Capacity Building, Linkages, and Rural Health Systems: the Federal Perspective

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RURAL AREAS present special problems for devising health care systems. They have higher rates of certain diseases and injuries due to occupational hazards, lower income, larger proportions of young and elderly people, and lower educational levels than metropolitan areas. They also have greater barriers to health care because of geography and lack of transportation. The weaker tax bases of rural counties limit what can be provided locally. Further, many people in need do not qualify under Medicaid requirements that limit eligibility to those also receiving Aid to Families with Dependent Children (AFDC). These longstanding problems have been widely documented (*1–3*).

Although health care needs are often greater in rural areas, facilities and personnel are fewer than in urban areas. Per capita, rural areas have 58 percent fewer physicians, 38 percent fewer dentists, and 29 percent fewer nurses than urban areas. (*4*). Communities expend great energies to recruit physicians, but the difficulties in recruiting and retaining physicians in rural areas limit this approach as a total solution (*5*).

It was not until the 1970s that a concerted effort was made to address rural health needs. A reorganization within the Department of Health, Education, and Welfare—now the Department of Health and Human Services (DHHS)—resulted in the establishment of the Health Services Administration (HSA). HSA was given the "lead responsibility for expanding the capacity for health care delivery to medically underserved and medically unserved populations in the nation" (*6*).

Bureau of Community Health Services

Included within the HSA were the Bureau of Medical Services, the Bureau of Indian Health Services, and the Bureau of Community Health Services (BCHS), as shown in figure 1. BCHS was given the task of providing a national focus for efforts to improve the organization and delivery of health services in communities nationwide and "the lead responsibility for building and maintaining capacity for primary care" (*6*).

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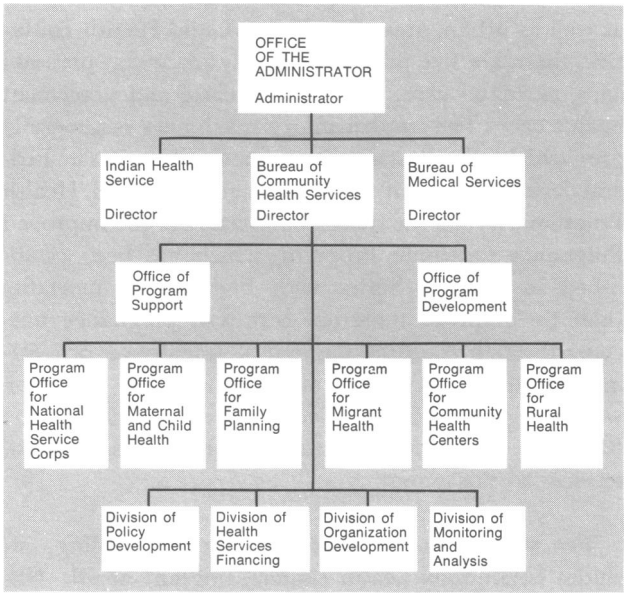
Organization and program direction. BCHS programs are administered on a decentralized basis; staff of the 10 DHHS regions are used. BCHS administrative functions include identifying areas in need and providing technical assistance for project proposals, project review, training, monitoring, and evaluation.

Figure 1. Organizational structure of the Health Services Administration, Public Health Service

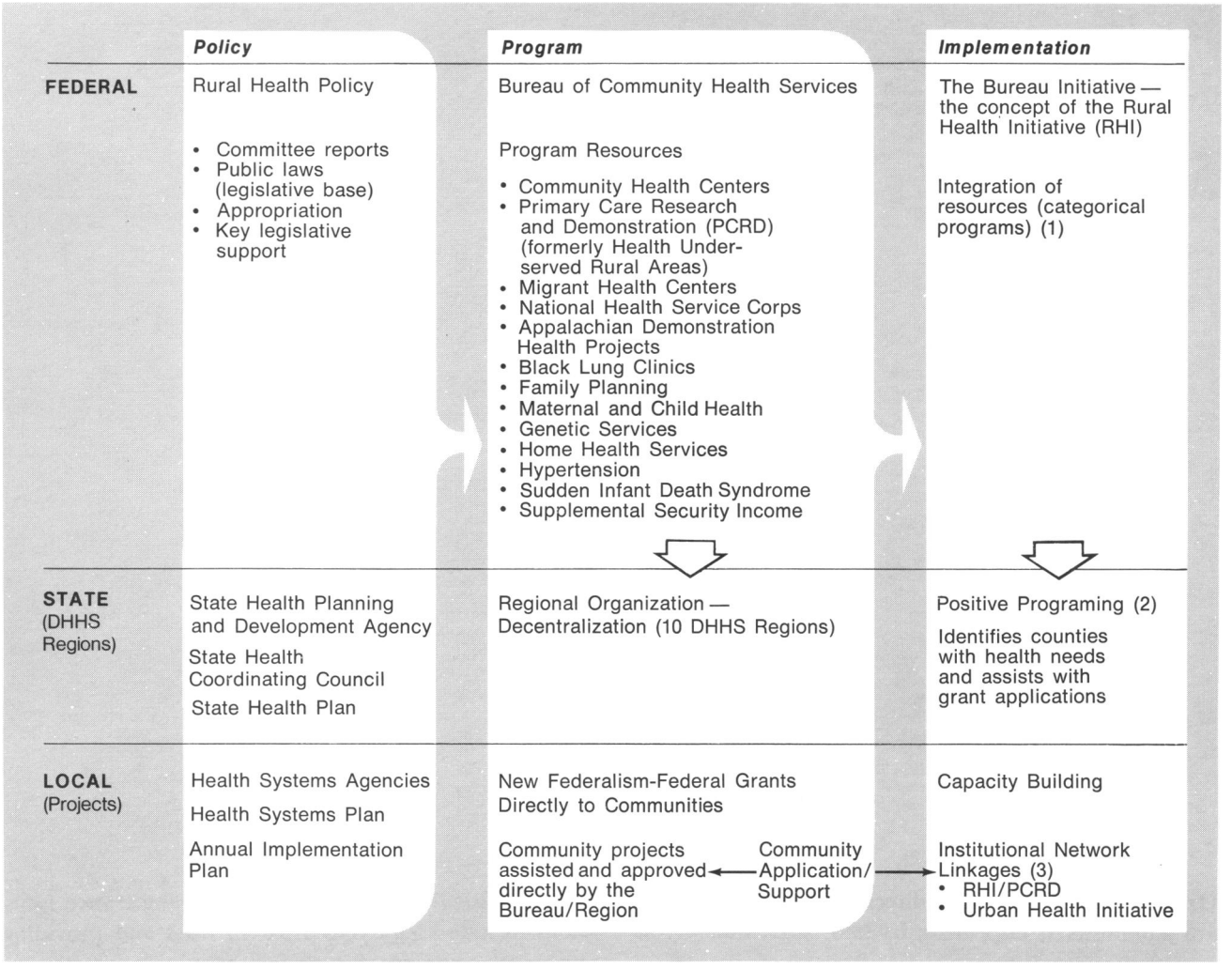


In contrast to other Bureaus that have returned to more centralized control since 1976, BCHS has continued to decentralize responsibility—with some exceptions—and to transfer staff to the 10 regional offices. The staffing pattern may be decentralized further by the placement of BCHS personnel on State government staffs to improve cooperation with State health departments. This idea is being tested in the Offices of Rural Health in West Virginia, North Carolina, and Michigan; plans are underway to include Arkansas.

Policy direction, program formulation, and program implementation at the Federal, State (regional), and local levels are shown in figure 2. The policy cell provides the critical precondition for BCHS to operate effectively. BCHS activities are defined legislatively as separate categorical programs that identify the scope of health services.

The nucleus for the BCHS mission was "five previously existing programs: Comprehensive Health Serv-

Figure 2. Bureau of Community Health Services policy direction, program formulation, and program implementation



ices, which included health care centers, Family Planning, Health Maintenance Organizations (since removed), Maternal and Child Health (MCH), and the National Health Service Corps (NHSC)" (*7*). Other programs (to become part of a new Bureau in 1981) administered by the BCHS included the Appalachian Demonstration Health Program (which provided many ideas for later developments) and the Migrant Health (MH) Projects. Since then, several special programs have been added, including the Black Lung Program, Newborn Screening, Genetic Programs, Hemophilia Treatment Centers, Home Health, Hypertension, and the Health Underserved Rural Areas (HURA) Program.

BCHS has organized all of these categorical programs under two basic initiatives: the Child Health Initiative and the Capacity Building Initiative in rural, as well as urban, areas. Under the Child Health Initiative, there are five priorities: family planning, prenatal care, perinatal care, child health care, and adolescent health care. The implementary machinery is generally provided by the States, with responsibility at the Federal level residing in the Maternal and Child Health Program. Among the special emphases are the improved Pregnancy Outcome Program, which has been established in selected States with high infant mortality rates to "improve maternal care and pregnancy outcome through coordination and augmentation of existing resources" (*8*) Also targeted are the 1 million women ages 15–19 who become pregnant each year; BCHS is increasing the number and accessibility of services to this group.

The second basic initiative, capacity building, includes community health centers, migrant health, Na-

Table 1. Bureau of Community Health Services program funding levels, 1973–80 (in millions)

Program	1973	1974	1975	1976	1977	1978	1979	1980
Community health centers	$110.2	$217.1	$196.6	$196.6	$215.1	$255.0	$ 253.0	$ 320.0
Health Underserved Rural Areas [1]			3.3	10.0	15.0	15.0	16.5	14.0
Black lung							7.5	7.5
Home health			3.0	3.0	3.0	6.0	6.0	5.0
Community health grants to States	90.0	90.0	90.0	90.0	90.0	90.0	90.0	68.0
Hypertension				3.8	9.0	11.0	11.0	20.0
Maternal and Child Health	258.9	267.9	294.9	321.9	347.7	364.7	380.5	380.1
State grants	125.7	132.7	267.0	295.7	317.0	332.5	345.5	345.5
Project grants	111.3	111.3						
Sudden infant death syndrome			2.0	2.5	2.0	2.8	2.8	2.8
Training	15.9	17.9	17.9	18.4	23.4	24.1	26.9	26.5
Research	6.0	6.0	8.0	5.3	5.3	5.3	5.3	5.3
Genetic services	3.1	3.5	3.5	6.5	6.5	10.6	10.6	14.6
State systems						4.0	4.0	8.0
Hemophilia treatment centers				3.0	3.0	3.0	3.0	3.0
Sickle cell clinics	3.1	3.5	3.5	3.5	3.5	3.6	3.6	3.6
Family planning	100.6	100.6	100.6	100.6	113.6	135.0	135.0	165.0
Migrant health	23.8	23.8	23.8	25.0	30.0	34.5	34.5	39.7
National Health Service Corps.	11.0	13.0	20.2	24.0	25.4	39.7	63.0	72.9
Total	$597.6	$715.9	$735.9	$781.4	$855.3	$961.5	$1,007.6	$1,106.8

[1] Now Primary Care and Research Development (PCRD) grants.

SOURCE: Bureau of Community Health Services, Health Services Administration, summer 1980.

tional Health Service Corps, Appalachian demonstration projects, black lung projects, primary care research and demonstration, hospital-affiliated primary care centers, and home health service programs. The Capacity Building Initiative is "generally aimed at medically underserved communities and population groups" (*8*).

Legislative support for the BCHS rural strategy has been strong and continuous, as reflected in appropriations. The budget has grown from $600 million in 1973 to more than $1 billion projected for 1980, which represents more than half of the total budget for the Health Services Administration. Budgetary support for community health centers has nearly tripled, and for the National Health Service Corps, it has increased more than sixfold. These two programs provide the major funding and personnel for the Rural Health Initiative (RHI). Since the RHI lacks a single statutory base, the strength of its legislative support is represented by the funding levels of these two programs. Funding levels for all BCHS programs are shown in table 1.

Service integration and capacity building. At the national level, it is logical to have separate identifiable programs—each with its own definable goals and objectives. This differentiation enables the Congress to exercise its oversight function by holding BCHS responsible for implementation of individual programs. Individual programs also have separate congressional and constituent supporters who strongly resist statutory program integration. However, categorical statutes raise administrative and economic difficulties in the direction and support of a number of fragmented, disjointed, and understaffed programs in any single rural area. Operationally, this situation posed the dilemma for BCHS of meeting the mandate of the Congress, yet doing it effectively and efficiently in local communities.

BCHS response was to integrate resources to develop a primary health care capability, with a scope that would differ according to locale and need. The agency's initiative was in accord with pronouncements of the Nixon, Ford, and Carter Administrations, which were adverse to a fragmented approach to health care (*9–11*). Conceptually, the results of integration are seen most clearly in capacity building which calls for pooling manpower, support services, facilities, and technical assistance and maximizing third-party reimbursements. An example is the Rural Health Initiative (*12*):

> The RHI is a Public Health Service effort to integrate a number of Federal health programs to improve the delivery of health care to rural residents. The RHI's purpose is to improve accessibility, availability, and quality of primary health care services in rural areas that have been identified as having critical health manpower shortage areas or as being medically underserved.

The implementation of the RHI concept is evolutionary, and it can be viewed in two broad stages. In the first stage, the concern is to make primary health

services available where there are none or to increase capacity and effectiveness where a center for health care already exists. In the second stage, the goal is more ambitious and makes more management demands; it envisions linking the RHI to services throughout the area to form a rural health service system.

Despite the lack of specificity in the RHI concept, it is very useful functionally because it offers flexibility of application in many situations. The rationale is that the differences in communities and their needs require different responses. One area may have no services; another may have an existing, but understaffed, clinic; and a third may have a comprehensive health care center that needs more specialized service capabilities, or it may be capable of providing a solid base for an expanded delivery system to other areas with satellite clinics and mid-level practitioners. The BCHS ability to draw on a variety of resources from 14 major programs gives it the flexibility to respond to local needs in many ways. Politically, it offers the added advantage of multiple bases of support to weather periods of budget retrenchment. This advantage might not be possible for the RHI if funding were limited to a single program.

Table 2. Programs and projects of the Bureau of Community Health Services, 1975–80

Programs and projects	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*
Child Health Initiative						
Maternal and Child Health (program of projects):						
Children and youth	87	89	92	92	98	96
Intensive care	56	56	59	59	59	59
Maternal and infant care	81	81	82	82	88	88
Dental health	56	56	57	57	57	57
Family planning	56	60	60	60	60	60
Maternal and Child Health (training projects):						
University affiliated facilities	21	21	21	21	21	21
Pediatric pulmonary centers	10	10	11	11	11	11
Allied health discipline	20	26	26	28	28	28
Maternal and Child Health (projects of special significance):						
Improved pregnancy outcome		6	13	24	34	34
Multicounty MICs				8	12	13
Health department tracking systems						3
Accident prevention					3	3
School nurse practitioners					1	0
Family Planning Program:						
Grants	250	227	235	235	235	222
Clinics	3,600	4,410	4,600	4,930	5,125	5,125
Sudden infant death syndrome	22	22	29	34	33	37
Hemophilia		17	21	25	25	23
Genetics:						
State systems				21	21	21
Sickle cell clinics	24	22	24	22	22	20
Hypertension		57	57	57	57	57
Capacity Building Initiative						
Ongoing	157	164	158	158	158	158
Rural Health Initiative	47	138	262	356	397	526
Urban Health Initiative			35	77	77	178
Hospital affiliated						10
Adolescent health						
Health Underserved Rural Areas	9	53	88	104	104	66
Home health		56	56	94	79	14
Appalachia:						
Health	45	68	73	80	61	50
Other	187	164	161	160	149	150
Migrant health	105	97	105	112	112	122
Black lung (less joint funded)					75	82
National Health Service Corps sites	248	331	398	668	875	963
(NHSC members)	488	596	690	1,289	1,824	2,060

SOURCE: Bureau of Community Health Services, Health Services Administration, summer 1980.

The RHI has also rectified the imbalance of community health center funding between urban and rural areas. When BCHS made its recommendations to the Policy Board of DHEW in July 1975, funding heavily favored the urban community health centers. In fiscal year 1974, 22 percent of the health center funds were expended in rural areas; however, more than 50 percent of the health service need was in rural areas, based on the populations in medically underserved areas (13). By 1979–80, rural centers were receiving around 35 percent of the estimated budget. More importantly, the growth in the number of projects under the RHI indicates the growing availability of services in rural areas (table 2).

Complementing and strengthening the capacity-building role of the RHI projects were the Health Underserved Rural Areas (HURAs) projects, now the Primary Care Research and Demonstration (PCRD) grants. The HURAs program was established in 1975 under Section 1110 of the Social Security Act and then transferred from the Social and Rehabilitation Service to the BCHS, which had the regional personnel necessary to manage a large number of field projects.

The PCRDs will do research and demonstration that can improve some aspect of the operation of the RHI, including new models of health care, ways to attract and retain primary health care providers, new methods of financing, health education, means of delivering health care, and the use of new management technologies. The Health Services and Centers Amendments of 1978, Public Law 95–626, provides a legislative base for the program under Section 340 of the Public Health Services Act.

In addition to integration of funding sources, the BCHS—with strong support from the Health Services Administration—has adopted "positive programing" to identify and assist areas of greatest need. The Bureau selects areas that meet at least three of the following four criteria assigned the highest priority (*14*):

- The area is medically underserved, with a score of 62.0 or less on a weighted Index of Medical Underservice based on the ratio of primary care physicians to population, the infant mortality rate, the percentage of the population below the poverty level.
- A health manpower shortage area, with more than 3,500 population per primary care physician.
- An area with an infant mortality rate of 22.1 or greater in an area with 2,000 or more live births in a 5-year period (1971–75) or, in smaller areas, 400 or more infant deaths in excess of the number associated with an infant mortality rate of 11.5 per 1,000 live births, that is, equivalent to 1,150 deaths for a population of 100,000 plus 400 more deaths.
- A high migrant impact area (4,000 migrant and seasonal farmworkers during a 2-month period).

By use of these criteria, 426 counties—out of a total of 2,504 nonstandard metropolitan statistical areas—were designated as high priority areas. Of these 426 counties, 97 were served by RHIs or HURAs in fiscal year 1976 and 167 in fiscal year 1977, representing an increase from 23 to 39 percent and an increasing effort to serve counties with the greatest need (*15*). The positive programing contrasts with the traditional approach of funding agencies waiting passively for the communities' response to their grant announcements, to the disadvantage of communities in greatest need.

BCHS has also simplified the administration of funding resources for program development through initiatives, such as the RHI, that allow for integration of resources. Additionally, it has simplified management requirements by instituting a common reporting system to replace separate reports for each categorical program.

Table 3. Community health centers (CHCs) and hospital affiliated primary care centers (HAPCCs), fiscal years 1980 and 1981

Centers	Number of projects		Authorized budget (in millions)		Number of users (in millions)	
	1980	1981	1980	1981	1980	1981
Rural [1]	575	575	$113.4	$124.7	1.9	2.5
CHCs	571	571	113.0	121.4	1.9	2.5
HAPCCs	4	4	0.4	3.3	0.0	0.02
Urban	297	297	206.6	228.4	2.3	2.5
CHCs	291	291	206.0	222.0	2.3	2.5
HAPCCs	6	6	0.6	6.4	0.0	0.01
Total	872	872	$320.0	$353.1	4.2	5.0

[1] Rural includes all nonmetropolitan centers.

SOURCE: Bureau of Community Health Services, Health Services Administration, summer 1980.

Services, Coverage, Linkages, Trends

BCHS has made considerable progress in providing populations in need with improved access to health care. In the rural areas the health center model typically will have 3 to 4 primary care phyiscians with appropriate allied health personnel to serve 4,500 users at full capacity. Community health centers, including RHIs, are required to provide diagnostic, treatment, consultative, and referral services; laboratory and radiological services; preventive health services, such as nutritional assessment; medical social services; well-child care, immunizations, and dental emergency services; transportation services; and pharmaceutical services. "High priority" supplemental services include home health; dental treatment; health education, including nutrition; and bilingual and outreach services.

Users of the services are predominantly blacks (2.5 million) and Spanish-speaking migrants from large, low-income families. The average annual family income of 2.7 million users is less than $7,000, and 1.8 million are unemployed. Equal numbers of females and males are users. The BCHS facilities are the primary sources of medical care for 2.6 million people (*8* and unpublished BCHS data, November 30, 1979). The numbers of facilities and people served have grown steadily. BCHS program projects are shown under two main headings, Child Health Initiative and Capacity Building Initiative, in table 2. In 1974, 157 community health centers were serving 2 million people. These centers were funded under Title III, Section 314(e) of the Public Health Service Act. By 1980 there were 872 centers, with a capacity to serve 4.2 million people (table 3).

The National Health Service Corps, which had only 20 persons in 16 communities in January 1972, had 1,824 providers in 875 sites serving more than 900,000 people by 1979. Plans for 1980 projected 236 additional health professionals for a total of 2,060 to provide services to an estimated 1.1 million people. The migrant projects, which served 390,000 migrant and seasonal farmworkers in 1975, were serving more than 550,000 in 1978. In 1979, 5,125 family planning clinics were serving 3.5 million women and men.

As in most ongoing national programs, the numbers are large. The more important question is how many people needing services are being reached? DHHS estimates that its service delivery programs reach about one-third of the 20 million underserved people in poor areas. Reaching the other two-thirds currently without adequate primary care services will require time for establishing sites and placing staff in the designated areas of need. In the interim, positive programing is being used to concentrate resources in the priority areas.

Once the health centers are in place, concern shifts to increasing their service capability as part of a health delivery system by developing linkages to other health care providers. This process occurs at two levels. Horizontally, linkages are formed to resources to such non-BCHS programs as alcoholism and drug abuse, mental health, and the women, infants, and children (WIC) food supplement program. Vertically, the linkages are to secondary and tertiary hospital facilities that can provide more specialized care. A study of 104 HURA projects showed more than 1,500 linkages to hospitals, home health agencies, MCH programs, and various screening programs during fiscal year 1978 (*16*). Examples are the Kuhn Memorial Hospital in Vicksburg, Miss., which serves a 10-county region, and the Presbyterian Hospital Center in Albuquerque, N. Mex., which sponsors rural satellite clinics (*17*). Other linkages include community health centers and community mental health centers' arrangements for mental health care, the ties between migrant projects and the Department of Labor's Comprehensive Employment Training Act Programs, arrangements with WIC nutrition programs, and arrangements between the migrant projects and the alcoholism program.

BCHS also seeks to assure high quality in the services it funds through a "Productivity and Effectiveness Initiative" to monitor systematically centers' compliance with qualitative clinical indicators. For example, Pap smears classified as class III, IV, or V (indicating a need for further diagnostic work) are now required to have documented followup showing a gynecologic diagnostic study within 6 weeks. Compliance with this requirement provides an output measurement; more importantly, however, it shows that the center has a referral and followup capability. Compliance will also tend to enable the center staff to identify more actively with external systems of health care. Other measures include attaining high levels of immunization among preschool children, prenatal care, family counseling to teenagers, and hypertension screening for patients aged 10 and older.

Summary and Outstanding Issues

This overview of the Bureau of Community Health Services (BCHS) has highlighted the multiple bases of its legislative support, the conceptualization and implementation of its primary mission, the development of the nation's health service delivery capacity in rural underserved areas, and the record of its progress in making resources and services available. Underpinning the BCHS rural efforts has been the identification of

areas of need, providing them with technical assistance through positive programing, integrating categorical program resources locally to form comprehensive primary health care centers that are community based, and forming linkages to other service providers to evolve a viable health service system.

The focal point of the BCHS rural strategy is the Capacity Building Initiative—the Rural Health Initiative and the Primary Care Research and Demonstration (formerly Health Underserved Rural Areas) projects. The capacity building projects combine the requirement of the Congress for accountability with the administrative requirement to meet the health needs of a limited but underserved geographic area. The projects provide the mechanism for integration of categorical program resources because they are flexible enough for planners to develop an organizational structure appropriate to the area's need, bearing in mind the tradeoff between cost and service.

BCHS-supported health centers make up only part of the nation's rural health care system. Some other health resources are federally supported, some emanate from State and local health efforts, and others are provided by the private health care sector. The inventory and mapping of health services, from primary to tertiary, and the increasing attention to prevention suggest a potential network that can be the basis for a health service system. Such systems development may be difficult because of multiple control centers, diverse problems, distance, varying institutional affiliations, and community loyalties. But the concept of a health service delivery system in which the parties can supplement each other's efforts represents a fuller evolution in the BCHS program development aim. Although the aim exceeds the resources of the BCHS as well as the Health Services Administration, it is a helpful catalyst in the development of health care systems.

The continued success of BCHS efforts to build a community health care capability in underserved areas will be affected by the following factors:

- funding at sufficient levels to maintain present competencies and to provide for growth;
- improved site selection and community preparation;
- consolidation of program efforts in some projects and expansion to new services in others;
- cost efficiencies through nonduplication and greater productivity; and
- careful monitoring and testing to improve service delivery.

Meanwhile, BCHS will continue its policies of targeting resources at areas of highest need and assisting in the development of rural health systems.

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