Flower Power: Assessing the Impact of the Magnolia Project on Reducing Poor Birth Outcomes in an At-Risk Neighborhood

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ABSTRACT
The past decade has seen tremendous improvements in the health status of children in the United States. In 1992, the infant mortality rate in the United States was at 8.5 per 1,000 live births. By 2002 that figure had declined to 6.9. However, the infant mortality rate for Jacksonville/Duval County in Northeast Florida has consistently remained higher than both the national and state rates, particularly for minority populations. The Magnolia Project was developed by a consortium of local health care providers and concerned community agencies to address racial disparities in birth outcomes. The Magnolia Project provides well-woman clinic and case management services to women in the childbearing years residing in the urban core, where infant mortality is highest. In this paper, we examine the Magnolia Project to assess the impact that this initiative has made on the target community in providing health services and prevention strategies to reduce poor birth outcomes. Included in such services are strategies aimed at reducing factors associated with infant mortality. These strategies have resulted in improved birth outcomes for women associated with the Magnolia Project, including a low incidence of infant mortality and low birth weight babies for participants.

Infant mortality is an important indicator of “a society’s success in providing quality of life for its members” (Marks et al. 1987). Infant mortality is defined as the number of infants, out of 1,000 live births, who die before their first birthday. The infant mortality rate in the United States was at 32.2 per 1,000 live births in 1947. Shortly thereafter this rate began to decline and by 1987 it stood at 10.1 (Yankauer, 1990). In spite of this decline, the United States still ranked below other industrialized nations by the mid 1980s (Hogue et al. 1987; Kleinman, 1986). In addition, a widening gap in infant mortality rates between Whites and minorities (particularly between Whites and African Americans) was apparent in the 1980s (Collins and David, 1990; Guyer, Wallach, and Rosen, 1982; Hummer, 1993; DHHS, 1985).
During the 1980s, a number of research studies were devoted to investigating the factors involved in the White-African American infant mortality gap. A national multi-agency study (Hogue et al. 1987) analyzed the causes of infant mortality for babies born in the year 1980. The study found that during the first year of life, African American infants were twice as likely to die as White infants. It further revealed that, of all the factors examined in the study, low birth weight\(^1\) was the most significant predictor of infant mortality. These findings are supported by other research on low birth weight and infant mortality (O’Campo et al. 1997; Ruijter and Miller, 1999; Sappenfield et al. 1987).

**FACTORS IMPLICATED IN LOW BIRTH WEIGHT**

Hogue et al. (1987) found that for African Americans, the mother’s age, years of education, and month of entry into prenatal care are highly related to infant mortality rates. These findings suggest that infants are more likely to die during the first year of life if born to mothers who: (a) are younger, (b) have fewer years of education, and (c) enter prenatal care late in their pregnancies. These risk factors are associated with maternal characteristics that “reflect social class differentials in access and availability of care” (Hogue et al. 1987). Results from other studies conclude that poverty and lack of prenatal care contribute largely to high rates of infant mortality for African Americans (Haas et al. 1993; Klerman, Cliver, and Goldenberg, 1998; Miller et al. 1989; Polednak, 1996; Polit and Kahn, 1986; Sharp, 1993; Stockwell, Swanson, and Wicks, 1988).

In response to the findings of these studies outlining the problems of infant mortality, the national Healthy Start Initiative was funded in 1991 by the U.S. Department of Health and Human Services under the Maternal and Child Health Bureau (MCHB). The Healthy Start Initiative was designed as a five-year demonstration program to “identify and develop community-driven approaches to reducing infant mortality and improving the health and well-being of women, infants, children, and families” (Giffin, Curry, and Sullivan, 1999). Twenty-two communities with high rates of infant mortality (1.5 to 2.5 times the national average) were chosen to implement demonstration projects.

The demonstration projects utilized diverse strategies but all strove to implement interventions that incorporated a “comprehensive mix of medical and social services” (Agency for Health Care Policy and Research, 2004; McCormick et al. 2001). The mix of services was intended to fill in the gaps in the health care and social services delivery system often associated with communities where health disparities are evident (McCloskey et al. 1999).

In addition, the projects followed a community-based model when addressing each individual community’s specific needs. This involved implementing strategies designed to “strengthen and enhance community systems of maternal and infant care” (Chu and Reilly, 1992; Israel et al. 1998; Lightsey et al. 1999). This approach is also judged to be
best because by strengthening already existing resources, at-risk individuals in the community have better access to services offered.

Nine specific models of approach evolved over the five-year demonstration phase, and were evident when the project's strategies were examined. They included: (a) community-based consortia, (b) outreach and client recruitment, (c) case management, (d) family resource centers, (e) enhanced clinical services, (f) risk prevention and reduction, (g) facilitating services, (h) training and education, and (i) adolescent programs. Currently, each Healthy Start project utilizes one or more of these models when implementing interventions intended to lower infant mortality rates (Lightsey et al. 1999). In 1998, Healthy Start expanded the funding base, and extended grants to over 90 projects throughout the country that were designed to eliminate racial disparities in birth outcomes.

THE MAGNOLIA PROJECT

In 1999, a Jacksonville, Florida consortium composed of the local Healthy Start Coalition, healthcare providers, the University of North Florida, and concerned community groups received funding for a project under the Federal Healthy Start Racial Disparities Initiative. Named the Magnolia Project, after a section in the heart of the target area where the initiative resides, this effort was a response to findings indicating that the average infant mortality rate between 1993 and 1995 was significantly higher in Jacksonville (9.7 per 1,000 live births) than the Florida average (8.0 per 1,000 live births). During the same period, the infant death rate for African American residents in Jacksonville was 13.9 compared to 7.7 for Whites.

The Magnolia Project represented a six-month effort on the part of over a dozen agencies to develop a proposal to address racial disparities in health outcomes in Jacksonville. Prior to selecting a strategy intended to lower infant mortality rates, project planners utilized a Perinatal Period of Risk (PPOR) model, developed by B. McCarthy (Moos, 2004). This model uses a variety of data to identify factors contributing to infant mortality in a given area. Age at death and birth weight data are analyzed to identify the “period of risk” (e.g., maternal health, maternal care, newborn care, and infant care) that accounts for most of the infant mortality in the area. The PPOR analysis for Jacksonville determined that two periods of risk had the most impact on infant mortality in the area: Maternal Health and Maternal Care. According to these findings, infant deaths in Jacksonville were related to factors that affect the health of the mother before pregnancy: infections, nutritional status, pregnancy intervals, substance use, previous pregnancy outcome, stress, and abuse (Brady, 1999).

In addition to the PPOR findings described above, a Fetal and Infant Mortality Review (FIMR) analysis of death cases in the Jacksonville area during the period of 1996 to 1998 identified the specific factors contributing to the poor outcomes. The factors implicated under Maternal Health for babies born under 1,500g late fetal deaths and post neonatal deaths were: (a) no Healthy Start screening or services, (b) general state of mother’s health, (c) failure to recognize signs/symptoms of pregnancy requiring care, (d) infections, (e) previous poor pregnancy outcome, (f) family planning issues, and (g) poor
nutrition. The factors implicated under Maternal Care for 1,500-2,499g late fetal deaths are listed are:

- infections (Chlamydia, GBS, UTI)
- general health of mother
- nutrition
- failure to recognize signs/symptoms of pregnancy requiring care
- late/inadequate prenatal care
- STDs, and
- no Healthy Start screening/services (Huddleston and Brady, 2001; Brady, 1999)

These results were a clear indication to project planners that interventions were needed that focused on improving women’s health during two critical periods, pre-conceptionally (before the first pregnancy) and interconceptionally (between pregnancies). To that end, a decision was made to create a program for the Jacksonville area that did not fit the mold of the majority of Healthy Start programs, most of which focused on improving the mother’s health after conception. At present Jacksonville’s Magnolia Project initiative remains one of only two Healthy Start programs (out of 96 nationwide) with a pre-conceptional and inter-conceptional approach (CCI, 2000).

Research focusing on provision of health care to at-risk populations, indicates that community-based initiatives are most successful at recruiting and retaining participants (Office of minority Health, 2000; McCloskey et al. 1999; Thompson et al. 2003). For this reason, the Magnolia Project was designed so that services are coordinated in one centrally located site in the heart of the target area thereby ensuring that services are easily accessible to the target population (see Map 1). The target area comprises of the five zip code zones with the highest infant mortality rate in Duval County, which account for over two thirds of African American infant mortality in the city.
The services available to participants through the Magnolia Project are housed in the Magnolia Clinic (opened January of 2000). The project is coordinated by the Northeast Florida Healthy Start Coalition (NEFHSC), one of 32 community-based organizations established as part of Florida’s Healthy Start Initiative. The coalition partners with several local community-based organizations which are responsible for providing the Magnolia Project staff.

Four of the models that emerged during the national Healthy Start demonstration phase were judged most appropriate to be included in the Magnolia Project intervention: (a) community-based consortia, (b) outreach and client recruitment, (c) enhanced clinical services with a health education component for risk prevention and reduction, and (d) case management. The consortium is composed of the Northeast Florida Healthy Start Coalition (NEFHSC) and a community council. The NEFHSC functions as the governance or decision-making branch and includes approximately 30 volunteers from the area, including medical providers, hospitals, housing agencies, business, elected officials, and others. The community council functions as the advisory branch and is composed of local residents and participants. Its roles include being a link between the project and target area residents, organizing educational events on risk factors for poor birth outcomes and advising project planners. Community Outreach staff go into the target area to promote the program and recruit participants. Enhanced Clinical Services offered include well-woman services and family planning, as well as prenatal care. Case Management services include: (a) development of care plans, monitoring, and reinforcement, (b) health education, (c) referrals to needed services, and (d) follow-up on referrals.

DATA AND METHODS

Enhanced Clinical Services Participants. The cornerstone of the Magnolia Project is the store-front, well-woman clinic that is located in a strip mall in the heart of the target area. Eligibility criteria for prospective Magnolia Project participants include being of childbearing age (15-44), being able to get pregnant, and residing in the target area. Women can be self-referred or referred by local health care providers, or by project Outreach staff. A large number of women utilizing the well-woman clinic became aware of the Magnolia Project clinic by virtue of word of mouth communication from friends and/or family members who had visited the clinic. Prospective participants are offered a low cost (depending on ability to pay) medical exam and given the opportunity to enroll in the program during the first clinic visit. The Magnolia Project clinic also provides free pregnancy tests for prospective participants and provides extensive family planning services. In order to maximize the pre/interconceptional intervention approach, the primary goal is to enroll at least 80 percent of at-risk participants who are not pregnant. In addition to well-woman and family planning services, Magnolia participants receive: (a) health education addressing: substance use, STDs and infections, douching, baby spacing and family planning, nutrition, exercise, and safe sex, (b) family planning (c) prenatal care, and (d) treatment for STDs.
Magnolia clinic operations are similar to those followed in a private doctor’s office. Participants can come to the Magnolia clinic for prenatal or well-woman medical services by making an appointment or on a walk-in basis when urgent care is needed. While participants wait to see the medical provider (a doctor or nurse-midwife) the reception staff fills out or updates forms kept in the participants’ charts. The clinic staff also helps participants enroll in Medicaid, if eligible and not already enrolled. A lab technician takes blood and urine samples for necessary lab work. When they are ready to see their provider, participants are shown to an examining room. In addition to conducting the exam, the provider discusses health issues and a plan of care with participants. If medication is called for, the provider writes a prescription. All participants also see the Health Educator during their clinic visits, and are given further information on how to establish and maintain a healthy lifestyle.

Information is tailored to the individual situation, which means the clinic staff generally goes over the following topics with participants: nutrition, exercise, sexually transmitted diseases (STDs), drug use, baby spacing, breast feeding, and family planning. New participants who have a least two risk factors for poor birth outcomes are referred to Magnolia Targeted Case Management. Before leaving the clinic, participants are encouraged to make follow-up appointments. A staff member calls the participant two days before the appointment with a reminder, and if a participant does not show up for her appointment, a staff member calls to reschedule.

Project data for the calendar year 2003 show that the Magnolia Project provided services to 686 project participants. These services included prenatal care (n=90) and well-woman care (n=462). In addition, most of the participants who were in Case Management (n=134) also went to the Magnolia clinic for their medical care. The majority of Magnolia participants were Black, Non-Hispanic (89.7 percent) and single (92 percent) with at most a high school education (85 percent), and more than half were between the ages of 18-25 (55 percent). Table 1 contains additional information about Magnolia participants.

<table>
<thead>
<tr>
<th></th>
<th>Case Mgmt. n=134</th>
<th>Clinic Only n=462</th>
<th>Prenatal n=90</th>
<th>Case Mgmt. n=134</th>
<th>Clinic Only n=462</th>
<th>Prenatal n=90</th>
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</thead>
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<tr>
<td>Black Non-Hispanic</td>
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<td>89</td>
<td>99</td>
<td>&lt;18 years</td>
<td>28</td>
<td>17</td>
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<tr>
<td>Black</td>
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<td>7</td>
<td>0</td>
<td>18-25</td>
<td>51</td>
<td>53</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
<td></td>
<td>26-35</td>
<td>15</td>
<td>20</td>
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<tr>
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<td>3</td>
<td>1</td>
<td>&gt;35</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Other</td>
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<td>1</td>
<td>0</td>
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<td>Missing</td>
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<td>.6</td>
<td>0</td>
<td></td>
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</tbody>
</table>

Table 1. Magnolia Project Participants: January –December 2003 n=686
Most new participants come to the Magnolia clinic suffering from multiple risk factors, such as STDs. Once established many participants still experience frequent recurrences in spite of staff efforts to provide participants with the resources and skills needed to stay infection-free. The main factors involved in STD recurrences are: multiple sexual partners and an inability or reluctance to adhere to safe sex practices. The most frequent risk factors for poor birth outcomes for clinic participants in 2003 were: (a) bacterial vaginosis (44 percent), (b) STDs (35 percent), and (c) family planning (26 percent). Table 2 includes a more detailed summary of risk factors of participants for whom data were available.

Table 2. Clinic Risk Factors—Magnolia Project Participants, January–December 2003 (n=462)

<table>
<thead>
<tr>
<th>Risk Factor/Problem</th>
<th>Percent w/ History of</th>
<th>Percent Current</th>
<th>Risk Factor/Problem</th>
<th>Percent w/ History of</th>
<th>Percent Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Vaginosis</td>
<td>18</td>
<td>44</td>
<td>Dental Problems</td>
<td>20</td>
<td>17</td>
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<tr>
<td>STDs</td>
<td>32</td>
<td>34</td>
<td>Abnormal Pap Smear</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>18</td>
<td>18</td>
<td>Yeast Infection</td>
<td>23</td>
<td>14</td>
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<tr>
<td>Syphilis</td>
<td>2</td>
<td>14</td>
<td>Poor Nutrition</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>Trichomoniasis</td>
<td>11</td>
<td>13</td>
<td>Tobacco Use</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>11</td>
<td>7</td>
<td>Drug Abuse</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>HPV</td>
<td>1</td>
<td>7</td>
<td>Miscarriage</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Herpes</td>
<td>3</td>
<td>3</td>
<td>Sexual Abuse</td>
<td>5</td>
<td>.6</td>
</tr>
<tr>
<td>Family Planning Issues</td>
<td>42</td>
<td>26</td>
<td>Domestic Violence</td>
<td>4</td>
<td>.4</td>
</tr>
</tbody>
</table>

Intensive Case Management Participants. Although the well-woman clinic represents the cornerstone of the Magnolia Project, the primary focus—reducing infant mortality in the target area through pre/interconceptional interventions—is carried out through the Targeted Case Management of individuals identified as at very high risk of a poor birth outcome or infant death. A priority for enrollment is given to women who have two or more of the following risk factors: (a) a previous poor birth outcome (fetal or infant loss, low birth weight baby), (b) childbirth before 15 years of age, (c) no regular source of health care, (d) a history of substance abuse, (e) a history of psychosocial problems (abused as a child, abused by partner, depression), (f) a history of casual, high-risk sexual behavior, and (g) have been referred by child protective services or other health and social service agencies.

At intake into Case Management, the staff conducts a further risk assessment for each participant in order to evaluate which risk factors (out of a detailed list of 61) are present. The case managers then work with participants to resolve the risk factors by either (a) addressing the risk factors they are trained to address or (b) referring the participants to the appropriate service providers in the community.

Case Managers visit participants in their current residences to assess the environment and thus be better aware of life issues impacting current and future care plans. Those who have the most risk factors/critical needs are seen once a week or more, but all are seen on a regular basis. Participants who have issues that can be resolved through the Case Manager (e.g., family planning, anxiety, budgeting, poor nutrition, etc.) are either referred to the Magnolia clinic or taught skills necessary to resolve the risk factors. Participants whose risk factors (e.g., domestic violence, education, child care needs, etc.) are better addressed by other agencies in the community are referred to those services. Participants can also call Case Managers on the phone or stop by the clinic should the need arise to communicate with them between scheduled visits.

During 2003, there were 134 participants in Case Management. Magnolia Case Management participants have multiple risks that need to be addressed. For most of them, the issues are long-standing because barriers to medical care and other services seem insurmountable to most women in this population. Case managers provide the guidance and help needed to access the services by working out care plans with the participants, and providing referrals to community services outside Magnolia. The most frequently occurring risks were: job placement, education training, family planning issues, housing issues, stress, poor nutrition, and repeated STDs. Table 3 further details a risk profile of case management participants according to their most frequently occurring risks.

RESULTS

Enhanced Clinical Services Participants. There were 190 pregnant participants during 2003. Of those participants, 100 were referred to other community providers such as the state Healthy Start Program and Healthy Families Jacksonville for prenatal care. These providers offer services such as childbirth education, parent education, breastfeeding support, nutrition, and psychosocial counseling. Birth outcome data was available for 78 of the remaining 90 women who received prenatal care at the Magnolia
Table 3. Case Management Risk Factors—Magnolia Project Participants
January-December 2003 n=134

<table>
<thead>
<tr>
<th>Risk Factor/Problem</th>
<th>Percent w/ History of</th>
<th>Percent Current</th>
<th>Risk Factor/Problem</th>
<th>Percent w/ History of</th>
<th>Percent Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social problems</td>
<td>Medical problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Placement</td>
<td>10</td>
<td>54</td>
<td>Poor nutrition</td>
<td>16</td>
<td>25</td>
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<tr>
<td>Education Training</td>
<td>17</td>
<td>43</td>
<td>Repeated STDs</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>Family Planning Issues</td>
<td>23</td>
<td>42</td>
<td>Douching</td>
<td>13</td>
<td>17</td>
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<tr>
<td>Housing</td>
<td>5</td>
<td>28</td>
<td>Overweight</td>
<td>7</td>
<td>5</td>
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<tr>
<td>Stress</td>
<td>16</td>
<td>27</td>
<td>Tobacco Use</td>
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<td>Depression</td>
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<td>Drug Abuse</td>
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<td>Domestic Violence</td>
<td>16</td>
<td>7</td>
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</tbody>
</table>


A great majority of babies born to participants during 2003 were at or above normal weight (79.5 percent). Figure 1 describes weight outcomes for this group. In addition, the rate for low birth weight babies either declined or remained low for Magnolia participants over the first four years since its inception (see Table 4 for further details on infant mortality data for this period).

A great majority of babies born to participants during 2003 were at or above normal weight (79.5 percent). Figure 1 describes weight outcomes for this group. In addition, the rate for low birth weight babies either declined or remained low for Magnolia participants over the first four years since its inception (see Table 4 for further details on infant mortality data for this period).

Figure 1. 2003 Birth Weight Outcomes Magnolia Project Participants
Births n=78 (Source: see Table 3)
Table 4. Magnolia Birth Outcomes

<table>
<thead>
<tr>
<th></th>
<th>2000-2001 (n=161)</th>
<th>2002 (n=90)</th>
<th>2003 (n=78)</th>
</tr>
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<tr>
<td>Infant Deaths</td>
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<td>1</td>
</tr>
<tr>
<td>Low Birth Weight</td>
<td>17</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Very Low Birth Weight</td>
<td>5</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: See Table 3.

Targeted Case Management Participants. The average length of participation for those in case management was 472 days, a particularly successful effort given the Magnolia participants’ characteristics. In 2003, Magnolia case management staff made 791 risk reduction referrals for case management participants to either project staff or to community services and of those, 55 percent were completed. Participants had an average of 9.2 risk factors each and of those, 76 percent were successfully resolved or managed. Two risk factors are of particular interest: (1) being sexually active and not using birth control) and (2) having an STD. Resolution data for these risks show that 79 percent of those with the birth control risk and 88 percent of those with the STD risk had achieved resolution at closure from Case Management (i.e., they were using birth control regularly and had remained free of STDs). Figure 2 indicates the progress of the intervention when addressing four other high-priority risk factors.

Figure 2. Risk Reduction of Priority Factors Magnolia Project Case Management Participants (n=134)

Source: See Table 3.

Target Area. Finally, there is significant evidence that the effort has been successful in addressing the primary goal of Magnolia—reducing poor birth outcomes associated with infant mortality. Infant mortality data (see Figure 3) indicate an overall decline for the target area. Even though there are no data available to firmly link such findings to an
effect of Magnolia Project on infant mortality in this area, it can be inferred that the Magnolia Project has positively impacted the health of women who are at the highest risk for poor birth outcomes.

Figure 3. Infant Mortality Rates Jacksonville, Nonwhite and Magnolia Target Area 1997-2003 (Projected)

CONCLUSIONS

Infant mortality is one of the most frequently mentioned indicators of a society’s overall health status. Racial disparities in infant mortality rates are also an area of concern for public health practitioners in the United States. Even though strides have been made since the 1960s in the effort to reduce its incidence, infant mortality in the United States continues to surpass that of other industrialized nations and remains an issue of concern in the area of public health. Numerous risk factors have been analyzed for their relative contributions to the U.S. infant mortality rate and the health disparities between White and African American infant survival. However, interventions that target maternal health issues before conception are judged to be most successful in addressing the problem of infant mortality. If such interventions are also delivered in community-based settings and deliver a broad range of services, they tend to be more successful in recruiting and retaining at-risk populations, thereby increasing their chances of positively impacting birth outcomes.

The Magnolia Project was inaugurated in January of 2000 to address the issues associated with infant mortality in Jacksonville, Florida. This initiative intended to reach women at the highest risk for poor birth outcomes or infant deaths who reside in the city zone known to have the highest infant mortality rate. Since its inception, the Magnolia Project has provided community-based well-woman care and pre-conceptional (as well as prenatal) services to women. A pre-conception approach is judged to have the best likelihood of success in addressing the medical and psychosocial factors implicated in
infant mortality. By reducing such risk factors in its target population, the Magnolia Project has made significant headway in reducing the incidence of poor birth outcomes in the target population. Infant mortality data (see Figure 3) indicate an overall decline for the target area. Similarly, incidences of low birth weight and very low birth weight have also been reduced in both the target area and among Magnolia participants.

The most promising aspect of the Magnolia Project is that a much-needed health care service is being delivered and received by an at-risk population, which is also considered the most difficult group to reach. Women in Targeted Case Management were engaged in the program for an average of more than 15 months upon closure. One in five clients was able to manage substance abuse, with almost half showing improvement in the areas of nutrition and family violence management. Although these findings may seem modest at first, for many of these women the Magnolia Project is their first successful experience with healthcare providers in a number of years.

Although the presence of additional intervention efforts within the target area do not allow us to firmly link such findings to the Magnolia Project, it is clear that the Magnolia Project has positively impacted the health of women who are at the highest risk for poor birth outcomes. Infant mortality and low birth weight rates have either declined or remained low for Magnolia participants. It is expected that in succeeding years, the strategies that have proven successful in reducing risks thus far will continue to be used to further reduce infant mortality rates for both project participants and the general population. To that end, an additional longitudinal examination of participant outcomes has been funded and is currently in the process of being developed.

The Magnolia Project is an example of how efforts to reduce infant mortality can lead to success. By reaching out to the women most at risk for poor birth outcomes prior to conception, medical and psychosocial risk factors can be addressed before they can have a negative effect on the pregnancy. A multi-faceted approach to risk-reduction during the critical pre-conceptional period increases the likelihood that at-risk women will deliver healthy babies who will live past their first birthday. Other initiatives that seek to eliminate racial disparities and relieve the problem of infant mortality in our society would do well to adopt this kind of approach.

NOTES

1. A baby is considered low birth weight if it weighs 2,500 grams (5.5 lb.) or less at birth. A further distinction is the “very low birth weight” category which includes babies born weighing 1,500 grams (3.3 lb) or less.

2. The names “Jacksonville” and “Duval County” are synonymous and interchangeable as the Jacksonville city limits comprise the entire area within Duval County. In this paper we refer to the area as Jacksonville.

4. From 28-364 days of age.

5. For details see www.healthystartassoc.org.

REFERENCES


