DOCUMENT RESUME

ED 140 036 CE 011 327

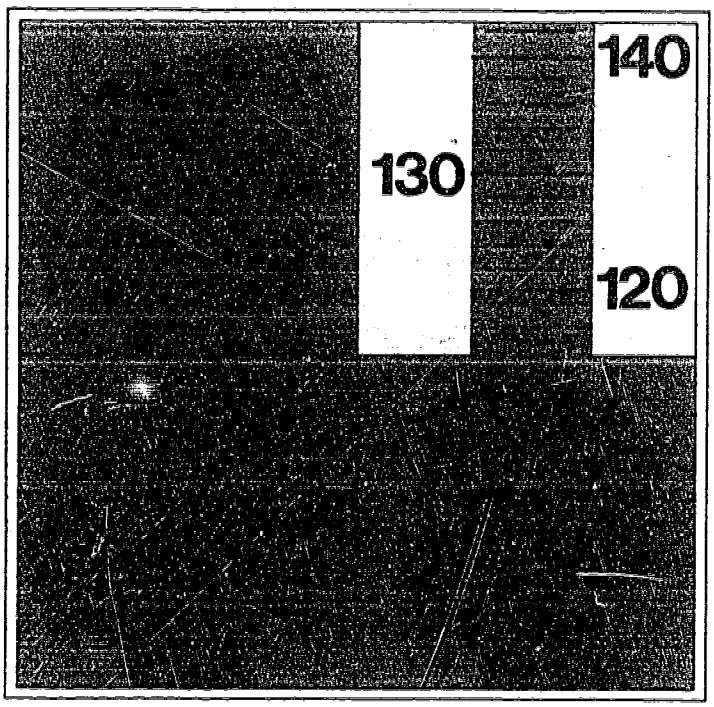
TITLE	Nursing Education in High Blood Pressure Control. Report of the Task Force on the Role of Nursing in High Blood Pressure Control.
INSTITUTION	National Institutes of Health (DHEW), Bethesda, Md. High Blood Pressure Information Center.
SPONS AGENCY	Public Health Service (DHEW), Washington, D.C.
REPORT NO	DHEW-NIH-76-1052
PUB DATE	[76]
NOTE	42p.
EDRS PRICE	MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS	Attitudes; *Behavioral Objectives; Clinical Diagnosis; Guidelines; Health Education; *Hypertension; *Job Skills; Medical Services; *Nursing; *Professional Education; Student Evaluation; Task Performance; Teaching Guides; Teaching Methods

ABSTRACT

This curriculum guide on high blood pressure (hypertension) for nursing educators has five sections: (1) Introduction and Objectives provides information regarding the establishment and objectives of the National Task Force on the Role of Nursing in High Blood Pressure Control and briefly discusses nursing's role in hypertension control; (2) Goals for Undetected Hypertensive Populations presents guidelines for use in nursing generic, graduate, practitioner, and continuing education programs on the detection of high blood pressure and includes one primary goal, four secondary goals, and nine behavioral objectives, each having one to fifteen subobjectives regarding performance skills, cognitive skills, and attitudes; (3) Patient Outcomes for Detected Hypertensive Populations covers guidelines for use in the aforementioned nursing educational programs on the care of patients with detected hypertension and includes 7 patient outcome goals related to either minimizing disruption of health status or promotion of health and 70 behavioral objectives, some having one to nine subobjectives delineating nurse performance skills, cognitive skills, and attitudes; (4) Achieving Objectives briefly discusses approaches for using the guide in planning content, teaching methods, and learning experiences, evaluating nurse competence, and identifying learning needs; and (5) Nursing Perspectives on the Current State of Knowledge summarizes some current views on hypertension management salient for nursing practice. A list of 56 references is appended. (EM)

Nursing Education in High Blood Pressure Control

Report of the Task Force on the Role of Nursing in High Blood Pressure Control



Sponsored by:
National High Blood Pressure Education Program, National Heart, Lung, and Blood Institute

American Heart Association
American Nurses' Association
National League for Nursing
National Student Nurses' Association

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
National Institutes of Health
DHEW Publication No. (NIH) 76-1052.

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INTRODUCTION AND OBJECTIVES

Since its establishment in 1972, the National High Blood Pressure Education Program coordinated by the National Heart, Lung, and Blood Institute has been sponsoring large scale efforts to raise the awareness of health professionals and the public regarding the magnitude of the high blood pressure problem in this country, and the need to mobilize the resources of the health professions including allied health personnel to facilitate detection and control. Groundwork for these efforts was provided by four task forces that provided the data base related to the detection, diagnosis, and the treatment of hypertension; established recommendations for public and professional education; studied the available resources; and assessed Program impact on the problem. In addition, guidelines for medical education were developed by the Working Group on the Training and Evaluation of Physicians in High Blood Pressure. (1-5) During 1975, the Task Force on the Role of Nursing in High Blood Pressure Control was formed to review the role of nursing and the educational preparation necessary to impact this major public health problem.

As the largest health professional group in the United States, nurses are an invaluable resource not only in terms of numbers, but also in terms of their present and potential skills in screening and delivering health care services to the over 23 million people with high blood pressure needing control. Since nurses provide the greatest percentage of direct care given to consumers they have frequent opportunities for case finding, for educating consumers to maximize participation in their own health care management, and for assuring follow-up and continuity of care. (1, 2, 3, 4)

With the current demands on the health care system and serious resource distribution problems, an active and expanded scope of involvement on the part of nurses is essential to the control of hypertension. (9, 6, 13) Through their varied sites of practice within hospitals, community health facilities, schools, nursing homes, industries, physicians' offices and clinics, nurses have access to large numbers of persons of all ages. The potential for their contribution to public education, detection, and control of high blood pressure must be operationalized.

Realization of this potential requires that: (1) high blood pressure be given greater emphasis within the generic and graduate nursing school curriculum; (2) nurses in practice be reached by continuing educa-

tion efforts related to hypertension; (3) more nurses become hypertension nursing specialists and function as primary care agents for those persons with uncomplicated hypertension; and (4) more nurses take part in research efforts related to care of hypertensive persons.

Some nurses have been involved in detection and long-term management of patients with high blood pressure in the community, in industry, and in clinics. Nurses have been successful in achieving control of blood pressure, adherence to the medical regimen, and reduction in dropouts; and cost efficiency has been outstanding in comparison to previous delivery approaches. (6, 7, 9, 10, 11, 12)

The identification of knowledge, behaviors, and skills necessary in the care of individuals with high blood pressure is essential in order that such information becomes a part of both basic nursing education and continuing education. In turn, public education and patient teaching will be better served. Nurses have traditionally affirmed their role in personal and family support in time of illness. The Task Force sees this role as continuing to be of high importance in their contacts with persons with this long-term disorder, the treatment of which requires the person to adhere to regimens that may occasionally be irksome, that can cause unpleasant side effects, that can result in substantial monetary expenditure, and that can affect life style. Skills in empathic support, teaching, and motivation may be called on to a high degree in the latter situations.

The Task Force on the Role of Nursing in High Blood Pressure Control was charged with developing behavioral objectives to guide nursing education and practice in the detection, evaluation, and management of hypertensive patients. The Task Force envisioned the use of these objectives in basic, advanced, and continuing education programs.

The following were the working objectives of the Task Force:

- Define the scope of nursing in high blood pressure control.
- Define behavioral objectives including nursing performance, cognitive skills, and attitudes in relation to specified patient outcomes.
- Consider educational methodologies and instructional techniques that may be used to achieve the objectives.

Consider evaluation processes to determine achievement of objectives.

In preparing this report, the Task Force reflected the basic philosophical positions of nursing. (8, 14)

Nursing practice has traditionally been dedicated to the promotion, maintenance, and restoration of health for all persons. Nurses have upheld the right of everyone to have access to health care without regard to age, sex, race, ethnicity, or socioeconomic status.

The magnitude and lifelong problem of hypertension demands the utilization of a collaborative health team effort. The patient and family are an integral part of the health team and have the right to information necessary for knowledgeable participation in planning and decision making. The understanding of high blood pressure and its control is important in the success of a treatment program.

Nurses can play a major role in assisting patients to adapt to the demands of lifelong treatment. The nursing perspective of health care considers the individual within the framework of a total person who is a member of a family and a community, and whose responses to high blood pressure and its management are influenced by social-psycho/physiological needs. The patient has the right to individually determine personal quality of life. Increasing the patient's knowledge supports the opportunities for the individual to make informed decisions about health and illness. Maximum physical well-being as defined by the health professional may not be totally compatible with life style needs as identified by the patient. The core of nursing practice is in assisting persons to achieve their highest potential for healthfulness by the continuous assessment and promotion of the health status and health assets.

Nurses are responsible for assisting the consumer to use the health care system and community resources by providing information assistance on referral. Continuity of care and follow-up are essential in the long-term management of high blood pressure.

Nurses in all practice settings have opportunities for detection of high blood pressure. With advanced preparation and the use of medical guidelines, the nurse can assume major responsibilities in detection programs and in the primary care of those with high blood pressure. Nurses are responsible for affecting the formulation of health policies, legislation, and programs for those with long-term health problems.

Nurses are also responsible for conducting research designed to increase the knowledge base for nursing interventions. In addition, research is needed to investigate models for delivering nursing care to improve consumer satisfaction, and to insure long-term adherence to health regimens.

Basic knowledge is the foundation of competent nursing practice. The curriculum guidelines offered in this report are for nursing education on hypertension. The attitudes, cognitive and performance skills explicated are requisite to the preparation of all nurses if they are to meet their obligations in responding to the problem of high blood pressure. The model for nursing's contribution to the control of high blood pressure outlined in this report has been predicated on the basis of consumer needs and objectives and on the present state of the art of treatment.

GOALS FOR UNDETECTED HYPERTENSIVE POPULATIONS

The Task Force developed the following guidelines for use in generic, graduate, and practitioner educational programs as well as for continuing education, including in-service programs. The objectives were formulated to facilitate pretesting of cognitive and performance skills, selecting content and teaching methods, and evaluating learning outcomes. It was anticipated that the objectives could also serve as a basis for developing standards, criteria, and norms for use in peer review and quality care assessments.

The Task Force elected to develop the guidelines for instruction on the detection of high blood pressure apart from those for the care of the individual with detected high blood pressure. This was done in order to focus on the outcome goals for these two populations. The reader will need to use both sets of guidelines for the details describing the performance skills used for both populations. These were purposefully not repeated.

The Task Force reviewed the three areas considered essential for facilitating detection of high blood pressure. These include: (1) consumers (the general public) informed of the importance of risk factors, early diagnosis, and adequate long-term management; (2) measurement in the health care setting, organized detection programs including follow-up; and (3) referral sources. All nurses can assist with public education and with screening. When participating in mass screening programs nurses should make sure that referral sources are available. Nurse practitioners with advanced training can provide the follow-up, diagnostic, and management services for referrals from screening programs.

The Task Force focused on the goals and resources needed for early detection of high blood pressure as a basis for delineating the performance skills and the related cognitive skills and attitudes for the guidelines. (49, 51, 53)

In the following outline it should be noted that the special skills expected of the nurse with advanced training are noted by an asterisk(*).

GOALS

Primary Goal:

Early Detection of High Blood Pressure.

Secondary Goals:

1) Increased knowledge on the part of the consumer.

2) Screening patients who have sought health care for any reason.

3) Setting up mechanisms to screen patients outside the health care system.

4) Referral and follow-up of all persons with elevated blood pressure.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	**COGNITIVE SKILLS**	
1. Utilizes opportunities to assist in public education.	1. Explains current, accurate information about hypertension – its correlates, prevalence, morbidity, and methods of treatment.	1. Recognizes the responsibility of health professionals in the health education of the public.
a) Provides current knowledge of hypertension in lay terms.	a) Explains normal anatomy and physiology related to blood pressure; knows ranges of normal blood pressure; can explain the significance of hypertension blood tests, risk factors, and complications. Can describe hypertension as a life-time condition, often lacking symptoms, which can be controlled.	a) Believes that the consumer has the right to determine own health behavior based on accurate data.
b) Adjusts approach and method of conveying information in accord with the person or persons with whom the nurse wishes to reach with this information.	b) Distinguishes learning theory, motivation theory, and attitude change theory that are applicable to public education.	b) Respects individual differences and the person's right to accept or reject information and suggestions from health professionals.
c) Talks to individuals and groups about the problem of hypertension.		c) Recognizes that information from nurses and other health persons carries "legitimacy," therefore, it is thought to be accurate.
d) Assists in making literature and other resources on hypertension available to the public.	d) Considers available sources of public educational resources such as films, pamphlets, and videotapes.	
e) Seeks opportunity to serve on policy-making boards of agencies involved in, or having the potential to be involved in, public health and education.	e) Identifies community agencies and functions they serve.	e) Is committed to being an advocate in effecting health care policy.

GOALS

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BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	COGNITIVE SKILLS	
f) Influences others in the context of decision-making.		f) Believes that it is possible to influence group decision-making.
g) Organizes or implements community education programs commensurate with knowledge and experience.		
2. Utilizes opportunities to keep professional colleagues' and/or work associates' awareness high regarding the importance of hypertension detection and control.	2. Interprets principles of the teaching-learning process.	2. Recognizes that health personnel often neglect their own health in spite of knowledge about preventive measures and the risks of untreated hypertension.
a) Assists in or organizes and implements continuing education programs commensurate with knowledge and experience for nurses and other health professionals.	a) Identifies available resources for professional education such as bibliographies, pamphlets, audiovisual aids.	a) Believes that continuing education is essential to maintain current knowledge and skills in the control of hypertension.
3. Utilizes as many opportunities as possible to assist in detection and control.	3. Considers potentiating risk factors. Explains principles and methods of case findings.	3. Recognizes the responsibility of the health professional in case finding and primary care. Recognizes that initial experiences with the health care system may influence future compliance with antihypertensive regimens.
a) Initiates independent assessment of blood pressure in the work setting.		a) Recognizes that persons may consent to detection measures when immediately available, but may not seek out such evaluation.
b) Assists in making screening opportunities available to the public.		b) Recognizes importance of informed professional input in lay-sponsored screening programs.
c) Assists in screening procedures.		
d) Volunteers service in detection programs sponsored by local agencies.		

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	COGNITIVE SKILLS	
e) Encourages consumer participation in health care planning for screening and control of hypertension.		
f) Investigates referral process.	f) Identifies appropriate referrals based on blood pressure findings, person's economic situation, and resources available.	f) Recognizes that adequate referral resources are essential for follow-up and control.
g) Initiates referral process.	g) Recognizes the personal, social, and economic benefits of early detection and treatment to prevent organ damage.	
h) Actively participates in case finding by encouraging family members of detected hypertensives to have blood pressure checks made.	h) Recognizes that family history of hypertension constitutes a major risk factor and that children of hypertensives as well as adult relatives need continuing, periodic evaluation.	h) Respects need for high risk populations to have readily accessible health care resources.
i) Educates and monitors paraprofessionals in techniques for accurate blood pressure measurement. 1) Demonstrates ability to assess learner needs, teach proper techniques and factors to consider to ensure accuracy, and evaluates performance. 2) Uses judgment in delegating responsibility for blood pressure determination to paraprofessional members of the health care team.	i) Identifies preparation and expected competencies of paraprofessionals in determining blood pressure.	i) Accepts responsibility and accountability for delegated procedures. 1) Values the contributions of paraprofessional members of the health care team and invites and uses data supplied by them. 2) Assumes responsibility to participate in the education of paraprofessionals.
j) Assists in health teaching.		
*k) Evaluates outcome of screening program.	k) Identifies factors that influence patient follow-up.	k) Recognizes that persons needing further evaluation may not follow through because of: 1) health values and beliefs 2) previous experience in health care 3) socioeconomic factors.
*l) Makes systematic assessment of clinic appointments (i.e., missed appointments) to evaluate program effectiveness.		l) Recognizes professional accountability for assisting person's entrance into health care system.
*m) Follows up clients with elevated pressures who have been screened or referred.		m) Recognizes professional accountability for outcomes of screening programs.
*n) Makes effort to reach those who do not return for rescreening or diagnosis.		
*o) Repeats screening and assesses outcome.		

*Additional skills needed by nurse practitioner or nurses with advanced training.

In developing the guidelines for educational programs for the care of the patient with detected high blood pressure, the Task Force considered the desired patient outcomes to be the ultimate goals. These were used as a focus for delineating the essential performance skills and related cognitive skills and attitudes.

The patient outcomes reflect the goals for minimizing disruptions to the health status of the patient and for promotion of health assets.

Those related to minimizing disruption of health status include:

1. Stable blood pressure in accordance with the therapeutic goal.

2. Minimal therapeutic side effects of the medication regimen.

3. Minimal pathophysiological changes secondary to hypertension.

Those related to promotion of health include:

1. Patient and family adjustment to health status and therapy.

2. Maintenance of the life style compatible with personal health care goals.

3. Patient and family understanding of high blood pressure and treatment appropriate for self-care.

4. Patient assuming responsibility for self-care within psychosocial and physical limitations.

The Task Force identified the assessments which the nurse is expected to perform and the judgment which she is expected to make to guide the interventions, collaboration, and consultation with the physicians and other health professionals to provide the needed medical and health service. The interventions identified focus on instructing, guiding, and supporting patients in achieving and maintaining self-care, on assisting the patient and family to cope with the demands of the medical regimen, and on recognizing existing behaviors that enhance health.

DETECTED HYPERTENSIVE POPULATIONS

PATIENT OUTCOME

I. Stable Blood Pressure in Accordance with Therapeutic Goal.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	COGNITIVE SKILLS	
1. Determines frequency for blood pressure measurement based on patient needs and medical and nursing plans of care.	1. Considers influence of risk factors, severity of hypertension, compliance behavior, and complicating illness or treatment plans on blood pressure stability.	1. Has a sense of professional responsibility and accountability in determining indications for blood pressure measurement.
2. When taking blood pressure assesses environmental conditions that may influence blood pressure, modifies conditions when possible, and repeats exams.	2. Recognizes internal and external environmental factors that may influence blood pressure such as stress, bladder distention, and climate. Makes discriminate judgments regarding their influence.	2. Appreciates the emotional, environmental, and physiological influences on individual blood pressure.
3. Applies physiological principles in measuring blood pressure.	3. Identifies basic principles of arterial pressure regulation. a) Explains relationship of systemic blood flow (cardiac output), vascular resistance, and systemic blood pressure. b) Explains the role of the central nervous system and autonomic nervous system (including baroreceptors and chemoreceptors) in regulating arterial pressure. c) Explains the renin-angiotensin aldosterone mechanism and its effect on blood pressure. *d) Contrasts the differences between alpha and beta adrenergic receptors in terms of location, response to stimulation, and blockage.	3. Is committed to the importance of accurate blood pressure determination as a vital skill in physical assessment.
4. Measures blood pressure accurately in a manner consistent with scientific principles. a) Provides a quiet environment.	4. Identifies principles of sphygmomanometric measurement of arterial pressure and can describe technique for blood pressure determination as recommended by the American Heart Association. a) Distinguishes the proper cuff size recommended for average adults, obese adults, and children, and its influence on arterial pressure measurement.	*Additional skills needed by the nurse practitioner or nurses with advanced training.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	COGNITIVE SKILLS	
b) Positions patient and equipment properly. c) Utilizes correct techniques. d) Palpates pulse prior to auscultating. e) Takes blood pressure in more than one extremity and/or position when indicated. f) Communicates orally and in writing significant information to other health team members. g) Records diastolic findings according to recommendations of American Heart Association.	b) Determines necessity for taking blood pressure in more than one extremity and/or position. c) Explains effects of body position on level of blood pressure. d) Recognizes Korotkoff sounds and relates them to arterial pressure. e) Identifies auscultatory gap. f) Explains implications of auscultatory gap for accurate measurement.	
5. Recognizes deviations from optimal range and takes appropriate action. a) Investigates possible contributing pathophysiology. b) Communicates significant information to patient and other health team members.	5. Analyzes range of optimal blood pressure in relation to individual characteristics, therapeutic regimens, and additional pathophysiology.	
6. Administers drug regimen according to prescribed guidelines. a) Records patient history to identify contraindications to specific drugs. b) Plans treatment program with the patient. *c) Adjusts drug regimen as indicated to attain an optimum blood pressure with minimal side effects.	6. Identifies the various groups of antihypertensive drugs (diuretics, vasodilators, sympathetic inhibitors) and the basic mechanisms by which they work. a) Explains compensatory mechanisms associated with each antihypertensive medication. b) Explains methods of counteractive drug-induced compensatory mechanisms. c) Identifies contraindications, durations of action, and side effects of each drug. d) Differentiates those side effects that indicate discontinuance of drug.	6. Recognizes that drug therapy is the current cornerstone of treatment.

*Additional skills needed by the nurse practitioner or nurses with advanced training.

DETECTED HYPERTENSIVE POPULATIONS

PATIENT OUTCOME

I. Stable Blood Pressure in Accordance with Therapeutic Goal.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	COGNITIVE SKILLS	
	e) Identifies medications that may cause hypertension or may diminish the effectiveness of antihypertensive medications (including certain prescribed and over-the-counter drugs).	
	*f) Explains principles of titration of medication.	
	*g) Explains reasons for and ways of individualizing drug regimen.	
	*h) Identifies environmental factors affecting blood pressure as they relate to need for dosage change (i.e., summer, fever, diarrhea).	
	*i) Explains the stepped-care protocol, its rationale, and application in a particular setting.	

*Additional skills needed by the nurse practitioner or nurses with advanced training.

DETECTED HYPERTENSIVE POPULATIONS

PATIENT OUTCOME

II. Minimal Therapeutic Side Effects.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	**COGNITIVE SKILLS**	
1. Assesses patient's response to medication regimen in order to determine side effects.	1. Identifies physiological changes that occur as blood pressure is altered, and relates these changes to patient symptoms.	1. Respects the demands that side effects may have on patient's life style.
2. Records findings in order to document patient's response to medications.	2. Explains physiological changes associated with antihypertensive medications. a) Relates these changes to clinical signs and symptoms. b) Explains methods of treating toxic and nontoxic side effects of antihypertensive medications.	
3. Elicits the presence of any side effects.		3. Appreciates the influence of side effects on patient compliance.
4. Instructs the patient on symptom management for minimal nontoxic side effects, and negotiates an acceptable regimen with the patient.		
5. Identifies and assesses toxic side effects. a) Communicates findings to physician. *b) Adjusts drug regimen as indicated.		

*Additional skills needed by the nurse practitioner or nurses with advanced training.

DETECTED HYPERTENSIVE POPULATIONS

PATIENT OUTCOME

III. Minimal Pathophysiological Changes Secondary to Hypertension.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	**COGNITIVE SKILLS**	
1. Interviews patient to obtain family history and signs and symptoms suggesting hypertensive or atherosclerotic end organ damage. a) Obtains a systematic and relevant health history.	1. Considers factors that increase risk of hypertension and atherosclerosis, such as genetics, hypercholesterolemia, diabetes, hyperuricemia, psychosocial stress, obesity, and smoking. a) Considers signs and symptoms characteristic of atherosclerosis end organ damage.	
2. Conducts physical examination to assess pathological changes. a) Takes blood pressure accurately in both arms and legs—*sitting, standing, and supine.* b) Obtains height and weight. *c) Examines optic fundi, heart, and pulses. *d) Conducts neurological and abdominal examinations.	2. Considers the arteriolar and arterial changes in hypertension that may lead to end organ damage and resulting complications. a) Considers manifestation of the pathophysiological effects of *end organ damage.*	
*3. Initiates laboratory and diagnostic tests such as urinary and serum determinations of renal function, serum electrolyte concentration, and other screening tests, and ECG, and chest X-ray.	3. Explains the pathophysiological bases and treatment for secondary hypertension. a) Analyzes findings from laboratory and diagnostic data in relation to possible pathophysiology.	
4. Discusses findings with physician.		

*Additional skills needed by the nurse practitioner or nurses with advanced training.

DETECTED HYPERTENSIVE POPULATIONS

PATIENT OUTCOME

IV. Patient and Family Adjustment to Health Status and Therapy.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	COGNITIVE SKILLS	
1. Establishes and maintains rapport and therapeutic relationship with patient and family:	1. Identifies characteristics of human needs and behavior common to all persons.	1. Appreciates the effect of illness and therapy on family system.
a) Assesses emotional status and ability to cope with demands of illness.	a) Identifies elements characterizing a therapeutic relationship.	a) Sensitive to the effect of family relationships on illness and therapy.
b) Assesses patient and/or family perception and knowledge of illness.	b) Identifies various coping patterns utilized in handling stress and anxiety.	b) Appreciates patient and family response to illness and treatment.
c) Interprets nature and meaning of illness to patient and/or family.	c) Identifies social and cultural influences on health attitudes and behavior.	c) Recognizes the difficulties of adjustment to chronic illness.
d) Recognizes coping behavior used by patient and family.	d) Identifies coping behaviors that enhance or retard adjustment to illness.	
e) Explores with patient and/or family coping behaviors that may enhance health.	e) Identifies dynamics of family system.	
f) Promotes effective communications with patient and family.		
g) Assists patient and/or family in constructive resolution of conflicts arising from attempts to cope with demands of illness.		
2. Utilizes other health team members when indicated.	2. Considers the role of other health team members in assisting patient and/or family in adjusting to illness and therapy.	

DETECTED HYPERTENSIVE POPULATIONS

PATIENT OUTCOME

V. Maintenance of Life Style Compatible with Personal and Health Care Goals.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	COGNITIVE SKILLS	
1. Assesses significant aspects of life style that interfere with health care goals.	1. Analyzes sociocultural influences on life style and health-related attitudes and practices.	1. Appreciates individual differences in health priorities.
2. Negotiates with patient to establish realistic health goals.	2. Analyzes socioeconomic effects of illness and treatment program on individual life style.	2. Is committed to the patient's right to negotiate his or her therapeutic regimen as a full member of the health team.
3. Discusses with patient plans for social and employment activities consistent with health status.	3. Considers various resources and referral procedures for obtaining health care and socioeconomic assistance.	
4. Collaborates with other health team members to assist patient and/or family in achieving goals.		
5. Makes referrals to health and social services.		

DETECTED HYPERTENSIVE POPULATIONS

PATIENT OUTCOME

VI. Patient and/or Family Understand Hypertension and Treatment Appropriate for Self-Care.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	**COGNITIVE SKILLS**	
1. Assesses patient's expectations of health care and health care practitioners.	1. Considers factors affecting learning, such as patient attitude; readiness to learn; and knowledge level, beliefs, and misconceptions.	1. Respects individual differences in choice of assuming responsibility for self-care.
2. Assesses patient and family learning needs.	2. Identifies essential knowledge needed by any hypertensive patient, e.g., meaning of blood pressure, hypertension, therapeutic program, potentiating risk factors, responsibilities in self-care.	2. Respects individual differences in learning.
3. Assesses patient and family beliefs about illness and treatment.	3. Analyzes beliefs and misconceptions about illness and its treatment.	3. Appreciates the fact that beliefs may either help or hinder adherence to a therapeutic regimen.
4. Assesses source of health information used by patient or family.	4. Evaluates the effect of personal and/or professional health information significant to patient and family.	4. Appreciates the fact that there are differences in the amount of information patients want and need to know.
5. Designs a systematic educational program based on interpretation of data assessed about patient/family learning needs.	5. Considers components of educational program.	5. Recognizes that in order for learning to be effective, it should be goal-directed and based on attention to patient's learning needs.
a) Implements the program.	a) Short- and long-range objectives.	
b) Evaluates the program.	b) Methodology specific to the patient and goals of learning.	
	c) Essential concepts for patient learning.	
	d) Opportunities for informal and formal learning.	
	e) Family involvement.	
	f) Specified time frame for program completion.	
	g) Criteria for evaluation.	

DETECTED HYPERTENSIVE POPULATIONS

PATIENT OUTCOME

VII. Patient Assumes Responsibility for Self-Care Within Psychosocial and Physical Limitations.

BEHAVIORAL OBJECTIVES		ATTITUDES
PERFORMANCE SKILLS	**COGNITIVE SKILLS**	
1. Establishes priorities for self-care in collaboration with patient and health care team.	1. Distinguishes self-care behaviors desirable for hypertensive patients: a) Take medication, observe self for side effects, and take appropriate action. b) Follow diet. c) Incorporate rest, exercise, and relaxation techniques into daily life style. d) Keep follow-up appointment. e) Lose weight and abstain from smoking if indicated. f) Know when and how to use the health care system.	1. Recognizes that compliance is a complex phenomenon characterized by predictors not yet clearly defined.
2. Assesses patient self-care performance.	2. Considers socioeconomic, psychological, cognitive, and physical limitations, as well as health care system factors that may promote or interfere with self-care performance.	
3. Evaluates factors that interfere with self-care.		
4. Guides and supports the patient in achieving and maintaining self-care.		
5. Assists the patient in modifying the individual environment to achieve and maintain self-care.		

The behavioral objectives were designed as a resource for planning for the teaching-learning process and as a guide for selecting content, instructional methods, and testing processes used in the preparation of nurses for involvement in high blood pressure control.

The responsibilities inherent in the control of high blood pressure are congruent with the practice of nursing including the delivery of primary care, which includes autonomous thinking and decision making. Screening and long-term management by nurses is fundamental to national efforts to deal with the millions of persons needing diagnosis and follow-up care.

Working with patients and their families to help control high blood pressure requires mastery of essential knowledge, analytical thinking, skilled performance of clinical procedures, and attitudes congruent with responsible patient care.

The specific teaching strategy - the instructional plan for any particular unit - will be influenced by the learner's characteristics, background of knowledge, clinical performance skills, and content to be learned, as well as by the available learning resources, the environment, and the teaching preferences of the instructor. The sequencing of learning experiences will depend on the prerequisite knowledge for the learning outcomes. Thus, strategies obviously will be different for the beginning nursing student as compared to nurses reviewing and updating skills in a continuing education program.

The verbs used to express the cognitive and performance skills outlined in the behavioral objectives were specifically chosen to reflect high levels of thinking involving interpretation, application, analysis, synthesis, and evaluation. (49, 51, 53) The kind of behaviors expected should be considered in structuring the learning experiences and testing procedures, and in selecting resources.

A variety of learning experiences for attaining these objectives are suggested in current literature in education and nursing education. (53, 47, 50, 52)

The innovative teacher can utilize any number of

teaching methods to facilitate the student's achievement of the cognitive skills. Independent studies and audiotutorial programs need to be evaluated for their effectiveness, and for their appropriateness for use as individualized methods of study for the students. Problem-solving exercises, case reports with a multidiscipline team, and peer review of patient records also may prove to be effective methods in hypertension education.

The attitudes, values, and beliefs critical to modern nursing practice may be acquired in a variety of structured and unstructured ways such as through family and other primary group experiences, opportunities for discussions, sharing with peers, and exposure to desired attitudes held by others with whom the student identifies. The latter may be professional role models, patients, friends, or relatives. (46, 50)

Thoughtful use of questioning to assist the student to apply understanding of relevant concepts about high blood pressure and its management in both simulated and real patient situations will enhance the development of requisite judgment and decision making indicated in the sets of cognitive and performance skills. The objectives should be adapted for the needs of specific groups of students and the degree of responsibility in hypertension care the learners are expected to assume. All nurses are expected to have a basic understanding of normal and pathological physiological mechanisms which determine blood pressure regardless of their practice setting. They will assist in case finding and interpretation of blood pressure whether in a school, industrial, community, clinic, or hospital setting.

Those who are screening for high blood pressure, providing care for hypertensive individuals, or working with high risk groups will need in-depth, comprehensive understanding of factors that influence high blood pressure and its management.

The delineated patient outcomes and behavioral objectives may also be used in the orientation of new staff and assessment of the knowledge and performance skills appropriate to the practice situation and for in-service education programs. Both the teaching methods and the tests used for evaluation influence the thinking process and other performance skills which are developed. Tests using methods which reflect specified behavioral objectives provide a basis for adjusting learning experience to the students' strengths and deficiencies as well as evaluating the effectiveness of the teaching and the learning outcomes. Criterion-

reference testing as advocated by Gronlund (48) is seen as relevant for evaluation of both cognitive and performance outcomes.

Use of such tests is viewed as particularly valuable for pretesting of nurses in continuing education and in-service programs and for advanced educational programs. Results from pretesting as well as ongoing testing during the educational program are useful for identifying the learners' competencies and learning needs. Results assist the instructor to tailor learning experiences to the specific needs of the group and assist the students to monitor their own progress.

Educators recommend using pretests, followed by periodic testing during the instructional program, as well as a final evaluation to measure the learning outcomes achieved. Guides for the development and use of various methods are presented in Gronlund, Reilly, and Schweer. (48, 51, 52)

Few guides are currently available for evaluating patient outcomes. Nursing audit criteria are being developed for assessing the quality of care received by patients with high blood pressure. (6) Peer review based on guidelines developed by this Task Force provides a basis for evaluating the patient ourcomes and the related nursing assessments and interventions. Such reviews should disclose factors that influence the outcomes achieved.

The report of the Working Group on Training and Evaluation of Physicians in High Blood Pressure outlines the basic knowledge which guides the medical management of patients with high blood pressure. Much of this same knowledge is needed by nurses. The report from the Joint National Committee provides an excellent summary of the essential diagnostic and pharmaceutical management of these patients. (1)

Current information basic to understanding the regulation of blood pressure, the pathophysiologic basis for high blood pressure, and the current understanding of the diagnosis and medical management are well delineated in the general references which are appended. (15 - 31)

No singular approach, however, will be adequate to deal with the ramifications of high blood pressure. To assist the individuals with high blood pressure to achieve and maintain an optimal level of health, one must consider not only the pathophysiological process but the person involved, the psychological and social environment, and the response as a total person.

Because the knowledge base on these aspects of health are being generated, an attempt has been made here to summarize some current perspectives salient for nursing practice. Interested readers may wish to explore those areas further.

Considered from a psychophysiologic perspective, evidence suggests that the kind and quality of the individual's life style, interaction with others, and the threat perceived may influence the development of hypertension. Environmental situations requiring continuous behavioral adjustments by the individual were found to be related to sustained elevations in blood pressure. (39)

Gilmore explicates the physiological mechanisms by which high blood pressure as a stress response is mediated and suggests that these are defense responses to threatening life situations. (34) Patel cites evidence of the physiological bases of reduction of arterial pressure by relaxation training. (36) Exercise programs for hypertensive individuals have been reported to reduce arterial blood pressure .(35, 40) These reductions may be related to modification of the stress response. (32) The knowledge base for psychophysiological perspective is fragmented. The literature on psychological

and emotional stress is valuable in approaching the problem. (32, 37)

The psychophysiological perspective provides a potential framework for assessing the individual's perception and response to individual life situation. The stress response may also be related to the management of strategies for blood pressure control.

The potential value of a relaxation program for reducing the magnitude and duration of rises in blood pressure associated with everyday emotional stress has been cited. (36) Relaxation programs appear promising for labile hypertensives, as a preventive measure for high risk individuals, and as a supplement to the pharmaceutical regimen. A number of relaxation techniques for reduction of blood pressure are being investigated, including progressive relaxation, meditation, yoga, and biofeedback. Significant decreases have been reported from some studies but not from others. (33, 36, 37)

Variation in patient responses to relaxation programs and other interventions may be related to the patients' appraisal of the threatening aspects of their life situation, the degree of control which they perceive they have for reducing the threat, and the feelings which are engendered. (38)

The role of psychosocial factors in the etiology and course of hypertension is still unclear. Since there was no physiologic explanation, at one time many thought psychological factors were etiologic. The "hypertensive personality" was seen as a major cause of aggressiveness, drive, and hostility. The emphasis on personality is now seen as too simplistic, but few persons advocate disregarding psychological factors entirely. The present understanding of the role of these factors has been summarized as". . . probably not etiologic, but. . . some hypertensive patients may be sensitized by various psychological processes to overreact physiologically to psychological stimuli after the disease has begun." (41)

The authors of a 1969 comprehensive review of psychosocial factors in essential hypertension concluded that findings from animal and human studies indicated that repeated arousal of the defense alarm response might be an important mechanism in the development and course of essential hypertension. (42) Continuing experiments using stress situations of various types have shown that hypertensives tend to differ from normotensives in their responses to stress, often by a protracted return to normal standards in physiologic indices. (54)

Evidence concerning the role of environmental and psychological factors points to their being interactive with such factors as sex, race, heredity, diet, weight, and as yet unknown physiologic factors. Social and economic stressors, for example, may increasingly be shown to be interactive with race. Both blacks and whites in the lowest social classes of a large sample drawn from a prepaid medical plan group had higher blood pressure than those blacks and whites in higher social classes. (43) At the same time, findings from studies focused on environmental stress may raise more questions than they answer. For example, blood pressure has been shown to increase when rural persons have become urbanized. But a recent study in Detroit showed that higher readings in blacks were related to being raised in that city and not migrating from elsewhere. (44)

How persons cope with stress has been and is a rich field for study, although means of identifying the manner by which an individual deals with stress have been better described than the means by which persons can be assisted to cope with stress, particularly that of an environmental nature. Many environmental stressors such as unemployment, overcrowding, poverty, and inadequate housing prejudice are beyond the influence of the health professionals' direct practices. Yet such situations may be of greatest concern to the consumer and take priority over health matters. The literature on hypertension helps to emphasize that a primarily asymptomatic disorder may not pose an important threat to persons with other immediate priorities in day-to-day living.

Few direct linkages have been provided in the literature between the association of stress and adherence (compliance) behavior in chronic illness. (45) Use of the health belief model as a framework for considering adherence behavior has been suggested as proving to be potentially more explanatory than demographic characteristics alone. This model states that the person's perceptions of his or her vulnerability to a disease, the seriousness of the disorder, and the relative benefits and costs of recommended action are interacting factors that largely determine what the person does with respect to health matters. (55) Certain beliefs about health, social sanctions, or cultural norms of appropriate health and illness behavior, the person's relationship with the people in the health care system, and satisfaction with the care given are other factors that have been identified as influencing the patients' adherence to therapeutic regimens.

Adherence to medical regimens is a complex phenomenon. For persons with hypertension, the issue of adherence is heightened because the disorder is generally

asymptomatic at the very time when following the prescribed plan of care would be the most advantageous in preventing end organ damage. Strategies that have been reported to have some degree of success in increasing adherence to medical regimens are development of a continuing relationship between the patient and care provider, behavioral contracting, involvement of social support groups, patient education environmental manipulation, and combinations of several or all of these strategies. Continued research into factors that influence and may be predictive of adherence behavior is needed.

The prevailing model of adherence or compliance behavior has been criticized for the implied depiction of the patient as a passive recipient of instructions. Should the regimen not be followed as prescribed, the patient is viewed as defaulting. (56) More inquiry is needed into the patient's perception of the influence of the regimen on his or her life situation. In the final analysis, the extent of adherence is a personal decision for everyone with high blood pressure; however, this point of view is at present not frequently reflected in the literature.

The issue of adherence has been closely allied to patient education in many reports and studies.

Nurses frequently assume major responsibility for patient and family education in such matters as the characteristics of high blood pressure, medications. diet, stress reduction, and exercise. Increasingly, however, knowledge alone has not been found to be predictive of persons seeking health care or of those following optimum plans of care.

Both nursing and health education literature have been generally consistent in urging attention to the many factors entering into the teaching-learning process, including racial and ethnic characteristics of the hypertensive individual, motivation, readiness to learn, learning styles, environment, and resources available. Less attention has been given to the learner's perception of the interaction and potential usefulness, the relationship between the teacher and the learner, and the teacher's characteristics.

Patient teaching should enable persons who must monitor and control their blood pressure to participate meaningfully in the planning for and management of their own health. Sensitive efforts to identify particular learner needs which may be related to social or cultural patterns are especially important. In lifelong management of blood pressure periodic reassessment of

patient learning needs are necessary. This should be done when changes in the health regimen are indicated or changes are occurring in the patient's life or life style which may affect his or her blood pressure such as pregnancy, illness, or new stressors.

After searching the literature for information related to educational programs for patients with high blood pressure, a number of questions were left unanswered. These include the following:

Timing: Are programs implemented at the time of diagnosis more or less effective than those implemented later in the treatment program? Is following the therapeutic regimen dependent on stages of acceptance of the diagnosis and its consequences? If there are definable stages of acceptance of diagnosis, what are the indicators of these stages?

Motivation: What motivational factors influence acquisition of health/illness knowledge? What factors influence adherence to a therapeutic regimen? How can these factors be most easily identified so that the teacher (nurse) can utilize the teaching strategy or strategies that best capitalize on these factors?

Content: Is there a difference in acquisition of knowledge and change in behavior when one segment of knowledge is presented at a time (diet, medication information, risk factors, blood pressure monitoring, etc.) versus providing information on all subjects during each teaching-learning encounter?

Continuous Learning: What frequency, which methods, and what resources (human and material) are the most effective for reinforcement of learning for persons with a chronic asymptomatic disorder requiring adherence to a therapeutic regimen for control of the disease process? Are these different from reinforcement of learning for persons with other chronic disorders?

Some other issues and problems recommended for investigation by nurse researchers include:

1. The efficacy of different teaching strategies on patient learning outcomes.

2. The problems of coping with long-term therapy experienced by hypertensive patients.

3. The efficacy of various nursing interventions that would complement medical treatment.

4. Factors influencing the cooperative efforts of the patient and health professionals for achieving health goals.

5. The influence of psychosocial and cultural factors on adherence behavior.

6. The relationship between control of hypertension and the psychophysiological characteristics of individuals over time.

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NATIONAL HIGH BLOOD PRESSURE EDUCATION PROGRAM

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April 1977

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Bethesda, Maryland 20014
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For more than sample copies of any item, a distribution plan must be attached containing:

1. A description of your high blood pressure program and its services (including the sponsoring agency or group(s);
2. The audience for whom the materials are intended;
3. How the materials will be disseminated;
4. The objective you wish to accomplish.

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CONSUMER EDUCATION MATERIALS

Quantity

_____ (76-681) Get Your Blood Pressure Taken Before Your Number's Up
(flyer, 3-3/4" x 9" folded) Red, black, and white 6-panel flyer developed for a general audience.

_____ (74-683) Tomese La Presion Antes Que Le Llegue Su Numero
(flyer, 3-3/4" x 9" folded) Spanish language version of "Get Your Blood Pressure Taken Before Your Number's Up."

_____ (76-690) Si Ud Tiene Alta La Presion De Sangre, No Se Arriesque
(flyer, 3-3/4" x 9" folded) Orange and white 6-panel flyer in Spanish with message if you have high blood pressure, don't take chances. Directed to the diagnosed hypertensive.

_____ (76-420) Don't Take Chances With High Blood Pressure
(flyer, 4" x 8-3/4" folded) Black and white 4-panel flyer directed to Black audience.

_____ (483) Watch Your Blood Pressure
(booklet, 28 pages) Outlines the nature and physical characteristics of blood pressure both normal and high, with a description of various types of hypertension.

_____ What Every Woman Should Know About High Blood Pressure
(flyer 3-3/4" x 8-1/2" folded) Buff and brown 6-panel flyer directed to women. Text adapted from an article which appeared in Family Health Magazine.

_____ High Blood Pressure Control Is Good Insurance
(flyer 3-1/2" x 8-1/2", folded) Red, white and blue 6-panel flyer addresses hypertension control in relation to life expectancy and insurance. Developed with cooperation of Associated Life Companies, Inc.

MATERIALS FOR HEALTH CARE PRACTITIONERS

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_____(76-744) Guidelines for the Evaluation and Management of the Hypertensive Patient. A 20-page document which outlines recommendations for screening, evaluation, and treatment of high blood pressure. Developed in cooperation with the American Academy of Family Physicians.

_____ Outline of Recommended Antihypertensive Regimens (a desk top card, 12" x 9") Produced by the American Heart Association and adapted from Task Force I Report of the National High Blood Pressure Education Program, this handy desk card outlines regimens for groups with varying degrees of hypertension as indicated by diastolic pressure. It includes basic dosages and time recommendations.

_____(76-627) Summary of the "The Public and High Blood Pressure: A Survey" Summary of a survey conducted for the National Heart and Lung Institute by Louis Harris & Associates which provides data on sources used by the public for health information and public awareness and attitudes about hypertension.

_____ Education of Physicians in High Blood Pressure (article reprint, Circulation, May 1975, 20 pages) Report of the Working Group on the Training and Evaluation of Physicians in High Blood Pressure, chaired by Harriet Dustan, M.D., recommends performance characteristics, learning objectives, and evaluation approaches.

_____ A Summary: Recommendations of the National Pharmacy Symposium on High Blood Pressure. (article reprint, Journal of the American Pharmaceutical Association, April 1975, 8 pages) Presents recommendations of a cross section of the profession on the pharmacist's role in community outreach, screening, evaluation and treatment, therapy, monitoring and follow-up, patient education, and quality care assurance.

_____(77-1088) Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure. 16 page document with recommendations for diagnostic tests tests, stepped care approaches and long-term maintenance. (Available summer 1977)

GENERAL INFORMATION ON THE NATIONAL PROGRAM

Quantity

_____(76-632) Fact Sheet (flyer, 3-1/2" X 8-1/2" folded) Orange, black and white 8-panel flyer presents a description of the purpose of the National High Blood Pressure Education Program, its organization and services.

MATERIALS FOR PROGRAM PLANNERS/MANAGERS

Quantity

_____(77-1086) Handbook for Improving High Blood Pressure Control in the Community (105 pages) The Handbook contains means of identifying community needs and resources, plans for determining appropriate program priorities, mechanisms for evaluating program activities, and organizational methods.

_____(75-715) Medical Basis for Comprehensive Community Hypertension Control (68 pages) Monograph prepared by the Special Task Force on Hypertension for the Regional Medical Program Service which presents current knowledge on the epidemiology of blood pressure; principles of community organization; and methods of developing optimal screening, referral, diagnosis, treatment and follow-up systems.

_____(75-755) High Blood Pressure in the United States
Jeremiah Stamler, M.D., reprinted from the Report of Proceedings, National Conference on High Blood Pressure, January 15, 1973. (55 pages) Provides an overview of the problem of hypertension including the problem of inadequacy of care. It concludes with a series of programmatic proposals for the control of hypertension.

_____(75-545) 120/80 Notebook
(58 pages) Contains suggestions, ideas, resources and other information for developing consumer education activities in community high blood pressure programs.

_____(75-719) Catalog of Audio-Visual Aids in Hypertension
(110 pages) Lists films, filmstrips, video cassettes, audio cassettes and slides produced by corporations, associations, agencies, services and other resource organizations. Includes aids for professional, patient and consumer audiences.

_____(76-1055) Supplement to Catalog of Audio-Visual Aids in Hypertension
(47 pages) Updates Catalog of Audio-Visual aids in Hypertension through February 1975.

_____(75-724) Patient Education In High Blood Pressure An Annotated Bibliography
(63 pages) A bibliography designed to assist in the selection of educational materials which are both scientifically accurate and visually attractive. It contains sections of materials for the general public, for professionals.

_____(76-741) Guidelines for the Use of Volunteers for High Blood Pressure Education, Detection and Control Programs. (17 pages) Presents suggestions for the types of hypertension control activities to which volunteers can contribute and recommends approaches useful in recruiting and training volunteers.

SPECIALTY ITEMS

The following are aids in establishing (or conducting) community detection/education/control programs. Please include specific distribution information if quantities are requested.

Quantity

_____ "Down With High Blood Pressure" lapel stick-on badge, 2" diameter. Red and white badge with message and high blood pressure symbol. Useful for screenings, patient education, meetings, etc.

_____ "High Blood Pressure is a Time Bomb Only You Can Stop...Take your Pills Every Day, Not Just When You Feel Bad." (16" x 21" heavy stock) Black and white poster. Picture of a healthy, smiling black man with his daughter on his shoulders.

_____ Same copy as above. Picture of middle aged black couple.

_____ "Conozco Su Numero" Poster (16" x 21", heavy stock) Red, black and white Spanish-language poster using roulette wheel to illustrate that it's a gamble to take chances with high blood pressure.

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FOR MORE INFORMATION

In addition to distributing materials listed here, the High Blood Pressure Information Center serves as a central national clearinghouse for information on various aspects of hypertension control and can assist in locating speakers and other sources of educational materials and audiovisual aids.

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