State of Arizona Office of the Auditor General

ANNUAL EVALUATION

HEALTH START PILOT PROGRAM

Report to the Arizona Legislature
By Douglas R. Norton
Auditor General
February 1998
Report # 98-3

DOUGLAS R. NORTON, CPA
AUDITOR GENERAL

STATE OF ARIZONA
OFFICE OF THE

AUDITOR GENERAL

DEBRA K. DAVENPORT, CPA
DEPUTY AUDITOR GENERAL

February 12, 1998

Members of the Arizona Legislature

The Honorable Jane Dee Hull, Governor

Dr. James R. Allen, Director
Arizona Department of Health Services

Transmitted herewith is a report of the Auditor General, An Annual Evaluation of the Health Start Pilot Program. The evaluation was conducted pursuant to the provisions of Laws 1994, Ninth S.S., Ch. 1, §9.

This is the third and final in a series of three annual evaluations on the Health Start Pilot Program. The report addresses the Program's outcomes and impacts. We found the Health Start Pilot Program appears to have achieved its primary statutory goals by reducing low birth weight babies and improving prenatal care. In addition, the Program has provided participants with education on nutrition, preventive health care, child development, and the importance of childhood immunizations. This education has generally resulted in high rates of immunizations and participants who are knowledgeable about good nutrition and breast-feeding. The Program may need to focus more attention on education about child development. A variety of factors, both statutory and ADHS-determined, have limited Health Start's impact. However, several actions could improve the Programs effectiveness. For example, limiting the family follow-up period to two years rather than the current four and allowing contractors to use some group classes to supplement service provided by home visits could improve program efficiency. Additionally, appropriate implementation of a screening instrument could result in the Program targeting its services to women most in need of the Program.

As outlined in the response, the Department of Health Services agrees with most of the Findings and Recommendations. They do not agree with our recommendations to recruit and train volunteer lay health workers to help ensure continuity of services following staff turnover. The Department also disagrees with our finding that it has failed

to appropriately implement a screening method for the Program, after being specifically directed to do so by the Legislature.

My staff and I will be pleased to discuss or clarify items in the report.

This report will be released to the public on February 13, 1998.

Sincerely,

Douglas R. Norton
Auditor General

Enclosure

2910 NORTH 44th STREET • SUITE 410 • PHOENIX, ARIZONA 85018 • (602) 553-0333 • FAX (602) 553-0051

SUMMARY

The Office of the Auditor General has completed the final in a series of three annual evaluations of the Health Start Pilot Program. The evaluation was conducted pursuant to the provisions of Laws 1994, Ninth S.S., Ch. 1, §9. This final evaluation report provides information regarding the Program's effectiveness.

The Health Start Pilot Program (Program) is a community-based program delivering health education and referral services to women and their families through 12 providers at 13 sites. The Program is administered by the Arizona Department of Health Services (ADHS) through the Office of Women's and Children's Health. Health Start provides services through lay health workers during visits to participants' homes. The Program is designed to target pregnant women at risk of poor birth outcomes (such as low birth weight) and can serve families until the children are 4 years old.

The Program's primary goals are to increase women's access to prenatal care, reduce the incidence of low birth weight babies, improve childhood immunization rates, reduce the incidence of children affected by childhood diseases, provide information about nutrition, preventive health care, and child development, and assist families in identifying programs that prepare children for school.

Health Start Met Goals of Reducing Incidence of Low Birth Weight Babies and Improving Prenatal Care but Some Birth Outcomes Show No Improvement

(See pages 7 through 10)

Health Start appears to have achieved its primary statutory goals regarding prenatal care and low birth weight babies. Health Start participants have a lower rate of having low birth weight babies than is found for a comparison group of mothers. The rate of low birth weight babies is only 4.8 percent for Health Start participants, compared to 6.3 percent for the comparison group and 6.8 percent for Arizona overall. The Health Start rate also meets the Program goal of fewer than 5 percent of births being low birth weight babies.

Additionally, Health Start participants received adequate prenatal medical care more often than the comparison women and had fewer medical risk factors during their pregnancies. However, Health Start participants did not have more positive outcomes than the

comparison group in other areas. For example, they did not have a lower rate of labor and delivery complications, and their babies were placed into neonatal intensive care units at rates similar to the comparison group.

Health Start Nutrition, Preventive Health, Child Development, and Immunization Efforts Produced Generally Good Results (See pages 11 through 13)

Health Start shows generally positive results in key program efforts. While Health Start participants were well informed about preventive health care, including immunization and nutrition, they still lack basic knowledge about some critical phases of child development.

Participants understand what constitutes a good diet and a healthy lifestyle during pregnancy and are aware of the benefits of breast-feeding. A significant majority of the Health Start participants understood the importance of a good diet both during and after pregnancy and over two-thirds of participants reported breast-feeding for some period of time. Those who breast-fed cited the baby's health (98 percent) as the primary reason why they did so and recognized increased bonding and convenience as other reasons (23 to 24 percent). They were equally cognizant of the negative impacts of smoking, drinking, and drug use (including "over the counter" medications). Additionally, 90 percent of all Health Start children were immunized at a level appropriate to their age. The immunization rates for Health Start children compare favorably to overall rates for county health departments and community health centers in the same areas.

However, despite doing well with nutrition and breast-feeding issues, the Program did not fare as well regarding child development. While program participants exhibited an understanding of many child developmental areas, they did not have a good understanding of several key child developmental stages. A lack of accurate developmental knowledge can prevent parents from knowing when to seek professional help regarding their newborn. Lack of knowledge regarding the developmental phases can also create frustration when a child's behavior does not match a parent's expectation. For example, if parents are unaware a child cannot yet understand simple commands like "yes" or "no," parents could become overly frustrated when correcting the child.

Health Start Model and Method of Service Delivery Limit Program's Impact (See pages 15 through 20)

A variety of statutory and ADHS-determined program design factors along with service delivery problems have limited Health Start's impact. First, Program resources are shift-

ing from prenatal participants to family follow-up participants. While more prenatal participants and family follow-up participants were served in 1996 than in 1995, the expanding family follow-up population consumed a greater proportion of Health Start's overall efforts in 1997. Thus, the average number of prenatal encounters dropped. As the Program increases its family follow-up services as a proportion of overall services, it reduces its ability to lower birth problems in the communities served. In addition, most sites serve only a small percentage of the pregnant women in their service area. While the prenatal component may pay for itself in benefits returned, it is less likely that the family follow-up component will have such benefits.

Second, the current model for delivering Health Start services is inefficient. Health Start lay health workers average only two participant encounters a day and Health Start begins prenatal services only after participants are pregnant, which is often too late for effective preventive efforts. Most physical abnormalities in the fetus occur before most women confirm their pregnancies and begin medical care, and before they enroll in Health Start. Specifically, most structural abnormalities occur between the 17th and 56th day following conception; however, most women in Health Start do not begin to receive medical care until their third month of pregnancy. By this time neural tube disorders, fetal alcohol syndrome, and a variety of other problems may have manifested. Finally, high turnover among lay health workers makes it difficult to ensure continuous delivery of Health Start services in some areas.

A variety of changes could be undertaken to improve the services Health Start provides. First, the family follow-up period should be limited to two years or less to ensure the Program's focus remains on prenatal participants. Allowing contractors to use some group classes in addition to home visits would increase the Program's efficiency, resulting in higher percentages of at-risk pregnant women being served. Additionally, improvements are needed in outreach activities to address the problem of the Program beginning too late to help with many adverse birth conditions. Health Start also needs mechanisms to keep the Program serving its communities despite its staff turnover.

Statutory Evaluation Components (See pages 21 through 34)

As required by Laws 1994, Ninth S.S., Chapter 1, §9 this evaluation includes information on a variety of issues, including the method for selecting eligible program participants, estimation of the long-term savings for providing early intervention, and recommendations specific to program administration and expansion.

Health Start has failed to appropriately implement a screening method and as a result has enrolled many women in the Program who do not appear to be most in need of the Program's services. As a result, Health Start is devoting its scarce resources to some women

who have little need for the Program. ADHS needs to refine the eligibility screening instrument and should use the instrument as intended.

An estimation of the long-term savings of providing early intervention services through Health Start finds that, overall, the Program has a long-term net cost of $1,415,334 over the first two years of program operation cost when prenatal and family follow-up components are calculated together. However, the Program's prenatal component has a net cost of $420,183 when administrative costs are included and actually has a modest net cost savings of $53,226, when service delivery costs alone are considered. The overall net cost is primarily attributable to the high costs of family follow-up services with few benefits from this period that translate into long-term monetary savings.

Based on problems identified with the Program's implementation and the estimation of long-term savings, a reduction in the family follow-up period is warranted. The family follow-up period appears to have some effects on increasing the likelihood that participants get their children immunized, but even these effects provide only limited dollar benefits.

Consideration to expanding Health Start should be given only if improvements in service delivery can be ensured. The Program needs to target services to participants likely to benefit; must increase its efficiency through alternatives to service delivery, such as group classes; and should improve contracting procedures to ensure that contractors are meeting their service goals.

Table of Contents

Table of Contents (cont'd)

Figures

Table of Contents (concl'd)

(This Page Intentionally Left Blank)

INTRODUCTION AND BACKGROUND

The Office of the Auditor General has completed the final in a series of three annual evaluations of the Health Start Pilot Program. The evaluation was conducted pursuant to the provisions of Laws 1994, Ninth S.S., Ch. 1, §9. This final evaluation report provides information regarding the Program's effectiveness.

Need for the Program, Its Goals and Services

Health Start was designed to increase the number of women who receive timely and adequate prenatal care and to promote primary health care for families. Although it is important for women to receive early prenatal care, statistics show that nearly 30 percent of Arizona's pregnant women do not receive prenatal care until after the first trimester, which, in theory, is too late to correct many risky health conditions. In addition, the incidence of low birth weight babies born in the State has not improved in over a decade, hovering between 6.5 percent and 6.8 percent for the last 7 years.

Health Start's specific goals are to increase pregnant women's access to prenatal care, reduce the incidence of low birth weight babies, improve childhood immunization rates, reduce the incidence of children affected by childhood diseases, provide information about nutrition, preventive health care, and child development, and assist families in identifying programs that prepare children for school.

Health Start lay health workers strive to meet these goals by:

- Using outreach and networking techniques to identify and approach potential clients;
- Educating and assisting participants with accessing appropriate prenatal, child, and family health care;
- Educating participants about proper nutrition and preventive health care behaviors;
- Encouraging child immunization and enrollment in early childhood education; and
- Assisting participants in applying for applicable community and public services, including employment services.

Program Model

Today's Health Start Pilot Program is a community-based program delivering health education and referral services to women and their families through 12 providers in 13 sites. There are 64 communities in 11 of Arizona's 15 counties that Health Start targeted to receive program services. Over 5,200 women have been served by Health Start since early 1995. As of spring 1997 there were 1,452 active prenatal clients (502 inactive) and 2,040 active family follow-up participants (721 inactive) on the Health Start rolls. The Program is administered by the Arizona Department of Health Services (ADHS) through the Office of Women's and Children's Health (OWCH).

The program from which the Health Start Pilot Program was modeled has changed significantly since its inception in 1988. The predecessor to today's Health Start, Un Comienzo Sano / Health Start, began serving Arizona communities in 1988 through a federal Rural Health Outreach grant administered by Arizona State University. In 1993, the Program was expanded when ADHS began to provide money, and it was expanded further in 1994 with the passage of the Arizona Children and Families Stability Act.

The following descriptions illustrate how Health Start has changed over the years.

- **1988 Model**
  Prenatal Only Focus
  Un Comienzo Sano / Health Start began in 1988 in Yuma County, Arizona. It focused on prenatal education through community classroom settings, referral for health care needs, and participant advocacy for pregnant women. Women received one post-natal visit, and little formal emphasis was placed on assisting the rest of the family.

- **1993 Model**
  Prenatal and Immunization Focus
  Health Start expanded its scope in 1993 with financial support from the National Association for the Education of Young Children to include a two-year follow-up period for Health Start infants and their siblings. The follow-up period included at least six home visits by lay health workers in the first year of participant enrollment and focused on the importance of immunization and preventive health care education.

- **1994 Model**
  Prenatal and Family Preventive Health
  The 1994 legislation retained the lay health worker as the primary source for outreach and delivery of services to pregnant women in the Health Start Pilot Program, but expanded the Program's scope to include:

  1) Extending the family follow-up period from two to four years;

2) Using prescheduled home visits as the only legislatively specified means of service delivery;

3) Educating families about the importance of early identification of developmental abnormalities, use of hearing and vision screening examinations for children, and preventive health care for the entire family;

4) Assisting families in identifying private and public school readiness programs; and

5) Promoting participant self-sufficiency, literacy, and community involvement.

- **1996 Model**
  Eligibility Criteria Inclusion
  The 1996 legislation retained all of the 1994 model provisions and in addition required ADHS to develop eligibility criteria for women seeking Health Start services. Previously, all pregnant women in a contractor's service area were eligible for the Program. As of October 1996, ADHS began using a 35-point screening tool based on behavioral, physical, and social risk factors. Women who score above a designated level are eligible for the Program.

Follow-up to Previous Reports

In the first year's report (Auditor General Report No. 96-2), several problems with the Health Start Pilot Program were identified.

- **Efforts needed to coordinate with related program—**In the first year, it was reported that some sites might be overserving or enrolling participants who would be better served by another program. In last year's report (Auditor General Report No. 97-1), it was noted that in response to legislation requiring a Health Start Program coordination study, ADHS prepared a report. The report identified areas that were appropriate for coordination with similar programs and noted that a coordination plan was in place.

  Follow-up: Healthy Families, a home visitation and child abuse prevention program, and Health Start planned to initiate a joint pilot screening effort effective January 1, 1998, for women living in areas served by both programs. Pregnant women were to have been screened to determine if they should be served by Health Start or if they had risks that would make them eligible for Healthy Families. If the mothers were found to be eligible for Healthy Families, they would enter Healthy Families as prenatal participants and would not be served by Health Start. However, Healthy Families opted out of the joint screening process because they no longer plan to provide prenatal services.

- **Lack of individual eligibility criteria—**In the first-year evaluation it was reported that lack of eligibility criteria for the Program could result in Health Start serving families who do not need services or who might be better served by another program. As a result of these concerns about lack of eligibility criteria, the ADHS identified 35 factors relating to behavioral, physical, and social risk to assess women's eligibility for the Program.

  Follow-up: As of October 1996, the ADHS began using the screening tool. Women who score above a designated level are eligible for the Program. However, as implemented by ADHS, the screening tool excludes few if any women. From October 1, 1996, through spring 1997, only one woman was deemed ineligible for program participation. See page 32 in the Statutory Evaluation Components for further discussion.

In the second annual report (Auditor General Report No. 97-1), additional problems were identified.

- **Family follow-up should be limited to two years—**In last year's report it was recommended that the family follow-up period be reduced from four to a maximum of two years.

  Follow-up: As reported in Finding III (see pages 15 through 20), more participants are moving into the family follow-up phase of the Program, and Health Start is less able to give attention to women currently pregnant, thereby reducing its ability to lower birth problems in the communities it serves. Again, it is recommended that the Legislature should consider changing the language in A.R.S. §36-697(A) to allow the Program's family follow-up period to be reduced to a maximum of two years.

- **Problems with the program model and implementation—**Last year's report identified the fact that the Program was not following the home visitation model.

  Follow-up: As reported in Finding III (see pages 15 through 20) in this year's report, the Program is now adhering to the home visitation model. The second report on Health Start (Auditor General Report No. 97-1) found some providers were not following the prescheduled home visitation model, making it difficult to assess its effectiveness. This final report is able to assess this model and concludes the extensive travel required of lay health workers and the low to moderate level of needs found in almost three-fourths of the participants makes home visitation for most participants inefficient and unnecessary. Therefore, it is recommended that the program model be adapted to allow for more group encounters.

Evaluation Methodology and Scope

The Arizona Children and Family Stability Act requires the Office of the Auditor General to annually evaluate the results of the Health Start Pilot Program. The Act requires evaluation of the Program's effectiveness, its organizational structure and efficiency, level and scope of service, the type and level of criteria used to establish eligibility for the Program, and the number and characteristics of people receiving services from Health Start. A multi-method approach was used in collecting and analyzing data for the evaluation. Methods included observations, survey research, interviews, document review, and data collection and analysis.

- **Observations:** Nineteen lay health worker home visits were observed to assess how services were delivered, how lay health workers interacted with clients, and the extent to which the lay health workers were implementing the Program as designed.

- **Survey Research:** Three hundred seven Health Start participants were surveyed to measure their knowledge and understanding of health and nutrition.

- **Interviews:** Staff from all of Health Start's program providers were interviewed as part of site visits designed to gather data on service delivery.

- **Document reviews:** Health Start participant files were examined to gather information on service delivery. Additionally, literature on the prevention of low birth weight babies was reviewed to examine the effectiveness of lay health worker programs.

- **Data analysis was conducted on the following four data sources:** 1) program participant data provided by ADHS; 2) Ages and Stages Questionnaire data collected on 4-month-old and 12-month-old Health Start children to measure their development; 3) aggregated vital statistics from the ADHS; and 4) birth outcomes as reported in vital statistics for Health Start participants who gave birth in 1995 or 1996 and for a matched comparison group of women who also gave birth in 1995 or 1996.

The matched comparison group used for the analysis of the vital statistics was constructed through a one-to-one match based on age, education level, marital status, ethnicity, and town/community of residence. A non-Health Start woman was included in the comparison group if she matched a Health Start participant with the same age, education level, marital status, and ethnicity and lived in the same town/community (or in a nearby, similar community). Using ADHS vital statistics databases for births in 1995 and 1996, a computerized, automated matching program identified non-Health Start women with identical demographics for comparison. This automated program found identical matches approximately 75 percent of the time. Most participants who were unmatched from the automated process

were unique from other women who gave birth in their community in regards to age, education, marital, and ethnic characteristics. In these instances the Auditor General staff hand-matched Health Start to non-Health Start participants, finding women in nearby similar communities with all other demographic characteristics identical. The only difference between the automated matches and the hand matches was the participant's residence. This created a set of non-Health Start participants with the same characteristics living in the same or similar environments. A total of 1,839 Health Start records, which represents 90 percent of the Health Start birth records, were matched with non-Health Start records in the Program's first two years of operation.

The first and second annual evaluations focused on the implementation of the Health Start Pilot Program. This final evaluation focuses on the Program's impacts. Specifically, the report contains information regarding:

- Health Start's impact on participants' pregnancy and birth outcomes;
- Health Start's impact on health and child development education and preventive medical care outcomes; and
- Problems with the efficiency of the home visitation model as prescribed by the legislation creating the Program and problems regarding the timing of outreach efforts.

In addition, as required by Laws 1994, Ninth S.S., Ch. 1, §9, recommendations regarding program administration and program expansion are included in the Statutory Evaluation Components.

The Auditor General and staff express appreciation to the Director of the Department of Health Services, the Chief and staff of ADHS' Office of Women and Children's Health, and the Health Start Pilot Program staff and program participants for their cooperation and assistance during the three years of this Health Start Pilot Program Evaluation.

FINDING I

HEALTH START MET GOALS OF REDUCING INCIDENCE OF LOW BIRTH WEIGHT BABIES AND IMPROVING PRENATAL CARE BUT SOME OTHER BIRTH OUTCOMES SHOW NO IMPROVEMENT

Health Start has been successful in reducing the incidence of low birth weight babies among women who delivered while in the Program. Additionally, Health Start participants had fewer medical risks during their pregnancies and on average had more prenatal medical visits than their non-Health Start counterparts. However, achieving these statutory goals has not translated into benefits for other birth outcomes.

Background

Health Start's first program goal is to reduce the percentage of low birth weight babies.[1] The percentage of low birth weight babies born in Arizona has been consistent for the past three years at 6.8 percent. The U.S. Department of Health and Human Services, the Arizona Department of Health Services, and Health Start's goal is to reduce this rate to 5 percent. The Program also has the goal of increasing pregnant women's access to prenatal care.

Historically, low birth weight has been used as a predictor of long-term health outcomes. Although low birth weight can be used to predict long-term health complications, not all babies born with low birth weight have adverse health outcomes. Conversely, many babies with adverse medical or delivery conditions do not have low birth weights. Consequently, other birth outcomes, not included in the legislative language specific to the evaluation, were also examined.

As part of this study, outcomes for Health Start participants have been compared to a matched comparison group of non-Health Start women. Nine hundred and forty Health Start births were matched to 940 non-Health Start women in 1995. In 1996, the total for each was 899. To qualify for a match, non-Health Start women had to be the same age, education level, marital status, and ethnicity, and had to live in the same town/community or a nearby and similar town/community. Successful matches were found for 90 percent of the Health Start population.

---

[1] Less than 2,500 grams, or approximately 5.5 lbs.

Women Who Participated in Health Start Had More Favorable Outcomes Than Were Found for the Comparison Group

Analysis of prenatal and birth outcomes for Health Start participants and the comparison group shows the Health Start participants have more favorable outcomes. Health Start participants had a significantly lower rate of delivering low birth weight babies. Additionally, Health Start participants experienced fewer medical risks and were less likely to receive inadequate prenatal care (i.e., care beginning in the last trimester or no prenatal care at all) than the comparison group.

***Health Start participants had lower incidence of low birth weight babies than a comparison group or the statewide average*—**During its first two years of operation, Health Start participants had fewer low birth weight babies than a comparison group of non-Health Start mothers. While percentages varied between years for both groups, overall, Health Start participants averaged 4.8 percent low birth weight births and the non-Health Start group averaged 6.3 percent. The Health Start rate also compared favorably to Arizona's overall state average of 6.8 percent and meets the program goal of fewer than 5 percent of births being low birth weight babies.

While these differences are statistically significant, they represent a brief period covering only two years and may not remain consistent over time. To test this possibility, a trend analysis was conducted, and the results suggested that the differences between the two groups were likely to persist over time.

***Health Start participants have fewer medical risk factors*—**Overall, Health Start participants had fewer identified medical risk factors than non-Health Start women and these differences were statistically significant. Medical risk factors are defined as conditions that need close medical attention, such as anemia, pregnancy-related diabetes, and pregnancy-related hypertension. Women may not know these conditions exist, or they may have trouble controlling them. Lay health workers help these women by getting them into needed prenatal care, and by helping them implement proper diet, exercise, and preventive health measures.

There was no difference between Health Start and the non-Health Start group regarding the 16 specific risk factor categories, such as diabetes, hypertension, uterine bleeding, and renal diseases. What factors are contained in the "other" category is not known, yet this is where the non-Health Start group outnumbers Health Start participants, producing the overall difference between the groups. If the "other" category was eliminated, Health Start and the non-Health Start women would have approximately the same number of medical risk factors.

More Health Start participants receive adequate prenatal medical care—Fewer Health Start participants, as compared to women not in Health Start, began prenatal care in their third trimester or had no prenatal care at all. Health Start had 8.6 percent of its participants entering prenatal care in their third trimester and 1 percent had no prenatal care at all. The non-Health Start comparison group had over 11 percent entering prenatal care in the third trimester and 4 percent receiving no prenatal care at all. While these differences are small, they account for 103 fewer women entering care late or receiving no care at all.

Even so, Health Start did not have 95 percent of its participants in early prenatal medical care, which is the Program's goal. In fact, program participants entered prenatal care in the first trimester in proportions that nearly matched non-Health Start women. During its first two years of operation, 62 percent of Health Start participants entered prenatal care in their first trimester. The non-Health Start comparison group had 58 percent of its mothers entering prenatal care in their first trimester.

Both Health Start and non-Health Start mothers averaged more than five prenatal medical visits, the number DHS considers adequate. However, although the differences are small, Health Start participants received more prenatal medical visits than non-Health Start mothers. In 1995, Health Start participants averaged 10.2 doctor visits while the matched group averaged 9.5. These numbers were nearly identical in 1996 at 10.3 for Health Start and 9.5, once again, for the matched group. Although these differences are small and may not illustrate any practical significance, they are statistically significant at the .001 level.

Other Birth Outcomes Show No Benefit

Although Health Start met the statutory goal of reducing the rate of low birth weight babies, this reduction has not translated into other positive birth outcomes. For example, Health Start participants did not have lower rates of labor and delivery complications, and their babies were placed into neonatal intensive care units at rates similar to the comparison group. In addition, Health Start does not appear to benefit other birth outcomes, such as the newborn not having an abnormal condition.

Health Start participants had same rate of labor and delivery complications—Despite participants delivering fewer low birth weight babies, Health Start was unable to record fewer births with labor and delivery complications. Nearly 30 percent of Health Start participants had complications during labor and delivery, compared to 25 percent of non-Health Start women. However, some complications cannot be avoided by participation in Health Start, or by increased medical attention. These less-avoidable complications include dysfunctional labor, breech or malpresentation births, and cephalopelvic disproportion (baby is large, causing problems). Babies with other complications, such as fetal distress and meconium aspiration, may or may not benefit from increased medical attention.

Health Start newborns as likely to be placed in intensive care—Health Start had 4.5 percent of its newborns being placed in a neonatal intensive care unit (NICU) compared to 3.5 percent of the non-Health Start newborns in the comparison group. However, the percentage of babies entering NICU statewide is 5.7 percent. So, while Health Start participants did not have fewer babies in NICU than the non-Health Start comparison group, they had a lower percentage than the State as a whole.

Other birth outcomes show no differences—Additionally, there were no differences between Health Start and non-Health Start newborns in terms of premature births, or the newborn having an abnormal condition. As with labor and delivery complications, increased medical prenatal visits and reduced incidence of medical risk factors and low birth weight would be expected to positively impact these outcomes. However, this is not the case.

Recommendation

Because not all low-birth weight deliveries have adverse medical conditions, and because many babies with adverse medical or delivery conditions do not have low birth weights, it is recommended that:

- The Legislature consider using outcomes in addition to low birth weight to officially measure the success of Health Start. Other outcomes that could be used for measuring the success of Health Start's prenatal component include a reduced need for care provided in neonatal intensive care units and reduced complications of labor and delivery.

FINDING II

HEALTH START NUTRITION, PREVENTIVE HEALTH, CHILD DEVELOPMENT, AND IMMUNIZATION EFFORTS PRODUCED GENERALLY GOOD RESULTS

Health Start shows generally favorable results in two key program efforts. While Health Start participants were well informed about preventive health care (including immunizations) and nutrition, they still lack basic knowledge concerning some critical phases of child development.

Background

The Health Start Pilot Program's primary statutory goals include providing information about preventive health care, nutrition, and child development, and improving the rates of childhood immunization.

A participant survey was conducted in the spring of 1997 to measure how well Health Start participants understood issues relating to preventive health.[1] Program staff administered the survey to a randomly selected group of 484 participants across the State. A total of 307 participants completed the interview. The interview survey included questions concerning nutrition, breast-feeding, child development milestones, and other sources of prenatal and referral information.

Participants Understand Nutrition and Preventive Health Issues and Put This Knowledge into Action

Health Start participants responded well to specific questions concerning nutrition, smoking, drinking, drug usage, and breast-feeding. Health Start services emphasize the

[1] Although the survey was conducted for evaluation purposes, it also provided an opportunity for program staff to reinforce the participants' knowledge and to provide additional information in areas where the participants lacked knowledge. For example, if a participant's response indicated a potential problem, as when participants felt it was OK to drink alcohol, smoke, or use drugs during pregnancy or breast-feeding, lay health workers were instructed to revisit the issues after the survey was completed to help correct dangerous situations.

importance of a proper diet and the need for immunizations. As a result, a high rate of Health Start participants breast-feed their babies and get them immunized.

Participants understand nutrition and breast-feeding issues—Participants understand what constitutes a good diet and a healthy lifestyle during pregnancy and are aware of the benefits of breast-feeding. A significant majority, over 90 percent of the Health Start participants surveyed, understood the importance of a good diet both during and after pregnancy. They were equally cognizant of the negative impacts of smoking, drinking, and drug use (including "over the counter" medications). Additionally, over 95 percent of the participants recognized the nutritional and health benefits of breast-feeding over bottle feeding.

Health Start is a major source of health, nutrition, and immunization information— Thirty-five to 81 percent of the time, participants reported Health Start as their only source of important health, nutrition, or social services information. Doctors, medical clinics, and the WIC program were cited as other sources of nutrition, breast-feeding, and child development information. These responses indicate that Health Start is the primary source of health, nutrition, and social service information for its participants. Additionally, lay health workers reinforce the importance of immunizations at each participant encounter and are directed to examine the immunization records of each child in households served. If participants have difficulty getting their children immunized, the lay health worker will direct them to county health clinics or other sources of free or low-cost shots.

Good nutritional behaviors put into action—Almost all of the Health Start participants recognized the benefits of breast-feeding and over two-thirds of all women surveyed reported breast-feeding for some period of time. Of those who breast-fed, 98 percent cited the baby's health as the reason for doing so. Other reasons for breast-feeding included bonding, 23 percent; and convenience, 24 percent.

Immunization efforts working—Ninety percent of all Health Start children were immunized appropriately for their age. The rates for Health Start children compare favorably to children served by county health departments and community health centers in the same areas. These facilities had immunization rates of 64 percent and 75 percent, respectively. Health Start's immunization efforts should be instrumental in ensuring that 90 percent of Health Start children are adequately protected against the serious childhood diseases for which vaccinations are available.

Program Needs to Devote More Time to Child Development Issues

Despite doing well on nutrition and breast-feeding questions, participants did not fare well with 4 of 14 important questions concerning child development, another important goal of Health Start. Just over one-fourth of all respondents (27.1 percent) knew the proper

time to begin toilet training and less than one-third knew when babies should begin hearing and responding to sound. Barely half (54.5 percent) knew when babies began making simple sounds or when they can begin understanding simple commands. These low response rates indicate areas where more education is needed.

Lack of accurate developmental knowledge can prevent parents from knowing when to seek professional help regarding their newborn. Lack of knowledge regarding the developmental phases can also create frustration when a child's behavior does not match a parent's expectation. For example, if a child cannot yet understand simple commands like "yes" or "no," parents could become overly frustrated when correcting the child.

Health Start adopts method to address the situation—Health Start has recently adopted the Ages and Stages Questionnaire (ASQ). The ASQ is one tool that can help parents better understand child development so they know when to seek professional help regarding toilet training, walking, and other developmental milestones. The ASQ tool takes just a few minutes to complete. It is a parent-completed, child monitoring system that can be administered until the child turns four. It addresses five areas of child development: 1) communication, 2) gross motor, 3) fine motor, 4) problem solving, and 5) personal-social skills.

Participants Believe Program Is Beneficial

Overall, the participants surveyed rated the Program as very helpful. Two-thirds of respondents gave Health Start a rating of 10 on a scale of 1 to 10, and 88 percent rated it between 8 and 10. These responses show overwhelming support for the Health Start Program among participants responding to the survey conducted in the spring of 1997.

Recommendations

1. The Department of Health Services should continue to provide participants with education about nutrition and preventive health.

2. The Department of Health Services should require the Ages and Stages Questionnaire, or a similar assessment, to be regularly used at family follow-up encounters to help parents better understand their child's development.

(This Page Intentionally Left Blank)

FINDING III

HEALTH START MODEL AND METHOD OF SERVICE DELIVERY LIMIT PROGRAM'S IMPACT

A variety of statutory and ADHS-determined program design factors along with service delivery problems have limited the Program's impact. Program resources are shifting from the prenatal component to the family follow-up period. In addition, the home visitation model is proving to be an inefficient method of providing services to participants with moderate needs. Finally, the Program suffers from operational problems. However, there are a number of steps that can be taken to improve service delivery and better meet participants' needs.

Background

There are several key elements of the Health Start Model and method of service delivery that have been defined by statute:

- Services are to be delivered through prescheduled home visits;
- Services are to be delivered until the child is age four; and
- Services are to be directed to women most in need of services.

In addition, ADHS requires:

- Providers average five lay health worker prenatal encounters per participant; and
- Providers use outreach and networking techniques to identify and approach potential participants.

Program Resources Shifting from Prenatal to Family Follow-up

Health Start is shifting its resources from prenatal participants. First, many program providers failed to meet the goal of five prenatal encounters per participant. And, as the Program's family follow-up component expanded as more families moved into this part of the Program, fewer resources have been devoted to prenatal participants. Additionally, the providers served only a small percentage of the pregnant women in their communities. Such issues are important because more cost benefit is found from the prenatal period than the family follow-up stage of the Program.

Providers not meeting service delivery goals—Many of the program providers are not meeting the goal of 5 prenatal encounters per participant. In 1995, 7 of 13 Health Start providers met this average and 2 additional providers were close to the goal. In 1996, the number of providers who averaged 5 or more prenatal encounters decreased from 7 to 3. Excluding the one provider who recorded significantly more prenatal encounters than all other providers, the Program as a whole averaged 5.1 prenatal encounters per participant in 1995, but this average dropped to 4.3 in 1996.

The Program is providing more family follow-up encounters to more families—In 1995, 614 family follow-up participants averaged 1.9 encounters. In 1996, these numbers increased to 2,377 total family follow-up participants averaging 3.8 encounters. The total number of encounters provided to all Health Start family follow-up participants rose from 1,158 in 1995 to 9,411 in 1996. The number of family follow-up encounters in 1996 was higher than the number of prenatal encounters recorded, whereas in 1995 follow-up encounters made up a much smaller proportion of the total participant encounters. Given limited resources, as the number of participants served in the family follow-up phase increases, Health Start's ability to serve pregnant women decreases. This reduces Health Start's ability to lower birth problems in the communities it serves.

Most sites serve only a small percentage of pregnant women—Most sites serve only a small percentage of the pregnant women in their service area. Only 3 of the 13 Health Start sites served 25 percent or more of their communities' pregnant residents. Six sites could not serve more than 10 percent of the pregnant women in their communities, and statewide, 1.5 percent of all program women received some level of Health Start service. In communities where Health Start concentrated its efforts, approximately 7 percent of all mothers giving birth received Health Start services. Rural and small communities served a larger percentage of women than the metropolitan areas.

Family follow-up component cost benefits are limited—The prenatal program has greater cost-benefit potential than is found for the family follow-up component. As discussed in the statutory item F.6. (see pages 33 through 34), the prenatal component may pay for

itself in benefits returned if recommendations to improve the program delivery are implemented. However, it is less likely that family follow-up components have such benefits.

Health Start Uses Inefficient Program Model

The current model for delivering Health Start services is inefficient. Health Start lay health workers average only two participant encounters a day. In addition, the Program begins too late for optimal effectiveness.

Lay health workers provide limited participant encounters due to travel and missed home visits—Travel and appointments missed by participants consume much of lay health workers' time. Lay health workers average two participant encounters per day. One reason lay health workers are not able to serve more participants is because a significant amount of time is spent traveling to participants' homes. Travel to and from participants' homes averages about one hour per visit. When participants are not home to meet the lay health worker, even more time is lost.

Participant encounters average one hour in length (although they can consume up to four hours). This means lay health workers often spend as much time traveling to participant homes as they do working with clients. Paperwork to record the encounter requires another 20 to 30 minutes. Therefore, the two participant encounters lay health workers average each day require approximately five hours to complete. Missed prescheduled home visits consume much of the remainder of lay health workers' average day.

Participants miss more than one in five prescheduled participant encounters. If some encounters could be achieved by having Health Start participants come to program offices when possible, the reduction in travel time and time freed up due to missed appointments could be used to serve more women.

Health Start begins too late for optimum effectiveness—Most fetal physical abnormalities occur before most women confirm their pregnancies and begin medical care. However, Health Start begins prenatal services only after participants are pregnant, which is often too late for effective preventive efforts. Most structural abnormalities occur between the 17th and 56th day following conception. However, most women in Health Start do not begin receiving medical care until their third month of pregnancy. By this time, neural tube disorders, fetal alcohol syndrome, and a variety of other problems will already have manifested.

Many birth complications can be prevented through proper diet and by maintaining a healthy lifestyle. For example, women should follow a good diet plan and refrain from smoking, drinking, and using drugs and medications known to cause birth complications. These behaviors should be implemented before conception and continue through breast-

feeding. Often, adverse prenatal conditions are difficult to change, especially after pregnancy begins. While some birth complications and defects are not avoidable, many can be prevented or lessened considerably through proper diet and a healthy lifestyle.

Some Problems Can Be Attributed to Lay Health Worker Turnover

Lay health worker turnover has left communities without service for months at a time for at least six Health Start providers. In many Health Start sites, lay health workers are assigned to a specific community with which they are familiar. When the lay health worker resigns, it often takes two to three months to recruit and train a new lay health worker. Program coordinators claim the low pay they offer is a primary reason for turnover. The training and experience lay health workers receive from Health Start, coordinators say, makes them valuable to other health and social service providers that are willing to pay higher wages. Regardless of the reasons for departure, Health Start needs to develop a process to expedite worker replacement when turnover occurs.

Alternatives to Current Program Delivery

A number of changes could be undertaken to improve the services Health Start provides. First, the family follow-up period should be limited to two years or less to ensure the focus remains on prenatal participants and allows a higher percentage of at-risk pregnant women to be served. Second, allowing contractors to use some group classes in addition to home visits would increase the Program's efficiency. Third, improved outreach activities could address some of the problems with the Program beginning too late and could increase the level of services provided to the most at-risk pregnant women. Finally, mechanisms to keep the Program serving its communities despite staff turnover are needed.

Focus on prenatal requirements and limit family follow-up—To protect its ability to serve women who are currently pregnant, Health Start should give resource priority to pregnant participants and enforce current contract language requiring an average of five Health Start prenatal encounters at each program provider site. Additionally, reducing the family follow-up period from the current four years would help to keep the Program focused on prenatal and early childhood health and development and will allow providers to reach a greater proportion of their pregnant population by focusing more of their resources on women in this stage.

Educational classes can increase the number of participants served—A file review conducted in the spring of 1997 revealed that approximately 50 percent of Health Start participants have modest needs and about 25 percent have no documented needs that seem to merit home visits. For these women, classes in group settings could be a more efficient

way to meet participants' needs. Group classes would provide more efficient service delivery because more participants would be served simultaneously. However, group classes should be considered as an adjunct form of service delivery and not as a replacement to all home visits. Some participants clearly need the more intensive, personalized, confidential services provided through home visits, and all participants might benefit from them at some time. Twenty-five percent of Health Start participants had a great deal of medical or social needs, meaning they are confronting two or more of the following types of problems: homelessness; lack of money for food; no family or social support (helpful friends and neighbors); and medical and emotional problems. These problems may overwhelm this population and serve as barriers to them seeking other needed services. These participants may need to rely more exclusively on home visits.

The classroom environment allows for formal lessons, which can be more easily monitored, and an exchange of participant questions and views, which can be beneficial to all. Monitoring is important to ensure all necessary topics are covered sufficiently. The use of classes is not new to Health Start. In fact, classrooms were the primary method of delivering services with "Un Comienzo Sano," the program from which today's Health Start was developed. Un Comienzo Sano began in Yuma County in 1988 and the Yuma County Health Start program still uses classes in public meeting centers (churches and community centers) for much of its service delivery. Yuma County's program coordinator claims that socialization and self-esteem benefits derived from group classes are better for many participants than prescheduled home encounters. This coordinator claims participants receive a sense of accomplishment and pride after receiving certificates of completion in a public setting. While in classes, Health Start participants befriend each other and develop beneficial social networks.

Since transportation is a problem for approximately 22 percent of Health Start's participants, the Program would need to address this issue to make group classes viable. Health Start could consider such options as directly providing multi-participant transportation (vans), planning car pools, and providing more participants with public transportation passes in areas where this option is available.

Outreach efforts need to be improved—If Health Start is to be effective, it must convince women in the communities it serves to be healthy and prepared for pregnancy before it occurs and must target the most difficult-to-reach women in their communities. Proactive outreach efforts in three Health Start sites can be used as examples for the other sites. At the relatively small Guadalupe site in Maricopa County, lay health workers distribute fliers about healthy pregnancies and the Program to each home in the community. Additionally, lay health workers in Tucson conduct door-to-door canvassing in search of women who might benefit from the Program. Furthermore, the Nogales site reaches the community weekly through a one-hour broadcast on a popular local radio station.

Use of volunteers may ensure continuity of services—The Cochise County Health Start program site has successfully used volunteers to replace lay health workers who leave the

Program. Program sites could train volunteers who would be ready to replace paid lay health workers when openings occur, allowing for services to continue. When employed staff move on to other jobs, these volunteers could be hired without the community suffering a loss in services. While this method may not solve all problems resulting from staff turnover, it may be an effective method at some sites.

Recommendations

1. The Legislature should consider changing language in A.R.S. §36-697(A) to allow Health Start to reduce the family follow-up period from four years to two years or less to keep the focus on the prenatal and early childhood period.

2. ADHS should require all providers to meet their contractual obligation to provide prenatal participants with an average of five prenatal encounters or be eliminated from subsequent contracting.

3. The Legislature should consider changing language in A.R.S. §36-697(A) to allow Health Start services to be provided through both prescheduled home visits and, where appropriate, prescheduled group classes held at alternative locations.

4. ADHS should contract with Health Start providers to provide both home visits and, where appropriate, group classes to meet participants' needs.

5. ADHS should encourage Health Start providers to recruit and train volunteer lay health workers who can move into paid lay health worker positions when staff leave the Program.

6. ADHS should contract with Health Start providers to expand their outreach efforts to reach more of the women it is designed to serve, and to reach them earlier.

STATUTORY EVALUATION COMPONENTS

Pursuant to Laws 1994, Ninth S.S, Ch. 1, §9 the Office of the Auditor General is required to include the following information in the annual program evaluation.

C1. Information on the number and characteristics of the program participants.

As of spring 1997, 2,269 of the 5,236 women who have registered were active in the Program. Health Start has records for 5,608 total participants served, 372 of whom were already with providers in 1995 when contracts based on the 1994 legislation began. Health Start has higher proportions of Hispanic, Native American, and African-Americans giving birth than is found in the State as a whole (twice the state rate for each). Hispanics and Native Americans make up a majority of Health Start participants, 67 percent and 14 percent, respectively. African-Americans and non-Hispanic Caucasians constitute 6 percent and 10 percent, respectively. Mothers of Asian decent and all remaining ethnic groups comprise less than 2 percent of all births statewide and in Health Start.

Fewer Health Start participants are married, compared to the State as a whole. Of Health Start participants giving birth in 1996, 54 percent were single, while the statewide average was 38 percent. Also, more Health Start participants have low levels of educational attainment. Nearly 20 percent of Health Start participants have an eighth-grade education or less, while the state average is 8.9 percent.

For nearly 80 percent of Health Start participants, AHCCCS, Arizona's program for indigent medical care, was financially responsible for their children's births. However, only 8 percent reported AFDC as their source of income. Most-often cited sources of income were participants' partners, participants themselves, or others in the household. Figure 1 (see page 22) shows Health Start participants' sources of income. Generally, Health Start participants are members of the "working poor."

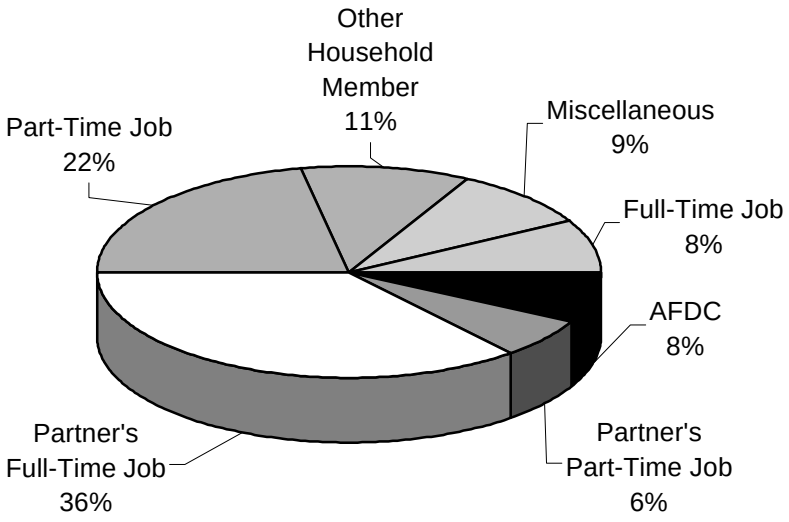
C2. Information on contractors and program service providers.

The Health Start Program originally contracted with 13 providers for 13 Health Start sites providing services to 66 urban and rural communities across Arizona. One contract was not renewed for fiscal year 1996, and another Health Start provider delivered services to that area. These 13 sites are supported by 12 providers (North Country Community Health Center serves two sites). Six providers are county health departments and 6 are private, not-for-profit providers—community

health centers (a federal designation), area health centers, or behavioral health centers. Five contractors serve metropolitan populations in Phoenix, Tucson, and Yuma, and 7 contractors serve rural areas throughout 11 of Arizona's 15 counties. Four of the sites serve large Native American populations. Table 1 (see page 23), shows the contractors and contractor type, their service areas, and their pilot program contract award for fiscal years 1995, 1996, and 1997.

Figure 1

Health Start Pilot Program
Participants' Family Income Sources
September 1996 through April 1997



Number of participants = 860

Source: Auditor General staff analysis of information provided by the Arizona Department of Health Services.

Table 1

Health Start Pilot Program
Providers, Service Areas, and Contract Amounts
Years Ended June 30, 1995, 1996, and 1997
(Unaudited)

Provider	Service Area	Contract Amounts		
		1995	1996	1997
County Health Departments				
Cochise	Douglas and Bisbee	$ 30,150	$ 57,900	$ 86,250
Coconino	Page and surrounding areas		60,800	81,350
Pima	Tucson and rural areas	24,210	82,000	87,800
Pinal	Eloy plus Casa Grande for 1997	38,080	114,050	121,250
Yavapai	Various communities	31,650	73,500	82,550
Yuma	Yuma and surrounding communities	69,650	168,725	170,250
Area Health Education Centers				
Northern Arizona [1]	Hopi and Navajo reservation, and other communities in Navajo County plus communities in La Paz and Mohave Counties for 1996 and 1997	57,850	237,700	207,390
Western Arizona	Communities in La Paz and Mohave Counties	40,450		
Community Health Centers/ Behavioral Health Centers				
Centra de Amistad, Inc.	Guadalupe	15,000	84,700	99,750
Clinica Adelante, Inc.	Migrant areas around Phoenix	42,620	118,500	81,650
Indian Community Health Service, Inc.	Native Americans in metropolitan Phoenix area	23,860	59,600	74,950
Mariposa Community Health Center	Nogales and Rio Rico areas	57,800	135,700	128,250
Mountain Park Health Center	South Phoenix	41,250	102,000	106,750
Total		$472,570	$1,295,175	$1,328,190

[1] Northern Arizona Health Education Center merged with the Flagstaff Community Free Clinic in 1996 to form the North Country Community Health Center and assumed responsibility for communities in La Paz and Mohave Counties.

Source: Auditor General staff analysis of data provided by the Arizona Department of Health Services and Health Start staff; service proposals and contracts; the Office of Women and Children's Health summary map of Health Start providers and sites; and the Health Start database.

As illustrated in Table 2, contractors' delivery of services has generally improved. Prenatal services contracted for and achieved increased from 71 percent in 1996 to 109 percent in 1997. Contractors were fairly consistent across the two years in meeting contracted services for family follow-up visits.

Table 2

Health Start Pilot Program
Services Contracted and Provided
Years Ended June 30, 1996 and 1997

	1996			1997		
	Number Contracted	Number Provided	Percentage Provided	Number Contracted	Number Provided	Percentage Provided
Participant registration [1]	NA	NA	NA	1,705	1,554	91%
Prenatal services [2]	1,325	942	71%	6,635	7,227	109
Family follow-up visits	4,850	5,077	105	6,635	6,770	102

[1] Participant registrations were not reimbursed in 1996 and are therefore not available.

[2] In 1996, Health Start contracted prenatal services for a specified number of women. In 1997, a specified number of visits were contracted.

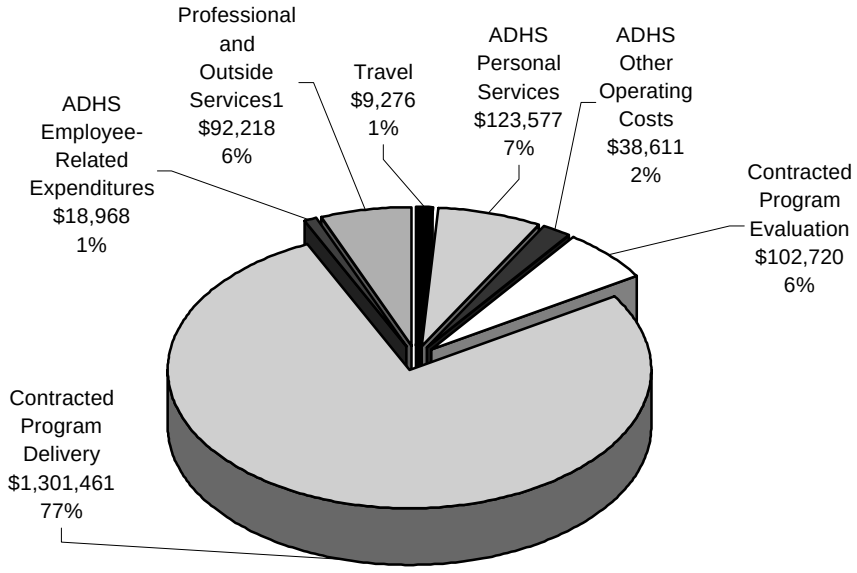
Source: Auditor General staff analysis of data provided by the Arizona Department of Health Services.

C3. Information on program revenues and expenditures.

Fiscal year 1997 revenues for the Program include $1.4 million in Family Stability Act appropriations and $385,335 in federal monies for a total of $1,785,335. The expenditures for fiscal year 1997 are presented in Figure 2 (see page 25). Approximately $100,000 in revenues has not yet been expended. Over three-fourths of the expenditures went to contractors to provide services. Contractors are paid a flat rate for general operations, then reimbursed for each client encounter. The agency devoted 6 percent of the expenditures to support a contracted evaluation of the Health Start Pilot program. While evaluation is usually a good investment of program dollars, this effort may be redundant with the Auditor General's statutorily required evaluation.

Figure 2

Health Start Pilot Program
Expenditures
Year Ended June 30, 1997
(Unaudited)



Total = $1,686,831

1 Not including contracted program evaluation.

Source: Auditor General staff analysis of expenditure information provided by the Arizona Department of Health Services.

C4. Information on the number and characteristics of enrollment and disenrollment.

Since the Program began operating under enabling legislation in spring 1995, 5,236 participants have registered. Health Start had 2,269 active, enrolled participants in spring 1997. Another 1,223 enrolled but were inactive (prenatal participants not seen in two months, and family follow-up participants not seen in 3 to 4 months). Twelve percent (647) were registered but did not enroll because they were not pregnant or chose to decline enrollment. An additional 1,097 have withdrawn from the Program.

Approximately 40 percent of all participants enrolled in the prenatal phase were inactive, as were 26 percent of those in family follow-up. Some lay health workers were hesitant to formally drop participants from their rolls, causing Health Start to carry participants who were not seen for extended periods.

C5. Information on the average cost for each participant in the Program.

As seen in Table 3, the cost per visit has decreased since the last fiscal year. Additionally, since the average number of prenatal visits per client has decreased from 5.7 in fiscal year 1996 to 4.3 for the past year, the cost to serve a prenatal client has decreased because providers are paid for actual encounters. However, the cost for a prenatal client would be $605 rather than $520 if the Program provided 5 prenatal visits as called for by the program model. The total cost to serve a participant from the prenatal period through the child's fourth birthday, estimating 25 visits (5 prenatal and 20 family follow-ups) and based on an average of the cost per visit over the three years of the Program, is $4,333.

Table 3

Health Start Pilot Program
Cost per Visit and Participant
Years Ended June 30, 1995,[1] 1996, and 1997

	Visits			Prenatal Participants		
Expenditures	**1995**	**1996**	**1997**	**1995**	**1996**	**1997**
Contractor	$145	$104	$ 93	$401	$590	$400
ADHS	118	32	28	327	183	120
Total	$263	$136	$121	$728	$773	$520

[1] 1995 costs are for a four-month service period only.

Source: Auditor General staff analysis of budget and service information provided by the Arizona Department of Health Services.

C6. Information concerning progress of program participants in achieving goals and objectives.

Finding I (see pages 7 through 10) reports on the success the Program has had reducing the numbers of low birth weight babies and ensuring that pregnant participants receive adequate prenatal care.

Finding II (see pages 11 through 13) reports on the Program's success in educating women about good nutrition and the importance of preventive medical care. In addition, Finding II provides evidence that Health Start children are more likely to be immunized against diseases than are other children in their communities. The finding reports that the Program needs to provide more education about child development and assessing children for potential developmental delays.

Assisting and identifying school readiness programs has not been a focus of the Program. Lay health workers report there are few school readiness programs in the communities they serve. They also report parents would be unable to take advantage of such opportunities because of transportation, cost, and "traditional" family values that keep young kids at home and general fear of connecting with mainstream culture. Providers, however, have not documented these barriers and have not made it part of their discussions with clients. Furthermore, of the 29 educational topics for which records are kept, 25 are discussed more often than early childhood education. In essence, Health Start has made little effort to encourage participants to seek school readiness programs.

C7. Recommendations regarding program administration.

Finding III (see pages 15 through 20) reports on some problems with the Program's administration. Based on the information provided in Finding III and the cost study discussed in F.6., page 33, it is recommended that :

1. The Legislature should consider changing language in A.R.S. §36-697(A) to allow Health Start to reduce the family follow-up period from four years to two years or fewer to keep the focus on the prenatal and early childhood period.

2. ADHS should require all providers to meet their contractual obligation to provide prenatal participants with an average of 5 prenatal encounters or be eliminated from subsequent contracting.

3. The Legislature should consider changing language in A.R.S. §36-697(A) to allow Health Start services to be provided through both prescheduled home visits and, where appropriate, prescheduled group classes held at alternative locations.

4. ADHS should contract with Health Start providers to provide both home visits and, where appropriate, group classes to meet the participants' needs.

5. ADHS should encourage Health Start providers to recruit and train volunteer lay health workers who can move into paid lay health worker positions when paid staff leave the Program.

6. ADHS should contract with Health Start providers to expand its outreach efforts to reach more of the women it is designed to serve and to reach them earlier.

Health Start has not provided sufficient lay health workers for the number of women in Health Start communities. The Program recognized the need for a minimum level of administration to operate a program site and funded to that level. Unfortunately, they did not provide sufficient numbers of lay health workers to serve many communities beyond minimum levels (less than 10 percent is most common). Program coordinators, the administrators at the provider level, were asked how many full-time lay health workers they could oversee. From these estimates it was determined that only one site has sufficient numbers of lay health workers for the level of administration funded. As a whole, Health Start program coordinators supervise only half the number of staff they feel they can supervise. Therefore, to improve program delivery the following actions are recommended if the Program is continued:

7. ADHS should determine minimum numbers of women to be served in each Health Start Community and award Health Start monies to providers that can serve these minimum numbers;

Additionally, as discussed in F.4 (see pages 31 through 32):

8. ADHS should refine the eligibility screening instrument to screen into Health Start only women with risks of poor birth outcomes and should use the instrument as intended.

C8. Recommendations regarding informational materials distributed through the programs.

Previous Auditor General evaluations of Health Start have adequately addressed the Program's informational material and no further recommendations are presented. One of the informational materials that Health Start distributes is the *Arizona Family Resource Guide*. This guide is printed as a wallet-sized card. A total of 494,739 *Arizona Family Resource Guides* were distributed from 1995 to 1997. Of those guides, 313,255 were distributed in English and 181,484 were distributed in Span-

ish. The guides were distributed to hospitals, the DES Healthy Families programs, Health Start program coordinators, the System of Care Team, county health departments, and Healthy Mothers/Healthy Babies Coalitions. In addition to these providers, the guides were distributed to a variety of special services, organizations, and community resources, including Head Start providers, local WIC providers, Dobson High School, and the ASU College of Nursing.

The majority of the guides were distributed in 1995, with 197,679 guides distributed in English and 120,335 in Spanish. In 1996, the number of guides distributed decreased to 104,488 in English and 54,760 in Spanish. In 1997, the number dropped to 11,088 in English and 6,389 in Spanish.

Contradictions in English and Spanish instructions found in the 1996 Kare book publication have been corrected in the 1997 version.

C9. Recommendations pertaining to program expansion.

Health Start has been successful in accomplishing important goals, such as improving prenatal care and reducing the incidence of low birth weight babies. As discussed in F.6, page 33, these positive birth and health outcomes resulted in financial benefits that balance the costs of the program service delivery, but which do not outweigh the costs when administration is included. Seventy-five percent of all prenatal costs are being returned in savings from reductions in low birth weight babies. Consequently, the benefits, both monetary and social, of the Program's prenatal component must be weighed with the Program's costs in determining whether it should be continued and subsequently expanded.

The Program's family follow-up portion has limited financial benefits. Only 4 percent of the money spent on family follow-up investments was returned in actual dollar benefits of improved immunizations. If Health Start's continuation is judged by immediate or long-term savings to Arizona, the Program's family follow-up portion has not passed this test during its first two years of operation.

The Program's prenatal component is effective and may pay for itself in benefits returned if recommendations to improve program service delivery and efficiency can be assured (see C.7, page 27).

However, the family follow-up component has not had the impacts seen from the Program's prenatal portion and does not have the cost-effectiveness seen in the prenatal period. The family follow-up portion should be reduced to a much more limited period of time to address breast-feeding and immunizations.

C10. Recommendations regarding the method used in preparing the *Arizona Children and Families Resource Directory*.

Early problems with the Arizona Children and Family Review Directory were identified in the first Health Start evaluation and subsequently corrected. Similar to last year, the *Arizona Children and Family Resource Directory* is being updated and distributed throughout the State. In 1996, 159,248 guides were printed and distributed to new mothers throughout Arizona.

The Office of the Auditor General has no further recommendations.

Pursuant to Laws 1994, Ninth S. S, Ch. 1, §9 the Office of the Auditor General is required to include the following information in the final program evaluation.

E1. Statistical information measuring the effectiveness of the program in accomplishing the goals and objectives established in this act.

Finding I (see pages 7 through 10) presents statistical information specific to the Program's impact on improving prenatal care and reducing rates of low birth weight babies.

Finding II (see pages 11 through 13) presents statistical information specific to the Program's impact on improving immunization rates for children in the Program.

Finding II also reports on the Program's success in educating women about good nutrition, preventive health care, and child development.

E2. The attitudes and concerns of program participants.

As discussed in Finding II (see pages 11 through 13), Health Start participants have very healthy attitudes toward the dangers of smoking, drinking, drug, and medicine use and understand the importance of proper nutrition, especially during pregnancy and breast-feeding. About half occasionally have trouble satisfying important basic needs, including adequate shelter, food, baby supplies, and transportation. Employment is seen as the primary means by which these participants are looking to satisfy these needs. Participants' attitudes toward the Program are very favorable, with 88 percent rating the Program between 8 and 10 on a scale of 1 to 10, with 10 being most positive.

F1. Evaluate the educational process for parents on developmental assessments so that early identification of any learning disabilities, physical handicaps or behavioral health needs are determined.

As discussed in Finding II (see pages 11 through 13), participants need additional education regarding child development. To remedy this, Health Start recently began using the Ages and Stages Questionnaire, an assessment designed to identify potential conceptual and physical developmental problems. Participants and lay health workers have responded well to its use, and a small percentage of children has been identified as potentially having problems through its use.

F2. Measure the effects on program participants of promoting family unity and strengthening family relations.

The Healthy Families Pilot Program, also created with the Family Stability Act, focuses on promoting family unity and strengthening family relations. Health Start, however, focuses on pregnancy and family health. Therefore, the Program's impact on promoting family unity and strengthening family relations has not been directly assessed.

F3. Review the impact on program participants of the counseling and coping support services received.

Counseling and coping support services are often a key aspect of the lay health worker/participant encounter. If necessary, lay health workers refer participants with extensive counseling needs to the social worker contracted by each site, or community behavioral health centers. There were, however, no formal assessments available for accurately measuring these efforts.

F4. Evaluate the method for selecting eligible program participants.

Health Start originally defined all pregnant women living in areas served by Health Start as eligible for services. This definition did not coincide with the intent for the Program to serve only pregnant women who were in need of medical and social services, and Health Start was required by Laws 1996, Ch. 247, to develop and implement a screening method for the Health Start program. Although ADHS was given instructions to develop a tool to screen out women who did not need Health Start services, the Health Start administration designed an instrument that has screened virtually everyone into the Program.

There is evidence that suggests the instrument has not been implemented in a way to ensure that only individuals most in need of the Program's services are actually

served. For example, during a testing period before the eligibility instrument went into effect on October 1, 1996, 42 percent of the potential participants had an eligibility score too low to qualify. However, after the eligibility instrument became mandatory, only 12 percent of the women who were screened no longer qualified.

Compounding the problem is the lay health workers' ability to override the eligibility screening and register the participants if, in their judgment, the participant needs the Program despite the low eligibility score. In fact, only 1 woman out of the 101 women who had eligibility scores below the eligibility cut-off was denied entrance into the Program. In essence, the eligibility screening process developed by Health Start does not satisfy its legislative intent.

Health Start's implementation of the screening tool has resulted in women enrolling in the Program who do not appear to be at risk of poor birth outcomes (see also Finding III, pages 15 through 20). As a result, Health Start is devoting its scarce resources to women who have no significant need for the Program. If the Program is continued, it is recommended that:

- ADHS should refine the eligibility screening instrument to screen into Health Start only women with risks of poor birth outcomes and should utilize the instrument as intended.

F5. Evaluate the overall effectiveness of the program based on performance based outcome measurements including a reduced dependency on welfare, increased employment and increased self-sufficiency.

Overall Health Start has been successful with most of its goals and legislatively required activities. Health Start clients have received measurable benefits and rated the quality of the Program high. But Health Start can become much more efficient and productive in terms of delivering services.

As with the reluctance to push school readiness (see C.7, pages 27 through 28), the Program did not promote self-sufficiency for its participants. Despite participants with pressing daily needs saying that employment is the primary way to satisfy these needs, referrals for employment services and adult education constitute less than 2 percent of all referrals made by Health Start lay health workers. When asked why the Program does not emphasize self-sufficiency, program staff claim it is beyond the scope of Health Start.

F6. Estimate the long-term saving for providing early intervention services established in the Health Start and the Healthy Families Pilot Programs.

Analysis of the savings for providing early intervention services established in the Health Start Program was contracted to Professor Robert L. Seidman at the Graduate School of Public Health at San Diego State University.

Cost analysis of all program efforts—Professor Seidman found an overall net cost of $1,415,334 for the first two years of the Program. The direct expenditures of the Program during the period under study were $2,699,281 and the dollar amount of the benefits was $1,283,947. But, using only service delivery expenditures of $2,086,561, the Program has a net cost of $802,614.

The analysis is based on the total expenditures to provide services through Health Start minus the measurable dollar benefits of the Program's outcomes through December 1996. Administration accounted for 23 percent of the Program's expenditures during this period.

Cost analysis of prenatal component—The Program's original focus was improving prenatal care and decreasing the incidence of low birth weight babies. The prenatal part of the Program actually had a modest net cost savings of $53,226 when only service delivery expenditures were considered, but had a net cost of $420,183 when administrative expenditures are included. It should be noted that if recommendations to improve the program delivery are implemented (section C.7, pages 27 through 28), the Program may pay for itself in benefits returned. For example, group classes could increase the program benefits to the point they match costs.

The Program's benefits are based on the costs averted from avoiding a very low birth weight (VLBW) or moderately low birth weight (MLBW) baby. Dr. Siedman estimated costs associated with a VLBW through age 15 in 1996 dollars are at $82,130 and costs associated with a MLBW through age 15 in 1996 dollars are at $14,922.

During the two years of the Program, Health Start women had 34.3 fewer LBW babies than the comparison group, of which 23.3 were MLBW and 11 were VLBW.[1]

Cost analysis of family follow-up component—Professor Seidman was not able to estimate long-term benefits from the family follow-up component of the Program. The only short-term benefit from the Program that could be estimated was derived

[1] The comparison group was weighted to equal the size of the Health Start group. The comparison group was somewhat smaller than the Health Start group since no match was available for some Health Start births. The weighting resulted in births being represented in other than whole numbers.

from improved immunization rates. Based on the difference in immunization rates for the Health Start population in comparison to the rates for their local communities, and given estimates of benefits from immunizations as reported by the Center for Disease Control, there is a total short-term benefit of $41,262.

The family follow-up component has a net short-term cost of $953,898 on total expenditures of $995,150. The family follow-up component has a short-term net cost of $814,588 including direct service expenditures only.

Agency Response

(This Page Intentionally Left Blank)

February 12, 1998

Mr. Douglas R. Norton, CPA
Auditor General
Office of the Auditor General
2910 North 44th Street, Suite 410
Phoenix, Arizona 85004

Dear Mr. Norton:

Thank you for the opportunity to review the draft report of the third Annual Evaluation of the Health Start Pilot Program.

The Arizona Department of Health Services agrees with most of the findings in the report. The findings show that the Health Start Program has met the goals outlined in the Arizona Children and Families Stability Act of 1994. Health Start has increased pregnant women.s access to prenatal care. Health Start has also reduced the incidence of low birth weight babies. In fact, the data indicate that Health Start was able to exceed the national Healthy People 2000 goal of fewer than 5% of births being low birth weight babies.

Health Start has also improved childhood immunization rates. This is another instance where the program has consistently met a Healthy People 2000 goal; 90% of all Health Start children were immunized at a level appropriate to their age.

Health Start participants understand nutrition and preventive health issues, and put the knowledge into practice. They also have a reasonable understanding of child development. This is significant since a recent study in the child development literature showed that the younger, less educated and poorer the mother, the less knowledge of child development she had, with 80% of the women in the study scoring poorly. This population of poor, less educated mothers is precisely the group served by Health Start.

We have enjoyed working with your staff for the past three years, and have appreciated their valuable comments and suggestions. Together we have built a program which is at the forefront of outreach efforts in the nation.

Sincerely,

James R. Allen, M.D., M.P.H.
Director

JRA:ym

Attachment

ARIZONA DEPARTMENT OF HEALTH SERVICES
RESPONSES TO RECOMMENDATIONS
OF THE OFFICE OF THE AUDITOR GENERAL.S EVALUATION
OF THE HEALTH START PILOT PROGRAM

The finding of the Auditor General to consider using other birth outcomes in addition to low birth weight to measure the success of Health Start is agreed to and a different method of dealing with the finding will be implemented. Possible alternative methods to address this finding are summarized on the accompanying pages.

The finding of the Auditor General that the program should continue to provide participants with education about nutrition and preventive health is agreed to and the audit recommendation will be implemented.

The finding of the Auditor General that an assessment tool be regularly used at family follow-up encounters is agreed to and the audit recommendation will be implemented.

The finding of the Auditor General that the current length of follow-up is too long is agreed to and the audit recommendation to change the family follow-up period from four years to two years will be implemented, contingent upon a change in the legislation.

The finding of the Auditor General is agreed to and the audit recommendation to require all providers to meet their contractual obligations or be eliminated from subsequent contracting will be implemented.

The finding of the Auditor General to change legislation to allow the addition of group classes, as an adjunct to home visits, is agreed to and the audit recommendation will be implemented, contingent upon a change in the legislation.

The finding of the Auditor General to add group classes is agreed to and the audit recommendation will be implemented, contingent upon a change in legislation.

The finding of the Auditor General to encourage Health Start providers to recruit and train volunteer Lay Health Workers is not agreed to and the audit recommendation will not be implemented at this time. Concerns about this recommendation are delineated on the accompanying pages.

The finding of the Auditor General to expand outreach efforts is agreed to and the audit recommendation will be implemented.

The finding of the Auditor General that ADHS should determine minimum numbers of women to be served in each Health Start community is agreed to and the audit recommendation will be implemented.

The finding of the Auditor General that ADHS has failed to appropriately implement a screening method is not agreed to and the audit recommendation will not be implemented.

The ADHS response to this finding may be found on the accompanying pages.

ARIZONA DEPARTMENT OF HEALTH SERVICES (ADHS) RESPONSE TO THE AUDITOR GENERAL.S PERFORMANCE AUDIT OF THE HEALTH START PILOT PROGRAM

FINDING I - HEALTH START MET GOALS OF REDUCING INCIDENCE OF LOW BIRTH WEIGHT BABIES AND IMPROVING PRENATAL CARE, BUT SOME OTHER BIRTH OUTCOMES SHOW NO IMPROVEMENT

Low Birth Weight and Prenatal Care Outcomes

ADHS concurs with the finding that Health Start participants have lower incidence of low birth weight babies. In fact, the data indicate that Health Start was able to exceed the national Healthy People 2000 goal of fewer than 5% of births being low birth weight babies. ADHS appreciates the additional trend analysis done by the OAG which indicated that this reduction in the incidence of low birth weight babies for Health Start participants should persist over time. ADHS also concurs with the finding that Health Start participants received adequate prenatal care more often than the comparison women and had fewer medical risk factors during their pregnancies.

Other Birth Outcomes

ADHS agrees with the Auditor General with regard to using outcomes in addition to low birth weight as additional means of measuring the effectiveness of Health Start. At this point, however, we are not in agreement as to what other outcomes should be used.

ADHS believes that the outcomes suggested by the OAG are not appropriate to evaluate a Lay Health Worker outreach program. Even the best medical care by a qualified medical professional may not be able to predict, let alone affect, many labor and delivery complications or entry of a baby into a neonatal intensive care unit. The ADHS will explore the feasibility of using birth outcomes such as reduction in the number of babies with: gestational age less than 37 weeks or APGAR scores of five or less at five minutes. (APGAR is an assessment routinely done with all newborns in the delivery room on their color, respiration, movement, heart rate and vocalization, with a combined score ranging from 0 to 10. A baby with an APGAR score of 5 or less at 5 minutes after birth is a sick infant, who will rarely be ready to leave the hospital with its mother.) More appropriate measures of the efficacy of Lay Health Worker prenatal interventions may include an assessment of their ability to prevent, reduce or eliminate the use of tobacco, alcohol or harmful drugs during pregnancy.

FINDING 2 - HEALTH START NUTRITION, PREVENTIVE HEALTH, CHILD DEVELOPMENT, AND IMMUNIZATION EFFORTS PRODUCED GENERALLY GOOD RESULTS

Participant Survey on Program Effectiveness

ADHS concurs with the results of the OAG participant survey. This survey validates the efficacy of the education, advocacy and support efforts that Lay Health Workers provide to Health Start participants. The survey found that .participants understand what constitutes a good diet and a healthy lifestyle during pregnancy and are aware of the benefits of breastfeeding.. Participants also demonstrated knowledge in 10 of the 14 child development areas included in the survey. The survey indicates that Health Start is the primary source of health, nutrition, and social service information for its participants, which emphasizes the importance of the program in affecting healthy lifestyles for the participants. It is also gratifying that the participants consider the program very helpful.

Immunization Rates

The OAG finding that .90% of all Health Start children were immunized at a level appropriate to their age. is particularly noteworthy. This is another instance where the program has consistently met a Healthy People 2000 goal, while the immunization rate for the state as a whole is 10-20% less.

Nutrition and Prevention

ADHS concurs with the Auditor General.s finding that the program should continue to provide participants with education about nutrition and preventive health and will implement the audit recommendation. The program has always had a commitment to provide participants with education about nutrition and preventive health and will continue to provide it.

Assessment Tool

ADHS concurs with the Auditor General.s finding that an assessment tool be regularly used at family follow-up encounters and will implement the audit recommendation. As stated in the findings, ADHS has already taken steps to deal with increasing knowledge on child development by implementing the administration of such a tool.

FINDING 3 - HEALTH START MODEL AND METHOD OF SERVICE DELIVERY LIMIT PROGRAM.S IMPACT

Family Follow-Up

ADHS agrees with the issue raised by the Auditor General that, as women have their babies and continue in the program into family follow-up, the resources of the program .are shifting from prenatal participants to family follow-up participants.. This is to be expected as the program matures, and families continue in the program for up to four years.

The fiscal challenges posed by this lengthy follow-up period contribute to ADHS. concurrence with the recommendation that the Legislature consider reducing the period from four to two years. We will support this change to section 36-697, Arizona Revised Statutes (ARS) being included (along with the change mentioned below) as an amendment to the 1998 legislation re-authorizing Health Start.

Home Visits/Group Classes

As the audit indicates, Lay Health Workers average two visits to different homes per day. The home visitation model for service delivery used by Health Start can be found in the legislation authorizing the program (Laws 1994, Ninth S.S., Chapter 1). While it may not be most efficient system, the legislation reflected the fact that home visiting provides distinct advantages for achieving program goals. ADHS believes, though, that when feasible and appropriate to the client.s situation, the use of group classes may be a good adjunct to home visits. The addition of an alternative mechanism of service delivery will enhance the ability of sites to tailor the program to fit the cultural and geographic characteristics of the community it serves, which has always been a hallmark of the program.

ADHS supports the Auditor General.s recommendation for the Legislature to consider amending current law and allow Health Start to use group classes in addition to home visits.

Pre-Conceptual Care

Finding II also states that .Health Start begins ... only after participants are pregnant, which is often too late for effective preventive services.. While ADHS agrees that pre-conceptual care is a key element in the long term health of women and the health of children yet to be born, current law governing Health Start limits the program to .pregnant women, children and their families.. The topic of pre-conceptual care is discussed with women in the family follow-up period, but the program was not intended to initiate interaction or services with women who are not pregnant.

In addition to this matter of law, some might consider it intrusive for a Lay Health Worker to come into a home to interact with a woman regarding pregnancy and prenatal care who may not even be considering pregnancy. Such an outreach effort seems to be more appropriately done on a state-wide, multi-media, multi-program basis, in a manner similar to that being used to decrease tobacco use.

ADHS does not agree with any concept that suggests services will be ineffective if they begin after a pregnancy has been confirmed. Prenatal care may be less effective when the mother.s health and/or lifestyle prior to pregnancy have been less than ideal, however, it still offers significant value. Services provided during the prenatal period can lead to the detection of treatable conditions in the unborn, the prevention or amelioration of pregnancy difficulties and lifestyle changes that will improve the health and well-being of both mother and baby. This is the basic premise behind women receiving prenatal care.

Occasionally, advocates push the expectations for prenatal care beyond the bounds of what these services can reasonably be expected to effect. It is critical to keep this issue of overzealousness in its proper context. False expectations should not cause policymakers to sour on the value and importance of good prenatal care.

Health Start Staff Turnover and the Use of Volunteer Lay Health Workers

Staff turnover is an area that ADHS closely monitors, because it can have a major impact on the program. We have found that there has been turnover, but it has not been problematic in all sites. Of the 12 contractors, all experienced some staff turnover during 1995-1997. Program Coordinators stated, however, that they were generally able to cover their existing case loads with remaining Lay Health Workers and/or Program Coordinator, to minimize the effects on clients, until a new Lay Health Worker could be hired and trained. Only two sites out of 12 had particular difficulty with staff turnover, which resulted in a significant reduction in service. ADHS has and will continue to work with sites to develop mechanisms to address staff turnover and to minimize reduction in services to clients caused by Lay Health Worker turnover.

There is a positive aspect to staff turnover. In almost all cases, Lay Health Workers, many of whom had never had a job before, left the program for better-paying, full-time jobs in their communities.

At this time, ADHS cannot fully agree with the recommendation regarding Health Start providers recruiting and training volunteer Lay Health Workers. ADHS has concerns with the use of volunteers as Lay Health Workers. These include issues involving liability and the dilemma of finding volunteers in those areas of the state in which providers are having problems getting persons to accept paid Health Start employment. Further, ensuring adherence to program standards is often problematic with volunteers. This

accountability problem could have implications on the program.s quality and effectiveness.

ADHS, however, is not wholly opposed to the volunteer concept. We will encourage Cochise County to pilot the use of volunteers. If this pilot is successful, ADHS will encourage other Health Start providers to explore the use of volunteer Lay Health Workers.

Contractor Performance Requirements

ADHS concurs with the Auditor General on requiring .all providers to meet their contractual obligations ... or be eliminated from subsequent contracting.. The program routinely monitors contracts to ensure that contractors are adhering to contract and policy guidelines. If a site does not meet contractual obligations, ADHS offers technical assistance. If this technical assistance does not produce a positive change in performance, ADHS initiates steps to terminate the contract.

Outreach Expansion

ADHS will implement the Auditor General recommendation to expand Health Start outreach efforts. Since each of the current sites is so different (and the current sites may not be those in effect next year), outreach efforts must be tailored to meet the needs and capabilities of the individual sites. Further outreach would be inappropriate whenever caseloads are so large that additional clients would result in a dilution of effort to women already in the program.

STATUTORY EVALUATION COMPONENTS

C1. Information on the number and characteristics of the program participants.

ADHS concurs that Health Start has served 5,608 participants, and that generally Health Start participants are members of the working poor.

C7. Recommendations regarding program administration

Recommendations 1-6 have been previously addressed.

7. ADHS concurs with the Auditor General that we should determine minimum numbers of women to be served in each Health Start community. ADHS has implemented the audit recommendation. (Note: Beginning with the first contract in FY 95 and those in subsequent years, the number of pregnant women to be served and the number of client visits were specified in the provisions of the contact).

8. ADHS does not agree with the Auditor General.s finding regarding the use of the eligibility screening instrument. The Department will develop a mechanism, however, to better document the number of women contacted, screened and determined to be ineligible, for whom data was not received.

The eligibility tool was developed as a collaborative effort with consultants and staff from ADHS and the Office of the Auditor General. This tool was approved by the legislative oversight committee. All of the elements of the screening tool are factors that may influence the well-being of pregnant women and their babies. The factors included in the tool that are not medically-related (e.g., social factors including a lack of funds for basic needs, homelessness and an inability to speak English) are cited in academic literature as critical issues in determining need and risk.

Because Health Start initially chose high risk communities, it stands to reason that most of the women in the communities will need the services. An informal screening is done by many Lay Health Workers, who only offer enrollment to those women who will meet the eligibility criteria. ADHS believes that this informal screening effort has had the effect of limiting enrollment, however, there was no data submitted to ADHS to support this belief. In the future, ADHS intends to require contractors to document these outreach efforts. The Department does understand and concur with the concept underlying the tool regarding identifying the neediest pregnant women or those .at risk,. given the limited funding for the program.

Nevertheless, these policy changes will not likely bring this matter to closure. ADHS and the Auditor General Staff will likely remain in disagreement over who should be .risked-

out. of the program. ADHS remains convinced that the program.s focus as spelled out in section 36-697, ARS, is .communities and neighborhoods. which is different than the individual client focus of so many other government programs.

Since Health Start provides services and no cash benefits, and is not an entitlement program, there are no financial benefits to enrollment. Women only enroll if they feel they need the services offered by Health Start.

F4. Evaluate the method for selecting eligible program participants.

See C7. recommendation 8 above.

F5. Evaluate the overall effectiveness of the program based on performance based outcome measurements including a reduced dependency on welfare, increased employment and increased self-sufficiency.

ADHS concurs that employment is essential to self-sufficiency. However, ADHS believes that the primary focus of the program is to help women in high-risk communities overcome barriers to prenatal care and well-child care. The majority of Health Start families (88%) have earned income. Finally, in most rural areas, traditional employment situations are difficult, if not impossible, to find. This issue is exacerbated by the lack of public transportation in most of the state. ADHS, however, intends to increase Health Start.s emphasis on encouraging employment and directing Health Start clients for employment assistance and skills development when appropriate.

F6. Evaluate the long-term savings for providing early intervention services established in the Health Start and the Healthy Families Pilot Programs.

Since AHDS has not had access to the Auditor General.s cost benefit analysis, it is difficult to respond to the findings. However, the estimated costs associated with a very low birth-weight baby appear to be extremely low, as does the benefit associated with immunization.

Arizona Department of Health Services Recommendations

The Auditor General has found that the Health Start Program has met the following four goals outlined in the Arizona Children and Families Stability Act of 1994.

- Increased access to prenatal care.

- Reduction in the incidence of low birth weight babies.

- Improvement in childhood immunization rates.

- Provision of information about good nutritional habits, preventive health care, and developmental assessments.

Based on the success of the program in addressing these goals, ADHS would strongly recommend that the program be continued. ADHS would suggest two program changes not previously covered that could enhance program efficacy and cost effectiveness:

- Allow the enrollment of families who have recently given birth to or adopted a child, to provide on-going education and support. This will be done in close coordination with Healthy Families staff, when applicable, to insure the family is provided with services appropriate to their situation.

- Increased Health Start funding to expand into high risk areas not presently served.