The Reduction of Infant Mortality in Illinois

The Family Case Management Program and Special Supplemental Nutrition Program for Women, Infants and Children

Annual Report for Fiscal Year 2010

Illinois Department of Human Services
Division of Community Health and Prevention

January 2011

Illinois Department of Human Services

Pat Quinn, *Governor* **Michelle R.B. Saddler,** *Secretary*

100 So. Grand Ave., 3rd Floor • Springfield, Illinois 62701
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March 18, 2011

Dear Governor Quinn and Members of the General Assembly:

It is my pleasure to present *The Reduction of Infant Mortality in Illinois: The Family Case Management Program and WIC Program Annual Report for Fiscal Year 2010*. These programs have contributed to a steady reduction in the state's infant mortality rate, which reached 6.6 deaths per 1,000 live births in 2007, the lowest rate in the state's history. As a result of these efforts, Illinois' ranking in infant mortality among the states rose from 31st in 2005 to 19th in 2006.

Illinois is unique in its effort to integrate the delivery of these two major programs for low-income women and children. The Department has been able to blend the delivery, financing, monitoring and evaluation of these programs through innovation and performance management. The comprehensive integration of maternal and child health programming is providing the foundation for future expansion and enhancement through the integration of additional service for this vulnerable population.

The Department has achieved uncommon results through this effort. Rates of prenatal weight gain immunizations, breastfeeding, well child care and developmental screening have been steadily improving. Crude rates of premature birth and infant mortality among Medicaid-eligible pregnant women who participate in these programs are substantially better than those observed among similar women who did not participate in either program.

While we continue to make progress, there is a persistent racial disparity in infant mortality that must be eliminated. An African American infant born in Illinois is still more than two and a half times as likely as a Caucasian infant to die before reaching one year of age. Our current efforts are commendable, but they are not enough.

This tragic loss of life must not continue and its disparate impact on Illinois' minority communities must be addressed. I look forward to working with each of you to improve the health of all Illinoisans.

Sincerely,

Michelle R.B. Saddler
Secretary

The Reduction of Infant Mortality in Illinois

The Family Case Management Program
and Special Supplemental Nutrition Program for Women, Infants and Children (WIC)

Annual Report

Fiscal Year 2010

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EXECUTIVE SUMMARY

This annual report is presented in compliance with the provisions of the Illinois Family Case Management Act, found at 410 ILCS 212, the purpose of which is to "provide for the establishment and recognition of a program of family case management to ensure and provide statewide wrap-around services targeted toward reducing the incidence of infant mortality, very low birth weight infants, and low birth weight infants within the state."

Illinois' infant mortality rate for 2007 (the latest year available) was 6.6 deaths for every 1,000 live births, the lowest rate in the state's history. The absolute number of infant deaths—1,196—was the lowest recorded.

The Illinois Department of Human Services (IDHS) helps to reduce the state's infant mortality rate through the integrated delivery of two programs - the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and Family Case Management (FCM). These programs serve 48 percent of all infants and 92 percent of the Medicaid-eligible infants born in Illinois. The Department supplements these statewide programs with targeted initiatives for women whose chances of giving birth prematurely are greater than average and for infants who have a greater-than-average chance of dying before their first birthday.

Program Success - The Department monitors the performance of the WIC and FCM programs on several short-term health status indicators. At the end of fiscal year 2010, performance on each indicator was as follows:

- The proportion of WIC-eligible children with health insurance was 95.9 percent;
- The proportion of fully-immunized one-year-olds in WIC was 85.3 percent;
- The proportion of fully-immunized two-year-olds in WIC was 78.8 percent;
- The proportion of WIC infants who are breastfed was 66.9 percent;
- The proportion of infants in WIC who were breastfed through six months was 28.8 percent;
- The proportion of children in FCM who received at least 3 well-child health care visits during the first year of life was up to 84.7 percent; and
- The proportion of women and infants active in either WIC or FCM are also enrolled in the other program was 90 percent.

Improved Health Status - For 10 consecutive years, infants born to Medicaid-eligible pregnant women who participated in both WIC and FCM have been found to be in better health than those born to Medicaid-eligible women who did not participate in either program. The rate of very low birth weight was 60 to 70 percent lower than that among non-participants, and the rate of infant mortality was 50 to 70 percent lower.

Fiscal Savings - In addition to the significant health benefits afforded by the WIC and FCM programs, Illinois' investment in these programs saves the State an average of $200 million each

year in Medicaid expenditures. Those expenses for health care in the first year of life were 30 to 50 percent lower among dual-program participants than among non-participants in 2007.

INTRODUCTION

"The infant mortality rate is the most sensitive index of the status of economic and social development of any country." -- Helen M. Wallace, M.D., M.P.H.[1]

This report describes the accomplishments of the Illinois Department of Human Services' (IDHS) maternal and child health program in reducing infant mortality and improving maternal and infant health in Illinois.

In 2007, Illinois' infant mortality rate reached the lowest rate on record, with 6.6 deaths for every 1,000 live births.

There are many factors that contribute to an improvement in the state's infant mortality rate, just as there are many factors that contribute to the problem of infant mortality itself. There have been dramatic improvements in medical and pharmacological treatments for the conditions that used to take the lives of infants who were born prematurely. Illinois has maintained one of the best systems of hospital-based perinatal care services in the nation. Illinois' success in maternal and child health services is also due to the Department of Human Services' ongoing collaborative efforts with both the Illinois Department of Public Health (IDPH) and the Illinois Department of Healthcare and Family Services (IDHFS).

Illinois' infant mortality rate has declined by more than 40 percent since 1986, in part due to investments in the WIC and Family Case Management programs.

Ten consecutive annual evaluations have shown that participation in both the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and the Family Case Management (FCM) program during pregnancy substantially improves infant health. This improvement contributes an estimated annual savings of at least $200 million in Medicaid expenditures for care required during the first year of life. Additional savings from avoided special education, disability and rehabilitation costs potentially accrue over a lifetime. A recent in-depth analysis of Medicaid-eligible WIC and FCM participants showed that these programs reduce very low birth weight among program participants by 24 percent – a statistically significant reduction -- after controlling for differences in demographic and behavioral characteristics.

While Illinois has made steady progress in the reduction of infant mortality, a significant disparity in infant mortality rates persists between African American and Caucasian infants. An African American infant born in Illinois during 2007 was 2.5 times more likely than a Caucasian infant to die before reaching its first birthday. This disparity has persisted for many years and

[1] Wallace, Helen. Infant Mortality. In Wallace, H.M., Ryan, G.M., and Ogelsby, A.C. (eds.) (1988) *Maternal and Child Health Practices: Third Edition*. Oakland, CA: Third Party Publishing. p. 411.

must no longer be accepted. In addition, in the years since 1996 there appears to be an emerging disparity between the infant mortality rates for Puerto Ricans and all non-Hispanic Whites. Although this is due in part to the small number of births and deaths involved, there is cause for concern. The IDHS has made the reduction of racial disparities in health status a top priority, especially among society's most vulnerable members,.

PROGRAM DESCRIPTIONS

The IDHS has developed a comprehensive maternal and child health (MCH) strategy for the reduction of infant mortality. This strategy integrates two large-scale programs, the Special Supplemental Nutrition Program for Women, Infants and Children, more commonly known as WIC, and the Family Case Management (FCM) program. The Department supplements these basic services with programs targeted to women who have a greater chance of giving birth prematurely. The Chicago Healthy Start Initiative (CHSI), Targeted Intensive Prenatal Case Management (TIPCM) and the pilot project Healthy Births for Healthy Communities (HBHC) serve areas of the state with high infant mortality rates or significant racial disparities in infant mortality. These programs work as an integrated whole to improve the health of women and infants.

The integration of these programs is supported and enhanced by the shared use of Cornerstone, the Department's maternal and child health management information system. This system collects and reports all of the information necessary for the operation of the WIC, FCM, Healthy Start and TIPCM programs, as well as other MCH services. Cornerstone provides an integrated record of the services provided to each participant and a service plan that identifies the services that the family requires. It is a distributed system, which means that much of the information collected by one MCH service provider can be retrieved by another service provider (with appropriate confidentiality safeguards). In this way, staff members within and among agencies have access to a comprehensive record of the services provided to participating families. This avoids the problem of duplicative data collection and recording. Cornerstone promotes the integration and streamlines the delivery of MCH services.

The WIC program provides referrals, supplemental foods and nutrition counseling; FCM links families to health and other services.

This comprehensive strategy also blends state and federal funds. WIC is supported entirely by funds from the United States Department of Agriculture (USDA). FCM and TIPCM are supported by state-funds as well as federal funds including those from Titles V and XX and matching funds through the Medicaid program. CHSI is supported by discretionary grants from the federal Maternal and Child Health Bureau. HBHC is supported by a private foundation (Steans) and state funds. These programs are described below.

<u>The Special Supplemental Nutrition Program for Women, Infants and Children (WIC)</u> seeks to improve the health of women, infants, and children; to reduce the incidence of infant mortality,

premature births and low birth weight; to promote breastfeeding; and to aid in the growth and development of children. The program serves income-eligible pregnant, breastfeeding and postpartum women, and infants and children up to five years of age who have a nutritional risk factor.

Participants receive food "prescriptions" based on their nutritional needs. WIC foods include milk, cheese, eggs, adult and infant cereal and juice, peanut butter, tuna, salmon, whole grains, carrots, beans, and infant formula. Food-specific vouchers are printed on site at WIC clinics statewide. Participants obtain their WIC foods by redeeming the vouchers at program-approved grocery stores throughout the state and at WIC Food Centers in certain areas of Chicago. The Department grants funds to 100 local agencies to provide WIC services, including local health departments, not-for-profit health care agencies and social service agencies.

Family Case Management is a statewide program that provides comprehensive service coordination to pregnant women, infants, and high-risk children. The Department funds 114 agencies, including local health departments, community-based organizations and Federally Qualified Health Centers, to conduct FCM activities. Assessments are conducted and care plans are developed to address a wide range of needs, including health care, mental health, educational, vocational, child care, transportation, psychosocial, nutritional, environmental, developmental, and other services. Contacts with clients include home and office visits at a frequency necessary to meet the client's needs. Most FCM providers are authorized to complete Medicaid Presumptive Eligibility applications for pregnant women and children and function as Application Agents for All Kids, Illinois' health insurance program for children.

The Chicago Healthy Start Initiative provides services through four Chicago Healthy Start Family Centers that serve as "one-stop shopping centers" for intensive case management and linkage to prenatal care, pediatric primary care, family support, early intervention, substance abuse prevention, domestic violence prevention, and mental health counseling. The centers also provide two essential enabling services -- episodic child care and transportation -- to remove common barriers to care. CHSI targets the Hermosa, Near West Side, Near South Side, Douglas, Grand Boulevard, Washington Park and Greater Grand Crossing Community Areas in the city of Chicago. This project is supported by a grant from the federal Maternal and Child Health Bureau.

The Department supplements WIC and FCM with intensive services for high-risk women.

Targeted Intensive Prenatal Case Management (TIPCM). This program's goal is to reduce the rates of premature birth and low birth weight. TIPCM enhances FCM by:

- Adding community-based outreach and retention strategies (including practical incentives for women),
- Lowering caseloads and increasing the frequency of contact between case managers and clients;
- Requiring case managers to be public health nurses or licensed social workers;

- Developing explicit linkages to medical care, substance abuse treatment, mental health care and smoking cessation services; and
- Adding access-related services such as transportation, interpreter services and childcare.

The program serves the following communities in Chicago: Austin, Auburn-Gresham, Avalon Park, Burnside, Calumet City, Chicago Heights, East and West Garfield, Humboldt Park, Morgan Park, North Lawndale, South Chicago, South Shore, Roseland, Woodlawn, and Washington Heights. In west suburban Cook County, the program serves the cities of Bellwood and Maywood. In southern Cook County, the program serves the cities of Calumet City, Chicago Heights, County Club Hills, Harvey, Hazel Crest, Homewood and Riverdale. Downstate the program serves Macon, Peoria, St. Clair, Vermilion, and Winnebago Counties. The Eastside Health District of East St. Louis also is served. In Will County, the project serves the following cities: Bolingbrook, Joliet, Mokena and Romeoville.

Healthy Births for Healthy Communities. The IDHS, IDHFS, and the Steans Family Foundation implemented the Healthy Births for Healthy Communities initiative on July 1, 2006. The initiative is using a performance-based reimbursement strategy to pay for outreach activities in two Chicago Community Areas (Austin and North Lawndale). Two community-based organizations are conducting grassroots outreach efforts to engage multiparous women who are at increased risk of delivering a very low birth weight infant in WIC, FCM, Healthy Start or TIPCM. The IDHFS is matching the funds provided by the foundation and transferring these funds to IDHS. The IDHS, in turn, is managing the grants to the community-based organizations.

FINANCING

Illinois' integrated maternal and child health program for the reduction of infant mortality is supported by a combination of state and federal resources. The SFY'10 and SFY'11 budgets by program component are presented in Table 1.

Table 1
Budget for Integrated Infant Mortality Reduction Strategy
by Program Component and Fiscal Year
($000s)

Program	SFY'07	SFY'08	SFY'09	SFY'10	SFY'11
WIC (all sources)	$264,000.00	$291,600.00	$296,950.00	$304,500.00	$318,091.69
FCM	$43,411.00	$43,584.40	$44,234.22	$42,742.17	$39,572.30
TIPCM	$5,075.00	$4,815.40	$4,958.20	$4,284.75	$3,761.77
CHSI	$1,775.00	$1,775.00	$1,775.00	$1,775.00	$1,443.98
Total	$314,261.00	$341,774.80	$347,917.42	$353,301.92	$362,869.74

The WIC budget includes funds for program operations at the state and local levels (referred to as Nutrition Services and Administration, or NSA) and for the purchase of food. The food funds include an award from the USDA and rebates on the purchase of infant formula from Mead-Johnson. Rebates add an average of $75 million to the program's food budget each year. Grant awards to local agencies are based on estimated caseload.

The FCM program is supported by several funding sources: General Revenue Fund, Title V - Maternal and Child Health Services Block Grant, and Title XX - Social Services Block Grant. Local health departments also add their own funds for the operation of the program. Federal matching funds supplement the state and federal appropriations. The Department has worked closely with the IDHFS since 1990 to obtain federal matching funds through the Medicaid program for FCM expenditures. Further, as units of local government, local health departments may receive federal match for the local funds they expend in support of the FCM program. This has increased the total amount of funds available for the FCM program by about $4 million per year without an increase in the Department's appropriation for the FCM program. Finally, the Department budgets and reconciles FCM expenditures using per-family-per-month "rates" that were set on the basis of program expenditures and caseload in 1990. The rates were increased for the first time in Fiscal Year 2007, and are now $27.04 per month (or $324.48 per year) for a family with a pregnant woman or an infant and $12.88 (or $154.56 per year) for a family with a child over one year of age. (In Cook and St. Clair counties, the rate for families with an older child is $17.24 per month, or $207 per year.)

Targeted Intensive Prenatal Case Management began in Fiscal Year 2001 with an appropriation of $2.5 million. The Department also claims federal matching funds through the Medicaid program for these expenditures. The CHSI is supported by federal discretionary grants. HBHC is funded in part by IDHS and private foundations.

SERVICE DELIVERY SYSTEM

These services are delivered at the community level by grantees of the IDHS. Most often, these are local health departments. Community Health Centers and social service agencies also play an integral role in the delivery of primary and preventive care to pregnant women, mothers, infants, children and adolescents.

Local health departments. Local health departments have a unique responsibility to assess needs, develop policy to address community problems and assure that services are delivered to address those problems. Local health departments also are accountable to the public for the health of the *entire* community. Consequently, local health departments are well positioned to provide maternal and child health services in their jurisdictions.

Community Health Centers. There are 275 community health centers and federally qualified health centers in Illinois. Community health centers provide a complete array of primary health care services in medically under-served communities. Several are IDHS grantees for these and other programs. Erie Family Health Center, Near North Health Services Corporation and Mile Square Health Center have been partners in the CHSI for many years.

Community-Based Organizations. Several prominent community-based organizations in Chicago and suburban Cook County have participated in the FCM program and its predecessors, as well as the WIC program, since the mid-1980s. These organizations bring an extensive

knowledge of the communities they serve, are familiar with the cultural diversity of their communities and employ staff who remain sensitive to community needs, beliefs and cultures.

CASELOAD

The number of persons served by the WIC and FCM programs during SFY 2010 is presented in Table 2. FCM does not keep a separate count of the number of participating postpartum or breastfeeding women. However, under USDA guidelines, these women comprise a separate category of eligibility for the WIC program.

Table 2
Number of Persons Served in WIC and FCM Programs
by Type of Client and Program – SFY 2010

Type of Client	Program	
	WIC	FCM
Pregnant Women	114,301	107,432
Post Partum Breastfeeding Women	50,466	NA
Infants	183,581	156,016
Children	204,994	48,941
Total	553,342	312,389

Source: Caseload Composition Report

The caseload of FCM dropped for FY2010. The principle reason for the decreased caseload is that the Cook County Health Department (CCHD) declined to be a provider of FCM. Early in the fiscal year the CCHD caseload was reassigned. However, the disruption of service delivery is evident in the caseload figures presented in Table 3. WIC, on the other hand, continues to expand.

Table 3
Total Number of Persons Served in WIC and FCM Programs
by Program and State Fiscal Year

	Fiscal Year							
Program	2003	2004	2005	2006	2007	2008	2009	2010
FCM	366,675	370,286	371,487	371,676	345,769	342,428	329,658	312,389
WIC	503,425	508,250	516,568	514,350	519,250	532,753	549,086	553,342

The WIC and FCM programs together reach approximately 48 percent of all infants and nearly 92 percent of Medicaid-eligible infants born in Illinois each year. Women who are at greatest risk for giving birth prematurely or having a baby with other health problems are over-represented in the caseload of the WIC and FCM programs. Approximately, three-fourths of African American, Hispanic, single and teen-aged women who give birth in Illinois each year participate in the WIC or FCM programs; the programs are reaching their intended target population. Refer to Table 4.

WIC and FCM serve more than 44 percent of all infants born in Illinois and over 80 percent of all Medicaid eligible

Table 4
Number and Percent of All Live Births
and Live Births to WIC or FCM Participants,
by Demographic Group*
Illinois, 2008

Group	Live Births				
	All		WIC or FCM Participants		
	Number	Percent	Number	Percent	Percent of Group
White	131,106	76.3%	52,958	68.8%	40.4%
Black	30,541	17.8%	21,787	28.3%	71.3%
Asian and Native American**	10,282	6.0%	2,198	2.9%	21.4%
All	171,929	100.0%	76,943	100.0%	44.8%
Hispanic	42,560	24.8%	26,679	34.7%	62.7%
Single	70,381	40.9%	52,952	68.8%	75.2%
Teen	17,266	10.0%	14,417	18.7%	83.5%

** Resident live births occurring in Illinois. From birth file released to IDHS from IDPH.*
***Includes all other races.*

PERFORMANCE

Program performance is measured against several short-term health status indicators among the women, infants and children enrolled in WIC, FCM or both programs. Measures include:

1. Enrollment in both WIC and FCM
2. First trimester enrollment in WIC and FCM
3. Initiation of breastfeeding in WIC
4. Three or more well-child visits to FCM infants before age 1
5. Fully immunized infants and two-year-olds in WIC
6. Health insurance coverage of infants and children in WIC
7. Developmental screening of infants and children in WIC and FCM
8. Face-to-face contacts and home visits for pregnant women and infants in FCM

The Department uses its maternal and child health management information system, Cornerstone, to generate quarterly reports on these performance measures. Agency performance provides the basis for ongoing technical assistance. These reports can be found at http://www.dhs.state.il.us/page.aspx?item=31152 for provider and public access.

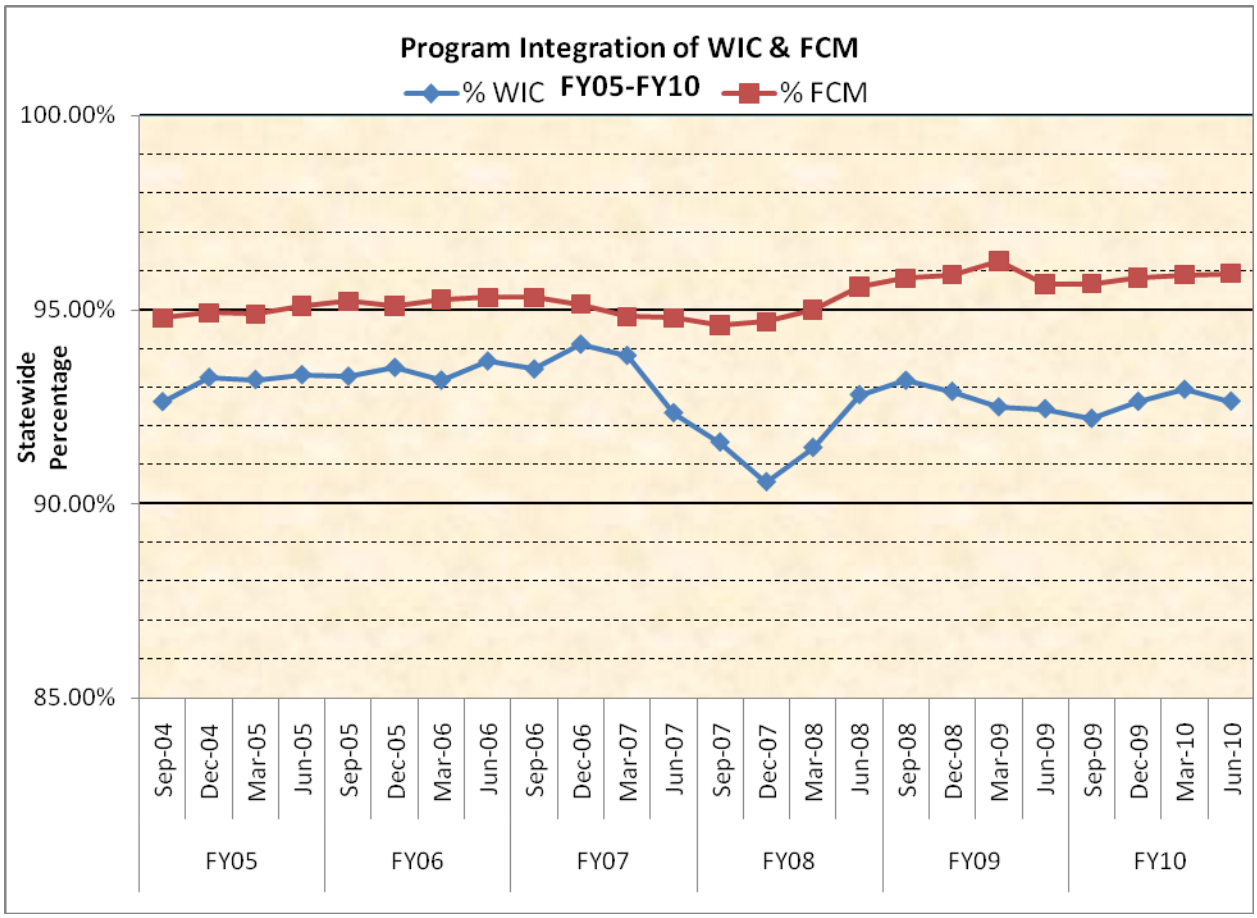
The Department also provides administrative and financial rewards to high performing agencies. The top two-thirds of agencies on the ranking report receive a WIC/FCM certification visit every two years and an annual review of their high-risk infant follow-up procedures. The lower third receives an annual evaluation of the entire MCH programming protocol in addition to the certification visit. Regional staff focus technical assistance activities on the agencies in the bottom third. In the spring of each year, the Department uses performance data from the first

three-quarters of the fiscal year to determine which agencies will require more frequent visits.

Trend data, supplemented with a discussion of the significance of each indicator for improving the health of women and children, are presented below.

Integrated Service Delivery

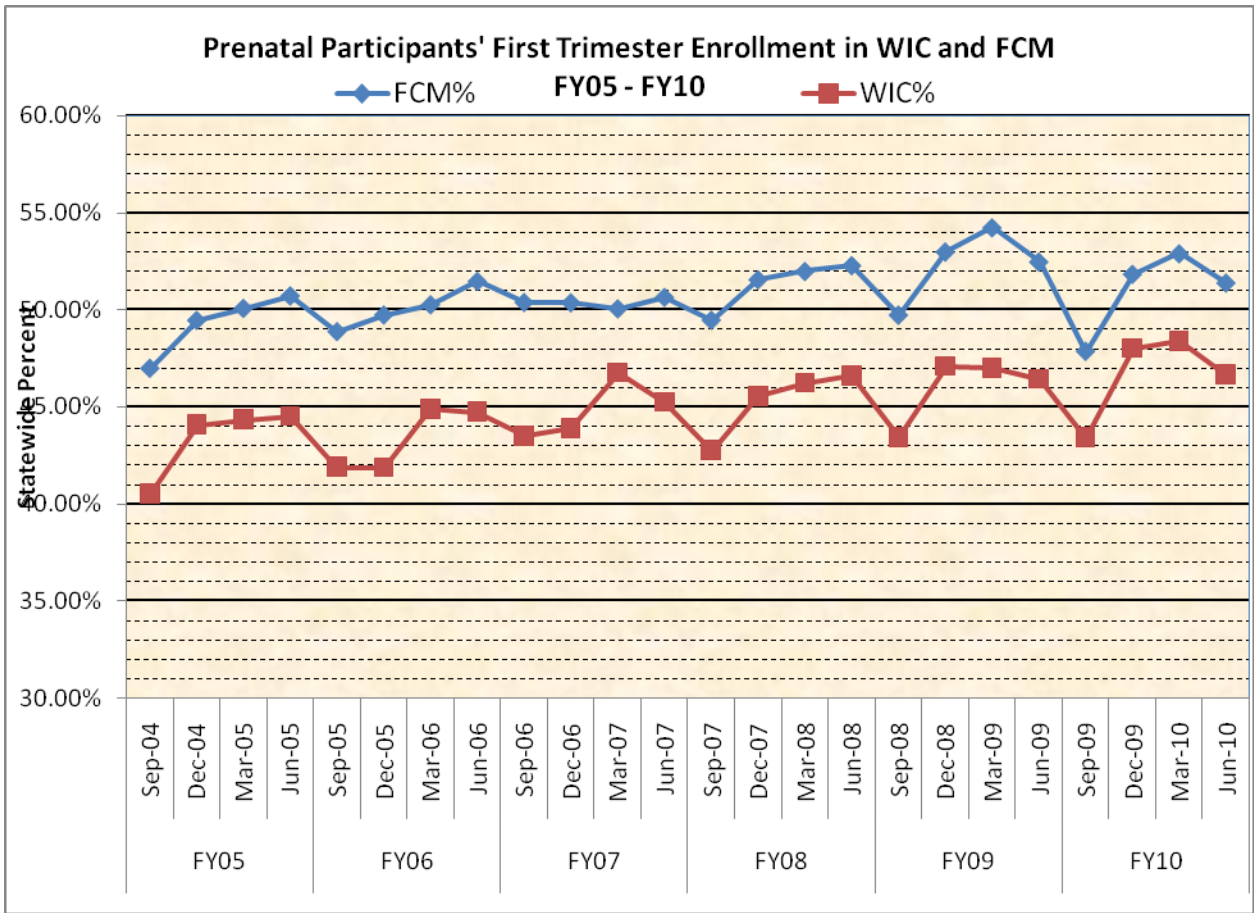
The graph below displays the proportion of clients in one program who are also enrolled in the other program. For example, the line labeled 'WIC' shows the proportion of WIC clients who were also enrolled in FCM. At the end of Fiscal Year 2010, 92.6 percent of WIC participants were participating in FCM and 95.9 percent of FCM participants were receiving WIC services.



An evaluation of the WIC and FCM programs in 1998 found that Medicaid-eligible women who participated in WIC and FCM during pregnancy in 1996 had substantially lower rates of premature birth and infant mortality. Armed with this knowledge, the Department launched a concerted effort to integrate the delivery of these two programs across the state. Department staff helped local grantees to redesign the flow of patients through clinics, cross-trained staff and took other steps to ensure that patients were enrolled in both programs.

First Trimester Enrollment

Enrollment in FCM/WIC services during the first trimester of pregnancy is essential to ensure maximum impact on the health of the mother and the newborn infant. The graph below shows that there has been a gradual upward trend over several years in the proportion of program participants who enrolled in the programs during the first trimester of pregnancy.



Local WIC and FCM agencies use a variety of strategies to reach low-income families in the communities they serve. These may include door-to-door canvassing, distribution of printed materials and use of mass media, as well as nontraditional methods that may be necessary to identify potential participants in hard-to-reach populations, such as persons who abuse drugs or engage in prostitution.

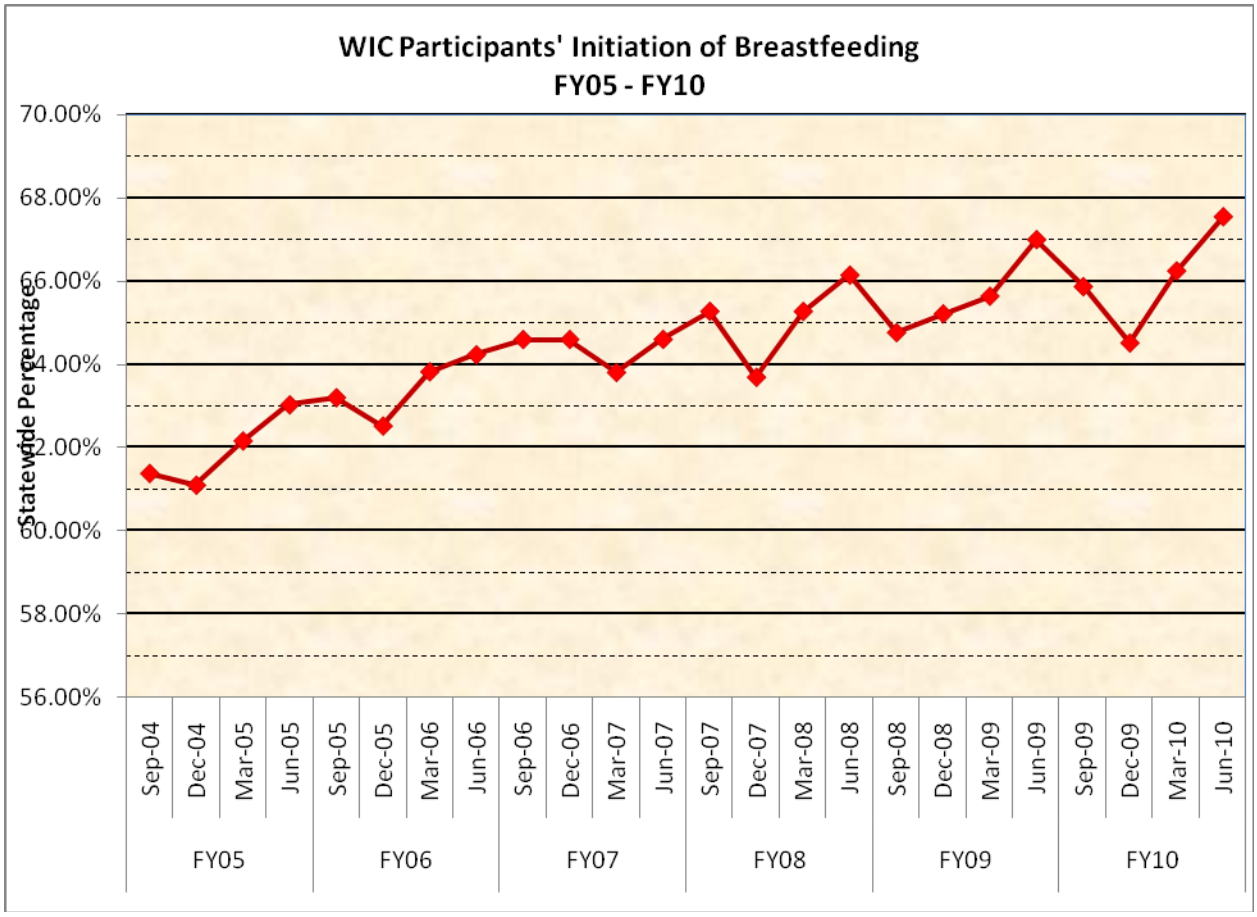
The Department also takes advantage of its computer technology to increase the proportion of Medicaid-eligible pregnant women who enroll in WIC and FCM and to improve the proportion of women who enroll in the first trimester of pregnancy. Local WIC and FCM service providers

are indirectly linked to the Department's Family Community Resource Centers through an electronic data exchange. Each month, information about pregnant women who have enrolled in the Medicaid program is transferred from the Client Information System used by the Family Community Resource Centers to the Cornerstone system. The information is then distributed to local service providers and is ultimately used to conduct targeted outreach efforts.

Initiation and Duration of Breastfeeding

The graph displays the proportion of women who participated in the WIC program during pregnancy and began to breastfeed their infants right after giving birth.

The rate of breastfeeding at hospital discharge has increased among WIC participants from 53 percent in 2002 to 67.5 percent for SFY 2010. Since the early 1990s, the rate of breastfeeding among WIC-eligible women has more than doubled from 26 percent in 1992 to 67.5 percent.



The American Academy of Pediatrics (AAP) states that infants should be breastfed for at least the first year of life and adds no limit for duration. In 40 local agencies, breastfeeding peer counselors are part of the WIC team, promoting breastfeeding, educating women on the "how-

to's" of breastfeeding and supporting breastfeeding mothers when they deliver and begin breastfeeding. WIC participants' peer counselors are women from the community who have successfully breastfed their own infants. They receive specialized training to serve as peer counselors. Representing diverse cultural backgrounds, they offer encouragement, information, and support to other WIC mothers.

Additional activities of the WIC breastfeeding program include providing breastfeeding education and training for WIC, FCM and other MCH providers. In the past five years, over 1,300 staff have received specialized breastfeeding training through workshops, conferences and seminars. Additional training is provided at biennial statewide conferences which bring together community partners and other breastfeeding advocates.

Each year WIC programs develop special breastfeeding promotions to coincide with World Breastfeeding Week and Illinois Breastfeeding Promotion Month. Activities are designed to meet the AAP recommendations to "promote breastfeeding as a cultural norm and encourage family and societal support for breastfeeding." Activities such as Breastfeeding Walks and Fairs, breastfeeding displays in local libraries and the "Mobile Nursery" at local and state fairs help the public to perceive breastfeeding as the norm and promote better understanding of the role breastfeeding plays in the health of our citizens.

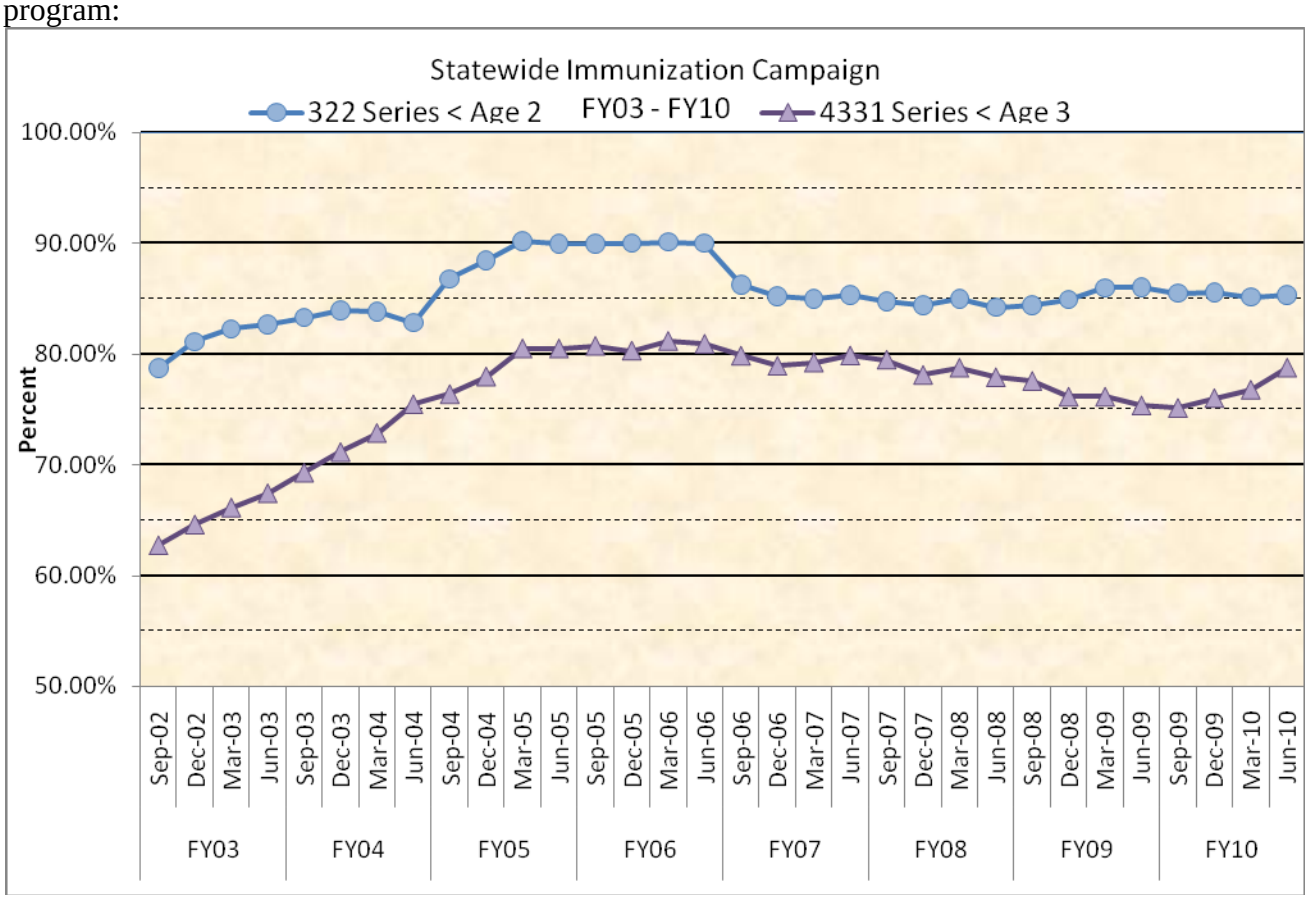
WIC administers a state breast pump distribution program through their local agencies. As active community partners and collaborators, WIC promotes breastfeeding and advocates for participants with local hospitals, schools and employers.

Through the Physicians' Breastfeeding Network of Illinois (PBNI) WIC maintains a collaboration with medical groups to promote continuing breastfeeding education for physicians and the need for increased breastfeeding education and training in medical schools.

The Cornerstone system collects data on breastfeeding practices for the U.S. Centers for Disease Control and Prevention's Nutrition Surveillance Systems.

Immunizations

The graph below displays two performance measures and groups of children in the WIC program:



(Effective in the first quarter of 2007, the 3:2:2 report was modified to allow the WIC and FCM programs to use the same age range criteria of 12 to 18 months.)

- The line labeled "3:2:2" shows the proportion of children between 12 and 18 months of age who were active in the WIC program and had received:
  - 3 doses of diphtheria, pertussis and tetanus vaccine;
  - 2 doses of oral polio vaccine; and
  - 2 doses of *Haemophilus influenzae* type B vaccine.

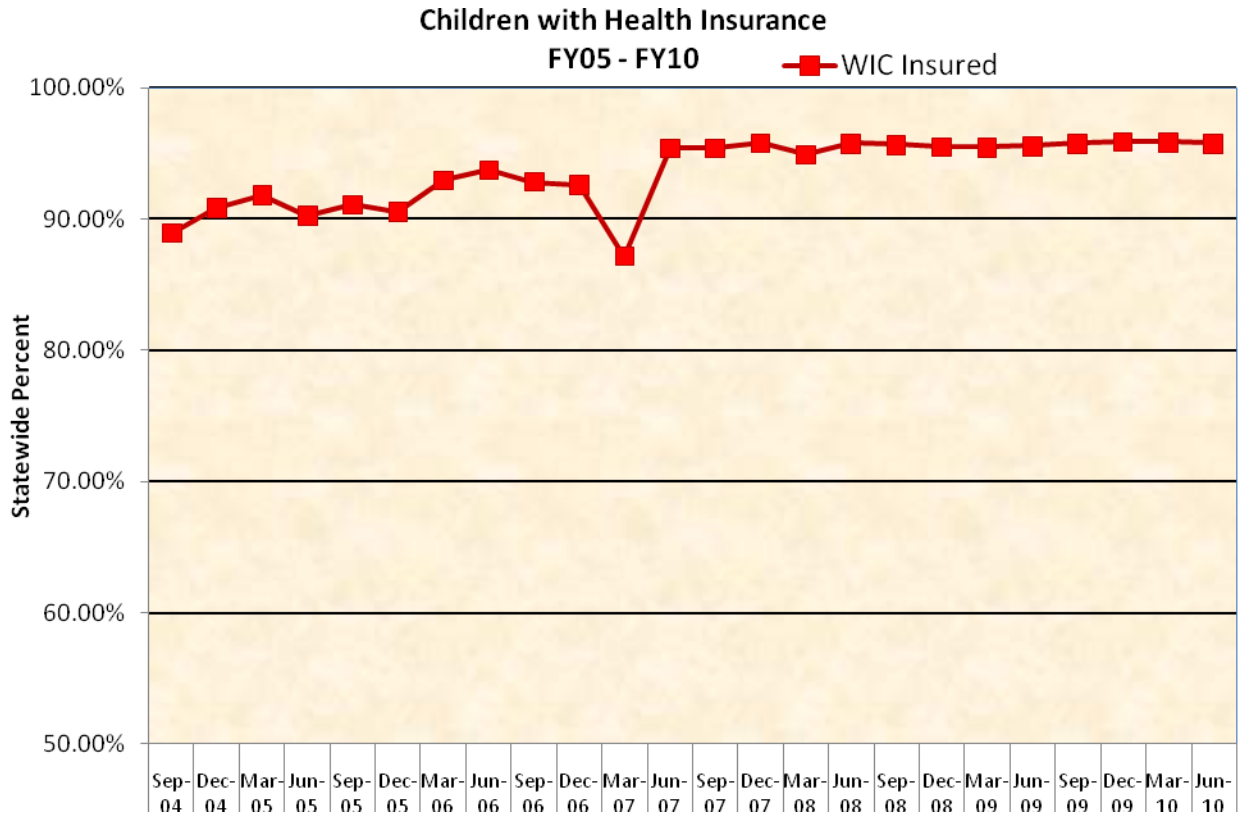
- The line labeled "4:3:3:1" shows the proportion of children between 24 and 36 months of age who had received:
  - 4 doses of diphtheria, pertussis and tetanus vaccine;
  - 3 doses of oral polio vaccine;
  - 3 doses of *Haemophilus influenzae* type B vaccine; and

- 1 dose of measles, mumps and rubella vaccine.

Since 2000, the proportion of fully-immunized one-year-olds (3:2:2) increased from 70 percent to over 85 percent and the proportion of fully immunized two-year-olds (4:3:3:1) increased from 56 percent to almost 79 percent.

Insured Children

The graph displays the proportion of children in the WIC program who were covered by public or private health insurance.



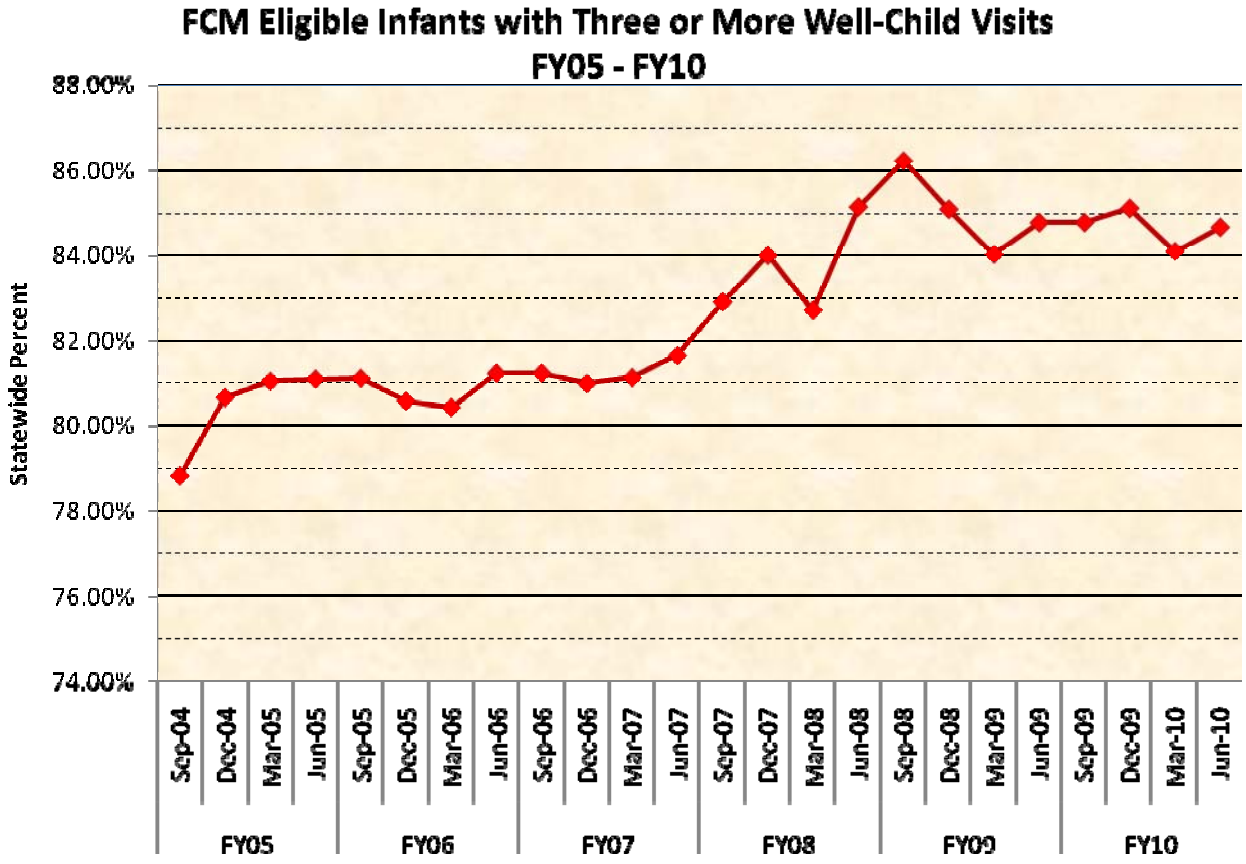
Health insurance is essential for access to health care services. Virtually every child on WIC is, by definition, eligible for the State of Illinois' All Kids program. The Department has been working with the IDHFS to increase the proportion of WIC-eligible children who also are enrolled in All Kids if they are not covered by their parents' health insurance. Local WIC/FCM agencies have been trained and certified by the IDHFS as "All Kids Application Agents." Local WIC program staff assist eligible families in applying for coverage through All Kids.

When this project began in September 2000, a total of 86 percent of WIC-enrolled infants and children were documented in the Cornerstone system as having All Kids or private insurance

coverage. Due to the continued efforts of local WIC agency staff, this proportion has steadily increased; by June 2010, almost 96 percent were documented as having health insurance.

Well Child Visits

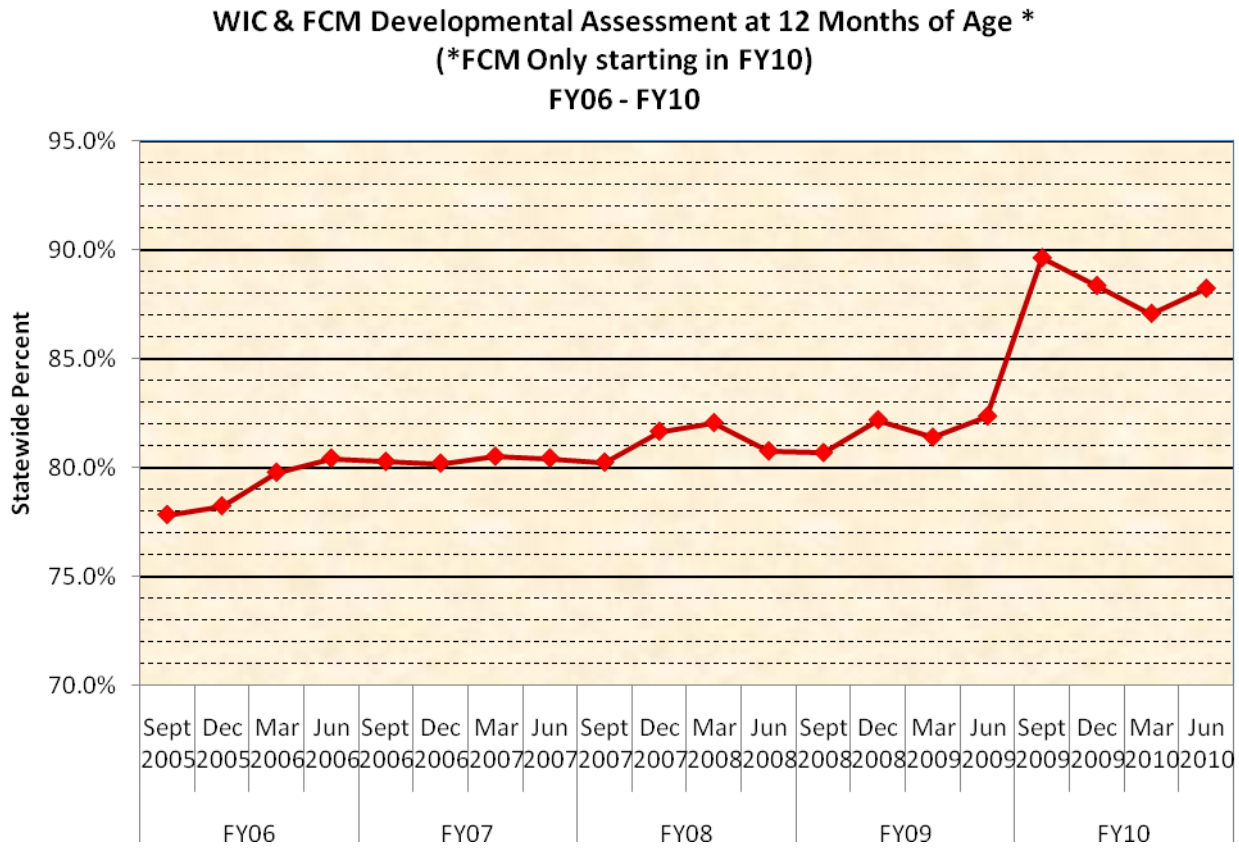
The Department monitors FCM agencies to ensure that participating infants receive at least three well child visits during the first year of life. The graph displays the proportion of infants who met this standard.



The American Academy of Pediatrics recommends routine well child visits. Providers monitor a child's growth and development, provide preventive health care services (i.e., immunizations), screen for potentially serious health problems (i.e., lead poisoning or problems with vision or hearing) and inform parents through anticipatory guidance. The Academy recommends six such visits during the first year of life, to occur at one month, two months, four months, six months, nine months and twelve months of age.

Developmental Screening

The graph displays the proportion of 12-month-old children in WIC or FCM who had been screened for developmental delay at least once in the prior 12 months. Beginning in FY10, the data for 12-month-old children in WIC was eliminated and only the data for 12-month-old children in FCM was used to measure this particular performance indicator.



Infants and young children should be screened routinely for evidence of delays in cognitive, linguistic, motor, social and emotional development. Through routine screening, developmental delays can be promptly identified and therapy initiated.

The Department monitors the proportion of infants in the FCM program who have been screened for problems with physical or cognitive development at least once a year.

OUTCOMES

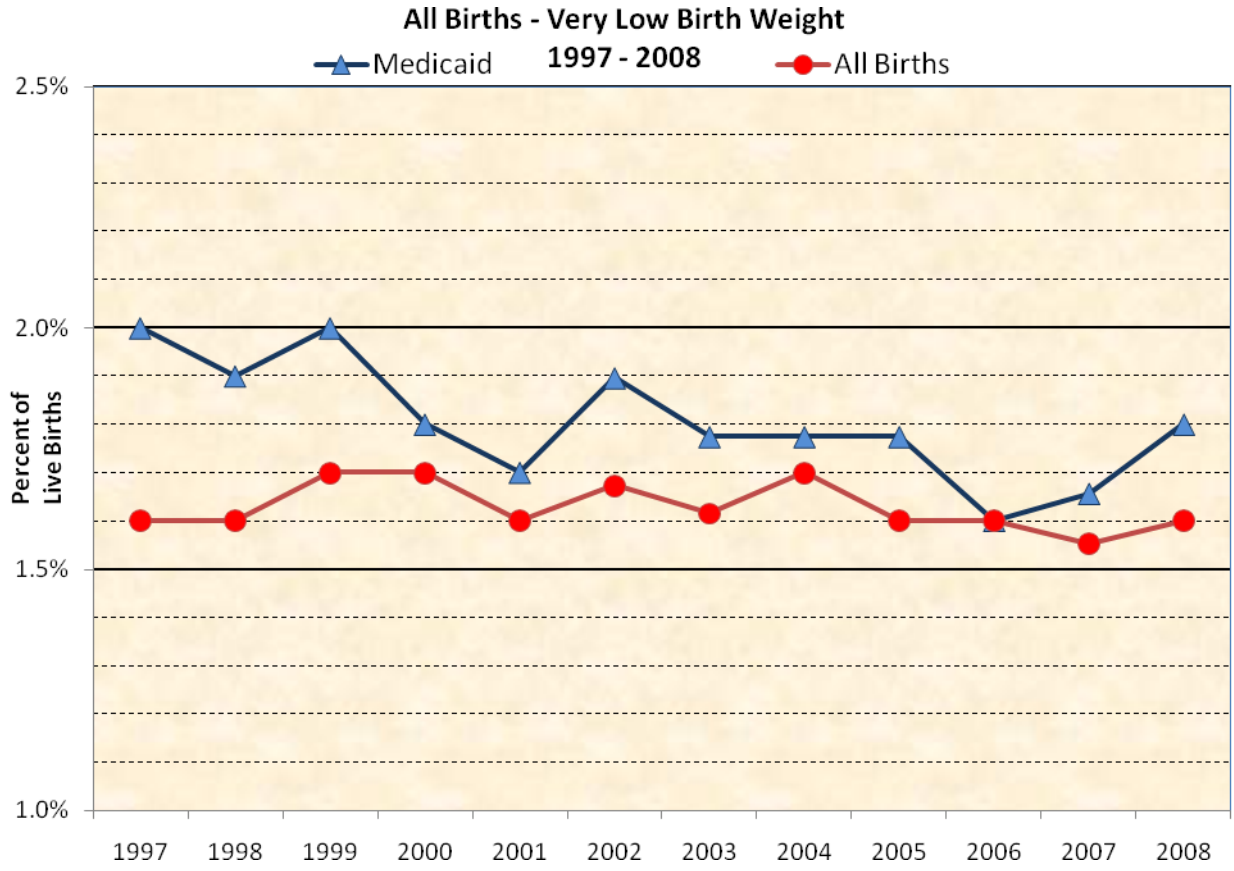
Illinois' integrated strategy for improving maternal and child health focuses on four outcomes:

- Reducing the very low birth weight rate
- Reducing the low birth weight rate
- Reducing Medicaid expenditures during the first year of life
- Reducing the infant mortality rate

Very low birth weight infants (newborns who weigh less than 3 pounds 2 ounces) require intensive medical care. While these infants represent less than two percent of all live births, they also account for two-thirds of the infants who die in the first year of life. Interventions that reduce the very low birth weight rate will also reduce Medicaid expenditures during the first year of life and reduce the infant mortality rate.

The integrated delivery of the WIC and FCM programs is having a significant impact on the state's infant mortality rate and health care expenditures. Ten consecutive annual program evaluations have shown that the health status of infants born to Medicaid-eligible women who participated in both WIC and FCM has been substantially better than that of infants born to Medicaid-eligible women who did not participate in either program. In particular, the rate of premature birth is more than 25 percent lower among participants in both programs. The rate of low birth weight is more than 50 percent lower; the rate of infant mortality is more than 55 percent lower; and on average health care expenditures during the first year of life are more than 30 percent lower.

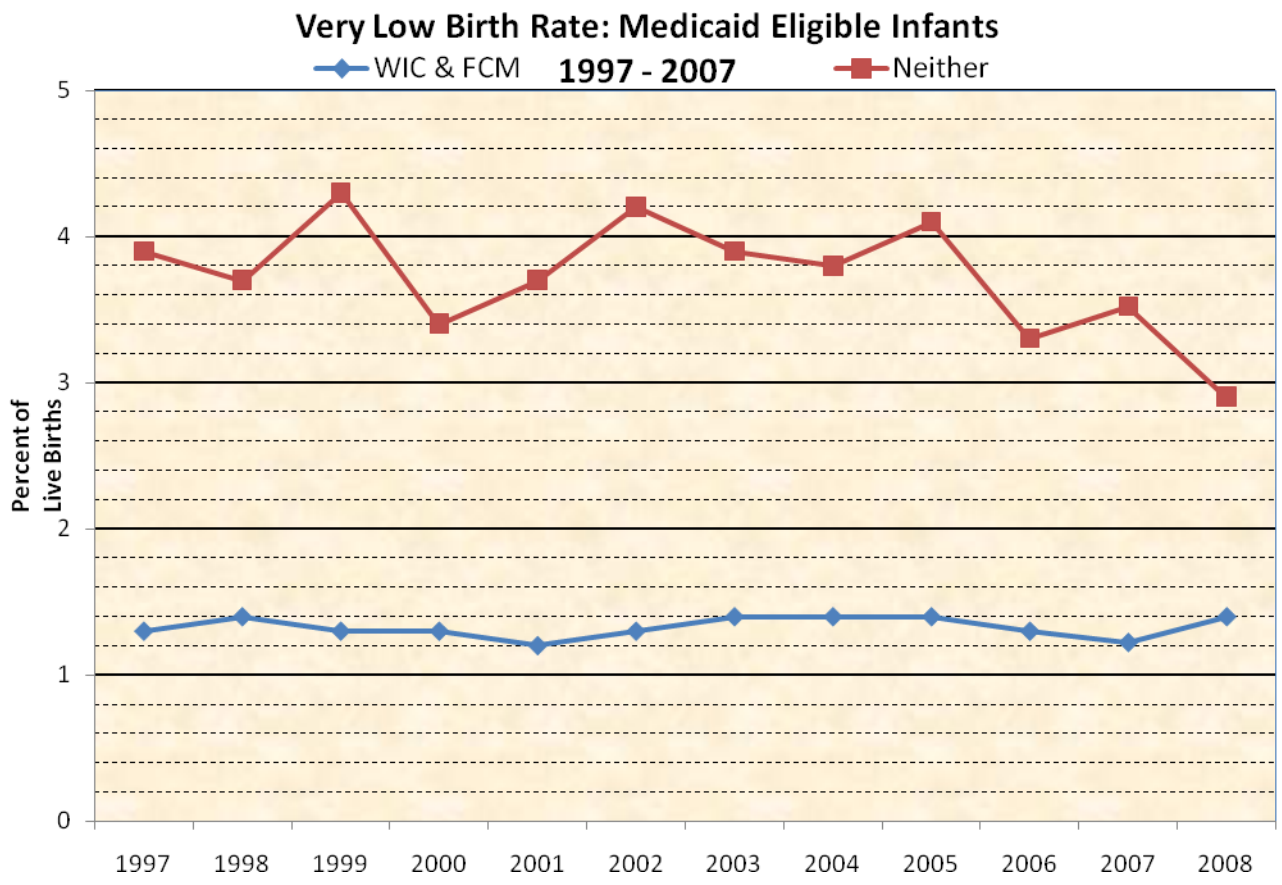
Very Low Birth Weight



The very low birth weight rate among women who participated in both WIC and FCM was 1.4 percent in 2008, almost one-half of the rate (2.9 %) observed among Medicaid-eligible women who did not participate in either program during pregnancy.

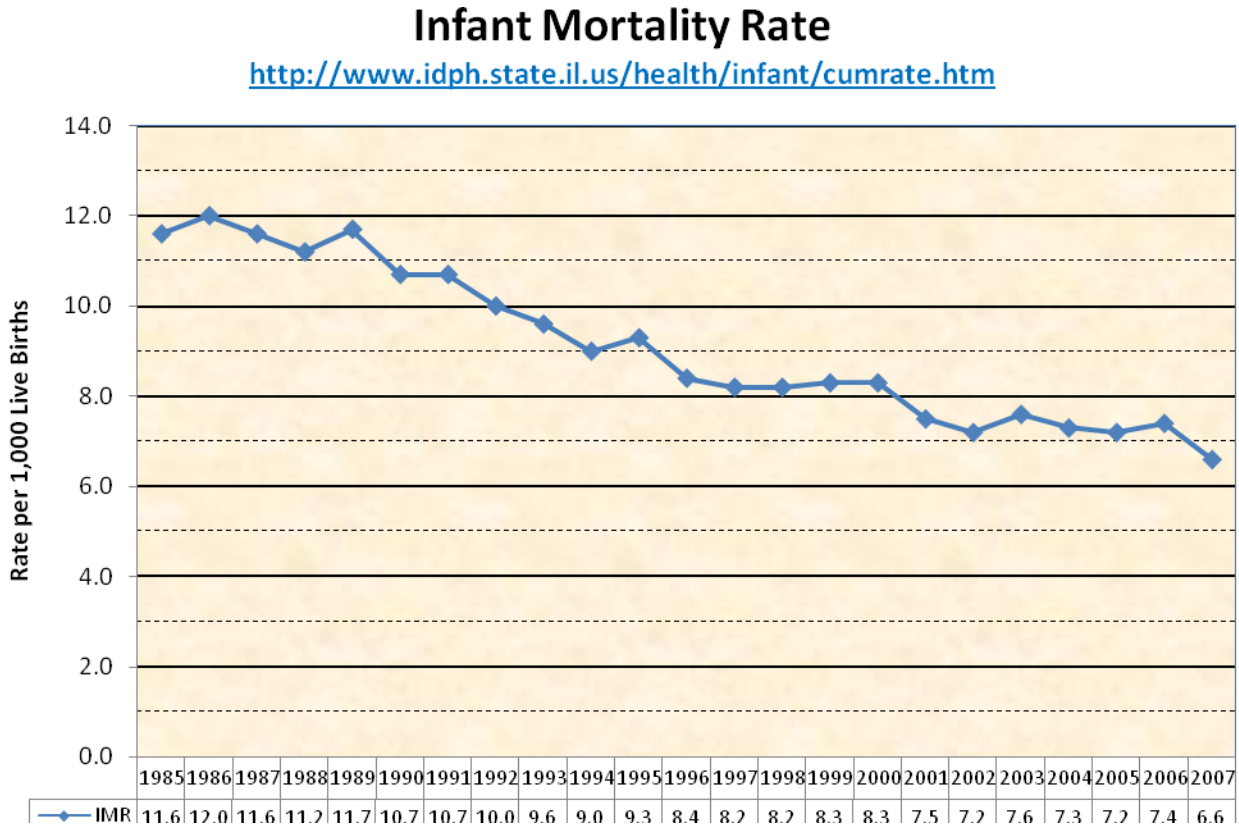
Medicaid Expenditures in the First Year of Life

The Department is able to match information from its maternal and child health management information system, Cornerstone, with vital records maintained by the IDPH and the Medicaid Management Information System maintained by the IDHFS. This allows the Department to compare the perinatal health status of women and children who participate in several of its programs to Medicaid-eligible non-participants and the general population of pregnant women and newborns.

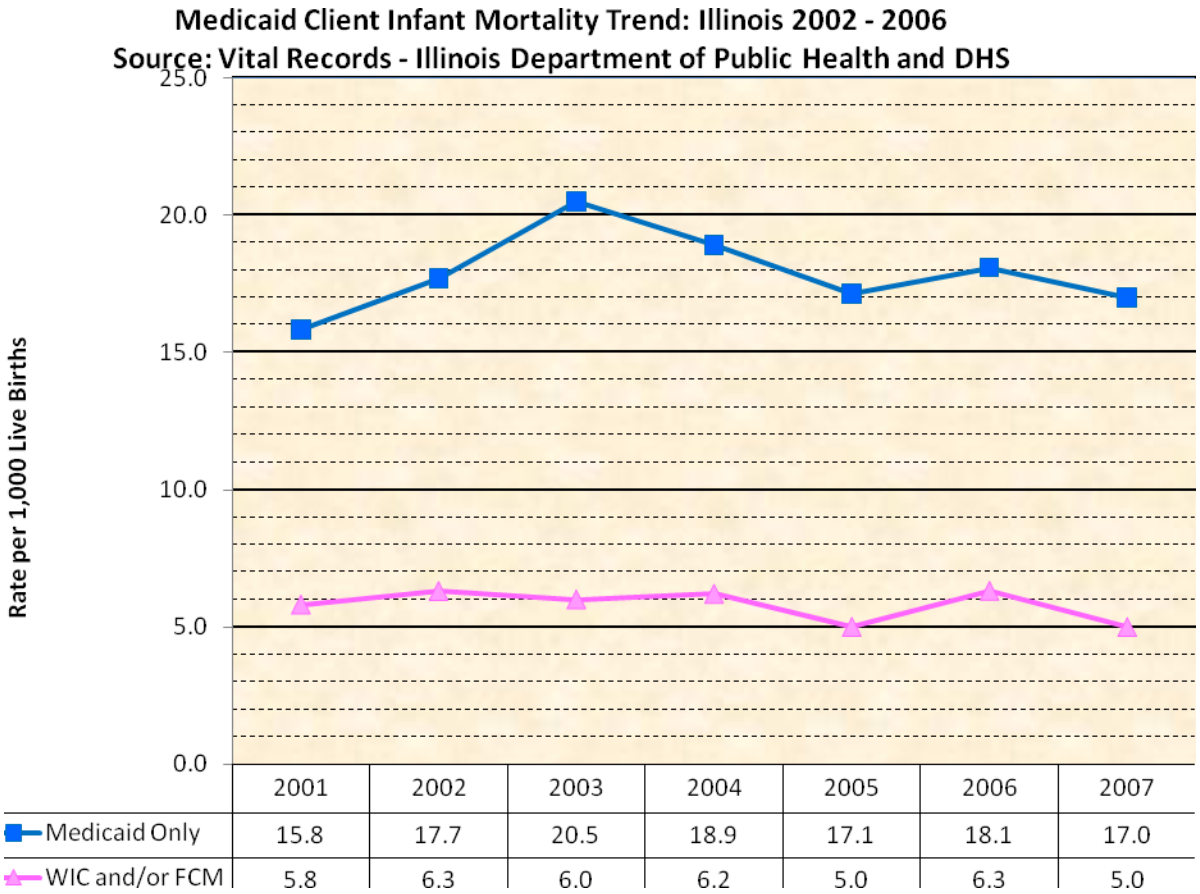


WIC and FCM, through the reduction in very low birth weight, contribute to a significant reduction in Medicaid expenditures during the first year of life.

Infant Mortality

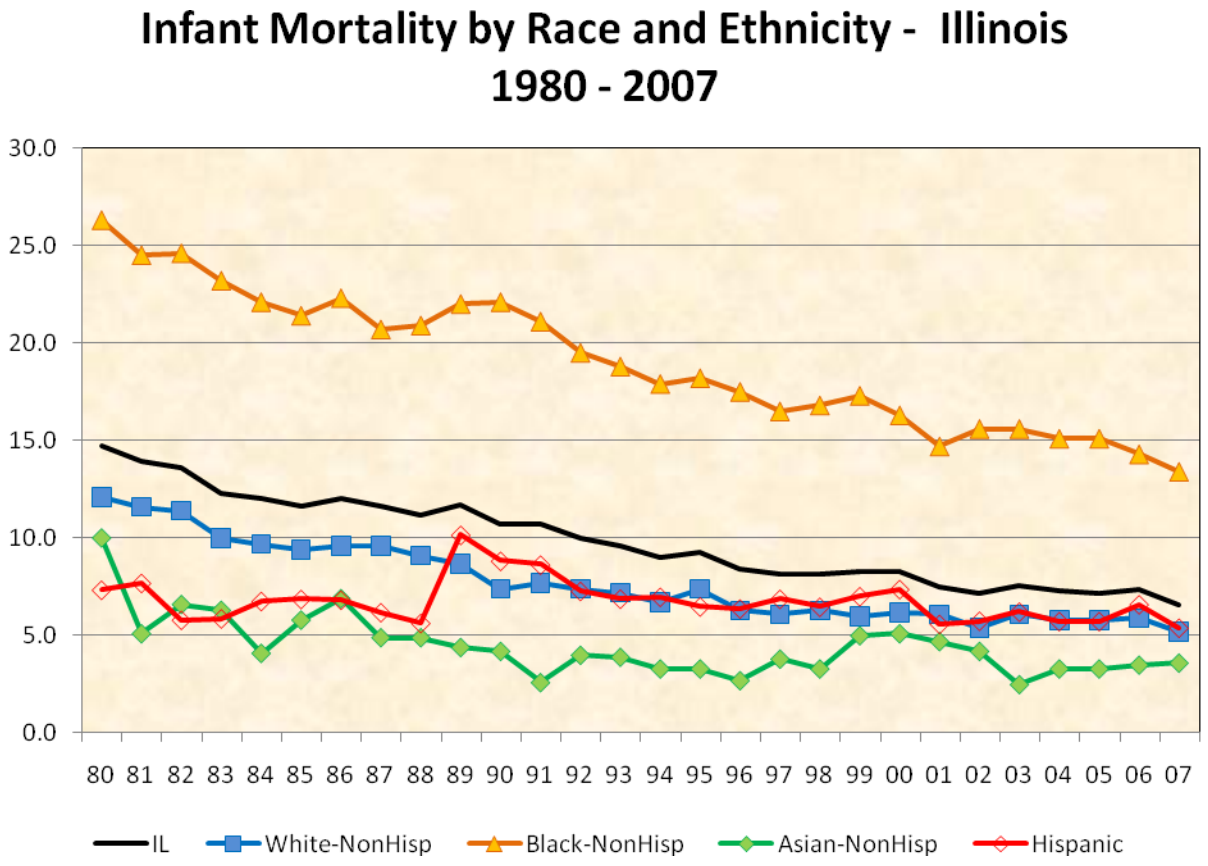


This report began with Dr. Helen Wallace's observation that *the infant mortality rate is the most sensitive index of the status of economic and social development of any country.* The state has made steady progress in reducing its infant mortality rate, in part, due to the improvement of birth outcomes as a result of at-risk women participating in the WIC and FCM programs. As noted earlier, and as evidenced in the next chart, the infant mortality rate is more than 55 percent lower when infants born to Medicaid-eligible women participated in WIC and FCM during pregnancy when compared to infants whose mothers did not participate in this integrated MCH program.



	2001	2002	2003	2004	2005	2006	2007
Medicaid Only	15.8	17.7	20.5	18.9	17.1	18.1	17.0
WIC and/or FCM	5.8	6.3	6.0	6.2	5.0	6.3	5.0

RACIAL AND ETHNIC DISPARITIES IN INFANT MORTALITY: THE PERSISTENT CHALLENGE



The graph presents the infant mortality rates of African American, Asian, Caucasian and Hispanic infants from 1980 to 2007. It is clear from this illustration that there are significant and persistent disparities among these groups. The rate among Asians, for example, is better than the national *Healthy People 2010*[1] objective; the rates among Whites and Hispanics are close to the national goal, but the rate among African Americans, while the lowest on record, is at an unacceptably high level of 13.4 per 1,000 live births.

As can be seen in Table 5, below, although the infant mortality rate among Puerto Ricans has remained relatively stable since 1990, the decreasing rate among non-Hispanic Whites has lead to an increasing disparity between Whites and Puerto Ricans that began in 1996 and continues to worsen. It should be noted that the Puerto Rican infant mortality rate is based on a relatively small number of events, and that the rate, therefore, varies widely from year to year. However,

[1] ***Healthy People 2010***, published in January 2000 by the U.S. Department of Health and Human Services, is a nationwide health promotion and disease prevention plan that establishes objectives on numerous indicators, to be achieved by the year 2010.

an examination of these data aggregated over the past decade shows a clear indication of significant and unacceptable disparity when compared with non-Hispanic Whites.

Table 6 presents the ratio of African American to Caucasian infant mortality rates, regardless of Hispanic descent, over the same period. While the state has made steady progress in the reduction of infant mortality, the racial disparity between African American and Caucasian infants has not appreciably improved. The benefits of technological advances and perinatal care for mothers and infants continue to be realized as seen by reductions in mortality for both white and black infants, especially among the smallest and most vulnerable i.e. 500 – 999gm. However, the gains in survivability of very low birth weight black infants is offset by the higher frequency of VLBW births among blacks as compared to whites (3:1).

The Department has set the reduction of this racial disparity in health status as one of the top priorities of its Division of Community Health and Prevention. The Department's targeted infant mortality reduction initiatives -- CHSI, TIPCM and HBHC -- are promising steps toward addressing factors associated with VLBW and reducing loss of life. The Department will continue to work with partners at the federal, state and community level to identify, develop and implement new strategies to address this pressing health problem.

Table 5
Infant Mortality Rate Ratios
For Select Racial and Ethnic Groups
1980 - 2005

	Non-Hispanic Black to Non-Hispanic White	Mexican to Non-Hispanic White	Puerto Rican to Non-Hispanic White
1980	2.2	0.6	0.6
1985	2.3	0.8	0.6
1990	3.0	1.1	1.0
1995	2.5	0.9	1.0
2000	2.6	1.2	1.7
2005	2.6	0.9	1.6

Table 6
Ratio of African American and Caucasian Infant Mortality
Illinois: 1980 - 2007

Year	Ratio	Year	Ratio	Year	Ratio	Year	Ratio
1980	2.1 : 1	1987	2.2 : 1	1994	2.7 : 1	2001	2.5 : 1
1981	2.1 : 1	1988	2.3 : 1	1995	2.5 : 1	2002	2.8 : 1
1982	2.2 : 1	1989	2.5 : 1	1996	2.8 : 1	2003	2.6 : 1
1983	2.3 : 1	1990	2.9 : 1	1997	2.7 : 1	2004	2.5 : 1
1984	2.3 : 1	1991	2.7 : 1	1998	2.7 : 1	2005	2.7 : 1
1985	2.3 : 1	1992	2.6 : 1	1999	2.8 : 1	2006	2.4 : 1
1986	2.3 : 1	1993	2.7 : 1	2000	2.5 : 1	2007	2.6 : 1

CONCLUSION

As reflected in this report, there is a wealth of data to indicate that Illinois' infant mortality reduction programming is working to improve outcomes. Mothers, infants and children on Medicaid who participate in WIC and Family Case Management show better birth outcomes than those receiving Medicaid only. Prevention programming aimed at both individuals and communities is not only saving lives but also conserving limited resources. Health service indicators such as immunization rates, well child visits and insurance coverage are much higher now than in the recent past, due to the concerted efforts of WIC and FCM service participants, providers and administrators. Despite these improvements, however, Illinois will realize minimal gains in its infant mortality ranking until the ratio of black to white infant deaths is improved. Further enhancement of services directed to preventing very low birth-weight such as Targeted and Intensive Prenatal Case Management, Healthy Start and Healthy Births for Healthy Communities hold significant potential for lowering the disparity between black and white infant mortality rates and Illinois' overall infant mortality rate.