J1
808:S79
V2

Vol. 1 No. 2

STATISTICAL PRIMER

State Center For Health Statistics
Division of Health Services
Department of Human Resources
P.O. Box 2091, Raleigh, N.C. 27602

Charles J. Rothwell, SCHS Director
George C. Robertson, PRIMER Editor

PROBLEMS WITH POPULATION BASES

The intent of the Statistical Primer is to refresh the memory of public health professionals concerning statistical methods. The 1980 census has recently been completed and was the largest peacetime government effort in U.S. history. Since census results affect the reporting of most social statistics, we feel that an examination of census data warrants a place in this series.

Population data, together with percentages and rates based upon them, are invaluable to a wide range of business, marketing and professional interests. In the U.S., these data are largely obtained or estimated from citizens' responses to the U.S. Census which has been taken regularly every 10 years since 1790.

Beginning as a simple list of heads of households with a count of members in five mutually exclusive categories, the census today represents an inventory of many of the personal, social and economic characteristics of the American people. Such an inventory allows us to count and to compute rates for many subgroups of the population. As later described, census counts and certain other enumerations also result in intercensal estimates for a number of population subgroups. These data in turn are used directly or indirectly in many of the estimating procedures to be described in this Primer series; for example, they are the denominators for the crude and adjusted rates described in the preceding Primer. It is thus appropriate that users of this series be aware of weaknesses associated with population data.

Beginning in 1932, the Division of Health Services has annually produced population-based rates like birth and death rates or marriage, divorce and morbidity rates. As before, these rates are valuable to a wide range of interests; however, they are also subject to substantial error. This is due in large measure to the sometimes tenuous population bases that go into them.

Of course, population counts from the U.S. Census are beyond reproach, right? Wrong! For as we all know by now, the Bureau of the Census (BOC) has been bombarded with complaints of undercounts in 1980 and is now in court defending itself against numerous lawsuits. Whether or not these complaints concerning 1980 counts prove to be founded, it is now known that undercounts did occur in 1970.

The Census in North Carolina

Informally, we understand that, even after several post-censal revisions, undercounts in 1970 involved relatively many North Carolinians, especially nonwhite citizens. Hence, since intercensal population estimation and projection procedures use census counts, statewide population bases for the decade of the seventies were low, meaning that corresponding population-based rates were artificially high, especially for nonwhites. Unfortunately, this