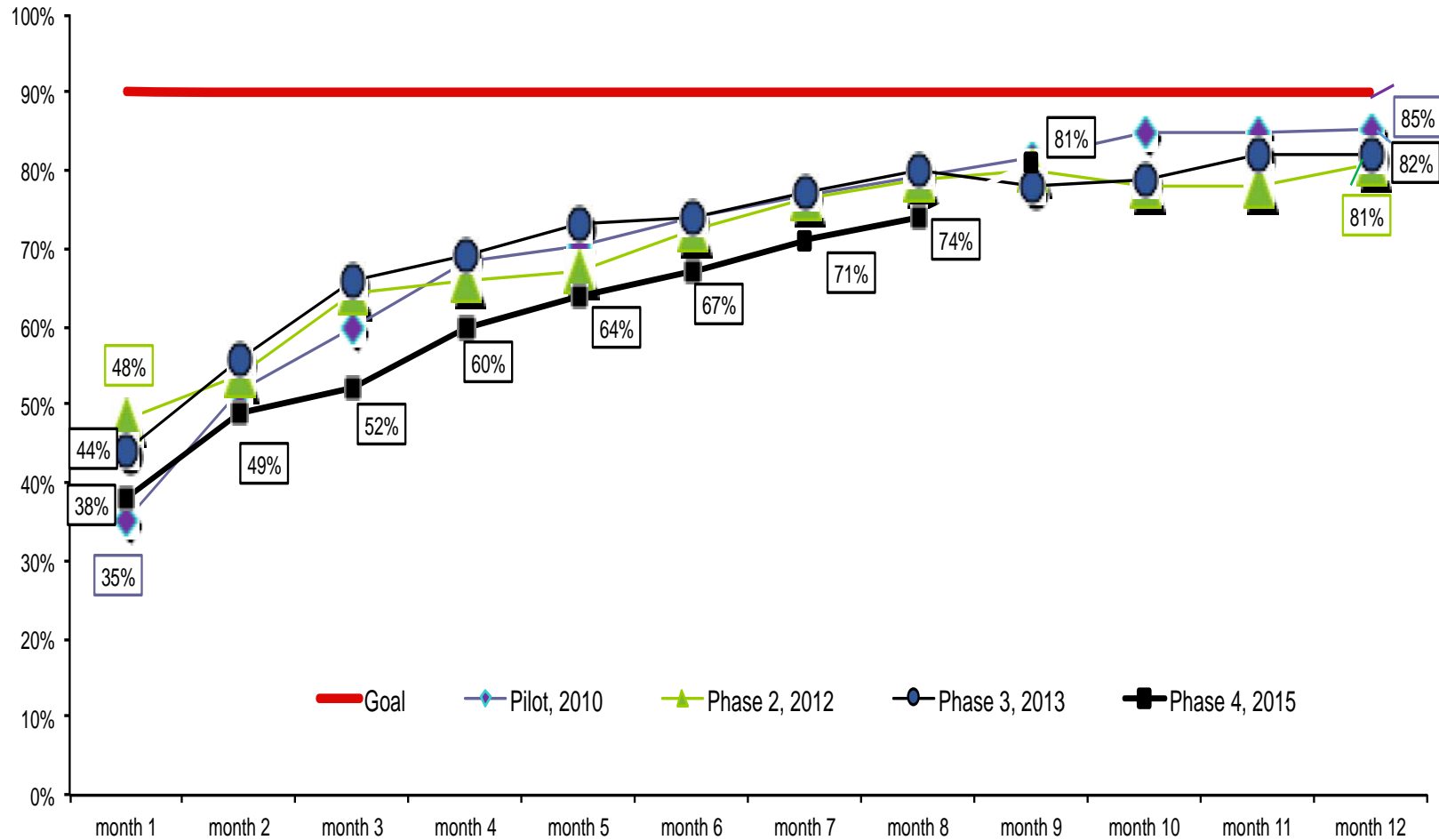
CQN Optimal asthma care



CQN Optimal asthma care



CQN Optimal asthma care



Optimal Asthma Care = % of encounters with all of the following: assessment of asthma control, stepwise approach used to adjust treatment, written asthma action plan and children with persistent asthma on a controller medication

The Inner City Asthma Study (ICAS)



- Multi-center, randomized, controlled trial of
 - Comprehensive environmental remediation
 - Physician feedback on participant asthma status
- 937 children aged 5 to 12 years with moderate asthma enrolled from inner-city census tracts
 - Boston, Bronx, Chicago, Dallas, New York, Seattle, and Tucson
- Positive skin test to ≥ 1 indoor allergen
- One year of intervention followed by one year of observation

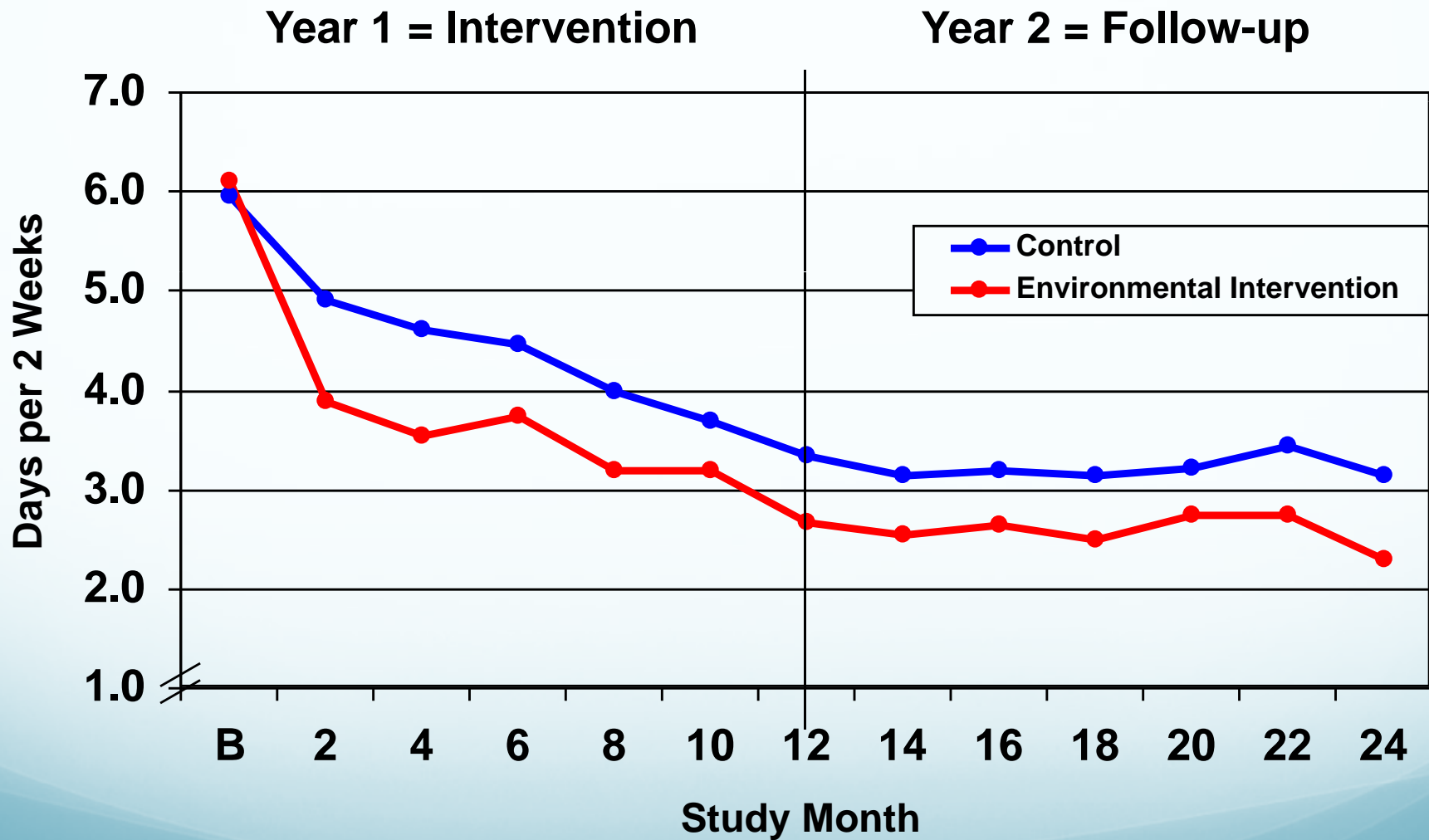
Morgan WJ, et al. Results of a home-based environmental intervention among urban children with asthma. N Engl J Med 2004;351:1068-80.

ICAS Environmental Intervention Outcomes

- Environmental intervention was associated with significantly reduced asthma morbidity over two years:
 - Maximum symptom days ($P < 0.001$)
 - Days of wheeze ($P < 0.001$)
 - Nights caretaker woke up ($P < 0.001$)
 - Missed school days ($P = 0.003$)
 - Unscheduled visits for asthma ($P < 0.04$)

(Morgan et al. NEJM 2004;351:1068-80)

ICAS Primary Outcome Maximum Symptom Days



(Morgan et al. NEJM 2004;351:1068-80)

ICAS: Cost Effectiveness

	Total direct medical costs per child (2 y)	SFDs (2 y)
ICAS intervention group (n = 408)	\$4704	566.6
Control group (n = 392)	\$3662	528.8
ICER	\$27.57 per SFD gained (95% CI, \$7.46-\$67.42)	

Study cost was \$1,469 per family in 2001 dollars. The ICER gives the cost per additional symptom free day (SFD) gained per child over the 2-year period.

(Kattan, M et al. J Allergy Clin Immunol 2005;116:1058-63.)

ICAS Cost Effectiveness

- The current estimate likely overestimates potential cost per symptom-free day
 - Other household members with asthma may have benefited
 - Duration of the effect would likely have lasted longer than the single observation year
 - Cost could also have been reduced by using a single remediation counselor instead of two counselors/visit
 - Missed school days were decreased by the intervention and the reduction of these indirect costs alone could have led to a cost savings
 - The control group had a substantive reduction in symptoms possibly due to an “attentional” effect leading to an underestimation of real-world savings

(Kattan, M et al. J Allergy Clin Immunol 2005;116:1058-63.)

Boston Community Asthma Initiative

- Children 2-18 years from 4 urban zip codes were eligible
- Subjects identified through ED & hospital admission records; 283/562 (50.4%) agreed to participate.
- 55.1% male; 39.6% Black, 52.3% Latino; 72.7% Medicaid; 70.8% household income <\$25K

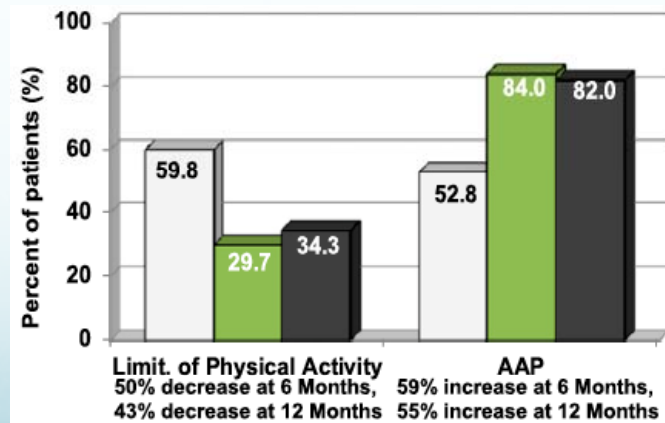
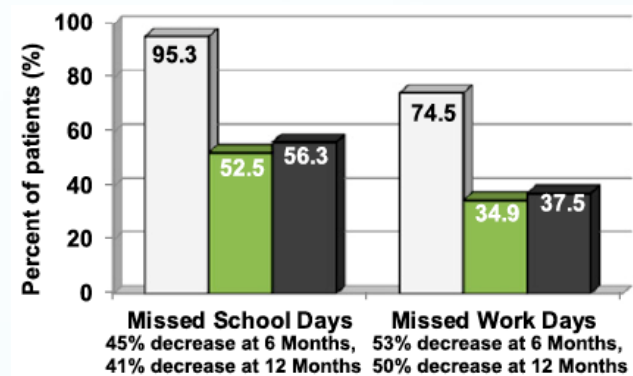
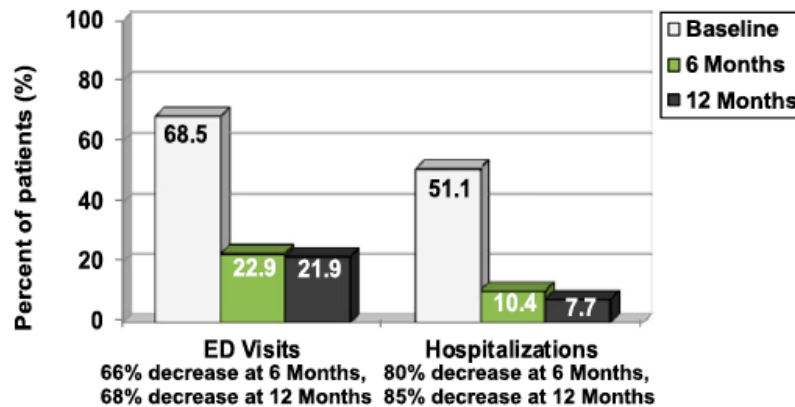
Woods ER, et al. Pediatrics 2012; 129:465-472.

Boston Community Asthma Initiative

- Home visits in 203/283 (71.7%) families
 - 176 Nurse
 - 145 Community health worker
 - 40 Exterminator
- Retention 68% at 6 months, 60% at 12 months

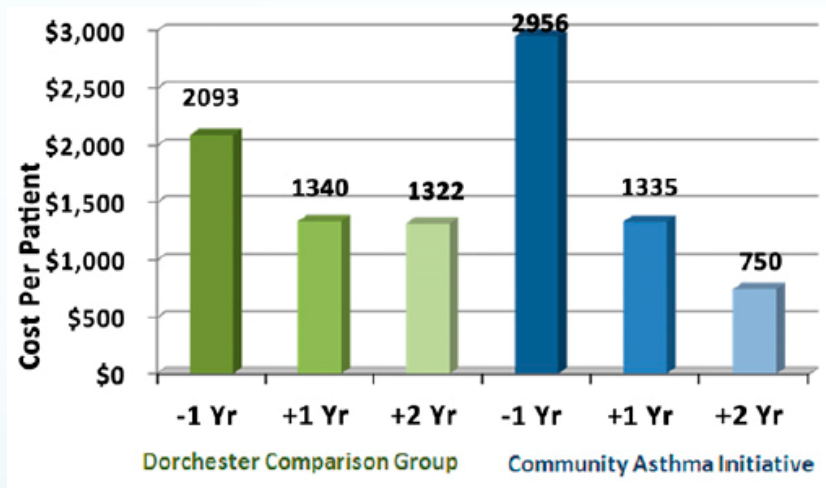
Woods ER, et al. Pediatrics 2012; 129:465-472.

Boston Community Asthma Initiative



Boston Community Asthma Initiative

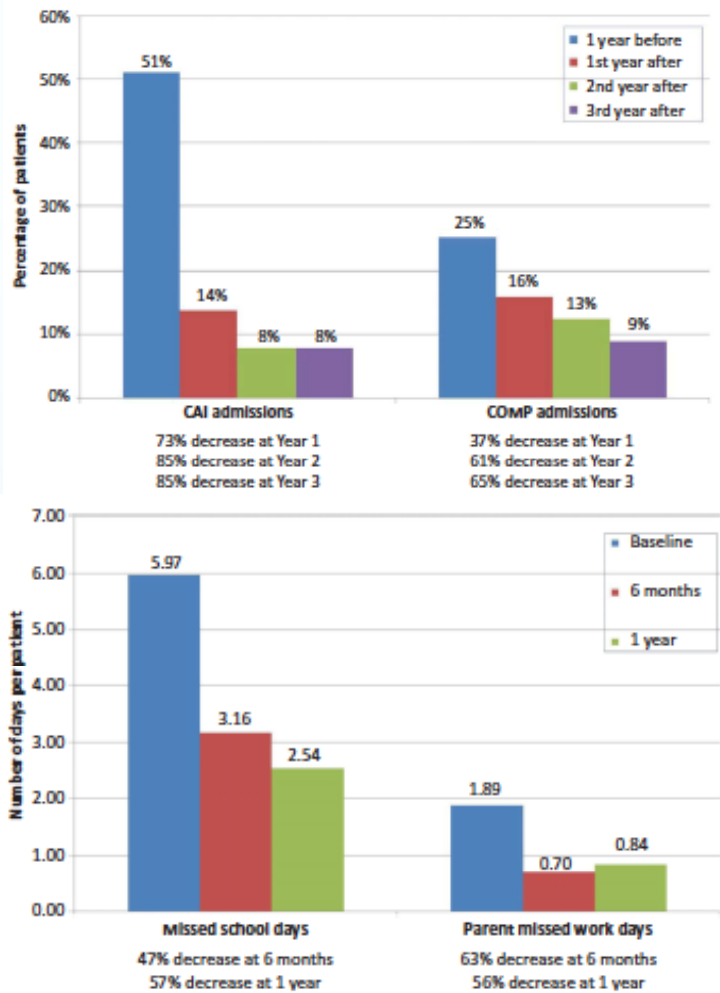
ED Visits & Hospitalizations



- Cost per child over 2 years = \$2529
- Savings per child over 2 years = \$3827
- ROI = 1.46

Woods ER, et al. Pediatrics 2012; 129:465-472.

Boston Community Asthma Initiative



- 3-year Unadjusted ROI = 2.04
- 2-year Adjusted ROI = 1.06
- 3-year Adjusted ROI = 1.33
- 3-year Adjusted SROI = 1.85

Bhaumik U, et al. J Asthma 2013; 50:310-317

Asthma Action Plans

- Recommended in both NIH and GINA guidelines
- Role of peak flow monitoring unclear; symptom-based steps may be sufficient
 - Short-term peak flow monitoring
 - Following an exacerbation, to monitor recovery.
 - Following a change in treatment, to help in assessing whether the patient has responded.
 - If symptoms appear excessive (for objective evidence of degree of lung function impairment).
 - To assist in identification of occupational or domestic triggers for worsening asthma control
 - Long-term monitoring
 - For earlier detection of exacerbations, mainly in patients with poor perception of airflow limitation.
 - For patients with a history of sudden severe exacerbations.
 - For patients who have difficult-to-control or severe asthma

Asthma Action Plans

- Oral corticosteroids as part of home asthma action plan
 - Recommended for adults in GINA
 - Require medically astute parents
 - Use should be approved by physician and noted in medical record for control assessment

Resumen

- Guideline/Evidence-based treatment works
- Systematic quality improvement efforts lead to improvements in care
- Home visits are both medically effective and cost effective
- Action plans, including home administration of oral corticosteroids, can avoid emergency department visits and hospitalizations

