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9/16/2019	Reducing Disparities and Advancing Equity: Where the Research Has Been and Where It Needs to Go	Romana Hasnain-Wynia, PhD, MS
10/1/2019	Leveling the Playing Field: Achieving Equity and Eliminating Racial/Ethnic Disparities in Children's Health and Healthcare	Glenn Flores, MD, FAA
11/4/2019	Population and Resources: Patient Level Equity	<p><u>Panel:</u> moderated by Larry Green, MD – Family Medicine</p> <p>Ryan O'Connell - LBGT; urban safety net system</p> <p>Michelle Sarche - CAIANH/Native American</p> <p>Rochelle Cason-Wilkerson - African American and pediatrics</p> <p>Christin Sutter - rural; community member perspective (CRL)</p>
1/21/2020	Stereotypes in the Patient Provider Encounter	Stacie Daugherty, MD MSPH
2/XX/2020	D&I & Health Equity - intervention mapping (mini-workshop along with talk)	Maria Fernandez, PhD – UT University of Texas Health Science Center at Houston

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Leveling the Playing Field: Achieving Equity and Eliminating Racial/Ethnic Disparities in Children's Health and Healthcare

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Overview:

Goals of Today's Presentation

- Examine demographics of racial/ethnic minorities in America and Denver County
- Summarize variety of major racial/ethnic disparities in children's health and healthcare
- Delve into two successful interventions for eliminating racial/ethnic disparities and achieving equity in pediatrics
- Finish with 7 steps to eliminate disparities and achieve equity

Background: US Demographics

- Racial/ethnic minority children comprise 49.5% of US children, equivalent to 36.3 million
- Census projections indicate that minority children will outnumber white children in 2020
- From 2000-2010, white children in America declined by 4.3 million, whereas Latino and Asian/Pacific Islander (API) children increased by 5.5 million
- Indeed, all growth in child population in America from 2000 to 2010 attributable to population increases in children who are Latino, API, multiracial, or “some other race” besides white
- In 2011, for first time in nation’s history, minority births (50.4%) outnumbered white births (49.6%)

Background: Denver County

Demographics (2017 ACS)

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- In Denver County, minority children comprise 66% of children, equivalent to 105,608
- Latinos largest racial/ethnic group of Denver Co. children, comprising 47% of city's children, or 65,376
- African-Americans constitute 10%, or 14,388
- Asians/Pacific Islanders account for 4%, or 5,867
- American Indians/Alaska Natives account for 1%, or 1,397
- "Some other race" comprises 10%, or 14,249
- Multiracial children constitute 7%, or 9,080
- White children account for 34%, or 48,054

Background

- Extensive body of literature (Flores G, *Pediatrics* 2010;125:e979-e1020) documents racial/ethnic disparities in children's health and healthcare
 - ◆ Extensive
 - ◆ Pervasive
 - ◆ Persist over time

Background

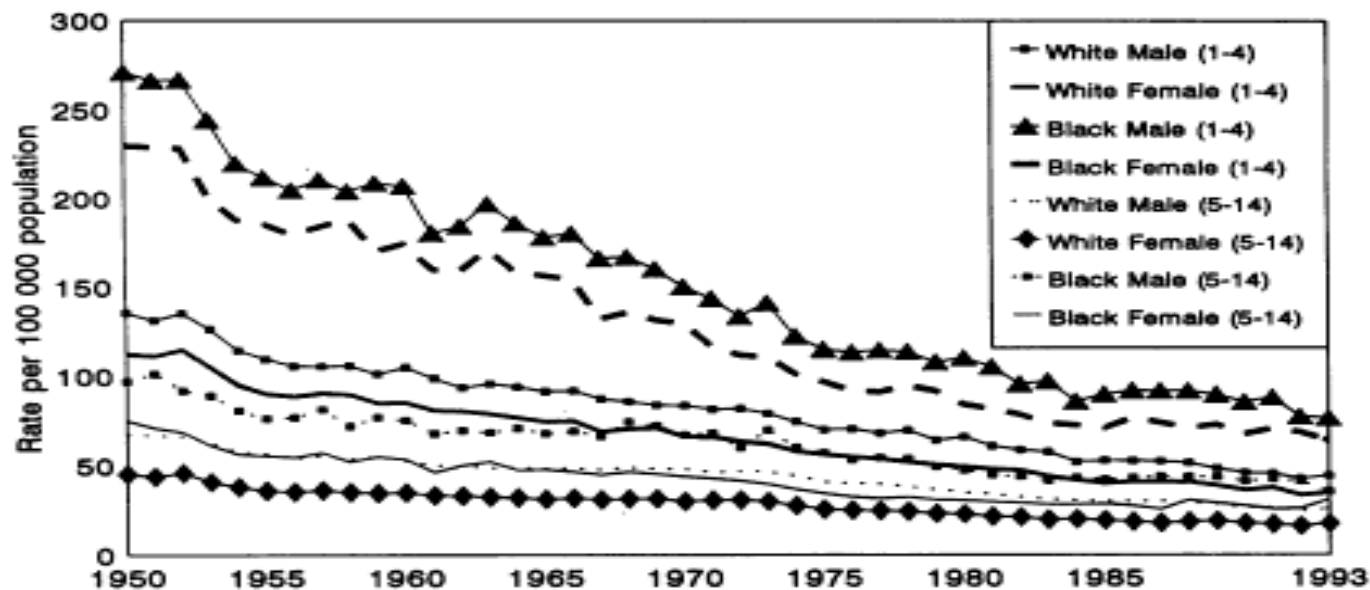
- Children's disparities occur across spectrum of health and healthcare, including in
 - ◆ Mortality
 - ◆ Access to care and use of services
 - ◆ Prevention and population health
 - ◆ Health status
 - ◆ Adolescent health
 - ◆ Chronic diseases
 - ◆ Special healthcare needs
 - ◆ Quality of care
 - ◆ Organ transplantation

Disparities for African-American (AA) Children

Mortality

- Overall childhood death rates consistently higher for AA children
- National data for 43-year period revealed
 - ◆ Marked crude mortality disparities in young children 1-4 years old (twice that of white children) and older children 5 to 14 years old
 - ◆ Increases in mortality disparity ratio in most recent 10-year period

US Childhood Death Rates (Singh & Yu, *AJPH* 1996)



Source. Data were derived from the National Vital Statistics System, 1950 through 1993. The 1993 data are provisional, based on a 10% sample of deaths. Data for Blacks prior to 1968 were actually for non-Whites and are thus conservative estimates of the "true" death rates for Black children.

FIGURE 1—US death rates for children 1 through 4 and 5 through 14 years of age, by race and sex: 1950 through 1993.

Mortality Disparities for AA Children

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- Studies show significantly higher mortality rates for AA children versus white children in
 - ◆ Detroit tri-county area for males and older females (10-19 years old)
 - ◆ Among children without congenital anomalies in state of Michigan
- AA children also experience higher risks of death from swimming pool drowning, especially in public pools, with drowning rate in hotel/motel pools disproportionately higher

Mortality Disparities for AA Children

- Major disease-specific mortality disparities exist
 - ◆ Acute lymphoblastic leukemia (ALL)
 - ◆ Median age at death for Down syndrome
 - ◆ Congenital heart defects (both fatality rate and lower average age at death)
 - ◆ In-hospital death after congenital heart surgery
- Example: compared with white children, odds of death for AA children after congenital heart surgery = 1.76 (95% CI, 1.2-2.5) (adjusting for baseline risk/condition, gender, income, and geographic region)

Disparities in Prevention and Population Health: AA Children

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- Lowest immunization rates for primary immunization series and substantially greater delays and later mean age for multiple immunization categories and doses
- Substantially higher firearm injury rate
- As young children, higher odds of living in households without
 - ◆ Stair gates
 - ◆ Cabinet safety latches or locks
 - ◆ Hot-water thermostat settings turned down

Disparities in Health Status: AA Children

Multiple studies document health-status disparities for AA children, whether for global health or specific conditions

- Higher adjusted odds of fair or poor health and lower odds of excellent or very good health
- Significantly higher rates of stroke, invasive pneumococcal disease, and TB
- HIV/AIDS disparities substantial, including largest percentages and numbers of new diagnoses in every age group and via perinatal transmission, as well as longer adjusted length-of-stays for those hospitalized

Asthma Disparities: AA Children

- Highest asthma prevalence of any racial/ethnic group, and substantially higher than whites
 - ◆ Disparity has widened over time
- Substantially higher rates of asthma mortality, hospitalizations, ED visits, and office visits
 - ◆ Mortality and hospitalization disparities have worsened over time

Disparities in Quality of Care: AA Children

In children with end-stage renal disease:

- Significantly more likely to receive hemodialysis rather than peritoneal dialysis and to receive inadequate hemodialysis dose
- Substantially less likely than whites to be activated on kidney transplant waiting list
- Less likely to receive preemptive kidney transplants
- Receive fewer living transplants and more cadaveric transplants

Disparities in Quality of Care: AA Children

- AA heart-transplant patients have
 - ◆ Double the odds of graft failure
 - ◆ Lower graft survival rates
 - ◆ Median graft survival time = 6 years lower
 - ◆ Median age at heart transplant = 5 years greater
 - ◆ Higher likelihood of HLA mismatch
- Undergo bidirectional Glenn and Fontan procedures at significantly older ages, among those with cardiovascular disease

Disparities for API Children: Access and Use of Services

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- Greater adjusted odds of
 - ◆ Having no usual source of care
 - ◆ No visit to physician or other healthcare provider in past year
 - ◆ Going >1 year since last physician visit
- Lower adjusted number of physician visits in past year
- Higher adjusted odds of appendicitis rupture
- Among children with cancer, Pacific Islanders had significantly greater odds of death, untimely treatment, not completing treatment as recommended, and loss to follow-up

Disparities in Prevention and Population Health: API Children

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- Data from Minnesota reveal triple the crude firearm injury rate of whites
- Highest proportion of elevated blood lead concentrations in Rhode Island, and only racial/ethnic group whose rate increased over time
- Higher adjusted odds of overweight among Pacific Islander, Filipino, and Asian children
- Compared with white adolescents, API adolescents have lower adjusted odds of seatbelt use, sunscreen use, and weekly physical activity, but greater adjusted daily hours of TV/video-game screen time

Disparities in Quality of Care: API Children

- Lower overall quality of primary-care scores
- Lower PCP interpersonal relationship scores
- Lower scores for specific primary-care services
- Lower adjusted primary-care quality scores for 4 elements of care among API parents interviewed in English and 6 elements of care among API parents for whom primary language spoken at home not English
- Among those hospitalized for pneumonia, API children have lower adjusted odds of bronchoscopy and mechanical ventilation, longer adjusted length of stay, and higher adjusted charges

Disparities for Latino Children: Mortality

- Puerto Rican children 1-4 years old have higher crude mortality rate than their white counterparts
- Latinos have higher drowning rate in neighborhood pools and pool drowning rates in general for male adolescents
- Higher adjusted risks of death for those with ALL and after congenital heart surgery

Mortality Disparities for Latino Children with ALL

Table 3. Multivariate Cox Regression Analysis for Risk of Death, by Diagnosis Period

	Diagnosis Years 1973-1999 (N = 4952)		Diagnosis Years 1990-1999 (N = 2025)	
	HR (95% CI)	P Value	HR (95% CI)	P Value
Race/ethnicity				
White	Reference		Reference	
Black	1.49 (1.2-1.8)	<.001	1.50 (1.0-2.2)	.03
Asian	1.10 (0.9-1.3)	.32	1.28 (0.9-1.9)	.21
Native American	1.80 (1.2-2.6)	.002	1.90 (0.8-4.6)	.16
Hispanic	1.39 (1.2-1.6)	<.001	1.83 (1.4-2.4)	<.001

Kadan-Lottick et al. *JAMA*. 2003;290:2008-14

Disparities in Access and Use of Services: Latino Children

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Multiple studies document wide range of disparities in access to care and use of services for Latino children, including greater adjusted odds of

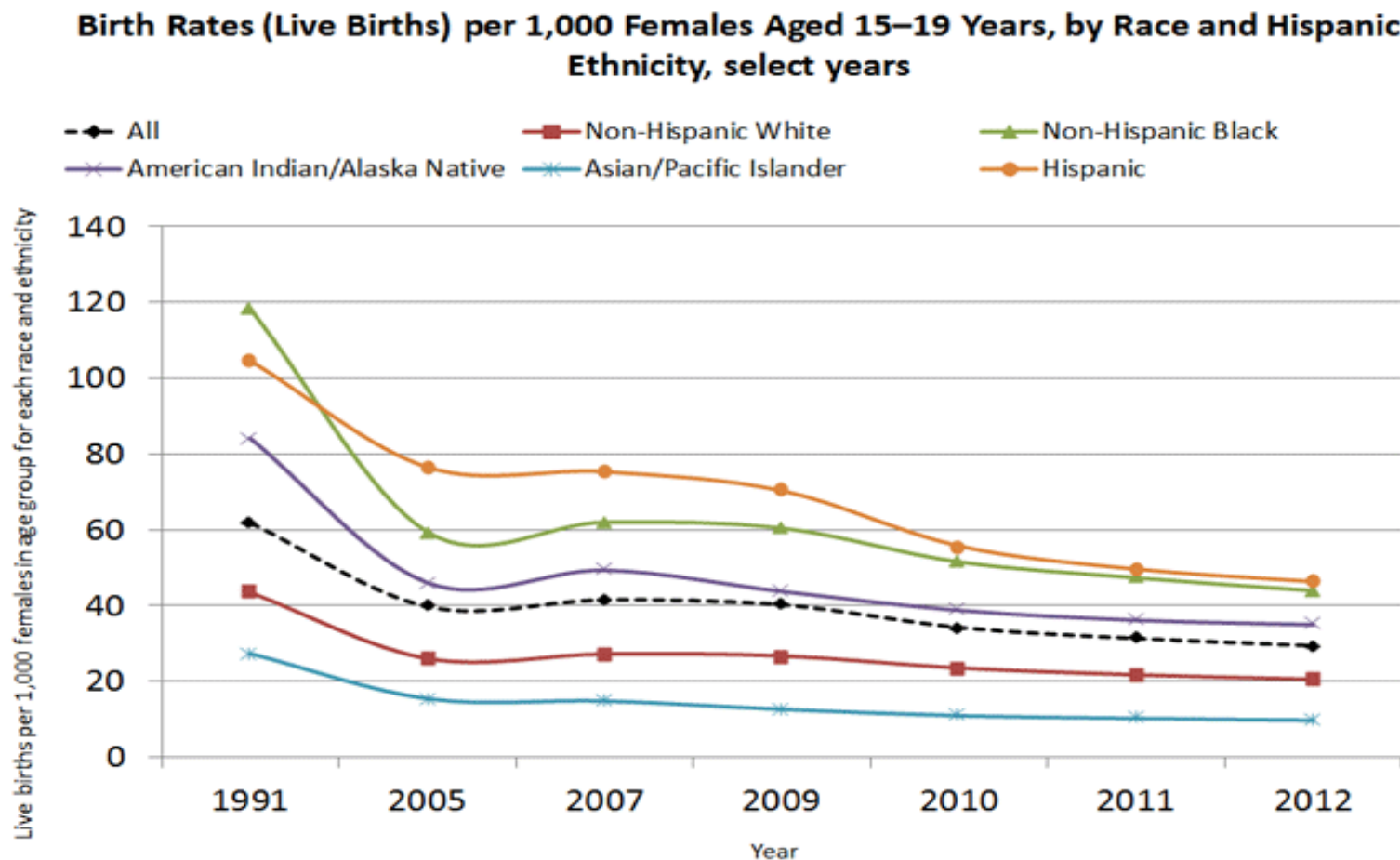
- Uninsurance
- No usual source of care or healthcare provider
- No physician visit in past year
- Going ≥ 1 year since last physician visit
- Not being referred to specialist
- Perforated appendicitis
- Never/only sometimes getting medical care without long waits
- Getting timely routine care or phone help

Disparities for Adolescent Latinos

Latina adolescents have higher rates of

- Uninsurance
- Perpetrating violence
- Violence victimization
- Those 15-19 years old have crude birth rate about 3 times higher than white counterparts and highest of any racial/ethnic group

Disparities in Birth Rate: Latinas



1991–2011 rates from: Martin JA, Hamilton BE, Ventura SJ, Osterman MJK, Curtin SC, Mathews TJ. Births: Final data for 2011. *Natl Vital Stat Rep.* 2013;62(1): Table A.

2012 rates from: Martin JA, Hamilton BE, Osterman MJK, Curtin SC, Mathews TJ. Births: Final data for 2012. *Natl Vital Stat Rep.* 2013;62(9): Table A

Asthma Disparities: Latino Children

- Higher asthma prevalence than white children
- Substantial increase in Latino asthma prevalence over time
- Particularly high asthma prevalence among Puerto Ricans (highest of any racial/ethnic group or subgroup)
- Higher adjusted odds of asthma ED visits, hospitalizations, activity limitations, need for urgent care in past 12 months, and higher potential asthma burden (diagnosed plus possible but undiagnosed asthma)
- Lower adjusted odds of inhaled steroid use and daily anti-inflammatory medications

Disparities in Mental Health and Healthcare: Latino Children

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- Significantly higher unmet need for mental healthcare
- Lower odds of any mental-health visit, outpatient visits, antidepressant prescriptions, and receiving treatment from mental-health specialist for any condition, behavior problems, or depression
- Higher odds of developmental delays
- Lower odds of being diagnosed with externalizing behavioral disorders
- Lower odds of use of mental-health services among children being investigated for possible abuse or neglect and among Medicaid-eligible teenagers in substance-abuse treatment

Disparities for American Indian/Alaska Native (AI/AN) Children: Mortality

- Higher age-specific crude mortality rate (vs. whites), both in national and urban samples
- Higher adjusted risk of death among those with ALL

Disparities in Prevention and Population Health: AI/AN Children

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- Firearm injury rate more than 7 times higher than for white children
- Higher adjusted odds of overweight and obesity
- Birth rate for AI/AN female adolescents 2-3 times higher than that of whites
- Higher adjusted odds than white children of poor or fair health
 - ◆ Highest prevalence of these suboptimal health ratings of any racial/ethnic group

Disparities in Mental Health and Healthcare: AI/AN Children

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- Within 6 months of new depression episode, lower adjusted odds than white children of
 - ◆ Any antidepressant prescription being filled
 - ◆ Any mental-health visit or antidepressant prescription filled
- For those in substance-abuse treatment, lower adjusted likelihood of mental-health services use

Parent Mentors Eliminate Children's Healthcare Disparities

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- **Parent Mentor (PM):**
 - ◆ Special category of community health workers for children in which parents who have children with particular health conditions/risks leverage their relevant experience, along with additional training, to assist, counsel, and support other parents of children with same health conditions/risks

Parent Mentors Eliminate Children's Healthcare Disparities

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- Two rigorous, randomized, controlled trials demonstrate PMs
 - ◆ Eliminate children's healthcare disparities
 - ◆ Improve children's outcomes, including enhanced healthcare access and quality of care
 - ◆ Empower parents
 - ◆ Reduce family financial burden
 - ◆ Save hundreds or thousands of dollars per child from societal perspective
 - ◆ Create jobs in areas with highest unemployment rates

A Randomized, Controlled Trial of the Effectiveness of Parent Mentors in Improving Asthma Outcomes in Minority Children

Funding: Commonwealth Fund and RWJF

Publication: *Pediatrics* 2009;124;1522-1532.

Background

- Asthma disproportionately affects minorities
- Only 3% of white children have active asthma, vs. 6% of African-American and 11% of Puerto Rican children
- Compared with white asthmatic children, African-American asthmatic children
 - ◆ 3 times more likely to be hospitalized
 - ◆ 5 times more likely to die
- But few studies have evaluated interventions to improve asthma outcomes in minority children
 - ◆ No study has examined effectiveness of parent mentors

Study Aim

- To determine whether Parent Mentors (PMs) more effective than traditional asthma care in improving minority children's asthma outcomes

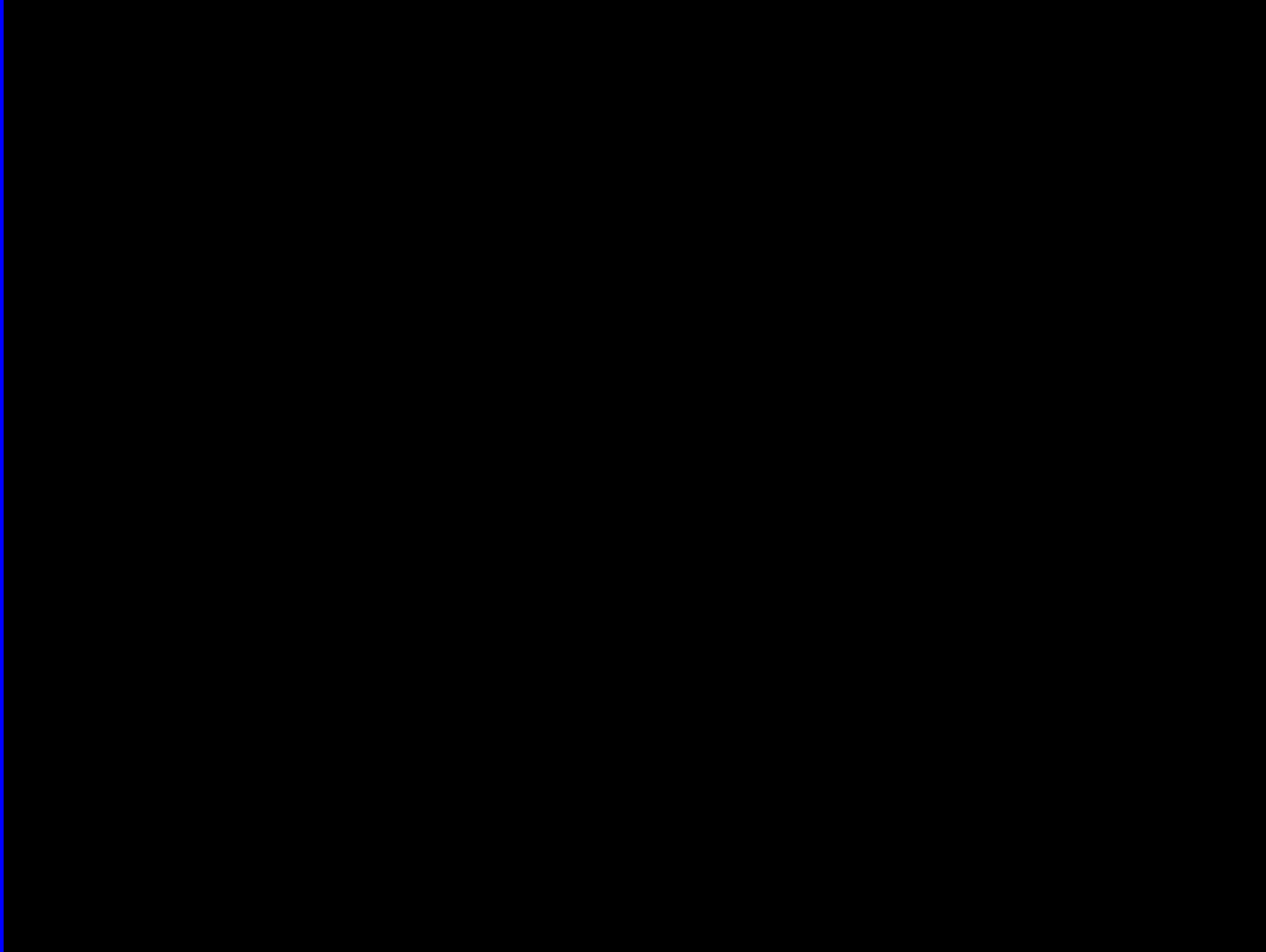
Methods: Study Design and Sample

- Randomized, controlled, single-blinded trial
 - ◆ Staff assessing outcomes blinded to group allocation
- Participants randomized to
 - ◆ PM intervention (+ traditional asthma care)
 - ◆ Control group: traditional asthma care alone
- Participants recruited from consecutive series of minority children 2–18 years old
- Eligibility criteria:
 - ◆ Residing in Milwaukee
 - ◆ Seen for asthma in 2004-2007
 - In 1 of 4 emergency departments (EDs)
 - Or as primary reason for hospitalization at major children's hospital

Parent Mentor Intervention

- Intervention families paired with Parent PMs, experienced minority parents of asthmatic children from same communities
- PMs received 2½ days of training and 73-page manual in English and Spanish on
 - ◆ Childhood asthma
 - ◆ Assisting families with unmet needs for health insurance, housing, food, and other issues
- PM manual and train-the-trainer resource available for free at: <https://www.connecticutchildrens.org/research/parents-helping-parents-fight-asthma/>
- PMs met monthly with up to 10 asthmatic children and their families at community sites, phoned parents monthly, and made 2 home visits (VIDEO CLIP)

Parent Mentor Home Visit



Outcomes

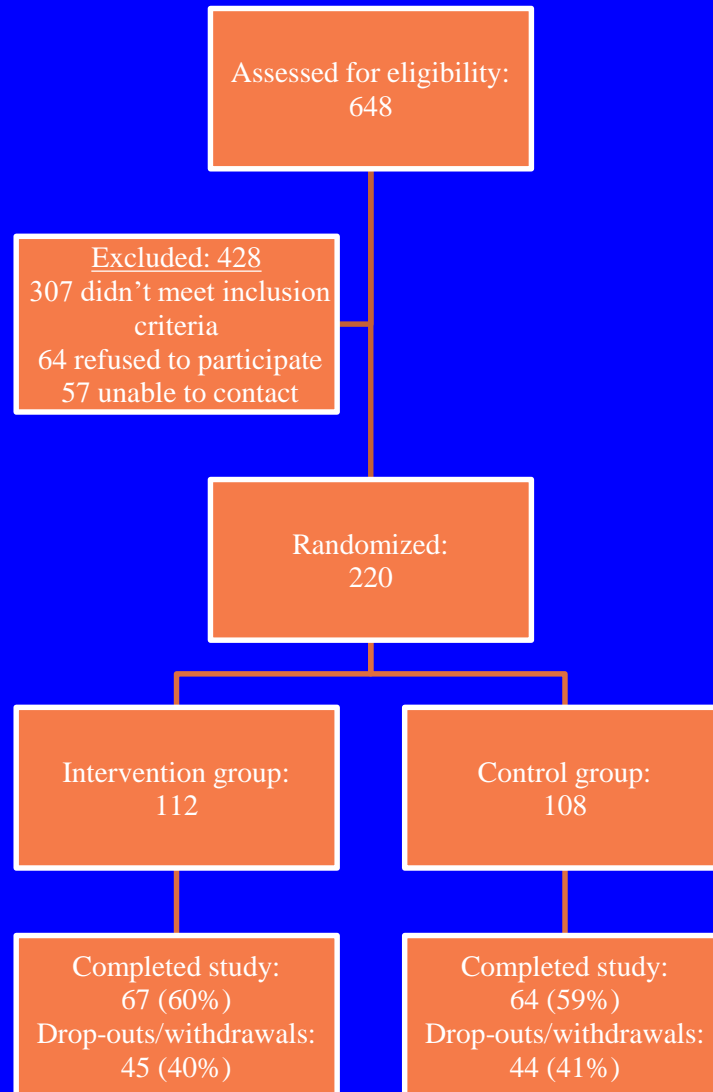
12 outcomes assessed:

- Asthma symptom and exacerbation frequency
- Missed school and parental work due to asthma
- Asthma ED visits and hospitalizations
- Parent and child quality of life (QOL)
 - ◆ Pediatric Asthma Caregiver's Quality of Life Questionnaire (PACQLQ)
 - ◆ Pediatric Quality of Life Inventory Version 4.0 Generic Core Scales (PedsQL)
- Parental satisfaction with physician's asthma care (Asthma Satisfaction Survey)
- Parent Asthma Management Self-Efficacy Scale (PAMSES)
- Costs and cost effectiveness

Analyses

- Intention-to-treat analysis
- Stratified analysis examining outcomes for high participants in intervention, and by disease severity (mild vs. moderate/severe)
- High participants defined as those
 - ◆ Attending at least 25% of monthly community meetings
 - ◆ Completing at least 1/2 of monthly PM phone interactions

Results: Recruitment Flow Chart



Characteristics of Study Parents (N=220)*

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Characteristic	Mean (SD) or %
Age (years)	31.9 (8.4)
Female	91%
Married, living with spouse	17%
Education beyond high school	25%
Employed full-time	40%
African-American	81%
Latino	19%
Limited English proficiency	13%
Family income \leq 100% federal poverty level	68%
101-200% federal poverty level	25%
>200% federal poverty level	8%

*No significant inter-group differences in 14 parental features

Characteristics of Study Children (N=220)*

42

Characteristic	Mean (SD) or %
Age (years)	7.4 (5)
Female	44%
Has primary-care provider	92%
Has asthma specialist	21%
ED most likely place to be taken for asthma care	64%
Asthma attacks in past year	12 (39)
Missed school days in past year	9 (14)
Parental missed work days in past year	8 (14)
ED visits for asthma in past year	3 (4)
Hospitalizations for asthma in past year	0.8 (2)

*No significant inter-group differences in 25 characteristics examined

Significant Changes in Outcomes: Intention-to-Treat Analysis

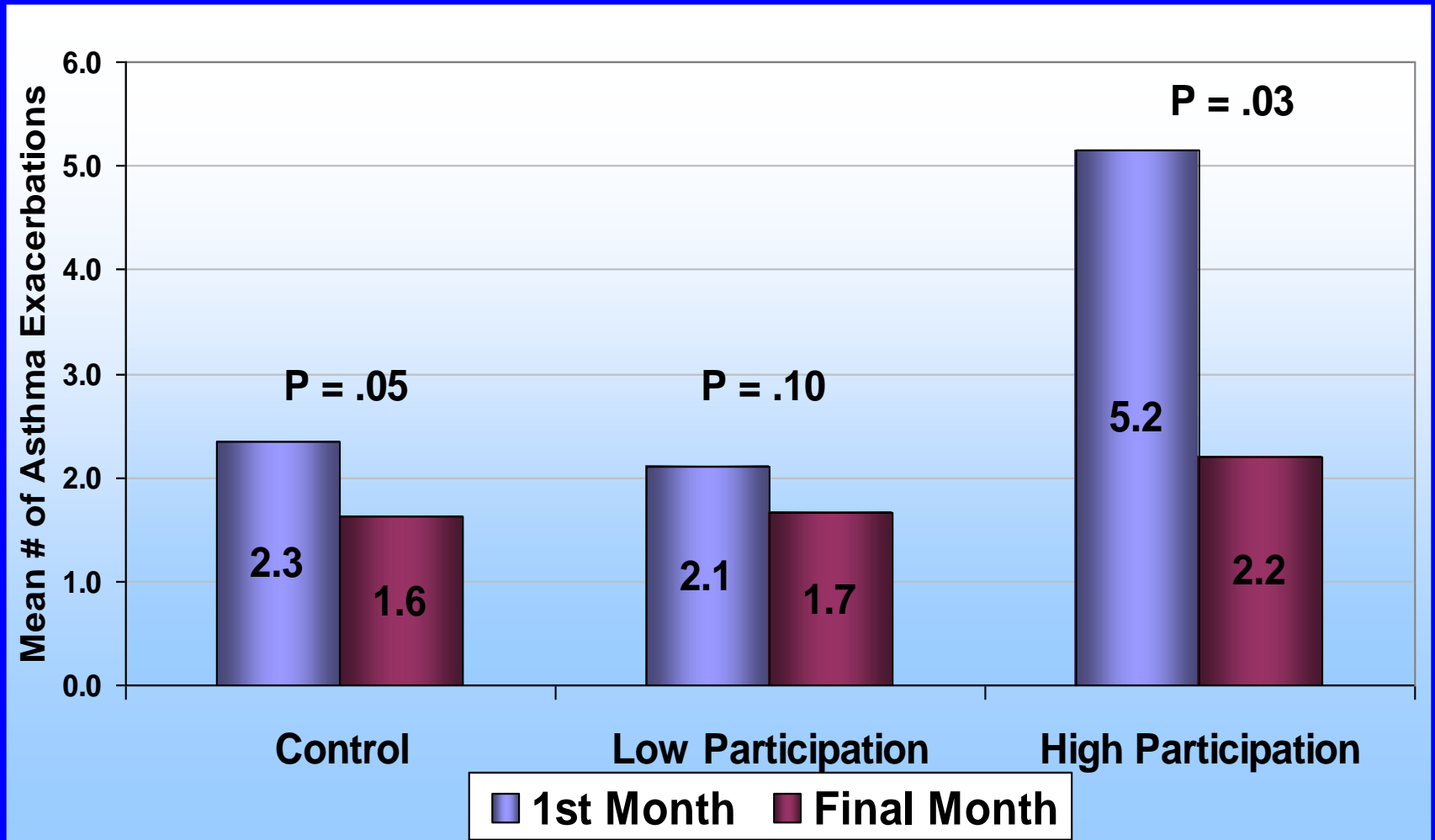
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Outcome	Baseline % (95% CI)	Endpoint % (95% CI)	<i>P</i>
Rapid breathing episode			
Controls	54.7 (43.9, 65.4)	45.9 (35.9, 56.0)	.24
Intervention group	57.3 (46.4, 68.3)	41.5 (31.3, 51.6)	.04
Asthma exacerbation			
Controls	2.3 (1.4, 3.2)	1.6 (1.1, 2.1)	.05
Intervention group	2.9 (1.7, 4.0)	1.8 (1.0, 2.6)	.01
ED visit for asthma			
Controls	0.3 (0.1, 0.4)	0.1 (0.06, 0.21)	.09
Intervention group	0.5 (0.2, 0.7)	0.1 (0.06, 0.22)	.03

Changes in Asthma Symptom Outcomes: Baseline to Endpoint

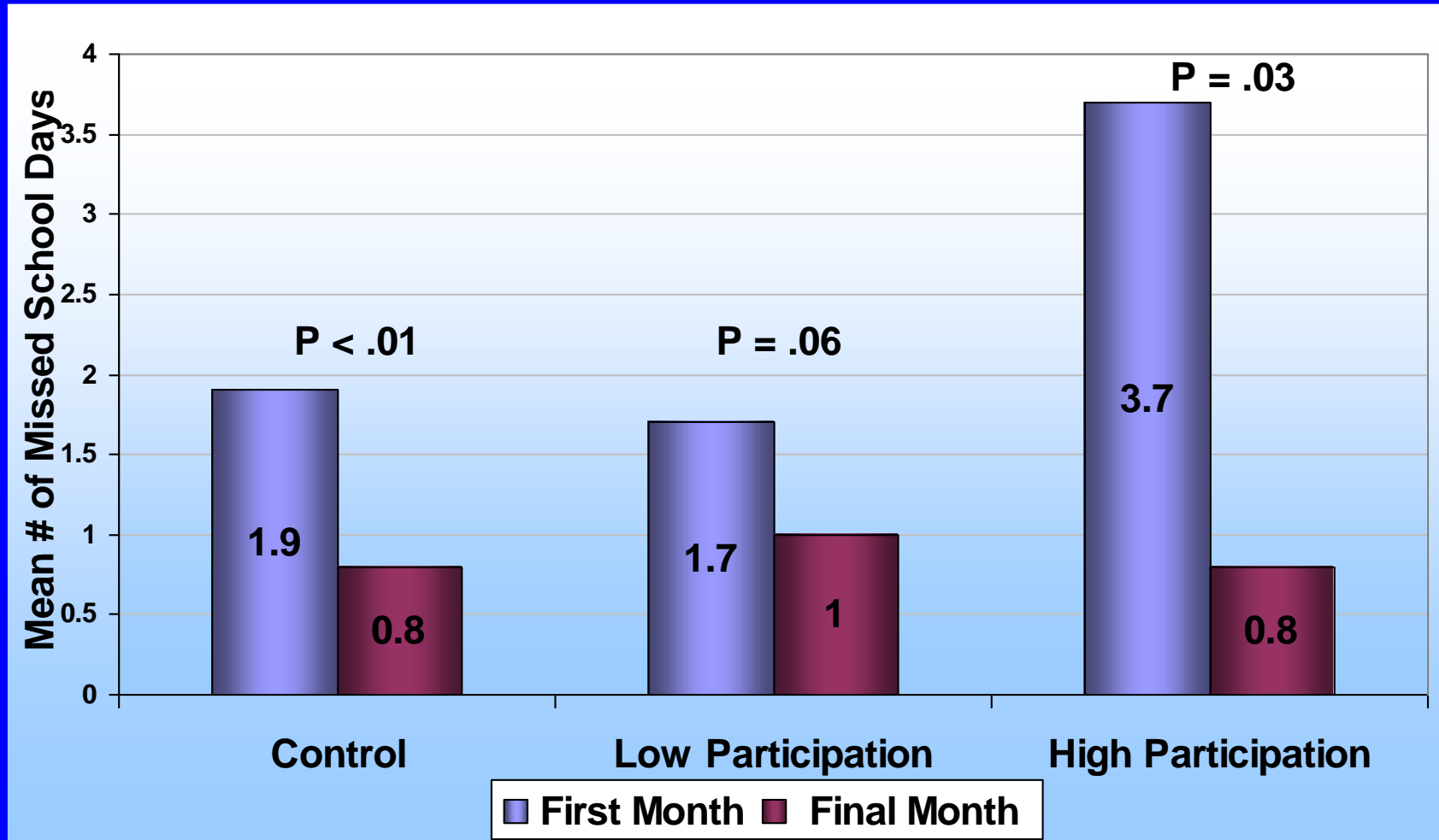
Outcome	Baseline % (95% CI)	Endpoint % (95% CI)	P Value
Wheezing episode			
Controls	73 (64, 83)	61 (51, 71)	.08
Low participation	63 (51, 75)	62 (51, 74)	.94
High participation	92 (85, 100)	60 (39, 81)	.01
Coughing episode			
Controls	100	71 (63, 80)	<.01
Low participation	100	62 (52, 73)	<.01
High participation	100	70 (52, 89)	.01
Difficulty breathing episode			
Controls	77 (68, 86)	55 (45, 65)	<.01
Low participation	74 (63, 85)	58 (46, 70)	.05
High participation	90 (76, 100)	60 (39, 81)	.03

Mean Number of Asthma Exacerbations: First Month vs. Final Month



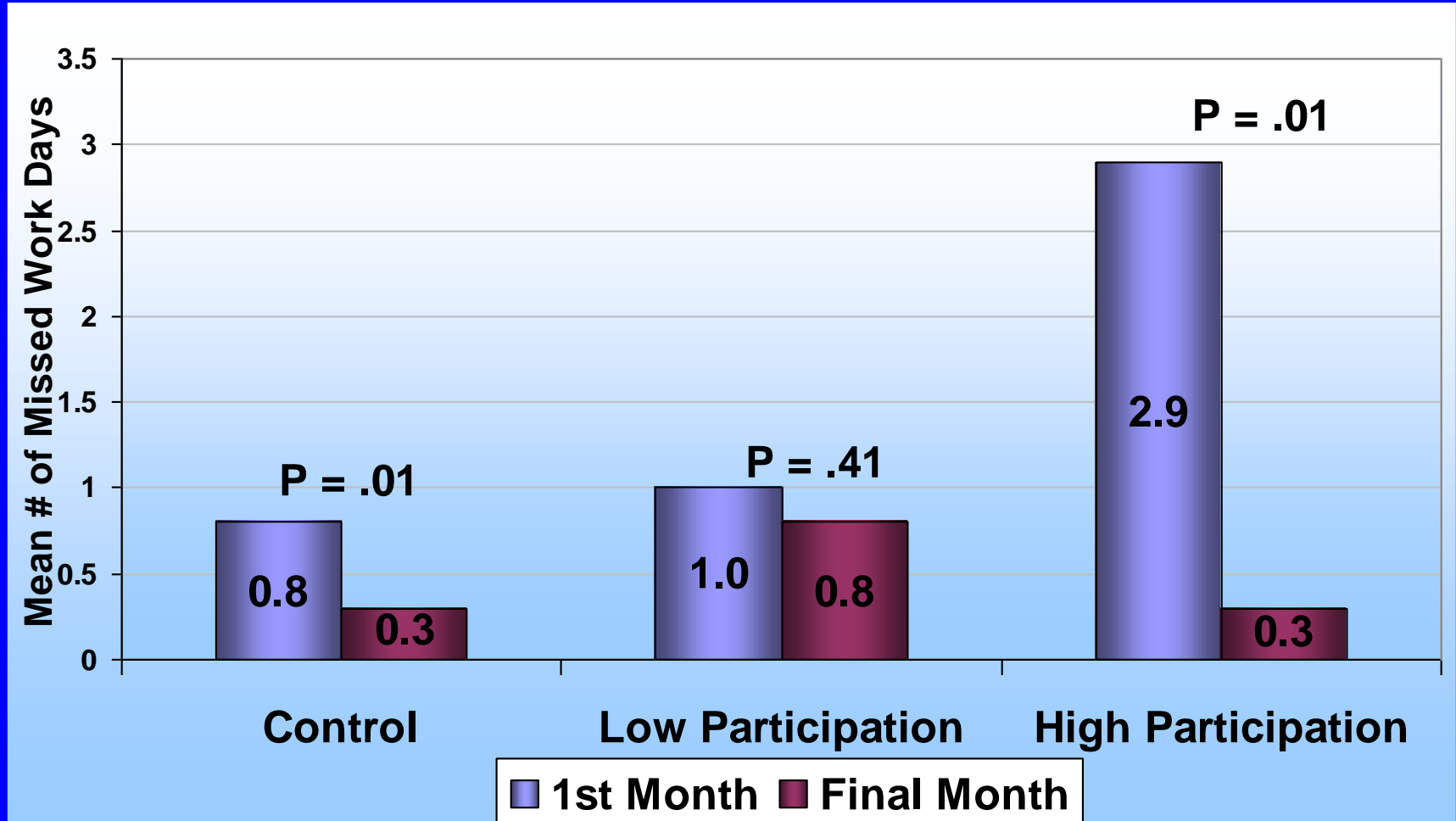
Mean Number of Missed School Days: First Month vs. Final Month

46



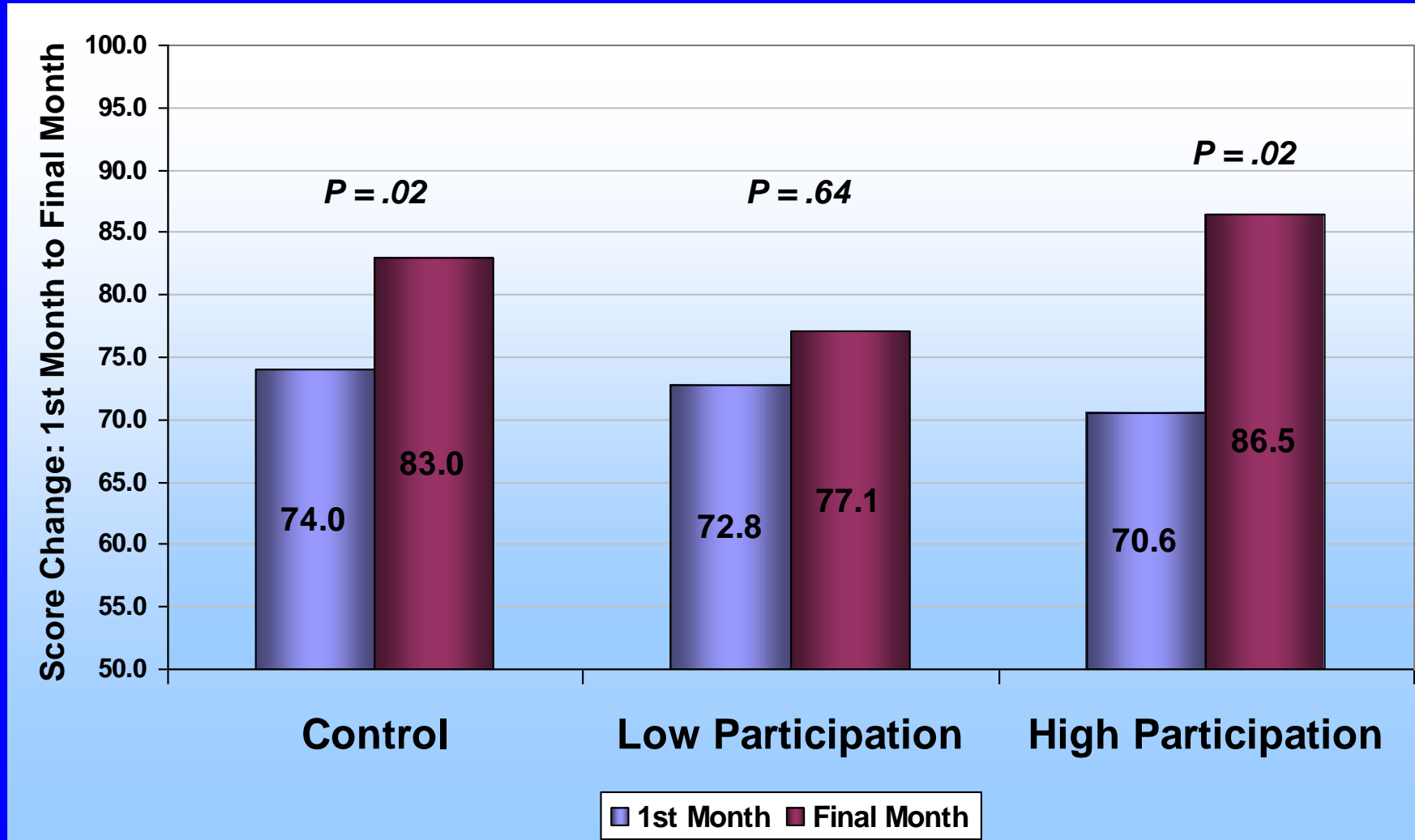
Mean Number of Missed Work Days: First Month vs. Final Month

47



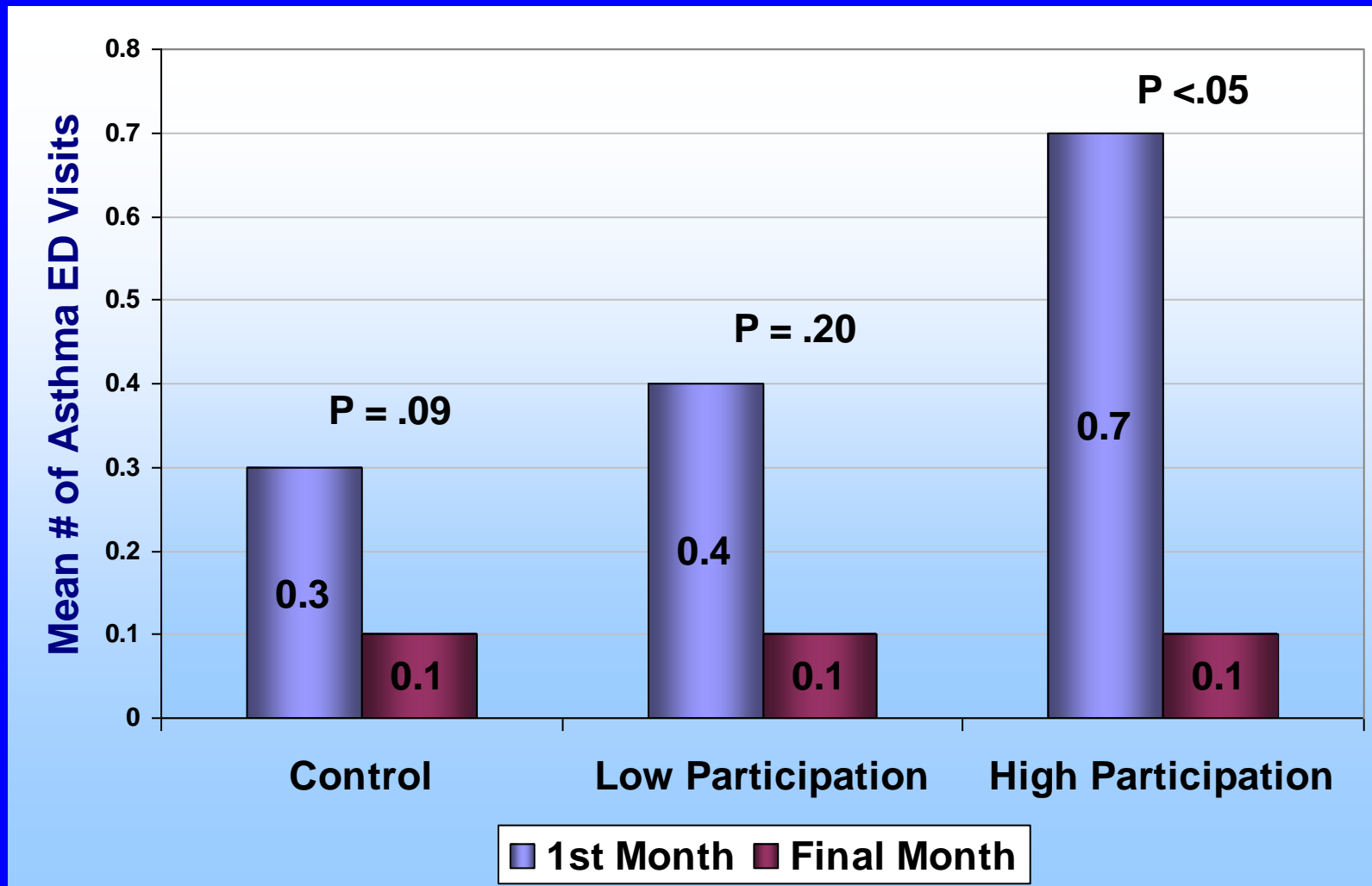
Change in PedsQL Score: First Month to Final Month

48



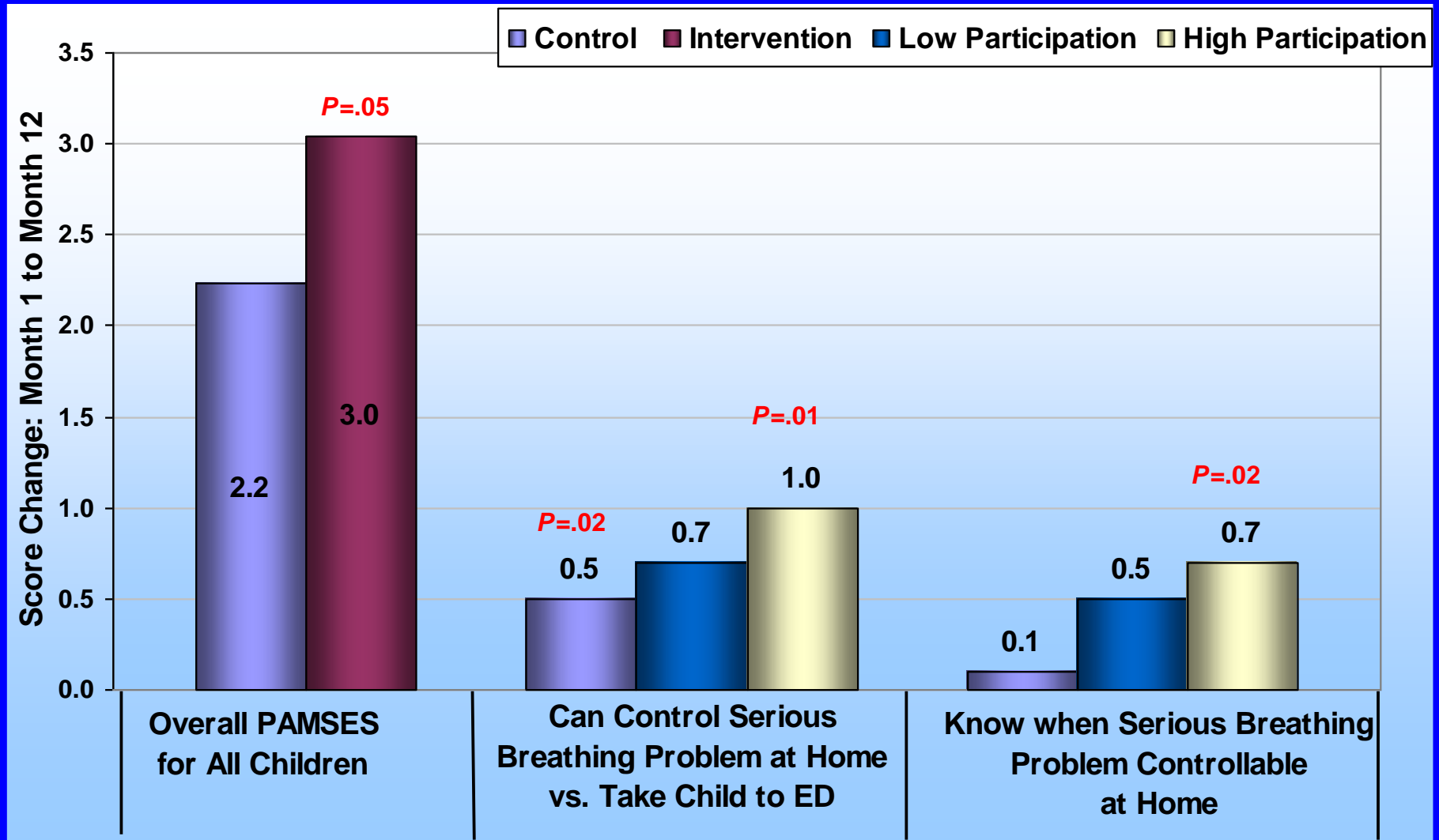
Mean Number of Asthma ED Visits: First Month vs. Final Month

49



Changes in Parental Self-Efficacy (PAMSES) Score from 1st to Final Month

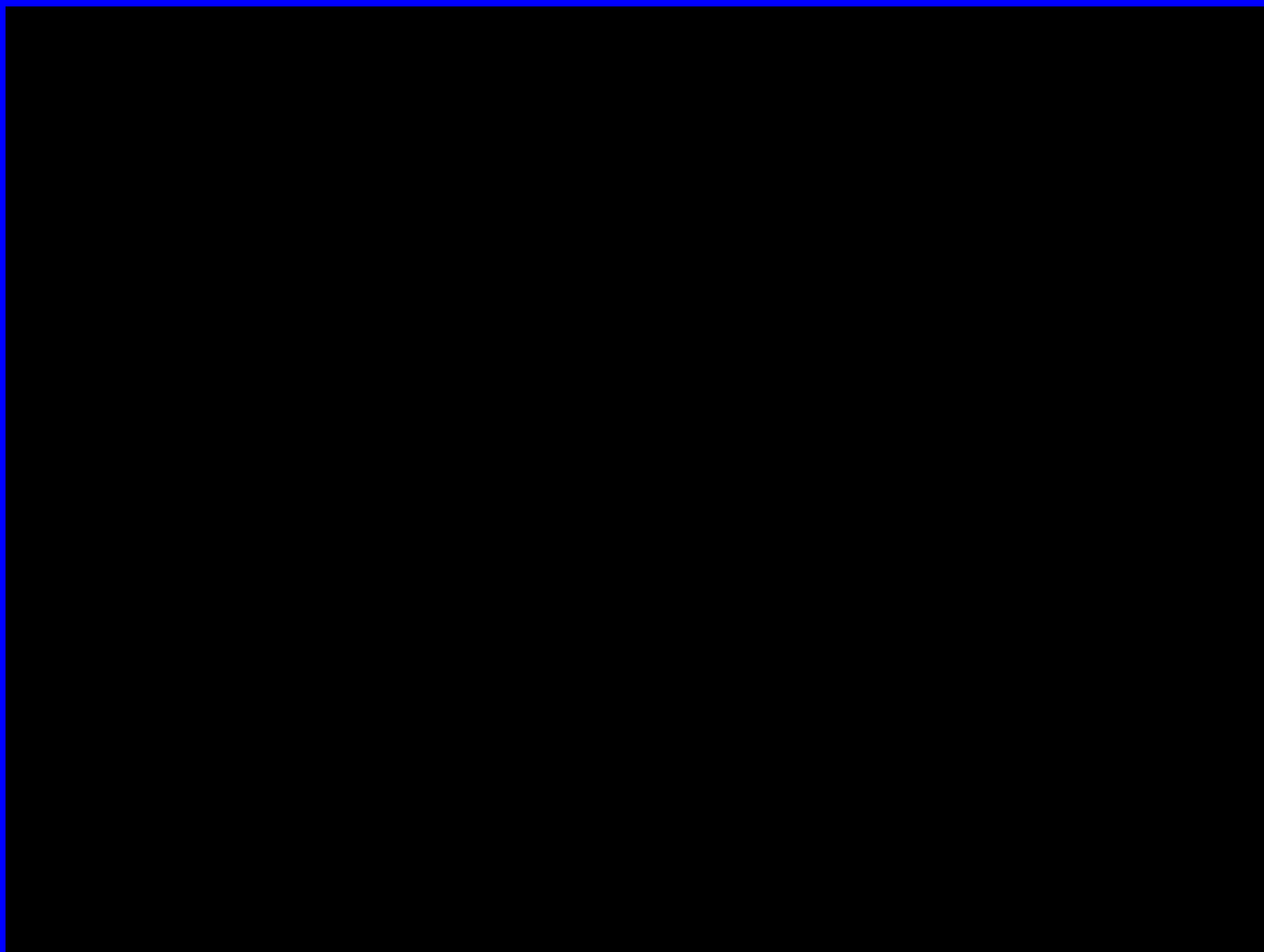
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Other Outcomes

- No significant intergroup differences in
 - ◆ Hospitalization rates
 - ◆ Asthma Satisfaction Survey scores
- Testimony of participants and mentors indicates high levels of satisfaction with intervention (VIDEO CLIP)

Testimony/Feedback: English



Cost Analysis

Item	Average Monthly Cost Per Patient
Personnel	\$40.67
PM stipends	\$16.81
One-time supplies	\$0.70
2½-day training session	\$0.18
Monthly meetings	\$1.49
Bus tickets	\$0.56
Total	\$60.42

Cost Effectiveness Analysis: Savings and Incremental Cost-Effectiveness Ratio

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Study Group	Program Cost	Hospitalization Cost Savings	ED Cost Savings	ICER*
Intervention	\$120.84	\$361.48	\$50.33	-\$597.10
High - Participation	\$120.84	\$51.06	120.10	-\$46.16

*Incremental cost effectiveness ratio; negative number indicates intervention resulted in net cost savings.

Conclusions

- PMs more effective than traditional asthma care in improving several asthma outcomes in minority children
 - ◆ Reduced wheezing, asthma exacerbations, and ED visits
 - ◆ Fewer missed days of parental work
 - ◆ Improved parental self-efficacy in knowing when a serious breathing problem can be controlled at home
- Cost of intervention reasonable, averaging \$60 per child per month
- Intervention results in net cost savings of \$597 per child
- PMs especially effective with high participants in intervention

Implications

- PMs promising means for reducing racial/ethnic disparities in asthma and potentially other chronic diseases
- Additional intervention benefits include
 - ◆ Community participation in asthma care
 - ◆ Enhanced social support and cultural sensitivity
 - ◆ Relatively low cost
 - ◆ Jobs creation in often economically deprived communities

A Randomized Controlled Trial of the Effects of Parent Mentors on Insuring Uninsured Minority Children

Pediatrics 2016;137(4):e20153519; *Health Affairs* 2018

Funding: NICHD R01

URL: <https://www.connecticutchildrens.org/research/kidshelp/>

Background

- 3.9 million US children (5%) uninsured
 - ◆ 59,095 Colorado children (5%) uninsured
- 90% of uninsured US children (3.5 million) eligible for but not enrolled in Medicaid/CHIP
- Major racial/ethnic disparities exist
 - ◆ Only 4% of white children uninsured, vs. 5% of African-American and 9% of Latino children

Background

- But not enough known about most effective ways to insure uninsured children
- No study has examined effectiveness of Parent Mentors (PMs)

Study Aim

- To conduct randomized, controlled trial of effects of PMs on insuring uninsured minority children
- Called **Kids' HELP** trial:
 - ◆ Kids' Health Insurance by Educating Lots of Parents

Methods

- Design = randomized controlled trial
- Uninsured, Medicaid/CHIP-eligible Latino and African-American children recruited at community sites and randomized to:
 - ◆ PMs
 - ◆ Control group
- Subjects in both groups contacted monthly by blinded research assistant to monitor outcomes for 1 year
 - ◆ Additional participants followed for up to 2 years after trial ceased

-

Methods: Intervention

- PMs: minority parents in primary-care clinic who already had at least 1 Medicaid/CHIP-covered child who had coverage for at least 1 year
- PMs underwent 2-day training session addressing:
 - ◆ Types of insurance programs
 - ◆ Application process
 - ◆ Completing and submitting applications with parents
 - ◆ Being family liaison/advocate with Medicaid/CHIP programs
 - ◆ Renewing coverage
 - ◆ Obtaining pediatric and dental care and medical home
 - ◆ Helping families with food, clothing, and other social determinants of health

PM Training Evaluation

- 33-item pre-test administered prior to training to assess knowledge/skills regarding Medicaid/CHIP, application process, and medical homes
- 46-item post-test contained same 33 pre-test items (ordered differently) and 13 Likert-scale questions on training satisfaction



PM Training Results

(Academic Pediatrics 2015;15:275-81)

- All 15 PMs female and non-white
 - ◆ 60% unemployed
 - ◆ Mean annual family income = \$20,913
- After training:
 - ◆ Overall test scores (0-100 scale) significantly increased, from mean=62 to 88 ($P<.01$)
 - ◆ Number of wrong answers decreased (mean reduction=8; $P<.01$)
 - ◆ Significant improvements in scores for 6 of 9 topics
- 100% of PMs reported being very satisfied (86%) or satisfied (14%) with training

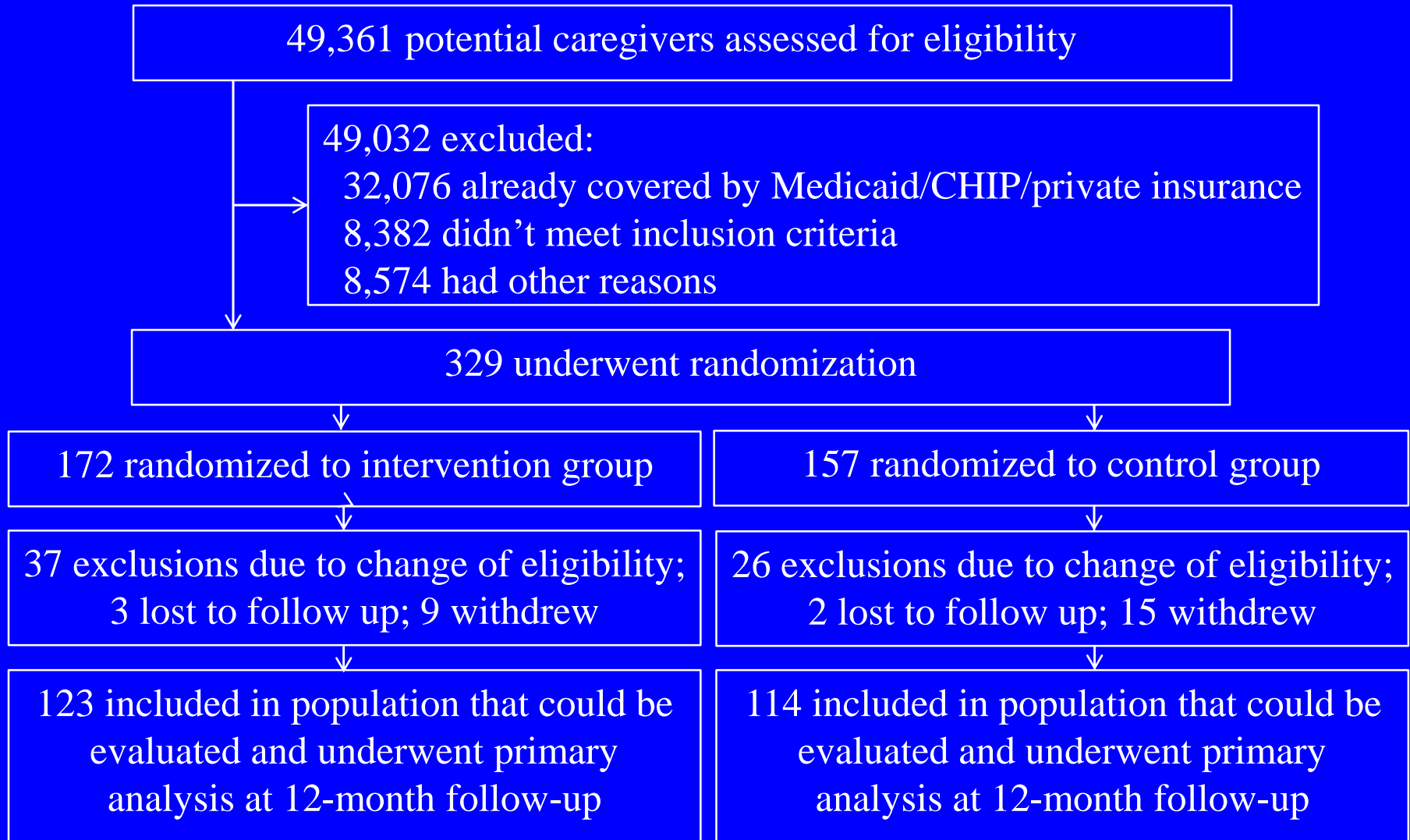
PM Intervention and Controls

- PMs met with families in their homes and at community sites and contacted them regularly via phone, e-mails, and texting
 - ◆ PMs followed up to 10 families at a time
 - ◆ Data document high levels of PM engagement with families, with means of 19.8 home visits and 161.4 phone/e-mail/text-message contacts/family/year
- Controls received Texas's traditional Medicaid/CHIP outreach and enrollment
 - ◆ Bilingual radio, TV, and newspaper ads; bus and bus-bench messages; websites with application links and order forms/materials for community-based organizations; and daycare-center outreach

Outcomes

- Outcomes assessed monthly:
 - ◆ Proportion of children obtaining health insurance
 - ◆ Time interval to obtain insurance
 - ◆ Coverage renewal
 - ◆ Access to medical and dental care
 - ◆ Out-of-pocket costs of care and family financial burden
 - ◆ Parental satisfaction
 - ◆ Quality of care
- We used 82-item baseline and 67-item 12-month and long-term questionnaires (derived from national surveys and published studies)
- Cost-effectiveness analysis performed

Results: Participant Flow Diagram



Participant Baseline

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Sociodemographic Characteristics

Characteristic	Controls (N=114)	PM Group (N=123)
Mean child age, years (range)	7.5 (1-18)	7.2 (1-18)
Female	41%	59%
Race/ethnicity		
Latino	66%	65%
African-American	34%	35%
Parent not high-school graduate	32%	40%
Parent unemployed	72%	79%
Annual family income (\pm SD)	\$22,290 (\pm 11K)	\$21,862 (\pm 12K)
Mean months uninsured (range)	16.9 (1-108)	11.1 (1-132)

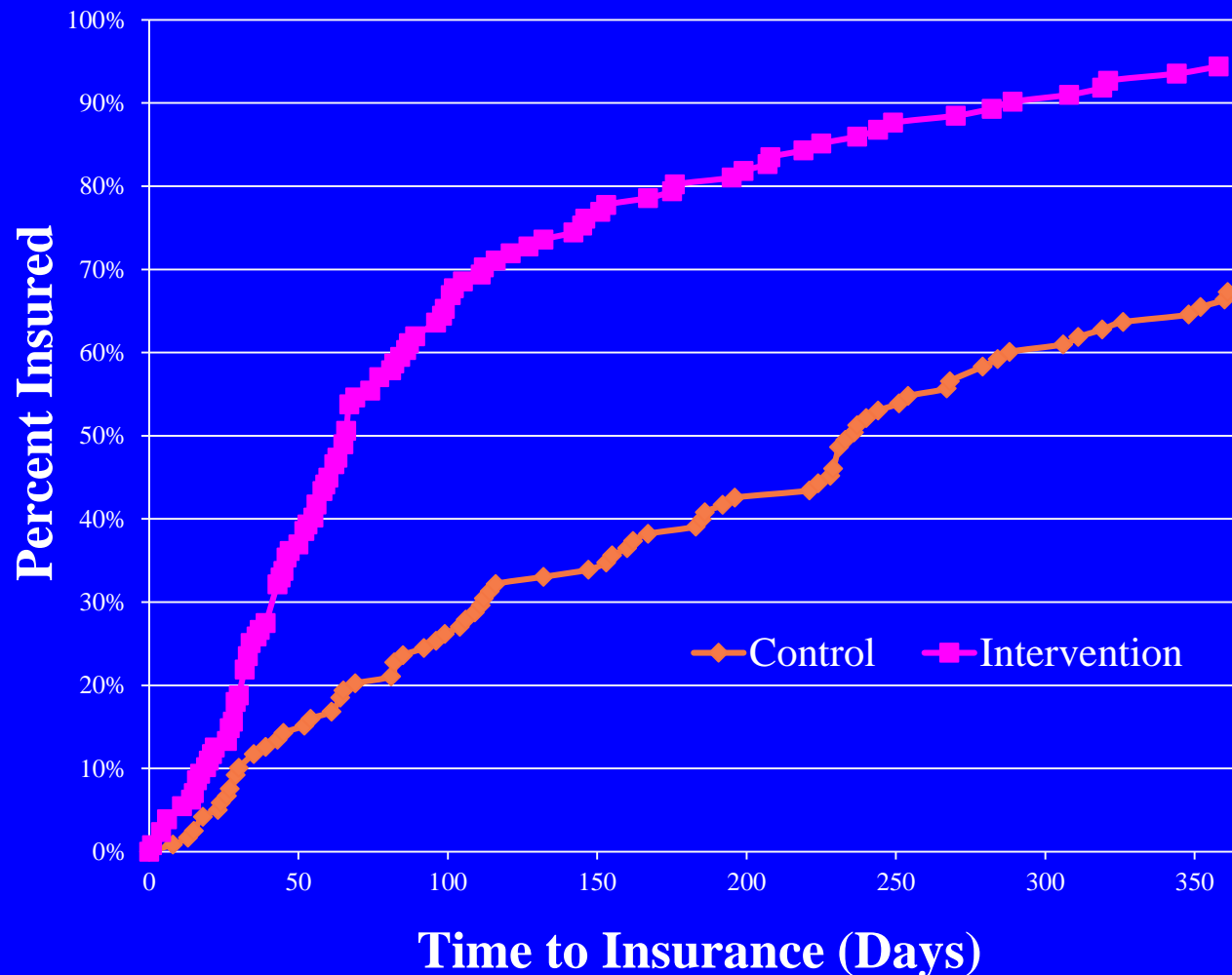
Results: Obtaining Health Insurance Coverage

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- Significantly higher proportion of PM group obtained health insurance vs. control group, at **95% vs. 68% ($P < .001$)**
- PM group had significantly higher adjusted relative risk (1.3; 95% CI, 1.2-1.3) and odds (2.9; 95% CI, 2.1-4.0) of insurance coverage
 - ◆ After adjustment for child's age and gender, parental citizenship and employment, and family income

Adjusted Propensity Curve

- Marked, sustained difference between groups in obtaining insurance emerged at 100 days



Time to Coverage, Renewal Rates, and Long-Term Coverage

72

Outcome	Controls	PM Group	<i>P</i>
Median no. of days (IPR ₉₅) to obtaining insurance	140 (10, 348)	62 (4, 289)	<.001
Renewed insurance	60%	85%	<.001
Two-year coverage rate*	76%	95%	<.001
Three-year coverage rate†	76%	100%	<.001

*One year after intervention ceased (N=135)

†Two years after intervention ceased (N=71)

Access to Care

Access Measure	Controls	PM Group	<i>P</i>
No PCP	39%	15%	<.001
No usual source of preventive care	7%	1%	.01
Different sources for sick and preventive care	27%	15%	.03
Never/sometimes gets immediate care from PCP	19%	0%	.03
Problems getting care from specialists	46%	11%	.03

Unmet Needs for Medical and Dental Care

74

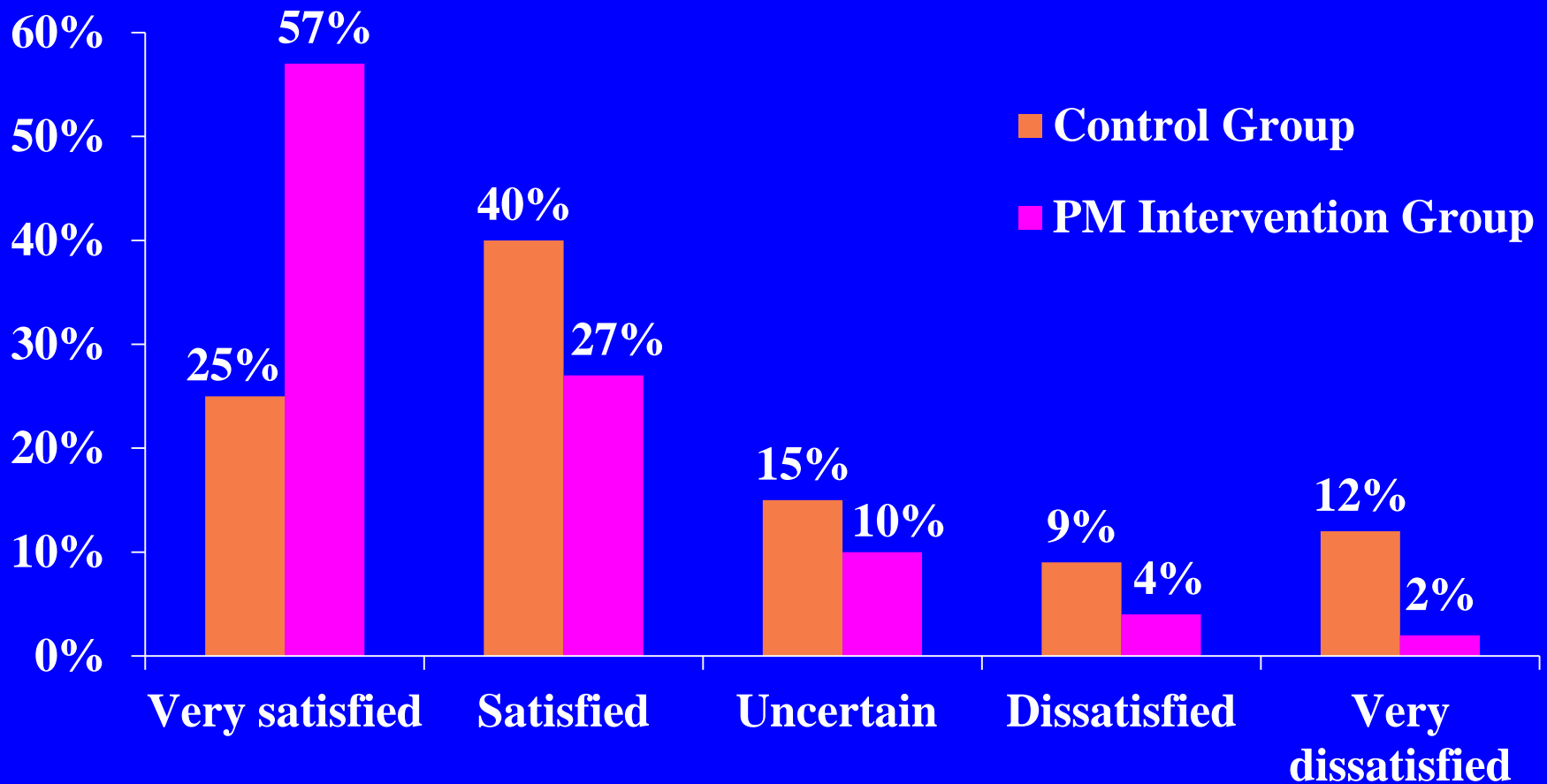
Unmet Need: Didn't Receive All Needed...	Controls	PM Group	<i>P</i>
Healthcare overall	25%	13%	.02
Preventive care	22%	4%	<.001
Acute care	20%	3%	.04
Dental care	31%	18%	.03

Out-of-Pocket Costs of Care

Health Service	Mean Out-of-Pocket Cost (± Standard Error) for		<i>P</i>
	Controls	PM Group	
All doctor visits	\$37 (±7)	\$33 (±24)	<.001
Sick visits	\$43 (±9)	\$9 (±3)	<.001
Preventive-care visits	\$27 (±9)	\$5 (±2)	.09
ED visits	\$94 (±33)	\$81 (±93)	.22
Hospital stays	\$25 (±0)	\$0 (±0)	.25
ICU stays	\$12.50 (±13)	\$0 (±0)	.57

Parental Satisfaction with Process of Obtaining Insurance

76



* $P < .01$ for comparison between controls vs. PM group

Satisfaction with Care, Quality, and Family Financial Burden

77

Measure	Controls	PM Group	<i>P</i>
Wouldn't recommend child's healthcare provider to friends	16%	6%	.01
Doctor never/sometimes respects you're expert on your child	23%	11%	.01
Mean overall quality score: child's well-care visit (0-10; 10=best)	8.6	8.9	.03
Need additional income to cover child's medical expenses	13%	6%	.04

Intervention Costs

Item	Mean Monthly Cost Per Participant
PM stipends	\$33.20
Personnel	\$15.60
PM travel costs	\$2.13
One-time Supplies	\$1.07
2-day training session	\$0.70
PM meetings	\$0.35
TOTAL	\$53.05

Cost and Cost-Effectiveness Analysis

79

Expense	Controls (N=114)	PM Group (N=123)
PM and Program Coordinator costs	—	\$85,795
ED visits	\$62,730	\$60,885
Hospitalizations	\$81,234	\$58,431
ICU stays	\$277,094	\$74,742
Wage loss and other costs of parents' missed work days due to child's illness	\$33,589	\$12,985
TOTAL	\$454,647	\$292,838

- Incremental cost effectiveness ratio per child insured = **-\$6,045.22** (PMs saved \$6,045.22/insured child/year)

Kids' HELP Feedback



Conclusions

- PMs significantly more effective than traditional Medicaid/CHIP outreach and enrollment in
 - ◆ Insuring uninsured minority children
 - ◆ Obtaining insurance faster
 - ◆ Renewing coverage
 - ◆ Improving access to medical and dental care
 - ◆ Reducing unmet needs and out-of-pocket costs of care
 - ◆ Achieving parental satisfaction and quality of care
 - ◆ Teaching parents to maintain children's coverage up to two years after intervention cessation
- PMs relatively inexpensive, at \$636/child/year, but highly cost-effective, saving \$6,045 per child insured/year

Implications

- Given that up to 3.5 million US children uninsured and Medicaid/CHIP eligible, and 53% Latino or African-American, findings suggest implementing PMs nationally for minority children could save over \$12.3 billion
- If PM intervention shown to be effective for all racial/ethnic groups, findings suggest implementing PMs nationally for all uninsured children could save \$21.7 billion
- PMs and analogous peer mentors for adults could prove to be highly cost-effective interventions for eliminating disparities and insuring all Americans

Translation Into Policy

- Based on our work, federal CHIP reauthorization legislation signed into law in January 2018 makes organizations that use PMs eligible to receive \$120 million in grants for CHIP outreach and enrollment
- All 50 states and DC now have opportunity to apply for CMS funds to implement successful, evidence-based Kids' HELP PM model

JANUARY 16, 2018

RULES COMMITTEE PRINT 115-55

TEXT OF EXTENSION OF CONTINUING APPROPRIATIONS ACT, 2018

[Showing the text of H.J. Res. 125, as introduced]

4 SEC. 3004. EXTENSION OF OUTREACH AND ENROLLMENT 5 PROGRAM.

6 (a) IN GENERAL.—Section 2113 of the Social Secu-
7 rity Act (42 U.S.C. 1397mm) is amended—

8 (1) in subsection (a)(1), by striking “2017” and
9 inserting “2023”; and

10 (2) in subsection (g)—
11 (A) by striking “and \$40,000,000” and in-
12 serting “, \$40,000,000”; and

13 (B) by inserting after “2017” the fol-
14 lowing: “, and \$120,000,000 for the period of
15 fiscal years 2018 through 2023”.

16 (b) **MAKING ORGANIZATIONS THAT USE PARENT**
17 **MENTORS ELIGIBLE TO RECEIVE GRANTS**—Section
18 2113(f) of the Social Security Act (42 U.S.C. 1397mm(f))
19 is amended—

20 (1) in paragraph (1)(E), by striking “or com-
21 munity-based doula programs” and inserting “, com-
22 munity-based doula programs, or parent mentors”;
23 and

24 (2) by adding at the end the following new
25 paragraph:

7 Steps to Eliminate Disparities and Achieve Equity

Race/ethnicity data (as self-identified by parent) routinely should be collected on all children by practices, health systems, Medicaid/CHIP, managed-care organizations, and private insurers, so disparities can be identified, monitored, and targeted as part of QI efforts

- Given lack of significant change over time in total number of disparities, together with appearance of many new disparities (Flores & Lin *Int J Equity Health* 2013 Jan 22;12:10)
- Recommendation consistent with 2 recent IOM reports, proposals by disparities experts, and ACA (Section 4302)
- Disparities monitoring and public disclosure at least annually should be considered by practices, hospitals, health plans, Medicaid/CHIP, counties, and states

7 Steps to Eliminate Disparities and Achieve Equity

Ensure that every child has health insurance and medical and dental homes

- Because minorities children comprise 59% of uninsured children, although constituting only 48% of US children
- Latinos, AIANs, and African-Americans are significantly more likely to be uninsured and sporadically insured than white children
- Multiple disparities exist and have persisted in lack of personal doctor or nurse and in unmet dental needs
 - ◆ Underscores urgent need to ensure that every child has medical and dental home

7 Steps to Eliminate Disparities and Achieve Equity

Racial/ethnic disparities must be framed and addressed as quality-of-care issues

- Given substantial prevalence and persistence of children's disparities
- As pointed out by experts (Beal AC. *Health Affairs* 2004;23:171-9) and recent IOM report (IOM. Child and Adolescent Health and Health Care Quality: Measuring What Matters. 2011)
- So disparities can be eliminated via rapid-cycle QI and practice coaching

7 Steps to Eliminate Disparities and Achieve Equity

Ensure and advocate for all children to have access to needed subspecialty care

- Children who need and receive care from subspecialist have significantly fewer ED visits and hospitalizations and greater likelihood of healthcare consistent with national practice guidelines than children not receiving needed subspecialty care
- But minority children significantly more likely than white children to have problems getting subspecialty care

7 Steps to Eliminate Disparities and Achieve Equity

Aim to attain highest level of cultural competency

- Bias still exists in pediatric care
 - ◆ In young children hospitalized for skull or long-bone fractures, minorities significantly more likely than whites to have skeletal survey performed (OR= 8.8) and be reported to CPS for suspected abuse (OR= 4.3) (Lane et al. *JAMA* 2002;288:1603-9)
 - ◆ In children and adults hospitalized for limb fractures, whites received significantly higher doses of narcotic analgesics (22 mg/day of morphine equivalents) than blacks (16 mg/day) and Latinos (13 mg/day) (Ng et al. *Psychosom Med* 1996;58:125-9)

7 Steps to Eliminate Disparities and Achieve Equity

Aim for highest level of cultural competency

- But study of predictors of asthma-care quality for Medicaid-insured children (Lieu et al. *Pediatrics* 2004;114:e102-10) found patients of practice sites with highest cultural competence scores less likely to underuse preventive asthma medications (OR, 0.15) and had significantly better parent ratings of overall quality of asthma care

7 Steps to Eliminate Disparities and Achieve Equity

Pursue workforce diversity

- African-American (AA) patients with AA physicians more likely than those with non-AA physicians to rate physicians as excellent (AOR=2.4) and report receiving preventive care (AOR=1.7) and all needed medical care (AOR=2.9) during the previous year (Saha et al. *Arch Intern Med* 1999;159:997-1004)
- Latino patients with Latino physicians more likely than those with non-Latino physicians to be very satisfied with healthcare overall (AOR=1.7) (Saha et al. *Arch Intern Med* 1999;159:997-1004)
- Workforce diversity associated with nurse job satisfaction (*Res Nurs Health*. 2012;35: 265–76)

7 Steps to Eliminate Disparities and Achieve Equity

Leverage innovative, evidence-based interventions

- Rigorous evidence documents that intervening with community health workers (CHWs), *promotores*, or PMs can reduce or eliminate many barriers and threats to children's health and healthcare, through education, linking children and families to resources, providing social support, eliminating language barriers, and empowering parents; studies additionally indicate that such interventions cost effective
- As we've seen, RCTs document disparities actually can be eliminated, using innovative, family-centered, community-based interventions, which also create jobs and save money for society

7 Steps to Eliminate Disparities and Achieve Equity

Leverage innovative, evidence-based interventions

- Solid evidence that CHWs, *promotores*, and PMs highly effective in managing childhood asthma, reducing miscarriages and low birth-weight rates, creating home environments more supportive of children's early learning for mothers with low psychological resources, obtaining early-intervention services for young children, achieving high immunization rates, insuring uninsured children, and identifying childhood food insecurity in immigrant households

7 Steps to Eliminate Disparities and Achieve Equity

Leverage innovative, evidence-based interventions

- Colorado now has opportunity to create PM program using \$120 million appropriated under 2018 CHIP reauthorization
- CMS requested for proposals in late 2018

Summary

- Racial/ethnic disparities in children's health and healthcare
 - ◆ Extensive
 - ◆ Pervasive
 - ◆ Persist over time
- Each racial/ethnic group has unique set of disparities

Summary

- Disparities occur across spectrum of health and healthcare, including in
 - ◆ Mortality
 - ◆ Access to care and use of services
 - ◆ Prevention and population health
 - ◆ Health status
 - ◆ Adolescent health
 - ◆ Chronic diseases
 - ◆ Special healthcare needs
 - ◆ Quality of care
 - ◆ Organ transplantation

Conclusions

- Using 7 steps, you can eliminate disparities and achieve equity
 - ◆ Routinely collect race/ethnicity data (as self-identified by parent) on all children, and regularly identify, monitor, and target disparities as part of QI efforts
 - ◆ Ensure every child has health insurance and medical and dental homes
 - ◆ Frame and address disparities as quality-of-care issues
 - ◆ Ensure all children have access to subspecialty care
 - ◆ Aim for highest level of cultural competency
 - ◆ Pursue workforce diversity
 - ◆ Leverage innovative, evidence-based interventions, like PMs