



Community-based Strategy for Improving Asthma Management and Outcomes for Preschoolers

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Rationale

- Asthma in childhood causes significant morbidity, school absenteeism, ED visits and hospitalization, often beginning age 3-5.
- Most school asthma interventions begin in elementary school which may not be early enough.
- Partnerships with day care centers can enhance earlier identification of children with asthma and improve asthma management.
- Improving asthma management when children are newly diagnosed may carry on through childhood years.

Goals

- To demonstrate the effectiveness of a parent-reported screening program to identify children with asthma and possible asthma in the day care setting.
- To demonstrate that an educational program offered through the early childhood education setting improves parental management of asthma

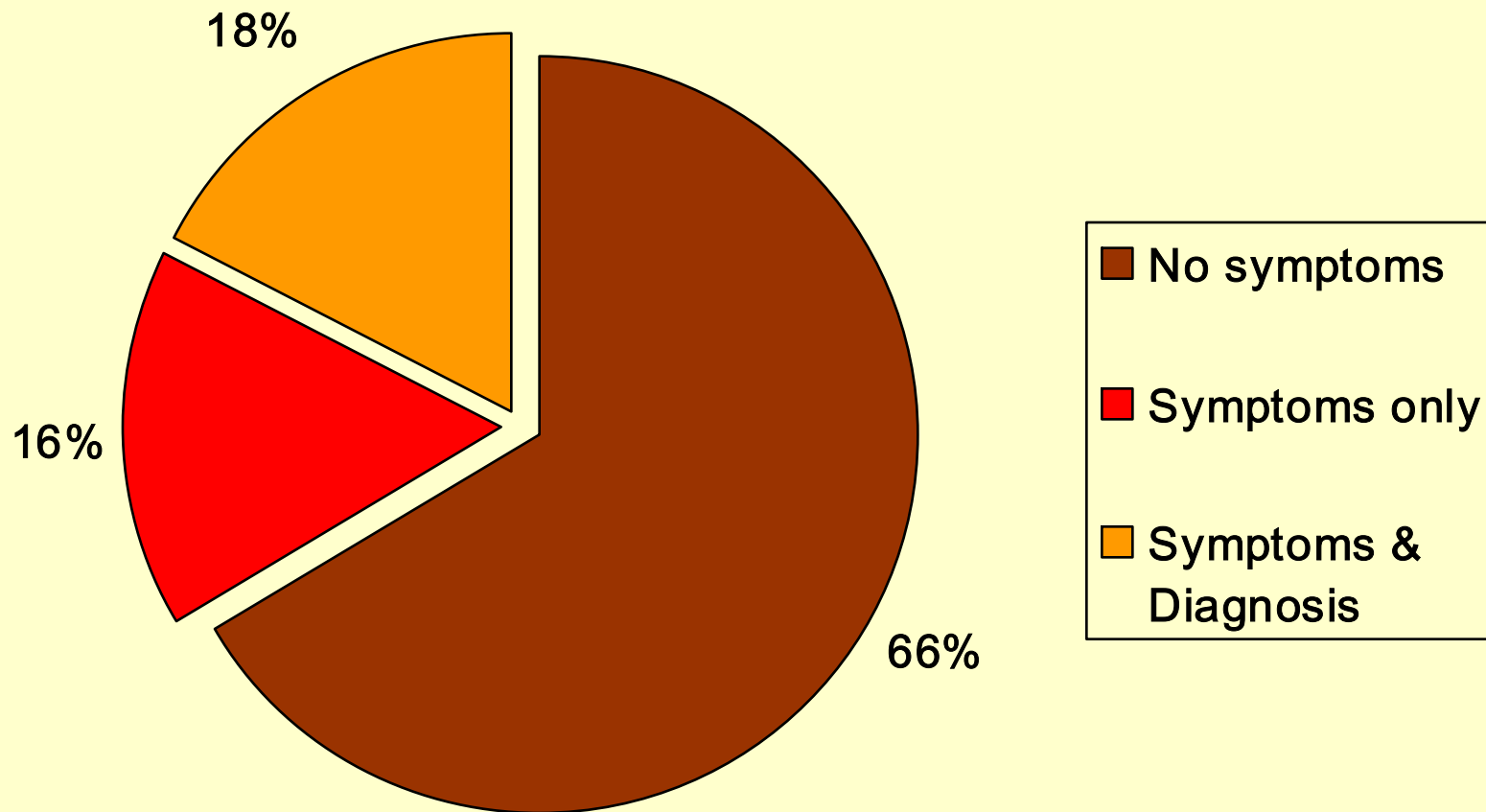
BACKGROUND: Northern Manhattan Asthma Basics for Children /WIN for Asthma Initiative

- Community-based coalition in a low income, minority community of ~450,000 persons in Northern Manhattan (Washington Heights and Harlem, in NYC)
- Multi-dimensional program working with early childhood centers, schools, parenting programs, and community provider networks to help families improve asthma management
- Implemented 2004-07 in 31 childhood centers to train staff, teachers, and parents about asthma.

Methods: ABC Program Steps

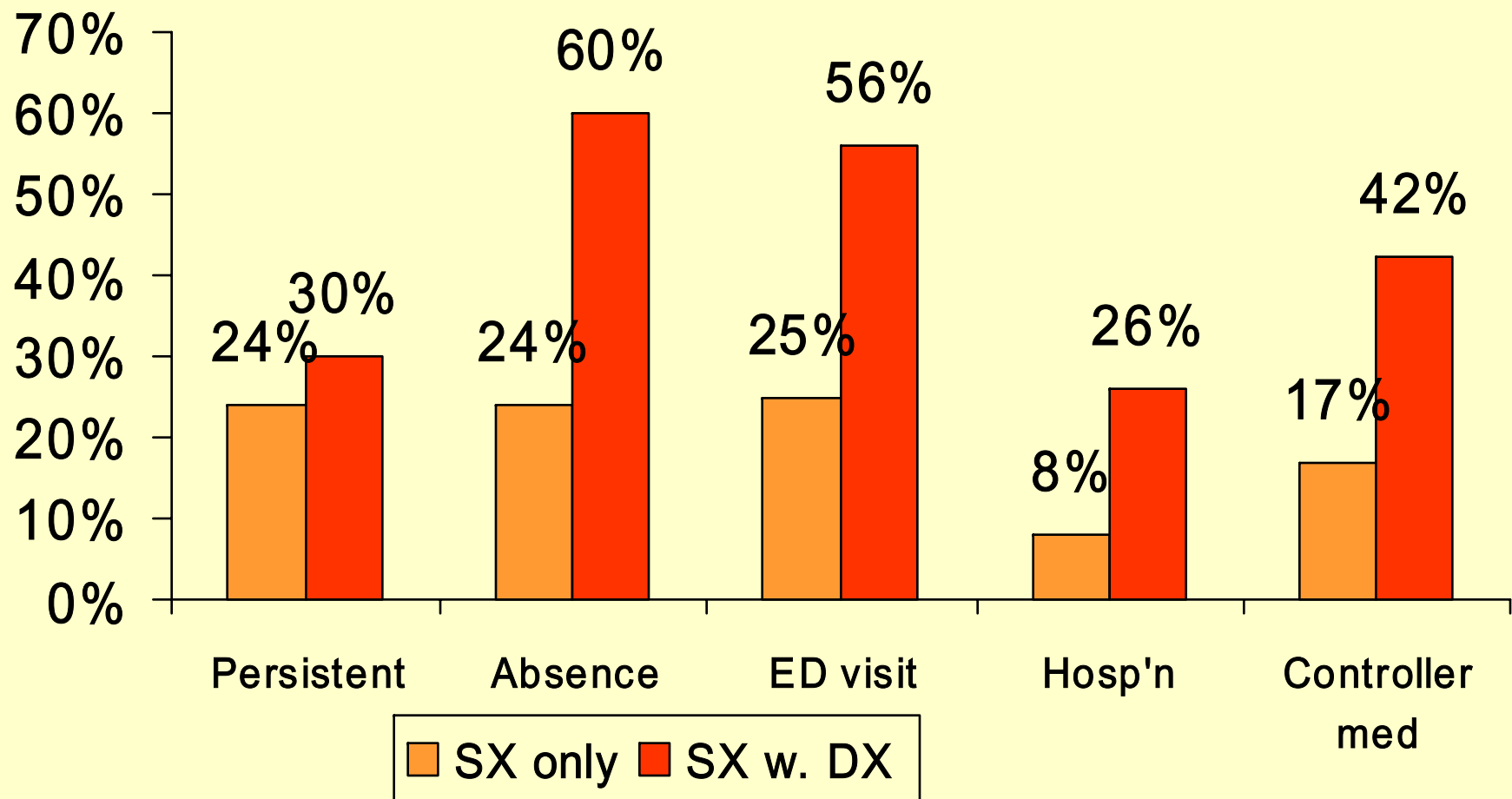
- **Train** teachers and staff about asthma using ABC Handbook as curriculum (n=758 trained, 170/yr.)
- **Distribute** bilingual self-reporting asthma screeners to parents of all children in participating classes (n=7423 with 1606 /year and 65% average completion rate)
- **Identify** children with asthma or asthma symptoms (BRQ symptom questions)
- **Integrate** asthma games and activities into ongoing center activities
- **Conduct** asthma educational workshops and show Roxy to the Rescue for parents of children with asthma, using the ABC Parent Handbook as curriculum
- **Follow-up** at end of school year and beginning of next school year to assess changes in asthma management and outcomes
- Study approved by CUMC and Harlem Hospital/HHC IRBs

Detection of Asthma Symptoms and Diagnosis



N=4794 children 2-5 yrs old screened

Asthma Morbidity at Baseline by Diagnostic Status



- n=629 w. completed baseline screeners out of 1607 children w. SX or DX
- All differences significant at the $p=.05$ level or better

ABC Activities at Day Care/Head Start Centers

- 758 teachers trained in symptom recognition and protocol for response to asthma exacerbations
- Trigger reduction activities initiated at all centers
- All centers incorporated asthma games and activities into their programs
- Parent asthma awareness activities initiated at 96% of the centers

Parents and Children Participate in ABC

- 303 welcome packages distributed to parents of children with asthma
- parents independently participated in ABC activities
 - 244 parents participated in short info sessions
 - 255 parents watched Roxy to the Rescue
 - 853 parents attended ABC parent workshops
- 234 parents referred for care coordination (2006-7 only)
- 13 centers participated in poster competition
- 848 children learned about asthma through games and poster preparation

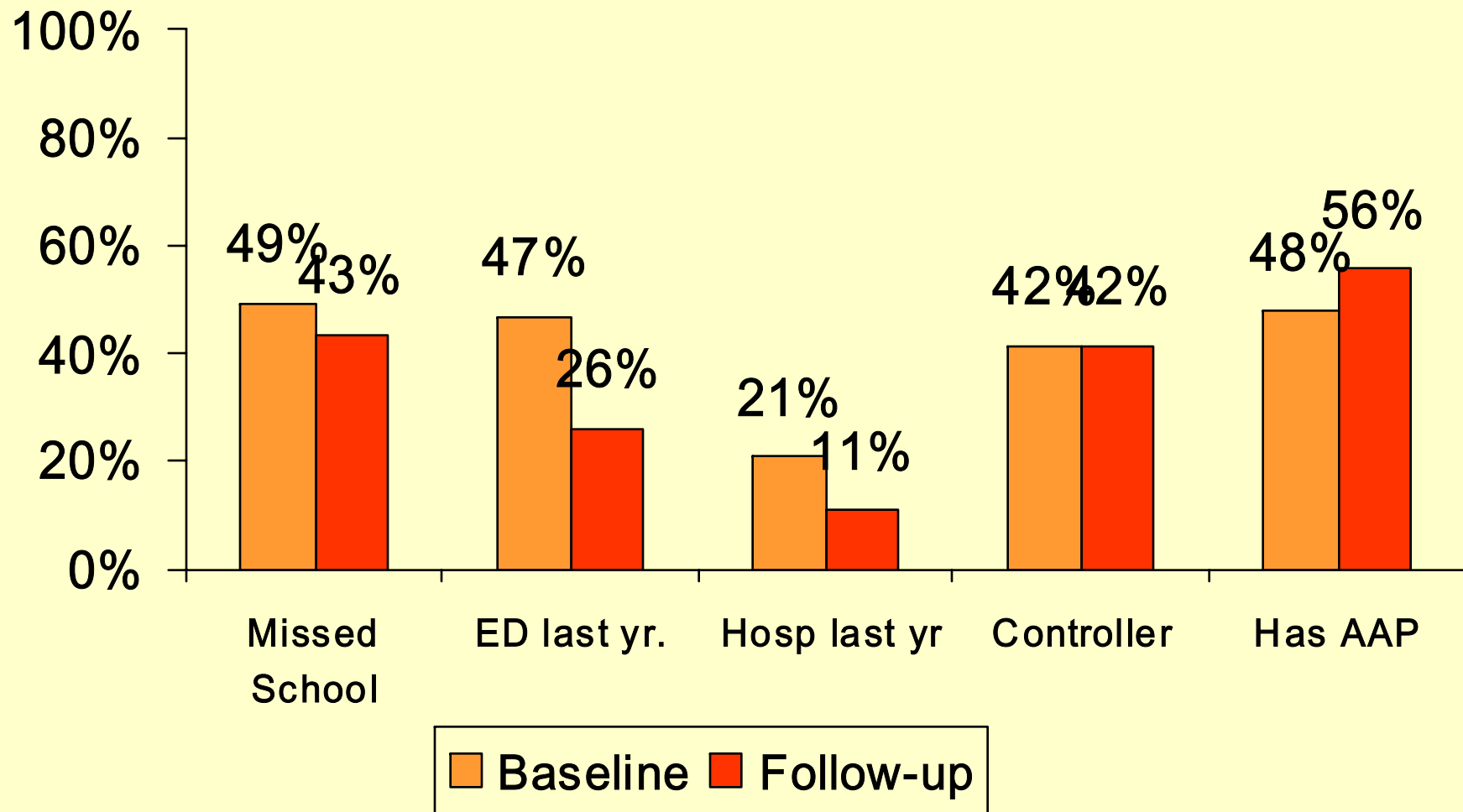
Diagnosis of Asthma after referral for suspected asthma

47% of those referred to a doctor for asthma assessment were diagnosed with asthma

5% of those referred to a doctor for asthma assessment were determined not to have asthma

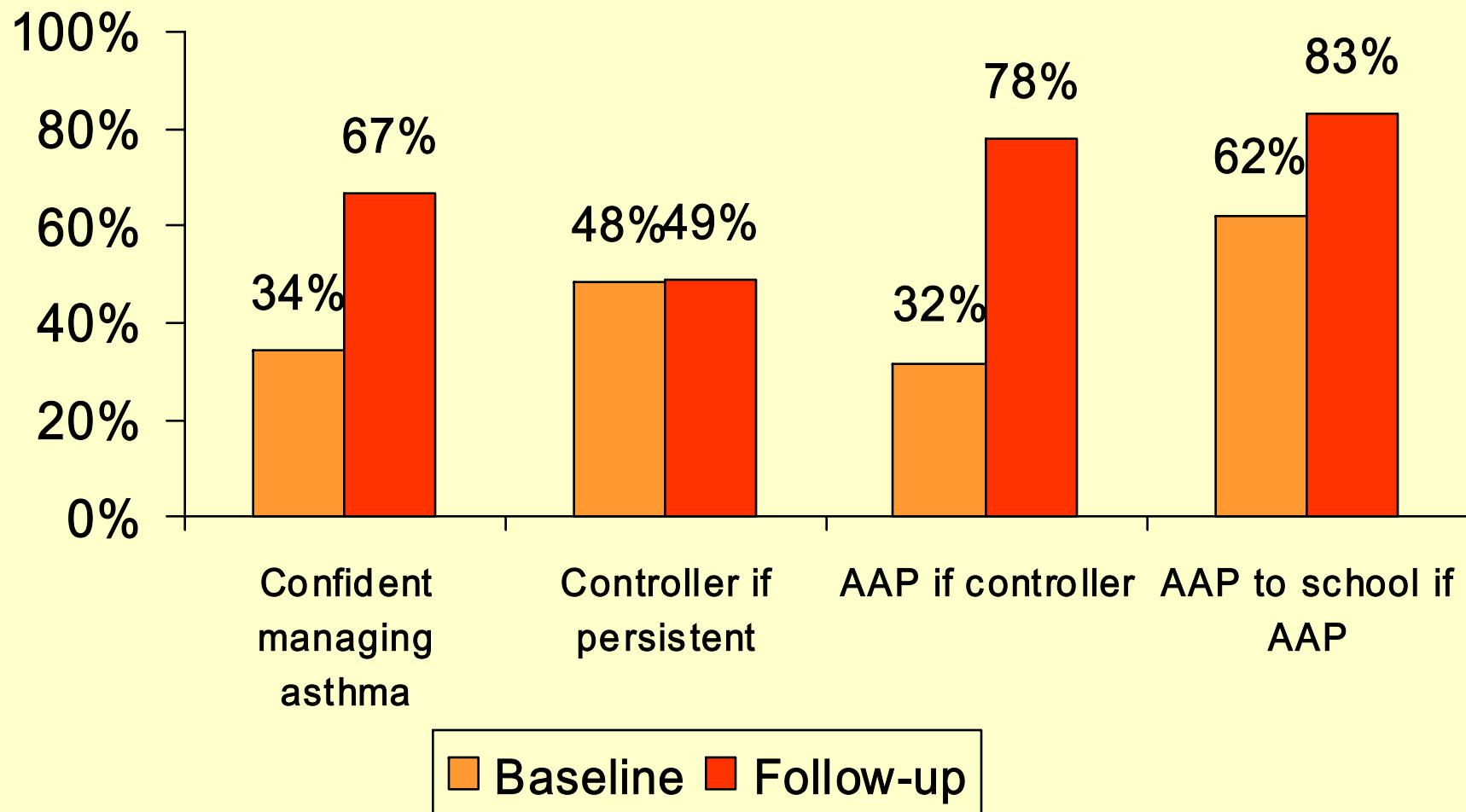
48% of the parents of children with symptoms did not report a change in asthma diagnosis after referral

Asthma Morbidity at Baseline vs. Follow-up, Children w. Diagnosed Asthma



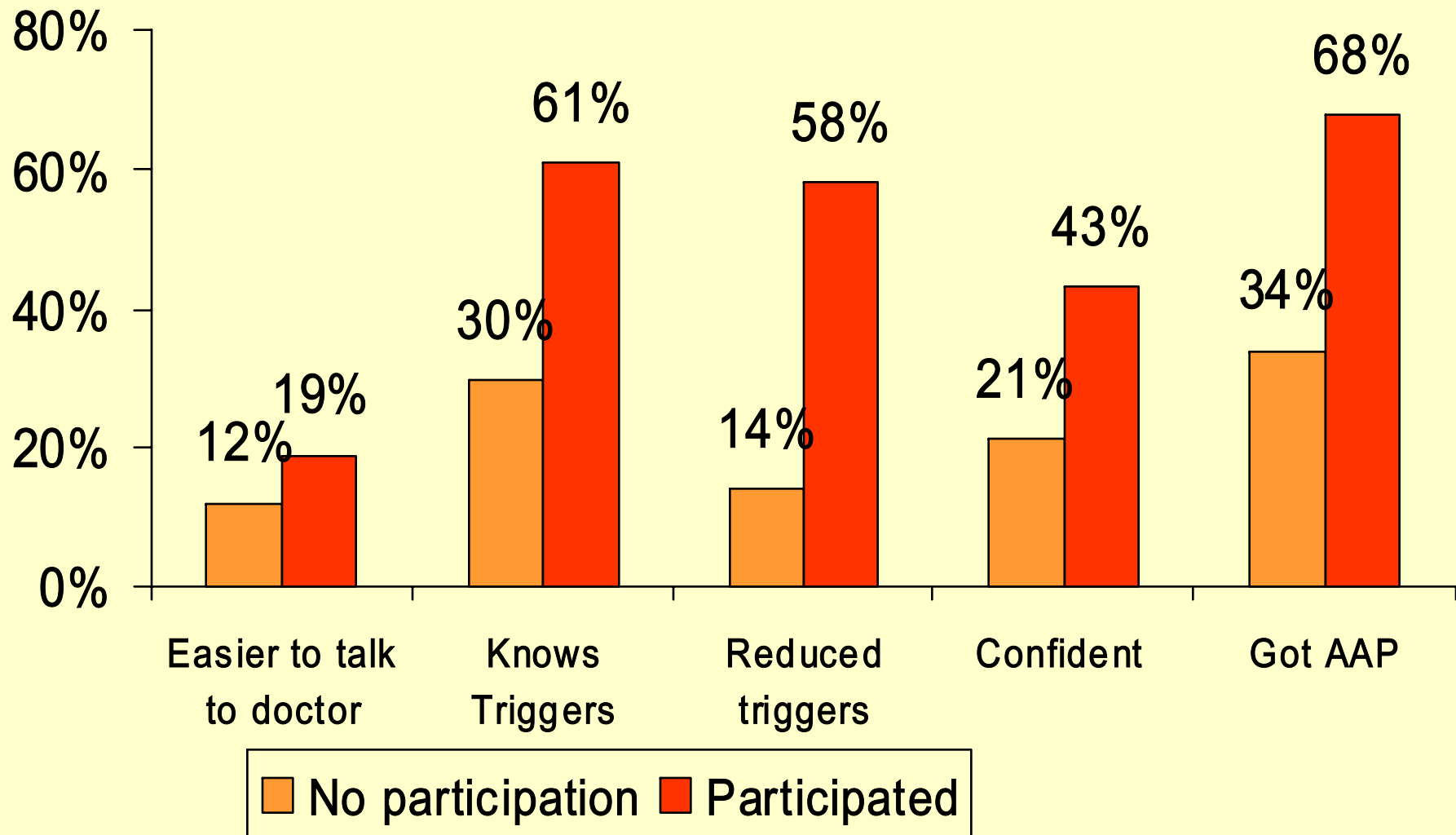
ED visits and hospitalizations significantly different at the $p = .05$ level or better

Asthma Management at Baseline vs. Follow-up, Children w. Diagnosed Asthma



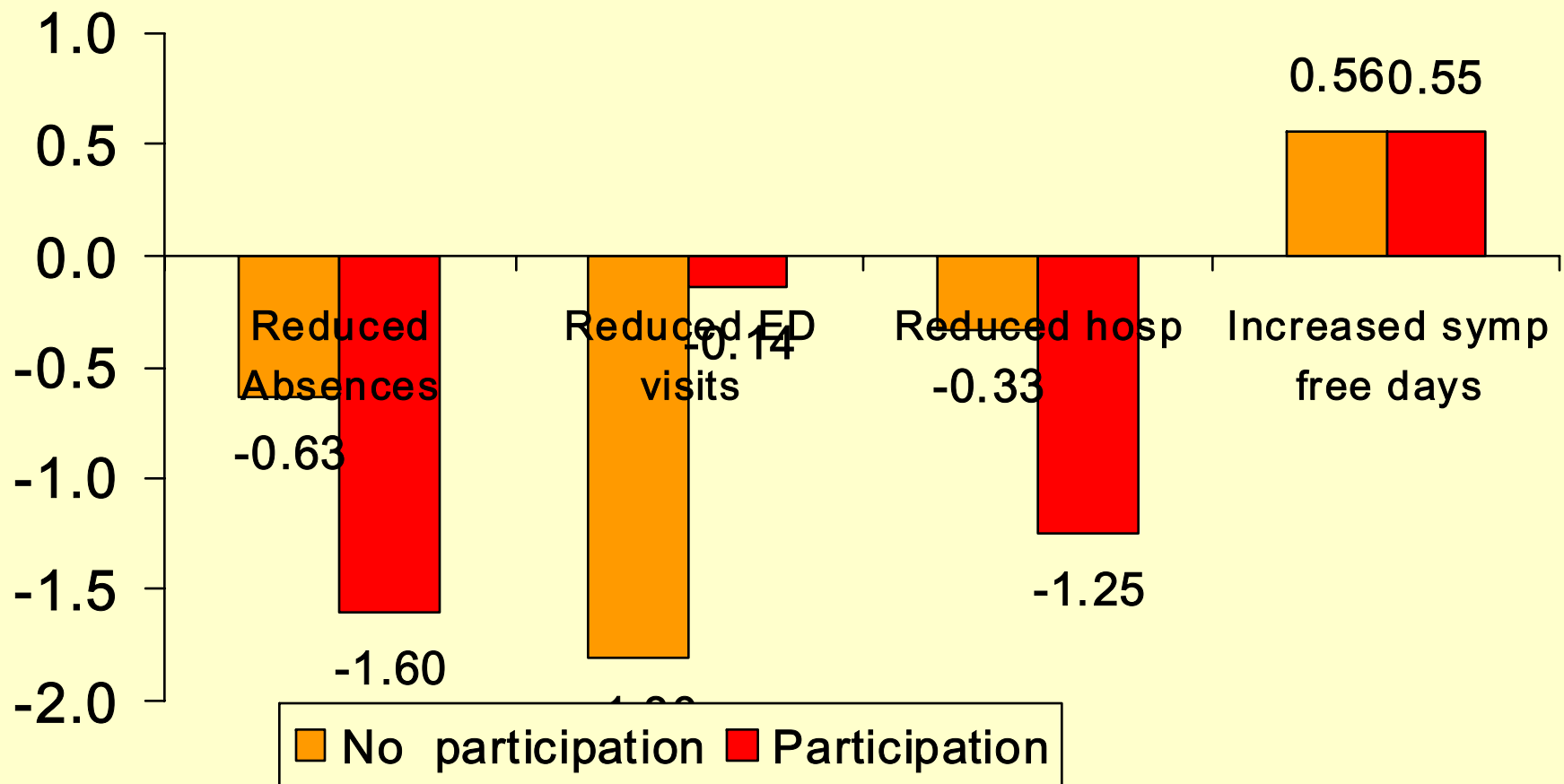
All differences significant at $p=.05$, except AAP to school

Trigger Reduction and Confidence in Talking with the Doctor by Parent Participation in ABC



All differences significant at the $p=.05$ level or better

Reduced Asthma Morbidity (Days) by Parent Participation in ABC



Conclusions

- Early childhood centers and schools welcome the opportunity to launch an asthma program.
- Parental report of asthma symptoms is an effective tool for identifying children with asthma symptoms, regardless of diagnosis status.
 - 18% had an asthma diagnosis
 - 16% had asthma symptoms.
- Half the children referred to a doctor for evaluation of possible asthma were diagnosed with asthma.
- Children with diagnosed asthma showed significant improvements in key asthma management markers: appropriate controller meds, AAP, trigger reduction activities at home.
- Parents who additionally participated in the ABC program obtained the most benefit from the program, with improved management and symptoms compared to parents who did not participate independently.