

TRENDS IN INFANT MORTALITY IN ALABAMA*

by

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The United States has long been considered to be a world leader in looking after the welfare of its citizens. We are usually among the first in medical technology. However, in at least one very important area--infant mortality--the U. S. is not faring well. In 1980, we were sixth from the lowest rates of infant mortality, among the world's leaders. By 1989, nevertheless, we are now 24th (Population Reference Bureau, 1989). Our rate is still declining each year, but other countries are surpassing our gain. Some have blamed the Reagan administration's cuts in benefits to the poor, especially in the areas of prenatal, infant, and mothers' health care for our relatively poor showing.

The South has traditionally been the area of highest rates of infant mortality in the U.S. The problem has received much publicity, especially in the mass media, and achieved such proportions that the Southern Governors' Association in 1984 appointed an advisory task force to study this phenomenon. Among their findings was that, in 1985, of the eleven states (and the District of Columbia) with the nation's highest rates of infant mortality, ten of them were in the South.

Earlier this year, Drs. Everett and Anne Lee, of the University of Georgia, took the lead in establishing the Deep South Consortium, a

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group of demographers from Mississippi, Alabama, Georgia, and South Carolina. The first task we agreed upon was to study the phenomenon of infant mortality in the respective states, and to prepare papers on the topic. This paper presents the preliminary findings of the first report from Alabama.

The major measure of infant mortality is the Infant Mortality Rate (hereinafter, IMR). It is the number of deaths occurring to children of less than 1 year of age, within a given year, per 1000 live births, during the same year. The Neonatal Mortality Rate, limited to deaths during the first 28 days of life; and the Postneonatal Mortality Rate, the rate of deaths from 28 days to 1 year, are measures which are also used. The data in this report, however, deal only with the IMR.

Alabama was admitted to the death registration area in 1925, and the birth registration in 1927 (U. S. Bureau of Vital Statistics, 1950). The IMR in Alabama in 1927 was reported as 64.4, and in 1949, it was 39.5. the corresponding figures for the U. S. were 64.6 and 31.3 respectively. In only two occasions, 1927 and 1931, was a lower rate reported for Alabama than for the U.S. average. Since the registration of vital events was relatively incomplete during this early period, the balance of this report will deal with the years 1950-1986, in some cases, 1947-1986, the years for which the data were available to this writer by race, an important social determinant of infant mortality rates.

The general trend of the IMR for Alabama (and the U. S., as well) for the period 1947-1986 has been a downward one (see Table 1). In 1947, Alabama had an IMR of 36.8; that for the U. S. was 26.9. By 1986, these rates had dropped, significantly, to 13.3, 10.4 respectively. The

IMR for Alabama declined from year-to-year in all except 8 years (3 for the U.S.).

The ratio of infant deaths in Alabama to those in the U.S. has been a relatively constant one. Its highest was 1.37 in 1950, its lowest, 1.09 in 1981. The average ratio for the 37-year span was 1.20. It has been at or below that average since 1977, except for 1986, when it was 1.28. This ratio indicates that IMRs in Alabama are relatively stable. We are neither getting much worse nor much better, except for the changes which are occurring throughout the U.S.

Table 1. Infant Mortality Rates by Race, U. S. and Alabama, 1950-86.

<u>Year</u>	<u>U. S.</u>			<u>Alabama</u>		
	<u>Total</u>	<u>White</u>	<u>Nonwhite</u>	<u>Total</u>	<u>White</u>	<u>Nonwhite</u>
1950	29.2	26.8	44.5	36.8	30.6	46.3
1951	28.4	25.8	44.8	37.1	30.5	47.4
1952	28.4	25.5	47.0	37.0	28.0	51.3
1953	27.8	25.0	44.7	34.0	26.8	45.5
1954	26.6	23.9	42.9	33.5	26.5	44.7
1955	26.4	23.6	42.8	32.0	24.9	43.1
1956	26.0	23.2	42.1	30.9	23.6	42.4
1957	26.3	23.3	43.7	32.1	24.6	44.2
1958	27.1	23.8	45.7	35.4	26.1	51.0
1959	26.4	23.2	44.0	31.8	23.5	45.3
1960	26.0	22.9	43.2	32.4	24.9	45.0
1961	25.3	22.4	40.7	31.1	23.7	43.6
1962	25.3	22.3	41.4	30.8	23.0	43.9
1963	25.2	22.2	41.5	32.2	24.5	45.3
1964	24.8	21.6	41.1	31.0	23.1	44.6
1965	24.7	21.5	40.3	30.8	23.3	43.8
1966	23.7	20.6	38.8	29.3	22.8	41.0
1967	22.4	19.7	35.9	26.9	20.7	38.2
1968	21.8	19.2	34.5	26.6	20.9	37.7
1969	20.9	18.4	32.9	26.2	20.7	37.3
1970	20.0	17.8	30.9	24.3	18.6	36.0
1971	19.1	17.1	28.5	23.2	17.8	33.8
1972	18.5	16.4	27.7	22.8	17.6	32.4
1973	17.7	15.8	26.2	22.1	17.5	30.6
1974	16.7	14.8	24.9	20.6	16.8	27.8
1975	16.1	14.2	24.2	19.5	14.6	28.6
1976	15.2	13.3	23.5	19.7	15.1	28.1
1977	14.1	12.3	21.7	16.9	13.4	23.6
1978	13.8	12.0	21.1	16.1	12.1	23.4
1979	13.1	11.4	19.8	14.4	11.4	19.7
1980	12.6	11.0	19.1	15.1	11.6	21.4
1981	11.9	10.5	17.8	13.0	10.2	18.1
1982	11.5	10.1	17.3	13.8	10.3	20.0
1983	11.2	9.7	16.8	13.1	10.3	18.3
1984	10.8	9.4	16.1	12.9	9.7	18.9
1985	10.6	9.3	15.8	12.6	10.4	16.8
1986	10.4	8.9	15.7	13.3	9.8	19.8

In 1986, Alabama had the dubious distinction of having the 50th lowest IMR in the U. S. The District of Columbia reports rates which are significantly higher, so as to place it last, or almost last, every year. Rates in Mississippi are usually higher than those in Alabama, also. Be that as it may, for the 37-year period Alabama was no higher than 47th place 18 different years. Only once, in 1979, was Alabama lower than 40th (39th). Alabama's relative status was better near the beginning of this period, generally in the lower 40s. Since 1960, however, the ranking has been 45th or higher, except for 1979 (39th) and 1981 (3-way tie for 40th).

Racial Differential in Infant Mortality

In this section of the report, we turn our attention to racial differences. The terms white and nonwhite are used. Nonwhite includes blacks, American Indians, Eskimos, Aleuts, Japanese, Chinese, Filipinos, Koreans, Asian Indians, Vietnamese, Hawaiians, Guamanians, and "others." The term nonwhite, in Alabama, is almost synonymous with blacks, since only slightly over two percent of all nonwhites are other than blacks (U. S. Bureau of the Census, Alabama, 1980).

In 1986, the IMRs for whites and nonwhites in Alabama were 9.8 and 19.8, respectively. This is the only time during the years being examined when the rate for nonwhites was more than twice that of the whites in the state (corresponding figures for the U. S. were 8.9 and 15.7, a ratio of 1.76). Ratios for nonwhite-white infant deaths were only 1.51 in 1950 (1.46 for the U. S. nonwhite-white ratio). During the 1950s, the ratio was lower in Alabama than it was for the U. S. Since the 1960s, it has generally been slightly higher in Alabama than for the

U. S. The average ratio of nonwhite-white IMRs for the 1950-86 period was 1.86 in Alabama, and 1.77 in the U. S.

In their study of infant mortality in Georgia, Lee and Bachtel ^{Tuckman S.C.} (1989) found that, although the state had a relatively high ranking for total IMRs, both blacks and whites had lower rankings. A similar situation exists in Alabama. It has been noted that Alabama's best-ever ranking was 39th and its worst 50th (average 46.1). However, among whites, Alabama ranked as high as a three-way tie for 18th place in 1981, and as low as 46th in 1976 (average, 36.8). Nonwhites were tied for 17th place in 1981, and were as low as 47th in 1970, 1971, 1973, 1975, and 1976 (average, 35.0).

While the yearly IMRs have declined for both races, that of whites has been much more of a steady and gradual one. That for nonwhites has declined more, but has been much more erratic in nature. These differences in rates by race are reflected in those of the U. S., but the variations from year to year are generally not as pronounced for the nation as they are for Alabama.

Infant Mortality Rates by County

Data on births and infant deaths are available for each of Alabama's 67 counties since 1947 by race. The data used in this section of the report will not, however, be analyzed, except superficially, by race at this point, since this portion of the report is merely a progress report. The detailed analysis by race will be available in a forthcoming version. We do have the preliminary analysis by race, but the data need further work before presentation.

A major problem in dealing with county data on a yearly basis is that of small Ns, which causes rates to be extremely variable. We are currently attempting to calculate IMRs on a five-year moving average, believing that this will provide more realistic ones. Even at that, we may still need to remove from consideration the data for some counties.

The counties with the higher IMRs share some characteristics which are not surprising, in light of previous findings. They tend to be mostly rural counties, with relatively high proportions of blacks; and their residents receive relatively low incomes.

In 1980, 25.6 percent of Alabama's citizens were black. Of the twelve counties where IMRs were below the state average for at least 30 of the 37 years, all had a higher percentage of their population which was black than the state's average. The percent black in eight of these counties was greater than 50 percent. In two, Green and Lowndes, it was 75.0 percent and 78.0 percent respectively.

Counties with consistently high IMRs were also predominantly rural. Only one county, Russell, exceeded the 1980 state average of 60.0. Russell County had 63.4 percent of its residents classified as urban. It is a part of the Columbus, Georgia MSA. Four of the counties, Greene, Lowndes, Washington, and Wilcox had no urban populations in 1980. Only eight of Alabama counties had populations which were completely rural in 1980; and half of them are also counties with high IMRs during the 37-year period.

Median family incomes in the 12 counties with high IMRs were as little as \$9,766 in Lowndes County to as much as \$15,623 in Washington County. The average was \$12,130; and no county in this group reported median family incomes as high as Alabama's 1980 average of \$16,347.

Counties with IMRs which were significantly and consistently lower than the state's average had the opposite characteristics. They had relatively high proportions of urban residents, high income levels, and low percentages of blacks. Ten counties during the 1950-86 period had IMRs which were below the state rates for at least 27 years.

In only three of the ten counties, Jefferson, Mobile, and Tuscaloosa, was the black population greater than Alabama's 1980 average of 25.6. In the remainder it was less than 20 percent. The county with the lowest percentage of its population black was Cullman, with 0.9 percent.

The urban population in the ten counties was not uniformly high. In six of these counties, the percentage urban was greater than Alabama's 60 percent. The remainder, Blount, Cullman, Lauderdale, and Marshall, had black percentages of 13.2, 21.2, 52.7, and 48.5, respectively.

The average median family income for these ten counties was \$16,420, higher than Alabama's \$16,347, and significantly higher than the twelve counties with higher IMRs, \$12,130. Exactly half the counties had lower than the average income.

Conclusions

At this preliminary juncture, infant mortality appears to be correlated with percent black, percent urban, and median family incomes. It remains to be seen whether these indicators will withstand more rigorous testing. They do seem to follow conclusions of previous studies.

You have heard some preliminary conclusions of a study which is still in progress. You have the capability of helping direct further study on this project. I welcome your suggestions.