
Hypertension Control: Meeting the 1990 Objectives for the Nation

JACQUELYN B. ADMIRE, MSPH
EDWARD J. ROCCELLA, PhD, MPH
CAROL M. HAINES, MPH

The authors are with the Health Education Branch; Office of Prevention, Education, and Control; National Heart, Lung, and Blood Institute; Public Health Service. Ms. Admire is Coordinator for Professional and Patient Education, Dr. Roccella is Coordinator of the National High Blood Pressure Education Program, and Ms. Haines is a Program Analyst.

Tearsheet requests to Ms. Jacquelyn B. Admire, Rm. 4A 18, Bldg. 31, National Institutes of Health, 9000 Rockville Pike, Bethesda, Md. 20205

Synopsis

Hypertension (high blood pressure) is 1 of 15 health priorities of the Public Health Service set forth in the report, "Promoting Health/Preventing Disease: Objectives for the Nation." The nine objectives for hypertension include improved health status, reduced risk factors, increased public-professional awareness, improved services and protection, and improved surveillance-evaluation systems. A number of Federal agencies, coordinated by the National Heart, Lung, and Blood Institute, are working to reach the hypertension objectives in cooperation with State, local, and voluntary agencies and organizations.

A great deal of progress has been made toward the objectives, as reflected by a variety of indicators. By 1980, for example, 34.1 percent of the population with hypertension had their blood pressure controlled at less than 160/95 mm Hg, but in 1972 only 16.5 percent were so controlled. Since 1972, the age-adjusted death rate has dropped 42 percent for stroke and 27 percent for coronary heart disease. Data indicate that the national goal for sodium ingestion (3–6 grams daily) may already have been met. Fifty-one percent of the population understand that hypertension may lead to stroke, meeting another objective. Public knowledge about hypertension as a "major likely cause of heart trouble" almost doubled in the 6-year period for which data are available.

In 1982, 30 percent of processed food in grocery stores had sodium content labeling and almost 50 percent had calorie labeling, according to studies conducted by the Bureau of Foods of the Food and Drug Administration. Efforts are underway to develop a methodology for assessing incidence of hypertension and categories of hypertension control, a need spelled out in another objective.

The National High Blood Pressure Education Program, administered by the National Heart, Lung, and Blood Institute, coordinates the ongoing activities that support the objectives: they include research, demonstration, and education.

IN 1979, A NATIONAL STRATEGY for achieving further improvements in the health of Americans was established by the Surgeon General in "Healthy People: the Surgeon General's Report on Health Promotion and Disease Prevention" (1). This document noted our accomplishments in prevention, identified the major health problems, and set national goals for reducing death and disability. A subsequent report, "Promoting Health/Preventing Disease: Objectives for the Nation" (2), identified specific and measurable objectives for 15 priority areas, and the Office of the Assistant Secretary for Health accepted responsibility for providing the leadership and coordination needed to reach these goals.

Overview

High blood pressure control was identified as a priority area, thus providing an even greater impetus to

those efforts conducted, supported, and encouraged by the ongoing National High Blood Pressure Education Program (NHBPEP). This Program was begun in 1972 when the Secretary of Health, Education, and Welfare initiated a nationwide public-private sector effort to control hypertension and asked the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health (NIH), already responsible for hypertension research, to coordinate this national effort.

More recently, high blood pressure control was selected to be 1 of the 15 priority areas because bringing blood pressure under control can significantly reduce stroke, coronary heart disease, and kidney disease. In 1980 about 60 million Americans were at increased risk of illness and premature death due to elevated blood pressure (2). It is estimated that as much as 95 percent of high blood pressure (HBP) has no known cause or cure, yet it can be controlled in most people by use of readily

available therapies (2). The large number of persons at risk and the capability of controlling the blood pressure of most persons confirms this effort as an appropriate priority.

In "Promoting Health/Preventing Disease: Objectives for the Nation" a series of specific objectives are identified for each priority area. In the subsequent sections of this paper we list the specific hypertension objectives and describe the approaches to meeting those objectives as well as the indicators of progress. Subsequently, we describe the national program and the continuing related activities that will contribute both to the reduction of blood pressure to acceptable levels in the population with hypertension and to the achievement of the 1990 control objectives.

Although the NHLBI is responsible for coordinating the high blood pressure control objectives, the effort is a responsibility shared with other agencies of the Department of Health and Human Services (DHHS)—the Health Resources and Services Administration (HRSA), National Institute on Aging (NIA), National Center for Health Statistics (NCHS), Centers for Disease Control (CDC), and Food and Drug Administration (FDA). Federal agencies outside DHHS—the Veterans Administration, Office of Personnel Management, Department of Defense, Department of Labor, and Department of Agriculture—also help to meet these objectives.

Of nine blood pressure control measures identified in "Promoting Health/Preventing Disease: Objectives for the Nation," eight have been given high or medium priority. They are cited here, along with a description of the approach used and the success to date in achieving the objective.

Improved Health Status

By 1990, at least 60 percent of the estimated population having definite HBP (160/95 or higher) should have attained successful long term blood pressure control, i.e., a blood pressure at or below 140/90 for two or more years. (High blood pressure control rates vary among communities and States, with the range generally being from 25 to 60 percent based on current data.)

To meet this objective, both patients and health care providers must be aware of and then act appropriately to attain and then maintain controlled blood pressure. A number of measures have been implemented to address awareness. The NHLBI sponsors a variety of education and information activities, including a media campaign and an information center. CDC's Center for Health Promotion and Education assists in providing information to State and local health departments and encouraging school health curriculums that address hypertension. Practicing health care providers are receiving information

on hypertension from both FDA's National Center for Drugs and Biologics and the NHLBI.

A number of grants to States and service delivery measures also help to meet this first objective. State hypertension control projects are supported through the Prevention Block Grant. HRSA's Bureau of Health Care Delivery and Assistance supports demonstrations in hypertension control, offers services to Native Americans, and provides hypertension control services through community and migrant health centers and the National Health Service Corps.

Technical assistance and cooperative measures also address this first objective. The NHLBI works with professional and voluntary organizations and the insurance industry to coordinate activities related to high blood pressure control. CDC's Center for Health Promotion and Education offers technical assistance to State and local health departments, and the Office of Disease Prevention and Health Promotion of the Office of the Assistant Secretary for Health works with employers and business groups to reach other vulnerable groups.

Research and surveillance measures provide new information and identify target areas and successes. The National Center for Health Statistics and the National Center for Health Services Research play key roles in data collection and research. The NIH supports basic and clinical research in the prevention and control of hypertension.

Table 1 provides prevalence, awareness, and control rates (3–6). By 1980, 34.1 percent of the hypertensive population were controlled on antihypertensive medica-

Table 1. Prevalence, awareness, treatment, and control of hypertension¹ among persons aged 25–74 years, United States (percentages)

Indicator of hypertension	1971–72 NHANES P	1974–75 NHANES IA ²	1976–80 NHANES II ⁴
Prevalence in the general population	18.2	22.1	22.0
<i>Hypertensive population</i>			
Aware	50.9	63.6	73.4
Not aware	49.1	36.4	26.6
On medication	36.5	34.2	56.2
No medication	63.5	65.8	43.8
Control status:			
Controlled (aware, on medication)	16.5	19.6	34.1
Uncontrolled	83.5	80.4	65.9
Aware, on medication	20.0	14.6	22.1
Aware, no medication	14.4	29.4	17.2
Unaware	49.1	36.4	26.6

¹ Hypertension defined as a systolic measurement of 160 mm Hg or greater or a diastolic measurement of 95 mm Hg or greater or taking antihypertensive medication.

² Rates for persons 18–74 years extrapolated from NHANES I by the National Heart, Lung, and Blood Institute. See references 3–5 for NHANES I.

³ See reference 5 for NHANES IA.

⁴ See reference 6 for NHANES II.

'Information on declining mortality rates is also encouraging. Since the beginning of the national effort to increase hypertension control in 1972, the age-adjusted stroke death rate has declined nearly 5 percent each year, and it continues to fall.'

tion and had blood pressures less than 160/95 mm Hg. This level is greater, however, than the 140/90 mm Hg level identified as the upper limit for control in the objective.

Information on declining mortality rates is also encouraging. Since the beginning of the national effort to increase hypertension control in 1972, the age-adjusted stroke death rate has declined nearly 5 percent each year, and it continues to fall. Mortality from stroke has declined 42 percent, and coronary heart disease has dropped 27 percent since 1972 (table 2).

Reduced Risk Factors

By 1990, the average daily sodium ingestion (as measured by excretion) for adults should be reduced at least to the 3 to 6 gram range. (In 1979, estimates ranged between averages of 4 to 10 grams sodium. One gram salt provides approximately .4 gram sodium.)

The tactics used on the first objective, informing and educating the public, are also being used on the second objective—reducing sodium intake. Dietary guidelines have been formulated and distributed by the Office of the Assistant Secretary for Health. The FDA is conducting an educational campaign regarding sodium labeling and the association of sodium with hypertension. The NHLBI has prepared and is distributing an information packet, designed for health professionals, that offers information and tools to help hypertensives reduce their sodium intake. Research supportive of sodium reduction is being carried out by both NIH and CDC.

According to an FDA publication (7), the average daily sodium ingestion of the U.S. population is 4–5 grams. This report is not based on a national study but on the compilation of individual studies reported in the literature. The survey report indicates that the objective may already have been met. Unpublished data from the National Health and Nutrition Examination Surveys I and II of the National Center for Health Statistics support this

finding; they indicate that the average daily consumption for males is 2,701 mg of sodium, and that for females it is 1,850 mg. To obtain data comparable with the 1973 and 1979 surveys of public knowledge of hypertension (8,9), the NHLBI and FDA jointly sponsored the 1982 Consumer Food Survey of public knowledge of sodium, sodium labeling, and HPB. Some unpublished findings from the survey follow:

— “Too much salt” was cited as a major likely cause of high blood pressure by 5 percent in 1973, 12 percent in 1979, and 31 percent in 1982.

— “Too much salt” was cited as the single most important cause of high blood pressure by 2 percent in 1973, 5 percent in 1979, and 13 percent in 1982.

— “Low salt diet” was cited as a treatment that definitely helps lower blood pressure by 62 percent in 1973, 72 percent in 1979, and 77 percent in 1982.

Comparable data are also available from the 1979 survey (9) and the unpublished 1982 NHLBI-FDA survey indicating that, in 1979, the percentage of persons who had ever been told they had high blood pressure who often use salt at the table was 17 percent and who often use salt for cooking was 42 percent. By 1982, those percentages had dropped to 12 percent who often use salt at the table and 4 percent who often use salt in cooking.

Increased Public/Professional Awareness

By 1990, at least 50 percent of adults should be able to state the principal risk factors for coronary heart disease and stroke, i.e., high blood pressure, cigarette smoking, elevated blood cholesterol levels, diabetes. (Baseline data unavailable.)

By 1990, at least 90 percent of adults should be able to state whether their current blood pressure is normal (below 140/90) or elevated, based on a reading taken at the most recent visit to a medical or dental professional or other trained reader. (In 1974–75, 30 percent of people with high blood pressure greater than 160/95 were not aware of their condition.)

Achieving the ability to “state principal risk factors” and “know whether current blood pressure is normal or elevated”—the third and fourth objectives—are targeted like the first objective, by strongly emphasizing the dissemination of education and information, a major activity of the NHBPEP. The Program currently supports an information center for the public and health professionals and a media campaign and assists in organizing community programs.

A number of studies have indicated progress in both public and provider awareness. Comparison surveys conducted in 1973 (8) and 1979 (9) to ascertain how much the public had learned about hypertension, its treatment,

and what is being done with that knowledge indicated these gains:

— 51 percent of the population reported that high blood pressure was a “major likely cause of stroke” in 1979; while 43 percent reported this in 1973.

— 24 percent of the population reported that high blood pressure was a “major likely cause of heart trouble” in 1979, while only 13 percent reported this in 1973.

— 32 percent of the population reported that cigarette smoking was a “major likely cause of heart trouble” in 1979, while 29 percent reported this in 1973.

— 11 percent of the population reported that cholesterol was a “major likely cause of heart trouble” in 1979, while 8 percent reported this in 1973.

— diabetes was not reported as a “major likely cause of heart trouble” in either survey.

— 72 percent of the population knew that “hypertension is a very serious disease” in 1979; 63 percent, in 1973.

— 83 percent of the population had checked their blood pressure within a year of the 1979 survey, while 77 percent had done so in 1973.

— 81 percent of hypertensives ever prescribed medication were still taking their prescribed medication in 1979; 77 percent were doing so in 1973.

The data on causes of heart trouble and stroke were responses to an open-ended survey question, and the percentages might have been higher if respondents had been asked to select risk factors from a list. Even under these conditions, the data indicate that the portion of the objective related to stroke was met in the 1979 survey findings.

Improved Services/Protection

By 1990, no geopolitical area of the United States should be without an effective public program to identify persons with high blood pressure and to follow up on their treatment. (Baseline data unavailable.)

By 1985, at least 50 percent of processed food sold in grocery stores should be labeled to inform the consumer of sodium and caloric content, employing understandable, standardized, quantitative terms. (In 1979, labeling for sodium was rare; the extent of calorie labeling was about 50 percent in the market place.)

Supporting detection and followup services in all parts of the country will draw heavily on all DHHS agencies in addition to the NHLBI-initiated programs. Activities are also coordinated with the staff of the Veterans Administration, Department of Defense, Federal Employee Health Services, and the Office of Personnel Management—all are helping to implement this objective.

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In 1977, the NHBPEP identified more than 2,100 different organizations involved in or planning high blood pressure control activities (10). Currently, all 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands have an identified State hypertension control program or a person assigned as a State coordinator. The effectiveness of these programs varies, and they range from only an administrative structure to complete treatment and followup programs.

The food labeling objective is being addressed by the Bureau of Foods, FDA; the staff is working with the processed food industry on effective ways of labeling sodium and calorie content of products and encouraging the industry to develop foods with lower sodium and calories. The FDA sponsors an annual study of the extent of food labeling, the Food Label and Package Surveillance Program, which indicates that, at the end of 1982, 30.1 percent of processed food sold in grocery stores had sodium content labeling and about 49 percent had calorie labeling.

Improved Surveillance/Evaluation System

By 1985, a system should be developed to determine the incidence of high blood pressure, coronary heart disease, congestive heart failure, and hemorrhagic and occlusive strokes. After demonstrated feasibility, by 1990 ongoing sets of these data should be developed.

By 1985, a methodology should be developed to assess categories of high blood pressure control, and a national baseline study of these data should be completed. Five categories are suggested: (1) unaware; (2) aware, not under care; (3) aware, under care, not controlled; (4) aware, under care, controlled; and (5) aware, monitored without therapy.

Since 1972, the NHLBI has sought to identify the status of hypertension (3–6, 8–14) in the U.S. population, as well as indicators of progress in control efforts. As of 1984, that assessment has been made on the basis of public and provider knowledge, blood pressure meas-

urement surveys, and mortality statistics from the National Center for Health Statistics.

Dramatic declines in mortality from coronary disease and stroke are shown in table 2. Yet, although good data are collected on mortality, that is not the case for information on the incidence of cardiovascular disease. It is not known if the total number of heart attacks and strokes dropped at a rate similar to that of deaths attributable to heart attacks and strokes. If the decline in the total number of events was as great as the decline in the death rate, then it would be more reasonable to conclude that preventive efforts, including lifestyle changes, were the principal reasons for the drop. If the total number of heart attacks and strokes did not drop at a similar rate to the deaths, then better detection, treatment, and medical management would be suggested as the most likely causes for the mortality decline. The surveillance objective addresses this data gap by asking for the appropriate data collection system. A pilot project, the Community Cardiovascular Disease Surveillance Program to document trends in mortality and morbidity from cardiovascular disease in 12 communities, has been initiated by the NHLBI. If it proves successful, it will be modified and become an ongoing program in 1985.

The objective of developing a methodology of assessment responds to a need to identify the status of the individual hypertensive. Existing mechanisms give information on level of blood pressure, but they do not show if the person is under care and the hypertension is under control or is being monitored. Such specific data would allow us to pinpoint problems in the "detection, evaluation, and treatment" systems.

After publication of the objectives (2), the NHLBI began reviewing its existing research and education pro-

grams to identify activities which were supportive of the hypertension objectives in the report. As coordinator of the NHBPEP, the Institute was already involved in a number of activities related directly or indirectly to the objectives. A brief history and description of the national high blood pressure control effort gives perspective on the level of activity now underway—activities directed toward the Objectives for the nation.

Supportive Activities of the NHBPEP

Increasing awareness of the public and health professionals. In 1973, the NHBPEP assessed knowledge levels (8) of both the public at large and patients. Its staff had to determine what organizations and agencies were already engaged in hypertension control and the scope of their activities. Existing sources of information about hypertension had to be identified. After acquiring this operational information and the necessary scientific knowledge, a public information activity was initiated. In 1977, health care providers' knowledge of hypertension was surveyed (14) and an educational activity addressing the evaluation and treatment of hypertensives was targeted at health providers.

For the public, the informational materials described the seriousness of high blood pressure, encouraged detection, explained the need to obtain care, and supported the need for maintaining that care—perhaps for a lifetime. A series of repetitive and reinforcing techniques were used; they included:

1. use of television, radio, magazines, and newspaper media.

Table 2. Percent decline since 1972 in age-adjusted death rates for all causes, cardiovascular diseases (CVD) and non-CVD, United States, each year, 1973–82¹

Year	All causes	Non-CVD	Cardiovascular diseases			
			Total ²	Coronary heart disease	Cerebrovascular diseases	Other CVD
1973.....	1.5	0.8	2.3	2.4	2.3	2.1
1974.....	5.5	3.8	7.3	7.6	8.3	5.8
1975.....	9.7	6.3	13.3	12.9	16.8	11.2
1976.....	11.4	7.5	15.5	15.1	21.7	11.3
1977.....	13.7	9.0	18.7	18.2	26.8	13.4
1978.....	14.8	9.0	20.8	20.2	31.3	13.7
1979.....	17.3	10.1	24.9	23.4	35.9	19.8
1980 ³	16.6	8.2	25.4	23.5	37.3	20.2
1981 ³	18.0	9.6	27.0	25.9	40.7	18.3
1982 ⁴	20.4	13.1	28.0	27.2	42.6	18.2

¹ Death rates are age-adjusted to the 1940 U.S. population. The rates from 1972 to 1978 were originally coded using the 8th revision of the International Classification of Diseases, Adapted (ICDA-8); these have been adjusted to be comparable with the 9th revision, ICDA-9, instituted in 1979.

² Excludes congenital heart disease.

³ Provisional.

⁴ Estimated by the National Heart, Lung, and Blood Institute.

SOURCE: Prepared by the National Heart, Lung, and Blood Institute; data from the National Center for Health and Statistics and the Bureau of the Census.

2. social and community organizations with interest in hypertension control that work through local chapters to inform members.

3. establishment of a high blood pressure information center with a staff to respond to questions, send printed materials, and identify speakers who are knowledgeable about hypertension.

4. designation of High Blood Pressure Month—an annual event since May 1974. In May 1984 a total of 85,000 HBP kits are being distributed. The kits contain descriptions of activities and press releases, posters, and advertisements for screening, education, and HBP management activities.

Assistance to service agencies and States. The NHLBI has primary responsibility within the DHHS for high blood pressure research and education. Sister agencies work with the Institute and provide services in support of the educational effort. They also act, when appropriate, to disseminate research findings. A number of populations receive services as part of the targeted effort of DHHS agencies to reduce hypertension. As indicated earlier, the Health Resources and Services Administration provides care for hypertensives through community health centers, migrant health centers, rural health initiatives, and the National Health Service Corps. The Indian Health Service staff, who give care to Indians on the reservations, have an active professional education program on hypertension. Another part of HRSA, the Federal Employee Health Service, provides hypertension care to Federal employees and organizes hypertension control programs at Federal worksites. The Health Care Financing Administration reimburses for services provided under Medicare and Medicaid. Each of these agencies works with NHBPEP, and HRSA participates in the Coordinating Committee of NHBPEP.

Hypertension care is also provided by a number of non-DHHS Federal agencies. In addition to significant contributions in research, the Veterans Administration maintains approximately 30 clinics which offer a full range of detection, treatment, and counseling services for veterans. The Department of Defense has a similar program for uniformed personnel and their dependents and has extensive health education programs to address hypertension and cardiovascular risk reduction. The Office of Personnel Management reviews Federal employee health care plans to ascertain that appropriate services are available.

Technical assistance and cooperative measures. The NHBPEP has given technical assistance to individuals, communities, and organizations since its inception. Initially, local communities were helped to develop ac-

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tivities and programs. In 1978, it became apparent, as the effort grew, that limited resources did not permit technical assistance to continue at the request of local groups. The Program then limited its help to assisting State hypertension programs that aid local communities. The State programs helped local communities' activities and programs by providing materials, contacts, and information. HRSA also provided Federal funding for State hypertension programs through Section 317a(1) of the Public Health Service Act. In fiscal year 1982, State hypertension program funds were transferred to the Preventive Health Services Block Grant, an action permitting the States to choose whether those funds would continue to be used for State hypertension programs. Under this new system, most States continue to make control of hypertension a priority, and the NHBPEP works cooperatively with staff of State programs, helping to design, implement, and evaluate their technical assistance programs.

Developing incentives to control high blood pressure. Appropriate reimbursement eliminates a major barrier to seeking care and staying on treatment—the cost of services and medication. The NHBPEP has reviewed the status of third party payment for hypertension control services and initiated service activities to inform insurance companies of the cost savings associated with high blood pressure control. The Health Care Financing Administration is reviewing the status of reimbursement for hypertension services through Medicare and Medicaid.

Although incentives for the individual patient are important, incentives for control at the community level are key to helping support the person. The Risk Reduction Grants Program at CDC supports hypertension education activities ranging from a rural, community-wide

project to a risk reduction project targeting hypertension and other risk factors in a low-income population. It is important that mechanisms such as the risk reduction program and the prevention block grants continue to provide incentives through the funding of State, regional, and community control programs.

Research support. The NHLBI addresses the entire spectrum of research regarding hypertension and its control. Basic research is directed at identifying the causes of hypertension, and additional research is underway to test the efficacy of new drugs to treat the disease. Clinical research, such as the Hypertension Detection and Followup Program (HDFP), yielded new and exciting data regarding the efficacy of treating mild hypertension. This trial (11–13), also begun in 1972, involved more than 11,000 patients in 14 communities. Half of the study population were given care in special clinics, where they were put on a systematic treatment regimen to a set blood pressure goal. The other half were referred to “usual” sources of care in the community. The results, released in 1979, indicated that some 17 percent fewer deaths occurred among the patients receiving aggressive treatment, although the number of patients achieving good blood pressure control from community sources of care also increased over time. The ability of the 14 special treatment centers to keep patients in the care system and thus on treatment was believed to be a significant factor in the mortality difference. Patient dropout and failure to adhere to treatment regimen have traditionally been major barriers to improved hypertension control throughout the nation.

Among the ongoing hypertension-related research projects at NHLBI are projects in Connecticut, Georgia, South Carolina, California, Maine, Maryland, and Michigan to assess the impact of statewide coordination of resources and activities on blood pressure control status. Studies are also underway that address the efficacy of diet therapy to reduce the number of hypertensive persons requiring prolonged drug therapy. Through these studies, researchers seek to move patients from drug therapy to nondrug therapy and then keep blood pressures under control solely by dietary management. Studies are being conducted in rural areas of North Carolina, Kentucky, Georgia, and Mississippi to learn effective approaches to community blood pressure control in those settings. Research efforts have also examined biofeedback, relaxation response, counseling, and other behavior-related methods for reducing blood pressure. A number of behavioral studies are directed at assessing better methods of encouraging adherence to therapy.

The NHLBI and HRSA are jointly supporting five projects that test the effectiveness of applying models of

education, management, and followup to communities with both a large minority population and a high prevalence of hypertension. The models are based on findings of the HDFP and represent the translation of research to clinical and community settings. These demonstrations are located in three rural settings (Mound Bayou, Miss.; Eutaw, Ala; and Española, N. Mex.) and two urban settings (Philadelphia, Pa., and Kansas City, Mo.).

It is important that researchers deal with both the causes and the treatment of hypertension. The NHLBI is continuing research on both pharmacological and non-pharmacological approaches to high blood pressure therapy that may lead to more effective control efforts. At the same time, research into the basic causes continues, because the ultimate research goal is to establish the cause or causes and then prevent the disease from occurring.

Monitoring progress. The statistical indicators discussed earlier show definite progress. They will continue to be monitored, and new means will also be sought to measure the success of the national effort to control high blood pressure. The NHLBI will repeat public surveys periodically to gauge success in meeting the nation’s blood pressure objectives. The 1977 survey (14) conducted with the Food and Drug Administration to assess physicians’ knowledge and attitudes and their reported behavior regarding treatment of hypertension will be repeated, further measuring progress of the national effort. Coronary heart disease, stroke mortality, patient visits for hypertension, and the National Health and Nutrition Examination Surveys will continue to be monitored to assess the current status of the objectives. Assistance in data acquisition in order to set improved priorities and measure progress will be provided by the FDA and the National Center for Health Statistics, working with the NHLBI.

The goal of the hypertension control objectives and the NHBPEP is reduction of morbidity and mortality due to uncontrolled hypertension. To date, substantial progress has been achieved by the willing participation of many individuals, States, and non-Federal and Federal organizations.

The public is acquiring a more accurate understanding of hypertension; patients are learning the importance of treating the problem and are living healthier lives; health professionals are accepting the recommendations for better management of hypertension. The challenge we face, despite our progress, is a major one. Hypertension is a significant factor in the million or more heart attacks and 500,000 strokes that occur annually.

We must continue to marshal our resources effectively to make certain that appropriate care for high blood pressure is available to all Americans.

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Family Physicians' Beliefs about Screening for Colorectal Cancer Using the Stool Guaiac Slide Test

K. MICHAEL CUMMINGS, PhD, MPH
CARLOS R. JAEN, MS
DONNA P. FUNCH, PhD

Dr. Cummings is research scientist, Department of Cancer Control and Epidemiology, Roswell Park Memorial Institute. Mr. Jaen is a doctoral student in epidemiology at the Roswell Park Division of the State University of New York at Buffalo. Dr. Funch is a postdoctoral fellow in the Department of Social and Preventive Medicine, State University of New York at Buffalo.

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Tearsheet requests to Dr. K. Michael Cummings, Department of Cancer Control and Epidemiology, Roswell Park Memorial Institute, 666 Elm St., Buffalo, N.Y. 14263.

Synopsis

The stool guaiac slide test (SGST) is a relatively recent innovation in screening for colorectal cancer. The test detects occult blood in the stool that may indicate the presence of cancer.

In recent years, the SGST has been widely promoted as a screening test to aid in the detection of colorectal cancer. However, data from public and mass screening programs indicate that many people are unaware of the test and that few have actually taken it. The findings from these studies suggest that many physicians may not be using the test in their medical practices.

The literature on diffusion theory suggests that acceptance of an innovation is influenced by the potential adopter's perception of the innovation's relative advantages over those of the ideas it supersedes, its perceived complexity, and its compatibility with the existing values and practices of the receiver. This research examined these factors as they relate to use of the SGST among a sample of 131 family physicians in New York State.

Eighty-two percent of these physicians reported that they provide guaiac slides to at least some of their patients to collect stool specimens at home. The test was reportedly more commonly used for older patients than for younger ones. The physicians' beliefs about the relative effectiveness of the test in detecting early-stage colorectal cancer, compared with the effectiveness of alternative screening tests, and their perceptions about