

cell, urine, hematocrit, and lead testing); and providing maternal counseling. Every child is evaluated periodically by a senior pediatrician, and there exist multiple avenues for referral. An in-service education program has been developed to ensure that the nurse practitioners continue to grow in their role. Their responsibilities have expanded to include caring for the minor injuries and illnesses of childhood. They also function as community health nurses and have responsibility for visiting homes, schools, day care centers, and other agencies involved with children and families. In this way, they understand and handle social and family problems that need referral to specific agencies or clinics. The nurse practitioners are particularly involved in the early detection and referral of children who have learning difficulties or classroom adjustment problems.

Data collected since the inception of the neighborhood health center program show substantive qualitative changes in patterns of health facility utilization, indicating both the community's willingness to use the center effectively (i.e., an understanding of what the pediatric nurse practitioner can do) and also its increasing awareness of the desirability of ongoing pediatric care.

### *Financial Base*

The financial support for the neighborhood health center system has come only from existing municipal programs (e.g., the School Health Program and Well-Child Conferences). Cost to the city is minimized by: (1) the use of existing health facilities (i.e., school health suites); (2) use of preexisting personnel slots—school nurse—to provide positions for new professionals—pediatric nurse practitioners; (3) provision of primary health maintenance away from the more expensive hospital outpatient department; (4) avoidance of the duplication of services at various levels within the system; and (5) efficient and appropriate use of medical personnel with various levels of training.

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## **Social Class and Racial Differences in Blood Pressure**

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Blacks have almost universally been observed to have higher levels of blood pressure and more hypertensive disease than whites for both sexes and at all ages.<sup>1</sup> This observation has generated considerable discussion regarding the relative importance of racial versus environmental influences.<sup>2</sup> Data on the distribution of blood pressure by social class would be helpful in attempting to explain this racial difference but research findings published on this question have been contradictory and inconsistent.<sup>3,4</sup> The present study was intended to explore this issue in a population of 22,078 persons, 98 per cent of whom were members of a prepaid medical insurance plan where access to medical care was freely available. These persons had had a periodic health check-up at the Automated Multiphasic Health Testing Centers of the Kaiser-Permanente Health Plan<sup>5</sup> in Oakland and San Francisco, California, between August, 1968, and August, 1969. During the check-up, blood pressure was recorded and information on age, race, sex, occupation, and education were obtained by question-

naire. Since membership in the Kaiser Foundation Health Plan is obtained largely through place of employment, the population under study cannot be considered a representative sample of the community. However, a comparison of occupations of this study group with a representative sample of the county from which the subjects came did not reveal major differences.

The findings showed that blacks had higher average diastolic and systolic blood pressures and a higher prevalence of hypertension than whites for both males and females and for all age groups. When these distributions were examined by social class, blacks in the lowest social classes had the highest blood pressures. While whites as a group had lower average pressures than blacks, those whites in lower social class positions also had the highest pressures. The social class gradient of blood pressures among blacks suggested that an environmental influence might be involved in the determination of blood pressure; the fact that the identical social class gradient was observed among

whites suggests that something about lower social class position may be involved over and above any racial influences.

One possible explanation for these findings is that blacks and persons in lower class positions receive less adequate medical care in this prepaid medical care group. All persons in the study were asked (1) whether a doctor had previously told them that they had high blood pressure and (2) whether they had taken any medicine for high blood pressure. The distribution of affirmative responses to these questions was similar for blacks and white and all social class levels. It was still possible, of course, that blacks and persons in lower class positions might not have received adequate medical care for elevated blood pressure in spite of answers to these questionnaire items. To adjust for this possibility, all persons were removed from analysis who had a blood pressure over 160 mm systolic or over 90 mm diastolic or who had ever taken medicine for high blood pressure. Thus, an effort was made to eliminate all persons who might be clinically diagnosed as hypertensive, or who had a history of this condition, so that racial and social class differences could be observed among those with "normal" blood pressures. This analysis would hopefully minimize any influence that variations in medical care might have had in the findings.

Differences in average blood pressure between blacks and whites were diminished when hypertensives were removed; however, blacks still had higher pressures than whites. The differences between those in the lowest and highest social class were also diminished when hypertensives were eliminated; however, those in the lowest class still had higher pressures although the difference was less pronounced. Thus, while differences in medical care may have accounted for some of the variations observed, substantial differences in blood pressures among the social class groups nevertheless remained. Clues to the etiology of essential hypertension may therefore be obtained by intensified

study of characteristics which distinguish one social class from another. Such studies of risk factors among segments of the population may have implications for the development of effective community control programs. Indeed, such intervention at the community level may be expected to yield more widespread benefit than the individually-oriented treatment programs currently underway.

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## Experiences of an Army Nurse in Developing Care Plans for Outpatients with Chronic Illnesses

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### Introduction

The development of the nurse-supported chronic care program is part of the Automated Military Outpatient System (AMOS) Project at DeWitt Army Hospital, Fort Belvoir, Virginia. This project is tasked with developing new

methods of outpatient health care delivery and applying computer technology where appropriate. Two new types of personnel have evolved since the project began in 1969. One is a chronic care nurse practitioner and the other is a type C physician's assistant (PA) that triages and treats acute minor illnesses using clinical algorithms. Both types