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PROGRAM UPDATE

Giving Healthy Start a Life of Its Own

The Healthy Start key word for 1994 is "sustainability." Local projects across the country and staff in Washington, DC and the regional offices are brainstorming and developing ways to help the Healthy Start Initiative live on in its communities after federal funding ends.

Healthy Start will soon host a three-day conference full of workshops that address the challenge of sustainability. Representatives from all 22 Healthy Start projects, the Division of Healthy Start, its contractors and other federal, public and private organizations will gather at the Hotel Washington on November 17-19, 1994 for in-depth discussions on sustainability. Pre-conference sessions addressing the how-tos of corporate collaboration, local evaluation and an infant mortality review are scheduled for November 16.

Healthy Start Expands

In March, 1994, the Division of Healthy Start announced an expansion of the federal demonstration program. In late September, seven new communities in seven new states were competitively selected from among 16 eligible applicants as Healthy Start Initiative - Special Projects. Each Healthy Start - Special Project was awarded approximately one million dollars to implement community-driven infant mortality reduction strategies for the first of two years.

What makes these new sites "special" is that they have had a framework of community-based maternal and child health services already in place for at least two years. Healthy Start grant funds will help these seven projects enhance and accelerate the implementation of services within their communities. Similar to the 15 original Healthy Start sites, the seven projects face local infant mortality rates that exceed one and one-half times the national average, or 14.5 deaths per 1000 live births, for the period from 1988 to 1990.

Harvey Finkle & Philadelphia Department of Public Health

The Director's Corner

As autumn progresses and leaves change hue, Healthy Start brings a new look to the annual Grantee Meeting in November. The addition of the Healthy Start Initiative - Special Projects expands the program to seven new geographic areas, promoting a comprehensive effort to lower the infant mortality rate to a level that is more compatible with other developed countries. This issue of *Program Update* is designed to introduce these seven new members of the Healthy Start family and to spark creative thinking about how we can carry Healthy Start's work into the next century.

While Healthy Start projects stay busy in their communities, of course, members of Congress continue their legislative efforts to improve health care. Congressional and corporate leaders had a chance in September to be introduced to Healthy Start as it was mentioned in the infant mortality presentation to the Congressional Black Caucus's Health Braintrust. Lawmakers and other leaders saw first-hand the innovative community solutions being employed to reduce infant deaths.

We look forward to sharing these solutions — and discussing sustainability — at the Grantee Meeting. Planning the meeting left insufficient time to produce a full-length issue of *Program Update*, so we created this shortened edition. **If you have comments or suggestions on *Program Update*, we encourage you to contact Donna Hutten at the Division of Healthy Start, (301) 443-8427.**

Thurma McCann, M.D., M.P.H.
Director, Division of Healthy Start

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PROGRAM UPDATE

Spring & Summer 1994

Healthy Start Makes Prenatal Systems of Care More Effective Through Federal Linkages

In March of 1993, the federal government launched its "National Performance Review" with a resolve to work more efficiently and proactively. The Healthy Start program mirrors that commitment through its collaboration with public-sector services and agencies: around the country, projects are making the most of government programs already in place.

As President Clinton summarized when introducing the government's six-month performance appraisal, the administration's goal is "to make the entire federal government both less expensive and more efficient and to change the culture of our national bureaucracy away from complacency and entitlement toward initiative and empowerment." The accompanying report laid out four key principles: cutting red tape, putting the customer first, empowering employees to get results, and cutting back to the basics. Healthy Start projects already cut red tape by collaborating with existing community clinics to make health care accessible for all project area families. One Healthy Start site has put the customer first by merging with a county health department hotline to refer callers more efficiently to information and care. Other sites empower employees by training and employing community outreach workers while allowing them to retain eligibility for food stamps and Medicaid. Cutting back to the basics at a Healthy Start site can mean designing a program to teach maternal and child health fundamentals to workers at local organizations.

Dr. Jo Ivey Boufford, Deputy Assistant Secretary for Health, recognized at the 1993 Grantee Meeting that Healthy Start projects are playing a "pioneering role" in helping the nation move toward health care reform. By effectively collaborating with other government programs and local agencies, the projects have also taken the lead in exemplifying how the various levels of government (federal, state, county, city, tribal) can work more efficiently in the future — by contributing toward perinatal systems of care that work better and cost less.

Philadelphia Health Department, Healthy Start Program

The Director's Corner

By creating effective public and private sector linkages, Healthy Start projects satisfy their need to collaborate among relevant providers and consumers of care, as is emphasized in the projects' continuation guidance each year. Working with other federal programs is one way Healthy Start projects go beyond traditional medical services to impact high infant mortality rates, and this service enhancement has proven successful: a May 1994 article in the *Journal of the American Medical Association* discusses the important effect health behavior advice, as a component of perinatal care, has on improving birth outcomes (JAMA volume 271, pages 1340-1345).

This issue of *Program Update* describes five different but effective examples of federal linkages at work. Highlighted are Birmingham's immunization clinics, teamed up with the Centers for Disease Control and Prevention; New Orleans' work with community/migrant health centers, funded by the Health Resources and Services Administration; Washington, DC's work with the Department of Agriculture's WIC Program; Chicago's work with the Health Care Financing Administration's Medicaid Program; and Philadelphia's residential drug treatment program, a collaboration with the Substance Abuse and Mental Health Services Administration.

We encourage you to replicate these and the many other collaborations shared under the Healthy Start Initiative in your own communities.

We welcome your input, comments and suggestions for *Program Update*. Please contact Paul S. Rusinko at (301) 443-8427.

Thurma McCann, M.D., M.P.H.
Director, Division of Healthy Start

BPHC Bureau of Primary Health Care

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The People We Serve...The People We Are

Fact Sheet

COMMUNITY HEALTH CENTER PROGRAM

The Community Health Center Program (CHC) is a Federal grant program funded under Section 330 of the Public Health Service Act to provide for primary health services in medically-underserved areas throughout the U.S. and its territories.

MISSION

The CHC Program provides access to case-managed, family-oriented preventive and primary health care services for people living in rural and urban medically underserved communities. CHCs exist in areas where economic, geographic, or cultural barriers limit access to primary health care for a substantial portion of the population; and they tailor services to the needs of the community.

ACTIVITIES

- Offer CHC services that include primary and preventive care, outreach, and dental care.
- Offer essential ancillary services such as laboratory tests, X-ray, environmental health, and pharmacy services as well as related services such as health education, transportation, translation, and prenatal services.
- Provide links to welfare, Medicaid, substance abuse treatment, WIC, and related services.
- Facilitate the involvement of more than 350 CHCs in managed care contracts, including HMO primary care provider networks or State Medicaid managed care case manager networks.

ACCOMPLISHMENTS

CHCs are a catalyst for economic development, generating jobs, assuring the presence of health professionals and facilities, and utilizing local services. In FY 1995, the CHC investment generated nearly $3 billion in revenues for impoverished, underserved communities across the country. Measures of accomplishment follow.

- Administer grants to over 600 community-based public and private nonprofit organizations that develop and operate CHCs, and in turn support 1,600 clinics.
- Support CHCs that serve over 7 million people yearly, of whom 66 percent live below the poverty level.
- CHCs demonstrate cost effective responsiveness, empower underserved communities, and are credited with:
  - Reducing infant mortality rates

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MIGRANT HEALTH CENTER PROGRAM

The Migrant Health (MH) Program is a Federal grant program funded under Section 330g of the Public Health Service Act to provide primary health care services in medically underserved areas throughout the U.S. and its territories.

MISSION

Migrant Health Centers (MHC) provide migrant and seasonal farmworkers and their families access to comprehensive medical care services with a culturally sensitive focus.

Migrant farmworkers have some of this Nation's most severe health and social problems and are at greater risk than the general population because of poverty, malnutrition, infectious diseases, exposure to pesticides, and poor housing. The size of the racially and culturally diverse farmworker labor force is difficult to determine, but it is estimated there may be as many as 1.5 million migratory workers and 2.5 million seasonal workers. MH activity levels relate to the length of time a migrant population is in a service area and their access to health resources; activity levels are reflected in year-round, seasonal, and temporary (4–6 months) MH service delivery models.

ACTIVITIES

- Offer MHC services that include primary care, preventive health care, transportation, outreach, dental, pharmaceutical, and environmental health. MHCs use lay outreach workers, bilingual/bicultural health personnel, and culturally appropriate protocols developed by the Migrant Clinicians Network.
- Provide prevention-oriented and children's services at MHCs, such as immunizations, well baby care, and developmental screenings.

ACCOMPLISHMENTS

- Provide grants to more than 120 public and private nonprofit organizations that support the development and operation of about 390 MHCs, located in 35 States and Puerto Rico.
- Serve, through MHCs, about 600,000 migrant and seasonal farmworkers each year, 50 percent of which are Hispanic; 35 percent African-American; and 15 percent Asian, White, or "other."

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HEALTH CARE FOR THE HOMELESS PROGRAM

The Health Care for the Homeless (HCH) Program is a Federal grant program funded under the Stewart B. McKinney Homeless Assistance Act of 1987, which amended the Public Health Service Act to include Section 340(a).

MISSION

The HCH Program seeks to improve access by homeless individuals to primary health care and substance abuse treatment.

ACTIVITIES

- Provide for primary health care and substance abuse services at accessible locations.
- Provide round-the-clock access to emergency services and refer to hospital inpatient and/or to mental health services as needed.
- Provide outreach services to inform homeless individuals of the availability of services.
- Aid homeless persons to establish eligibility for assistance and to obtain services under entitlement programs.

ACCOMPLISHMENTS

The HCH Program establishes linkages and provides high quality care to homeless individuals and families in an efficient and cost effective manner. During calendar year 1995, the HCH Program:

- Awarded grants to 122 community-based organizations in urban and rural areas, including community and migrant health centers, local health departments, and community coalitions. These grantees have expanded their service networks through arrangements with over 300 sub-contractors.
- Served more than 450,000 clients in 48 states, the District of Columbia, and Puerto Rico.
- Served about 13,870 runaway or unattached youth under 20 years of age and 4,400 youths who were heads of households.
- Served clients who were living in shelters or on the street (56%), had no medical resources (75%), and had limited financial resources (6% received Social Security Income, 10% received Aid to Families with Dependent Children assistance, 4% earned wages or received a pension, and fewer than 20% received food stamps).

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OUTREACH AND PRIMARY HEALTH SERVICES FOR HOMELESS CHILDREN PROGRAM

The Outreach and Primary Health Services for Homeless Children Program (Homeless Children's Program) was established as an amendment to the Stewart B. McKinney Homeless Assistance Act in 1992, which amended the Public Health Service Act to include Section 340(s).

MISSION

The Homeless Children's Program supports innovative programs for the delivery of outreach health services and referral to homeless children and children at imminent risk of homelessness. The needs of homeless children and children at risk of homelessness are addressed within the context of prevention assessment of primary care needs, and provision of comprehensive primary care services.

ACTIVITIES

The Homeless Children's Program serves homeless children and their families by providing, or arranging for, services to address their health and social needs. Programs must provide the following services, either directly or through contract.

- Conduct outreach activities to identify homeless children and children at risk of homelessness and inform parents and guardians of the availability of health care and other support services.
- Provide comprehensive primary health care services, (e.g., diagnostic laboratory and radiology as well as preventive health, dental, and pharmaceutical) in a variety of settings, including clinics and mobile medical units.
- Establish referrals to provide other health, social, and educational services—with entities such as hospitals, community and migrant health centers, Head Start and other educational programs, and programs that prevent and treat child abuse.

ACCOMPLISHMENTS

A recently conducted evaluation found that nearly all of the Homeless Children's Program grantees are providing a well-above-average "medical home"—a central location where clients receive all needed

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PUBLIC HOUSING PRIMARY CARE PROGRAM

The Public Housing Primary Care (PHPC) Program is a Federal grant program created under the Disadvantaged Minority Health Improvement Act of 1990, which amended the Public Health Service Act to include Section 340A. The PHPC Program was reauthorized under the Health Centers Consolidation Act of 1996.

MISSION

The PHPC Program's mission is to minimize barriers experienced by residents of public housing in accessing health services. The program improves the health status of residents by providing primary care in or near public housing developments.

ACTIVITIES

- Provide primary health care services, including health screening, health counseling, health education, preventive dental, prenatal and perinatal, preventive health, diagnostic and laboratory, patient case management services, and immunizations against disease.
- Refer residents, as appropriate, to qualified facilities and practitioners for other necessary services, including substance abuse and mental health services.
- Conduct outreach services to inform residents about health services availability.
- Aid residents to establish eligibility for assistance under entitlement programs and to obtain government support for health, mental health, or social services.
- Train and employ residents of public housing to provide health screenings and health education services.
- Emphasize HIV services for pregnant women and their infants, and violence prevention services.

ACCOMPLISHMENTS

In FY 1995, 22 organizations nationwide, including county boards of health, community health centers, and health care for the homeless programs, were awarded program funds.

- Addressed critical needs and improved the health status of more than 35,000 clients.
- Served more than 20,000 children and youth under 20 years of age (58 percent of clients); 62 percent of all clients served were female.

Bureau of Primary Health Care

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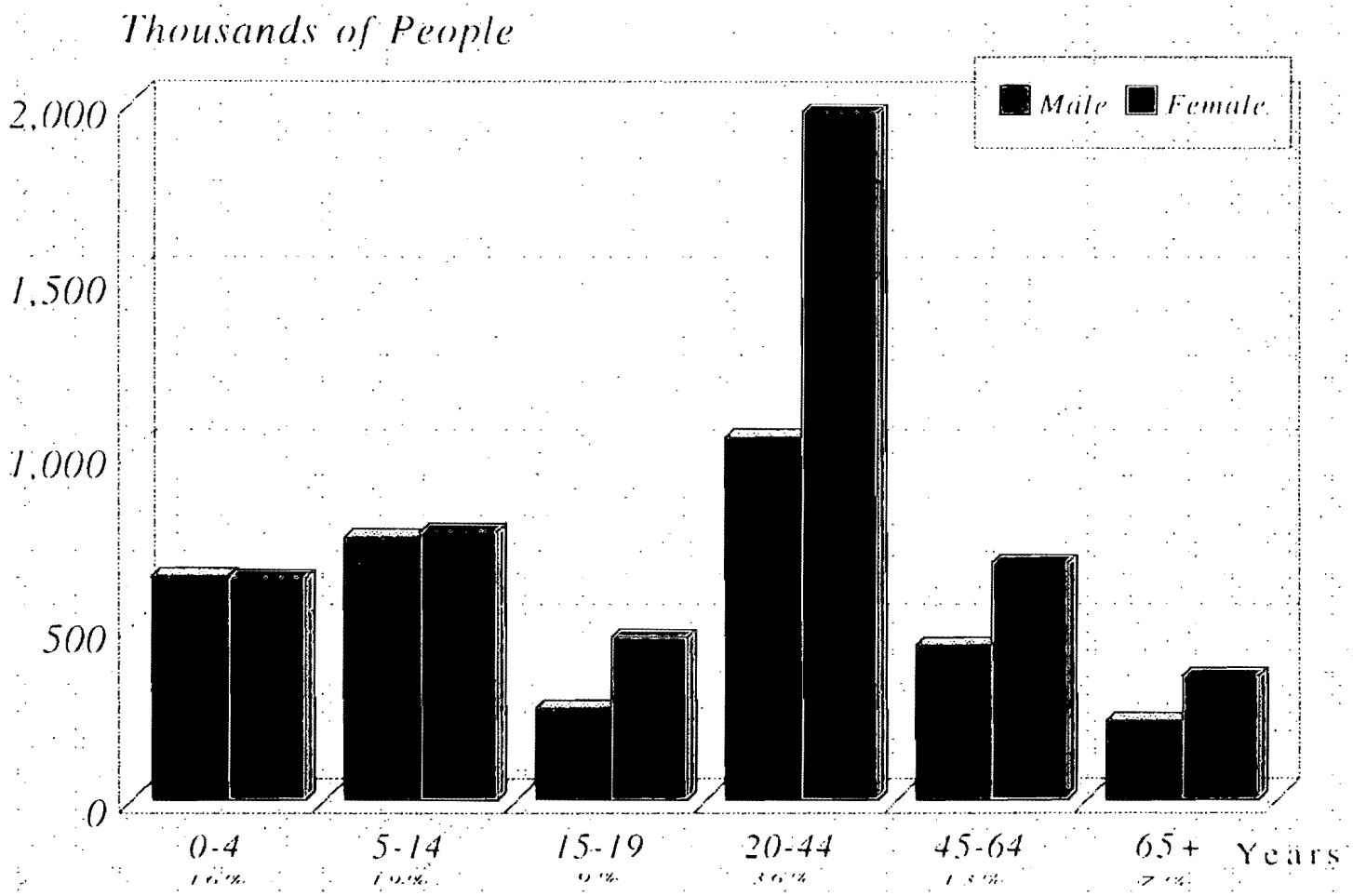
The People We Are

Health Center Patients

By Age/Sex



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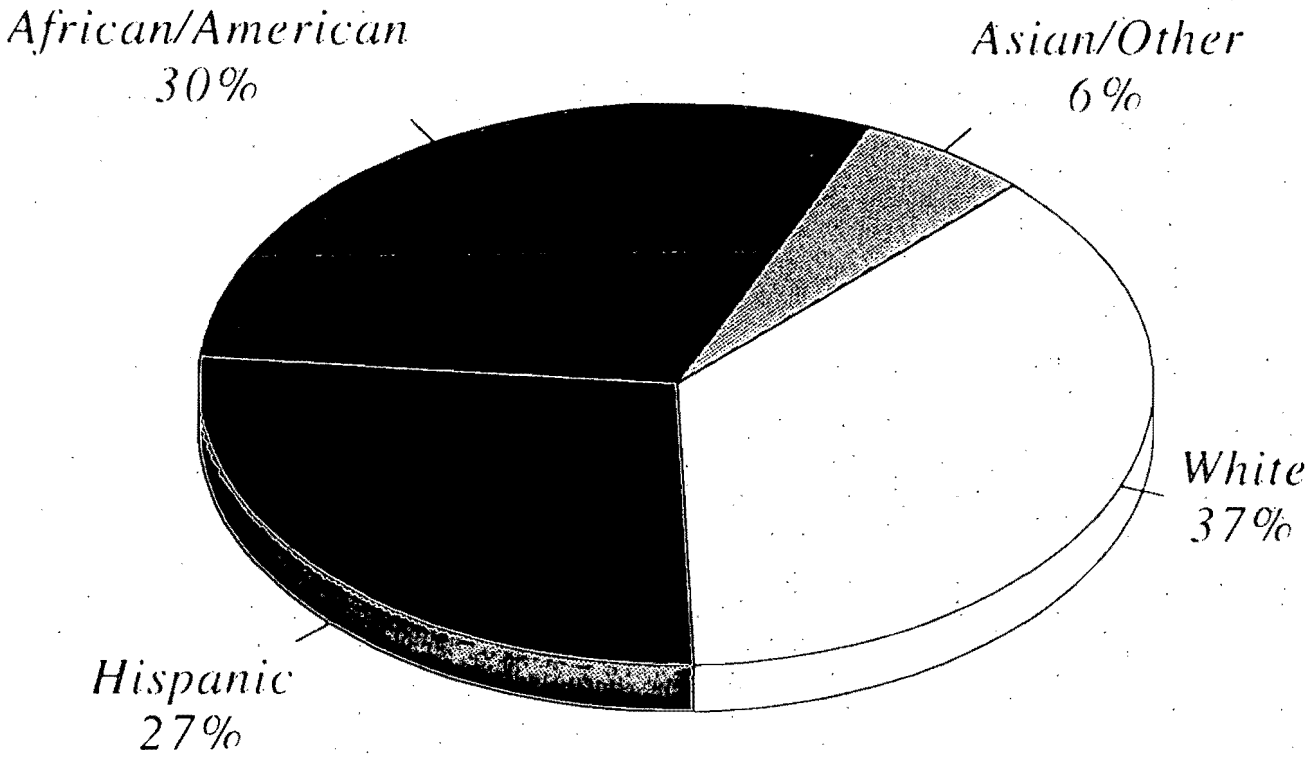
The People We Serve
The People We Are

Health Center Patients
By Ethnicity



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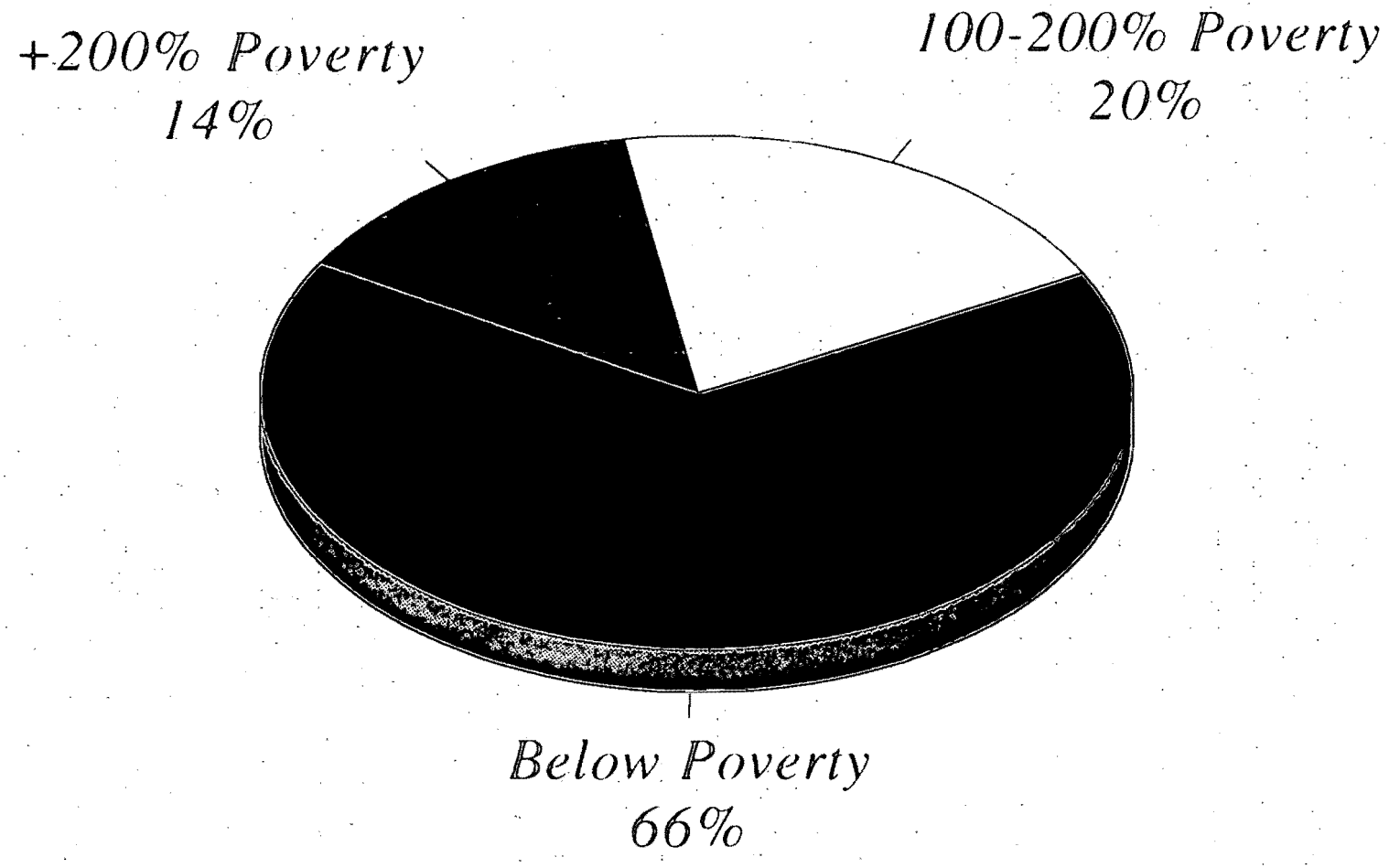
The People We Serve
The People We Are

Health Center Patients By Economic Status



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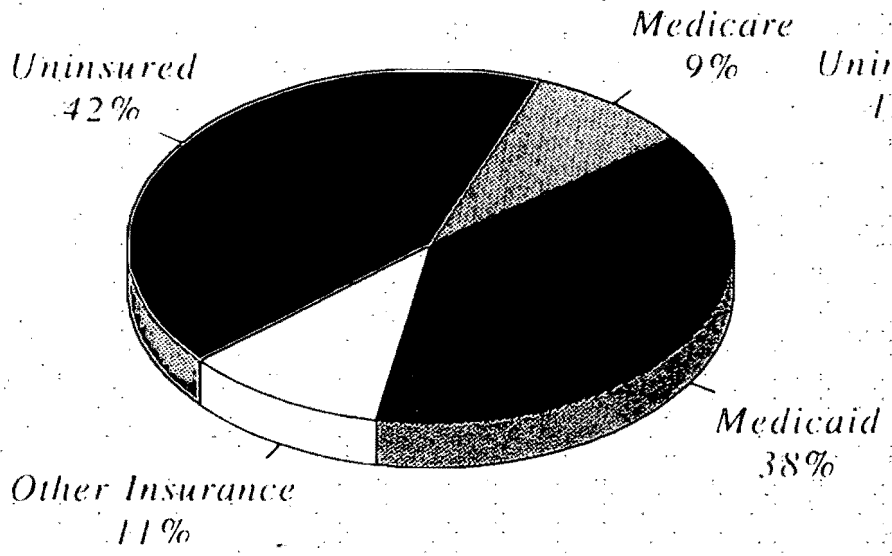
The People We Serve
The People We Are

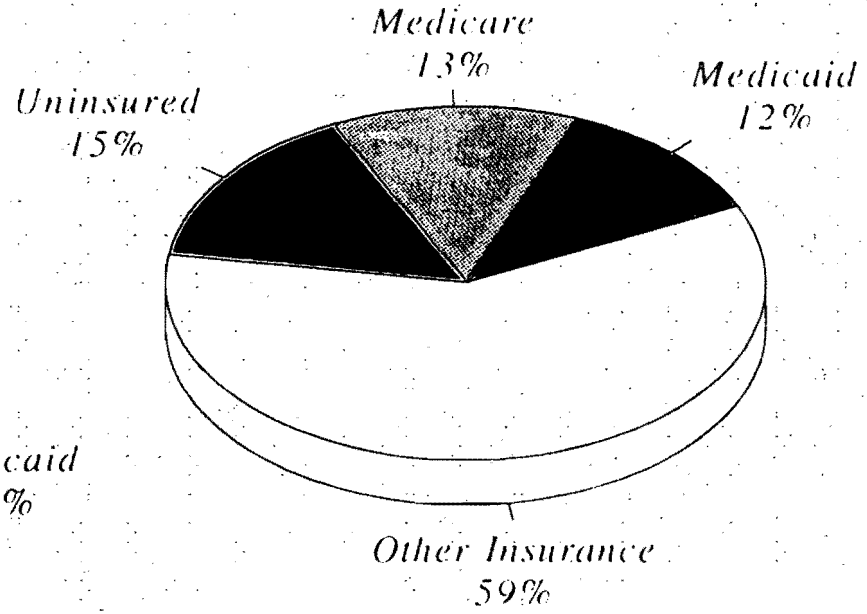
Comparison of Insurance Status

Health Center Patients vs. U.S. Population

Health Center Patients



U.S. Population



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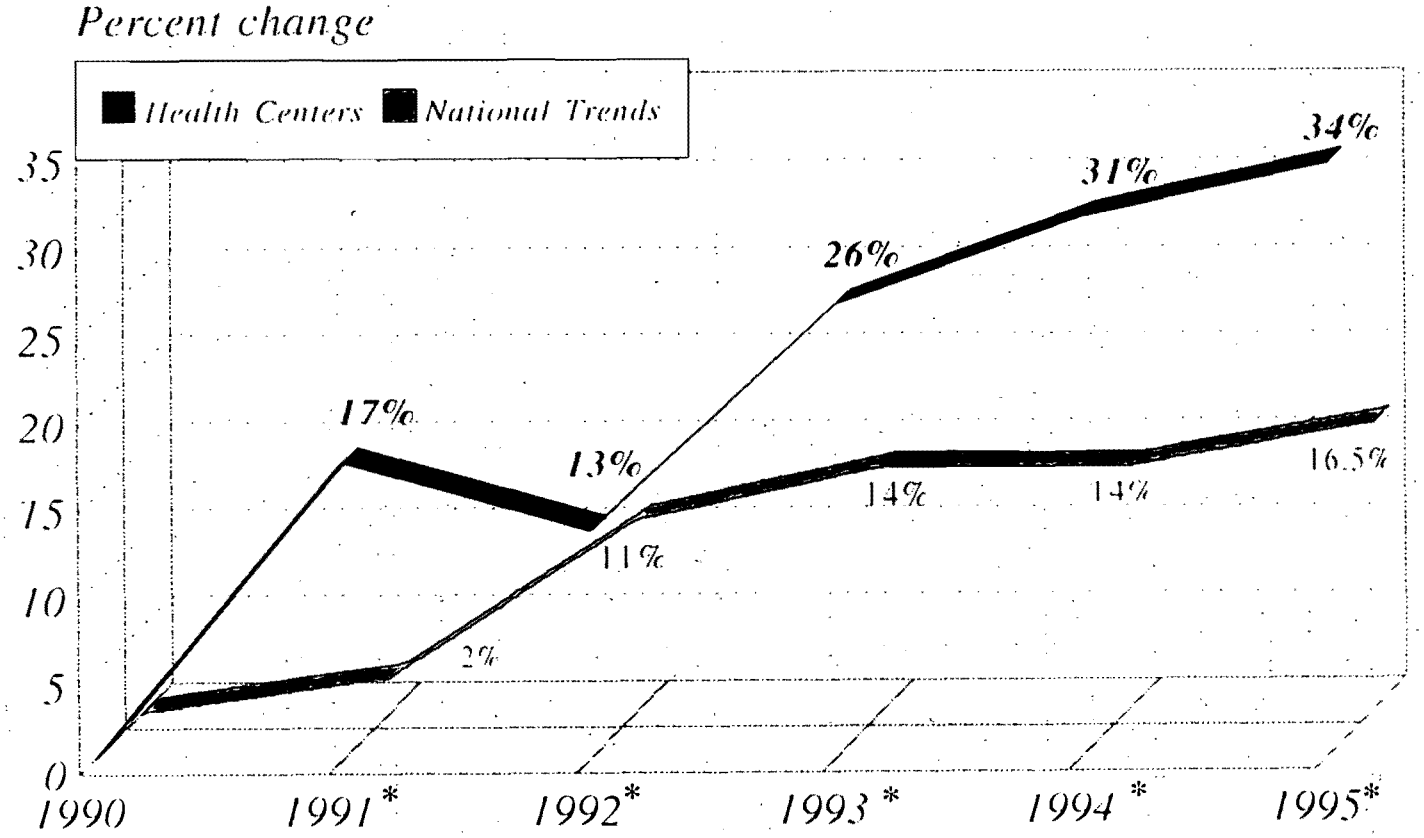
Uninsured

Percent Change: 1990 - 1995



**In comparison to 1990*

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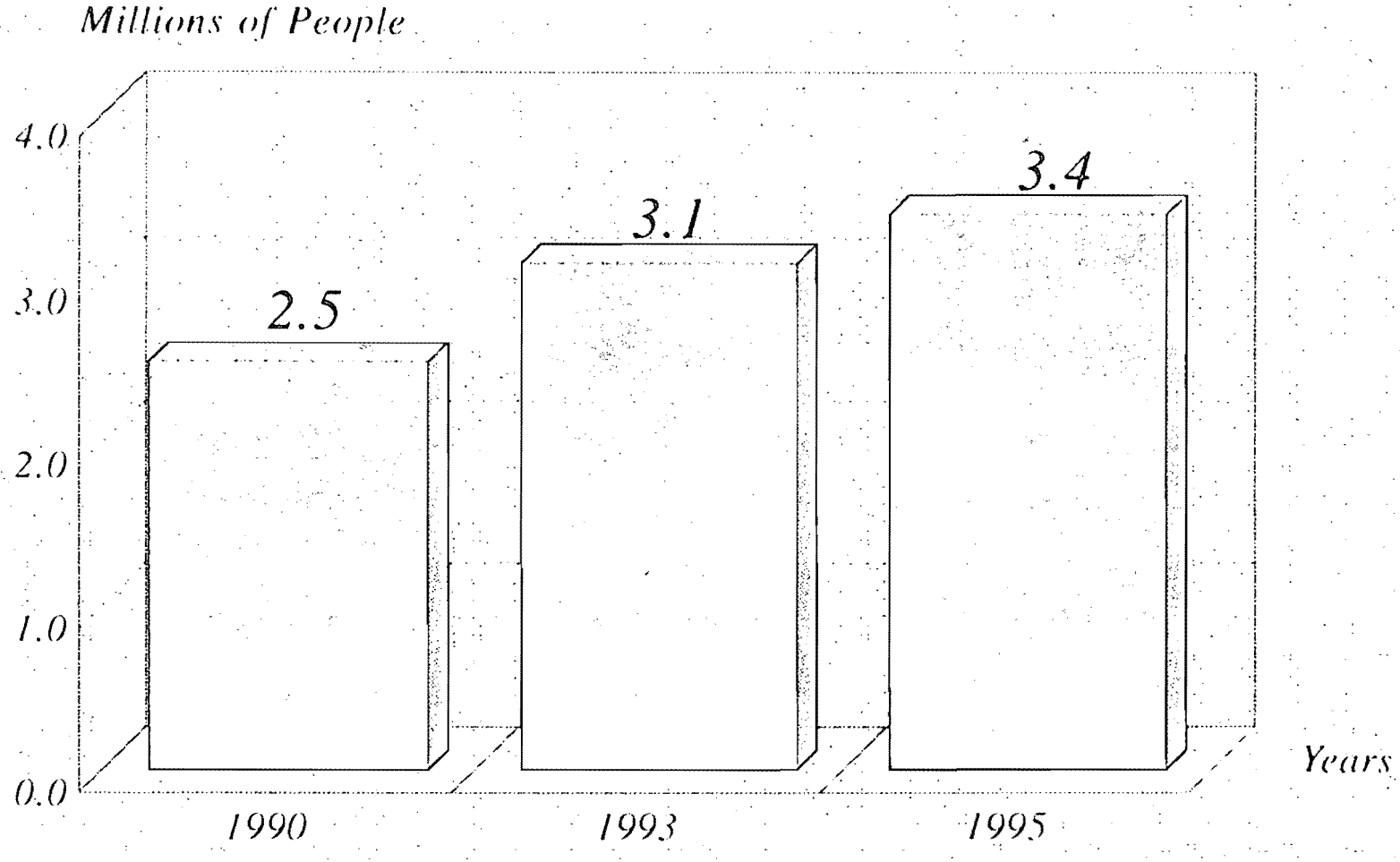
Bureau of Primary Health Care

Number of Uninsured Patients Served by Health Centers



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7/21/95

BUREAU OF PRIMARY HEALTH CARE

HEALTH CENTERS

FY 1995

Unduplicated Statistics:

Program	Grantee Organizations	People Served (est.)
CHC	643	7.050
Migrant	20 *	.600
Homeless	71 **	.444
Public Housing	8 ***	.025
SUBTOTAL	**722**	**8.1 Million**

In addition, there are 101 FQHC Look-Alike organizations with 151 FQHC provider delivery sites -- serving approximately 800,000 patients.

* Includes organizations that receive only Section 329 funding. Overall, there are a total of 122 Migrant Health Center grantees.

** Includes organizations that receive only Section 340 funding. Overall, there are a total of 119 Health Care for the Homeless grantees, 10 Outreach and Primary Care Services for Homeless Children grantees and 27 Healthy Schools, Healthy Communities grantees.

*** Includes organizations that receive only Section 340A funding. Overall, there are a total of 22 Health Services for Residents of Public Housing grantees.

While the efficient and effective provision of health services is their most important goal, CHCs also stabilize and upgrade the otherwise depressed urban and rural areas they serve. They bring care to alternative sites where people live or work including schools, homeless shelters and migrant camps. They empower their communities, generate jobs, assure the presence of health professionals and facilities and utilize local suppliers.

c. Types Of Services

CHCs provide comprehensive primary medical care services with a culturally sensitive, family oriented focus. These medical services include: preventive health and dental services; acute and chronic care services; and appropriate hospitalization and specialty referrals. CHC services are prevention-oriented and include such children's services as immunizations, well baby care, and developmental screenings. CHCs also provide essential ancillary services such as laboratory tests, X-ray, environmental health and pharmacy services. In addition, many centers provide such enabling health and community services as transportation, health education, nutrition, counseling, and translation services. Case management--the coordination of the center's services with community services appropriate to the needs of the patient (social, medical, or economic)--is emphasized.

CHCs tailor their services to meet the specific needs of the community and its special populations that include the homeless, migrant and seasonal farmworkers, people infected with HIV/AIDS, the elderly and substance abusers. In addition, CHC services are expected to coordinate with those of State and local health departments, non-profit organizations, academic institutions, and other local organizations.

d. Target Population

Medically underserved, disadvantaged populations. These populations include: minorities, women of child bearing age, infants, persons with HIV infection, substance abusers and/or homeless individuals and their families. In fiscal year (FY) 1995, the CHC program served a total of 7,050,000 patients. Of this total, approximately 44 percent were infants, children and youth aged 0 to 19 years old.

e. Eligible Grantees/Number of Current Grantees

The CHC program makes grants to public and nonprofit private entities for the development and operation of CHCs. In FY 1995, there were approximately 623 federally funded CHCs located in medically underserved areas throughout the United States and its territories. Approximately 60 percent were

MIGRANT HEALTH CENTERS (MHCs)

I. Program Description

a. History of the Program

Begun in 1962, the MHC program provides a broad array of medical and support services to migrant and seasonal farmworkers and their families, including such services as primary care, preventive health, transportation, outreach, dental, pharmaceutical and environmental health. The MHC program utilizes lay outreach workers, bilingual/bicultural health personnel and culturally appropriate protocols developed by the Migrant Clinicians Network.

PHS Legislative History: The Migrant Health Act was enacted in September 1962 by Public Law 87-692 which added Section 310 to the Public Health Service Act. Public Law 94-63 (July 1975) substituted Section 319 for Section 310 and added amendments defining eligible services, population and service arrangements in detail. Public Law 95-626 extended Section 319 as Section 329 for two years, effective November 1979. Subsequent reauthorizing legislation has not amended the program purpose or requirements.

b. Key Issue/Program Purpose

To provide access to essential health services for migrant and seasonal farmworkers and their families. The MHC program makes grants to public and nonprofit private entities for the development and operation of MHCs. MHCs provide a broad array of medical and support services to migrant and seasonal farmworkers and their families. Programs are linked or integrated with hospital services and other health and social services existing within the service area.

c. Types Of Services

MHCs provide comprehensive primary medical care services with a culturally sensitive, family oriented focus. These medical services include: preventive health and dental services; acute and chronic care services; and appropriate hospitalization and specialty referrals. MHC services are prevention-oriented and include such children's services as immunizations, well baby care, and developmental screenings. MHCs also provide essential ancillary services such as laboratory tests, X-ray, environmental health and pharmacy services. In addition, many centers provide such enabling health and community services as transportation, health education, nutrition, counseling, and translation services. Case management--the coordination of the center's services

II. Appropriations

FY 1994	$59,000,000
FY 1995	$65,000,000

III. Contact Information

For additional information about the MHC program, please contact:

Richard C. Bohrer
Director
Division of Community and Migrant Health
Bureau of Primary Health Care
4350 East-West Highway, 7th floor
Bethesda, MD 20814
(301) 594-4300

Perinatal and Child Health Programs

The Perinatal and Child Health services offered by Community and Migrant Health Centers provide support to reduce negative birth outcomes. To improve pregnancy outcomes and health status of poor and medically underserved women and infants, these programs have been funded for the development of comprehensive perinatal care delivery systems which stress coordinated case management. In 1995 BPHC began its newest endeavor in perinatal care, to provide early medical treatment to HIV positive pregnant women and their unborn infants.

Legislative Authority				
PHS Act Section 329/330				
	FY 1992	FY 1993	FY 1994	FY 1995
Authorized Funding	$35.0 million	$35.0 million	$35.0 million	$35.0 million
Number of Programs	291	291	291	291
Total Clients Served in the Calendar year.[1]	187,757	185,530	174,762	112,163

[1]Clients served are defined as those pregnant women seen with a health center with Comprehensive Perinatal Care Funding (CPCP). In 1994 CPCP was folded into the 329/330 program. CPCP provides additional funding to health centers for perinatal care services.

Source: HRSA:BPHC:DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number of Grantees and Clients served by Region

Number of Programs Reporting in 1995: 519				
Region	Programs[1]		Clients	
	NUMBER		NUMBER	
I	28	5.4%	7,070	3.4%
II	46	8.8%	30,861	15.0%
III	78	15.0%	15,891	7.7%
IV	119	23.0%	45,930	22.3%
V	60	11.6%	20,789	10.1%
VI	55	10.6%	24,349	11.8%
VII	26	5.0%	9,190	4.4%
VIII	38	7.3%	14,239	6.9%
IX	34	6.5%	25,180	12.2%
X	34	6.5%	12,189	5.9%
Total	519	100.0	205,841	100.0

[1] Programs defined as all reporting community and migrant health centers.

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number and Percent Distribution of Services Delivery Models Reported by Funding

Service Delivery by Programs	All Programs		CHCs with CPCP[1]		CHCs without CPCP	
Total Number of Centers	519	100.0%	254	100.0%	265	100.0%
Number of Centers Providing Services by:						
On-Site Prenatal and Delivery	224	43.4%	158	62.7%	66	25.0%
On-Site Prenatal and Referral Delivery	158	30.6%	72	28.6%	86	32.6%
Referral Perinatal and Delivery	134	26.0%	22	8.7%	112	42.4%
Total Number of Centers Reporting	516	100.0%	252	100.0%	264	100.0%
Number of Centers Providing WIC Services By						
Site is Local WIC Agent	144	60.0%	96	64.0%	48	53.3%
Outstationed from Local Health Dept.	96	40.0%	54	36.0%	42	46.7%
Total Number of Centers Reporting	240	100.0%	150	100.0%	90	100.0%

[1] CPCP- The Comprehensive Perinatal Care Program was folded into the 329/330 program in 1994. This funding stream provides the health centers with additional funding for perinatal services

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number and Percent Distribution of Perinatal Users by Selected Characteristics and Funding

Perinatal Users	All Programs		CHCs with CPCP		CHCs without CPCP	
Female Users Aged 15-44	1,595,264	100.0%	1,127,654	100.0%	467,610	100.0%
Prenatal Users by Status						
Newly Pregnant Users	140,937	68.5%	112,163	69.0%	28,774	66.5%
Prenatal Users from Previous year	64,904	31.5%	50,383	31.0%	14,521	33.5%
All Prenatal Users	205,841	100.0%	162,546	100.0%	43,295	100.0%
Teenage Pregnancies by Age						
Under Age 15	3,251	7.3%	2,409	7.1%	842	8.1%
15 - 19 Years	40,989	92.7%	31,457	92.9%	9,532	91.9%
All Teen Pregnancies	44,240	100.0%	33,866	100.0%	10,374	100.0%
Number of HIV+ Prenatal Patients	4,970	100.0%	3,722	100.0%	1,248	100.0%
New Users by Trimester of First Visit						
First	87,245	61.9%	68,112	60.7%	19,133	66.5%
Second	39,649	28.1%	33,576	29.9%	6,073	21.1%
Third	14,043	10.0%	10,475	9.3%	3,568	12.4%
All Newly Pregnant Users	140,937	100.0%	112,163	100.0%	28,774	100.0%

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number and Percent Distribution of Clients of Perinatal User Birth Outcomes and WIC Enrollment by Funding

Birth Outcomes	All Programs		CHCs with CPCP		CHCs without CPCP	
Number of Deliveries by Birthweight						
Under 1500 grams	1,316	1.3%	1,094	1.4%	222	1.2%
1501 - 2499 grams	5,355	5.4%	4,306	5.4%	1,049	5.5%
2500 grams and over	91,726	93.2%	74,094	93.2%	17,632	93.3%
Total Number of Deliveries	98,397	100.0%	79,494	100.0%	18,903	100.0%
Fetal Deaths	1,587	100.0%	1,250	100.0%	337	100.0%
Infant Deaths by Age at Death						
27 Days or Less	360	70.6%	287	71.4%	73	67.6%
28 Days or More	150	29.4%	115	28.6%	35	32.4%
Total Number of Infant Deaths	510	100.0%	402	100.0%	108	100.0%
Post-Natal Care						
Postpartum Returnees	76,128	100.0%	61,773	100.0%	14,355	100.0%
Infants Returning for Newborn Visit	72,765	100.0%	59,851	100.0%	12,914	100.0%

WIC Enrollment	All Programs	CHCs with CPCP	CHCs without CPCP
Number of Infants	308,402	221,807	86,595
Number of Pregnant Women	212,811	162,936	49,875
Number of Lactating Women	73,010	54,233	18,777

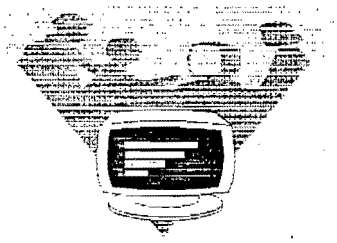
Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number and Percent Distribution of Perinatal Users by Selected Characteristics and Type of Service Delivery Model

Perinatal Users	On-site Prenatal On-site Delivery		On-site Prenatal Referral Delivery		Referral Prenatal Referral Delivery	
	Number	Percent	Number		Number	
Number of Centers Reporting	224	100.0%	158	100.0%	134	100.0%
Female Users Aged 15-44	931,354	100.0%	465,301	100.0%	192,840	100.0%
Prenatal Users by Status						
Newly Pregnant Users	84,574	66.7%	45,116	70.8%	10,596	74.1%
Prenatal Users from Previous year	42,222	33.3%	18,644	29.2%	3,694	25.9%
All Prenatal Users	126,796	100.0%	63,760	100.0%	14,290	100.0%
Teen Pregnancies						
Under Age 15	1,886	6.6%	1,076	8.5%	286	10.7%
15 - 19 Years	26,755	93.4%	11,637	91.5%	2,395	89.3%
All Teen Pregnancies	28,641	100.0%	12,713	100.0%	2,681	100.0%
Number of HIV+ Prenatal Patients	3,979	100.0%	868	100.0%	122	100.0%

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles



DATA HIGHLIGHTS

COMPREHENSIVE PERINATAL CARE PROGRAM

	NUMBER	PERCENT
REPORTING PROGRAMS	254	
TOTAL FEMALE USERS	1,127,654	
PREGNANT WOMEN	162,546	
PREGNANT TEENS	33,866	20.8%
HIV+ PREGNANT WOMEN	3,722	2.3%
1ST TRIMESTER ENTRY	68,112	60.7%
2ND TRIMESTER ENTRY	33,576	29.9%
3RD TRIMESTER ENTRY	10,475	9.3%
DELIVERIES	79,494	
LOW BIRTHWEIGHT BABIES	5,400	6.8%
POSTPARTUM RETURNEES	61,773	
NEWBORN RETURNEES	59,851	

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

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National Maternal and Child Health Clearinghouse

1997 Publications Catalog

U.S. Department of Health & Human Services
HRSA
Health Resources & Services Administration
Maternal & Child Health Bureau

U.S. Department of Health and Human Services

HEALTH RESOURCES AND SERVICES ADMINISTRATION
Division of Legislation
(Tel. 301-443-1890)

Fax: **301-443-9270**

THIS FAX IS FOR:
Ms. Sarah Hurwitz
White House Domestic Policy Council Fax: 202-456-5557

This fax is From:
Lawrence M. Sauer
Director, Division of Legislation
Health Resources and Services Administration
Room 14-36 Parklawn Bldg.
5600 Fishers Lane
Rockville, MD 20857

Number of pages (including cover page):9
Date: July 25, 1997

Remarks:

This is in response to your request for information about prenatal care/infant mortality prevention programs of this agency.

Infant mortality prevention cuts across many of our programs, but is particularly focused in three program areas: The Maternal and Child Health Block Grant; the Healthy Start program; and the Community Health Center program. Attached, therefore, are three Fact Sheets dealing with these programs.

I hope this will be helpful.

--Larry Sauer

Healthy Start

301 443 0509

Wright 395-9117

Maternal and Child Health Bureau - Overview

"The final purpose of the Bureau is to serve all children, to try to work out standards of care and protection which shall give to every child his fair chance in the world."

Julia Lathrop, first Chief of the Children's Bureau, 1912

History and Mission

Charged with the primary responsibility for promoting and improving the health of our Nation's mothers and children, the Maternal and Child Health Bureau (MCHB) draws upon nearly a century of commitment and experience. Early efforts are rooted in MCHB's predecessor, the Children's Bureau, established in 1912. In 1935, Congress enacted Title V of the Social Security Act, which authorized the Maternal and Child Health Services Programs--providing a foundation and structure for assuring the health of mothers and children now for more than 60 years. Today, Title V is administered by the Maternal and Child Health Bureau as part of the Health Resources and Services Administration, Public Health Service, U.S. Department of Health and Human Services.

MCHB continues to provide its leadership, partnership, and resources to advance the health of all our Nation's mothers, infants, children, and adolescents-including families with low income levels, those with diverse racial and ethnic heritages and those living in rural or isolated areas without access to care.

Programs

The Maternal and Child Health Bureau administers four major programs which, in FY 1997, had a total budget of $825 million:

- The Maternal and Child Health Services Block Grant (Title V), FY '97 budget $681 million
- The Healthy Start Initiative (Public Health Service Act), FY '97 budget $96 million
- The Emergency Medical Services for Children Program (Public Health Service Act), FY '97 budget $12.5 million

- Grants for HIV Coordinated Services and Access to Research for Women, Infants, Children and Youth (Title IV of the Ryan White CARE Act), FY '97 budget-$36 million

Maternal and Child Health Services Block Grant

Under Title V of the Social Security Act, the MCH Services Block Grant program has three conponents: formula block grants to 59 States and territories, Special Projects of Regional and National Significance (SPRANS) and Community Integrated Service Systems (CISS) grants.

The purpose of the block grants to the States is to create Federal/State partnerships to develop service systems in our Nation's communities to meet critical challenges in maternal and child health, including:

- Significantly reducing infant mortality
- Providing comprehensive care for women before, during, and after pregnancy and childbirth
- Providing preventive and primary care services for children and adolescents
- Providing comprehensive care for children and adolescents with special health needs
- Immunizing all our children
- Reducing adolescent pregnancy
- Preventing injury and violence. Putting into community practice national standards and guidelines for prenatal care, for healthy and safe child care, and for the health supervision of infants, children, and adolescents
- Assuring access to care for all mothers and children
- Meeting the nutritional and developmental needs of mothers, children, and families

The block grant program requires that States match $3 in funds or resources for every $4 in Federal funds they receive, and that a minimum of 30 percent of block grant funds be used to support programs for children with special health needs. This partnership with the States generated more than $1.7 billion in FY '97 for services at the State and local level.

Activities supported under Special Projects of Regional and National Significance include MCH research, training, genetic services, hemophilia diagnostic and treatment centers and maternal and child health improvement projects that support a broad range of innovative strategies. In FY '97, the Bureau funded 500 SPRANS grants at a total of $103 million.

In FY '97, 112 Community Integrated Service Systems grants were awarded, totalling $10 million. The CISS program seeks to reduce infant mortality and improve the health of mothers and children by funding projects for the development and expansion of integrated services at the community level.

Categorical Programs

The Healthy Start Initiative funds the development of programs and strategies to reduce infant mortality in targeted high-risk communities, and

the replication of program successes across the Nation.

The Emergency Medical Services for Children Program funds grants to the States to develop or enhance EMS programs for children with critical illnesses and life-threatening injuries.

The Grants for HIV Coordinated Services and Access to Research for Women, Infants, Children and Youth Program funds projects to expand systems of comprehensive care services for women, children and youth with HIV/AIDS, and to increase their access to clinical research trials.

Bureau Organization

To serve the diverse needs of these families and communities, MCHB is organized into four divisions and two offices:

- Office of the Director
- Division of Maternal, Infant, Child and Adolescent Health
- Division of Services for Children with Special Health Needs
- Division of Healthy Start
- Division of Science, Education and Analysis
- Office of State and Community Health

All MCHB programs aim to achieve one goal: to promote comprehensive, coordinated, family-centered, and culturally sensitive systems of health care that serve the diverse needs of all families within their own communities.

For more information, contact: MCHB Communications, (301) 443-0205

Bureau Information | Grants Guidance | Federal Register | Newsletters/Publications | MCH Forum | Related Web Sites

Maternal and Child Health Bureau Overview | Grants Guidance | Federal Register Notices | Newsletters and Publications
Fact Sheets on MCH Programs | Links to maternal and child health related sites
HRSA Home Page | HHS Home Page

Last updated April 28, 1997

Healthy Start Facts About Infant Mortality

- The United States ranks 24th among industrialized countries in the number of babies who die in their first year.
- In 1991, the national infant mortality rate was 8.9 per 1,000 live births in the United States. The provisional data for 1992 indicates a rate reduction to 8.5 deaths per 1,000 live births.
- The 3-year average infant death rates among the Healthy Start communities for the period 1988 1990 ranged from 14.3 to 26.9 deaths per 1,000 live births.
- Of the 4.1 million babies born in the United States in 1991, 36,700 died before their first birthday.
- Low birthweight is a leading cause of infant death. Low birthweight babies (less than 5.5 pounds) are 40 times more likely to die in their first month.
- In 1989, 7 percent of all babies born in the United States were born at low birthweight. The 3-year average of low birthweight infants born in Healthy Start communities ranged from 5.4 to 17 percent for the period 1988 1990.
- Prenatal care can reduce the incidence of low birthweight. Babies born to women who received no prenatal care are three times more likely to be born at low birthweight and four times more likely to die than those whose mothers received first trimester care.

Components of Healthy Start

The success of Healthy Start relies on community-based collaborative efforts to provide comprehensive health and social support services, as well as individual and community development activities, in order to:

- make health and social support services more accessible by streamlining eligibility processes, developing one-stop shopping centers, providing transportation to care, and facilitating onsite child care;
- develop a comprehensive package for perinatal care services, including preconception and family planning counseling and services, prenatal and postpartum care, immunizations, and well-baby care;
- make available an appropriate array of self-help programs and services, such as nutrition counseling, smoking cessation, substance abuse counseling and treatment, and mental health;
- supply case management services to facilitate the entry and followup of at-risk women into appropriate services and programs;
- employ outreach workers, often from the neighborhood, to locate and educate women and their families about the importance of early and

regular prenatal care;
- improve participation of eligible women, children, and their families in entitlement programs such as Medicaid; Early and Periodic Screening, Diagnosis and Treatment (EPSDT); Special Supplemental Food Program for Women, Infants and Children (WIC); Food Stamps; and public housing;
- increase the cultural sensitivity of local providers;
- implement programs and activities targeted to the special needs of adolescents, including school-based health services and self-esteem enhancement, violence prevention, mentorship, and recreational programs;
- provide educational, job training, and employment opportunities; and
- strengthen local leadership, capacity, and resources through training and actively engaging community members in program development.

Grants

The Healthy Start Initiative is a demonstration program that builds on the principles of innovation, community commitment and involvement, increased access, service integration and personal responsibility with the objective of decreasing infant mortality in targeted urban and rural communities. Begun in 1991, 15 communities with infant mortality rates 1 1/2 to 2 1/2 times greater than the national average were selected to participate in the 5-year demonstration program. During the first year, the 15 projects developed community consortia, conducted needs assessment, and formulated comprehensive action plans to implement health care and social support services intended to reduced infant mortality by 50 percent in their respective communities in 5 years. Services to children, women of childbearing age, and their families began the following year.

In order to broaden the knowledge base of successful strategies to reduce infant morality, seven new special projects received grants to accelerate the implementation of innovative strategies. These projects, which begin October 1, 1994, will run for two years.

For FY 1995, the Healthy Start program is funded at $110 million. Healthy Start projects are in the following communities:

The 15 original projects:

1. Baltimore, Maryland
2. Birmingham, Alabama
3. Boston, Massachusetts
4. Chicago, Illinois
5. Cleveland, Ohio
6. Detroit, Michigan
7. New Orleans, Louisiana
8. New York, New York
9. Northern Plains Reservations (South Dakota, North Dakota, Iowa, Nebraska)

10. Northwest Indiana
11. Oakland, California
12. Pee Dee Region, South Carolina
13. Philadelphia, Pennsylvania
14. Pittsburgh, Pennsylvania
15. Washington, District of Colombia

The 7 special projects:

1. Dallas, Texas
2. Essex County, New Jersey
3. Florida Panhandle
4. Milwaukee, Wisconsin
5. Mississippi Delta
6. Richmond, Virginia
7. Savannah, Georgia

Evaluation

An extensive outcomes- and process-oriented national evaluation is being conducted in the 15 original Healthy Start communities to expand knowledge, appraise diverse interventions, and assess their effectiveness across distinct populations. Each grantee is also conducting evaluations of some of their unique interventions.

The lessons learned from Healthy Start will be shared with the wider maternal and child health community. A first report, Consortia Development, is available from the National Maternal and Child Health Clearinghouse, 8201 Greensboro Drive, Suite 600, McLean, VA 22102, telephone (703) 821-8955, extensions 254 or 265.

Public Information/Education Campaign

The Healthy Start program also has an aggressive public information and education component to raise awareness concerning the problem of infant mortality, promote healthy behaviors, and motivate mothers to enter prenatal care early .

For more information, contact the Division of Healthy Start, at (301) 443-0509
10/94

BPHC Bureau of Primary Health Care

4350 East West Highway, Bethesda, MD 20814
(301) 594-4110 • fax: (301) 594-4072
http://www.bphc.hrsa.dhhs.gov

The People We Serve...The People We Are **Fact Sheet**

COMMUNITY HEALTH CENTER PROGRAM

The Community Health Center Program (CHC) is a Federal grant program funded under Section 330 of the Public Health Service Act to provide for primary health services in medically-underserved areas throughout the U.S. and its territories.

MISSION

The CHC Program provides access to case-managed, family-oriented preventive and primary health care services for people living in rural and urban medically underserved communities. CHCs exist in areas where economic, geographic, or cultural barriers limit access to primary health care for a substantial portion of the population; and they tailor services to the needs of the community.

ACTIVITIES

- Offer CHC services that include primary and preventive care, outreach, and dental care.
- Offer essential ancillary services such as laboratory tests, X-ray, environmental health, and pharmacy services as well as related services such as health education, transportation, translation, and prenatal services.
- Provide links to welfare, Medicaid, substance abuse treatment, WIC, and related services.
- Facilitate the involvement of more than 350 CHCs in managed care contracts, including HMO primary care provider networks or State Medicaid managed care case manager networks.

ACCOMPLISHMENTS

CHCs are a catalyst for economic development, generating jobs, assuring the presence of health professionals and facilities, and utilizing local services. In FY 1995, the CHC investment generated nearly $3 billion in revenues for impoverished, underserved communities across the country. Measures of accomplishment follow.

- Administer grants to over 600 community-based public and private nonprofit organizations that develop and operate CHCs, and in turn support 1,600 clinics.
- Support CHCs that serve over 7 million people yearly, of whom 66 percent live below the poverty level.
- CHCs demonstrate cost effective responsiveness, empower underserved communities, and are credited with:
  - Reducing infant mortality rates

- Lowering hospital admission rates and length of hospital stays for patients
- Lowering Medicaid patients' health costs.

COLLABORATIVE LINKAGES

- The CHC Program coordinates cooperative agreements and grants, with National, State, and regional health and primary care organizations, which are key to developing and implementing primary care resource strategies.
- CHCs coordinate with State and local organizations to develop services; examples follow.
  - Award-winning partnership between Lincoln Heights Health Center, a CHC in an economically depressed area, and University of Cincinnati Medical Center maximizes resources and access to primary and preventive care for un- and underinsured.
  - Award-winning East Side Health Coalition (Southern Illinois Healthcare Foundation, East Side Health District, local health department, and Touchette Regional Hospital) redesigned service delivery programs into a "one-stop" model that benefits each member as well as patients.
  - Annual Tangier Health Fair of the Eastern Shore Rural Health System, Inc. in Virginia—sponsored by 14 national and local programs—provides access to affordable screening, referral, and health promotion activities that focus on personal responsibility for health and reducing risk factors.
  - The Focus on Renewal Center of Sto-Rox Neighborhood Family Health Center in Pennsylvania links primary care, legal crisis care, food assistance, and social services for people in two urban communities. Partnerships with a hospital, school district, university, and other programs extend services to include home care, parenting programs, a school-based program, adult literacy, and homeless services.

APPROPRIATIONS

FY 1994	$603.65 million ($44.733 million for perinatal activities)
FY 1995	$616.555 million ($44.733 million for perinatal activities)
FY 1996	$618.459 million ($44.733 million for perinatal activities)

FUTURE CHALLENGES

Developing networks and comprehensive systems of primary care is critical to health services delivery success. Collaborating with public and private partners to obtain capital and infrastructure resources is necessary to develop and maintain primary health care capacity in the most underserved areas.

For more information contact: Richard C. Bohrer, Director
Division of Community and Migrant Health
4350 East-West Highway, 7th Floor
Bethesda, MD 20814
301/594-4300 301/594-4397 FAX
http://www.bphc.hrsa.dhhs.gov

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BUREAU OF PRIMARY HEALTH CARE

HEALTH CENTERS

FY 1995

Unduplicated Statistics:

Program	Grantee Organizations	People Served (est.)
CHC	643	7.050
Migrant	20 *	.600
Homeless	71 **	.444
Public Housing	8 ***	.025
SUBTOTAL	**722**	**8.1 Million**

In addition, there are 101 FQHC Look-Alike organizations with 151 FQHC provider delivery sites -- serving approximately 800,000 patients.

* Includes organizations that receive only Section 329 funding. Overall, there are a total of 122 Migrant Health Center grantees.

** Includes organizations that receive only Section 340 funding. Overall, there are a total of 119 Health Care for the Homeless grantees, 10 Outreach and Primary Care Services for Homeless Children grantees and 27 Healthy Schools, Healthy Communities grantees.

*** Includes organizations that receive only Section 340A funding. Overall, there are a total of 22 Health Services for Residents of Public Housing grantees.

COMMUNITY HEALTH CENTERS (CHCs)

I. Program Description

a. History of the Program

CHCs were first funded by the Federal Government as part of the War on Poverty in the mid-1960's. By the early 1970's, about 100 neighborhood health centers had been established under the Economic Opportunity Act. These centers were designed to provide accessible, dignified personal health services to low income families. Consumer participation was mandated, and this commitment continues today with each center required to have a governing board which is comprised of a majority of users of its services.

The Public Health Service (PHS) began funding neighborhood health centers in 1969. While services were directed to the poor and near poor, the centers also provided access to a broader population who could pay all or part of the cost of their health care. With the phaseout of the Office of Economic Opportunity in the early 1970's, the centers supported under this authority were transferred to the PHS. Currently, CHCs are authorized under Section 330 of the Public Health Service Act.

PHS Legislative History: The Comprehensive Health Planning and Public Health Services Amendments of 1966 (P.L. 89-749) added Section 314(e) to the Public Health Service Act to provide broad authority to support project grants for the development of health services delivery programs and related training. During the early 1970's, neighborhood health centers were administered under Section 314(e). This authority was replaced in 1975 with a specific new authority--Section 330, Public Health Service Act (P.L. 94-63) and the name of the program was changed to community health centers to represent a broader focus.

b. Key Issue/Program Purpose

To provide access to case-managed, family-oriented preventive and primary health care services for people living in rural and urban medically underserved areas. The CHC program makes grants to public and nonprofit private entities for the development and operation of CHCs. CHCs are located in areas throughout the country where there are financial, geographic, or cultural barriers to primary health care for a substantial portion of the population. CHCs seek to improve access by supporting local, community-based health care systems and providers.

While the efficient and effective provision of health services is their most important goal, CHCs also stabilize and upgrade the otherwise depressed urban and rural areas they serve. They bring care to alternative sites where people live or work including schools, homeless shelters and migrant camps. They empower their communities, generate jobs, assure the presence of health professionals and facilities and utilize local suppliers.

c. **Types Of Services**

CHCs provide comprehensive primary medical care services with a culturally sensitive, family oriented focus. These medical services include: preventive health and dental services; acute and chronic care services; and appropriate hospitalization and specialty referrals. CHC services are prevention-oriented and include such children's services as immunizations, well baby care, and developmental screenings. CHCs also provide essential ancillary services such as laboratory tests, X-ray, environmental health and pharmacy services. In addition, many centers provide such enabling health and community services as transportation, health education, nutrition, counseling, and translation services. Case management--the coordination of the center's services with community services appropriate to the needs of the patient (social, medical, or economic)--is emphasized.

CHCs tailor their services to meet the specific needs of the community and its special populations that include the homeless, migrant and seasonal farmworkers, people infected with HIV/AIDS, the elderly and substance abusers. In addition, CHC services are expected to coordinate with those of State and local health departments, non-profit organizations, academic institutions, and other local organizations.

d. **Target Population**

Medically underserved, disadvantaged populations. These populations include: minorities, women of child bearing age, infants, persons with HIV infection, substance abusers and/or homeless individuals and their families. In fiscal year (FY) 1995, the CHC program served a total of 7,050,000 patients. Of this total, approximately 44 percent were infants, children and youth aged 0 to 19 years old.

e. **Eligible Grantees/Number of Current Grantees**

The CHC program makes grants to public and nonprofit private entities for the development and operation of CHCs. In FY 1995, there were approximately 623 federally funded CHCs located in medically underserved areas throughout the United States and its territories. Approximately 60 percent were

- When maternity related services are included, which tend to disproportionately increase costs for CHCs, there is a savings to Medicaid of 14 percent per AFDC case and 10 percent per enrolled year.

- About half of the savings associated with CHC regular user status is produced by reduced inpatient care, and the remainder through reduced payments for outpatient care and other services.

A recent study of Medicaid patients in Maryland that compared the costs versus quality of care in different types of primary care settings indicated that:

- Compared to patients who use hospital outpatient clinics or physician's offices for their source of care, health center patients received care equal to or higher on 21 different quality measures.[5]

II. Appropriations

FY 1994	$603,650,000
	(44,733,000 for perinatal activities)
FY 1995	$616,555,000
	(44,733,000 for perinatal activities)

III. Contact Information

For additional information about the CHC program, please contact:

Richard C. Bohrer
Director
Division of Community and Migrant Health
Bureau of Primary Health Care
4350 East-West Highway, 7th floor
Bethesda, MD 20814
(301) 594-4300

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[5] Barbara Starfield, Neil R. Powe, Jonathan R. Weiner, Mary Stuart, Donald Steinwachs, Sarah H. Scholle, Andrea Gerstenberger, Costs vs. Quality in Different Types of Primary Care Settings, JAMA, December 28, 1994.

MIGRANT HEALTH CENTERS (MHCs)

I. Program Description

a. History of the Program

Begun in 1962, the MHC program provides a broad array of medical and support services to migrant and seasonal farmworkers and their families, including such services as primary care, preventive health, transportation, outreach, dental, pharmaceutical and environmental health. The MHC program utilizes lay outreach workers, bilingual/bicultural health personnel and culturally appropriate protocols developed by the Migrant Clinicians Network.

PHS Legislative History: The Migrant Health Act was enacted in September 1962 by Public Law 87-692 which added Section 310 to the Public Health Service Act. Public Law 94-63 (July 1975) substituted Section 319 for Section 310 and added amendments defining eligible services, population and service arrangements in detail. Public Law 95-626 extended Section 319 as Section 329 for two years, effective November 1979. Subsequent reauthorizing legislation has not amended the program purpose or requirements.

b. Key Issue/Program Purpose

To provide access to essential health services for migrant and seasonal farmworkers and their families. The MHC program makes grants to public and nonprofit private entities for the development and operation of MHCs. MHCs provide a broad array of medical and support services to migrant and seasonal farmworkers and their families. Programs are linked or integrated with hospital services and other health and social services existing within the service area.

c. Types Of Services

MHCs provide comprehensive primary medical care services with a culturally sensitive, family oriented focus. These medical services include: preventive health and dental services; acute and chronic care services; and appropriate hospitalization and specialty referrals. MHC services are prevention-oriented and include such children's services as immunizations, well baby care, and developmental screenings. MHCs also provide essential ancillary services such as laboratory tests, X-ray, environmental health and pharmacy services. In addition, many centers provide such enabling health and community services as transportation, health education, nutrition, counseling, and translation services. Case management--the coordination of the center's services

with community services appropriate to the needs of the patient (social, medical, or economic)--is emphasized.

The level of MHC activity is related to length of time the migrant population is in the service area, and the availability and accessibility of health resources. These factors determine whether the project will be year-round, full-time multi-disciplinary primary health care delivery model; a seasonal or temporary (4-6 months) physician and/or nurse model with specialty referral; or a seasonal program which provides service with local health providers on a contractual arrangement.

d. Target Population

Migrant and seasonal farmworkers and their families. A migrant or seasonal farmworker is an individual whose principal employment within the last 24 months is in agriculture on a seasonal basis. In fiscal year (FY) 1995, the MHC program served approximately 600,000 patients. Of this total, approximately 44 percent were infants, children and youth aged 0 to 19 years old.

e. Eligible Grantees/Number of Current Grantees

The MHC program makes grants to public and nonprofit private entities for the development and operation of MHCs and migrant voucher programs. In FY 1995, there was a network of approximately 122 community based MHCs providing services to migrant and seasonal farmworkers and their families in 35 states and Puerto Rico. About 390 clinics sites were supported through these 122 grants.

f. Linkages/Collaboration (Federal)

- Migrant Head Start
- Migrant Education
- Migrant Supplemental Food Program for Women, Infants and Children (WIC)

II. Appropriations

FY 1994	$59,000,000
FY 1995	$65,000,000

III. Contact Information

For additional information about the MHC program, please contact:

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Bureau of Primary Health Care
4350 East-West Highway, 7th floor
Bethesda, MD 20814
(301) 594-4300

Perinatal and Child Health Programs

The Perinatal and Child Health services offered by Community and Migrant Health Centers provide support to reduce negative birth outcomes. To improve pregnancy outcomes and health status of poor and medically underserved women and infants, these programs have been funded for the development of comprehensive perinatal care delivery systems which stress coordinated case management. In 1995 BPHC began its newest endeavor in perinatal care, to provide early medical treatment to HIV positive pregnant women and their unborn infants.

Legislative Authority				
PHS Act Section 329/330				
	FY 1992	FY 1993	FY 1994	FY 1995
Authorized Funding	$35.0 million	$35.0 million	$35.0 million	$35.0 million
Number of Programs	291	291	291	291
Total Clients Served in the Calendar year.[1]	187,757	185,530	174,762	112,163

[1]Clients served are defined as those pregnant women seen with a health center with Comprehensive Perinatal Care Funding (CPCP). In 1994 CPCP was folded into the 329/330 program. CPCP provides additional funding to health centers for perinatal care services.

Source: HRSA:BPHC:DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number of Grantees and Clients served by Region

Number of Programs Reporting in 1995: 519				
Region	Programs[1]		Clients	
	NUMBER		NUMBER	
I	28	5.4%	7,070	3.4%
II	46	8.8%	30,861	15.0%
III	78	15.0%	15,891	7.7%
IV	119	23.0%	45,930	22.3%
V	60	11.6%	20,789	10.1%
VI	55	10.6%	24,349	11.8%
VII	26	5.0%	9,190	4.4%
VIII	38	7.3%	14,239	6.9%
IX	34	6.5%	25,180	12.2%
X	34	6.5%	12,189	5.9%
Total	519	100.0	205,841	100.0

[1] Programs defined as all reporting community and migrant health centers.

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number and Percent Distribution of Services Delivery Models Reported by Funding

Service Delivery by Programs	All Programs		CHCs with CPCP[1]		CHCs without CPCP	
Total Number of Centers	519	100.0%	254	100.0%	265	100.0%
Number of Centers Providing Services by:						
On-Site Prenatal and Delivery	224	43.4%	158	62.7%	66	25.0%
On-Site Prenatal and Referral Delivery	158	30.6%	72	28.6%	86	32.6%
Referral Perinatal and Delivery	134	26.0%	22	8.7%	112	42.4%
Total Number of Centers Reporting	516	100.0%	252	100.0%	264	100.0%
Number of Centers Providing WIC Services By						
Site is Local WIC Agent	144	60.0%	96	64.0%	48	53.3%
Outstationed from Local Health Dept.	96	40.0%	54	36.0%	42	46.7%
Total Number of Centers Reporting	240	100.0%	150	100.0%	90	100.0%

[1] CPCP- The Comprehensive Perinatal Care Program was folded into the 329/330 program in 1994. This funding stream provides the health centers with additional funding for perinatal services

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number and Percent Distribution of Perinatal Users by Selected Characteristics and Funding

Perinatal Users	All Programs		CHCs with CPCP		CHCs without CPCP	
Female Users Aged 15-44	1,595,264	100.0%	1,127,654	100.0%	467,610	100.0%
Prenatal Users by Status						
Newly Pregnant Users	140,937	68.5%	112,163	69.0%	28,774	66.5%
Prenatal Users from Previous year	64,904	31.5%	50,383	31.0%	14,521	33.5%
All Prenatal Users	205,841	100.0%	162,546	100.0%	43,295	100.0%
Teenage Pregnancies by Age						
Under Age 15	3,251	7.3%	2,409	7.1%	842	8.1%
15 - 19 Years	40,989	92.7%	31,457	92.9%	9,532	91.9%
All Teen Pregnancies	44,240	100.0%	33,866	100.0%	10,374	100.0%
Number of HIV+ Prenatal Patients	4,970	100.0%	3,722	100.0%	1,248	100.0%
New Users by Trimester of First Visit						
First	87,245	61.9%	68,112	60.7%	19,133	66.5%
Second	39,649	28.1%	33,576	29.9%	6,073	21.1%
Third	14,043	10.0%	10,475	9.3%	3,568	12.4%
All Newly Pregnant Users	140,937	100.0%	112,163	100.0%	28,774	100.0%

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number and Percent Distribution of Clients of Perinatal User
Birth Outcomes and WIC Enrollment by Funding

Birth Outcomes

	All Programs		CHCs with CPCP		CHCs without CPCP	
Number of Deliveries by Birthweight						
Under 1500 grams	1,316	1.3%	1,094	1.4%	222	1.2%
1501 - 2499 grams	5,355	5.4%	4,306	5.4%	1,049	5.5%
2500 grams and over	91,726	93.2%	74,094	93.2%	17,632	93.3%
Total Number of Deliveries	98,397	100.0%	79,494	100.0%	18,903	100.0%
Fetal Deaths	1,587	100.0%	1,250	100.0%	337	100.0%
Infant Deaths by Age at Death						
27 Days or Less	360	70.6%	287	71.4%	73	67.6%
28 Days or More	150	29.4%	115	28.6%	35	32.4%
Total Number of Infant Deaths	510	100.0%	402	100.0%	108	100.0%
Post-Natal Care						
Postpartum Returnees	76,128	100.0%	61,773	100.0%	14,355	100.0%
Infants Returning for Newborn Visit	72,765	100.0%	59,851	100.0%	12,914	100.0%

WIC Enrollment

	All Programs	CHCs with CPCP	CHCs without CPCP
Number of Infants	308,402	221,807	86,595
Number of Pregnant Women	212,811	162,936	49,875
Number of Lactating Women	73,010	54,233	18,777

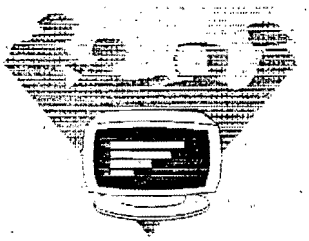
Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

PERINATAL AND CHILD HEALTH PROGRAMS

Number and Percent Distribution of Perinatal Users by Selected Characteristics and Type of Service Delivery Model

Perinatal Users	On-site Prenatal On-site Delivery		On-site Prenatal Referral Delivery		Referral Prenatal Referral Delivery	
	Number	Percent	Number		Number	
Number of Centers Reporting	224	100.0%	158	100.0%	134	100.0%
Female Users Aged 15-44	931,354	100.0%	465,301	100.0%	192,840	100.0%
Prenatal Users by Status						
Newly Pregnant Users	84,574	66.7%	45,116	70.8%	10,596	74.1%
Prenatal Users from Previous year	42,222	33.3%	18,644	29.2%	3,694	25.9%
All Prenatal Users	126,796	100.0%	63,760	100.0%	14,290	100.0%
Teen Pregnancies						
Under Age 15	1,886	6.6%	1,076	8.5%	286	10.7%
15 - 19 Years	26,755	93.4%	11,637	91.5%	2,395	89.3%
All Teen Pregnancies	28,641	100.0%	12,713	100.0%	2,681	100.0%
Number of HIV+ Prenatal Patients	3,979	100.0%	868	100.0%	122	100.0%

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles



DATA HIGHLIGHTS

COMPREHENSIVE PERINATAL CARE PROGRAM

	NUMBER	PERCENT
■ REPORTING PROGRAMS	254	
■ TOTAL FEMALE USERS	1,127,654	
■ PREGNANT WOMEN	162,546	
■ PREGNANT TEENS	33,866	20.8%
■ HIV+ PREGNANT WOMEN	3,722	2.3%
■ 1ST TRIMESTER ENTRY	68,112	60.7%
■ 2ND TRIMESTER ENTRY	33,576	29.9%
■ 3RD TRIMESTER ENTRY	10,475	9.3%
■ DELIVERIES	79,494	
■ LOW BIRTHWEIGHT BABIES	5,400	6.8%
■ POSTPARTUM RETURNEES	61,773	
■ NEWBORN RETURNEES	59,851	

Source: HRSA: BPHC: DPSP: 1995 Perinatal User Profiles

Facsimile Transmittal Form

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Date: 7/28/97 Total Pages 4 (Including this page

To: Sarah Hurwitz From: Mark Buddo

Office: Office:

Confirmation Tel. #: Confirmation Tel. #: (301) 436-850

Fax #: (202) 456-5557 Fax #:

Comments:

Table 33. Live births by month of pregnancy prenatal care began and percent of mothers beginning care in the first trimester and percent with late or no care, by age and race of mother: United States, 1995

Age and race of mother	All births	Month of pregnancy prenatal care began									
		1st trimester			2d trimester	Late or no care			Not stated	Percent	
		Total	1st and 2d months	3d month	4th-6th months	Total	7th-9th months	No care		1st trimester	Late or no care
All races [1]	3,899,589	3,094,402	2,341,956	752,446	551,366	161,678	114,986	46,692	92,143	81.3	4.2
Under 15 years	12,242	5,662	3,285	2,377	4,297	1,801	1,270	531	482	48.1	15.3
15-19 years	499,873	322,346	210,144	112,202	127,297	36,878	27,010	9,868	13,352	66.3	7.6
15 years	30,734	16,769	10,123	6,646	9,716	3,298	2,396	902	951	56.3	11.1
16 years	62,174	36,896	23,083	13,815	18,008	5,393	3,975	1,418	1,875	61.2	8.9
17 years	99,600	63,008	40,376	22,632	28,330	7,589	5,491	2,078	2,693	65.0	7.8
18 years	138,535	91,039	59,779	31,260	34,247	9,664	7,095	2,569	3,585	67.5	7.2
19 years	168,830	114,632	76,763	37,849	38,996	10,954	8,053	2,901	4,248	69.7	6.7
20-24 years	965,547	715,678	513,424	202,254	175,089	50,888	36,930	13,958	23,892	76.0	5.4
25-29 years	1,063,539	886,519	690,739	195,780	118,582	34,837	24,564	10,273	23,601	85.2	3.3
30-34 years	904,666	780,641	622,019	158,622	80,992	23,537	16,001	7,536	18,496	88.2	2.7
35-39 years	383,745	326,725	258,632	68,093	36,682	11,073	7,376	3,697	9,265	87.2	3.0
40 years and over	69,977	56,831	43,713	13,118	8,427	2,664	1,835	829	2,055	83.7	3.9
White	3,098,885	2,538,067	1,943,366	594,701	390,867	107,400	79,729	27,671	82,551	83.6	3.5
Under 15 years	5,854	2,986	1,789	1,197	1,825	837	576	261	206	52.9	14.8
15-19 years	349,635	234,518	153,678	80,840	83,486	23,596	17,743	5,853	8,055	68.7	6.9
15 years	18,118	10,513	6,443	4,070	5,251	1,695	1,391	504	459	59.5	10.7
16 years	40,208	25,024	15,693	9,331	10,867	3,257	2,468	789	1,058	63.9	8.3
17 years	68,841	45,349	29,235	16,114	17,063	4,840	3,607	1,233	1,589	67.4	7.2
18 years	98,635	67,042	44,107	22,935	23,075	6,319	4,757	1,562	2,199	69.5	6.6
19 years	123,835	86,590	58,200	28,390	27,210	7,285	5,520	1,765	2,750	71.5	6.0
20-24 years	743,123	566,989	409,828	157,161	125,349	34,724	26,138	8,586	18,081	78.0	4.8
25-29 years	873,022	745,462	585,984	159,478	87,571	23,648	17,539	6,109	16,341	87.0	2.8
30-34 years	754,662	685,686	535,240	130,446	59,690	15,475	11,253	4,222	13,811	89.9	2.1
35-39 years	316,166	275,414	220,184	55,230	26,847	7,338	5,202	2,136	6,567	88.0	2.4
40 years and over	56,423	47,012	36,663	10,349	6,119	1,782	1,278	504	1,510	85.8	3.2
Black	603,139	407,723	289,932	117,791	127,360	44,127	27,026	17,101	23,929	70.4	7.8
Under 15 years	5,827	2,404	1,398	1,006	2,308	874	624	250	261	43.8	15.4
15-19 years	133,694	78,211	50,522	27,689	38,922	11,721	8,016	3,705	4,840	60.7	9.1
15 years	11,534	5,714	3,387	2,327	4,102	1,258	894	364	480	51.8	11.4
16 years	19,960	10,756	6,733	4,055	6,490	1,916	1,335	581	788	56.2	10.0
17 years	27,618	15,904	10,059	5,845	8,274	2,421	1,641	780	1,019	59.8	9.1
18 years	35,372	21,330	14,032	7,298	9,841	2,938	2,008	930	1,263	62.5	8.8
19 years	39,210	24,475	16,311	8,164	10,215	3,188	2,138	1,050	1,332	64.6	8.4
20-24 years	183,435	122,551	85,829	36,722	40,773	13,481	8,654	4,827	6,630	69.3	7.6
25-29 years	133,535	98,960	71,976	24,984	22,515	8,532	4,864	3,668	5,528	75.7	6.7
30-34 years	96,084	71,152	53,474	17,678	14,597	6,071	3,092	2,979	4,264	77.5	6.6
35-39 years	42,507	30,820	22,784	8,036	6,812	2,849	1,458	1,391	2,026	76.1	7.0
40 years and over	7,957	5,545	3,949	1,596	1,433	599	318	281	380	73.2	7.9

[1] Includes races other than white and black.

Table 34. Percent of mothers beginning prenatal care in the first trimester and percent of mothers with late or no prenatal care by race of mother: United States and each State, Puerto Rico, Virgin Islands, and Guam, 1995

[By place of residence]

State	Percent beginning care in 1st trimester			Percent late [1] or no care		
	All races [2]	White	Black	All races [2]	White	Black
United States [3]	81.3	83.6	70.4	4.2	3.5	7.6
Alabama	81.7	87.8	69.5	3.8	2.2	7.0
Alaska	83.4	85.7	85.3	3.3	2.7	*
Arizona	72.1	73.2	68.9	8.2	7.8	8.2
Arkansas	76.6	80.8	62.1	6.3	4.7	12.1
California	78.5	78.5	76.3	5.2	5.2	6.0
Colorado	80.4	81.1	72.9	5.1	4.9	7.5
Connecticut	87.8	89.5	76.3	2.5	2.1	5.5
Delaware	85.3	88.5	74.4	2.8	1.9	5.8
District of Columbia	59.8	76.9	54.5	14.9	8.2	17.0
Florida	82.6	85.9	71.3	3.4	2.6	5.9
Georgia	84.2	88.8	75.5	3.2	2.1	5.4
Hawaii	83.7	88.8	91.9	3.6	2.2	*
Idaho	79.9	80.1	78.3	4.1	4.0	*
Illinois	80.8	84.4	67.1	4.4	3.1	9.2
Indiana	80.9	82.5	66.9	3.6	3.1	7.2
Iowa	87.1	87.7	72.2	2.4	2.3	6.2
Kansas	85.7	86.8	75.0	2.7	2.4	5.6
Kentucky	84.3	85.7	71.2	2.9	2.6	6.5
Louisiana	80.7	88.3	70.0	4.0	1.9	7.1
Maine	89.1	89.4	78.2	1.7	1.7	*
Maryland	87.9	92.4	77.7	3.0	1.6	6.4
Massachusetts	89.3	90.8	78.7	1.9	1.5	4.7
Michigan	83.6	86.8	69.5	3.3	2.3	7.7
Minnesota	83.6	86.3	62.9	3.0	2.2	9.2
Mississippi	77.2	87.0	66.1	4.8	2.1	7.7
Missouri	85.2	87.7	71.7	3.0	2.2	7.7
Montana	81.5	83.5	85.0	3.5	2.8	*
Nebraska	84.1	85.2	70.5	2.9	2.6	6.3
Nevada	75.7	76.6	65.9	7.9	7.6	12.0
New Hampshire	90.0	90.1	82.9	1.8	1.8	*
New Jersey	82.8	86.4	67.3	4.2	2.8	10.4
New Mexico	69.5	71.6	60.6	8.1	7.2	12.9
New York	78.0	81.5	66.5	5.2	4.1	9.0
North Carolina	83.5	88.3	71.3	3.3	2.1	6.4
North Dakota	83.9	85.2	76.8	2.3	1.9	*
Ohio	84.7	87.3	69.5	3.5	2.5	9.3
Oklahoma	76.2	80.9	66.1	4.9	3.9	8.7
Oregon	78.8	79.2	72.8	4.3	4.2	7.2
Pennsylvania	83.4	86.5	65.3	3.9	2.7	11.1
Rhode Island	89.7	91.1	77.4	1.3	1.1	4.5
South Carolina	78.5	85.5	66.2	4.8	2.8	8.4
South Dakota	81.9	85.6	72.7	3.6	2.0	*
Tennessee	82.6	86.2	71.1	3.6	2.4	7.6
Texas	77.3	77.6	73.7	5.7	5.6	6.6
Utah	84.3	85.3	66.4	3.0	2.7	*
Vermont	87.3	87.5	70.3	1.9	1.9	*
Virginia	83.8	87.8	71.7	3.2	2.1	6.7
Washington	82.7	83.6	75.8	3.5	3.2	6.3
West Virginia	82.0	82.6	66.8	3.0	2.8	8.3
Wisconsin	83.4	86.6	65.5	3.4	2.6	9.1
Wyoming	83.1	83.9	72.7	3.8	3.5	*
Puerto Rico	77.0	78.0	65.0	3.7	3.3	8.6
Virgin Islands	56.0	59.4	54.6	14.9	15.4	14.9
Guam	70.1	79.7	78.0	9.4	*	*

* Figure does not meet standards of reliability or precision.
[1] Care beginning in 3rd trimester.
[2] Includes races other than white and black.
[3] Excludes data for Puerto Rico, Virgin Islands, and Guam.

Table 35. Live births by month of pregnancy prenatal care began, number of prenatal visits, and median number of visits, by race of mother: United States, 1995

Number of prenatal visits and race of mother	All births	Month of pregnancy prenatal care began							
		1st trimester			2d trimester	Late or no care			Not stated
		Total	1st and 2d months	3d month	4th-6th months	Total	7th-9th months	No care	
All races [1]	3,899,589	3,094,402	2,341,956	752,446	551,366	161,678	114,986	46,692	92,143
No visits	46,692	...	...	...	...	46,692	...	46,692	...
1-2 visits	42,718	9,502	5,974	3,528	10,622	20,639	20,639	...	1,955
3-4 visits	86,611	22,789	12,622	10,167	32,796	28,966	28,966	...	2,060
5-6 visits	184,577	75,772	42,422	33,350	78,456	27,315	27,315	...	3,034
7-8 visits	336,984	200,737	121,682	79,055	116,015	18,275	16,275	...	3,957
9-10 visits	738,958	569,550	377,370	192,180	152,728	9,145	9,145	...	7,535
11-12 visits	1,019,388	924,125	701,493	222,632	86,563	3,617	3,617	...	5,083
13-14 visits	637,963	601,426	496,094	105,332	32,551	1,385	1,385	...	2,601
15-16 visits	436,315	413,730	351,339	62,391	19,817	1,022	1,022	...	1,746
17-18 visits	97,463	92,674	78,550	14,124	4,067	245	245	...	477
19 visits or more	139,780	131,642	114,362	17,280	6,766	511	511	...	861
Not stated	132,140	52,455	40,048	12,407	10,985	5,866	5,866	...	62,834
Median number of visits	12.2	12.6	12.8	11.6	9.6	5.3	5.3	...	10.3
White	3,098,685	2,538,067	1,943,366	594,701	390,867	107,400	79,729	27,671	62,551
No visits	27,671	...	...	...	...	27,671	...	27,671	...
1-2 visits	26,290	6,017	3,849	2,168	5,788	13,396	13,396	...	1,089
3-4 visits	55,594	14,444	8,040	6,404	20,373	19,553	19,553	...	1,224
5-6 visits	126,606	53,085	29,776	23,309	52,430	19,106	19,106	...	1,985
7-8 visits	253,847	156,743	96,219	60,524	82,574	11,732	11,732	...	2,798
9-10 visits	583,552	460,567	308,579	151,988	110,938	6,601	6,601	...	5,446
11-12 visits	844,023	772,333	591,857	180,476	64,952	2,750	2,750	...	3,988
13-14 visits	536,908	509,210	422,348	86,862	24,627	1,009	1,009	...	2,062
15-16 visits	358,191	341,525	291,743	49,782	14,505	798	798	...	1,365
17-18 visits	80,905	77,257	65,920	11,337	3,078	195	195	...	375
19 visits or more	113,672	107,956	94,765	13,191	4,744	373	373	...	599
Not stated	91,626	38,930	30,270	8,660	6,858	4,218	4,218	...	41,620
Median number of visits	12.3	12.6	12.8	11.7	9.8	5.5	5.5	...	10.5
Black	603,139	407,723	289,932	117,791	127,360	44,127	27,026	17,101	23,929
No visits	17,101	...	...	...	...	17,101	...	17,101	...
1-2 visits	13,550	2,945	1,773	1,172	4,213	5,748	5,748	...	744
3-4 visits	25,425	7,049	3,900	3,149	10,327	7,341	7,341	...	708
5-6 visits	45,703	18,132	10,292	7,840	20,408	6,296	6,296	...	867
7-8 visits	61,945	32,005	18,641	13,364	25,560	3,441	3,441	...	939
9-10 visits	115,134	78,522	49,230	29,292	32,958	1,977	1,977	...	1,679
11-12 visits	125,875	107,454	76,663	30,791	16,949	628	628	...	844
13-14 visits	72,791	65,807	52,089	13,718	6,291	295	295	...	398
15-16 visits	59,051	54,101	44,383	9,718	4,480	170	170	...	300
17-18 visits	12,400	11,478	9,276	2,202	809	36	36	...	77
19 visits or more	21,106	19,012	15,639	3,373	1,749	113	113	...	232
Not stated	32,958	11,218	8,046	3,172	3,616	981	981	...	17,141
Median number of visits	11.4	12.4	12.7	11.2	9.1	5.0	5.0	...	9.4

[1] Includes races other than white and black.

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Facsimile Cover Sheet

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Date: 7/28/97 **Total number of pages (including cover sheet** 3

From: Dr. Milton Kotelchuck
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Message:

Per your request

Articles in sections [illegible]

Over the last two decades, considerable emphasis has been placed on the importance of adequate prenatal care for minority populations, who have been identified as having a greater risk of poor pregnancy outcome. To the extent that health care educational messages and campaigns have been effective, one might hypothesize that minority women who do receive prenatal care would be more likely than White women to be given information on these topics. These data indicate that this is not the case and suggest the need for continued and expanded medical education programs to increase provider awareness of the importance of these issues as part of prenatal care services to all women, particularly women at higher risk of poor pregnancy outcome.

The findings that there are variations in the content of prenatal care by ethnicity of the mother, site of care, and age, among other factors, also have implications for the interpretation of investigations focusing on the impact of the adequacy of prenatal care, as measured by the month of initiation of prenatal care and by the number of prenatal care visits. Indices of prenatal care utilization have been used to investigate ethnic differences in pregnancy outcome.[30,31] Although ethnic variations in prenatal care utilization have been repeatedly uncovered, the magnitude of these variations was insufficient to explain prevailing ethnic disparities in pregnancy outcome measures. The present findings, indicating that the content of prenatal care is not consistent for all ethnic groups, must now be considered as another potential explanation.

However, it should be stressed that although these data suggest that Black women receive less prenatal care advice on alcohol and tobacco use, it would be imprudent to overspeculate on whether these ethnic differences in the content of prenatal care advice are likely to appreciably explain the observed ethnic disparities in pregnancy outcome—given the lower likelihood of Black women's smoking and drinking before delivery. However, the content of prenatal care and the linkage of content and maternal needs in our understanding of the causes of racial disparities in birth outcomes must now be considered.

Conclusion

The present study suggests that large numbers of women of all races do not receive sufficient health behavior modification information as part of the content of their prenatal care. In particular, Black

TABLE 4—The Odds of Not Receiving Advice on Prenatal Care Behaviors during Pregnancy

	Alcohol Cessation OR (95% CI)	Smoking Cessation OR (95% CI)	Breast-feeding OR (95% CI)	Drug Use Cessation OR (95% CI)
Race: Black (vs White)	1.29 (1.10, 1.51)	1.20 (1.01, 1.39)	1.16 (0.99, 1.32)	1.01 (0.85, 1.57)
Marital status				
Single (vs married)	0.82 (0.75, 1.14)	1.02 (0.82, 1.26)	1.40 (1.16, 1.72)	0.76 (0.55, 1.05)
Separated or divorced (vs married)	1.01 (0.78, 1.32)	1.42 (1.07, 1.97)	1.15 (0.90, 1.46)	0.96 (0.73, 1.23)
Household income				
<$8 000 (vs ≥$18 000)	1.15 (0.91, 1.45)	1.30 (1.01, 1.66)	1.39 (1.11, 1.74)	1.07 (0.84, 1.36)
$8 000–$11 999 (vs ≥$18 000)	1.23 (0.96, 1.55)	1.39 (1.09, 1.77)	1.17 (0.94, 1.45)	1.13 (0.88, 1.40)
$12 000–$17 999 (vs ≥$18 000)	1.21 (0.97, 1.51)	1.40 (1.11, 1.77)	0.98 (0.78, 1.18)	1.06 (0.85, 1.32)
Maternal education				
≤12 y (vs ≥13 y)	1.32 (1.06, 1.65)	1.21 (0.96, 1.54)	1.42 (1.15, 1.75)	1.16 (0.93, 1.45)
High school grad (vs >12 y)	1.13 (0.97, 1.33)	1.10 (0.94, 1.30)	1.13 (0.98, 1.30)	1.07 (0.92, 1.24)
Maternal age				
≤19 y (vs 20–29 y)	1.15 (0.93, 1.45)	0.83 (0.73, 1.18)	0.90 (0.73, 1.11)	0.81 (0.73, 1.15)
30–34 y (vs 20–29 y)	0.91 (0.75, 1.27)	1.19 (0.95, 1.36)	1.08 (0.92, 1.27)	1.27 (1.06, 1.50)
≥35 y (vs 20–29 y)	1.53 (1.19, 2.39)	1.61 (1.24, 2.08)	1.06 (0.83, 1.35)	1.64 (1.29, 2.09)
Women, Infants, and Children program participation (no vs yes)	1.29 (1.05, 1.55)	1.54 (1.26, 1.88)	1.57 (1.31, 1.88)	1.29 (1.00, 1.68)
Primary site of prenatal care				
Publicly funded site (vs private office)	1.37 (0.72, 1.56)	1.04 (0.77, 1.21)	0.79 (0.65, 0.97)	0.78 (0.62, 0.97)
Hospital clinic (vs private office)	1.23 (0.93, 1.62)	0.97 (0.69, 1.35)	1.05 (0.86, 1.28)	0.78 (0.63, 0.96)
Health maintenance organization (vs private office)	0.87 (0.67, 1.12)	0.98 (0.82, 1.20)	0.75 (0.57, 1.00)	0.78 (0.56, 1.02)
Other site* (vs private office)	0.73 (0.45, 1.06)	0.89 (0.47, 1.00)	0.91 (0.68, 1.26)	0.65 (0.45, 0.94)
Type of payment for care				
Paid with own money (vs not pay)	1.16 (0.97, 1.21)	1.04 (0.85, 1.24)	1.06 (0.91, 1.24)	1.08 (0.92, 1.27)
No insurance (vs private insurance)	1.27 (1.03, 1.55)	1.01 (0.80, 1.29)	0.75 (0.61, 0.93)	1.10 (0.86, 1.40)
Not paid by Medicaid (vs paid by Medicaid)	0.91 (0.69, 1.12)	0.89 (0.68, 1.18)	0.88 (0.68, 1.14)	1.12 (0.78, 1.60)
Not paid by other government program (vs paid by program)	1.31 (0.73, 1.21)	1.54 (0.72, 1.63)	0.95 (0.74, 1.25)	1.34 (0.95, 1.89)
Not paid by other source (vs paid)	1.21 (0.77, 1.75)	1.53 (0.96, 1.84)	0.96 (0.72, 1.28)	1.28 (0.93, 1.74)
Trimester that prenatal care began: second or third trimester (vs first)	1.09 (0.92, 1.27)	1.06 (0.87, 1.21)	1.05 (0.88, 1.17)	0.94 (0.85, 1.04)
Previous pregnancy had prior adverse outcome (vs no pregnancy or no adverse outcome)	0.91 (0.70, 1.37)	0.98 (0.83, 1.17)	0.89 (0.75, 1.03)	0.83 (0.68, 1.01)
Drank alcohol in year before delivery (yes vs no)	1.53 (0.46, 3.61)			
Smoked in year before delivery (yes vs no)		2.15 (0.12, 0.18)		
Race by single marital status interaction				1.43 (1.00, 2.04)

Note. Odds are estimated from multivariate logistic regression models among the sample of 8310 respondents in the 1988 National Maternal and Infant Health Survey. OR = odds ratio; CI = confidence interval.
*Other sites of care could include hospital emergency room, or other unspecified site.

women are more likely not to receive health behavior advice that could reduce their chances of having an adverse pregnancy outcome. Specifically, they are less likely to report receiving smoking and alcohol cessation advice. □

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cessation of drug use followed a pattern similar to that of smoking advice, with women of poorer socioeconomic status receiving more advice. Advice on cessation of illegal drug use was significantly more frequent for single, less educated, younger, and poorer women. Public clinics gave more advice than private sources of care.

Advice promoting breast-feeding was the advice reported least often. In general, there was some tendency for women of higher socioeconomic status to get more breast-feeding advice. Breast-feeding advice was more frequent in Whites, married women, and women with more than 12 years of education; it was least frequent in the lowest-income women. Site of prenatal care presents a complex picture, with HMOs and publicly funded clinics the most frequent providers of breast-feeding information. WIC participants reported only a 54.7% rate of receiving breast-feeding advice from their health care providers.

Table 3 shows the unadjusted and adjusted ORs (controlling for all variables in the logistic model) for not reporting receipt of advice on each of the four health behaviors, by race. Before adjustment, Black women were significantly more likely to report not receiving advice on cessation of alcohol consumption, smoking cessation, and breast-feeding promotion. After adjustment, a significant racial disparity in advice for alcohol and smoking cessation still remained. Breast-feeding promotion just missed reaching significance and was similarly skewed towards more advice for White women. The unadjusted OR for race in the analysis of drug use cessation was 0.99. When race was analyzed with the covariates, before interaction terms were assessed, the adjusted OR became significant (1.28), indicating that racial disparities were masked in the bivariate analysis. However, there was a significant interaction between race and marital status: Black single women were 1.4 times more likely than White single women not to receive advice on drug use cessation, whereas there were no racial differences among married women.

Table 4 presents the full logistic analysis for each of the outcome variables. For advice on cessation of alcohol consumption, only six variables were significant: drinkers were more likely to be given advice; and older women (>35 years), women with less than 12 years of education, Black women, WIC nonparticipants, and women who began prenatal care after

TABLE 2—The Association of Prenatal Care Advice with Race and Selected Covariates among the Sample of 8310 Respondents in the 1988 National Maternal and Infant Health Survey

	% Reporting Advice Received about Alcohol	χ^2	% Reporting Advice Received about Smoking	χ^2	% Reporting Advice Received about Drugs	χ^2	% Reporting Advice Received about Breast Feeding	χ^2
Race								
Black	60.2		64.2		66.1		47.3	
White	70.3	59.11***	70.7	25.17***	65.8	0.03	52.4	12.80***
Marital status								
Married	65.8		69.3		64.4		53.0	
Divorced or separated	66.1		69.0		67.3		50.4	
Single	63.9	21.45***	70.4	0.76	70.4	18.96***	45.4	28.23***
Maternal education								
<12 y	60.3		73.2		67.7		47.0	
High school graduate	67.5		70.7		66.3		51.3	
>12 y	72.1	61.88***	67.2	19.63***	64.9	3.65	53.1	13.94***
Maternal age, y								
15–19	61.8		71.4		71.1		50.6	
20–29	69.8		71.4		67.9		52.0	
30–34	71.8		67.2		61.5		50.4	
35+	68.1	69.52***	58.2	53.07***	55.5	85.94***	51.4	1.67
Household income								
<$8,000	63.7		70.6		69.9		45.9	
$8,000–$11,999	63.1		70.2		67.8		50.8	
$12,000–$17,999	64.7		68.5		67.1		55.1	
$18,000–$29,999	69.0		71.1		64.6		53.6	
$30,000–$59,999	71.9		68.7		64.6		51.0	
$60,000+	76.4	61.52***	67.1	6.62	64.2	13.95*	51.4	21.62***
Prenatal care payment*								
Medicaid	62.0		71.0		70.0		49.9	
Private insurance	70.3		68.2		64.0		50.8	
Own money	70.0		68.9		64.8		53.6	
Other government help	69.1		74.8		73.2		52.8	
Other type of payment	69.2		75.9		71.7		53.3	
Site of prenatal care								
Private office	68.3		68.6		63.4		50.6	
Publicly funded site	68.0		69.9		71.7		56.2	
Health maintenance organization	72.3		70.0		67.7		58.7	
Hospital clinic	68.4		71.7		70.8		48.0	
Other site of care	79.2	8.93	76.0	10.84*	74.1	51.52***	53.4	18.05**
Trimester that prenatal care began								
First	70.0		69.8		65.8		52.3	
Second	62.5		69.9		66.1		48.1	
Third	64.3	30.63***	64.0	9.83	67.6	0.43	49.4	7.80*
Received Women, Infants, and Children program assistance	65.8		74.3		71.6		54.7	
Did not receive Women, Infants, and Children program assistance	66.4	9.02**	67.7	32.81***	63.8	44.69***	50.2	13.13***
Drank alcohol in year before delivery	76.1							
Did not drink alcohol in year before delivery	60.8	225.33***						
Smoked in year before delivery			80.4					
Did not smoke in year before delivery			55.5	822.27***				

*Women could provide more than one source of payment; therefore, no χ^2 value was calculated.
*P < .05; **P < .01; ***P < .001.

TABLE 3—Unadjusted and Adjusted Odds Ratios Comparing Blacks with Whites on Prenatal Care Advice in the 1988 National Maternal and Infant Health Survey

Outcome	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Did not receive drinking cessation advice	1.57 (1.41, 1.74)	1.29 (1.10, 1.51)
Did not receive smoking cessation advice	1.36 (1.21, 1.50)	1.20 (1.01, 1.39)
Did not receive advice on breast-feeding	1.22 (1.11, 1.35)	1.15 (0.99, 1.32)
Did not receive advice on illegal drug use	0.99 (0.89, 1.09)	1.28 (1.10, 1.48)[a] 1.01 (0.85, 1.57)[b]

Note. OR = odds ratio; CI = confidence interval.
[a]Model without interaction.
[b]Model with significant interaction.

the first trimester were all less likely to be given advice.

For advice on smoking cessation, there were seven significant factors. Smokers were substantially more likely than nonsmokers to receive advice. Older and separated women received less smoking cessation advice. Although the bivariate analysis indicated that income was not significant, the multivariate analysis showed that lower-income women with incomes of less than $6 000, $6 000–$11 999, and $12 000–$17 999 received less advice than upper-income women. WIC nonparticipants also reported less advice.

For breast-feeding promotion, there were six significant factors, and each was stronger than race. Single women, women with less than 12 years of education, women with the lowest income levels, and WIC nonparticipants received less advice promoting breast-feeding. Women who received most of their prenatal care at publicly funded sites or HMOs or who had no private insurance were more likely to report receiving advice than women who received care at private physicians' offices.

Three factors predicted not receiving drug cessation advice. Race, in the presence of interaction, was not significant. Older women (ages 30–34 and 35+ years) and WIC nonparticipants received less advice; women who used either public prenatal care sites or hospital clinics received more advice than those who received care at private offices. Once again, WIC nonparticipants received less advice.

Interaction terms (with race) were examined for each of the four health behavior outcome measures. They were not significant or informative for smoking, alcohol, or breast-feeding advice. A significant interaction term (race by marital status) was noted for illegal drug use (OR = 1.43).

Discussion

Advice about prenatal health behavior is not a uniform feature of all prenatal care. Regardless of race, one third or more of the women surveyed reported receiving no prenatal advice on alcohol, tobacco, or drug use, and approximately 50% received no prenatal information on breast-feeding. The observation that women who smoked or drank were more likely to report receiving prenatal advice on tobacco or alcohol use is a positive indication that services were being targeted to at-risk groups. Notwithstanding, given the emphasis placed on the importance of providing all women with prenatal advice on substance use and breast-feeding, these findings indicate that much improvement is still needed in the content of prenatal care being provided to women in the United States.

The content of prenatal care is not uniform across racial groups. Compared with White women, Black women receiving prenatal care advice were significantly less likely to report receiving advice on drinking and smoking cessation, and the disparity in breast-feeding advice approached significance. This is the other critical finding of the study.

The current analyses suggest that although race is an important factor in the content of prenatal care, other programmatic and sociodemographic factors are equally, if not more, important. First, advice about two of the behaviors, smoking and drug use, was skewed towards poorer women, whereas advice about alcohol use and breast-feeding was skewed towards wealthier women. Health care providers may be giving advice based on their stereotypes of who is involved in what type of behaviors and not on a principal of equity. Second, the site of prenatal care was important. Advice on illegal drug use was more common for patients of publicly funded sites and hospital clinics than for private-office patients. Patients of HMOs and publicly funded sites were also found to have a lower risk of not receiving breast-feeding advice compared with private-office patients. Third, participation in the WIC program, which mandates prenatal care advice on these behaviors as part of its basic package of services,[23,24] had a protective effect in each multivariate analysis, with WIC nonparticipants reporting less prenatal advice. Fourth, older women (>35 years of age) were more likely to report not receiving advice on alcohol, tobacco, and drug use. This finding may reflect a perception on the part of the providers that these women were in less need of this advice because of earlier pregnancies, particularly in the case of illegal drug and alcohol use. Alternatively, providers may have perceived that these messages would be less effective in terms of changing established behaviors (e.g., tobacco use) and consequently may have stressed them to a lesser degree.

Although interactions were explored for each of the outcome measures, a significant interaction between marital status and race was only identified in the analysis of advice on illegal drug use. This finding suggests that White single women were targeted for advice on illegal drug use more often that Black single women or tended to report receiving such advice in greater proportions. These data are insufficient to propose an explanation for these findings. Illegal drug use is a sensitive area of discussion, and further investigation of these findings may need to explore to what extent differences in ethnic and cultural characteristics of providers and patients may inhibit the provision of advice in this area.

This study is limited in that it is based on the self-reports of the women surveyed. It is unclear whether women may be more likely to overestimate or underestimate the actual receipt of prenatal advice or whether error rates vary by type of advice, site of prenatal care, ethnicity of the mother, birth outcome, or other factors. Some studies have found that maternal recall is relatively accurate for birth outcomes,[25,26] whereas maternal recall of exposures during pregnancy has been mixed.[27,28] Moreover, patients and providers may have different recall on the content of a visit.[29] Nonetheless, it is women's perception, not the providers' report of their practice, that is ultimately most likely to be linked to health behavior changes.

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Articles on section 2

American Journal of Public Health

Reprint

Racial Disparities in Reported Prenatal Care Advice from Health Care Providers

Michael D. Kogan, PhD, Milton Kotelchuck, PhD, MPH, Greg R. Alexander, ScD, MPH, and Wayne E. Johnson, PhD

ABSTRACT

Objectives. The relationship between certain maternal behaviors and adverse pregnancy outcomes has been well documented. One method to alter these behaviors is through the advice of women's health care providers. Advice from providers may be particularly important in minority populations, who have higher rates of infant mortality and prematurity. This study examines racial disparities according to women's self-report of advice received from health care providers during pregnancy in four areas: tobacco use, alcohol consumption, drug use, and breast-feeding.

Methods. Health care providers' advice to 8310 White non-Hispanic and Black women was obtained from the National Maternal and Infant Health Survey.

Results. After controlling for sociodemographic, utilization, and medical factors, Black women were more likely to report not receiving advice from their prenatal care providers about smoking cessation and alcohol use. The difference between Blacks and Whites also approached significance for breast-feeding. No overall difference was noted in advice regarding cessation of drug use, although there was a significant interaction between race and marital status.

Conclusions. These data suggest that Black women may be at greater risk for not receiving information that could reduce their chances of having an adverse pregnancy outcome. (*Am J Public Health.* 1994;84:82–88)

Introduction

The relationship between maternal health risk behaviors during pregnancy (such as smoking, alcohol consumption, or illegal drug use) and adverse outcomes has been well documented. Maternal smoking has been associated with an increased risk of low birthweight, impaired fetal growth, fetal death, obstetric complications, and infant mortality.[1–4] Heavy alcohol consumption has been linked to a group of anomalies known as fetal alcohol syndrome.[5] Moderate or low alcohol consumption during pregnancy has been related to increased risks for preterm delivery, reduced birthweight, and spontaneous abortions.[6–8] Although it has been suggested that the evidence for linking moderate or low alcohol consumption with adverse outcomes is not conclusive,[9] health education messages continue to advise prudence in or abstinence from alcohol consumption during pregnancy. Illegal drug use, particularly use of cocaine or crack cocaine, has been associated with elevated risks for small-for-gestational-age births, premature births, abruptio placentae, and perinatal deaths.[10,11]

One way to alter these behaviors is through the advice and encouragement of women's health care providers. Most women are seen during the first trimester, when cessation of these behaviors could lower their risk of an adverse reproductive outcome.[12] As such, providers are in an advantageous position to identify pregnant women who are smoking, drinking, or using drugs and to initiate a health education program.[13] Studies have indicated that smokers are more likely to quit after receiving advice from a physician.[14,15]

Advice from providers may be particularly important in minority populations, who have higher rates of low-birthweight infants, premature births, fetal mortality, sudden infant death syndrome, and all-cause infant mortality.[16–18] There have been indications that Black women at high risk of giving birth to a low-birthweight infant may derive more important benefits from prenatal interventions.[19]

Analysis of racial disparities in prenatal care heretofore implicitly assumed that all prenatal care is the same. Yet the content of prenatal care may not be identical for all populations. The equivalency of the content of prenatal care has yet to be demonstrated, especially for all racial groups. Differential prenatal care may lead to differential efficacy and could be a factor in the large differential rates of birth outcomes by race seen in the United States.

Prenatal care interventions may be an important source of ameliorating racial disparities in maternal risk status and ultimately may be important for birth outcomes. A report by the US Public Health Service advocated examining the content of prenatal care.[20] Perceived maternal advice has not yet been extensively examined, especially by race.

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Editor's Note. See related editorial by Zapka (p 12) in this issue.

The objectives of this study were to (1) examine the percentages of Black and non-Hispanic White women who reported receiving advice from health care providers during pregnancy in four areas: tobacco use, alcohol consumption, drug use, and breast-feeding; and (2) determine whether any observed racial disparities were the result of other contributing factors.

Methods

These objectives were explored with data collected from the 1988 National Maternal and Infant Health Survey conducted by the National Center for Health Statistics. This was a follow-back survey consisting of three groups: 9953 women who had a live birth in 1988, 5332 women who suffered an infant death in 1988, and 3309 women who had a 1988 fetal loss. The survey was designed to be nationally representative and was drawn from the 1988 vital records of 48 states and the District of Columbia (South Dakota and Montana were not included). It included an oversampling of Blacks and low-birthweight infants. Approximately 50% of the respondents were Black, and 30% of the infants in the live birth sample had a low birthweight. Both married and unmarried women were included in the sample.

To adjust for this sampling frame, all live births were sorted into sampling strata formed by information taken from the birth certificate: mother's age and marital status and child's race and birthweight. To ensure an adequate sample size for analysis, different sampling rates were applied to each stratum. The same strata were used as nonresponse adjustment cells. The sample was then adjusted by poststratification to once again be representative of the United States. A more complete description of the design of the 1988 National Maternal and Infant Health Survey has been published elsewhere.[21]

The National Maternal and Infant Health Survey used a mixed-mode methodology (mail, phone, or personal interview) to collect information from respondents. The response rate for women in the live birth cohort was 74.4%. With respect to birth certificate information, nonresponders were slightly more likely than responders to be Black and unmarried (data not shown).

This investigation included only women in the live birth cohort on the supposition that women with fetal deaths may not have been in care long enough to receive certain types of advice from their providers and that women with infant deaths may recall their prenatal care experiences differently. The study was also limited to White and Black women who reported receiving some prenatal care: 98% of the population. After other racial groups and women who classified themselves as Hispanic were excluded, 8310 women who had a live birth in 1988 were available for analysis. The study population is nationally representative for non-Hispanic White and Black live births only.

The outcome measures used in the present study included the mothers' responses (yes/no) to a series of questions regarding the receipt of any advice or instructions during any of their prenatal visits on (1) trying to breast-feed their baby; (2) reducing or eliminating consumption of alcohol; (3) reducing or eliminating use of tobacco; and (4) not using illegal drugs such as marijuana, cocaine, or crack cocaine.

Maternal race, education, household income, and marital status was determined from the mothers' responses to the questionnaire. Maternal age and the trimester that women began prenatal care was drawn from the birth certificate.

Respondents were asked where they went for most of their prenatal care. They were given a choice of private doctor's or nurse-midwife's office, county or city health department, community health center, health maintenance organization (HMO), work or school clinic, hospital clinic, hospital emergency room, or other site. In the analysis, county or city health department and community health center were combined into a variable called publicly funded sites of care. Work or school clinic and hospital emergency room were included in the "other" category because of small numbers (<1%).

Women were asked how their prenatal care was paid for. The choices were the respondent's or her partner's own income, insurance that the respondent carried or was carried for her, Medicaid, government assistance other than Medicaid (state or local), or other. Women were also asked whether they had received assistance from the Women, Infants, and Children's (WIC) program because women participating in the WIC program are supposed to receive advice on nutrition and health habits.

Information regarding the use of tobacco or alcoholic beverages in the 12 months before the respondents' infants were born was taken from the National Maternal and Infant Health Survey responses. Data on reported drug use were not included because of the known unreliability of such data. The National Maternal and Infant Health Survey did not inquire whether prior infants were breast-fed.

On the supposition that women who had a previous adverse outcome would be more likely to obtain or seek advice, a variable was created that categorized women into three risk groups based on their response to pregnancy history questions: women who did not report a previous pregnancy; women who had a previous pregnancy without an adverse outcome; and women whose previous pregnancy ended in either a stillbirth, miscarriage, abortion, or infant death.

Analysis

Because of the complex sampling method used in the National Maternal and Infant Health Survey, all analyses were weighted to be representative of the US national distribution for non-Hispanic Whites and Blacks.[21]

The data presentation is composed of three sections. First, demographics by race are presented descriptively. Second, the bivariate racial disparities are noted for the four outcome measures, as well as for the covariates. Third, logistic regressions were run to isolate the contributions of race.

Scaled weights were used to perform all analyses. The scaling factor was the reciprocal of the mean weight; the sum of all the scaled weights is the same as the actual number of observations.

The logistic regression analysis controlled for age, marital status, education, income, site of prenatal care, type of payment, maternal health behaviors, trimester that care began, and prior adverse pregnancy outcomes. In addition, interaction terms were examined in the multivariate models. The logistic regression analyses were conducted with the Survey Data Analysis software program.[22] This program was developed specifically for calculating variances in complex sample surveys. Adjusted odds ratios (ORs) and 95% confidence intervals were computed by using the beta coefficients and standard errors obtained from the logistic analyses.

Results

Table 1 shows the characteristics, by race, of the sample of 8310 women from the 1988 National Maternal and Infant Health Survey on all study sociodemographic, health system, health behaviors, and medical history variables, weighted to reflect their real population distributions.

TABLE 1—Characteristics of the Sample of 8310 Women from the 1988 National Maternal and Infant Health Survey, by Race

	Percentage of Weighted Sample[a]		
	White (n = 6782)	Black (n = 1582)	Total (n = 8310)
Race			
Black			18.4
White			81.6
Marital status			
Married	83.4	32.1	74.0
Divorced or separated	7.2	11.2	7.9
Single	9.4	56.8	18.1
Maternal education			
<12 y	12.1	27.0	14.8
High school graduate	40.3	43.1	40.8
>12 y	47.6	29.9	44.3
Maternal age, y			
15–19	9.4	22.8	11.8
20–29	59.2	58.6	59.1
30–34	23.2	13.5	21.4
35+	8.2	5.3	7.7
Income			
<$6 000	7.7	32.9	12.4
$6 000–$11 999	10.2	22.4	12.5
$12 000–$17 999	11.1	13.3	11.5
$18 000–$29 999	24.0	16.0	22.4
$30 000–$59 999	38.3	14.8	32.3
$60 000+	10.6	2.5	9.1
Prenatal care payment[b]			
Medicaid	12.5	47.7	18.9
Private insurance	66.2	31.2	61.4
Own money	38.8	15.3	34.5
Other government help	4.5	10.4	5.6
Other type of payment	6.8	8.4	7.1
Site of prenatal care			
Private office	73.5	39.9	67.4
Publicly funded site	8.5	28.5	11.8
Health maintenance organization	4.9	5.6	5.0
Hospital clinic	9.1	24.1	11.9
Other site of care	4.0	4.0	4.0
Received Women, Infants, and Children program assistance	20.0	56.2	27.0
Smoked in the year before delivery	34.1	25.3	32.4
Drank any alcohol in the year before delivery	55.4	26.3	50.0
Previous pregnancy history			
No previous pregnancy	35.4	36.5	35.6
Previous pregnancy with no adverse outcome	44.5	47.2	44.9
Previous pregnancy with adverse outcome	20.1	16.3	19.4
Trimester that prenatal care began			
First	85.1	64.1	81.4
Second	12.4	29.2	15.4
Third	2.5	6.6	3.2

[a]For all analyses, the figures given are the weighted-sample figures.
[b]Women could provide more than one source of payment.

Demographically, Black women giving birth in 1988 were distinct from White women giving birth in 1988. Black women were more frequently single, were less likely to be educated beyond high school, were younger, and had lower incomes. Black women also utilized publicly funded sites of care, the WIC program, and Medicaid programs more frequently than White women. Black women also reported better smoking and drinking health behaviors than White women.

Table 2 shows the bivariate association of race and all study covariates with the four health behavior advice variables. In all four areas, substantial numbers of women did not report receiving health behavior advice. Smoking cessation was the most common advice reported (69.5%), closely followed by cessation of alcohol consumption (68.4%). Receiving breast-feeding advice was reported by only 51% of all women in the United States.

White women reported receiving more prenatal advice on alcohol, smoking, and breast-feeding than did Black women. The disparity was greatest for avoidance of alcohol: only 60% of Blacks reported that they received advice on alcohol avoidance from their prenatal care provider compared with 70% of Whites.

For cessation of alcohol consumption, advice was, in general, substantial for all subgroups, but significantly more frequent for women of higher socioeconomic status (e.g., more often married, more than 12 years of education, and more income). Advice increased with age, through 30–34 years. Not surprisingly, advice on cessation of alcohol consumption was highest for alcohol users (76.1%), but even in those cases, 23.9% of alcohol users did not get advice. Although not presented in Table 2, the racial disparity remained after controlling for drinking status: 76.8% of White women who said they had drunk some alcohol in the 12 months before their delivery reported that they received advice compared with 69.7% of Black drinkers. Disparities across education and income groups seemed slightly stronger than disparities by race.

Advice on smoking cessation appeared to follow a different trend than advice on cessation of alcohol consumption. Demographically, younger women and women with less than 12 years of education received more advice. Income and marital status were less significant. Hospital clinics and other sites of prenatal care were the most likely to give advice; private offices were the least likely. Smoking advice was given to 90.4% of smokers and 59.5% of nonsmokers. Smoking status was, by far, the strongest predictor of smoking advice. Again, though not shown in the data presented, the racial disparity remained after controlling for the behavior status: 91.0% of White women who smoked in the year before delivery reported receiving advice compared with 86.5% of Black women who smoked. Disparities across age, WIC status, and smoking status seemed stronger than disparities by race.

Racial disparities were not noted for advice on cessation of drug use in the bivariate analysis. In general, advice about

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Articles on section 2 Grant II

cessation of drug use followed a pattern similar to that of smoking advice, with women of poorer socioeconomic status receiving more advice. Advice on cessation of illegal drug use was significantly more frequent for single, less educated, younger, and poorer women. Public clinics gave more advice than private sources of care.

Advice promoting breast-feeding was the advice reported least often. In general, there was some tendency for women of higher socioeconomic status to get more breast-feeding advice. Breast-feeding advice was more frequent in Whites, married women, and women with more than 12 years of education; it was least frequent in the lowest-income women. Site of prenatal care presents a complex picture, with HMOs and publicly funded clinics the most frequent providers of breast-feeding information. WIC participants reported only a 54.7% rate of receiving breast-feeding advice from their health care providers.

Table 3 shows the unadjusted and adjusted ORs (controlling for all variables in the logistic model) for not reporting receipt of advice on each of the four health behaviors, by race. Before adjustment, Black women were significantly more likely to report not receiving advice on cessation of alcohol consumption, smoking cessation, and breast-feeding promotion. After adjustment, a significant racial disparity in advice for alcohol and smok-

TABLE 3—The Association of Prenatal Care Advice with Race and Selected Covariates among the Sample of 8310 Respondents in the 1988 National Maternal and Infant Health Survey

	% Reporting Advice Received about Alcohol	χ^2	% Reporting Advice Received about Smoking	χ^2	% Reporting Advice Received about Drugs	χ^2	% Reporting Advice Received about Breast-feeding	χ^2
Race								
Black	80.2		64.2		66.1		47.3	
White	70.3	59.11***	70.7	25.17***	65.8	0.03	52.4	12.80***
Marital status								
Married	69.8		69.3		64.6		51.0	
Divorced or separated	66.1		69.0		67.3		50.4	
Single	83.9	21.45***	70.4	0.76	70.4	18.96***	45.4	28.23***
Maternal education								
<12 y	80.3		73.2		67.7		47.9	
High school graduate	67.6		70.7		66.3		51.3	
>12 y	72.1	81.80***	67.2	18.63***	64.9	3.65	53.1	13.94***
Maternal age, y								
15–19	81.6		71.4		71.1		50.6	
20–29	69.8		71.4		67.9		52.0	
30–34	71.8		67.2		61.5		50.4	
35+	68.1	59.52***	58.2	53.07***	55.5	85.94***	51.4	1.67
Household income								
<$8 000	83.7		70.6		69.9		45.9	
$8 000–$11 999	83.1		70.2		67.8		50.9	
$12 000–$17 999	64.7		68.5		67.1		55.1	
$18 000–$29 999	69.0		71.1		64.6		53.6	
$30 000–$59 999	71.0		68.7		64.8		51.0	
$60 000+	76.4	61.52***	67.1	6.62	64.2	13.95*	51.4	21.62***
Prenatal care payment†								
Medicaid	82.0		71.0		70.0		49.9	
Private insurance	70.3		68.2		64.0		50.5	
Own money	70.0		68.9		64.9		53.6	
Other government help	83.1		74.9		73.2		52.8	
			[illegible]		[illegible]		53.3	

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TABLE 6—Outline of the Adequacy of Prenatal Care Utilization Index

I. Month prenatal care began (Adequacy of Initiation of Prenatal Care)
- Adequate Plus: 1st or 2nd month
- Adequate: 3rd or 4th month
- Intermediate: 5th or 6th month
- Inadequate: 7th month or later, or no prenatal care

II. Proportion of the number of visits recommended by the American College of Obstetricians and Gynecologists received from the time prenatal care began until delivery (Adequacy of Received Services)
- Adequate Plus: ≥110%
- Adequate: 80–109%
- Intermediate: 50–79%
- Inadequate: <50%

III. Summary Adequacy of Prenatal Care Utilization Index
- Adequate Plus: Prenatal care begun by the 4th month and 110% or more of recommended visits received
- Adequate: Prenatal care begun by the 4th month and 80%–109% of recommended visits received
- Intermediate: Prenatal care begun by the 4th month and 50%–79% of recommended visits received
- Inadequate: Prenatal care begun after the 4th month or less than 50% of recommended visits received

TABLE 7—Ratings Assigned to Births According to the Adequacy of Prenatal Care Utilization Index Compared with the Kessner Index

Kessner Index	Adequacy of Prenatal Care Utilization Index: Inadequate, %	Intermediate, %	Adequate, %	Adequate Plus, %	% of Total Births
Inadequate	7.7	0.0	0.0	0.0	7.7
Intermediate	8.9	10.1	5.0	2.4	26.3
Adequate	.1	12.1	38.3	15.4	65.9
% of total births	16.7	22.2	43.4	17.7	100.0

Note. Percentages are those of all US births; they may not add to 100 because of rounding.
Source. Percentages are based on an analysis of birth certificate data from the 1980 National Natality Survey.[8]

2000's goal 14.11 is to increase first-trimester prenatal care to at least 90% of live births.[14] By contrast, continuity of prenatal care once enrolled is much less emphasized. Professional and public attention has been drawn to the theme of early access to care. I believe, because we have been able to marshal clear evidence about prenatal care initiation but we lack any readily available measures of care after enrollment. Both current popular measures of prenatal care adequacy, trimester of initiation of care (by definition) and the Kessner Index (by algorithmic biases), are basically measures of initial access to care. Improving birth outcomes, however, may be dependent on other features of prenatal care (such as content, timing, and number of visits). One utilization measure may not capture all facets of prenatal care.

The Kessner Index was a major achievement in perinatal health service research, transforming two technically available but continuous and complex data items on birth certificates into a simple three-point utilization scale. Its original rationale and basic algorithm seemed clear and clinically reasonable. Unfortunately, the Kessner Index appears to be seriously flawed; it may be leading us to misperceive the nature of prenatal care utilization in the United States. Four limitations were noted in this paper.

First, the Kessner Index is overwhelmingly a measure of the initiation of prenatal care. Only 14% of women receive fewer visits than the number required for the trimester they enter care. This initiation bias may explain why those who have used both the Kessner Index and the trimester of prenatal care initiation note so little difference between them in most analyses; the latter measure is therefore preferred because it does not require the often inaccurately recorded or missing gestational age variable in its calculations (J.C. Kleinman, PhD, verbal communication, November 6, 1987). Second, the Kessner Index does not distinguish between inadequacy due to late initiation and inadequacy due to an inadequate number of visits. Although the summary Kessner Index was not developed to measure these components separately, the absence of independent measures results in the loss of important information about the nature of prenatal care adequacy, especially since 24% of women would be rated differently on these two dimensions. Neither of these first two observations about the Kessner Index, though interesting, would seem to warrant its dismissal.

The limitation of the Kessner Index to nine visits is, however, critical. This limitation is totally arbitrary and not clinically derived; it is the direct result of a computer data capacity limitation of the 1968 New York City birth file. For 20 years, the US public health profession has based its major index of prenatal care adequacy on an algorithm developed to accommodate this single-digit limitation in the counting of the number of prenatal care visits.

Because of the nine-visit limitation, the Kessner Index incorrectly assesses prenatal care utilization adequacy for normal and post-term births, the vast majority of births in the United States. The extrapolated Kessner Index algorithm would indicate that only 29%, not 66%, of births receive "adequate" care. This is not a minor difference in our perception of the extent of prenatal care adequacy in the United States. Accurate assessment of prenatal care utilization for term infants may be particularly important, given the significant racial disparities in birth outcomes for normal-birthweight infants[15] and the recent observations that there are significant Black–White differences in the utilization of prenatal care at the end of pregnancy.[16,17] Moreover, the limitation to nine visits also biases the assessment of the relationship of prenatal care and birth outcomes. Full-term babies, which are bigger and more frequently healthy, are more readily rated as having received "adequate" care than are preterm babies, thus artificially enhancing the association of positive birth outcomes with more positive prenatal care adequacy ratings.[18] This bias suggests that the

current literature using the Kessner Index may be overstating the limited but positive association previously noted.[3,19]

Finally, the lack of documentation for the Kessner Index, not surprising in a less computer-intensive era, has resulted in different computations of the Kessner Index in different localities. Alexander et al.[11] have shown in great detail how different coding conventions regarding missing data can result in major differences in the measurement of prenatal care adequacy and the evaluation of perinatal care programs such as Medicaid.

The proposed APNCU Index attempts to correct these four limitations of the Kessner Index. The independent assessment of prenatal care utilization after initiation, adjusted for the full range of gestational ages, is clearly the most important new feature of the APNCU Index. It provides information and a perspective on prenatal care utilization that is not presently available to the US public health community. This is important because many maternal and child health intervention programs are targeted toward continuity of prenatal care services or enhancement of services once a woman has entered care (e.g., case management, risk screening, home visitations). This new component should allow for a more direct assessment of these initiatives, independent of the timing of initiation of care. Recent Medicaid enhancements appear to have differential effects on the two different components of prenatal care utilization.[20,21]

The establishment of an Adequate Plus category, another innovative feature of the APNCU Index, provides a means to directly estimate the number of women receiving more than the ACOG-recommended number of visits, adjusted for the timing of care initiation. It appears that it is important to isolate this fairly large group of high-risk women because they have a disproportionate number of the low-birthweight babies.[13] Efforts to isolate this high-risk group based simply on an absolute number of visits (13+) will not be accurate, incorrectly classifying many women who start prenatal care late or who are post-term.

Though not emphasized in the data presentations in this paper, the APNCU Index does allow for the direct ascertainment of the extent of "no prenatal care" as a subcategory of Inadequate prenatal care. Several perinatal analysts have emphasized the importance of distinguishing between these two groups.[22,23]

The proposed APNCU Index can be seen as a second-generation prenatal care adequacy index. The APNCU Index was developed in 1987 and improved through feedback from multiple early users. The current version (III) includes an Adequate Plus category in the Summary Index; distinguishes "no prenatal care" within the Inadequate care category; has further clarified the coding of "no data," "missing data," and unusual data combinations; and allows users to adapt the computer program for unusual coding conventions in their own databases. The present version is basically a very minor revision of the prior APNCU Index's algorithms.

There are limitations to this new APNCU Index. First, it does not measure the adequacy of the content of prenatal care, but merely that of the utilization of prenatal care; hence its name. Second, the APNCU Index is only as accurate as the data (birth certificate or otherwise) used to calculate it. Inaccuracies in birth certificate data have been well documented, especially for prenatal care information[2] and gestational age.[24] Third, this index has the opposite bias of the Kessner Index: the longer the pregnancy, the more opportunity to miss prenatal care visits, and hence the less likelihood of a rating of Adequate or Adequate Plus.[18] This bias is not, however, built into the structure of the index; the adequacy ratings accurately reflect the increasing difficulty that women have in meeting the demanding ACOG recommendations as the pregnancy continues. Fourth, the present APNCU Index does not adjust for the risk conditions of the mother. The ACOG recommendations are for women with uncomplicated pregnancies; thus, the APNCU Index produces a slightly conservative estimate of inadequate prenatal care utilization because it underestimates the true need for prenatal care visits.

Conclusions

The proposed APNCU Index, with its two components, provides a more accurate and comprehensive set of measures of prenatal care utilization than the widely used Kessner Index. The accurate measurement of prenatal care utilization is a critical step in the development of public health programs to improve prenatal care services and ultimately to improve birth outcomes. □

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Articles in section

Article in Section

Section I

American Journal of Public Health

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An Evaluation of the Kessner Adequacy of Prenatal Care Index and a Proposed Adequacy of Prenatal Care Utilization Index

The Adequacy of Prenatal Care Utilization Index: Its US Distribution and Association with Low Birthweight

APHA
American Public Health Association

An Evaluation of the Kessner Adequacy of Prenatal Care Index and a Proposed Adequacy of Prenatal Care Utilization Index

Milton Kotelchuck, PhD, MPH

ABSTRACT

Objectives. The assessment of the adequacy of prenatal care utilization is heavily shaped by the way in which utilization is measured. Although it is widely used, the current major index of utilization, the Kessner/Institute of Medicine Index, has not been subjected to systematic examination. This paper provides such an examination.

Methods. Data from the 1980 National Natality Survey are used to disaggregate the components of the Kessner Index for detailed analysis. An alternative two-part index, the Adequacy of Prenatal Care Utilization Index, is proposed that combines independent assessments of the timing of prenatal care initiation and the frequency of visits received after initiation.

Results. The Kessner Index is seriously flawed. It is heavily weighted toward timing of prenatal care initiation, does not distinguish timing of initiation from poor subsequent utilization, inaccurately measures utilization for full- or post-term pregnancies, and lacks sufficient documentation for consistent computer programming.

Conclusions. The Adequacy of Prenatal Care Utilization Index offers a more accurate and comprehensive set of measures of prenatal care utilization than the Kessner Index. (*Am J Public Health* 1994;84:1414–1420)

Introduction

Accurate assessment of prenatal care utilization is the critical first step in the development of public health programs to improve prenatal care accessibility and ultimately to improve birth outcomes. The assessment of the adequacy of prenatal care utilization is heavily shaped by the way in which utilization is measured.

Currently, there are two widely used measures of adequacy of prenatal care utilization: the trimester of prenatal care initiation and the Kessner/Institute of Medicine (IOM) Adequacy of Prenatal Care Index.[1] Trimester of initiation will not be examined here because it provides no information about prenatal care utilization after initiation; it has been critically examined elsewhere.[2,3] The Kessner Index—the principal adequacy of prenatal care utilization index in use in the United States today—includes information about both the timing of prenatal care initiation and prenatal care visits after initiation. It was published in 1973 as part of an IOM-supported study of infant mortality in New York City.[1] The Kessner Index combines two continuous numeric measures (month prenatal care begins and number of visits, adjusting for length of gestation) and rigidly links them into a very easy to understand index with three levels of adequacy (Adequate, Intermediate, and Inadequate). To be rated Adequate on the Kessner Index, one must start prenatal care in the first trimester and have nine prenatal care visits for a normal-length pregnancy.

Table 1 presents the Kessner Index algorithm as initially published. In this original description, public or private obstetric service was a third factor, but this factor has been dropped by all subsequent researchers because the type of service is not noted on the standard US birth certificate and because researchers disagree with the index's assumption that care from public services can never be adequate.[4–7] Although Kessner et al. called their index the "Adequacy of Prenatal Care Index," their measure indicates nothing about the content or clinical adequacy of prenatal care; it is a utilization index only.

The Kessner Index has been widely adopted for public health research, planning, and resource allocation. However, it appears that the index was not subjected to close scrutiny prior to its widespread adoption. The accuracy of the Kessner Index is critical because any limitations may distort our perceptions about prenatal care adequacy in the United States and may incorrectly influence programmatic efforts to improve prenatal care utilization. The Kessner Index has also been widely used to assess the association between prenatal care and birth outcomes.[4–7] The limited positive associations noted may be more a reflection of the internal characteristics of the Kessner Index than of the true strength of that relationship.

The ability to measure prenatal care utilization after initiation remains underdeveloped. The Kessner Index does not separately isolate utilization after enrollment, nor does any other prenatal care index. Yet a distinction between initiation

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Editor's Note. See related editorial by Wise (p 1374) and article by Kotelchuck (p 1486) in this issue.

and utilization once in care may have differential implications for birth outcomes and for prenatal care program practices.

In this paper I examine the characteristics and limitations of the Kessner Adequacy of Prenatal Care Index and propose an alternative, the two-factor Adequacy of Prenatal Care Utilization Index.

Database

The database for this paper is the National Center for Health Statistics' 1980 National Natality Survey, a representative sample of US births in 1980.[8] This survey uses a follow-back methodology involving the collection of data from four sources: maternal retrospective information, physician and hospital records, radiologic records, and birth and death certificates. Data are available on 9941 live births, oversampled (4:1) for low-birthweight infants. Responses were weighted by a poststratification ratio estimate procedure to be representative of the 1980 US birth cohort. Prenatal care information is absent for 15% of the births. All missing data were imputed via a categorical matrix hot-deck methodology. Details of the survey and study population are described elsewhere.[9]

All data used in this paper are derived from the birth certificate data source only. The birth certificate data were chosen because they are readily available to the public health community, they are the principal database for the assessment of a community's prenatal care utilization adequacy, and they are available for all married and unmarried women in the 1980 National Natality Survey.

Kessner Index Assessment

The Kessner Index is a seriously flawed index of adequacy of prenatal care utilization. Four features merit attention.

First, the Kessner Index is principally a measure of the timing of initiation of prenatal care. The Kessner Index algorithm requires that to be rated Adequate, prenatal care must begin in the first trimester; to be rated Intermediate, care must begin in the second trimester; and to be rated Inadequate, care must begin in the third trimester or not at all. The additional factor in the Kessner Index, the number of prenatal care visits, can only lower the rating category. This rarely happens. Table 2 shows that the trimester of care overwhelmingly (for 86.2% of women) predicts the Kessner Index rating. Only 13.8% of women have their ratings reduced owing to insufficient visits.

Second, the Kessner Index does not distinguish inadequacy of care due to late initiation from inadequacy of care due to insufficient number of visits. Table 3 shows that these two implicit subscales have distinctive distributions. Overall, 24.7% of US women would be classified differently if the two were measured separately. More striking, 61.1% of women starting prenatal care in the second trimester (rated Intermediate by the Kessner Index) and 45.6% of women starting prenatal care in the last trimester or not at all (rated Inadequate by the Kessner Index) would be classified differently based on an index with two distinctive factors.

Third, the Kessner Index is unable to adequately characterize prenatal care utilization for normal-gestation and postmature births. For all normal-length pregnancies (more than 36 weeks' gestation), the Kessner Index requires only nine visits for care to be Adequate. Yet up to 36 weeks' gestation, the Kessner Index adjusts the

TABLE 1—Three-Factor Health Services Index Controlled for Gestation and Based on Number of Prenatal Visits, Interval to First Prenatal Visit, and Type of Hospital Service

Medical Care Index	Gestation (Weeks)		Number of Prenatal Visits
Adequate[a]	13 or less	and	1 or more or not stated
	14–17	and	2 or more
	18–21	and	3 or more
	22–25	and	4 or more
	26–29	and	5 or more
	30–31	and	6 or more
	32–33	and	7 or more
	34–35	and	8 or more
	36 or more	and	9 or more
Inadequate[b]	14–21[c]	and	0 or not stated
	22–29	and	1 or less or not stated
	30–31	and	2 or less or not stated
	32–33	and	3 or less or not stated
	34 or more	and	4 or less or not stated
Intermediate	All combinations other than specified above		

[a]In addition to the specific number of visits indicated for adequate care, the interval to the first prenatal visit had to be 13 weeks or less (first trimester), and the delivery must have taken place on a private obstetrical service.
[b]In addition to the specific number of visits indicated for inadequate care, all women who started their prenatal care during the third trimester (28 weeks or later) were considered inadequate.
[c]For this gestation group, care was considered inadequate if the time of the first visit was not stated.
Source. Reprinted with permission from *Infant Death: An Analysis by Maternal Risk and Health Care* (Table 2-3, p 59). Copyright ©1973, National Academy of Sciences. Courtesy of the National Academy Press, Washington, DC.

TABLE 2—Ratings Assigned to Births According to the Kessner Adequacy of Prenatal Care Index, by the Trimester of Initiation of Prenatal Care

Trimester of Initiation of Care	Kessner Index Rating			% of Total Births
	Inadequate, %	Intermediate, %	Adequate, %	
1	1.4	10.6	65.9	77.9
2	1.8	15.7	...	17.5
3 or no care	4.6	...	...	4.6
% of total births	7.7	26.3	65.9	

Note. Percentages are those of all US births. Concordance of trimester and index rating = 86.2%. Percentages may not add to 100 because of rounding.
Source. Percentages are based on an analysis of birth certificate data from the 1980 National Natality Survey.[8]

TABLE 3—Ratings Assigned to Births According to the Number of Visits Component of the Kessner Adequacy of Prenatal Care Index, by the Trimester of Initiation of Prenatal Care

Trimester of Initiation of Care	Number of Visits: Inadequate (<5), %	Intermediate (5–8), %	Adequate (≥9), %	% of Total Births
1	1.4	10.6	65.9	77.9
2	1.8	6.9	8.9	17.5
3 or no care	2.5	1.3	0.8	4.6
% of total births	5.7	18.8	75.5	

Note. Percentages are those of all US births. Concordance of trimester and number of visits = 75.3%. Percentages may not add to 100 because of rounding.
Source. Percentages are based on an analysis of birth certificate data from the 1980 National Natality Survey.[8]

TABLE 4—Ratings Assigned to Births According to the Kessner Adequacy of Prenatal Care Index, Original and Extrapolated beyond Nine Prenatal Care Visits

Rating	Original Kessner	Extrapolated Kessner[a]
Adequate, %	65.9	29.2
Intermediate, %	26.3	54.5
Inadequate, %	7.7	16.3

Note. Percentages are those of all US births; they may not add to 100 because of rounding.
Source. Percentages are based on an analysis of birth certificate data from the 1980 National Natality Survey.[8]
[a]Ratings are based on trimester prenatal care began plus proportion of total visits recommended by American College of Obstetricians and Gynecologists received (all recommended visits received for a rating of Adequate and fewer than half the recommended visits received for a rating of Inadequate).

TABLE 5—Ratings Assigned to Births According to the Kessner Adequacy of Prenatal Care Index, Original and Extrapolated beyond Nine Prenatal Care Visits, by Week of Gestation at Delivery

Week of Gestation at Delivery	Adequate: Kessner, %	Adequate: Extrapolated, %	Intermediate: Kessner, %	Intermediate: Extrapolated, %	Inadequate: Kessner, %	Inadequate: Extrapolated, %
35	57.7	57.7	27.8	27.8	14.5	14.5
36	53.5	53.5	33.1	29.7	13.4	16.8
37	55.7	47.2	31.7	36.6	12.6	16.7
38	61.3	39.8	29.9	44.4	8.8	15.8
39	69.5	38.9	24.6	49.2	5.9	11.9
40	67.0	21.8	26.0	61.5	7.0	16.7
41	73.3	18.5	20.4	68.8	6.4	12.8
42	69.9	13.1	24.6	65.7	5.5	21.1
43	66.8	8.9	23.0	70.4	10.1	20.7
44	66.5	5.5	28.0	68.5	6.6	26.0
45	58.7	3.5	37.4	66.6	3.9	29.9
% of total births	65.9	29.2	26.3	54.5	7.7	16.3

Note. Percentages are those of all US births; they may not add to 100 because of rounding.
Source. Percentages are based on an analysis of birth certificate data from the 1980 National Natality Survey.[8]

required number of visits according to the well-established American College of Obstetricians and Gynecologists (ACOG) recommendations (one visit per month through 28 weeks' gestation, one visit every 2 weeks through 36 weeks' gestation, and one visit per week thereafter).[10] No discussion of the rationale for stopping at nine visits is presented.

It would appear that the index stops at nine visits because only one digit was allocated to record the number of prenatal care visits on the 1968 New York City computerized birth certificate file used in the Kessner et al. analyses.[1] According to ACOG, nine visits corresponds to the recommended number of visits at 36 weeks' gestation; hence the index's adjustments for gestational age stop at that point. Thus, the Kessner Index is constructed on the basis of an outdated computer data storage limitation. Full-term births can, therefore, be rated as having Adequate prenatal care even if they have had fewer than the ACOG-recommended number of visits. The longer the pregnancy, the smaller the percentage of recommended visits needed for care to be rated Adequate. Only premature births (36 weeks' gestation and less) are assessed fully against the ACOG standards.

If one extrapolates the original Kessner Index algorithm beyond the nine visits, using the ACOG standards (e.g., 10 visits by 37 weeks, 11 visits by 38 weeks, etc.), a major redistribution of prenatal care utilization adequacy would occur (Table 4). There would be more than twice the number of women with Inadequate care, a major increase and shift to Intermediate care, and many fewer women with Adequate prenatal care. Indeed, 44% of all women would now be classified as having less adequate prenatal care than previously classified. If one examines the extrapolation stratified by weeks' gestation at delivery, as in Table 5, one sees that this miscategorization increases as gestational age advances.

Finally, the lack of adequate initial documentation for the Kessner Index has led to nonstandardized definitions and discrepancies in its calculations. The algorithm presented in Table 1 appears to be the sole documentation for the Kessner Index. This is clearly inadequate. In particular, there is insufficient description of how to treat records with missing gestational age, missing visits, missing initiation date, etc.[11] The result is that each public health entity has had to program the index itself, with resultant inconsistencies. For example, many states

have added an "unknown" category if number of prenatal care visits or timing of first visit is unknown, while others still follow the original recommendations and record such births as having received "inadequate" care. Some states impute missing gestational age on the basis of birthweight, whereas others (e.g., New York) disregard all such records or disregard only those that cannot be rated as "inadequate" (L. Dellehunt, written communication, September 29, 1986). The state of Missouri and others have further simplified the definition of the Adequate rating of the Kessner Index to eight visits for full-term birth and five visits for premature births (J. W. Stockbauer, written communication, September 26, 1986). Thus, the Kessner Index ratings may not be comparable across sites.

Adequacy of Prenatal Care Utilization Index

The weaknesses of the Kessner Index led the author to try to develop an alternative prenatal care utilization algorithm, based on birth certificate data. The proposed Adequacy of Prenatal Care Utilization (APNCU) Index attempts to characterize prenatal care utilization on two independent and distinctive dimensions: Adequacy of Initiation of Prenatal Care and Adequacy of Received Services (once prenatal care has begun). This two-factor index does not assess the quality of the prenatal care that is delivered, but simply its utilization.

The initial dimension, Adequacy of Initiation of Prenatal Care, characterizes the adequacy of the timing of initiation of care. The month prenatal care begins, which is recorded on the birth certificate, corresponds directly to the adequacy of timing of initiation of prenatal care. The underlying assumption is that the earlier the initiation, the more adequate the prenatal care. The month in which care is initiated is grouped not by trimester, but into four slightly different adequacy groupings: months 1 and 2, months 3 and 4, months 5 and 6, and months 7 through 9. The second trimester was felt to cover too broad a time period to be useful as a single initiation date category. No prenatal care, which can be isolated in this index, is grouped in the late or inadequate care category for this dimension.

The second dimension, Adequacy of Received Services, characterizes the adequacy of the prenatal care visits received during the time the woman is actually in prenatal care (i.e., from initiation until the delivery). The expected number of visits is based on the ACOG prenatal care visitation standards for uncomplicated pregnancies,[12] adjusted for the gestational age at initiation of care and for the gestational age at delivery. The measure for Adequacy of Received Services is the ratio of the actual number of visits to the expected number of visits.

The expected number of visits for each pregnancy can be calculated easily (by computer or by hand) by noting the number of ACOG-recommended prenatal care visits for a pregnancy of a given gestation and then adjusting or reducing that number based on the gestational age at initiation of care (missed visits are assumed not to be made up). Essentially, this procedure measures a segment of a fixed recommended prenatal care utilization metric, but in contrast to the Kessner Index, it is adjusted at two places: when the woman begins prenatal care and when she delivers. For example, for a 40-week pregnancy, ACOG recommends 14 visits; if care began in month 4 (three missed visits), then the expected number of visits would be 11. The number of actual or observed visits can be directly recorded from the birth certificate (or any other prenatal care data source). The ratio of observed to expected visits is then grouped into four categories: Inadequate (less than 50% of expected visits), Intermediate (50%–79%), Adequate (80%–109%), and Adequate Plus (≥110%). A similar ratio concept is implicit in the existing Kessner Index, wherein inadequate visits equal approximately 50% of adequate visits. These four percentage categories allow for a slightly broader range of numbers of visits to be rated as Adequate care (80%–109%) and provide, for the first time, a measurement of prenatal care utilization that exceeds ACOG standards. This dimension of Adequacy of Received Services is independent of the previously described dimension of Adequacy of Initiation of Prenatal Care.

The two dimensions can be combined into a single summary prenatal care utilization index. Inadequate utilization is defined as either late initiation (after the 4th month of pregnancy) or less than 50% of recommended visits. All other categories require initiation of care by the 4th month of pregnancy and then are coded according to the extent of received services (e.g., to be rated Adequate Plus requires initiation of care between 1 and 4 months and more than 110% of the expected ACOG-recommended visits, etc.). Figure 1 portrays the construction of the summary APNCU Index.

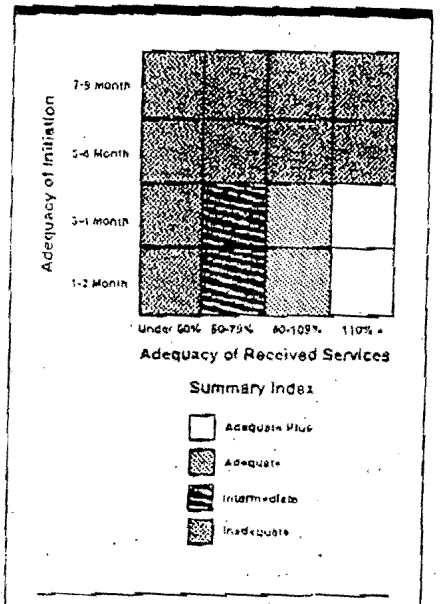

FIGURE 1—The summary Adequacy of Prenatal Care Utilization Index.

A descriptive outline of the proposed index and its two factors is presented in Table 6. (A more detailed description of the APNCU Index and its coding assumptions and an SAS Program for its computation are available from the author.)

Table 7 presents a comparison of the APNCU and Kessner Index ratings. Only 71.5% of women in the United States would be rated the same on the two indexes (assuming the APNCU's "Adequate and Adequate Plus" equal Kessner's "Adequate"), with 21.1% achieving a poorer rating and 7.4% an improved rating. Women whose care was rated Intermediate on the Kessner Index would be the most likely to be recategorized: 34% would now be rated Inadequate and 28% rated Adequate or Adequate Plus.

In a related paper in this issue of the Journal I apply the APNCU Index to the 1980 National Natality Survey data to assess the adequacy of prenatal care utilization in the United States and its association with low birthweight.[13]

Discussion

The assessment of the adequacy of prenatal care utilization is heavily shaped by the way in which utilization is measured. One of the major strategic and programmatic thrusts to reduce infant mortality in this era is to increase early initiation of prenatal care. *Healthy People*

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Fall 1996

Healthy Start

PROGRAM UPDATE

Healthy Start Gears Up for 1996 Grantee Meeting, Corporate Summit, and National PSA Campaign Launch

On September 18, 1996, the Division of Healthy Start is co-sponsoring a National Summit with Johnson & Johnson. The Summit, entitled **Winning the Fight Against Infant Mortality: A National Summit on Community and Corporate Initiatives,** is designed to elevate infant mortality to a national priority. The Summit will bring together representatives from corporations, foundations, associations, managed care organizations, policymakers, maternal and child health advocates and Federal and State government officials to participate in discussions on infant mortality reduction efforts.

Among confirmed speakers for the Summit are Louis Sullivan, M.D., former Secretary, Department of Health and Human Services; Ezra Davidson, M.D., former President, American College of Obstetricians and Gynecologists; and Audrey H. Nora, M.D., Assistant Surgeon General and Director, Maternal and Child Health Bureau. Representatives from Healthy Start projects will speak on their model programs and how they break down the barriers to accessing health care that face many women and families. The day-long event will begin with a video showing Healthy Start in action and will conclude with a networking opportunity.

Winning the Fight Against Infant Mortality

Ad Council PSA Campaign and New 800 Numbers Kicked-off at Summit

The much-talked-about "Tightrope" public service advertisement campaign, created for the Division of Healthy Start and the Maternal and Child Health Bureau by the nonprofit Advertising Council, will be released at the National Summit on September 18. The PSAs will be screened at the event for Summit participants and the media, and officials from the Department of Health and Human Services will speak about the infant mortality problem. The campaign includes television, print, billboard, and transit PSAs, some of which are in Spanish, and features a pregnant woman walking a tightrope with the slogan, "Don't put your baby's health on the line." Different spots

continued on page 3...

The Director's Corner

WHEW! We've made it through a year of constant challenge—health care reform, the blizzard of '96, government shutdown, managed care, and re-inventing government.

Summer 1996 finds the Healthy Start projects and the Division of Healthy Start busy preparing for the end of the demonstration phase of the program with Federal funding and transitioning project resources to include both public and private support. Projects are receiving technical assistance in marketing their expertise and services to managed care organizations with the goal of sustaining their model programs. Partnerships with the private sector will be the focus of a National Summit on September 18, where health officials, corporate representatives and local projects will discuss the persistent problem of infant mortality and the innovative solutions that Healthy Start projects can share with other communities. Healthy Start and the Maternal and Child Health Bureau are also excited to release our third wave of Advertising Council public service advertisements. These dramatic PSAs urge women of childbearing age to seek prenatal care.

Members of Congress are learning more about the success of the Healthy Start Initiative. On May 16, 1996, the Senate Committee on Labor and Human Resources heard testimony from Ciro Sumaya, M.D., M.P.H.T.M., Administrator of the Health Resources and Services Administration; Louis Sullivan, M.D., former Secretary of the Department of Health and Human Services; and Sen. Arlen Specter (D-PA) on the

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PROGRAM UPDATE

Fall & Winter 1995

Healthy Start Initiative: Strategies for the Future

As the Healthy Start Initiative enters its last years of the demonstration phase with Federal funding, thoughts are turning to how innovative Healthy Start programs and strategies — and lessons learned — can be preserved, disseminated, and utilized by others. With additional assistance from technical consultants, Healthy Start projects are formulating strategies to sustain the infant mortality reduction models that they have successfully put to work.

Projects will be "packaging" information on the tools and strategies that were used to form productive public/private partnerships, effective consortia, and responsive systems of referrals. Health Care Resources Consulting Group, a technical assistance consulting firm, is available to assist sites in preparing and marketing their models to health care organizations, foundations, and other funding sources around the country, as well as to other States and communities who are interested in replicating these models. The DHS contract with HCR Consulting Group will provide projects with crucial information on the "how-to's" of marketing, identifying alternate sources of funding, collecting and disseminating data, and so on. HCR will tailor the assistance using the project's demographic, programmatic, and cultural characteristics and challenges.

The Division of Healthy Start has also contracted with the Law Offices of Mark S. Joffe, a Washington, DC based Medicaid/managed care expert, to assist projects in examining and exploring arrangements and opportunities with Medicaid managed care plans and other provider organizations. Previously a Public Health Service senior attorney and associate counsel of the Group Health Association of America, Joffe has done considerable work focused on managed care and Medicaid issues. He also teaches university courses on contract negotiating.

The projects will have the first opportunity to present their strategies for sustainability at the annual Healthy Start Grantee Meeting, November 16 to 18, 1995. Two roundtable sessions will serve as a forum for projects to exchange information and ideas about the preparation and marketing of their program models.

Projects will be presenting and discussing such models as:

- case management and outreach;
- consortium building;
- risk reduction;
- MIS tracking and public education;
- wrap-around services; and
- fiscal/contract monitoring.

Projects will be investigating ways to continue and perhaps combine their strategies with those of other projects and organizations that are also working to reduce infant mortality. Projects will also be developing plans for passing on the knowledge and expertise they have gained in the following areas:

- developing systems and consortia;
- coordinating services and training;
- educating Congressional, State, and local officials regarding program impact and the need for continued support; and
- exploring new and different resource bases.

Sustaining Healthy Start's program, service, and education models through replication can provide a basis for reducing infant mortality nationally. If Healthy Start can incorporate these components into the nation's health care delivery system, the results can greatly enhance maternal and child health in America.

Elaine Amos

The Director's Corner

Greetings to family and friends of Healthy Start, and welcome to another opportunity to share valuable insights and information on the activities and accomplishments of the Healthy Start projects through this newsletter. In the current climate of change, reform, and uncertainty, we need to pause for reflection — and to rekindle the flow of fresh ideas aimed at sustaining the Healthy Start interventions that are successful in our target communities. The Initiative needs to be focused on disseminating the models and strategies that project staff and consortia have, for the last four years, labored over to develop and nurture.

Before continuing this discussion, let us first define "sustainability" and "replication."

Sustaining Healthy Start refers to efforts to preserve those strategies that projects have implemented and found successful in reducing infant mortality at the local level, both in current project sites and in other communities interested in reducing their infant mortality. The success or failure of Healthy Start activities is indicated by the accomplishment of the agreed-upon outcome indicators, which will be published at the end of the national evaluation effort. The analysis of the successful strategies should include factors that either enhanced or hindered the accomplishment of the objectives, as well as resource/staffing requirements to succeed.

To replicate Healthy Start interventions in new

(continued)