

# IMPACT OF HEALTHY START HOME VISITING MODEL ON REDUCTION OF PERINATAL HEALTH DISPARITIES IN ALLEGHENY COUNTY, PA:

## *Evaluation of Seven-Year Major Perinatal Outcomes*

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“Reducing Infant Mortality, One Baby At a Time”



# RACIAL DISPARITIES IN PERINATAL HEALTH OUTCOMES

## The Problem

- African-American babies are more than twice likely to die before their first birthday than other babies.

## The Barriers

- High rate of poverty
- High rate of inadequate health insurance
- Health care provider shortages and poor access to health services
- Transportation shortages (both access and distance)
- Inadequate human service systems to meet the needs of the poor and low-income



## BACKGROUND

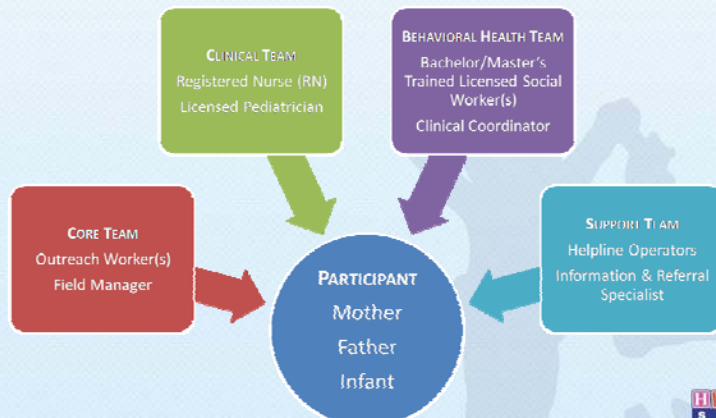
- The Healthy Start Program was launched in 1991 by the Health Resources and Services Administration (HRSA) of the U. S. Public Health Service
- Purpose: Demonstrate innovative ways to reduce infant mortality in some of the areas with the highest infant mortality rates in the country.
- The Pittsburgh/Allegheny County Healthy Start program is designed as an *intensive community-based and community-driven* effort
- Healthy Start utilizes a comprehensive home visiting model that focuses on core interventions to address perinatal health disparities, including the following services:
  - Outreach and Recruitment
  - Case management
  - Interconception care
  - Health education
  - Perinatal depression screening and referral



## HEALTHY START HOME VISITING MODEL

- The Healthy Start Home Visiting Model was developed to reduce barriers by providing participants with access to a host of enabling services and programs while ensuring that participants and their families are not lost to, or within, the system

### MULTIDISCIPLINARY TEAM APPROACH



## CASE MANAGEMENT

- Case management includes:
  - Assessment of participants' needs, interests, and risks
  - Strengths-based and consumer-driven planning
  - Community-based service and/or referral coordination
  - Extensive health education curriculum
  - Depression screening and referral
  - Regular reassessment
- A Plan of Care (POC) serves as a guide to achieving a high sense of self-worth and an ability to take personal responsibility for their well-being.
- Home visiting is the primary method for delivering services



## OBJECTIVE

- The objective of this analysis was to assess the impact of the Healthy Start Home Visiting Model by comparing major birth outcomes in Healthy Start participants to both county and state populations.



## METHODS

- The outcome variables were :
  - Percent Entering Prenatal Care within First Trimester
  - Percent Preterm Births (Birth < 37 weeks)
  - Percent Low Birth Weight (<2,500 grams)
  - Infant Mortality (Death before age 1)
- Data for Healthy Start participants was abstracted from the Healthy Start Participant Information Management Systems (PIMS).
- Data for Allegheny County and Pennsylvania was abstracted from the Pennsylvania State Epidemiologic Query and Mapping System (EpiQMS®) and the National Center for Health Statistics Natality Report (2008)
- Only African-Americans in Healthy Start population were used for comparisons with African-Americans in county and state population.
- Statistical Analysis: Student T-test and  $\chi^2$  statistics were used to test for significant differences between populations using SPSS Software® (SPSS, Inc.)



## HEALTHY START PARTICIPANT DEMOGRAPHICS

Table 1: Healthy Start Participant Demographics (2003-2009)

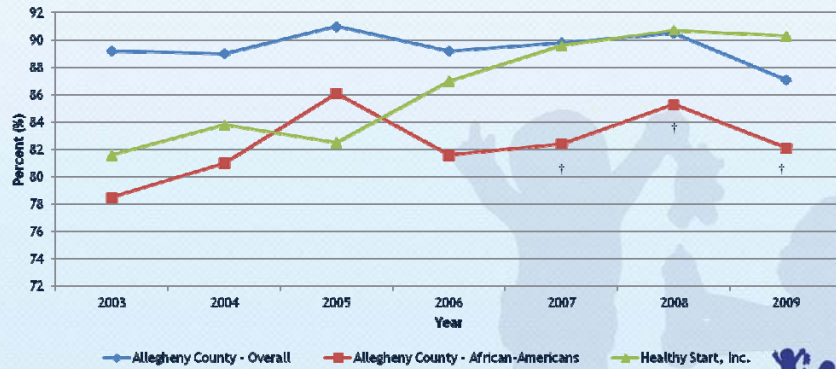
	2003 <i>n</i> =621	2004 <i>n</i> =592	2005 <i>n</i> =755	2006 <i>n</i> =723	2007 <i>n</i> =762	2008 <i>n</i> =683	2009 <i>n</i> =776
Age (years)	23.0	22.4	22.8	22.6	23.0	24.8	25.0
% African-American	85.3	84.9	84.0	86.8	88.9	87.5	87.2
% Married	8.9	11.1	6.3	10.8	9.8	10.4	9.4
% with High School Education	40.1	38.5	48.4	41.5	48.6	58.9	55.0
Annual Household Income (\$)	6,360	7,335	6,246	6,805	7,899	7,079	7,133

- Healthy Start's target population is primarily young, African-American, single, and poor.
- The percent of women with at least a high school diploma has increased over the study period from as low as 38.5% in 2004 to 55.0% in 2009. (*p*= 0.043)



# FIRST TRIMESTER PRENATAL CARE

**Figure 1: Percent Entering Prenatal Care in the First Trimester in Healthy Start Participants vs. Allegheny County, PA (2003 - 2009)**

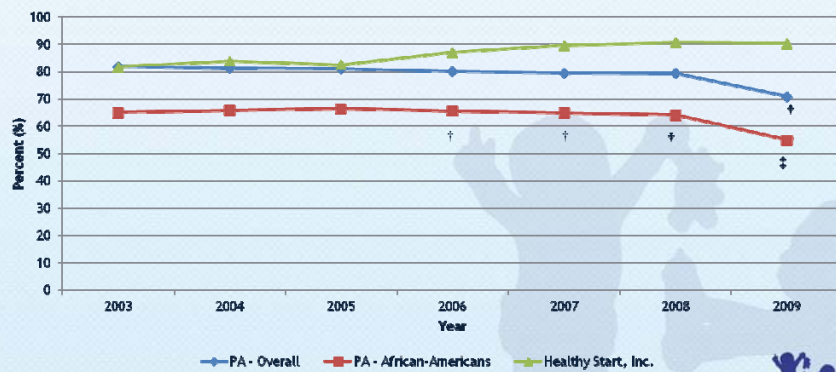


† - p<0.05    ‡ - p<0.001



# FIRST TRIMESTER PRENATAL CARE

**Figure 2: Percent Entering Prenatal Care in the First Trimester in Healthy Start Participants vs. Pennsylvania (2003 - 2009)**

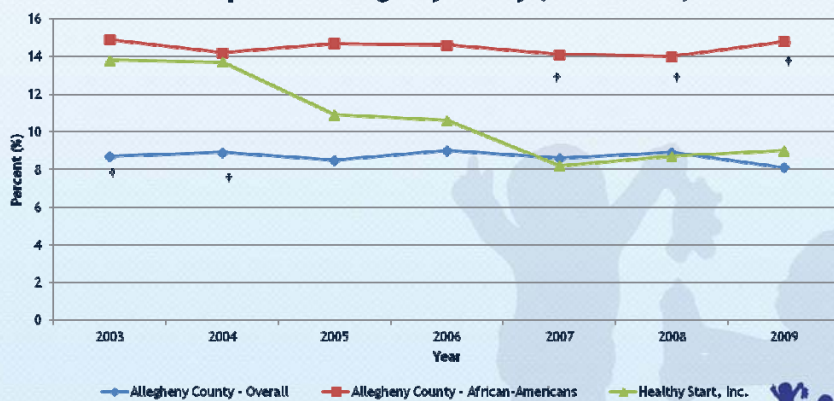


† - p<0.05    ‡ - p<0.001



## LOW BIRTH WEIGHT

Figure 3: Percent Low Birth Weights in Healthy Start Participants vs. Allegheny County (2003 - 2009)

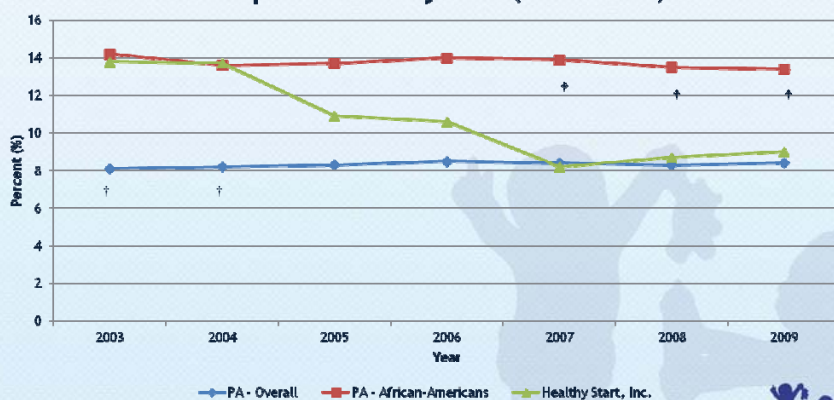


† - p<0.05    ‡ - p<0.001



## LOW BIRTH WEIGHT

Figure 4: Percent Low Birth Weights in Healthy Start Participants vs. Pennsylvania (2003 - 2009)

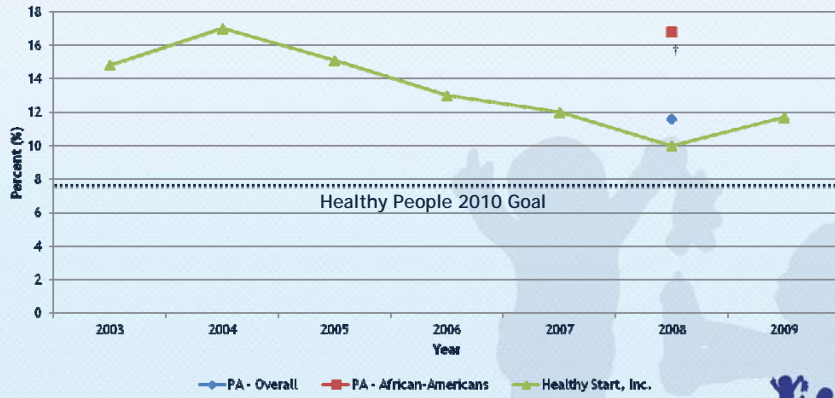


† - p<0.05    ‡ - p<0.001



# PRETERM BIRTHS

**Figure 5: Percent Preterm Births in Healthy Start Participants (2003 - 2009)**

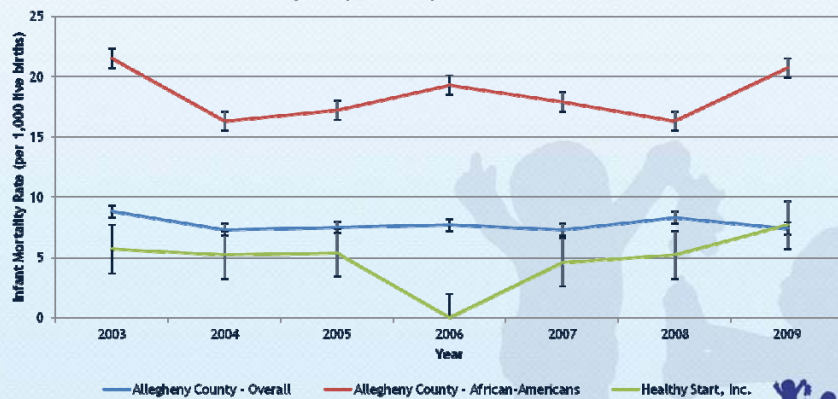


† - p<0.05    ‡ - p<0.001



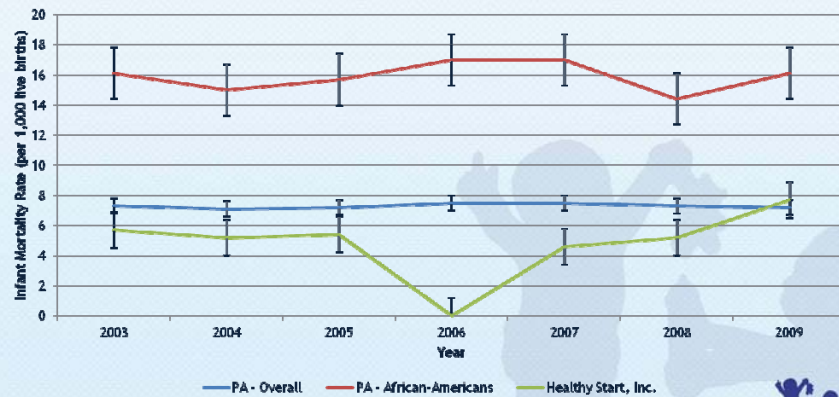
# INFANT MORTALITY

**Figure 6: Infant Mortality in Healthy Start Participants vs. Allegheny County (2003 - 2009)**



## INFANT MORTALITY

Figure 7: Infant Mortality in Healthy Start Participants vs. Pennsylvania (2003 - 2009)



## RESULTS

- Infant Mortality rates were significantly lower for Healthy Start participants compared to African-Americans in Allegheny County and Pennsylvania for the entire seven year period
- The percent low weight births was significantly lower for Healthy Start Participants 2007-2009
- The percent of preterm births was lower than the Pennsylvania average for 2008, but higher than the HP 2010 Goal
- The proportion of Healthy Start participants entering prenatal care in the first trimester remains >90%, despite lowering rates in the county and statewide, specifically African-Americans



## CONCLUSIONS

- Despite the vulnerable, high risk population (mostly African-American, young, single, and impoverished) served by Healthy Start, implementation of the Healthy Start Home Visiting Model is successful at preventing adverse perinatal outcomes
- This analysis is limited by its observational design. Future research should explore the effectiveness of the HSHVM in a trial design.



## ACKNOWLEDGEMENTS

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