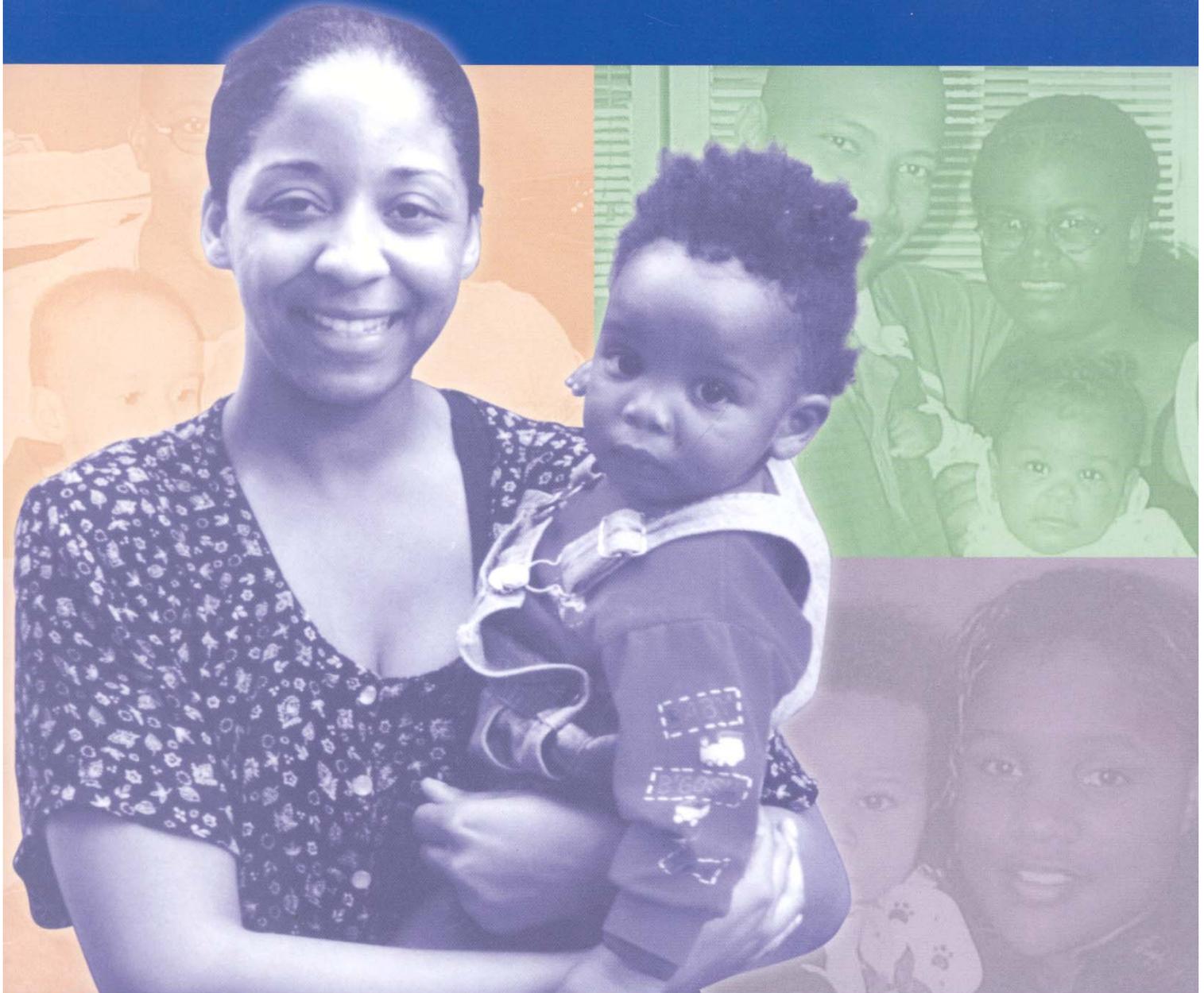
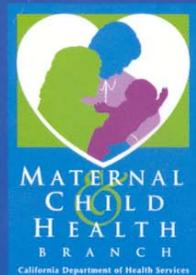


CALIFORNIA BLACK INFANT HEALTH PROGRAM



EVALUATION REPORT
PROGRAM PLANNING AND IMPLEMENTATION
1994 - 1998
SEPTEMBER 2001





Evaluation Report:

PROGRAM PLANNING/IMPLEMENTATION 1994-1998

*CALIFORNIA BLACK INFANT
HEALTH PROGRAM*

Prepared under the auspices of the California Department of Health Services, Maternal and Child Health Branch by San Diego State University, Graduate School of Public Health

This document was prepared and edited by San Diego State University Graduate School of Public Health, Black Infant Health Evaluation Project.

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TABLE OF CONTENTS

Acknowledgements	7
California Black Infant Health Program Staff Acknowledgements	8
SECTION 1 – INTRODUCTION	9
BIH Program Expansion	11
Development and Implementation of the BIH Best Practice Models	13
SECTION 2 – EVALUATION DESIGN AND METHODOLOGY	15
Partnership Through the Data and Evaluation Committee	16
Evaluation Design	18
Data Collection	19
Data Quality Assurance	20
SECTION 3 – BIH POPULATION AND PROGRAM PARTICIPATION	21
BIH Enrollment	22
BIH Coverage Statewide	23
Outreach and Referral to BIH	24
BIH Service Delivery	25
BIH Best Practice Model Enrollment	26
Pregnancy Outcome Status for BIH Enrolled Clients	27
Comparison of Women Who Stay in BIH Throughout Their Pregnancies to Those Who Drop Out	29
Pregnancy Trimester of Entry into BIH	30
Comparison of BIH Clients with Other California African-American Women	32
BIH Client Risk of Experiencing a Poor Pregnancy Outcome	34
SECTION 4 – BIH PROGRAM OUTCOME RESULTS	37
BIH Client Initiation of Prenatal Care	38
Birthweight and BIH Babies	39
Prematurity and BIH Babies	41
Challenges of Program Implementation and Its Impact on BIH Outcomes	42
Best Practice Model Participation and Pregnancy Outcomes	43
Year 2000 Low Birthweight Goals – BIH Successes	44
SECTION 5 – LESSONS LEARNED	45
What Have We Learned?	46
SECTION 6 – CONCLUSIONS AND IMPLICATIONS FOR FUTURE DIRECTION	47
Conclusions	48
Future Direction	48

LIST OF FIGURES

Figure 1:	California Black Infant Health Jurisdictions	10
Figure 2:	Black Infant Health Program, State and Local Relationships	17
Figure 3:	California Black Infant Health Evaluation Design	18
Figure 4:	Black Infant Health, Management Information System	19
Figure 5:	Black Infant Health Enrollment by Program Site	22
Figure 6:	Live Births in California, 1997	23
Figure 7:	Sources of Referral into the Black Infant Health Program, July 1, 1996 – September 30, 1998	24
Figure 8:	Outcome Status of Black Infant Health Program Enrolled Clients, July 1, 1996 – September 30, 1998	27
Figure 9:	Pregnancy Trimester of Entry into Black Infant Health Program, July 1, 1996 – September 30, 1998	30
Figure 10:	Best Practice Model Participation Among Black Infant Health Program Clients with a Pregnancy Outcome Recorded, July 1, 1996 – September 30, 1998	43
Figure 11:	Low Birthweight Comparison Between Selected Black Infant Health Program Sites and their Local Comparison Groups	44

LIST OF TABLES

Table 1:	Comparisons Between BIH Clients and CA African-American Women with Live Births Recorded in the 1997 California Birth File	33
Table 2:	BIH Client Psychosocial Risk Factors	34
Table 3:	BIH Most Commonly Reported Pregnancy Related Health Problems	35
Table 4:	BIH Self-Reported Behavioral Risk Factors	36
Table 5:	Proportion of Low Birthweight Infants Among California African- American Infants and BIH Program Infants	39
Table 6:	Proportion of Prematurely Delivered Infants Among California African-American Infants and BIH Program Infants	41

The purpose of this report is to present the successes of the California Black Infant Health Program toward reducing African-American infant mortality by improving pregnancy outcomes. The Black Infant Health Program provides innovative, culturally specific interventions statewide. This report highlights the improvements made possible by this program.

We wish to acknowledge the leadership of the Maternal and Child Health Branch of the California Department of Health Services, the creativity of the model developers for the six best practice interventions, the dedication of the staff in the Black Infant Health local health jurisdictions, and the contributions of the countless community based organizations and groups that have collaborated to improve the health and well-being of African-American families throughout the state. The Black Infant Health Program has truly been a partnership which would not have been possible without the participation of all its members. We also wish to recognize the women and men who were willing to participate in a new program and to make changes in their lives in order to increase their babies' chances for a healthy future.

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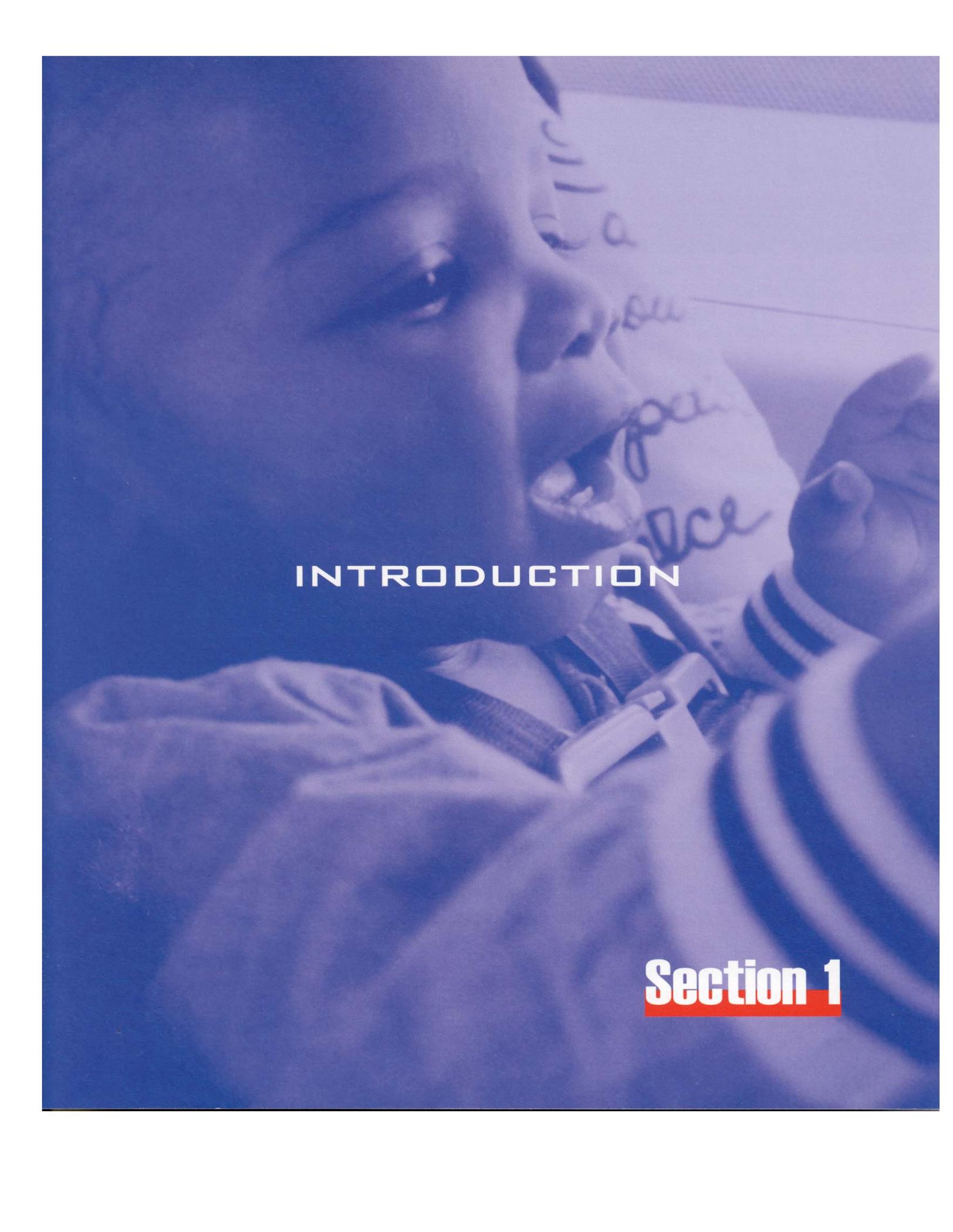
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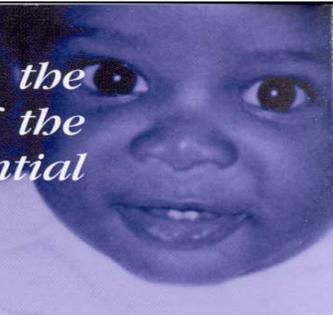


INTRODUCTION

Section 1

“Each child represents either a potential addition to the productive capacity and enlightened citizenship of the nation or, if allowed to suffer from neglect, a potential addition to the destructive forces of a community.”

Theodore Roosevelt



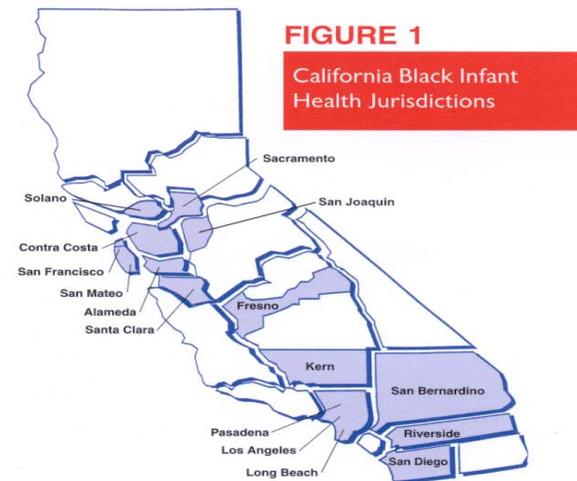
There are few things in life that are more rewarding than delivering a healthy, thriving baby, and witnessing that baby's reception in a comfortable, safe, and secure environment, surrounded by synergetic love. Unfortunately, many families carry heavy burdens and experience an undeniable loss due to the death of their infant. Infant mortality (the number of babies who are born alive but die before their first birthday) is a tragedy that touches lives across the nation. California shares in this tragedy. While unequivocal progress has been made in reducing the number of African-American babies that die during the first year of life, Black babies continue to die at a 2:1 ratio in comparison to other babies.

Due to alarming and disparate morbidity and mortality in the African-American community, the State Department of Health Services expanded its commitment toward assuring that all babies are born healthy with an intense emphasis on African-American infants. In 1989, the State Department of Health Services with support from the California Legislature established a Black Infant Health (BIH) Program strategically placed in the Maternal and Child Health (MCH) Branch.

The BIH Program was created to meet the challenge of improving the health of African-American, women, infants and children,

thereby reducing infant mortality, with the passage of Senate Bill 165, Budget Act of 1989 (Alquist, Chapter 93, Statutes of 1988). The program began with the appointment of a Statewide Black Infant Health Leadership Committee to provide advice on state-of-the-art strategies for reducing Black infant mortality, and funding competitive awards to innovative community based projects. Initial funding was provided to four demonstration projects. Through a subsequent initiative, additional funding was made available to the 16 health jurisdictions (cities and counties) where 97% of California's African-American live births and infant deaths occurred. (See Figure 1.)

The annual appropriation for the statewide BIH Program has grown from the initial allocation of \$1.4 million in 1989 to a total of nearly \$8 million in 2000.



BIH Program Expansion

The MCH Branch is continuing its quest to identify state-of-the-art strategies to promote a reduction in infant mortality. As a result, the BIH Program has invested in funding additional initiatives directed toward further improvements in African-American birth outcomes. These new initiatives are briefly described below:

African-American Nutrition Project

The MCH Branch endeavored to improve the health and nutritional status of pregnant African-American women served by the Black Infant Health Program in coordination with Los Angeles County. This was accomplished by (1) determining the prevalence of anemia in pregnant African-American women served in the BIH Program in Los Angeles County and (2) conducting an assessment of clients' knowledge, perception, and attitudes regarding anemia, its underlying causes, and impact on health and birth outcomes. Based on findings, a campaign will be recommended with appropriate strategies aimed at reducing anemia in pregnant African-American women. This project ended September 30, 2000.

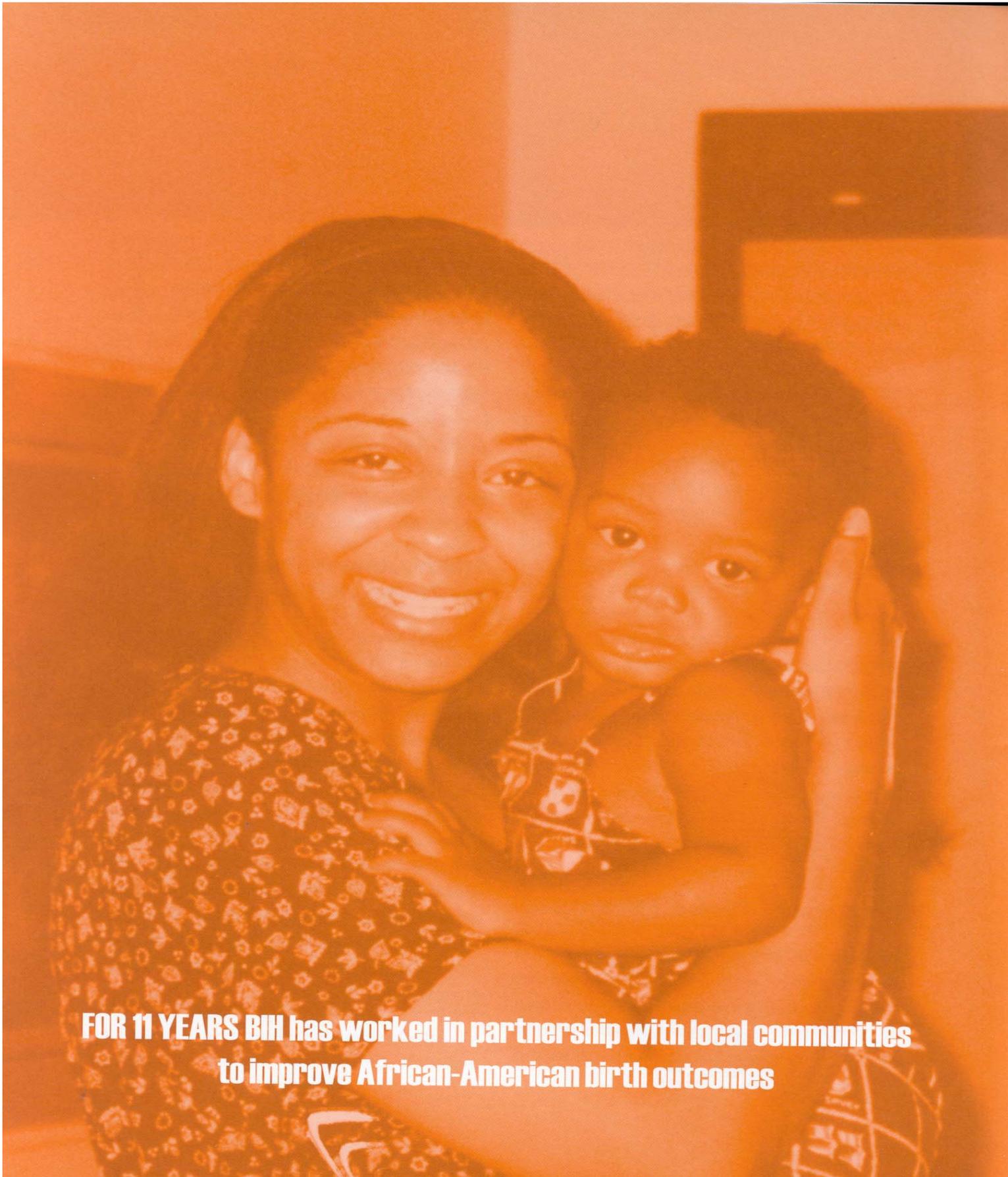
Prematurity Prevention Project

In another initiative, the MCH Branch worked in conjunction with Kern County for the development of guidelines for the prevention of prematurity in African-American infants. Specifically, Kern County has conducted

research and presented findings on existing strategies for prevention of prematurity in African-American infants and for increasing awareness among staff, medical providers, public and private agencies, community groups, and the community at large on the issues related to African-American prematurity/low birthweight, and the relationship of these issues to infant mortality. Kern County has designed and tested best practice guidelines for preventing prematurity in African-American infants, as well as developing a method for evaluating the effectiveness of the best practice guidelines. This project ended June 30, 2000.

Sudden Infant Death Syndrome (SIDS) Campaign

In a collaborative partnership with the California SIDS Program, the BIH Program designed culturally targeted outreach materials aimed at reducing the risk of SIDS deaths among African-American children. These materials serve as aids to enhance "Back To Sleep" awareness in the African-American community with primary emphasis directed toward pregnant and parenting African-American women. The BIH program disseminates and discusses the SIDS resource materials with pregnant African-American women and their families. Programs monitor newborn sleeping patterns with mothers during follow-up visits.



**FOR 11 YEARS BIH has worked in partnership with local communities
to improve African-American birth outcomes**

Domestic Violence Home Visitor Training Guidelines

In another collaborative partnership, the BIH Program worked cooperatively with the State Epidemiology and Prevention and Injury Control Branch and the California Institute on Human Services of Sonoma State University to adapt existing Domestic Violence Home Visitor Training guidelines for the BIH

Program. This included the formation of an Advisory Group to review and provide cultural expertise and perspectives from the BIH Program, clients, and community. The focus group facilitated the development of modified Domestic Violence Home Visitor Training Guidelines culturally appropriate for the BIH Program. The guidelines were completed and all BIH program staff was trained on the curriculum during May 2000.

Development and Implementation of the BIH Best Practice Models

In March 1993, the MCH Branch authorized an assessment of the initial implementation of the BIH Program. The assessment sought to answer the question, "How were BIH funds best utilized for maximum outcome?" The assessment documented effective practices in the program at the local level as well as revealing common features implemented by local health jurisdictions across the state.

The assessment concluded that a coordinated uniform approach across programs was likely to yield maximum impact in improving the health and well being of African-American women and families. The assessment further supported the design, development, testing, coordination, implementation, and evaluation of uniform effective practice interventions. These interventions are defined as Prenatal Care and Outreach, Case Management, Health Behavior Modification, Social Support and Empowerment, Prevention, and Role of Men.

In 1994, the MCH Branch initiated a competitive process and subsequently contracted with five agencies (county/city health jurisdiction, hospital, community based organizations) for the development of effective practice model interventions. The interventions, which the BIH Program has tested and evaluated for their impact on healthy outcomes for Black babies, are briefly described below:

- **Prenatal Care Outreach:** Utilizes knowledgeable Community Health Outreach Workers to conduct intensive outreach to identify and link pregnant African-American women to prenatal and appropriate services.
- **Case Management:** Utilizes Public Health Nurses to conduct home visits for the purpose of assessment, referrals, provision and coordination of services, monitoring, and follow-up.

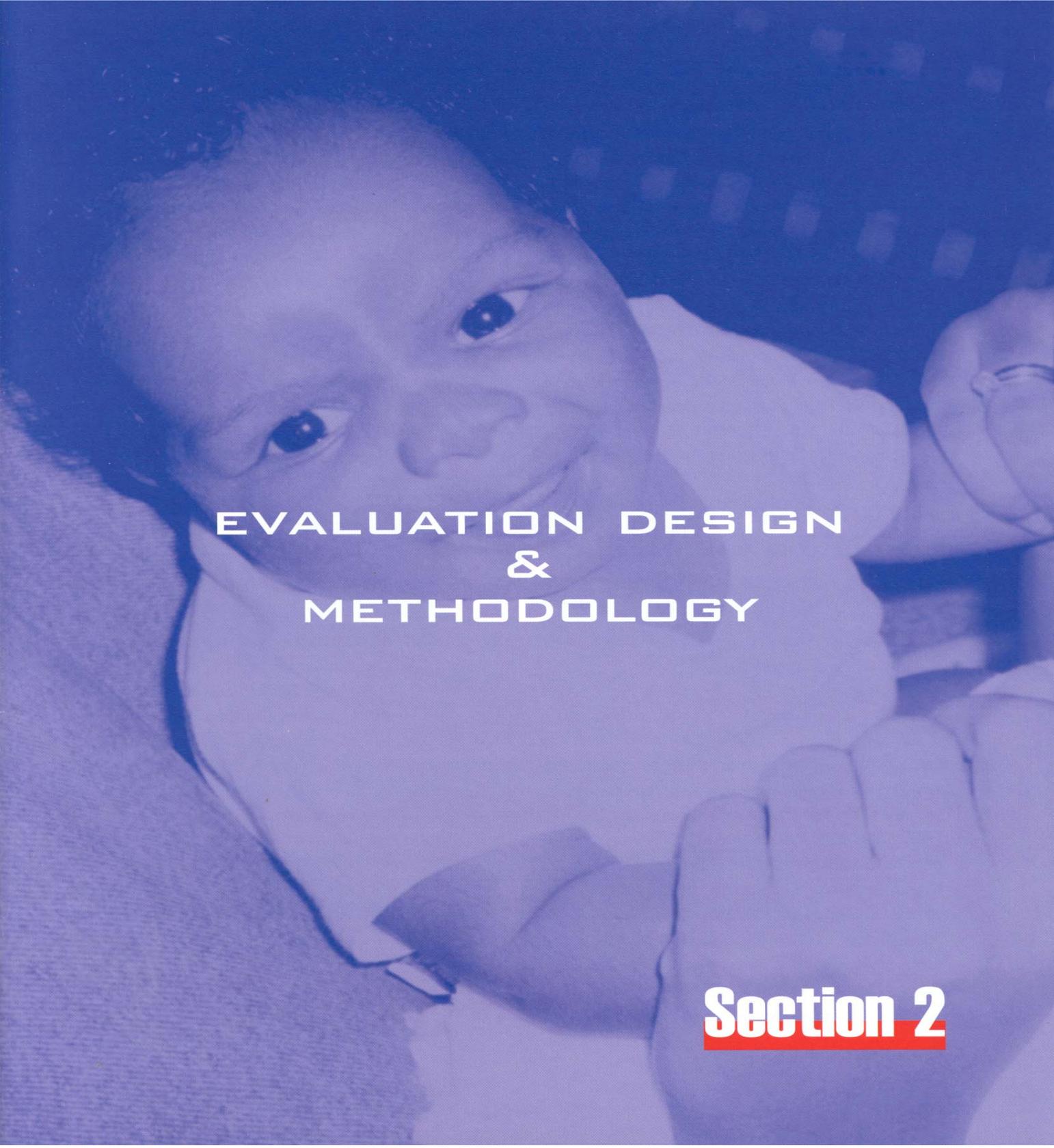
- **Health Behavior Modification:** Introduces a process to bridge the gap between health information and health practices. Health education is conducted one-to-one or in group health education settings. The intent is to modify the client's health behavior to develop self-efficacy, increase birthweight of their babies and to promote well baby care.
- **Social Support and Empowerment:** Provides at risk pregnant and parenting African-American women with social support and advocacy. Assists women that feel powerless in their own lives to identify and uncover their inner strengths, and to utilize these inner strengths for gaining control over their own lives.



- **Prevention:** Targets at risk African-American adolescents in school and non-school settings to promote values clarification, and strategies for preventing health hazards due to risky behaviors. Emphasis is placed on making wise choices, building self-esteem, and social skills.
- **Role of Men:** Fosters the active involvement of fathers in the lives of their infants. Fathers are trained in parenting skills, personal and legal rights, education, and vocational and job skills.

On July 1, 1996, these six best practice models were implemented statewide following a two-year period of extensive preparation. The local health jurisdictions conducted community needs assessments and received training on the six best practice models in order to select the models they would implement locally. This report presents results from the first 27 months of the statewide best practice models implementation.

For the past 11 years the Black Infant Health Program has worked effectively in partnership with local communities to improve African-American birth outcomes. **While progress toward improving birth outcomes can't be attributed to any one single strategy, but a combination of multiple interventions, the Black Infant Health Program has developed a set of interactive interventions that operate synergistically. Findings presented in this report support the conclusion that when these interventions are implemented in a coordinated manner, better birth outcomes are realized.**



EVALUATION DESIGN
&
METHODOLOGY

Section 2

In order to maximize improvements in African-American birth outcomes, the MCH Branch established and expanded partnerships beyond the health jurisdictions and model developers. Before the best practice models were implemented, the MCH Branch recognized that it would be important to evaluate whether this new approach met the objective of reducing poor birth outcomes among African-Americans. The MCH Branch entered into a cooperative agreement with San Diego State University (SDSU) in 1994 to develop an evaluation design and methodology to evaluate the effectiveness of model implementation at the state and local level.

Prior to evaluating model effectiveness, it was imperative to acquire model standardization and uniformity. Therefore, SDSU served as trainers for model developers, and provided the framework and guidelines for the design, development, and implementation of procedures for best practice models. SDSU further recommended the formation of a statewide BIH Data Collection and Evaluation Committee consisting of representatives from the health jurisdictions, model developers, the MCH Branch, and SDSU. This committee created a partnership among all participants in the best practice model implementation.

Partnership Through the Data and Evaluation Committee

In January 1995, the Data Collection and Evaluation Committee was created to initiate dialogue and support of the new direction in the program. Based on continuous feedback from model developers, the committee unanimously agreed on the importance of designing a data collection/management information system to capture relevant and specific activity to accommodate model critical features. This new system represented change from informal to formal processes and procedures in an automated context. Moving toward automated data collection raised many concerns regarding client confidentiality. The committee invested considerable time in discussing the advantages and benefits of a management information system.

The existence of the Data Collection and Evaluation Committee also assured adequate communication among partnership members with emphasis on the importance of collecting standardized data specific to each model in preparation for program evaluation. With this in mind, the committee began to embrace the philosophy of owning a new mindset. This mindset introduced new methods for documenting program activity, which included the following:

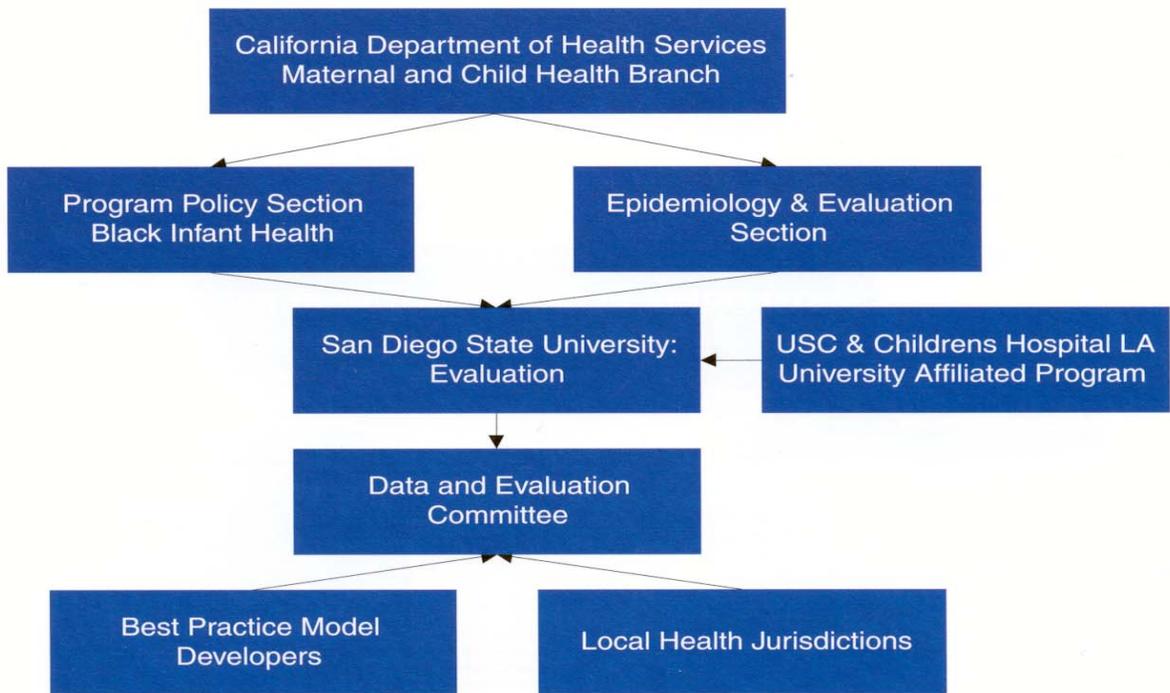
- Development of screening tools
- Development of a computerized management information system (MIS)
- Development of standardized data collection forms
- Statewide training and implementation of selected models

- BIH dedicated personal computers and printers
- Pilot testing of the MIS
- Debugging of the MIS
- Statewide training and implementation of the entire data collection system

The committee met quarterly and acted as the forum for coordination of the overall evaluation effort by providing a mechanism for joint decision-making as well as for encouraging and monitoring accountability. (See Figure 2.)

FIGURE 2

Black Infant Health Program, State and Local Relationships



Data Collection

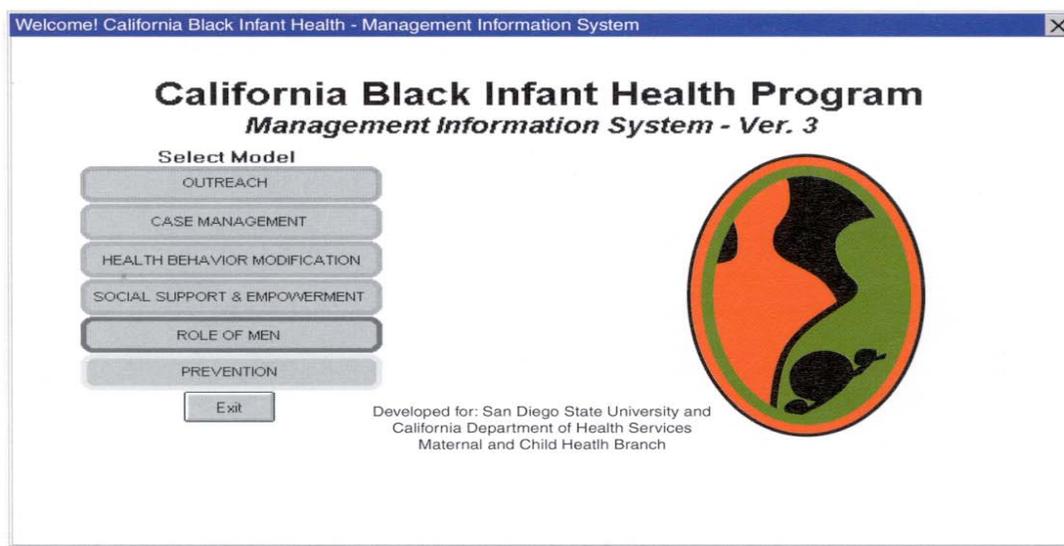
A set of common data elements related to the BIH clients were collected across the sixteen local health jurisdictions. These variables included outreach contacts, initial screening status, client demographics, psychosocial history, medical history, previous reproductive history, current pregnancy status, pregnancy outcomes, newborn and postpartum health status, model participation and partner participation. Standardized data collection forms were developed and incorporated into the computerized management information system (MIS). (See Figure 4.) The forms (green, red and yellow booklets) and MIS screens were

matched as closely as possible to maximize the ease of data entry. Challenges to data collection and data entry included:

- Concerns about confidentiality
- Acceptance of the procedures to be implemented
- Accuracy in filling out forms
- Data entry expertise
- Staff turnover

FIGURE 4

Black Infant Health,
Management Information System



Data Quality Assurance

Computer hardware and software were acquired by the various health jurisdictions, and the BIH-MIS was installed at each site. Extensive training was provided to local staff on data collection and data entry. Technical assistance was made available by phone and online using pcAnywhere software. After the MIS implementation, SDSU scheduled site visits quarterly to review quality assurance at each health jurisdiction. The quality assurance processes included:

- Stripping of client identifiers prior to data transfers
- Review of data for completion of data transfer
- Trouble shooting
- Problem solving
- Installation of upgraded hardware/software
- On site instruction/training/technical assistance where needed
- Quarterly group training sessions

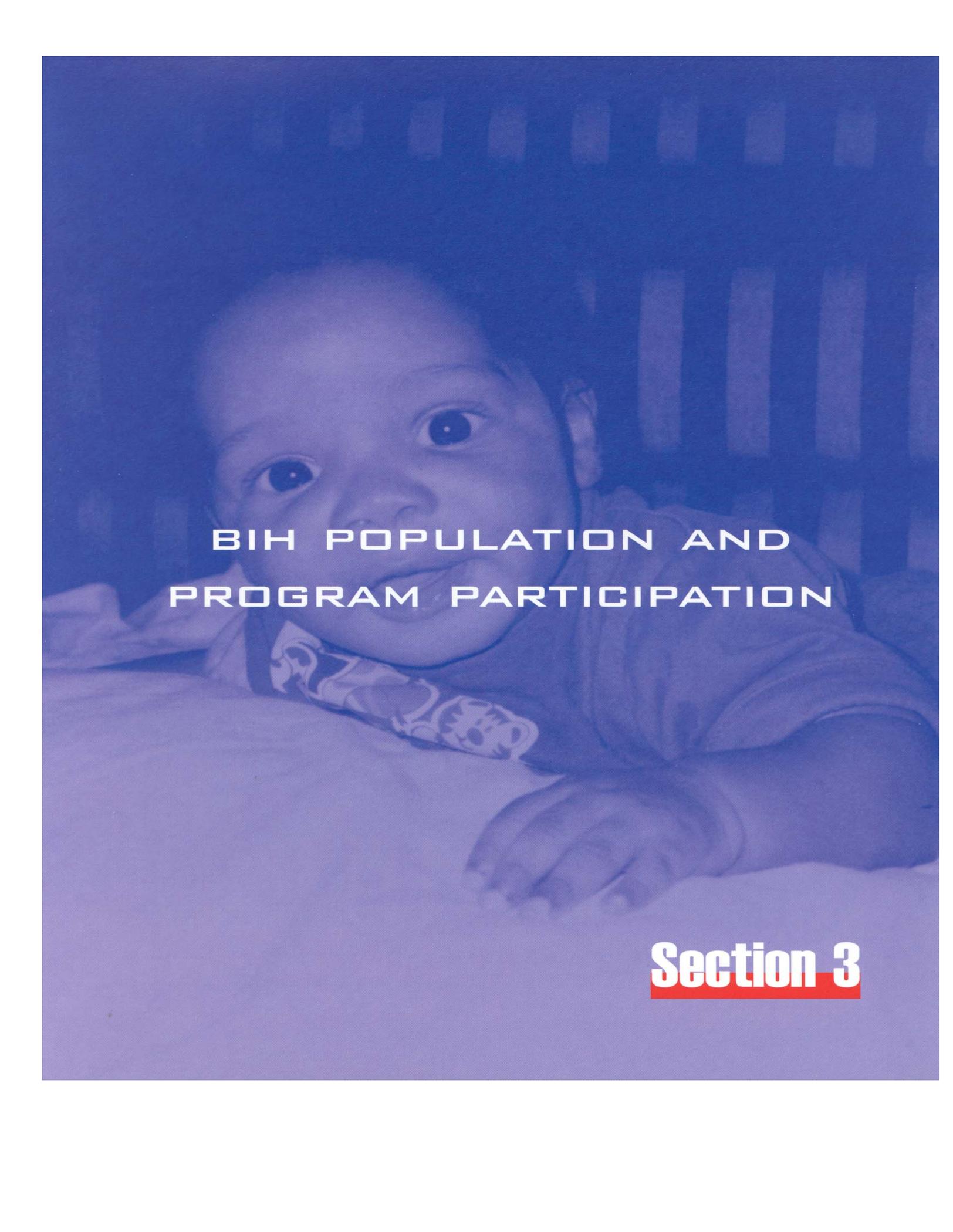
Data downloads from the health jurisdictions to DHS, MCH and SDSU were routinely assessed to identify discrepancies and gaps. These efforts greatly reduced the occurrence of missing and inaccurate data.

Concerns About Confidentiality

It has been shown that change may cause feelings of instability, uncertainty, resentment, or anxiousness. These feelings were experienced by BIH health jurisdictions and there was a fear that inappropriate use of the data could lead to client dropout. Local staff had to be reassured concerning confidentiality, particularly that the BIH data would not be used against clients and their partners.

MIS Compliance

To foster participation and to reward compliance, hard work, and accuracy of data input, the “Winnie Award” was developed. Initially, only one agency was selected per year to receive this award. The granting of this award inspired friendly competition between the health jurisdictions. Health jurisdictions have become more confident, accurate and proficient in reporting data, resulting in an increased number of celebrated “Winnie Awards” each year.



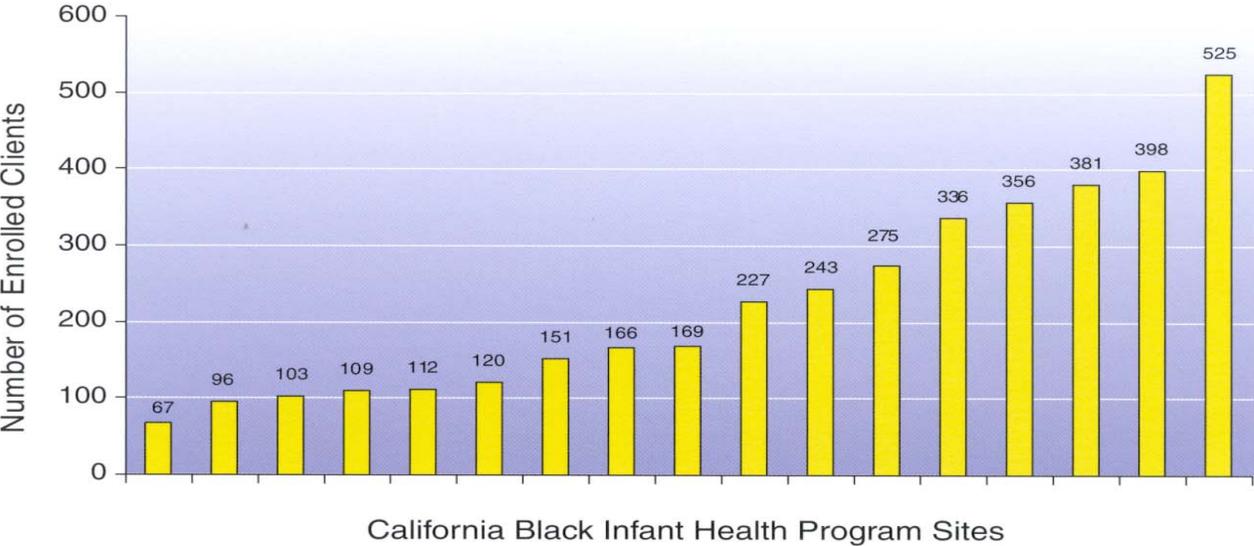
**BIH POPULATION AND
PROGRAM PARTICIPATION**

Section 3

BIH Enrollment

This evaluation reports on twenty-seven months of BIH program services delivered from July 1, 1996 through September 30, 1998. In this time period, BIH local programs enrolled 3,834 women in fourteen California counties (sixteen health jurisdictions). These health jurisdictions were targeted because they historically recorded 97% of the African-American live births throughout the state. The number of women enrolled in this initial period ranged from 67 to 525 per site. (See Figure 5.)

FIGURE 5
Black Infant Health Enrollment
by Program Site
July 1, 1996 – September 30, 1998
(N = 3,834)

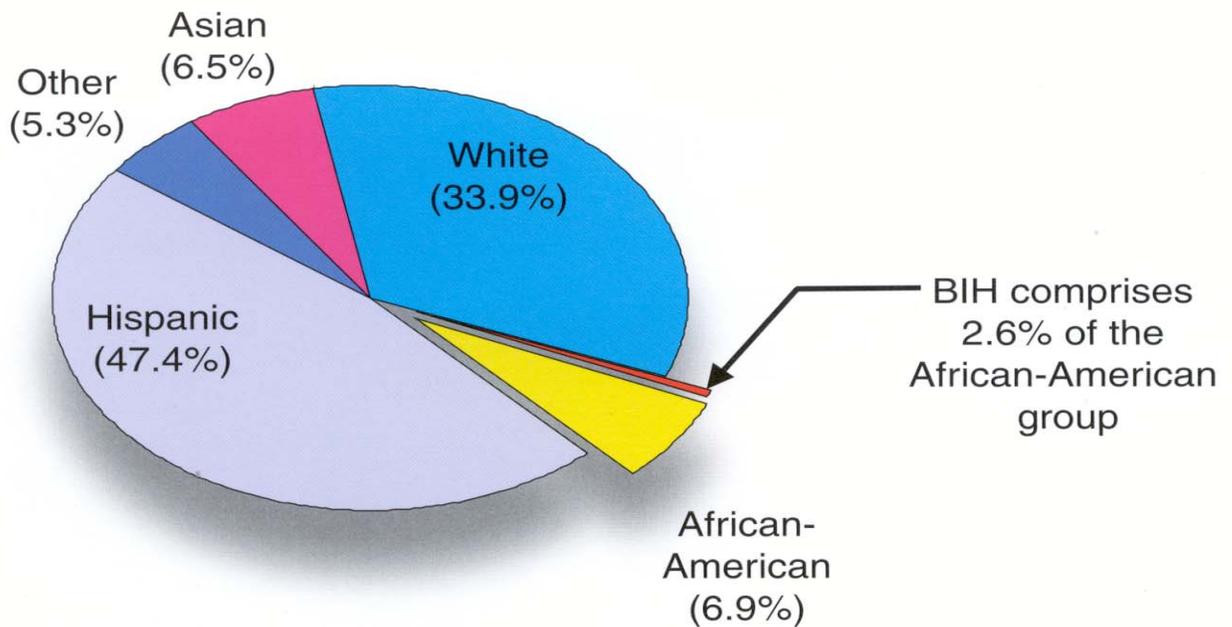


BIH Coverage Statewide

Using the California Birth File (birth certificate data), it is estimated that in the calendar year 1997 African-American births represented 6.9% of all live births. Live births to BIH clients represented 2.6% of all African-American live births in California. (See Figure 6.)

FIGURE 6

Live Births in California, 1997
(N=525,455 live births)



Outreach and Referral to BIH

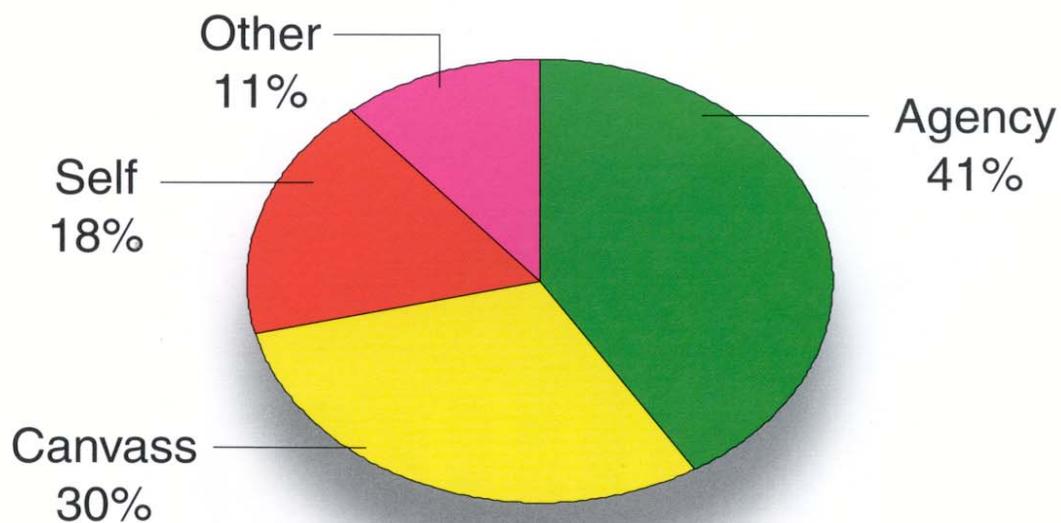
The BIH program implemented an innovative community health promotion and primary health care program using Community Health Workers (CHWs) in a frontline outreach capacity. The CHWs serve as culture brokers between their community and the health care system. They are indigenous to the community in which they work – ethnically, linguistically, socioeconomically, and experientially. This insider orientation provides these workers with a unique understanding of the culture and strengths of the communities they serve. BIH CHWs serve as effective conduits of

information, resources, services and advice on how to access those services.

During this reporting period (July 1, 1996 – Sept. 30, 1998), intensive community outreach was conducted in the 16 health jurisdictions. This process included street canvassing as well as community awareness and education. Figure 7 shows the primary source of referral to BIH was from another agency (41% of all referrals), including health and social service agencies as well as churches and community groups.

FIGURE 7

Sources of Referral into the Black Infant Health Program
July 1, 1996 – September 30, 1998
(N = 3,834)

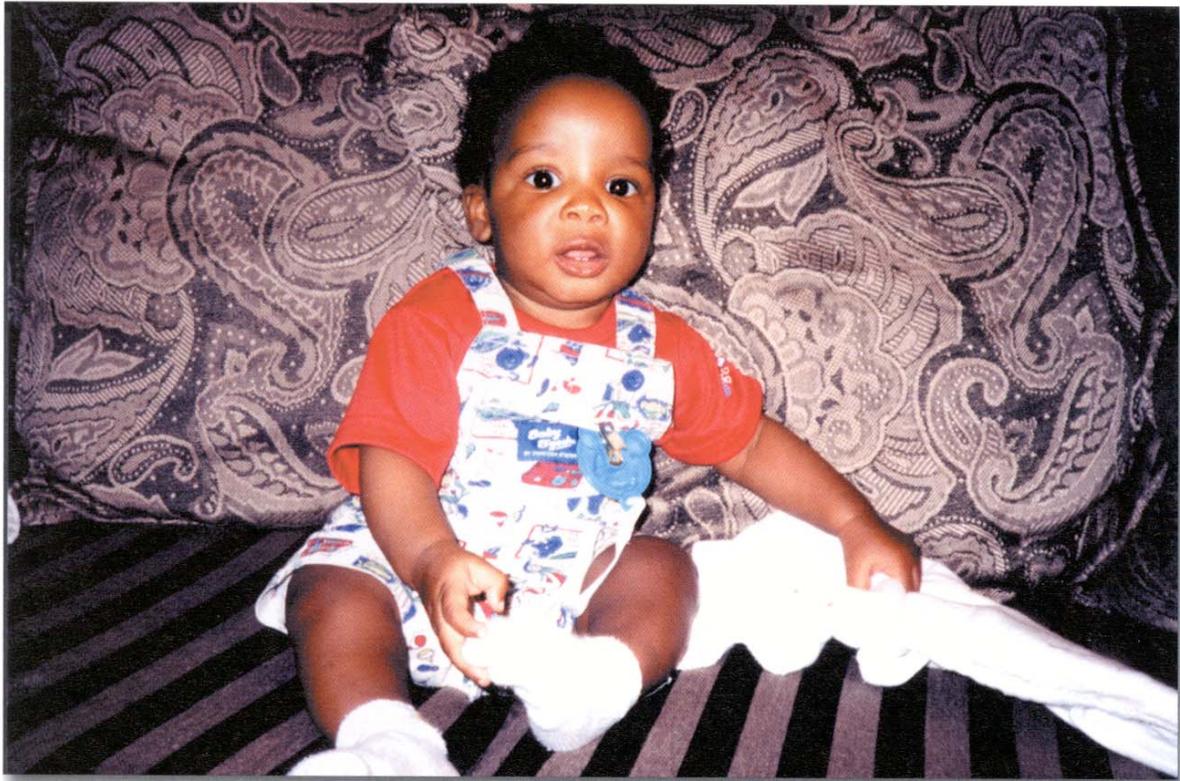


BIH Service Delivery

BIH interventions provide clients with case management, social support, and educational services. BIH staff members record all client contacts throughout the period of service delivery, including home visits, office visits, phone calls, field visits, and participation in model steps. A total of 49,128 client contacts were made to BIH participants during the evaluation period, averaging 12.8 contacts per client. Fifty-six percent (56%) of these contacts were direct face-to-face contacts.

Trained BIH staff members assess each client and provide them with referrals to other community agencies and services as needed (including medical services). The four most frequently provided service referrals included:

- Prenatal WIC services
- Transportation
- Housing/shelter
- Public Health Nursing



BIH Best Practice Model Enrollment

Prenatal care is a primary contributor toward improving birth outcomes. Therefore, all health jurisdictions receiving BIH funding were directed by the State MCH Branch to implement local programs with the Prenatal Care Outreach Model as the gateway toward better health care and improved birth outcomes. Prenatal Care Outreach Model participants also receive tracking, care coordination, case management and other services. To complement the Prenatal Care Outreach Model, health jurisdictions had the option of choosing additional model interventions based on results of local needs assessment. At a minimum, jurisdictions were required to implement two model interventions developed under state contract. Some jurisdictions implemented three models during the reporting period.

Client participation in a second model intervention varied by health jurisdiction, ranging from 14% to 77% of total clients enrolled at a site. In addition, the intensity of service provided to clients participating in a second model varied widely as well, with the average number of contacts per client ranging from 7.4 to 35.3.

Prenatal Care Outreach was implemented by all BIH jurisdictions with 3,834 clients participating in the model. Concurrent client enrollment in an additional BIH model is described below:

- Social Support and Empowerment was implemented by eight jurisdictions with 491 clients participating in the model.
- Case Management was implemented by four jurisdictions with 362 clients participating in the model.
- Health Behavior Modification was implemented by one jurisdiction with 206 clients participating in the model.

BIH enrollment of men and youth organizations was as follows:

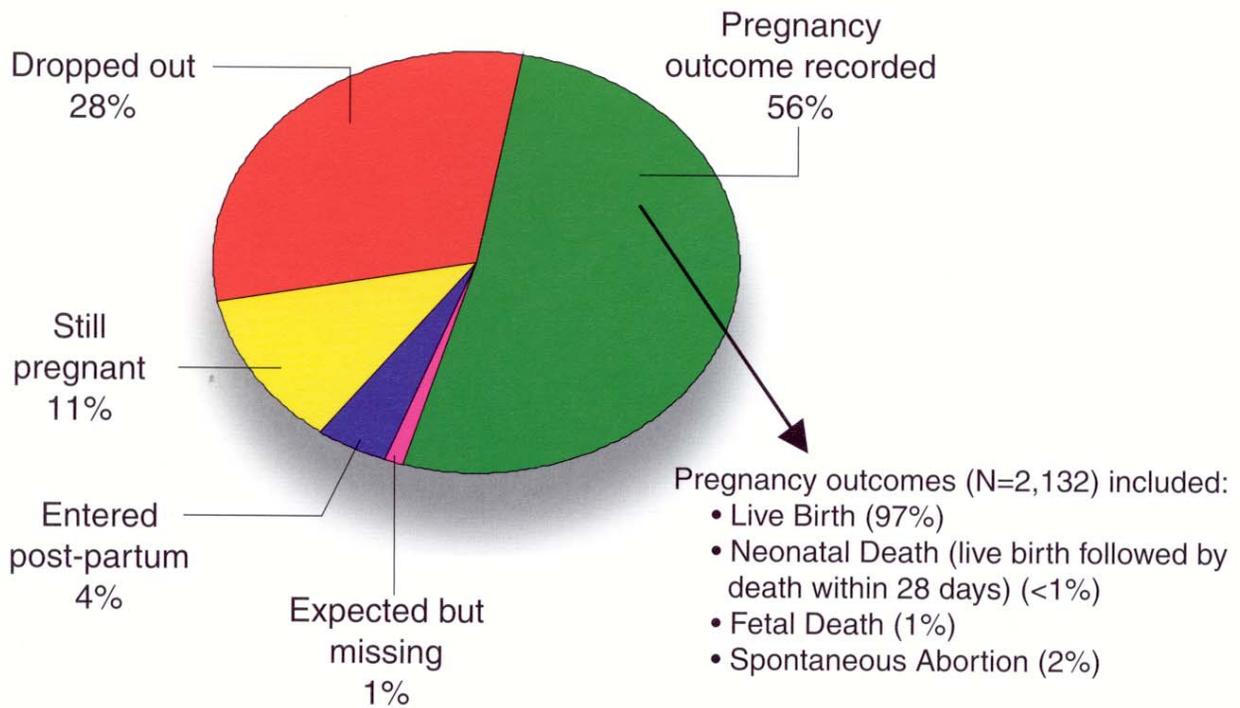
- Role of Men was implemented by two jurisdictions with 128 male clients participating in the model.
- Prevention was implemented by one jurisdiction with eight youth organizations participating in the model.

Pregnancy Outcome Status for BIH Enrolled Clients

As of September 30, 1998, 56% of the 3,834 BIH clients enrolled on or after July 1, 1996 had a pregnancy outcome recorded. Another 15% were either still pregnant or had entered BIH after their baby was born. Twenty-eight percent (28%) had dropped out of BIH program services prior to the recording of a pregnancy outcome. (See Figure 8.)

FIGURE 8

Outcome Status of Black Infant Health Program Enrolled Clients
July 1, 1996 – September 30, 1998
(N = 3,834)





BIH CONTINUES to emphasize early enrollment with the intent of increasing early access to prenatal and medical care

The remainder of this report will describe the demographic characteristics, risk factors, and pregnancy outcome results for BIH clients with a pregnancy outcome recorded.

Comparison of Women Who Stayed in BIH Throughout Their Pregnancies to Those Who Dropped Out

BIH program sites were very successful in retaining the highest risk clients, while those who dropped out appeared to be of lower risk (client self-reported risk). Compared with clients who dropped out early, BIH clients with a pregnancy outcome recorded were:

- 2.4 times more likely to describe a current health problem during their pregnancy ($p<0.05$).
- 1.8 times more likely to have reported a previous poor pregnancy outcome ($p<0.05$).
- 1.7 times more likely to have reported a previous spontaneous abortion ($p<0.05$).
- 1.5 times more likely to report a history of family violence ($p=0.02$).

Pregnancy Trimester of Entry into BIH

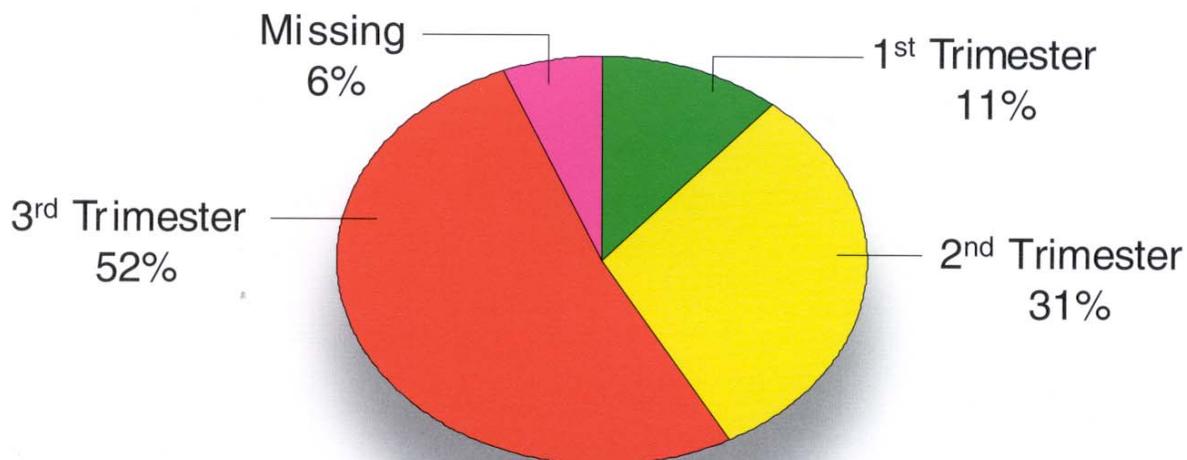
One of the primary goals of BIH is to identify pregnant African-American women who are at risk for poor birth outcomes and to assist their enrollment in culturally competent medical services. It is also important to fully educate targeted communities with information concerning the morbidity and mortality of African-American babies, and the causes of infant mortality. BIH programs have been very successful in soliciting the assistance and support of their communities to promote

BIH services, including validating and affirming the need for the program in order to gain entrance through doors that might ordinarily be locked.

Figure 9 shows that 52% of BIH clients with a recorded pregnancy outcome were enrolled in their third trimester of pregnancy, 31% in their second trimester and 11% in their first trimester.

FIGURE 9

Pregnancy Trimester of Entry into Black Infant Health Program
July 1, 1996 – September 30, 1998
(N = 2,132 clients with a pregnancy outcome recorded)



In the African-American community, many factors continue to influence the lack of early access to medical services during pregnancy. These factors include but are not limited to:

- Lack of transportation
- Lack of childcare
- Lack of trust in medical providers
- Lack of comfort in medical offices
- Failure to adequately incorporate family strengths and cultural values
- Lack of appreciating or understanding the importance of prenatal care

- Lack of sufficient income
- Concern with other survival priorities (housing, food, security, making ends meet, etc.)

Although there are many possible reasons for late (third trimester) entry into BIH program services, the survival priorities of BIH targeted clients and the high reliance in BIH on street canvassing are certainly contributors. The BIH program continues to emphasize outreach for early enrollment into BIH with the intent of increasing early access to prenatal and medical care.



Comparison of BIH Clients with Other California African-American Women

In order to adequately interpret evaluation findings, it is important to select an appropriate comparison group to be used to evaluate and assess BIH client risk factors and outcomes. For this purpose, the California Birth File (birth certificate data) for calendar years 1995 (the year immediately preceding BIH implementation) and 1997 (the first full calendar year of BIH implementation) were selected as comparison populations.

Two comparison groups were created. The first includes all California African-American live births. The second is a sub-set of the first, and was selected to more closely resemble the BIH population. It includes all California African-American live births to women using Medi-Cal as a payment source who resided in the most frequently targeted BIH ZIP codes. In 1997, it is estimated that throughout California, the Black Infant Health Program served approximately 5.3% of the African-American live births to women with a Medi-Cal paid delivery residing in BIH targeted ZIP codes.

The BIH Program specifically targeted women 18 years of age or older. Table 1 compares the 1997 demographics of the two California Birth File comparison groups (women 18 years of age or older) to 873 adult BIH clients with live birth outcomes in 1997. This table shows that BIH clients were younger, less educated, and more likely to be unmarried than the comparison group of all adult African-American women with live births. The same is true when BIH clients are compared with African-American Medi-Cal clients in BIH targeted ZIP codes, although the differences are less pronounced. In addition, 78% of BIH clients are unemployed and they are much less likely to have access to private health insurance than all African-American women. BIH clients also appear to be more likely to have experienced a previous low birthweight birth, or a previous preterm delivery than women in the comparison groups, however birth certificate data may under-report these outcomes.

TABLE 1

Comparisons Between BIH Clients¹ and CA African-American Women¹ with Live Births Recorded in the 1997 California Birth File

Demographic Characteristics	CA 32,270 live births	CA Medi-Cal, ZIP 10,183 live births	BIH 873 live births
Age			
18 to 19 years	12%	16%	18%
20 to 24 years	29%	35%	40%
25 to 29 years	26%	24%	20%
30 years or greater	34%	25%	20%
Unknown	<1%	<1%	2%
Education Level			
Less than high school	15%	25%	37%
High school graduate	42%	50%	36%
Any college	41%	24%	21%
Unknown	2%	2%	6%
Marital Status			
Single	59%	77%	84%
Married	38%	20%	14%
Unknown	3%	2%	2%
Employment Status			
Not employed	**	**	78%
Part-time	**	**	10%
Full-time	**	**	8%
Unknown	**	**	4%
Delivery Payment Source			
Medi-Cal	51%	100%	77%
Other government program	4%	—	3%
Private insurance	43%	—	12%
Self-pay or other	2%	—	<1%
Unknown	<1%	—	8%
Past Pregnancy Outcomes			
Previous low birthweight	2%	2%	7%
Previous preterm delivery	2%	2%	8%

¹Women aged ≥18 years, with singleton live births

BIH Client Risk of Experiencing a Poor Pregnancy Outcome

Research has consistently shown that current pregnancy health problems as well as psychosocial and behavioral risk factors are associated with poor pregnancy outcomes.

BIH Client Psychosocial Risk Factors

All clients referred for BIH program services receive a comprehensive psychosocial risk and strength screening interview developed specifically for African-American women. The results of this screening interview are used by the health jurisdictions to determine BIH eligibility and appropriate model participation.

Table 2 describes the most frequent psychosocial risk factors among BIH clients with a live birth outcome.

Concerns associated with financial stability are the most frequently reported, followed by a change in housing within the last 12 months. Fifty percent of the women reported that their partners were either currently in jail, or had been in jail in the past. More than one third reported close ties with an individual experiencing a significant problem with drugs or alcohol, and more than one quarter reported that a close friend had died within the last year.

TABLE 2

BIH Client Psychosocial Risk Factors
July 1, 1996 – September 30, 1998
(N = 2,031 clients with a singleton live birth outcome)

• Worries about making ends meet	78%
• Moved within the last 12 months	60%
• Income has decreased within 12 months	54%
• Partner is not available for financial support	54%
• Partner is now or has been in jail	50%
• Someone very close had problems with drugs or alcohol within the last 12 months	38%
• Not comfortable with living arrangements	36%
• A close friend died within the last 12 months	27%

BIH Client Current Pregnancy Health Problems

Overall, 27% of BIH clients with a singleton live birth outcome (n=2,031) experienced at least one of the seven most commonly reported health problems described in Table 3. Anemia was the pregnancy-associated condition reported most frequently by BIH clients. Fifteen percent (15%) or approximately one out of every seven BIH clients reported anemia.

TABLE 3

BIH Most Commonly Reported Pregnancy Related Health Problems
July 1, 1996 – September 30, 1998
(N = 2,031 clients with a singleton live birth outcome)

• Anemia	15%
• Urinary tract infection	6%
• Preterm labor	5%
• Pregnancy induced hypertension	3%
• Diabetes	3%
• Placenta previa	1%
• Pyelonephritis	<1%
• Any of the above problems	27%

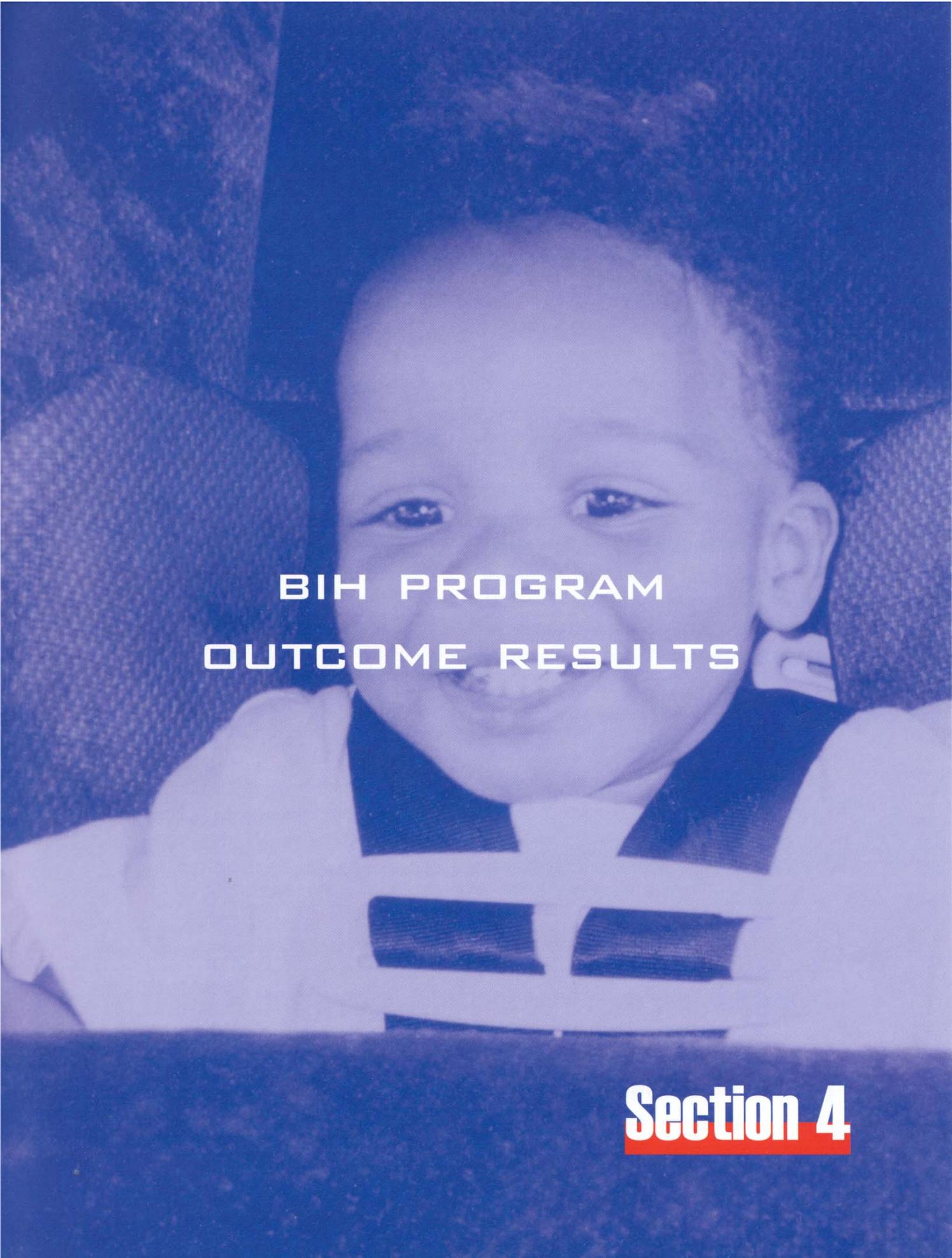
BIH Client Behavioral Risk Factors

BIH clients are also assessed for behavioral risk factors such as cigarette, alcohol, and drug use during their pregnancies. Table 4 shows that 20% of BIH clients either self-reported or were suspected of smoking during pregnancy, 11% self-reported or were suspected of using alcohol, and 12% reported drug use.

TABLE 4

BIH Self-Reported Behavioral Risk Factors
 July 1, 1996 – September 30, 1998
 (N = 2,031 clients with a singleton live
 birth outcome)

Cigarette Use	
Not during pregnancy	75%
Quit 1st or 2nd trimester of pregnancy	7%
Smokes or is suspected of smoking during pregnancy	13%
Missing	5%
Alcohol Use	
Not during pregnancy	84%
Quit 1st or 2nd trimester of pregnancy	7%
Drinks or is suspected of drinking during pregnancy	4%
Missing	5%
Drug Use	
Not during pregnancy	80%
Yes (Cocaine, Marijuana, Methamphetamine, other)	12%
Missing	8%



**BIH PROGRAM
OUTCOME RESULTS**

Section 4

BIH Client Initiation of Prenatal Care

BIH attempts to identify and enroll pregnant women from a variety of sources including health and social service agencies, street outreach, and self-referral. Once identified, the Black Infant Health Program provides multiple coordinated interventions tailored to meet the specific needs of clients including tracking, care coordination, education, social support, and case management. One of the highest priorities is to identify women who have not initiated prenatal care and assist them to access the care they need. However, there is not a one-to-one relationship between BIH entry and the initiation of prenatal care. Many women are referred to BIH from other health and social services agencies after they have initiated prenatal care. For these women BIH serves to facilitate and support their continued participation in prenatal care throughout their pregnancies.

To evaluate the contribution of BIH in facilitating a client's entry into prenatal care, the BIH MIS was examined to determine whether initiation of prenatal care occurred prior to or after entry into BIH. Of the 2,031 BIH clients with a live birth outcome, it is

known that 1,503 (74%) had initiated prenatal care prior to their BIH entry date. BIH provided support and assistance to these women to continue their prenatal care. Of the remaining 528, at least 444 (84%) had their first prenatal care visit on or after their BIH entry date. BIH entry facilitated initiation of prenatal care for these 444 clients who had not accessed prenatal care previously. Prenatal care start dates were missing for an additional 84 clients (4% of the total); it is not known if these women started prenatal care before or after entry into BIH.

BIH trimester of entry was an important issue in whether or not there was a need for assistance with prenatal care initiation. Clients who entered BIH in the first trimester were much less likely to have initiated prenatal care prior to BIH entry than those who entered in the second or third trimesters - a higher percentage of first trimester BIH entry clients required assistance by BIH to enter into prenatal care services. However, greater raw numbers of clients were assisted in the second and third trimesters due to the fact that larger numbers of clients entered BIH in their second and third trimesters.

Birthweight and BIH Babies

BIH client birthweights were compared to those of 1995 Medi-Cal clients in targeted BIH ZIP codes. Calendar year 1995 was used for this comparison because it was the year immediately prior to full BIH model implementation. BIH clients had a lower percentage of very low birthweight (<1500 grams) babies (1.9% vs. 2.9%) and a higher percentage of infants born with birthweight 1500-2499 grams (11.2% vs. 13.0%) than the Medi-Cal comparison group. Both of these findings were statistically significant (p=0.05). No statistically significant difference was found in overall low birthweight (<2500 grams) between the two groups (14.1% vs. 14.9%) (See Table 5).

No difference in very low birthweight for California African-American Medi-Cal infants in targeted BIH ZIP codes was found between 1995 and 1997 (2.9% vs. 3.0%). Thus, there was no decline in the percent of very low birthweight infants in this population in the two-year period (recall that BIH represents only a small fraction of the African-American live births in 1997).

These results suggest that one of the effects of the BIH interventions may be to reduce the risk of infants born with very low birthweight, successfully moving those infants from very low birthweight into the 1500-2499 gram category.

TABLE 5

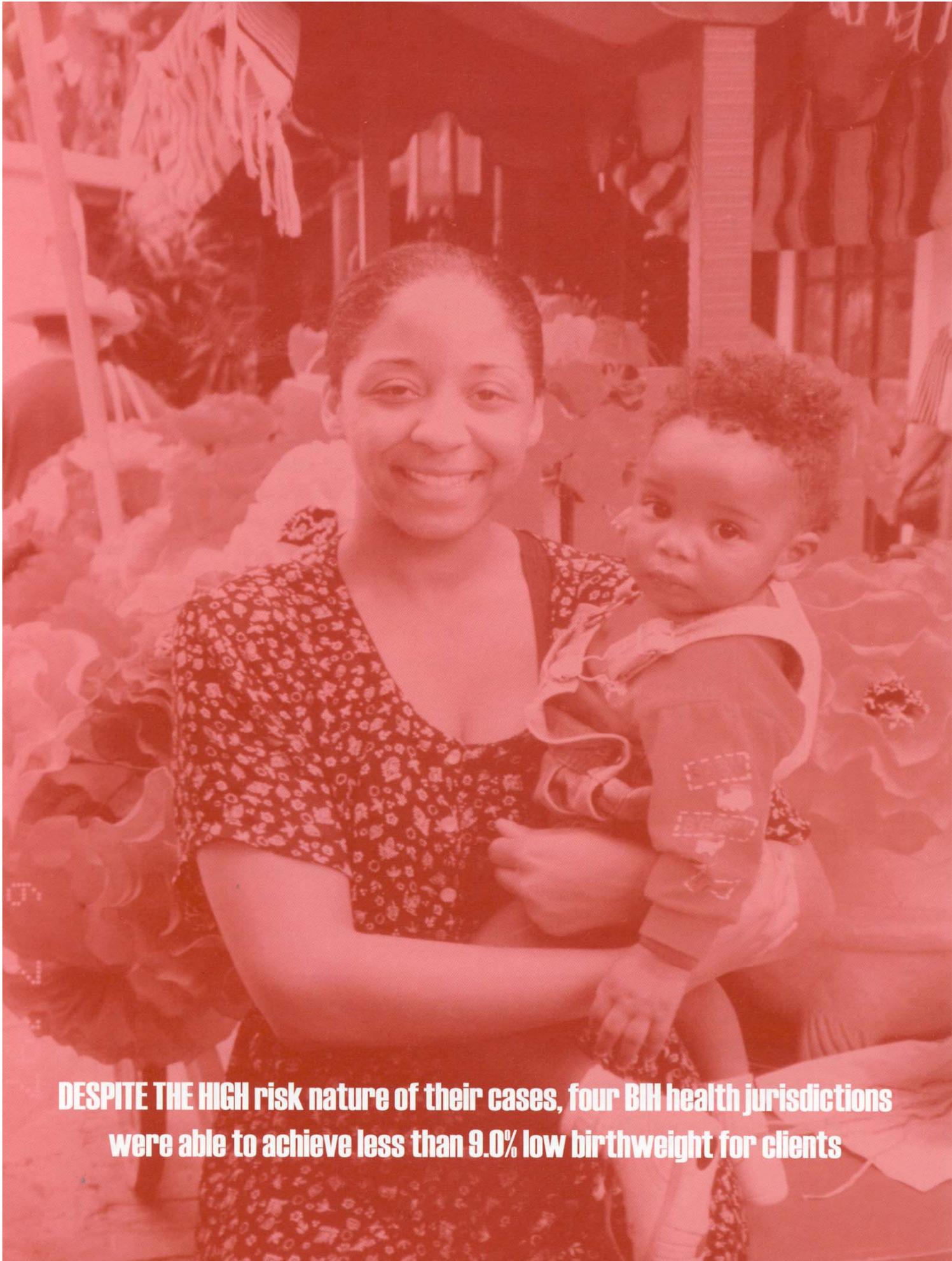
Proportion of Low Birthweight Infants Among California African-American Infants and BIH Program Infants

Low Birthweight Categories	CA Medi-Cal, ZIP ¹ 1995 (N=13,785)	CA Medi-Cal, ZIP ¹ 1997 (N=11,633)	BIH ² July 1996-Sept 1998 (N=1,545)	(95% Confidence Interval)
<1500 grams	2.9%	3.0%	1.9%	(1.2-2.6)
1500-2499 grams	11.2%	11.0%	13.0%	(11.3-14.7)
<2500 grams	14.1%	14.1%	14.9%	(13.1-16.7)

¹Live birth infants with known birthweight born to African-American women with a Medi-Cal paid delivery in BIH targeted California ZIP codes; Birth certificate data.

²BIH live birth infants with known birthweight born to clients with BIH entry before 32 weeks gestation, July 1996-Sept 1998

ALTHOUGH the percent of infants born each year with very low birthweight is quite small, very low birthweight infants are at highest risk for poor health outcomes contributing disproportionately to both infant morbidity and mortality



DESPITE THE HIGH risk nature of their cases, four BIH health jurisdictions were able to achieve less than 9.0% low birthweight for clients

Prematurity and BIH Babies

The largest contributor to infant low birthweight is premature birth. In the BIH program, 55% of BIH clients who delivered a low birthweight infant delivered that infant prior to 37 weeks gestation. The remaining 45% delivered a full-term low birthweight infant.

BIH preterm birth outcomes were also compared to those of 1995 Medi-Cal clients in targeted BIH ZIP codes. BIH clients had a lower percentage of infants born with extreme

prematurity (<32 weeks gestation) than the Medi-Cal comparison group (3.5% vs. 4.2%), although these results were not quite statistically significant. As with low birthweight, no decline in the percent of preterm births was found among California African-American Medi-Cal clients in targeted BIH ZIP codes between 1995 and 1997 (4.2% vs. 4.3%). This suggests that BIH clients may be experiencing more favorable results than the comparison group. BIH client and comparison group data will continue to be analyzed as larger sample sizes become available.

TABLE 6

Proportion of Prematurely Delivered Infants Among California African-American Infants and BIH Program Infants

Preterm Delivery Categories	CA Medi-Cal, ZIP ¹ 1995 (N=12,956)	CA Medi-Cal, ZIP ¹ 1997 (N=10,844)	BIH ² July 1996-Sept 1998 (N=1,553)	(95% Confidence Interval)
<32 weeks	4.2%	4.3%	3.5%	(2.6-4.4)
32-37 weeks	13.9%	13.6%	14.4%	(12.7-16.1)
<37 weeks	18.1%	17.9%	17.9%	(16.0-19.8)

¹Live birth infants born to African-American women with a Medi-Cal paid delivery in BIH targeted California ZIP codes; Birth certificate data.

²BIH live birth infants born to clients with BIH entry before 32 weeks gestation, July 1996-Sept 1998

IT HAS BEEN SHOWN previously in this report that BIH clients may in fact be of higher demographic and psychosocial risk than the comparison group of African-American Medi-Cal clients in targeted BIH ZIP codes. The fact that BIH clients have similar or better pregnancy outcomes than the comparison group is a positive finding and deserves further follow-up and investigation.

Challenges of Program Implementation and Its Impact on BIH Outcomes

Some BIH local programs experienced significant structural and administrative challenges in their attempt to initiate BIH services. These included difficulties hiring and retaining staff, issues with sub-contractors, and complex administrative structures. Administrative challenges appear to be one of the strongest predictors of a health

jurisdiction's birth outcome results. Five BIH health jurisdictions were identified as having experienced these types of implementation challenges. Together these five sites reported 20.5% low birthweight compared to 13.6% low birthweight for the remaining twelve sites (overall BIH low birthweight = 14.9%).



Best Practice Model Participation and Pregnancy Outcomes

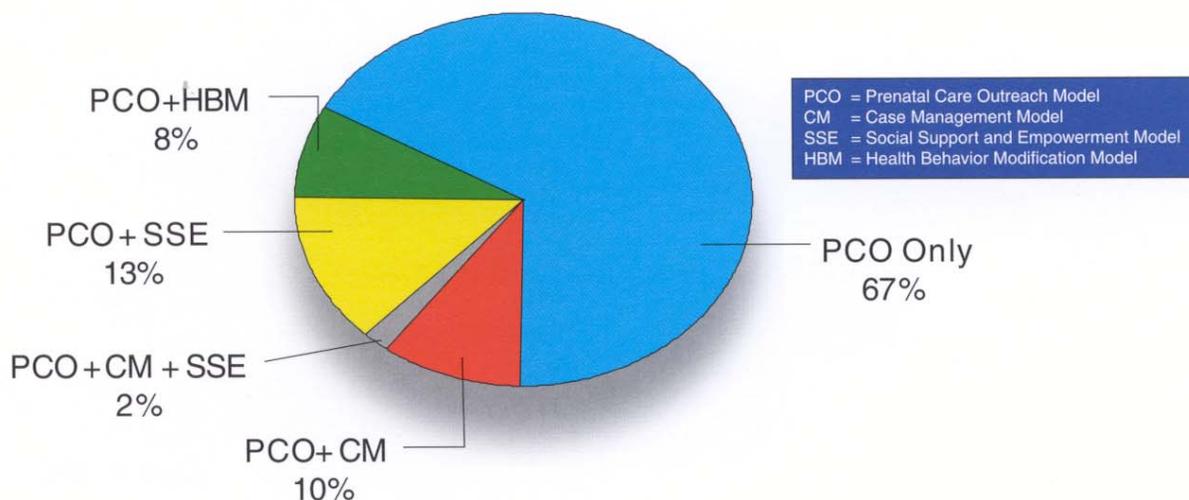
In the first 27 months of BIH program services, four BIH best practice models for pregnant women were implemented in sixteen BIH health jurisdictions. The Role of Men Model and the Prevention Model were also implemented, but these models do not focus directly on pregnant women and their pregnancy outcomes.

During this time period, the majority of women with a pregnancy outcome recorded (67%) participated only in the Prenatal Care Outreach Model. (See Figure 10.) A number of factors may have contributed to this

including time delay in the early implementation of second models by the health jurisdictions, and the fact that the majority of clients entered BIH in their third trimester of pregnancy (providing limited opportunity for additional model participation). No statistically significant differences in pregnancy outcome (low birthweight or premature birth) were noted based on client model participation, however such a difference may not be identifiable given the small percentage of clients participating in each of the three secondary models in this evaluation time period.

FIGURE 10

Best Practice Model Participation Among Black Infant Health Program Clients with a Pregnancy Outcome Recorded, July 1, 1996 – September 30, 1998 (N = 2,132)



Year 2000 Low Birthweight Goals – BIH Successes

The United States Federal Year 2000 Objective for African-American low birthweight was 9.0%. Despite the high risk nature of their cases, four BIH health jurisdictions were able to achieve less than 9.0% low birthweight for clients enrolled between July 1, 1996 and September 30, 1998. (See Figure 11.)

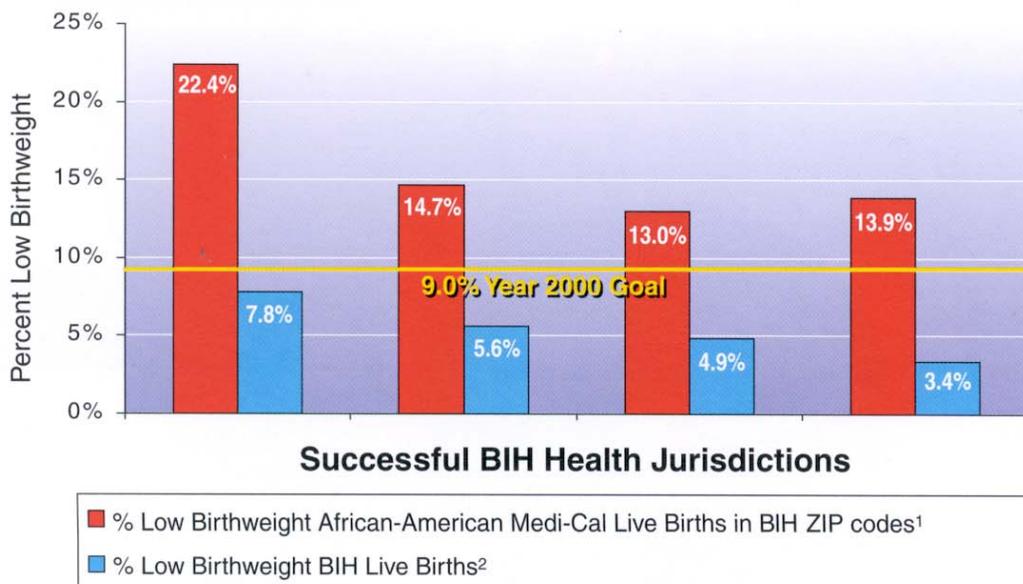
The health jurisdiction with the lowest percent low birthweight reported 3.4% low birthweight. This result was 75% lower than the 1995 percent low birthweight for African-American Medi-Cal clients in that jurisdiction's

targeted ZIP codes (3.4% vs. 13.9%). Health jurisdictions with the lowest low birthweight percentages were effective because they were able to demonstrate both a reduction in the percent of preterm deliveries, and an increase in the percent of full term infants with normal birthweight.

Future evaluation efforts will focus on these successful health jurisdictions in an attempt to determine (both qualitatively and quantitatively) additional factors that appear to be contributing to these successful outcomes.

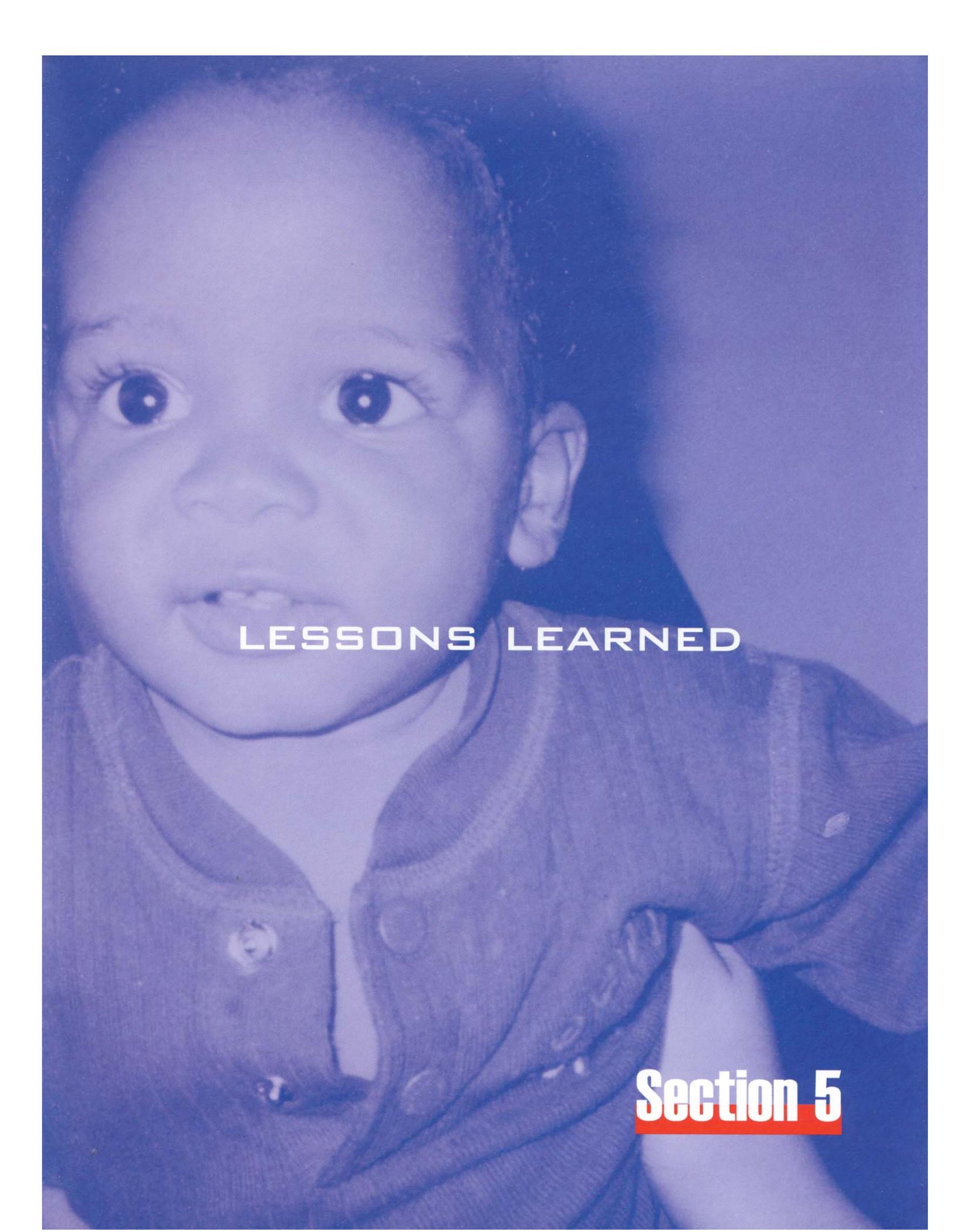
FIGURE 11

Low Birthweight (<2500 grams)
Comparison Between Selected
Black Infant Health Program Sites
and their Local Comparison Groups



¹California vital statistics: 1995 Birth Certificate data

²Clients with BIH entry before 32 weeks gestation and live birth outcome (July 1, 1996 - Sept 30, 1998)

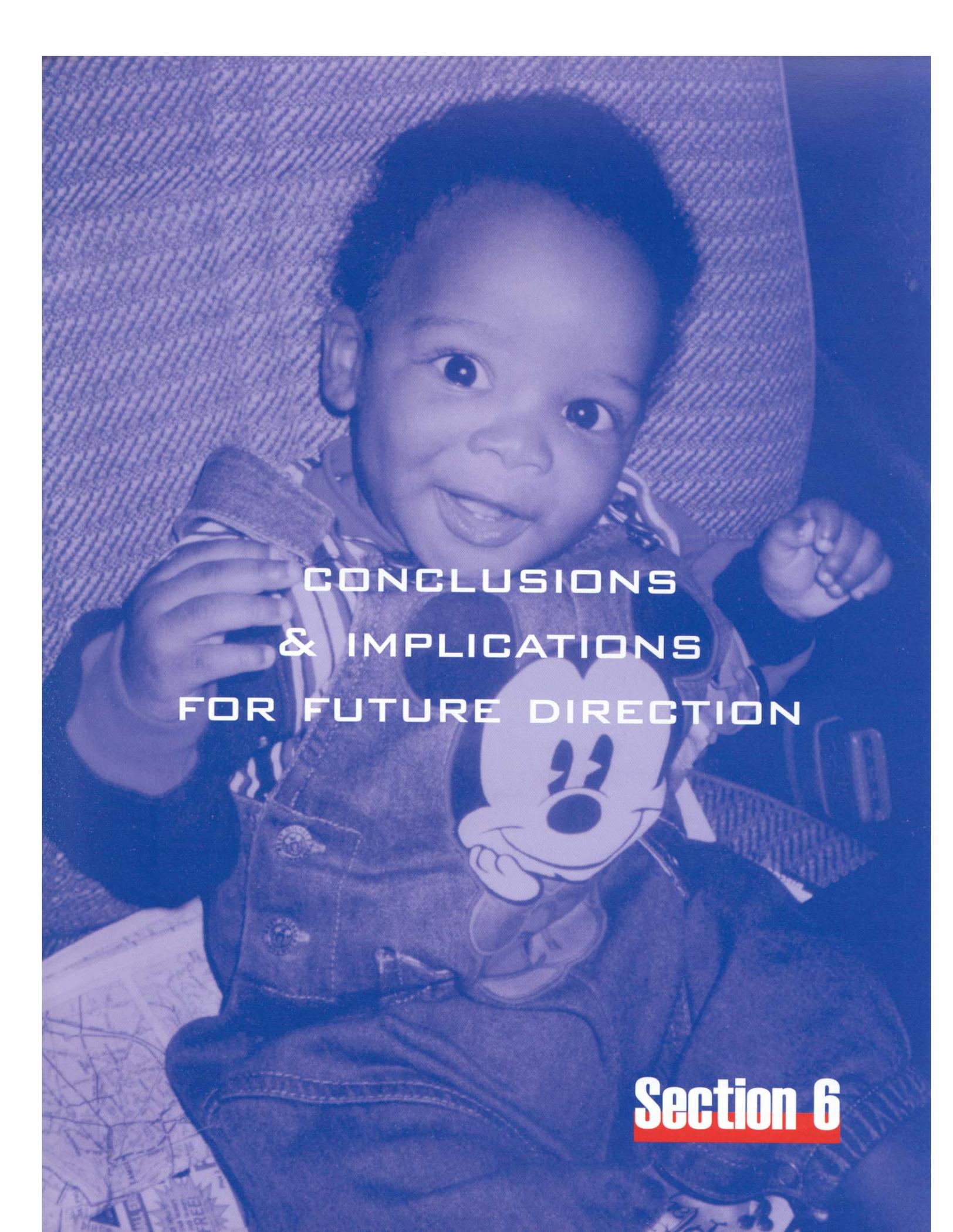


LESSONS LEARNED

Section 5

What Have We Learned?

1. This study period demonstrated the importance of establishing clearly defined and standardized processes prior to preparing to assess or evaluate outcomes. Clearly delineated, uniform processes enhance the quality of this program evaluation.
2. No single best practice model was found to be most effective toward improving birth outcomes. Rather, a complement of culturally appropriate and integrated strategic efforts inclusive of outreach, assessment of need, health care services, health education, personal support and continuous follow-up are all essential components that contribute to improved outcomes in the California BIH Program.
3. A comparison of BIH clients with births described in the 1997 California Birth File showed that BIH clients had higher demographic and psychosocial risks for poor pregnancy outcome than the overall group of California African-American women giving birth. BIH clients were younger, much less educated, more likely to be unmarried, and more likely to be on Medi-Cal. Additionally, 78% of these BIH clients were unemployed. This demonstrates that outreach and enrollment efforts are appropriately targeted to high risk women.
4. Many factors influence the lack of early access to prenatal care and other medical services in the African-American community. These factors prominently affect how eligible pregnant and parenting women prioritize responsibilities and respond to their personal circumstances. While the ability to conceive and incubate life is often perceived and cherished as an honor, life's challenges can subdue the magnificence of this gift. Not until such challenges are confronted does the need for prenatal care or other medical services become a priority. These challenges include worries about sufficient means to make ends meet, no support from partner, unsuitable living arrangements, criminal justice involvement, and others.
5. BIH was successful in serving the hardest to reach and highest risk population – promoting prenatal and other medical care by skillful, caring and compassionate local program staff who are predominately indigenous to the communities of the target population. Thus, program services were provided to those women with the greatest need.
6. Pregnancy related health problems were reported in 27% of deliveries in BIH. These problems include anemia, urinary tract infections, preterm labor, hypertension, diabetes, placenta previa, and pyelonephritis. Thus, many women suffer from chronic and acute medical conditions that adversely affect pregnancy outcomes. Coordination with the health care providers is crucial to achieving better health for these women and their children.
7. Twenty percent of BIH clients either self-reported or were suspected of smoking during pregnancy, eleven percent self-reported or were suspected of using alcohol, and twelve percent reported use of illicit substances.
8. Fifty-five percent of BIH clients who delivered a low birthweight infant delivered that infant prior to 37 weeks gestation.
9. The evaluation results suggest that BIH interventions reduce the risk of very low birthweight (<1500 grams) and very premature births (<32 weeks gestation) among the target population by empowering women to recognize and appropriately respond to the signs and symptoms of preterm labor.



CONCLUSIONS
& IMPLICATIONS
FOR FUTURE DIRECTION

Section 6

Conclusions

Significant progress has been made in improving African-American birth outcomes, thereby reducing infant mortality. While there is reason to celebrate this success, this celebration is restrained. Developing and sustaining community efforts to reap the benefits of their work will require a continued commitment and openness to new approaches.



Future Direction

The discussion around why health disparities are so profound in communities of color will and should continue for a long time. There is still so much that is not scientifically understood. One of the consistent realities that confront and demand a culturally competent response in African-American communities, whether in California or across the nation, concerns the significant obstacles that disproportionately challenge the African-American family. Adverse health outcomes are barometers for the well being of a community's social and political equity as well as its health status. Improving birth outcomes must focus on medical services with specific attention directed toward economic and social justice.

Future directions must cultivate and facilitate concrete linkages with multiple agencies, programs, networks, foundations, businesses whether public or private, and most importantly, with respective communities that share these tremendous burdens. These entities must adopt a shared vision and work jointly toward enhancing the quality of life resulting in better birth outcomes and reduced infant mortality.

Recommendations from this evaluation are presented in three areas:

- Services
- Public Awareness
- Research/Investigation

Services

1. Expand the scope and content of BIH services to include breastfeeding promotion, nutrition, and smoking cessation. Continue and expand current topics such as SIDS “Back to Sleep” education, elimination of alcohol and illicit substance use and domestic violence prevention.
2. Implement the Prematurity Prevention Guidelines, developed in Kern County, to all BIH programs.
3. Support and foster the development of culturally competent health care environments that are responsive to the psychological and physical needs of African-American women.

Public Awareness

Expand the Community Awareness Campaign to develop public awareness in the community on the importance of prenatal and preconceptual health, family planning, health risks to pregnancy (e.g. medical conditions such as hypertension, diabetes, anemia, infections) and the importance of the role of the father in the family.

Research/Investigation

1. Continue to maintain a Management Information System for all BIH clients and continually evaluate program effectiveness and outcomes.
2. Continue epidemiologic surveillance, literature reviews and collaboration with CDC and other agencies to identify changing trends and new intervention practices and make them available to BIH Programs.



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