

## Chapter 4. Timeliness

Timeliness is the health care system's capacity to provide care quickly after a need is recognized. It is one of the six dimensions of quality the Institute of Medicine established as a priority for improvement in the health care system.<sup>1</sup> Measures of timeliness include time spent waiting in doctors' offices and emergency departments (EDs), and the interval between identifying a need for specific tests and treatments and actually receiving services.

### Importance

#### Morbidity and Mortality

- Lack of timeliness can result in emotional distress, physical harm, and higher treatment costs.<sup>2,3</sup> Stroke patients' mortality and long-term disability are largely influenced by the timeliness of therapy.<sup>4,5</sup> Timely delivery of appropriate care also can help reduce mortality and morbidity for chronic conditions such as kidney disease.<sup>6</sup>
- Timely delivery of childhood immunizations helps maximize protection from vaccine-preventable diseases while minimizing risks to the child and reducing the chance of disease outbreaks.<sup>7</sup>
- Timely antibiotic treatments are associated with improved clinical outcomes.<sup>8</sup>

#### Cost

- Early care for comorbid conditions has been shown to reduce hospitalization rates and costs for Medicare beneficiaries.<sup>9</sup> Some research suggests that, over the course of 30 years, the costs of treating diabetic complications can approach \$50,000 per patient.<sup>10</sup> Early care for complications in patients with diabetes can reduce overall costs of the disease.<sup>11</sup>

Timely outpatient care also can reduce admissions for pediatric asthma, which account for \$1.25 billion in total hospitalization charges annually.<sup>12</sup>

### Measures

This report focuses on one core report measure related to timeliness of primary, emergency, and hospital care: getting care for illness or injury as soon as wanted. In addition, two supporting measures are presented: emergency department waiting times, and timeliness of cardiac reperfusion for heart attack patients.

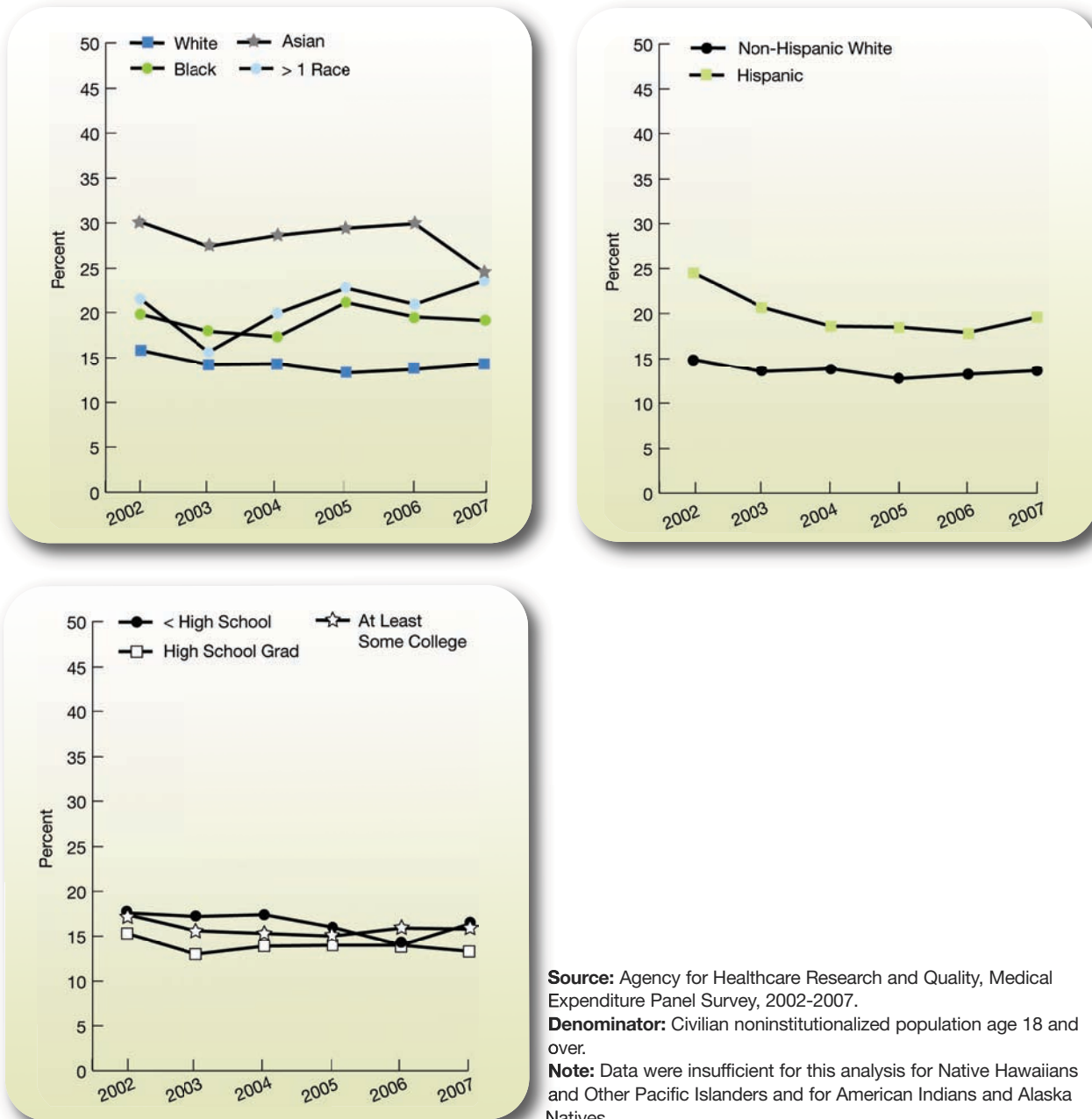
### Findings

#### Getting Care for Illness or Injury As Soon As Wanted

A patient's primary care provider should be the first point of contact for most illnesses and injuries. A patient's ability to receive timely treatment for illness and injury is a key element in a patient-centered health care system.

# Timeliness

**Figure 4.1 Adults who needed care right away for an illness, injury, or condition in the last 12 months who sometimes or never got care as soon as wanted, by race, ethnicity, and education, 2002-2007**

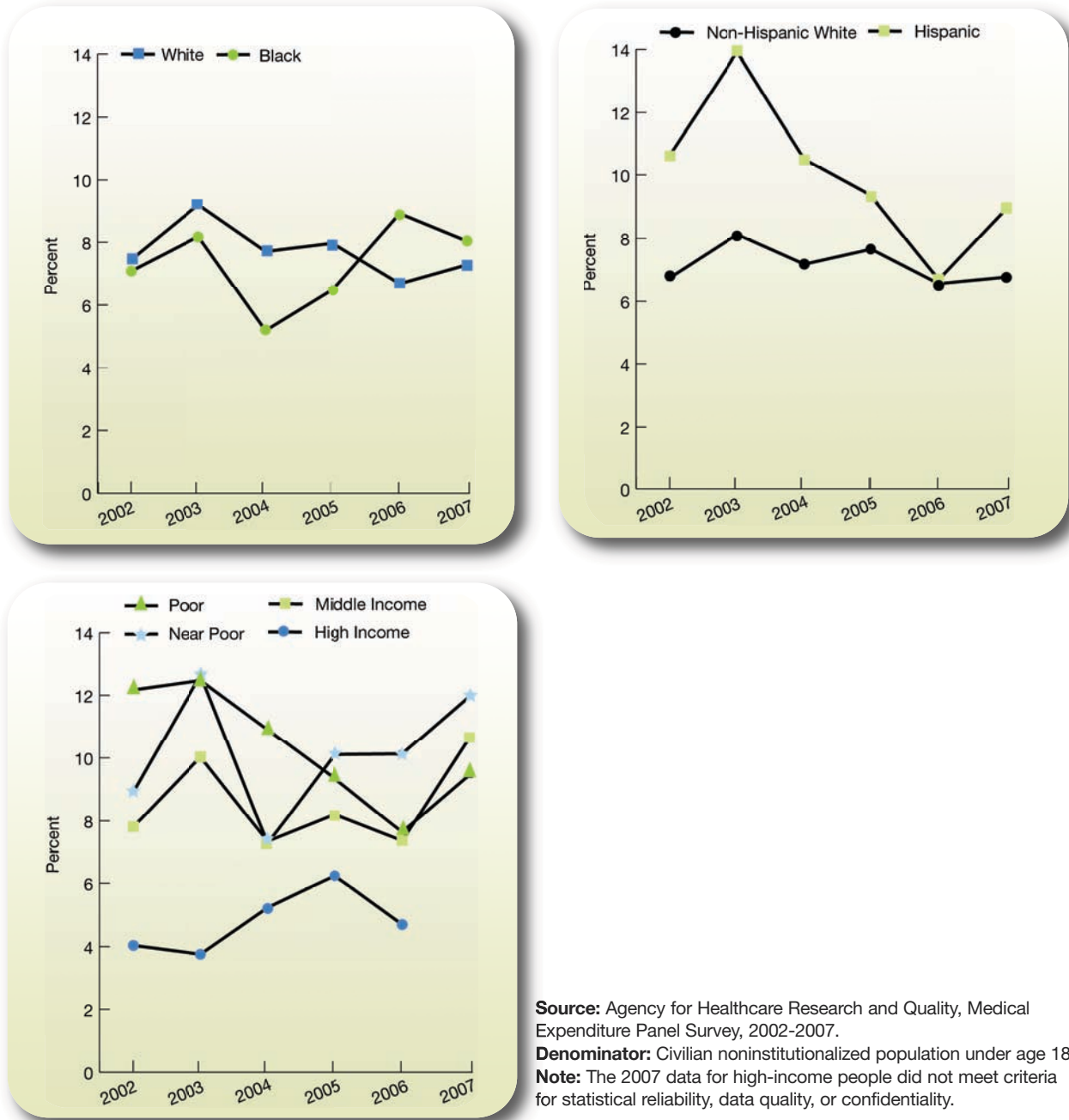


- From 2002 to 2007, the overall percentage of adults who needed care right away for an illness, injury, or condition in the last 12 months who sometimes or never got care as soon as wanted decreased (from 16.8% to 15.3%; data not shown).
- During the same period, the percentages improved for Whites, Hispanics, and high school graduates (15.8% compared with 14.3%, 24.5% compared with 19.6%, and 15.3% compared with 13.3%, respectively; Figure 4.1).

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- In 2007, Blacks, Asians, and those of multiple races were more likely than Whites to report problems getting care as soon as wanted (19.1%, 24.5%, and 23.5% compared with 14.3%). Also, Hispanics fared worse than non-Hispanic Whites (19.6% compared with 13.6%). However, high school graduates fared better than those with at least some college (13.3% compared with 15.8%).

**Figure 4.2 Children who needed care right away for an illness, injury, or condition in the last 12 months who sometimes or never got care as soon as wanted, by race, ethnicity, and income, 2002-2007**



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- In 2007, there were no statistically significant differences among children who needed care right away for an illness, injury, or condition in the last 12 months who sometimes or never got care as soon as wanted (Figure 4.2).

## Emergency Department Visit Waiting Times

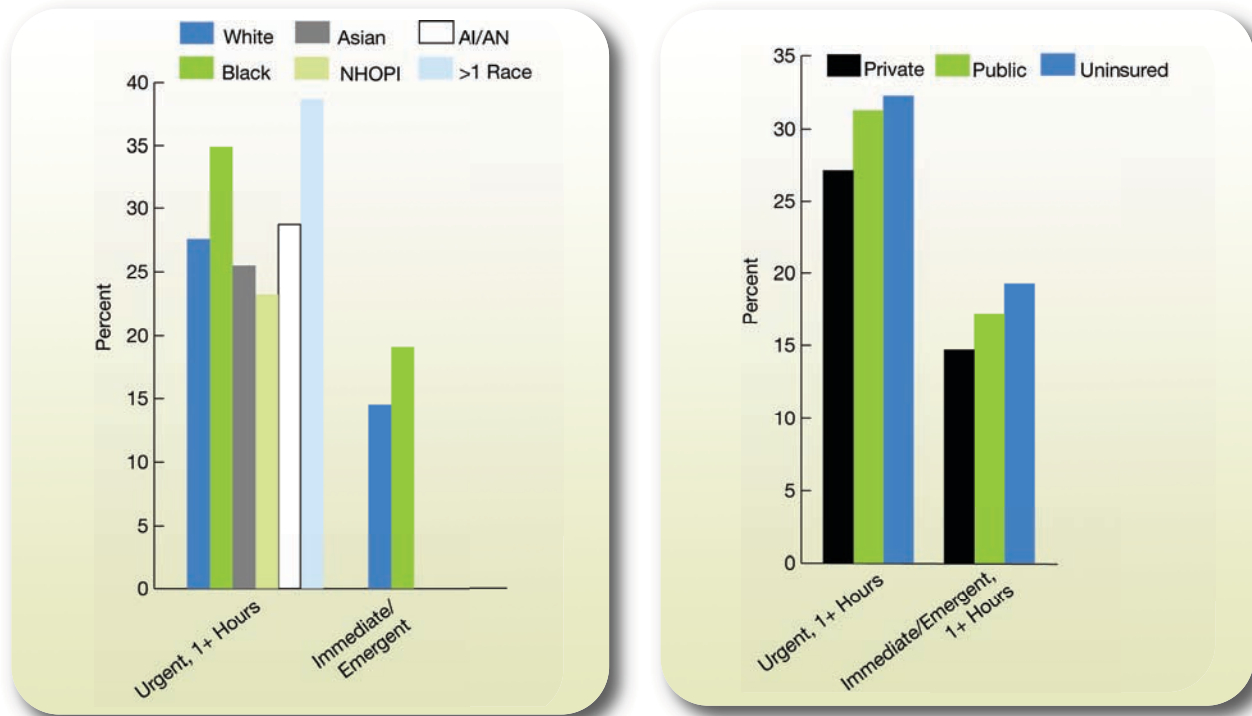
- In 2007, an estimated 116.8 million visits were made to hospital EDs compared with 110.2 million visits in 2004.<sup>13, 14</sup>
- The median waiting time for patients to be seen by a physician during an ED visit in the United States was 33 minutes.<sup>13</sup>
- Not all patients seeking care in an ED need urgent care, and use of EDs for nonurgent care could lead to longer waiting times.

The National Hospital Ambulatory Medical Care Survey defines five levels of urgency of ED visits:

- Immediate, requiring immediate care;
- Emergent, requiring care in less than 15 minutes;
- Urgent, requiring care within 1 hour;
- Semiurgent, requiring care within 2 hours; and
- Nonurgent, not requiring care within 2 hours.



**Figure 4.3. Emergency department visits in which patient had to wait an hour or more by urgency, race, and insurance status, 2007-2008**



**Key:** NHOPI = Native Hawaiian or Other Pacific Islander; AI/AN = American Indian or Alaska Native.

**Source:** Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey (NHAMCS), 2007-2008.

**Denominator (Immediate or Emergent):** Visits to U.S. emergency departments with triage assessments of immediate or emergent, 2007-2008.

**Denominator (Urgent):** Visits to U.S. emergency departments with triage assessments of urgent, 2007-2008.

**Note:** Race data were missing for 13.3% of total visits included in this chart. Missing race data were imputed. Standard errors were inflated as described at 2007 NHAMCS Microdata File Documentation

[ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Dataset\\_Documentation/NHAMCS/](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHAMCS/). Insurance status shown for patients under age 65 and classified based on all expected payment sources. Public insurance includes Medicare, Medicaid, and State Children's Health Insurance Program. Uninsured is defined as having "only self-pay" or "no charge/charity" as payment sources.

- In 2007-2008, among ED visits for immediate/emergent conditions, the percentage that had to wait an hour or more was higher among Blacks compared with Whites (Figure 4.3).
- Among visits for urgent conditions, the percentage of patients who had to wait an hour or more was higher for Blacks compared with Whites and for uninsured patients under age 65 compared with privately insured patients under age 65.

Also, in the NHQR:

- In 2007-2008, among ED visits for immediate/emergent conditions, there was no significant difference in the percentage that had to wait an hour or more between patients living in metropolitan and nonmetropolitan areas. Among visits for urgent conditions, the percentage that had to wait an hour or more was lower among nonmetropolitan patients compared with metropolitan patients.
- Differences related to age were not significant.

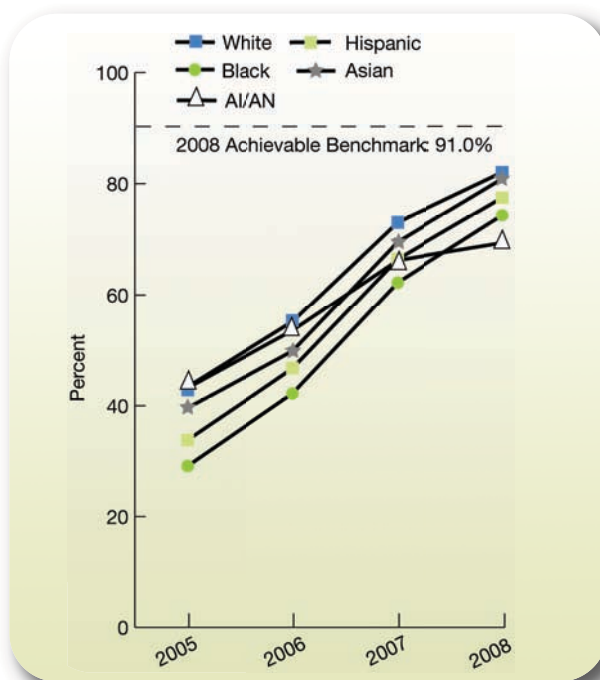
# Timeliness

## Timeliness of Cardiac Reperfusion for Heart Attack Patients

The capacity to treat hospital patients in a timely manner is especially important for emergency situations such as heart attacks. Some heart attacks are caused by blood clots. Early actions, such as percutaneous coronary intervention (PCI) or fibrinolytic medication, may open blockages caused by blood clots, reduce heart muscle damage, and save lives.<sup>15</sup> To be effective, these actions need to be performed quickly after the start of a heart attack. In this report, we present two measures of timeliness of cardiac reperfusion:

- PCI within 90 minutes among appropriate patients.
- Fibrinolytic medication within 30 minutes among appropriate patients.

**Figure 4.4. Hospital patients with heart attack who received percutaneous coronary intervention within 90 minutes, by race/ethnicity, 2005-2008**



**Key:** AI/AN = American Indian or Alaska Native.

**Source:** Centers for Medicare & Medicaid Services, Medicare Quality Improvement Organization Program, 2005-2008.

**Denominator:** Patients hospitalized with a principal diagnosis of acute myocardial infarction who were appropriate candidates for percutaneous coronary intervention.

**Note:** Data were insufficient for this analysis for Native Hawaiians and Other Pacific Islanders.

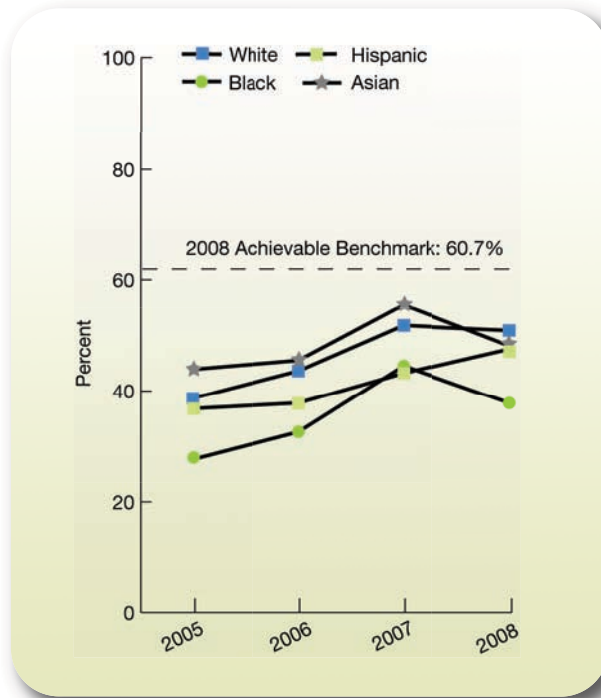
- Among heart attack patients, except for Asians, the percentage of patients receiving timely PCI improved for all racial/ethnic groups from 2005 to 2008 (Figure 4.4). In 2008, Blacks and American Indians and Alaska Natives were less likely to receive timely PCI compared with Whites (74.3% and 69.3%, respectively, compared with 82.1%).
- The 2008 top 5 State benchmark was 91.0%.<sup>i</sup> At the current rate of improvement, the achievable benchmark could be attained in less than 1 year.

<sup>i</sup> The top 5 States that contributed to the achievable benchmark are Massachusetts, Minnesota, North Carolina, Rhode Island, and South Carolina.



- All racial/ethnic groups should reach the achievable benchmark within 1 year, with the exception of Blacks, who reach the benchmark in a little over 1 year.

**Figure 4.5. Hospital patients with heart attack who received fibrinolytic medication within 30 minutes, by race/ethnicity, 2005-2008**



**Source:** Centers for Medicare & Medicaid Services, Medicare Quality Improvement Organization Program, 2005-2008.

**Denominator:** Patients hospitalized with a principal diagnosis of acute myocardial infarction who were appropriate candidates for fibrinolytic medication.

- Among heart attack patients, the percentage of patients receiving timely fibrinolytic medication improved for all racial/ethnic groups from 2005 to 2008 (Figure 4.5). In 2008, Blacks were less likely to receive timely fibrinolytic medication compared with Whites (37.8% compared with 51.0%).
- In 2008, the top 5 State benchmark was 60.7%.<sup>ii</sup> At the current rate of improvement, the achievable benchmark could be attained in about 2.5 years.
- At their current rates of improvement, Whites should reach the achievable benchmark in a little over 2 years; however, Hispanics would not reach the benchmark for about 3.5 years, and Asians and Blacks would not reach the benchmark for about 5.5 years.

<sup>ii</sup> The top 5 States that contributed to the achievable benchmark are Arkansas, California Georgia, Kentucky, and Tennessee.

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