Proposal for Study of the Effects of Sickling and the Carrier State of G6PD deficiency in the Population of the Collaborative Study

Principal Investigators:

Dr. N.C. Myrianthopoulos, PRB, NINDS

Dr. L. Froehlich, PRB, NINDS

Dr. Robert Murray, Howard University

Objectives

To study the effects of sickling and of the carrier state of G6PD deficiency on the course and outcome of pregnancy; and the growth and development of children with sickle-cell trait, and G6PD deficiency.

Background

Sickle cell anemia and glucose 6 phosphate dehydrogenase (G6PD) deficiency anemia are two genetically determined hemolytic anemias found in very high frequency among the Negro population of the United States.

The gene for S hemoglobin is inherited as an incomplete dominant so that the heterozygotes show sickle-cell trait while the homozygotes have frank anemia. It is estimated that approximately 10% of Negroes in the United States are sicklers while about 3 per 1000 have anemia. The hazards of sickle-cell anemia are well known: recurrent episodes