# EXPOSING PERSISTENTLY POOR HEALTH IN GEORGIA

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# INTRODUCTION

The need for an increased understanding of the relationship between poverty and health and translation of this knowledge into policy and program development has never been greater. Currently, Georgia ranks among those states with the highest per capita incidence of premature death, infant mortality, infectious disease, heart disease, and substance abuse. According to the United Health Foundation (2008), the state ranks 41st in terms of population health status. Residents in the state's poorest counties bear the brunt of the burden of illness, disability, and disease.

In 2003, the University of Georgia's Carl Vinson Institute of Government conducted a study on poverty in the South and found that 91 of Georgia's 159 counties can be categorized as persistently poor. The results of this study prompted the mobilization of resources to break the cycle of poverty in Georgia. The university launched the Initiative on Poverty and the Economy in order to encourage sound scholarly research that will be aimed at ameliorating poverty. The findings also inspired a community movement that has brought together citizens and businesses working to end the cycle of poverty in Athens, Georgia.

## Objectives

Researchers at the University of Georgia received a seed grant from the Initiative on Poverty and the Economy to conduct this study focusing on the persistently poor health of residents in the state. The objective of this project is to identify counties with persistently poor health among children, working-age adults, and seniors and determine the important risk factors associated with persistently poor health at the county level.

Dissemination of these findings has the potential to bring about policy change. Health care reform is not only on the federal agenda; it is a state government issue. The governor and the General Assembly of Georgia have discussed the geographic distribution of trauma centers, the need for high-risk health insurance pools, the promotion of community health care clinics, the rising costs of Medicaid, and the initiation of reforms and programs such as PeachCare for Kids (that is, the Children's Health Insurance Program). There is a great need for accurate and easy-to-understand information that will guide communities and policymakers as they make tough decisions, particularly in light of the urgent health care needs of populations in Georgia.

## Readership

The intended readership of this report includes state and local policymakers and leaders, elected and appointed officials and legislators, public health officials, individuals in the private sector, Chamber of Commerce personnel, Georgia Hospital Association members, and other interested citizens. In order to reach the wide variety of individuals and groups involved in developmental activities, much of the information is presented in the form of easily interpretable maps.

## METHODS

This study identifies the counties in Georgia in which the health of children, working-age adults, and seniors is persistently poor and then describes the characteristics of these counties in order to assess the needs of the state and suggest policy recommendations. This section explains why the analysis is carried out at the county level and by age group, describes the health variables used in the analysis, and defines the concept of persistently poor health.

### County-Level Analyses

Comprehensive planning requires basic information about the local community. Up-to-date, easy-to-understand, and unbiased information plays an important role in the planning process. Counties are the basic units of analysis for most governmental agencies because of the high costs associated with the collection of data below the county level. The number of political subdivisions below the county level can be enormous. In Georgia, for example, there are 159 counties but 535 municipalities and even more communities/neighborhoods.

Several limitations are associated with using counties as units of analysis. First, counties can be very diverse. There may be both wealthy areas and high-poverty areas in a county. Similarly, a county may have urban and rural sections. Thus, policymakers should not assume that county-level data describe all parts of a county uniformly. Second, comparing percentages or rates in one county with state averages or those in another county is an effective technique but must be applied with caution. For example, a county with a low population density may have a high death rate compared with a densely populated urban county, but the actual number of deaths involved likely will be much higher in the urban area because the population is larger.

Despite these limitations, county-level analyses are extremely useful for decision making. A large amount of county-level information is generated by both federal and state government agencies. Moreover, county-level data tend to be accurate because the information is filtered through a host of local and state government employees who have close working knowledge of the subject area.

*HEALTH CARE REFORM IS NOT ONLY ON THE FEDERAL AGENDA; IT IS A STATE GOVERNMENT ISSUE. THERE IS A GREAT NEED FOR ACCURATE AND EASY-TO-UNDERSTAND INFORMATION THAT WILL GUIDE COMMUNITIES AND POLICYMAKERS AS THEY MAKE TOUGH DECISIONS, PARTICULARLY IN LIGHT OF THE URGENT HEALTH CARE NEEDS OF POPULATIONS IN GEORGIA.*

## Age Groups

Counties with persistently poor health for children (birth to 15 years), working-age adults (16–64 years), and seniors (65 years and older) were identified separately in this analysis in order to account for age differences across counties. Creating a single index for all ages would confound the health status of the population with the age composition differences across counties. For example, a county might appear to have a high cancer death rate merely because it is a popular place to live for seniors, who have higher death rates than other age groups.

Examining the health status of children and seniors separately from that of working-age adults can also provide insight into the relationship between health and income. Because children and seniors generally do not work, a strong relationship between poverty and the health of children and seniors cannot be caused by the health of these groups affecting their job productivity, resulting in high poverty rates. A correlation would be expected between the poor health of working-age adults and income because the income-generating abilities of this group can be affected by their poor health. Counties in which working-age adults are in persistently poor health therefore may derive both health and poverty-alleviation benefits from health interventions.

## Key Health Variables

Three health indicators were selected to measure the health of people in each age group. In all cases, the indicators were restricted to health outcome measures and not determinants of health or health behaviors such as smoking rates and health insurance coverage rates. For each age group, health outcomes that are considered to be amenable to health interventions were chosen.

An important selection criterion was the availability of the health measure at the county level for the periods under study. Each indicator was measured from 1992 to 1997, when the earliest data were available, and from 2000 to 2005, when the most recent data were available. All of the indicators were based on six-year averages in order to ensure reliable estimates for even the smallest counties in the United States. The measures chosen for this analysis are commonly used in popular health rankings, including the United Health Foundation's *America's Health Rankings*, the Annie E. Casey Foundation's *Kids Count Data Book*, and the Healthier America Project led by the Trust for America's Health. Table 1 provides descriptive statistics on each of the health indicators used in this analysis.

**Table 1. Descriptive Statistics**

| Age Group | Health Indicator | Years | Number of Counties | U.S. Average | Georgia Average |
|---|---|---|---|---|---|
| Children | Low-birth-weight percentage | 1992–97 | 3,036 | 8 | 9 |
| | | 2000–5 | 3,003 | 8 | 10 |
| | Infant mortality rate | 1992–97 | 3,003 | 821 | 1,038 |
| | | 2000–5 | 2,958 | 770 | 979 |
| | Child death rate | 1992–97 | 2,154 | 34 | 36 |
| | | 2000–5 | 2,258 | 29 | 31 |
| Adults | Cancer death rate | 1992–97 | 3,137 | 101 | 112 |
| | | 2000–5 | 3,135 | 101 | 106 |
| | Diabetes death rate | 1992–97 | 2,927 | 10 | 9 |
| | | 2000–5 | 2,974 | 12 | 13 |
| | Cardiovascular death rate | 1992–97 | 3,134 | 101 | 128 |
| | | 2000–5 | 3,133 | 93 | 122 |
| Seniors | Cancer death rate | 1992–97 | 3,141 | 1,134 | 1,126 |
| | | 2000–5 | 3,140 | 1,129 | 1,127 |
| | Accidental death rate | 1992–97 | 3,119 | 135 | 151 |
| | | 2000–5 | 3,129 | 145 | 159 |
| | Flu/pneumonia death rate | 1992–97 | 3,114 | 234 | 241 |
| | | 2000–5 | 3,104 | 174 | 192 |

*Source*: Based on data from the National Vital Statistics Mortality files, *Kids Count Data Book*, and state health departments.

*Note*: Death rate values represent number of deaths per 100,000 people. For every health indicator except the diabetes death rate in 1992–97 for working-age adults and the cancer death rate for seniors, the Georgia average is higher than the U.S. average, indicating that there are greater health problems in Georgia than in the rest of the country.

For children, the three indicators were low-birth-weight percentage (that is, the percentage of babies weighing less than 2,500 grams, or 5.5 pounds, at birth), the infant mortality rate (the number of deaths before age 1 per 100,000 infants), and the child death rate (the number of deaths between ages 1 and 15 per 100,000 children). Low birth weight and infant mortality capture the health and behavior of the mother, the care that she received during pregnancy, and the quality of the infant's care. Both health outcomes may be prevented if the mother has a greater understanding of the importance of prenatal care and healthy behaviors and if the mother and child receive quality health care. Because most deaths among children are attributable to external causes, the child death rate captures deaths primarily from accidents, unintentional injuries, and child maltreatment.

For working-age adults, the three health indicators were the cancer death rate, diabetes death rate, and cardiovascular death rate. The most common cause of death in this age group is cardiovascular disease. However, all three causes of death are considered preventable with quality health care (Nolte and McKee 2003). In particular, screening, early detection, and early treatment can lower death rates in all three cases.

For older adults, the three health indicators were the cancer death rate, accidental death rate, and influenza/pneumonia death rate. Many forms of cancer and influenza/pneumonia are considered amenable to health interventions if they occur before age 74 (Nolte and McKee 2003). Accidents are another important preventable cause of death among older Americans. Although cardiovascular disease is the most common cause of death among this age group, an indicator for accidents—which are an important preventable cause of death among the entire age group—was chosen to ensure that the health of those over age 74 was captured by the health index. Because there is some debate about whether health interventions for diabetes are effective after age 49, death from diabetes was not used as an indicator for this age group.

The data on death rates came from the National Center for Health Statistics Mortality File accessed through the Centers for Disease Control and Preven-

tion's online database, CDC WONDER (wonder.cdc.gov). The data on low birth weight came from the *Kids Count Data Book* (www.kidscount.org/datacenter/) and individual state health departments' Web sites when data were not available from the Kids Count Web site.

## Defining Persistently Poor Health

Counties were identified as having poor health for one of the age groups if they were in the bottom half of the 3,145 counties in the United States with respect to an index created from the three health indicators selected for the age group (see Appendix A). The counties were identified as having persistently poor health for one of the age groups if poor health was prevalent over a long period of time, from 1992 to 1997 and from 2000 to 2005.

The health index for each age group and time period were determined by (1) ranking all counties in the United States according to each of the three health indicators and (2) computing an average from the three health indicators for each age group. Counties with a health index in the bottom half of all U.S. counties were assigned a poor health county indicator for that age group. Counties that ranked among the bottom half of all U.S. counties during both periods were identified as having persistently poor health for the respective age group captured by the health index.

# FINDINGS

## Number of Counties with Persistently Poor Health

The Georgia counties in which the population is in persistently poor health were identified for each age group according to the methodology. The results are displayed in a series of maps shown in Figures 1–6 (larger images of the maps are in Appendix B). Figures 1–3 show the Georgia counties in which children, working-age adults, and seniors are in persistently poor health.

According to the summary statistics in Table 2, more than 1,000 counties have persistently poor health for each age group in the entire United States. The

**Figure 1. Children in Georgia Who Are in Persistently Poor Health**


*Source:* Based on data from the National Vital Statistics Mortality files, *Kids Count Data Book*, and state health departments.

percentage of Georgia's counties that have persistently poor health is greater than that for the United States overall for each age group. Thus, Georgia constitutes a large percentage—between 7 percent and 10 percent—of all counties whose populations are in persistently poor health in the United States. The results show that persistently poor health is evident for children in 108 Georgia counties, for working-age adults in 108 counties, and for seniors in 75 counties.

The geographic distribution of poor health across the state corresponds with the Southern Black Belt and the Five Georgias concept.

**THE SOUTHERN BLACK BELT.** The term Southern Black Belt has been used for more than 100 years by historians, demographers, sociologists, economists, and geographers to describe a unique subregion of the American South. The Black Belt is located in a series of nearly contiguous counties that extend from Alabama, Arkansas, Georgia, Florida, Louisiana, North Carolina, South Carolina, Mississippi, Tennessee, Texas, and Virginia. The region was originally identified as having counties that had an African American population of greater than 50 percent in 1860 (Washington 1901). Due to the large amount of out-migration by both black and white residents since that time, the region now comprises counties that are greater than 25 percent African American. Reliance on natural resources, lack of economic diversification, low levels of physical and social infrastructure, high dependence on governmental spending, low levels of educational attainment, intergenerational poverty, poor access to health care, and substandard housing also characterize this region, one of America's most impoverished rural areas.

**Figure 2. Working-Age Adults in Georgia Who Are in Persistently Poor Health**


*Source*: Based on data from the National Vital Statistics Mortality files.

**Figure 3. Older Adults in Georgia Who Are in Persistently Poor Health**


*Source*: Based on data from the National Vital Statistics Mortality files.

**Table 2. Summary Statistics on Counties with Populations That Are in Persistently Poor Health**

| | U.S. Counties | | Georgia Counties | | Percentage of all persistently poor health counties in Georgia |
|---|---|---|---|---|---|
| Age Group | *N* | percent | *N* | percent | |
| Children | 1,050 | 33 | 108 | 68 | 10 |
| Adults | 1,307 | 42 | 108 | 68 | 8 |
| Seniors | 1,067 | 34 | 75 | 47 | 7 |

*Source*: Based on data from the National Vital Statistics Mortality files, *Kids Count Data Book*, and state health departments.

*Note*: Numbers in last column are calculated by dividing the number of persistently poor health counties in Georgia by the number of persistently poor health counties in the United States.

Georgia's Black Belt lies in the southern portion of the state below the Fall Line, sometimes referred to as the Gnat Line. Stretching across the state from Columbus to Augusta, it marks the change in elevation and soil type separating the Piedmont from the Coastal Plain and is a remnant of the Pleistocene Era coastline. This favorable cotton-growing region gave rise to plantation agriculture, which brought many black slaves to the region.

Pockets of the American South have virtually no African American residents. In the mountainous sections—the Appalachians, Ozarks, and Blue Ridge—the means of production was subsistence-based agriculture. Farmers in these areas could not afford and did not use slave labor. Thus, these areas have never had a large African American presence.

As Table 3 shows, counties that have populations that are in persistently poor health, particularly children and working-age adults, have higher percentages of African Americans on average than counties that do not have such populations.

**THE FIVE GEORGIAS CONCEPT.** The Five Georgias concept advances the idea that within the state of Georgia, there are five distinct types of counties: urban, urbanizing, suburban, rural growth, and rural decline. Figure 4 shows the break down of counties into these categories. Table 4

**Table 3. Persistently Poor Health among African Americans in the Georgia Black Belt**

| Age Group | Percentage who are in persistently poor health | Percentage who are not in persistently poor health |
|---|---|---|
| Children | 34 | 14 |
| Adults | 35 | 20 |
| Seniors | 31 | 24 |

*Source*: U.S. Census Bureau (2000).

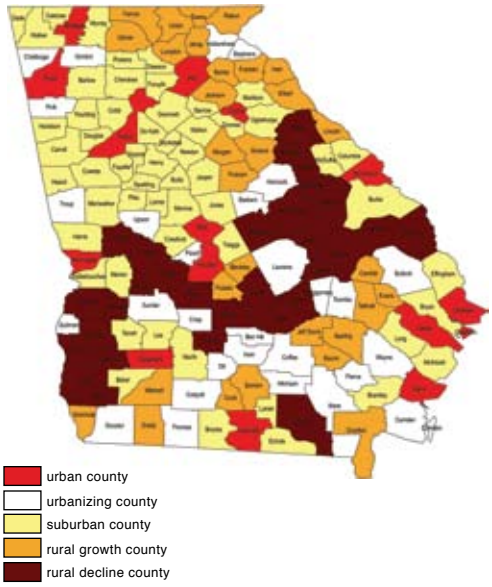
presents the numbers and percentages of counties in the areas that have persistently poor health for each age group.

Urban counties are the core centers for the state's 15 metropolitan areas. These counties make up the hub of the state's social, economic, and cultural activity, yet a sizeable proportion of the well-educated, highly paid workers in these areas commute from suburban areas surrounding these core counties. The people who remain in urban Georgia are some of the state's poorest and least educated. Urban counties have a large number of African Americans and a growing number of Hispanic residents, many of whom are young, poorly educated, and living at or below the poverty level. These areas also tend to have high rates of crime, births to unwed mothers, and minority unemployment. Statistics on persistently poor health in urban areas reflect these extremes. The

percentages of urban counties with persistently poor health for working-age adults and seniors are the lowest among all county types at 43 percent and 36 percent, respectively, but the percentage is high for children (86 percent).

Urbanizing counties are characterized by expanding populations, a diversified economy, and growing minority populations. These characteristics are the result of growth in viable job opportunities and infrastructure improvements such as access to transportation and quality-of-life improvements, including education, housing, medical facilities, and cultural attractions. The percentages of urbanizing counties with persistently poor health for all ages are similar or a little higher than the state averages.

**Figure 4. Five Georgias Concept**




*Source*: Based on data from the U.S. Census Bureau (1980, 1990, 2000).

**Table 4. Persistently Poor Health in the Five Georgias Area**

| County Type | N | Percentage of counties with persistently poor health | | |
|---|---|---|---|---|
| | | Children | Adults | Seniors |
| Urban | 14 | 86 | 43 | 36 |
| Urbanizing | 29 | 76 | 83 | 55 |
| Suburban | 56 | 46 | 46 | 38 |
| Rural Growth | 30 | 67 | 77 | 43 |
| Rural Decline | 30 | 93 | 97 | 67 |

*Source*: Based on data from the U.S. Census Bureau (1980, 1990, 2000), National Vital Statistics Mortality files, *Kids Count Data Book*, and state health departments.

Suburban counties include surrounding core urban counties in which more than a quarter of residents commute into the core or central city to work each day. Residents of suburban counties are predominately white, affluent, and highly educated, although some exceptions do occur. Consistent with this description, the percentages of suburban counties with persistently poor health for all age groups are the lowest or next to lowest.

Rural growth counties are characterized by having either scenic beauty or some type of physical landscape that makes them attractive places for tourism or retirees. In addition, some of these areas are located near military bases or regional growth centers that are capable of sustaining or attracting economic growth. The percentages of rural growth counties with persistently poor health for all age groups are similar to the state averages.

Counties that are in rural decline are characterized by long-term population loss, lack of employment opportunities, low levels of infrastructure and business development, and populations that have low educational attainment and skill development and limited access to medical facilities and health professionals. In addition, the continued out-migration of working-age residents leaves behind a large number of both young and older residents who require a large share of governmental services. The percentages of rural decline counties with persistently poor health for all age groups are the highest. In fact, almost all rural decline counties have persistently poor health for children and working-age adults.

## Persistent Poverty and Persistently Poor Health

In the 2003 study on poverty in the South, 91 Georgia counties were found to have persistent poverty. This study defined a county as having persistent poverty if it had a poverty rate in the bottom half of

all U.S. counties in three census periods: 1980, 1990, and 2000. Figure 5 shows the 91 counties that were found to have persistent poverty from 1980 to 2000 (Carl Vinson Institute of Government 2003).

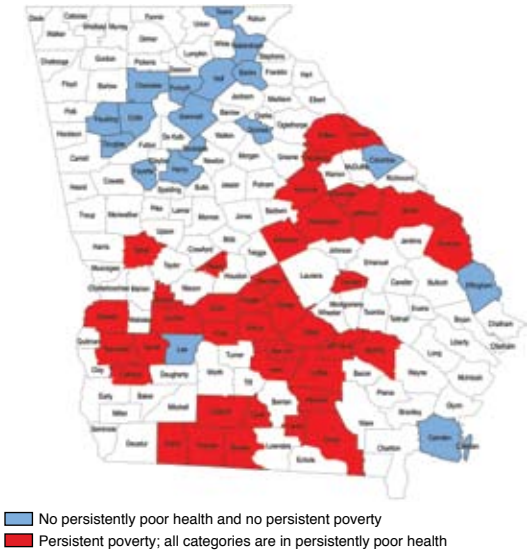
There is a large body of evidence linking economic status with health status (see Smith 1999 for a review). It may be that poor individuals receive low quality health care, have limited access to health care, and practice riskier health behaviors. It may also be that compared with healthy individuals, people with poor health earn less because their health has restricted their educational attainment and their ability to be productive in the workforce. Whatever the reason, a large overlap is expected between these 91 persistently poor counties and the counties identified as having persistently poor health. Figure 6 shows the counties that have persistent poverty and persistently poor health for all age groups. In 49 counties, all three age groups are in persistently poor health. Of those, 39, or 81 percent, also are in persistent poverty. The average percentage of African Americans in these 39 counties is 40 percent compared with the state average of 28 percent. Almost half of these 39 counties ($N$ = 18) are rural decline counties, and none are urban counties. Although not depicted in this figure, 140 counties have at least one age group that is in persistently poor health. Ninety out of the 91 counties that have persistent poverty also have persistently poor health for at least one age group.

This map also shows the best counties in Georgia: those that do not have persistent poverty or persistently poor health in any category. Only 18 counties satisfy this criterion. Thirteen are suburban, and none

**Figure 5. Persistent Poverty in Georgia, 1980–2000**


*Source*: Carl Vinson Institute of Government (2003).

**Figure 6. Persistent Poverty and Persistently Poor Health in Georgia**




*Source*: Based on data from the National Vital Statistics Mortality files, *Kids Count Data Book*, state health departments, and the Carl Vinson Institute of Government (2003).

are rural decline counties. African Americans make up an average of 10 percent of the population in these counties.

## Persistently Poor Health over Time

Table 5 summarizes changes in health among Georgians over time. For all three age groups, more counties had populations that could be categorized as being in persistently poor health in 2000–5 than in 1992–97, signaling a decline in the health status of Georgians compared with the rest of the U.S. population. Consistent with this trend, more counties became poor health counties over time than moved out of that category for all age groups. The greatest variability in poor health status across time occurred among older adults: 26 counties that were not considered poor health counties with respect to older adults in 1992–97 became poor health counties in 2000–5, and 20 counties that were poor health counties in 1992–97 were not in 2000–5. Finally, several counties had persistently good health: 19 counties for children's health, 33 counties for working-age adults' health, and 37 counties for seniors' health.

## Persistently Poor Health among Age Groups

Table 6 provides the breakdown of counties by the number of age groups that are categorized as having persistently poor health. Only 19 counties do not have any age group that is in persistently poor health. In 38 counties, only one age group is in persistently poor health. Most of these counties

**Table 5. Persistently Poor Health over Time, by Age Group**

| Age Group | Counties in persistently poor health (1992–97) (*N*) | Counties in persistently poor health (2000–5) (*N*) | Counties that worsened over time (*N*) | Counties that improved over time (*N*) | Counties in persistently good health (*N*) |
|---|---|---|---|---|---|
| Children | 122 | 126 | 18 | 14 | 19 |
| Adults | 110 | 124 | 16 | 2 | 33 |
| Seniors | 95 | 101 | 26 | 20 | 37 |

*Source*: Based on data from the National Vital Statistics Mortality files, *Kids Count Data Book*, and state health departments.

**Table 6. Persistently Poor Health and Age Groups**

| Number of age groups in persistently poor health | Number of counties |
|---|---|
| 0 | 19 |
| 1 | 38 |
| 2 | 53 |
| 3 | 49 |

*Source*: Based on data from the National Vital Statistics Mortality files, *Kids Count Data Book*, and state health departments.

have children who are in poor health (16 counties), followed by working-age adults (13 counties) and seniors (9 counties). In 53 counties, the health of at least two age groups (primarily children and working-age adults) is persistently poor (36 counties). The health of all three age groups is persistently poor in 49 counties.

The percentage of African Americans is highly correlated with how many age groups are in persistently poor health:

- Counties in which none of the population is in persistently poor health are only 11 percent African American.
- Counties in which one age group is in poor health are 21 percent African American.
- Counties in which two age groups are in poor health are 30 percent African American.
- Counties in which all three age groups are in poor health are 37 percent African American.

Similarly,

- Counties in which none of the population is in persistently poor health are most likely to be suburban.
- Counties in which one age group is in poor health are spread across the state fairly evenly.
- Counties in which two age groups are in poor health are most likely to be rural growth counties.
- Counties in which all age groups are in poor health are most likely to be rural decline counties.

Finally, considering the health of children and seniors separately from that of working-age adults is of particular interest because of the implications for policy and understanding the relationship between health and income in the state. In counties in which children and/or seniors but not working-age adults are in persistent poverty and persistently poor health, the income-generating capacity of the workforce in the county likely is unrelated to health because the former groups tend not to work in the labor force. On the other hand, persistent poverty and persistently poor health among working-age adults (which may affect children's health

status) may affect workforce productivity. If many counties in the state had working-age adults but not seniors in poor health, a health intervention might have both health and poverty-alleviating benefits.

This analysis indicates that in only 13 of the 90 counties in which at least one age group is in persistent poverty and persistently poor health, working-age adults do not make up the group. On the other hand, in 32 of the 90 counties, the health of working-age adults or both children and adults (but not seniors) is persistently poor. In addition, the health of working-age adults and/or seniors is persistently poor in the remaining 45 counties. This finding implies that although health may be the root of the problem in some counties, in at least half of the counties, health and income likely have an effect on each other. That is, health affects worker productivity and therefore income but income also affects the health of everyone in the county by virtue of its relationship to access to medical care, nutrition, education, and stress, among other things.

## RISK FACTOR ANALYSIS

Although the primary goal of this study was to identify the counties that have persistently poor health for children, working-age adults, and seniors, additional analysis was conducted in order to determine the important risk factors associated with persistently poor health at the county level. A wide variety of county-level characteristics were compiled that served as proxies for the risk factors that were of interest. According to Hawkins, Catalana, and Miller (1992), important risk factors for poor health and risky health behaviors include

- at the community level, economic and social deprivation, access to health care, and population growth;
- at the school level, delinquency and dropout rates;
- at the family level, births to unwed mothers; and
- at the individual level, degree of alienation as represented by the prevalence of serious (Type I) crimes such as murder, rape, and property theft.

Data on the characteristics of counties were collected from the U.S. census, the Georgia Crime Information Center, Georgia public schools, the Georgia Board of Physician Workforce, the Georgia Department of Human Resources, and the National Vital Statistics. Most of the characteristics were available through the annual Georgia County Guide, but some of the statistics were obtained directly from the source.

Because characteristics at the county level often are correlated with each other, factor analysis was used to combine a variety of characteristics in order to create a multidimensional variable that is more revealing about a county's character than is a single statistic. In this way, six variables were derived that represent the following risk factors: economic and social deprivation, health care access, upward mobility, educational access, lack of family resources, and crime. Table 7 provides a list of the proxy variables that were combined to create the six underlying risk factors. Probit estimation was used to regress the persistently poor health status of each age group on these six risk factors in order to determine their relative importance. These results are reported in Table 8.

As might be expected, economic and social deprivation, characterized by a greater share of female-headed households, higher unemployment rates, lower per capita income, and a greater share of the population enrolled in assistance programs, is associated with persistent poverty at the county level. It also is significantly associated with a higher probability of a county having children and seniors who

**Table 7. Risk Factors and Proxy Variables**

| Risk Factor | Proxy Variable |
|---|---|
| Economic and social deprivation | Percentage of households headed by female |
| | Unemployment rate |
| | Per capita income |
| | Percentage receiving TANF |
| | Percentage receiving food stamps |
| Health care access | Bed capacity of hospitals |
| | Bed capacity of nursing homes |
| | Number of physicians per 100,000 people |
| Upward mobility | Population growth rate |
| | Net migration rate |
| | Rates of commuting to other counties |
| | Percentage of population working in the county of residence |
| Educational access | Retention rate |
| | Percentage of class completion |
| | Delinquency rates |
| | High school dropout rates |
| Lack of family resources | Percentage of births to unwed mothers |
| | Percentage of mothers without high school education |
| Crime | Number of arrests for drug offenses |
| | Number of Type I crimes (murder, rape, property crimes, etc.) |
| | Number of DUI arrests |

**Table 8. Risk Factor Analysis Results**

| | Persistent Poverty | Persistently Poor Health | | | |
|---|---|---|---|---|---|
| Risk Factor | | All age groups | Children | Adults | Seniors |
| Economic and social deprivation | 1.165*** | 0.127 | 0.274** | −0.080 | 0.277** |
| Health care access | −0.343* | −0.055 | 0.095 | 0.140 | 0.019 |
| Upward mobility | −0.272 | −0.449** | −0.431** | −0.294 | −0.137 |
| Educational access | 0.084 | −0.062 | −0.032 | −0.256** | −0.106 |
| Lack of family resources | −0.066 | 0.044 | 0.035 | 0.441*** | −0.091 |
| Crime | 0.111 | 0.033 | 0.101 | −0.323** | −0.016 |

*Note*: Marginal effects of probit analysis are reported.
*$p < .10$ **$p < .05$ ***$p < .01$

are in persistently poor health. Because children and seniors generally do not work, the poor health of these groups is not the driving force behind the high poverty rates in a county. These findings suggest that the persistently poor health of children and seniors in these counties is a result of economic deprivation. Interventions that address poverty therefore should have health benefits.

Health care access, characterized by higher bed capacities and more doctors to provide health care services to county residents, is significantly associated with a lower probability that a county has a population that is persistently poor but does not have a significant relationship with the persistently poor health status of the county. Thus, it may also be the case that health interventions are important in the fight against poverty.

Upward mobility captures trends in population and economic activity in a county. Populations in counties with high rates of population growth, more commuters, and a greater share of residents working in the county are significantly less likely than residents of other counties to be in persistently poor health.

The educational access of a county, represented by higher retention rates in schools, higher high school completion rates, lower delinquency rates, and lower high school dropout rates, is significantly associated with a lower probability that working-age adults in a county are in persistently poor health. In addition, a lack of family resources in a county,



represented by a higher share of births to unwed mothers and a higher share of mothers without high school degrees, is significantly related to a higher probability that working-age adults are in persistently poor health. Thus, educational reforms that lower dropout rates and increase educational opportunities can have important health benefits for workers, which in turn can improve the economic productivity of a county.

High crime rates are associated with a lower probability that working-age adults in a county are in persistently poor health. This result is counterintuitive; it might be expected that incidences of crime would have a positive effect on a county's economic and health indicators. Higher crime rates may be correlated with affluent areas, or it may be that this statistic captures a county characteristic that cannot be observed or measured.

Similar results were found when these models were estimated using the poor health measures in 1992–97 and 2000–5 separately (results not shown). It may be that the populations in these counties are in persistently poor health because neither the characteristics of the counties nor the determinants of poor health have changed over time.

## CONCLUSION

Georgia ranks toward the bottom among states in terms of the health of its population. As a result, many proposals in the General Assembly are aimed at improving the state's health resources. The results of this study can provide policymakers with scientifically based, easy-to-understand information as they develop health care policies and programs. The key findings from this study are as follows:

- Of Georgia's 159 counties, 108 counties were found to have children who are in persistently poor health, 108 have working-age adults who are in persistently poor health, and 75 have seniors who are in persistently poor health.
- Forty-nine counties have persistently poor health for all three age groups. Of those, 39, or 81 percent, also have persistent poverty.
- Only 18 counties in the state do not have persistent poverty or persistently poor health in any category.
- More counties had persistently poor health for all three age groups in 2000–5 than in 1992–97, suggesting a decline in the health status of Georgians compared with the rest of the U.S. population over these periods.



- Several counties have populations that are in persistently good health: children's health is good in 19 counties, working-age adults are in good health in 33 counties, and seniors' health is good in 37 counties.
- The percentage of African Americans is highly correlated with how many age groups are in persistently poor health.
- Counties in which none of the population is in persistently poor health are most likely to be suburban, and counties in which all age groups are in persistently poor health are most likely to be rural counties that are in decline.
- Regression results from the risk factor analysis suggest that persistently poor health among children and seniors is an outcome of economic deprivation. This finding implies that interventions that address poverty also should result in health benefits.
- The regression results also suggest that educational reforms that lower dropout rates and increase educational opportunities can have important health benefits for workers, which in turn could lead to improved economic productivity in a county.

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| County | Children | | | Working-Age Adults | | | Seniors | | | Persistent Poverty |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | |
| Appling | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Atkinson | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Bacon | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Baker | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Baldwin | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Banks | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Barrow | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Bartow | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Ben Hill | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Berrien | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Bibb | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Bleckley | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Brantley | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Brooks | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Bryan | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Bulloch | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Burke | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Butts | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Calhoun | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Camden | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Candler | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Carroll | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| Catoosa | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Charlton | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| Chatham | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Chattahoochee | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Chattooga | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| Cherokee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Clarke | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Clay | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Clayton | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Clinch | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Cobb | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Coffee | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Colquitt | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| County | Children | | | Working-Age Adults | | | Seniors | | | Persistent Poverty |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | |
| Columbia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cook | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Coweta | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Crawford | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| Crisp | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Dade | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| Dawson | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Decatur | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| DeKalb | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dodge | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Dooly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Dougherty | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| Douglas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Early | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| Echols | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Effingham | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Elbert | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Emanuel | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Evans | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Fannin | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Fayette | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Floyd | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Forsyth | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Franklin | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Fulton | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Gilmer | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| Glascock | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Glynn | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Gordon | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Grady | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Greene | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| Gwinnett | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Habersham | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Hall | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hancock | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Haralson | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| Harris | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Hart | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

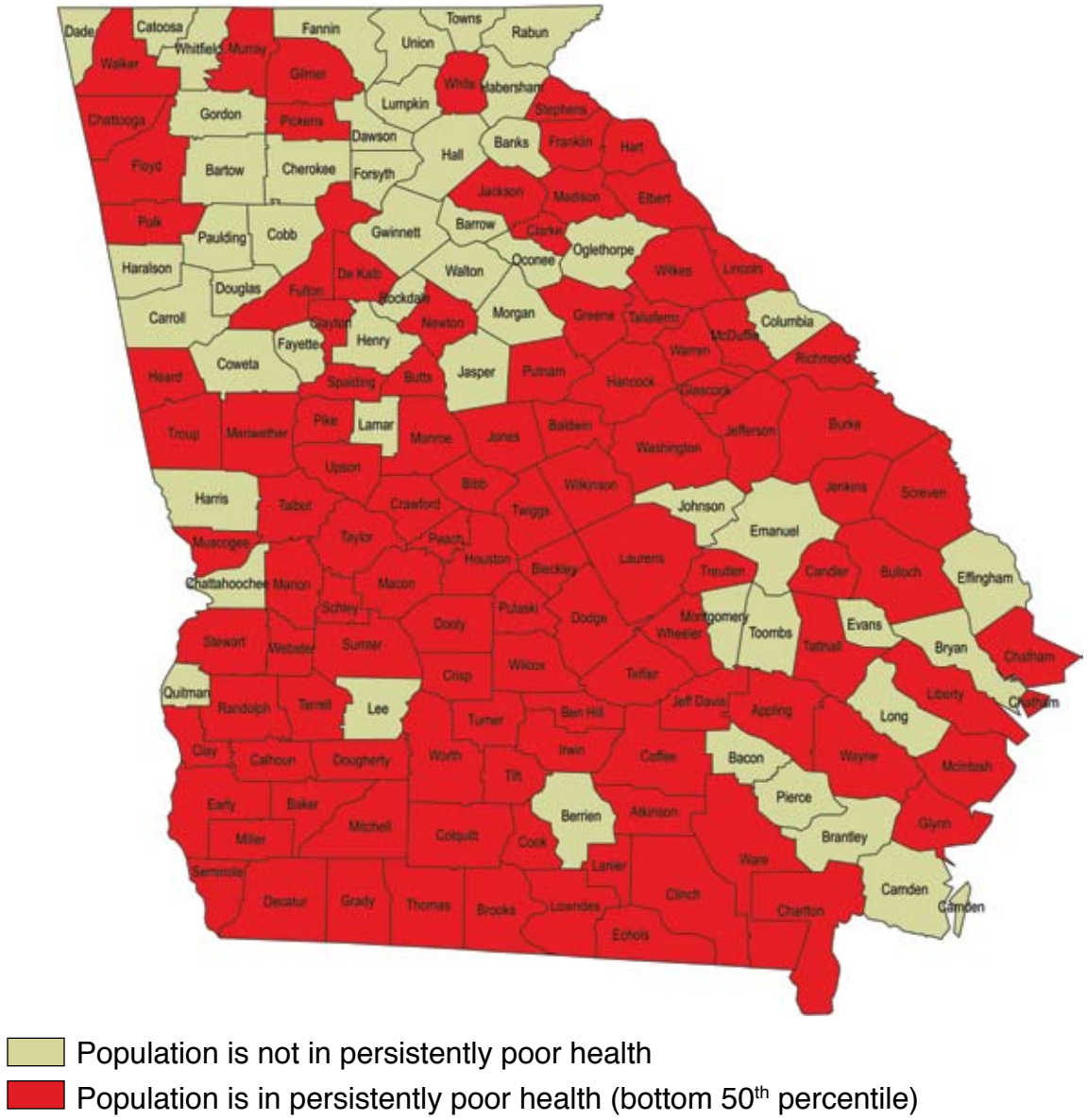
| County | Children | | | Working-Age Adults | | | Seniors | | | Persistent Poverty |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | |
| Heard | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Henry | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Houston | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Irwin | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Jackson | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Jasper | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| Jeff Davis | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Jefferson | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Jenkins | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| Johnson | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Jones | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lamar | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Lanier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Laurens | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| Lee | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Liberty | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Lincoln | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Long | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Lowndes | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| Lumpkin | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Macon | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| Madison | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| Marion | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| McDuffie | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| McIntosh | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Meriwether | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| Miller | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Mitchell | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| Monroe | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Montgomery | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| Morgan | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Murray | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Muscogee | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Newton | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Oconee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Oglethorpe | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| Paulding | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Peach | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| County | Children | | | Working-Age Adults | | | Seniors | | | Persistent Poverty |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | |
| Pickens | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Pierce | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pike | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Polk | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Pulaski | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Putnam | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| Quitman | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Rabun | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Randolph | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Richmond | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Rockdale | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Schley | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Screven | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Seminole | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| Spalding | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Stephens | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Stewart | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sumter | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Talbot | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Taliaferro | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Tattnall | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Taylor | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Telfair | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Terrell | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Thomas | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Tift | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| Toombs | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Towns | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Treutlen | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Troup | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| Turner | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| Twiggs | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Union | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| Upson | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| Walker | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Walton | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Ware | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| Warren | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |

| County | Children | | | Working-Age Adults | | | Seniors | | | Persistent Poverty |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | 1992–97 | 2000–5 | Persistent | |
| Washington | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Wayne | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| Webster | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| Wheeler | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| White | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Whitfield | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| Wilcox | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Wilkes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Wilkinson | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Worth | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |

APPENDIX B. Maps

**Figure 1. Children in Georgia Who Are in Persistently Poor Health**




Population is not in persistently poor health

Population is in persistently poor health (bottom 50th percentile)

*Source*: Based on data from the National Vital Statistics Mortality files, *Kids Count Data Book*, and state health departments.

**Figure 2. Working-Age Adults in Georgia Who Are in Persistently Poor Health**


Population is not in persistently poor health

Population is in persistently poor health (bottom 50th percentile)

*Source*: Based on data from the National Vital Statistics Mortality files.

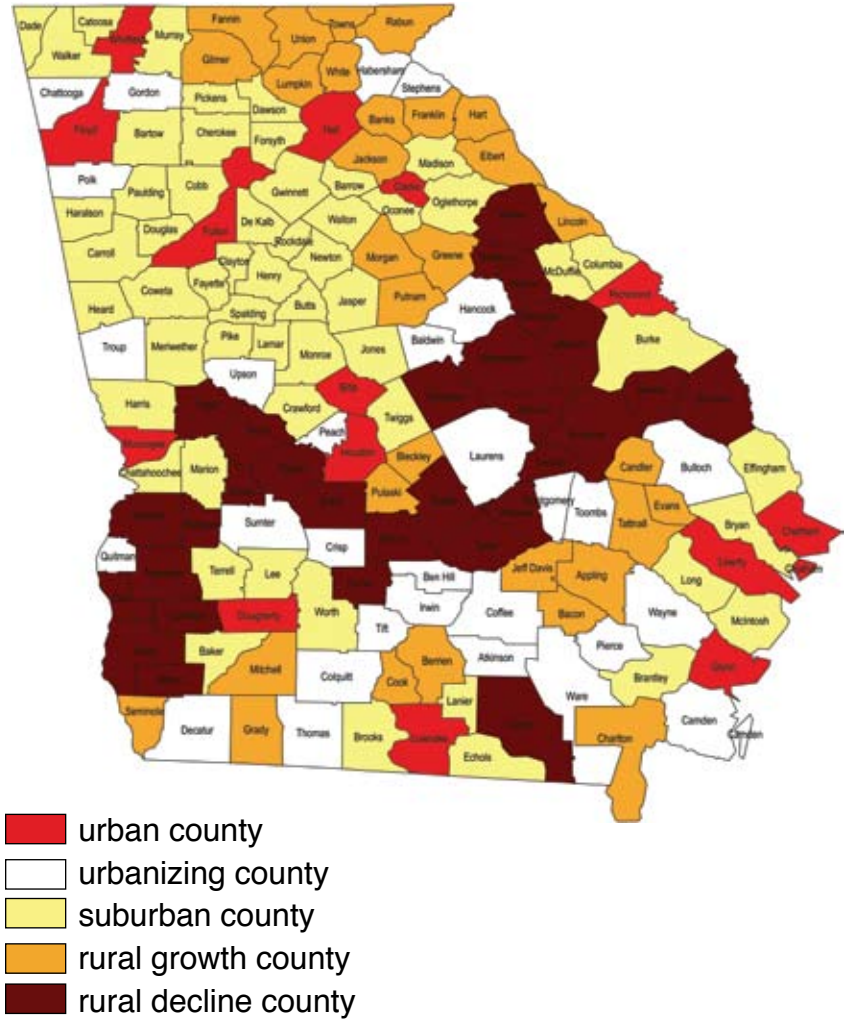
**Figure 3. Older Adults in Georgia Who Are in Persistently Poor Health**


Population is not in persistently poor health

Population is in persistently poor health (bottom 50th percentile)

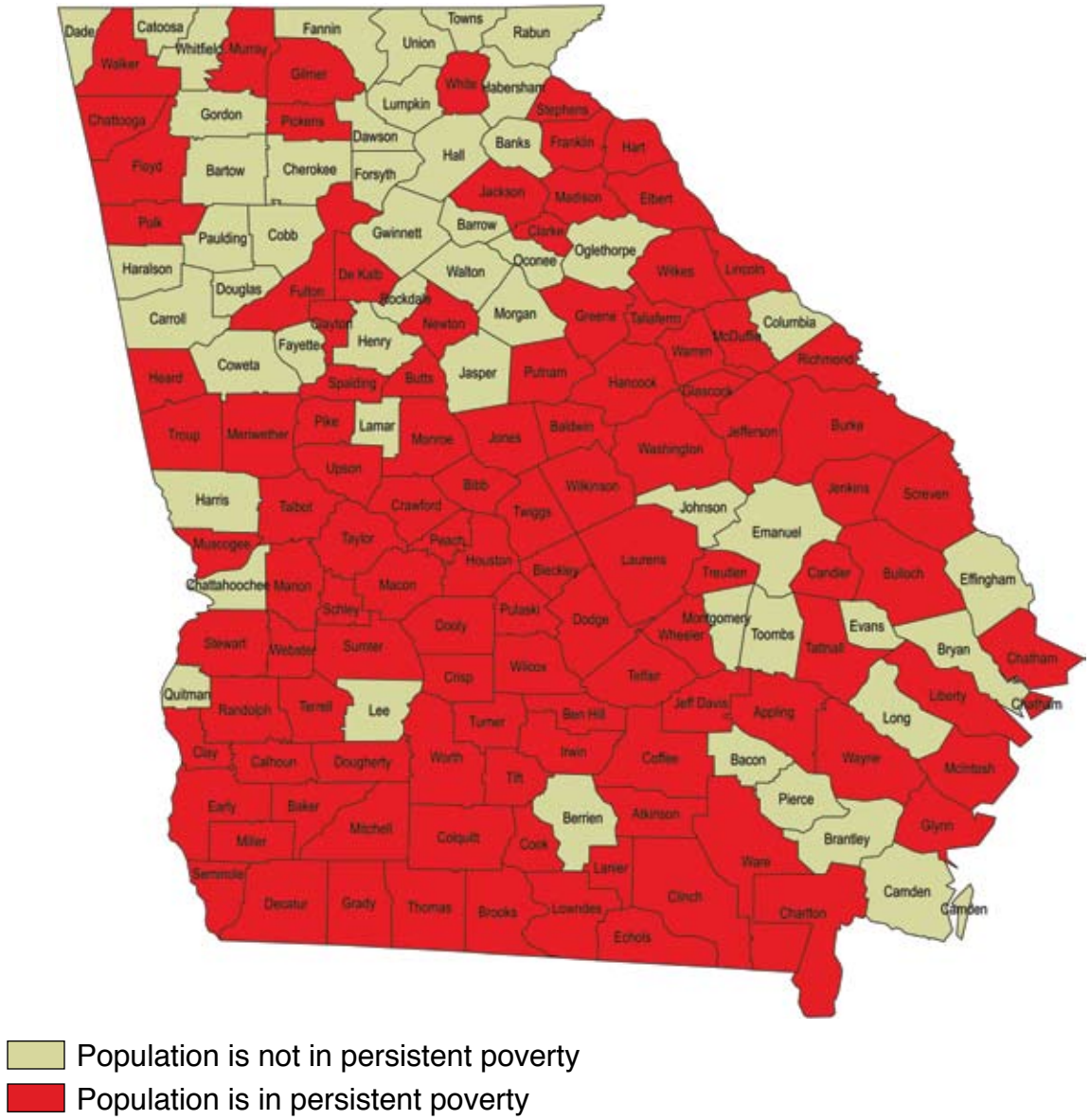
*Source*: Based on data from the National Vital Statistics Mortality files.

**Figure 4. Five Georgias Concept**



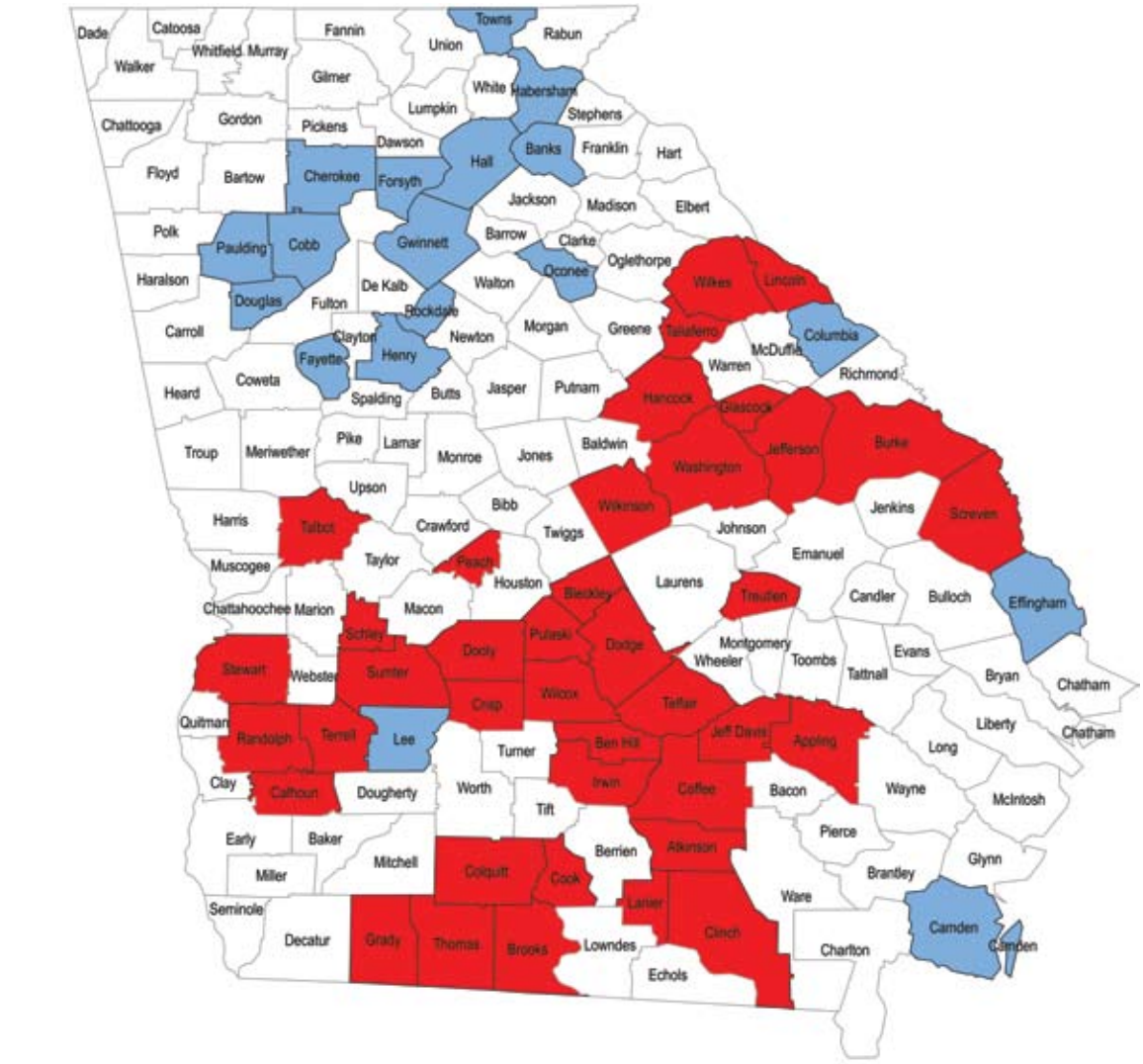

*Source*: Based on data from the U.S. Census Bureau (1980, 1990, 2000).

**Figure 5. Persistent Poverty in Georgia, 1980–2000**




*Source*: Carl Vinson Institute of Government (2003).

**Figure 6. Persistent Poverty and Persistently Poor Health in Georgia**




No persistently poor health and no persistent poverty

Persistent poverty; all categories are in persistently poor health

*Source*: Based on data from the National Vital Statistics Mortality files, *Kids Count Data Book*, state health departments, and the Carl Vinson Institute of Government (2003).


The University of Georgia®

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