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Detecting Enrollment Outbreaks in Three States: The Link Between Program Enrollment and Outreach

Final Report

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EXECUTIVE SUMMARY

Purpose. Little is known about the effectiveness of outreach activities in SCHIP. Previous studies have provided in-depth descriptions of state and local SCHIP outreach and enrollment activities, but few have assessed the effects of these activities on state and local enrollment trends. This study blends quantitative and qualitative research methods to identify outreach activities and other factors that are associated with state and local trends in the number of new SCHIP enrollees.

Background. The State Children's Health Insurance Program (SCHIP) ushered in a new emphasis on outreach for public insurance coverage. The Balanced Budget Act of 1997, which established SCHIP as Title XXI of the Social Security Act, required states to develop outreach plans and to document their progress with outreach and enrollment activities. States responded by implementing a variety of creative strategies to promote SCHIP enrollment. As SCHIP programs matured and state budgets tightened, states adjusted their SCHIP outreach programs using qualitative evidence gathered from focus groups, hotlines, and surveys to tailor their outreach. This study fills an important gap in knowledge about the effectiveness of outreach activities by presenting a quantitative approach based on state administrative data.

Approach. The study approach is based on epidemiological methods for detecting outbreaks of disease. The method is designed to detect and explain (to the extent possible) any notable gains or "outbreaks" of enrollment at both the state and local levels. The quantitative analyses use SCHIP enrollment data from three states—Kentucky, Ohio, and Georgia—from fiscal years 1998 through 2002. The state-level analysis assesses quarter-by-quarter changes in the number of new SCHIP enrollees. The local level analyses identify outbreaks that may occur at particular times and in particular locations within a state, controlling for economic conditions and a variety of sociodemographic factors. Once the outbreaks have been identified, the design then uses qualitative information from stakeholder interviews and various sensitivity analyses to determine whether the outbreaks can be linked credibly to specific outreach activities or changes in enrollment policies (for example, introduction of mail-in applications or simplification procedures).

Findings. The results of the state-level analysis of new enrollees highlighted a range of statewide outreach campaigns that were associated with enrollment increases, including: statewide Back-to-School campaigns and spillover effects to the traditional Medicaid program in Kentucky, media exposure and improved access to program information and applications in Georgia, and expanded eligibility criteria and simplified application requirements in Ohio. The variation in results across the three states reflect the different approaches used at the state level.

The results of the local-level analyses highlighted strategies that were comprehensive, multifaceted, and well focused. These strategies were implemented by a variety of organizations including providers, county social service offices, community-based service organizations, and faith-based groups. In addition, the results point to the important role of funding mechanisms designed to leverage community resources. These mechanisms included the *Covering Kids* program developed and administered by the Robert Wood Johnson Foundation; the Community Access to Child Health (CATCH) grants administered by the American Academy of Pediatrics; and state mini-grant programs to distribute state and federal outreach funds to communities.

Implications. The goal of this study was to test an approach to detecting links between outreach and enrollment. The approach is similar conceptually to the surveillance tools that have been developed to monitor outbreaks of disease. Building evidence-based information about the impact of outreach strategies has been hampered by the lack of systematic data that quantifies the type, intensity, and timing of the outreach activities that have occurred. As a result, the most significant challenge in this area of research has been distinguishing the impact of a specific outreach initiative from the impact of other factors, such as demographic or programmatic changes, that influenced enrollment at the same time.

This study has identified outreach strategies and related policies that have worked well in the past. However, the approach may have even more to offer as a "real-time" surveillance tool. Namely, if used to track outbreaks of enrollment in the same manner that surveillance systems are used to track outbreaks of disease, the approach may be very helpful to states and communities as they decide how to allocate limited resources for outreach activities and track their effectiveness over time.

DETECTING ENROLLMENT OUTBREAKS IN THREE STATES: THE LINK BETWEEN PROGRAM ENROLLMENT AND OUTREACH

The State Children's Health Insurance Program (SCHIP) ushered in a new emphasis on outreach for public insurance coverage. States recognized the need to build awareness of the program and to streamline the application and enrollment process. The Balanced Budget Act of 1997, which established SCHIP as Title XXI of the Social Security Act, required states to develop outreach plans and to document their progress with outreach and enrollment activities. States responded by implementing a variety of creative strategies to promote SCHIP enrollment. Outreach activities have focused on building name recognition for the program, educating families about eligibility criteria and program features, and motivating families to enroll. In addition, states have tried to reduce barriers to enrollment by simplifying the application process through such activities as providing one-on-one application assistance, developing new mail-in or web-based application forms, and establishing fewer documentation requirements. Previous studies have provided in-depth descriptions of state and local SCHIP outreach and enrollment activities (Williams and Rosenbach 2005; Pettibone et al. 2005; Rosenbach et al. 2003; Ross and Hill 2003; Wooldridge et al. 2003; Hill et al. 2003; Silow-Carroll et al. 2002; Moore 1999; Schwalberg et al. 1999).

THE LINK BETWEEN PROGRAM ENROLLMENT AND OUTREACH: PREVIOUS RESEARCH

As SCHIP programs matured and state budgets tightened, states responded by refining their outreach and enrollment activities. Williams and Rosenbach (2005) described the evolution of outreach and how states have adjusted their SCHIP outreach programs through a "learning-by-doing" approach. States used qualitative evidence gathered from focus groups, hotlines, and surveys to tailor their outreach and shift the focus from raising program awareness within the general population to targeting outreach to families who were eligible but not enrolled.

Few studies have attempted to measure the effectiveness of outreach activities using quantitative research methods. Barents (2000) reviewed and synthesized the early literature

that empirically tested the effectiveness of activities to increase enrollment of low-income children and families in public assistance programs including SCHIP; Medicaid; welfare assistance; the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Food Stamp Program; and the National School Lunch Program (NSLP). Of the nine studies assessed, two evaluated the overall effects of case management or advocacy interventions designed to raise program awareness and motivate families to enroll; two assessed the ability of social service offices and community-based media campaigns to raise awareness and increase enrollment in Medicaid or SCHIP; one assessed state efforts to increase enrollment by creating a private insurance image for public coverage; and four estimated the relationship between the introduction of simplified application procedures and enrollment. Citing the broad focus of these studies, Barents noted that the research lacked sufficient evidence to link specific outreach activities to enrollment results. In addition, the study concluded that the research literature at that point had not assessed the effectiveness of outreach activities targeting specific subgroups of children, community variables that might influence outreach strategies, and the cost effectiveness of alternative approaches.

Additional empirical studies have been published since the Barents review of the literature. An empirical analysis of Medicaid data from California found that community-based application assistants made the process of Medicaid enrollment easier and increased the rate of new enrollees (Aizer 2004). This assistance was particularly effective among Hispanic and Asian families when it was bilingual. The analysis showed that an additional bilingual application assistant resulted in a 16 to 46 percent increase in the number of new Hispanic enrollees. Among Asians, the increase was 26 to 45 percent. Aizer also estimated that enrollment of Hispanics increased by nearly nine percent when the community was exposed to an additional week of Spanish language advertising.

Another recent study used a pre/post design to assess the effects of distributing SCHIP applications to parents of uninsured children during an emergency department (ED) visit at inner-city hospitals (Gordon, Emond, and Camargo 2005). The researchers found that uninsured children who received a SCHIP application during an ED visit were more likely to be enrolled in traditional Medicaid or SCHIP 90 days later compared to similar children who did not receive an application (42 percent versus 28 percent).[1] The difference was even larger within the subgroup of children who lived in households that were not receiving any type of public assistance (such as welfare payments, Supplemental Security Income, Medicaid, food stamps, or public housing assistance). Of those who applied for coverage, about two-thirds were found eligible for traditional Medicaid.

[1] The results of this study are hard to generalize because the study only included inner-city hospitals. In addition, the sample was small (223 children, 108 controls and 115 intervention subjects), and some of the most difficult to reach children were excluded from the study, including children who left the ED before treatment or against a provider's advice (45 children) and children in families that could not be contacted for a follow-up home interview 90 days after the visit to the ED (135 children). Altogether, the excluded children represented 25 percent of the initial sample of 715 uninsured children. The other 312 children were lost for a variety of reasons including refusal (3 children), an inability to identify the child in administrative records to confirm enrollment (22 children), and lack of staff to conduct interviews during the ED visit (145 children). The rest were eventually found to be ineligible for the study.

OVERVIEW OF STUDY

The analysis presented in this report blends quantitative and qualitative research methods to assess the effects of SCHIP outreach and enrollment activities in three states—Kentucky, Ohio, and Georgia. These states were part of a national evaluation funded by the Centers for Medicare & Medicaid Services (CMS). When appropriate, the study draws on the rich detail about outreach and enrollment activities collected through the case study and focus group components of the national evaluation.[2]

These three states represent a mix of program types. The Kentucky Children's Health Insurance Program (KCHIP) combines a Medicaid expansion with a separate child health program, Ohio's Healthy Start program is a Medicaid expansion, and Georgia's PeachCare for Kids program is a separate child health program. They also represent a mix of different approaches to outreach: Kentucky and Georgia combined centralized information campaigns with local activities, while almost all outreach activities in Ohio were decentralized at the county level.

The study approach is based loosely on epidemiological methods for detecting outbreaks of disease. Following a "surveillance design" developed by Trenholm (2006), the approach first uses state eligibility data to detect any notable gains or "outbreaks" of enrollment. The approach is designed to detect outbreaks that may occur at particular times and in particular locations within a state, controlling for economic conditions and a variety of sociodemographic factors. Once the outbreaks have been identified, the design then uses qualitative information from stakeholder interviews and various sensitivity analyses to determine whether the outbreaks can be linked credibly to specific outreach activities or changes in enrollment policies (for example, introduction of mail-in applications or simplification procedures). The next section describes the study's approach and data in more detail. The results for each state are presented in the following three sections. The final section summarizes and discusses the results.

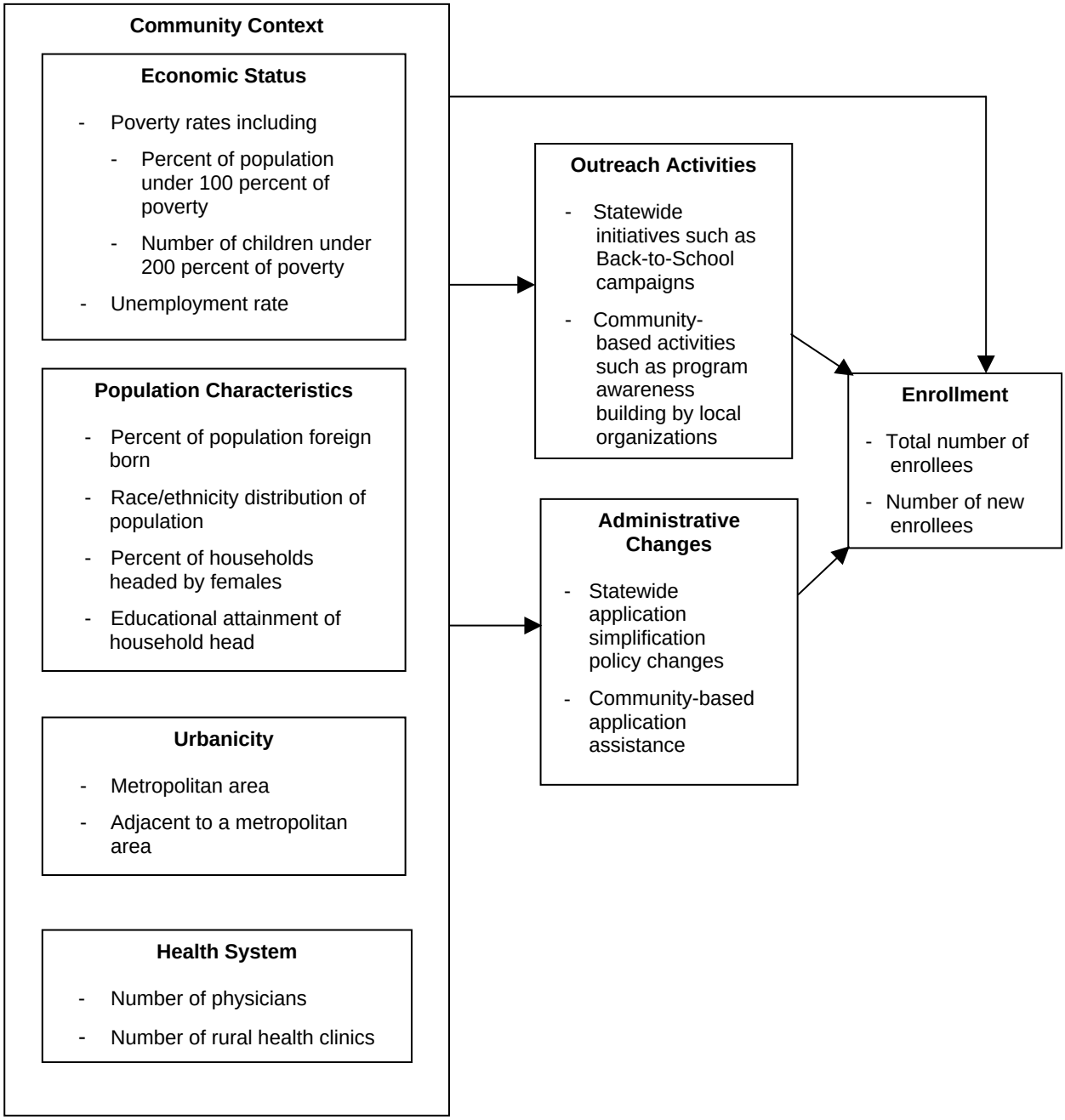
STUDY DESIGN

Analytical Approach

Guiding our study is a conceptual framework that illustrates the link between various state and local factors, including outreach activities and administrative policies, and the enrollment of children in SCHIP (see Figure 1). The framework shows that outreach and

[2] The case studies included week-long visits to each state. In-person interviews were conducted with state agency staff members who administered the SCHIP program, other state agency personnel who collaborated with the program, health plans, enrollment brokers, providers, and advocacy groups. The case studies included visits to two localities—an urban setting and a non-urban setting—to understand how the program operated at the local level. After the site visits were complete, focus groups were held in each locality visited. Groups were divided between parents of new enrollees who had been enrolled six months or less and established enrollees who had been enrolled for at least a year. A total of 181 parents attended the 19 focus groups held in these 3 states.

Figure 1. Conceptual Framework for the Detection of Enrollment Outbreaks



enrollment policies directly influence the number of children enrolling. However, because enrollment occurs at the community level, the local context—such as the number of children with family income under 200 percent of poverty and the number of physicians—also directly influences the number of children enrolling into SCHIP. The local context works indirectly as well through mediating effects it has on the outreach and enrollment strategies used.

Ideally, this study would have measured the direct relationship between outreach and enrollment. However, no database exists that systematically compiles state and local outreach and enrollment activities. As a result, the surveillance design used in this study measured indirectly the effects of outreach on enrollment.

The study focused on analysis of new enrollees. New enrollees were defined as children observed to start a new eligibility period and who had not been enrolled in public insurance—traditional Medicaid or SCHIP—for at least the six previous months.[3] We focused on these enrollees because they would be most influenced by outreach and enrollment activities. The study included three different analyses, one at the state level and two at the local level. The two local analyses assessed enrollment in slightly different ways and were designed to complement one another. The first local-level analysis identifies areas that had above average performance throughout the three-year study period. The second identifies specific outbreaks during periods when enrollment exceeded what local characteristics would predict.

1. **Analysis of State Enrollment Trends.** The state-level analysis assessed the total number of new enrollees who entered the program statewide each quarter from October 1999 through September 2002. Quarter-by-quarter changes in the number of new enrollees were assessed for possible state-level outbreaks. We identified unusually large increases in the number of new enrollees for follow-up to investigate their link to outreach activities and administrative changes.

2. **Detection of Above Average Performance at the Local Level.** This component of the analysis examined the average number of new enrollees at the local level over the entire three-year study period. We used log-linear regression methods to predict the average quarterly number of new enrollees, controlling for observable community characteristics.[4] To identify local areas where the average number of new enrollees exceeded what local characteristics would predict, we assessed the ratio of the actual average quarterly number of new enrollees to the predicted average for each local area. To focus the analysis,

[3] Early in the study we tested a more restricted definition based on children who were not enrolled in public insurance during the previous 12 months. The results were qualitatively similar. We present results from the six-month "look-back period" because it improves the power of the local-level estimates for sparsely populated areas of the states.

[4] We used the natural logarithm of the number of new enrollees.

local areas were ranked from the largest to the smallest ratio and the ranking was broken into five equal-sized groups, or quintiles, so that each group included 20 percent of the local areas in the analysis. The first quintile includes the top 20 percent of local areas, the second quintile includes the second 20 percent, and so on. Areas in the top 20 percent of the ranking were noted as having above average performance during the study period and designated for further investigation.

3. **Detection of Local Outbreaks at a Point in Time.** This component assessed local-level performance, quarter by quarter. As in the second component, we used log-linear regression methods to predict enrollment for each quarter for each locality. We assessed the ratio of the actual number of new enrollees to the predicted number for each quarter and local area. Ratios that were at least two standard deviations above the mean ratio were identified and designated for further follow-up.[5] When this strategy identified an outreach initiative that covered multiple counties or zip codes, this restriction was relaxed to one standard deviation to check the consistency of the results and explore the effects throughout the targeted area.

Preliminary results from the state- and local-level analyses were shared with SCHIP administrators in the three study states. When appropriate, the results were also shared and discussed with other knowledgeable people, such as *Covering Kids* grantees.[6] Everyone who participated in the discussions was asked whether the identified spikes in enrollment could be attributed to specific outreach and enrollment activities. When possible, we confirmed and supplemented the analysis with material from state annual reports, evaluations, and other material we gathered for the case studies of these states.

Methods

Each component of the study measured the number of new enrollees quarterly to minimize the influence of fluctuations that may appear in monthly enrollment data. In particular, we wanted to avoid attributing a one-month spike in new enrollees to SCHIP outreach when the change in enrollment was caused by state reporting procedures.[7] The study time period included 13 quarters from October 1999 through September 2002.

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[5] The standard deviation measures the dispersion of values around the mean value. Larger standard deviations reflect a larger amount of dispersion. About 68 percent of the values will be within one standard deviation of the mean and about 95 percent will be within two standard deviations.

[6] During the study period, all three states received grant funding for outreach activities through the Robert Wood Johnson Foundation's *Covering Kids* program. In 2002, the program name was changed to *Covering Kids and Families*.

[7] For example, in Ohio, the number of new enrollees increases during the first month of each quarter, only to drop for the next two months. This appears to be an artifact of state reporting procedures. States submit monthly Medicaid eligibility data to CMS on a quarterly basis. Patterns, such as those seen in Ohio, can

For purposes of this study, local areas are defined at the county or zip code level. In these three states, local outreach and enrollment activities were frequently organized at the county level in rural areas and the zip code level in urban areas. In Kentucky and Ohio, we analyzed urban counties at the zip code level to account for the more targeted outreach used in metropolitan areas and to create geographic areas that were more uniform in terms of population size.[8] Because residential zip codes were not available in the Georgia data, the Georgia analyses were done at the county level.[9]

The two local-level analyses used log-linear regressions to predict enrollment based on local characteristics. Local characteristics included population density of the county, number of children living in households with income under 200 percent of poverty, urbanicity of the county, percent of households headed by females, educational attainment of household heads, percent of population foreign born, percent of total population with income below poverty, race/ethnicity distribution of the population, unemployment rate, and counts of the number of physicians and rural health clinics.[10] To control for baseline enrollment levels, the analysis included the ratio of the number of children enrolled in the previous four quarters to the number of children under 200 percent of poverty.

Data

The study used SCHIP enrollment data from federal fiscal years (FFY) 1998 through 2002. The analysis of enrollment was restricted to FFYs 1999 through 2002 because the data from FFY 1998 were used to identify new SCHIP enrollees. All three SCHIP programs

(*continued*)
occur when data for the second and third months of the quarter are not fully updated to reflect corrections and retroactive coverage.

[8] Counties in Ohio were disaggregated to the zip code level if they had a quarterly average of 1,000 or more new enrollees. However, if a zip code or county had, on average, fewer than 75 new enrollees each quarter, it was dropped from the analysis. This restriction caused us to drop one county. In Kentucky, counties are much smaller and less densely populated and the state has fewer urban areas. As a result, we established different cutoff points. In Kentucky, counties that averaged 500 or more new enrollees each quarter were disaggregated to the zip code level. Zip codes and counties with an average of fewer than 50 new enrollees each quarter were excluded from the analysis. This floor on the average number of new enrollees eliminated six counties from the analysis. In both states, this approach eliminates high-income neighborhoods and commercial areas as well as sparsely populated counties where enrollment is likely to be more sporadic.

[9] We also grouped Georgia counties into geographic regions. According to Census population data, the distribution of Georgia's population is highly skewed across the state; approximately one-third of residents live in four counties in the Atlanta metropolitan area, while the other two-thirds are spread across 155 counties. To create geographic areas that were more uniform in size, we aggregated counties into 19 regions based on the regions established by the Right From the Start outreach program, which outstations Medicaid eligibility workers in community locations throughout the state. Because this analysis did not provide additional information, we do not present it here.

[10] Ideally, we would have included the number of community health centers in the locality, but that information was not available. We used the number of rural health clinics as a proxy for the availability of mid-level practitioners in the area.

had begun enrolling children by the fall of 1998, and this study captures approximately the first four years of program operation, a period of extensive outreach activity.[11]

The Kentucky and Ohio analyses used enrollment records obtained from the Medicaid Statistical Information System (MSIS).[12] These data had several desirable characteristics; they included eligibility records for all traditional Medicaid and SCHIP enrollees as well as residential zip codes for each enrollee. The analysis of outreach and enrollment in Georgia relied on enrollment records maintained by the PeachCare enrollment broker because Georgia's MSIS eligibility records during the study period did not include reliable information about SCHIP enrollment. The data from the enrollment broker included only records for children in the separate child health program (excluding any periods of traditional Medicaid enrollment) and did not include the children's residential zip codes.

The 2001 Area Resource File maintained by the Health Resources and Services Administration (HRSA) provided data on local characteristics. We obtained poverty measures from 2000 Census data and downloaded unemployment rates from data compiled by the Bureau of Labor Statistics.

KENTUCKY CHILDREN'S HEALTH INSURANCE PROGRAM (KCHIP)—COMBINING STATE AND LOCAL INITIATIVES

Findings from the analysis of KCHIP suggest that the state's Kick-Off and Back-to-School campaigns were successful at increasing enrollment. Gains in coverage were even more notable in traditional Medicaid than SCHIP, suggesting that the state's efforts had a sizable spillover effect on the population eligible through the traditional Medicaid-poverty category. The local-level analysis indicated that community groups that created comprehensive outreach programs and received outside funding through the state's *Covering Kids* grant or other grant programs were among the more successful initiatives at increasing enrollment.

State-Level Analysis

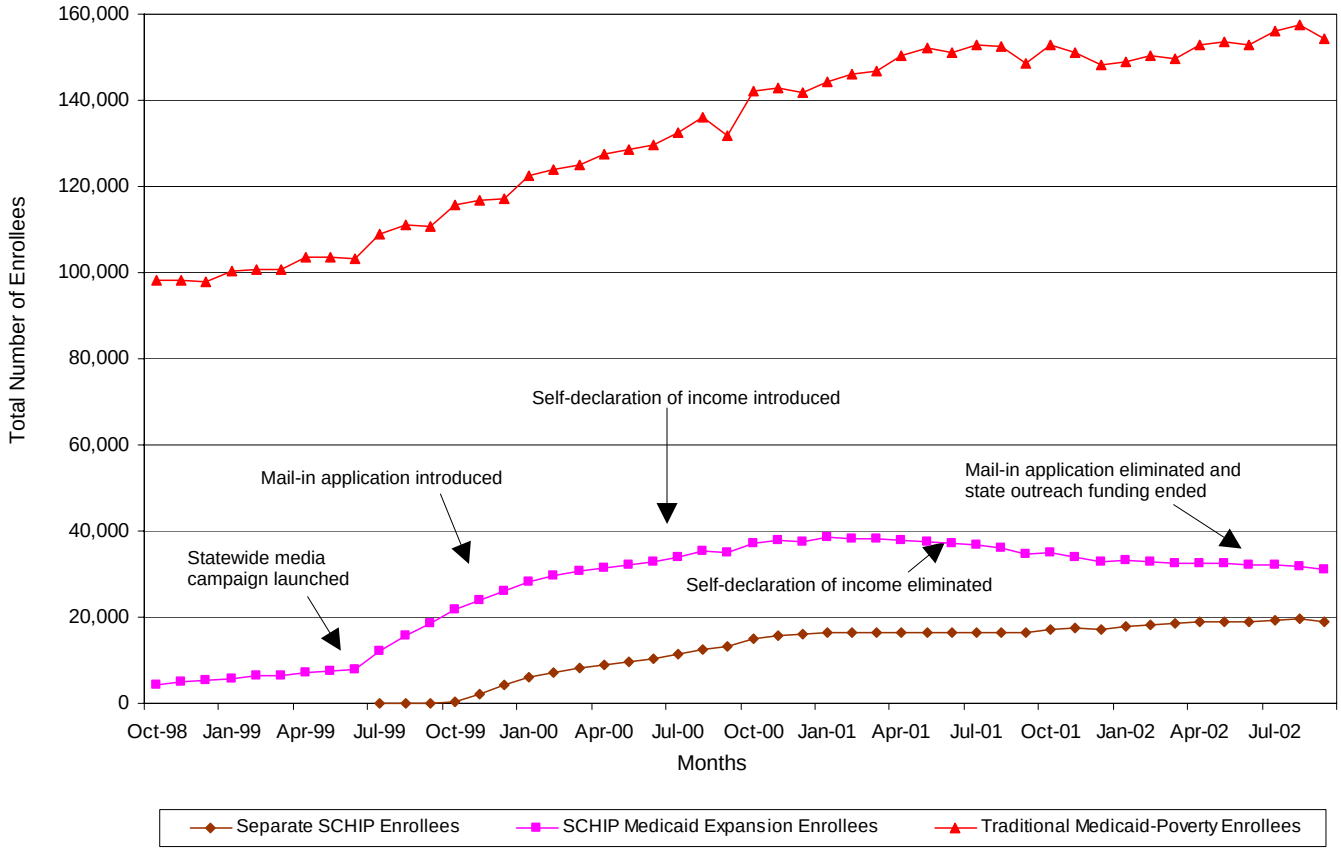
The total number of children enrolled in KCHIP and the traditional Medicaid poverty category began to climb in July 1999, right after Kentucky began its statewide outreach and enrollment campaign (see Figure 2). The state used approximately $270,000 of federal delinking funds from the Transitional Assistance for Needy Families (TANF) program to hire a public relations firm to design and launch a large media campaign featuring a popular country western singer, Naomi Judd. The media campaign included billboards, informational flyers, television and radio advertisements, and public transportation advertisements. The state supplemented the campaign with a large promotional effort at the

[11] Ohio began enrolling children in January 1998, Kentucky started enrolling children in July 1998, and Georgia began enrolling children in November 1998.

[12] States also report aggregate quarterly counts of SCHIP enrollees the Statistical Enrollment Data System (SEDS). We did not use SEDS data because our analysis required individual-level information.

State Fair, held each August in Louisville. After the initial kick-off campaign, the state conducted training sessions for front-line workers at local social service offices. As Figure 2 shows, Kentucky took other steps to encourage enrollment. In November 1999, the state introduced a mail-in application for KCHIP. Several months later, in July 2000, Kentucky introduced self-declaration of both income and child-care expenses at the initial application for KCHIP and traditional Medicaid but eliminated the policy a year later.[13] In July 2002, the state discontinued the mail-in application and reintroduced in-person interviews. It was at this time that most state-sponsored outreach activities ended due to fiscal constraints.

Figure 2. Total Number of Children Enrolled by Month and by Eligibility Group: Kentucky



Source: MPR analysis of Kentucky MSIS eligibility files from October 1998 through September 2002.

Statewide Kick-Off and Back-to-School Campaigns

The total number of new enrollees in the KCHIP and traditional Medicaid poverty categories increased when the state launched its kick-off campaign and each time it conducted a Back-to-School campaign. Figure 3 shows three spikes in the total number of

[13] During the self-declaration period, families did not have to provide documentation that substantiated the income or child-care expenses they reported in the application.

new enrollees in KCHIP and the traditional Medicaid poverty category. The first occurred during the fourth quarter of FFY 1999 (July through September 1999), which corresponds to the kickoff of the statewide outreach campaign in June 1999. The total number of new enrollees was 22,688 children, an increase of 97 percent over the previous quarter.

The other two large increases occurred during the late summer and early fall when Kentucky launched statewide Back-to-School outreach campaigns. According to state administrators, Kentucky's Back-to-School campaigns typically ran from July through September each year during the study period. At this time, school-based family and youth resource centers across the state sponsored Readifests and distributed KCHIP flyers.[14] Local public health departments helped families with the application process. Toward the end of the Back-to-School campaign, the state would begin to target Hispanic families by distributing Spanish language literature and posters to Hispanic communities, which are concentrated in central Kentucky where families find employment in the horse industry and as farm laborers. Although the state eliminated most statewide outreach by the end of 2002, it continued the Back-to-School outreach campaigns because of their perceived effectiveness.

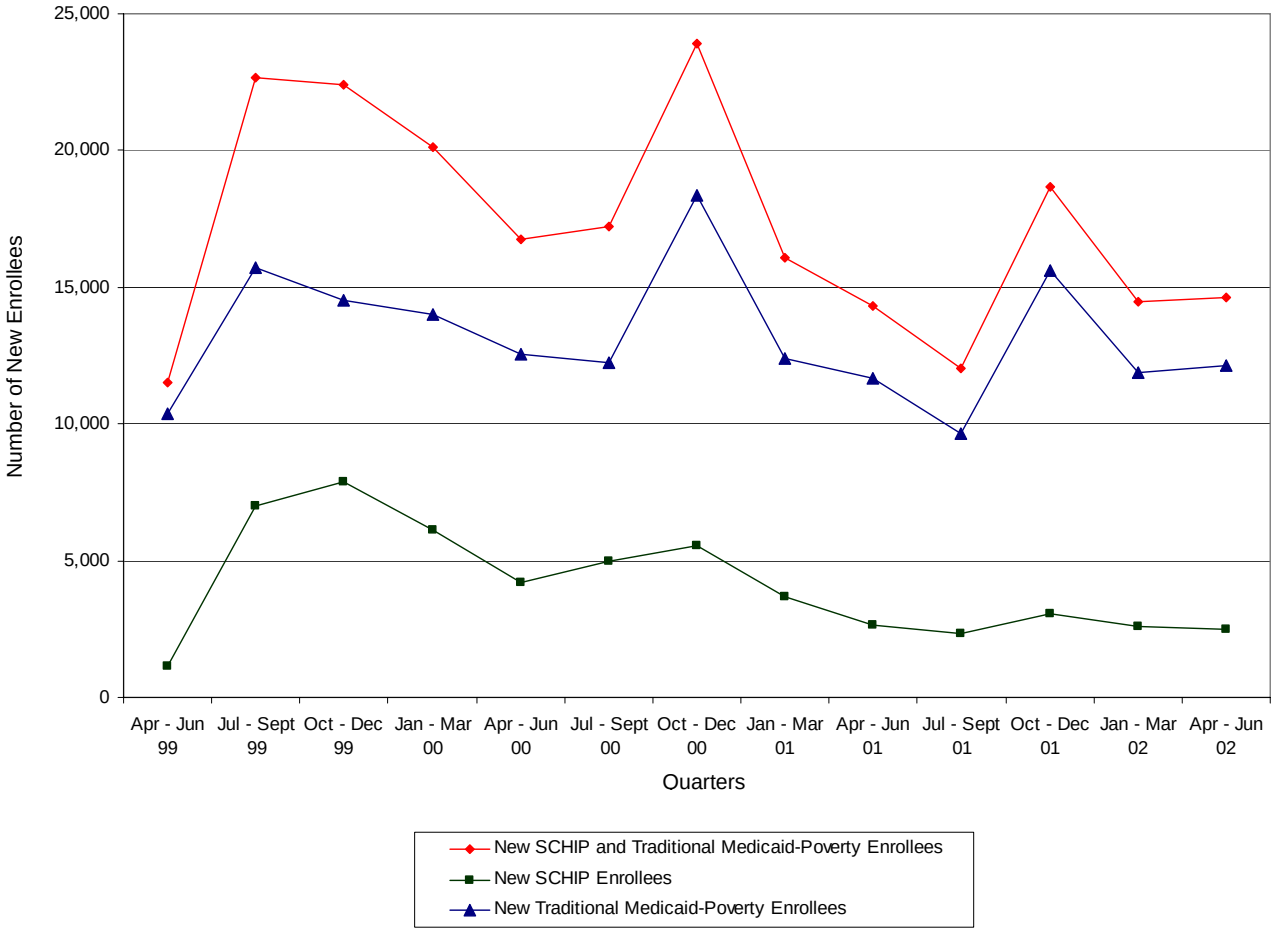
Medicaid Spillover

As seen in Figure 3, much of the gain in new enrollment during the Back-to-School period occurred in the traditional Medicaid-poverty program. This result is consistent with what Kentucky has reported in its SCHIP annual reports. In its 2002 Annual Report for KCHIP, Kentucky reported that the total number of children enrolled in traditional Medicaid increased by 19 percent between July 1999 and September 2002 (Kentucky 2003). While the state could not quantify the number of children enrolled in traditional Medicaid as a result of KCHIP outreach, state administrators believe it was a key factor driving the growth of traditional Medicaid enrollment during this period.

This finding is also consistent with the design of KCHIP, which uses the traditional Medicaid administrative and eligibility determination infrastructure to manage enrollment. During the study period, the state used only the KCHIP name when conducting outreach for KCHIP and traditional Medicaid. Consistent with this unified approach to outreach, the initial Back-to-School campaign included letters and program brochures that were sent to public schools for distribution to every public school student in the state. Following federal SCHIP screen and enroll requirements, each mail-in application was first checked for traditional Medicaid eligibility. Only when an enrollee received a traditional Medicaid card after submitting a KCHIP application were families told that the KCHIP name also referred to the traditional Medicaid program.

[14] Readifests are open houses that occur at public schools prior to the start of each new school year. The events give parents the opportunity to meet the teachers and obtain information about social services.

Figure 3. Number of New Enrollees by Quarter and by Eligibility Group: Kentucky



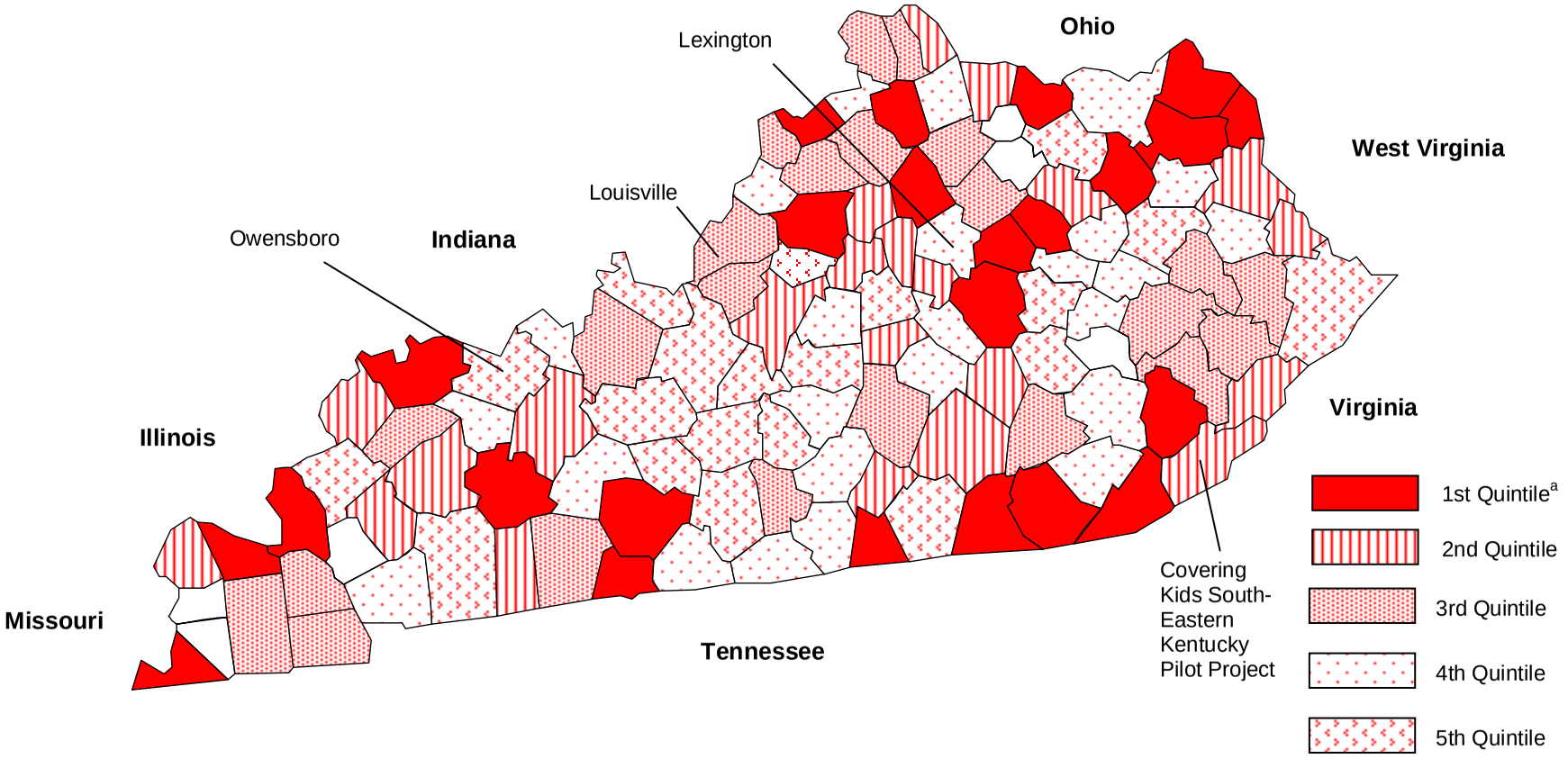
Source: MPR analysis of Kentucky MSIS eligibility files from April 1999 through June 2002.

Note: New enrollees are children not enrolled in either traditional Medicaid or SCHIP during the six months prior to the start of an eligibility period.

Local-Level Analysis

The results of the first local-level analysis, which included 158 counties and zip codes, are presented in Figure 4, which identifies the ranking of each county based on the ratio of actual to predicted enrollment. The top 20 percent (first quintile) represents the areas that had the highest average performance. In Appendix A, Table A.1 lists the areas that ranked in the top 20 percent and Table A.2 lists the specific times and locations of potential outbreaks identified by the second local-level analysis. As discussed below, follow up with KCHIP administrators and the state's *Covering Kids* grantee revealed that some of these top-performing areas and specific outbreaks appear to be closely linked to local outreach activities.

Figure 4. Ranking of Counties Based on the Ratio of Actual to Predicted Average Number of New Enrollees: Kentucky



Source: MPR analysis of Kentucky MSIS eligibility records from April 1999 through June 2002.

Notes: New enrollees are children not enrolled in either traditional Medicaid or SCHIP during the six months prior to the start of a Medicaid or SCHIP eligibility period. Log-linear regression analysis was used to predict the number of new enrollees controlling for local characteristics that are likely to influence enrollment, such as the population density of the county and the number of children living in households with income under 200 percent of poverty.

[a]Each quintile represents one-fifth of the counties and zip codes in the analysis. For example, the first quintile includes the top 20 percent of counties in terms of the ratio of actual to predicted average number of new enrollees and the second quintile includes the second 20 percent of counties.

Local Covering Kids Pilot Projects

During the study period, the KCHIP program worked closely with the state's *Covering Kids* grantee, the University of Kentucky. At this time, the *Covering Kids* grantee used its $812,718 grant to fund a state outreach staff position and purchase needed materials for the state, such as brochures; to support two local pilot projects that conducted community-based outreach, one in Louisville and another in rural southeastern Kentucky; and to help finance other community-level outreach activities on an ad hoc basis.

Louisville Pilot Project. Kentucky's *Covering Kids* grant funded a KCHIP collaborative outreach initiative in Louisville, which appears to have had some success. This coalition included the Jefferson County Health Department; Partners for Healthy Louisville (a nonprofit advocacy group that promotes the well-being of Louisville residents); and Passport, the managed care plan that serves all KCHIP enrollees in the Louisville region. The coalition coordinated outreach activities for the 16-county region covered by Passport, and project funds supported Passport's part-time Hispanic outreach worker. In addition to numerous community outreach activities, the collaborative worked with the Rapid Response Team from the state Division of Workforce and Employment Services to assist employees as a company closed or had major layoffs. Later, when the state discontinued the mail-in application, this collaborative monitored the KCHIP application process and the performance of local social service offices. They followed up on consumer complaints and used secret-shopping techniques by posing as potential applicants when calling local offices with questions about eligibility and the application process.

Of the 24 Louisville area zip codes included in the analysis, the first local-level analysis identified four zip codes (zip codes 40208, 40219, 40272, and 40291) that had average quarterly enrollment over the study period that placed them in the top 20 percent of local areas; six zip codes were in the second quintile.[15] The second analysis, which assessed specific time periods at the local level, identified two zip codes that experienced a total of three outbreaks. When a less restrictive criterion for detecting outbreaks was used in the second analysis, the results suggested that 19 zip codes experienced a total of 36 outbreaks.[16]

One of the two Louisville zip codes identified by the second local-level analysis (zip code 40202) experienced an enrollment outbreak during the first quarter of FFY 2001 (October through December 2000). The number of new enrollees increased by 63 percent over the previous quarter. This area is known as the west end and is home to many low-income families. During this outbreak, the local *Covering Kids* pilot project sponsored Back-to-School activities, used census data to target zip codes for mailings, and sponsored a large Christmas event in downtown Louisville.

[15] Another seven zip codes were in the third quintile, five were in the fourth quintile, and two were in the fifth quintile.

[16] As noted previously, when a local outreach and enrollment initiative targeted several counties or zip codes, we assessed results that were one standard deviation above the mean in addition to the more restrictive criterion of two standard deviations above the mean.

Southeastern Kentucky Pilot Project. Kentucky's other *Covering Kids* pilot project was in Harlan County, located along the Tennessee border (see Figure 4 presented previously). This project targeted five rural counties with disproportionate numbers of low-income families (Bell, Harlan, Leslie, Letcher, and Perry counties). Historically, poverty rates have been high in this area, ranging from 24 percent of families living in poverty in Letcher County to 30 percent in Leslie County. Most families in this area find employment in counties to the north and there has been a steady outmigration of families from this region since 1970.[17] In the first local-level analysis, two of the five counties (Bell and Leslie counties) were ranked in the top 20 percent of local areas in terms of their average quarterly number of new enrollees. The director of Kentucky's *Covering Kids* grant noted that, early in the study period, Bell County was identified as having low enrollment rates and the local *Covering Kids* pilot project and its partners targeted their efforts on this county.

The results of the second local-level analysis showed that in all five counties the number of new enrollees increased sharply during the last quarter of FFY 1999 (July through September 1999). Increases ranged from 69 percent in Perry County to 81 percent in Harlan and Leslie counties (data not shown). After this peak, the number of new enrollees slowly declined throughout the rest of the study period, although all experienced a slight increase a year later during the last quarter of FFY 2000 (July through September 2000). The second local-level analysis identified Leslie County as experiencing a possible enrollment outbreak during the first quarter of FFY 2000 (October through December 1999). However, when we used less restrictive criteria for detecting outbreaks, and assessed all the areas with ratios only one standard deviation above the mean ratio, all five counties were identified as experiencing an outbreak during the last quarter of FFY 2000 (July through September 2000) and Letcher County experienced a second outbreak during the first quarter of FFY 2000 (October through December 1999).

In addition to these two pilot projects, the *Covering Kids* grantee helped other communities on an "as needed" basis. One example is described in the following box.

Hardin County: Results of Targeted Outreach

In 2000, the state identified Hardin county as an area with unusually low Medicaid and KCHIP enrollment in relation to participation in the school lunch program. The state was surprised by this finding because access to medical care in this area is considered to be good. The area is only 45 minutes south of Louisville and has two hospitals and a good supply of physicians. A meeting with county officials was held in August 2000 to discuss how to improve outreach and enrollment in this area. At the same time, *Covering Kids* funds were used to conduct targeted outreach in the county to help boost enrollment rates. The second local-level analysis showed that at the beginning of calendar year 2001, Elizabethtown, the county seat (zip code 42701 in the analysis), sustained higher than predicted levels of new enrollment for two quarters from January through June 2001. A year later, the same area experienced another six-month period of unpredictably high levels of new enrollment.

[17] Census data indicate that between 2000 and 2004 the population in this five-county region declined by nearly two percent (http://factfinder.census.gov; accessed February 27, 2006).

Community-Wide Initiatives

Another area that appears to have had some success at enrolling children is Owensboro, which is located in Daviess County in the western part of the state along the Indiana border (see Figure 4 presented previously). The qualitative analysis revealed that this community has a large number of medical providers and access to care is considered to be very good. During the study period, Owensboro conducted a large, community health needs assessment. The assessment was funded by the Public Life Foundation, a newspaper conversion foundation, and included 100 focus groups. The community also received a series of grants from the American Academy of Pediatrics Community Access to Child Health (CATCH) program.[18] The second local-level analysis indicated that the two Owensboro zip codes (zip codes 42301 and 42303) included in the study experienced five different spikes in the number of new enrollees during the study period. The director of Kentucky's *Covering Kids* grant noted that these results were indicative of the community's commitment to maximizing enrollment in public programs.

OHIO HEALTHY START—DECENTRALIZING OUTREACH TO COUNTY SOCIAL SERVICE OFFICES

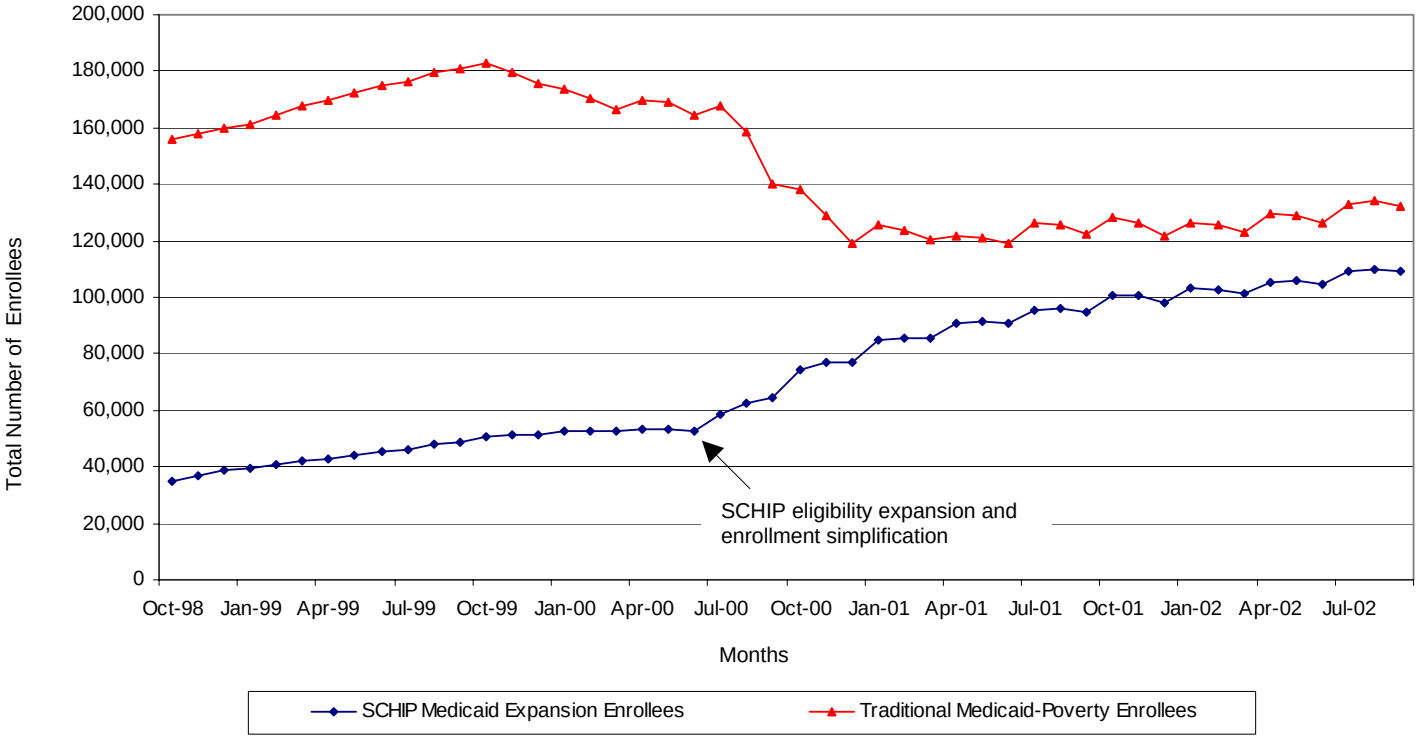
The analysis of Ohio's SCHIP program—Healthy Start—suggests that enrollment surged after the state expanded eligibility criteria and implemented enrollment simplifications in July 2000. Although Ohio distributed most of its outreach funds to county social service offices through a matching grant program, the local-level analysis found few instances of enrollment outbreaks that could be linked to specific outreach and enrollment initiatives. Nevertheless, the analysis detected at least one initiative that successfully increased enrollment by coordinating outreach across county lines. In addition, one county found success by implementing a multifaceted approach that mixed a county-based media campaign with local outreach activities managed by community-based organizations. Another county realized enrollment gains when it tested self-declaration of income.

State-Level Analysis

Healthy Start experienced continuous enrollment growth during the study period. As Figure 5 shows, total enrollment in Healthy Start grew slowly until July 2000 when enrollment began to accelerate. Enrollment in the traditional Medicaid poverty category peaked in October 1999 and declined dramatically from August through December 2000, although this decline was offset by increases in enrollment in the traditional Medicaid welfare categories (data not shown). Beginning in January 2001, enrollment in the traditional Medicaid poverty category stabilized and began to increase slightly in March 2002.

[18] CATCH grants provide funding to community partnerships for planning community-based initiatives to increase access to care (http://www.aap.org/catch/). Established in 1991, pediatricians and communities use CATCH grants to design and implement a wide variety of initiatives to help children access care and improve health outcomes.

Figure 5. Total Number of Children Enrolled by Month and by Eligibility Group: Ohio



Source: MPR analysis of Ohio MSIS eligibility files from October 1998 through September 2002.

Eligibility Expansion and Simplified Eligibility Requirements

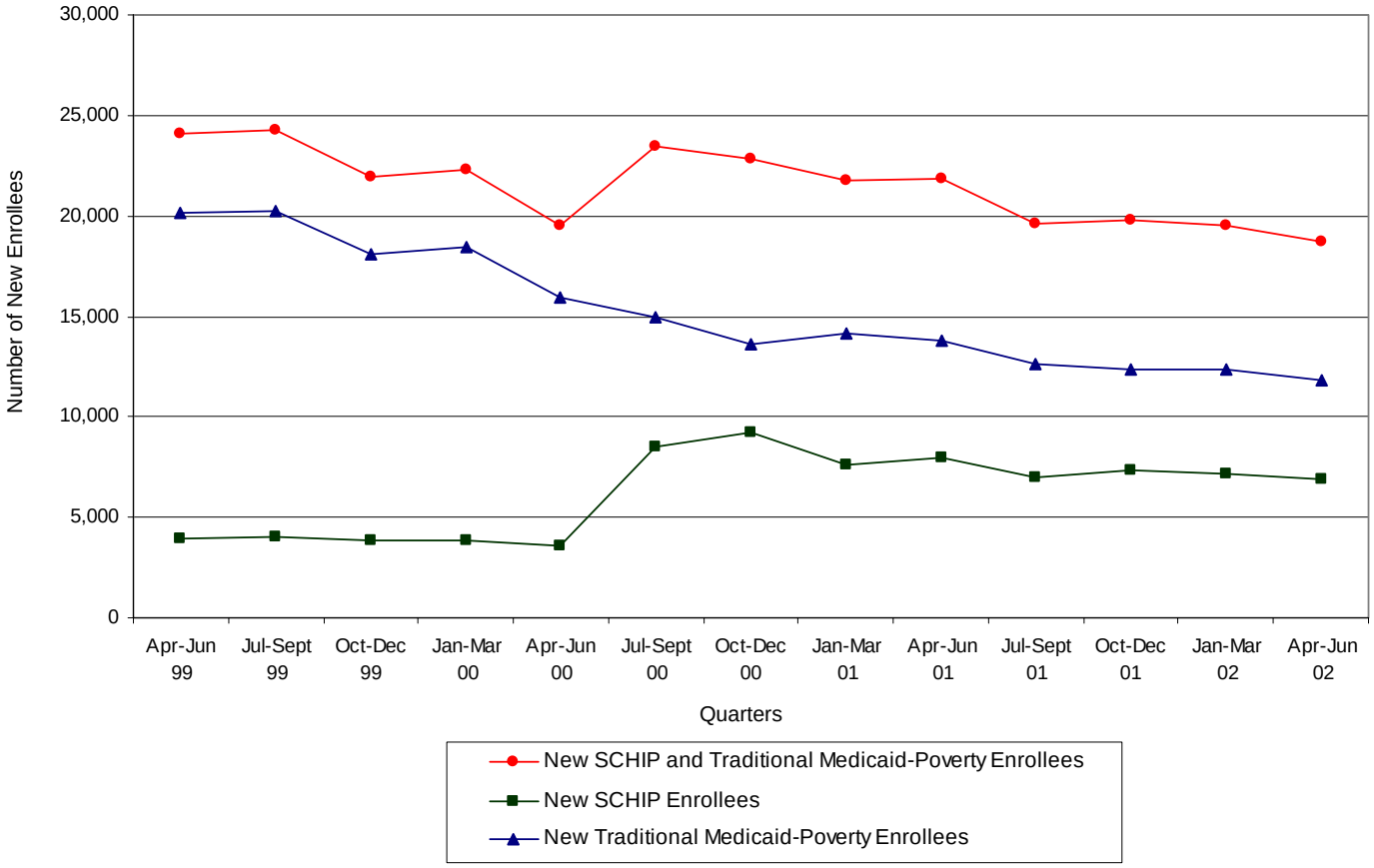
In July 2000, Ohio expanded eligibility for Healthy Start from 150 to 200 percent of poverty. At the same time, the state eliminated some documentation requirements and instituted self-declaration of birth date, U.S. citizenship, and identity and electronic verification of social security numbers. When these statewide policy changes were implemented, the number of new enrollees in Healthy Start jumped from 3,587 in the quarter from April through June 2000 to 8,535 from July through September 2000, a 58 percent increase in the total number of new enrollees statewide (see Figure 6). This increase in enrollment continued into the next quarter (October through December 2000) when the number of new enrollees peaked at 9,216 children.

Statewide Back-to-School Campaign

Shortly after the July 2000 eligibility expansion, the state launched a statewide school-based outreach initiative. This initiative included the distribution of 2.1 million Healthy Start brochures through Ohio public schools. School officials were asked to include a brochure in the "first day of school" packets sent home with each student. The brochure included a postage paid tear-off card that families could use to request information about the program. In addition, the school lunch application included a brief statement about Healthy Start, and interested families could use an attached form to request additional information.

Detecting Enrollment Outbreaks in Three States

Figure 6. Number of New Enrollees by Quarter and by Eligibility Group: Ohio



Source: MPR analysis of Ohio MSIS eligibility files from April 1999 through June 2002.

Note: New enrollees are children not enrolled in either traditional Medicaid or SCHIP during the six months prior to the start of an eligibility period.

Because the campaign coincided with the eligibility expansion, it is not possible to determine how much of the gains in coverage during 2000 might have been the direct result of the school-based campaign. A separate evaluation of this campaign found that the state received a total of 31,260 requests for information, representing approximately 78,150 Ohio residents (Ohio Department of Job and Family Services undated). About half of these requests came from the school brochure (51 percent) and the other half came from the school lunch application (49 percent). Follow up with a random sample of 4,373 of these requests determined that, by the next year, 44 percent had resulted in new enrollees.[19] However, it is impossible to know how many of these children might have enrolled in the absence of the campaign.

[19] The report did not distinguish new enrollees by program. Presumably, some of these enrollees were eligible for traditional Medicaid and others were eligible for the SCHIP Medicaid expansion.

The following year the state altered its approach and only included program information and a consent form for follow-up in the school lunch application. Completed forms were mailed to a central location and then sent to the counties for follow up by county staff. The trends in Figure 6 show no evidence of statewide gains in enrollment associated with this subsequent Back-to-School campaign.

Local-Level Analysis

The first local-level analysis identified two large clusters of counties, a two-county cluster, and five single counties that ranked among the top 20 percent in terms of the average number of new enrollees overall (see Figure 7). This level of clustering was not seen in Kentucky or Georgia. These top-ranked areas are listed in Table A.3 in Appendix A. Local areas experiencing an enrollment outbreak in a particular quarter, as identified by the second local-level analysis, are listed in Appendix Table A.4.

Local Coordination

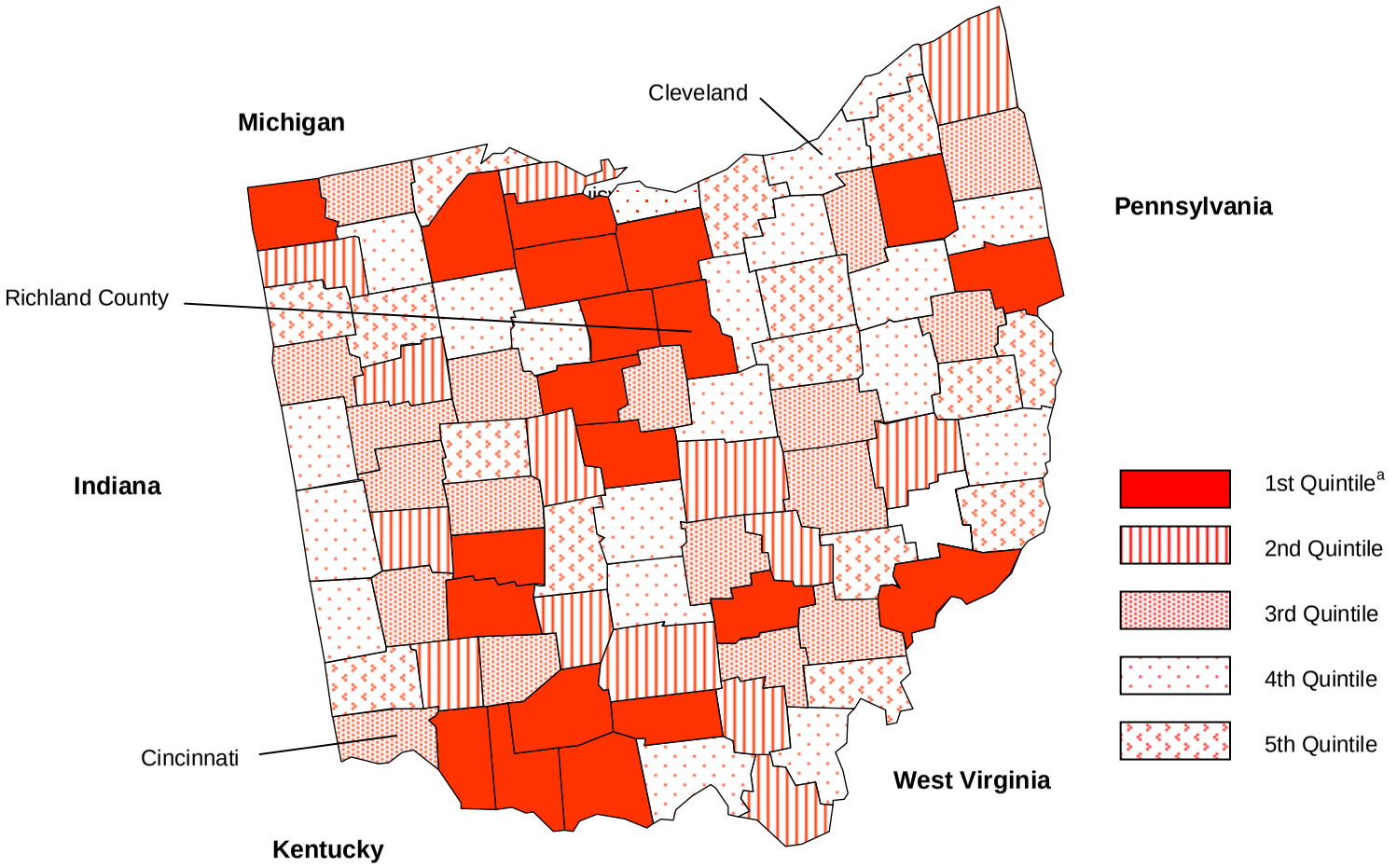
In Ohio, county social service offices spearheaded local outreach and enrollment activities. The state distributed its outreach funds to counties through a grant program. Counties had to provide matching funds to participate in the program (Irvin, Fasciano, and Rosenbach 2004). In exchange for providing their own funds, counties had considerable freedom to design their own strategies and advertising materials. For example, they could design their own brochures, information sheets, and media materials, including designing an original logo and program name. Several of the areas that developed a unique identify for their SCHIP program were top-ranked in the first local-level analysis (see the following box).[20]

Program Image Linked to Program Results

SCHIP administrators in Ohio noted that several top-ranked areas implemented outreach and enrollment programs that were designed to reduce the stigma families may associate with programs administered by county social service offices. These areas frequently developed new names for the program to create a positive image. For example, in Franklin County (city of Columbus), the program was called Healthy Start Plus. In the Cincinnati area, the program was referred to as the Children's Health Insurance Program (CHIP). In Richland County the social service agency also called the program CHIP and hired an ad agency to design its own advertising materials to promote the program to families with uninsured children. Later in 2000, when the county had to use the Healthy Start name, they mailed information about the program to every resident in Richland County. These materials referred to "Healthy Start, formerly known as CHIP," so that families would understand that the different names referred to the same program.

[20] In an effort to impose some statewide uniformity and eliminate confusion, the state began requiring counties to use the Healthy Start name in July 2000.

Figure 7. Ranking of Counties Based on the Ratio of Actual to Predicted Average Number of New Enrollees: Ohio



Source: MPR analysis of Ohio MSIS eligibility records from April 1999 through June 2002.

Notes: New enrollees are children not enrolled in either traditional Medicaid or SCHIP during the six months prior to the start of a traditional Medicaid or SCHIP eligibility period. Log-linear regression analysis was used to predict the number of new enrollees controlling for local characteristics that are likely to influence enrollment, such as the population density of the county and the number of children living in households with income under 200 percent of poverty.

[a]Each quintile represents one-fifth of the counties and zip codes in the analysis. For example, the first quintile includes the top 20 percent of counties in terms of the ratio of actual to predicted average number of new enrollees and the second quintile includes the second 20 percent of counties.

Several urban areas encompassed multiple counties and it was common for the counties to coordinate their outreach activities with each other. Cincinnati in southwest Ohio and three counties in its central metropolitan area—Butler, Clermont, and Hamilton counties—were singled out for their coordinated outreach and enrollment activities. Of the 24 zip codes in Hamilton County that were included in the study, 11 (46 percent) were identified in the top 20 percent of local areas in the first local-level analysis of average quarterly enrollment. Another 6 were in the top 40 percent (the second quintile). The second local-level analysis, which identified specific areas and quarters when actual enrollment exceeded what local characteristics would predict, found that 8 zip codes in this area had 12 outbreaks in the number of new enrollees. No other area of the state experienced this level of performance.

These three Cincinnati-area counties shared the same media market and local hotline that assisted families; local social service staff frequently crossed county lines to provide application assistance. Enhancing these activities was the *Covering Kids* pilot project that the Children's Defense Fund of Cincinnati operated during this period.[21] This pilot project focused on training childcare workers to help families with the Healthy Start application. Project staff also worked with resource and referral agencies to get the word out, and they developed a Healthy Start handbook that was distributed to childcare workers and referral agencies.

Multifaceted Initiatives

The first local-level analysis identified Richland County as having an average quarterly number of new enrollees far above the level predicted (see Figure 7). This county's success appears to be linked to a multifaceted campaign mounted by the county social service office. The campaign included television, radio, and print advertising, and staff conducted presentations for such local groups as Catholic Charities and Volunteers of America. The county also developed a small mini-grant program to distribute outreach funds to community organizations, and a local family council coordinated grant recipients to promote a county-wide strategic approach to outreach. Activities sponsored by the county social service office were enhanced by grassroots outreach initiatives developed by other community groups, including providers.[22]

[21] During the study period, Ohio's *Covering Kids* grantee was the Commission on Minority Health. In 2002, the grant was moved to the Children's Defense Fund of Ohio, which had merged with the Children's Defense Fund of Cincinnati.

[22] For example, an activist pediatrician contributed to local outreach activities by expanding a Community Health Access Project (CHAP), supported by the American Academy of Pediatrics, to include outreach for Healthy Start. The program used community health workers to help their neighbors achieve better health outcomes, including accessing insurance coverage. The design for CHAP was based on a community program developed in Alaska. In Richland County, the project initially targeted birth outcomes in two census tracts with the highest incident rates of low birthweight before it expanded into other areas such as insurance coverage.

The relative success of Richland County's strategy—which combined several different outreach approaches, engaged the participation of different community organizations, and coincided with provider-based activities—is consistent with other research examining Ohio's approach to outreach. Focus groups with Ohio county administrators and front-line staff revealed that most believe collaborations of multiple community organizations are key to successful outreach (Meyer et al. 2004). Participants agreed that increased collaboration improved everyone's knowledge of community resources, which resulted in more effective one-on-one outreach with families.

Application Simplification at the Local Level

In January 2001, Cuyahoga County, which includes the city of Cleveland, began pilot testing self-declaration of income at application. The pilot ran for one and a half years. Applicants were asked to complete a self-declaration worksheet rather than provide copies of their pay stubs. Eligibility workers would also accept the information requested on the worksheet over the telephone if an applicant did not submit a completed worksheet with the application. An evaluation of the pilot test found that after the implementation of this policy, enrollment increased by 25 percent over what would have been expected (Penn and Staib 2002). Because income is usually the hardest piece of information to verify, the processing time for applications declined from a range of 30 to 60 days before the pilot test to a range of 14 to 30 days during the test.

The second local-level analysis of quarterly performance found that during the quarter from January through March 2001, 5 of the 26 Cleveland area zip codes included in the analysis experienced a surge of new enrollment. During this quarter, the number of new enrollees to Healthy Start increased between 18 and 250 percent over the previous quarter depending on the zip code. When we used less restrictive criteria and assessed all the areas with ratios only one standard deviation above the mean ratio, the number of zip codes experiencing an outbreak increased from 5 to 9 during the quarter from January through March 2001 and from 0 to 18 during the following quarter from April through June 2001. Delays in the implementation of the pilot test, as well as lags in the enrollment process, may explain why some areas of the county experienced increased enrollment several months after the start of self-declaration of income.

GEORGIA PEACHCARE FOR KIDS—LEVERAGING STATE AND LOCAL RESOURCES

Findings from the analysis of Georgia's PeachCare for Kids program suggest that seasonal media exposure and application simplification efforts led to increased enrollment statewide. At the local level, the analysis revealed enrollment gains in some areas served by *Covering Kids* pilot projects, provider-based outreach activities, and a faith-based initiative. Findings reveal mixed results for the state's mini-grant program, a state initiative that distributed outreach funds to a select group of local areas.

State-Level Analysis

PeachCare for Kids experienced dramatic enrollment growth during the study period (see Figure 8). The program was serving approximately 60,000 children by the end of the first year of program implementation, and enrollment grew to nearly 170,000 children by September 2002. Georgia worked hard to develop a strong positive image for PeachCare. During the first few years, when the state was spending about $1 million a year on outreach, Georgia contracted with a communications firm to create a statewide marketing campaign that included the creation of an eye-catching logo and brochure. The goal was to develop a commercial advertising look that would be attractive to families who were reluctant to apply for publicly-financed insurance. Outreach funds at the state level began to decline in 2001, and by 2002 the state was financing only the on-going production of the PeachCare brochure and application and its mini-grant program for community-based outreach.

Statewide News Coverage and Marketing Campaign

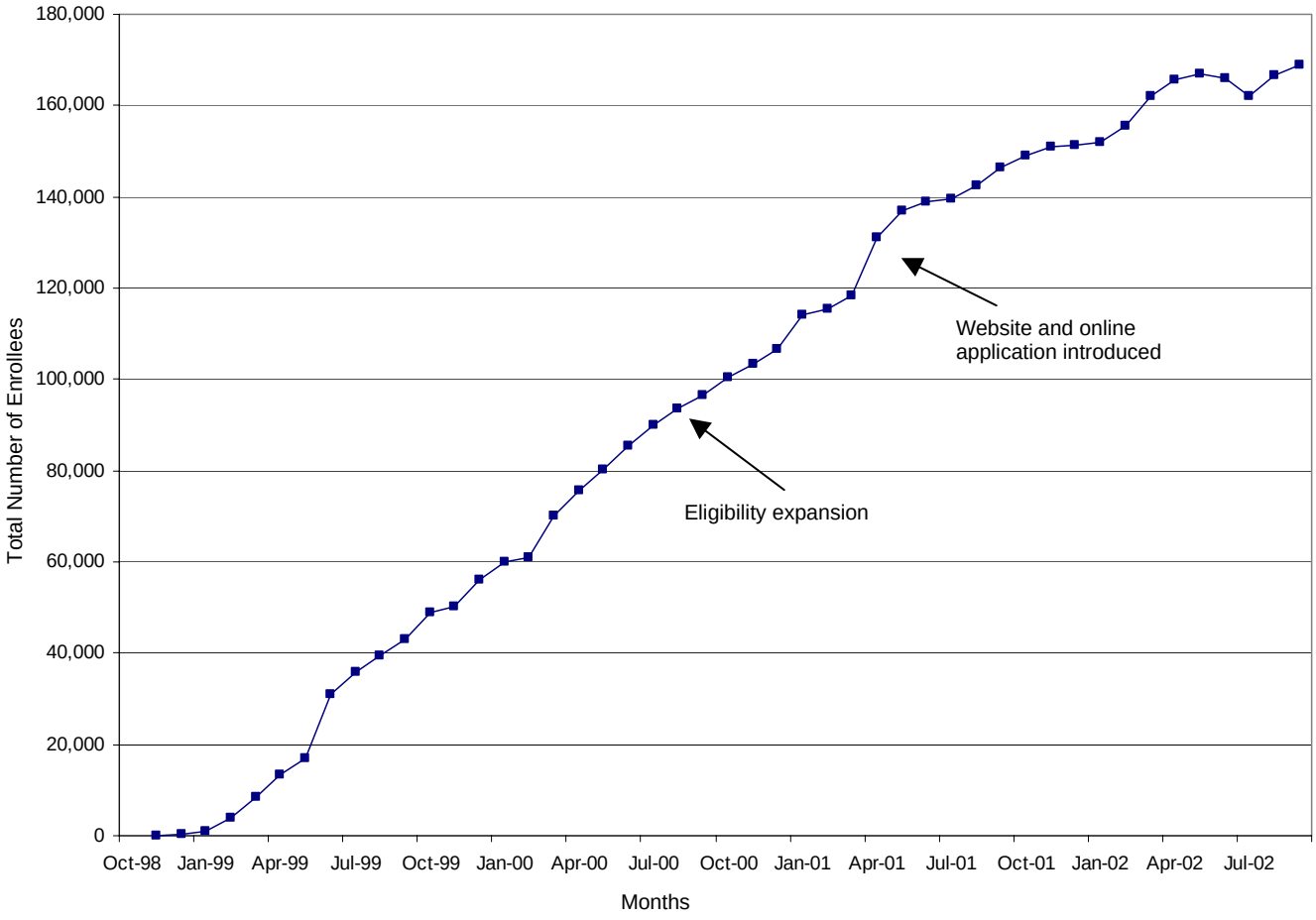
Each spring, PeachCare experienced a surge of new enrollees (see Figure 9). State program administrators attributed these increases to the effects of seasonal news coverage and release of new marketing materials. PeachCare funding issues and programmatic changes were frequently in the news, and administrators noted that whenever the media discussed the program, the volume of applications increased. Much of the news coverage occurred in the spring when the state legislative session ended, usually in April or May, and social programs affected by legislative changes would receive a lot of media coverage at this time. For example, the media publicized the state's decision to expand eligibility from 200 to 235 percent of poverty in the spring of 2000, several months before the change was implemented.

State program administrators also attributed these increases to the effects of seasonal media materials. The statewide media campaign included a series of materials that changed each quarter and focused on seasonal health issues. In the spring, these materials linked PeachCare to sports, outdoor activities, and injury prevention. Administrators believe that families responded to these messages when their children became more active and wanted to participate in spring sports.

Access to Information and Simplified Applications

The largest surge in the number of new PeachCare enrollees occurred in the spring of 2001. The number of new enrollees peaked at more than 26,000 between April and June, a 54 percent increase over the previous quarter. In April of that year, the state launched a website that provided information about the program and included the first online SCHIP application, which was available in English and Spanish. In addition, the state introduced retroactive coverage to the first day of the month of application, which would have resulted

Figure 8. Total Number of Children Enrolled by Month: Georgia



Source: MPR analysis of PeachCare for Kids enrollment files from October 1998 through September 2002.

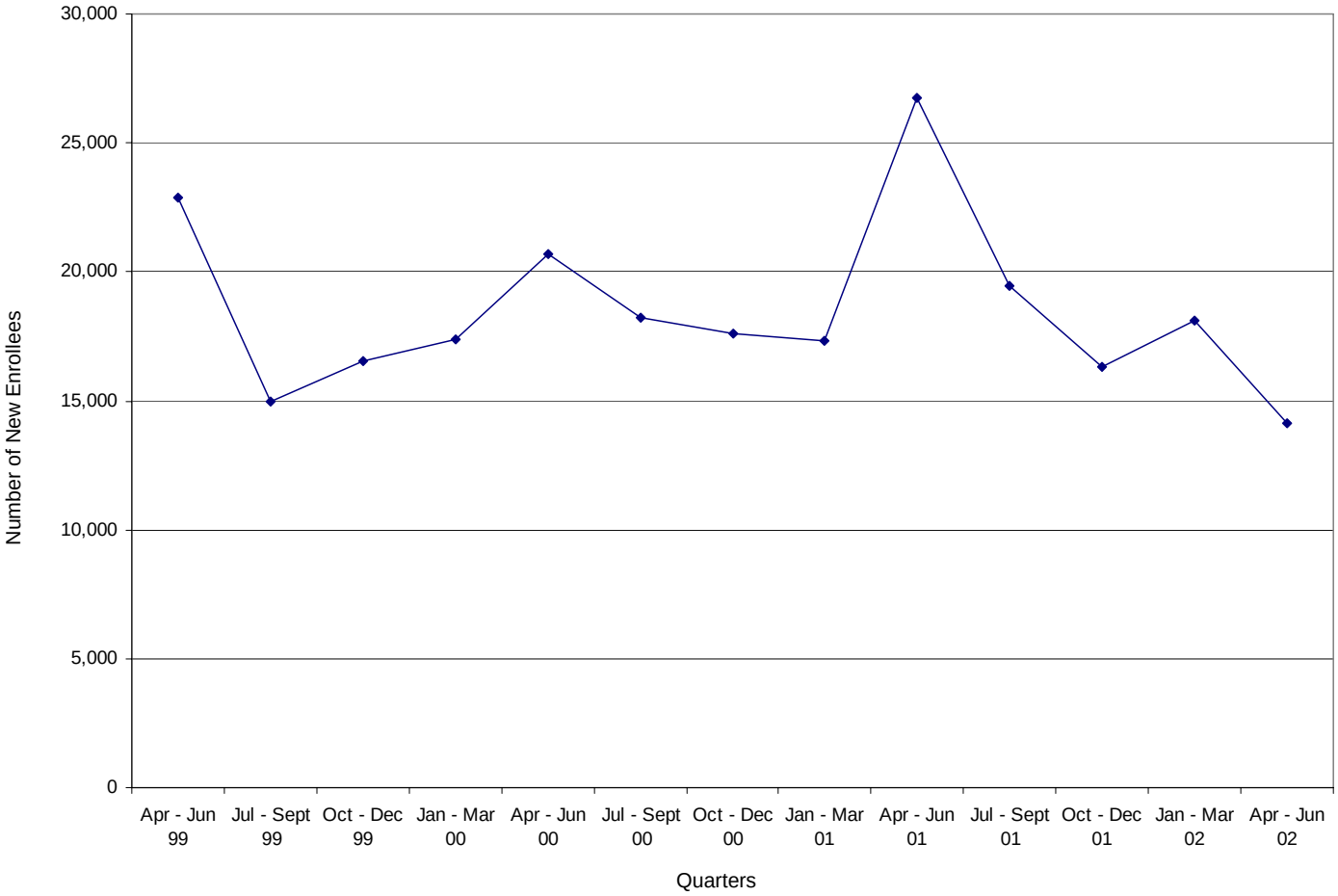
in a one-time impact on enrollment.[23] Children received a temporary identification card for the first month of coverage to help them access services. These programmatic changes were accompanied by statewide training sessions for community-based organizations and health care providers.

Local-Level Analysis

The county-level analysis reveals that top-ranked counties, based on the results of the first local-level analysis, are spread relatively evenly across the state (see Figure 10). Among the top 20 percent of counties in terms of the average number of new enrollees overall, there is some clustering, but not to the degree seen in Ohio. In Appendix A, Table A.5 lists these

[23] Previously, eligibility did not begin until the month following the submission of a completed application and the first premium payment.

Figure 9. Number of New Enrollees by Quarter: Georgia



Source: MPR analysis of PeachCare for Kids Enrollment Database records from April 1999 through June 2002.

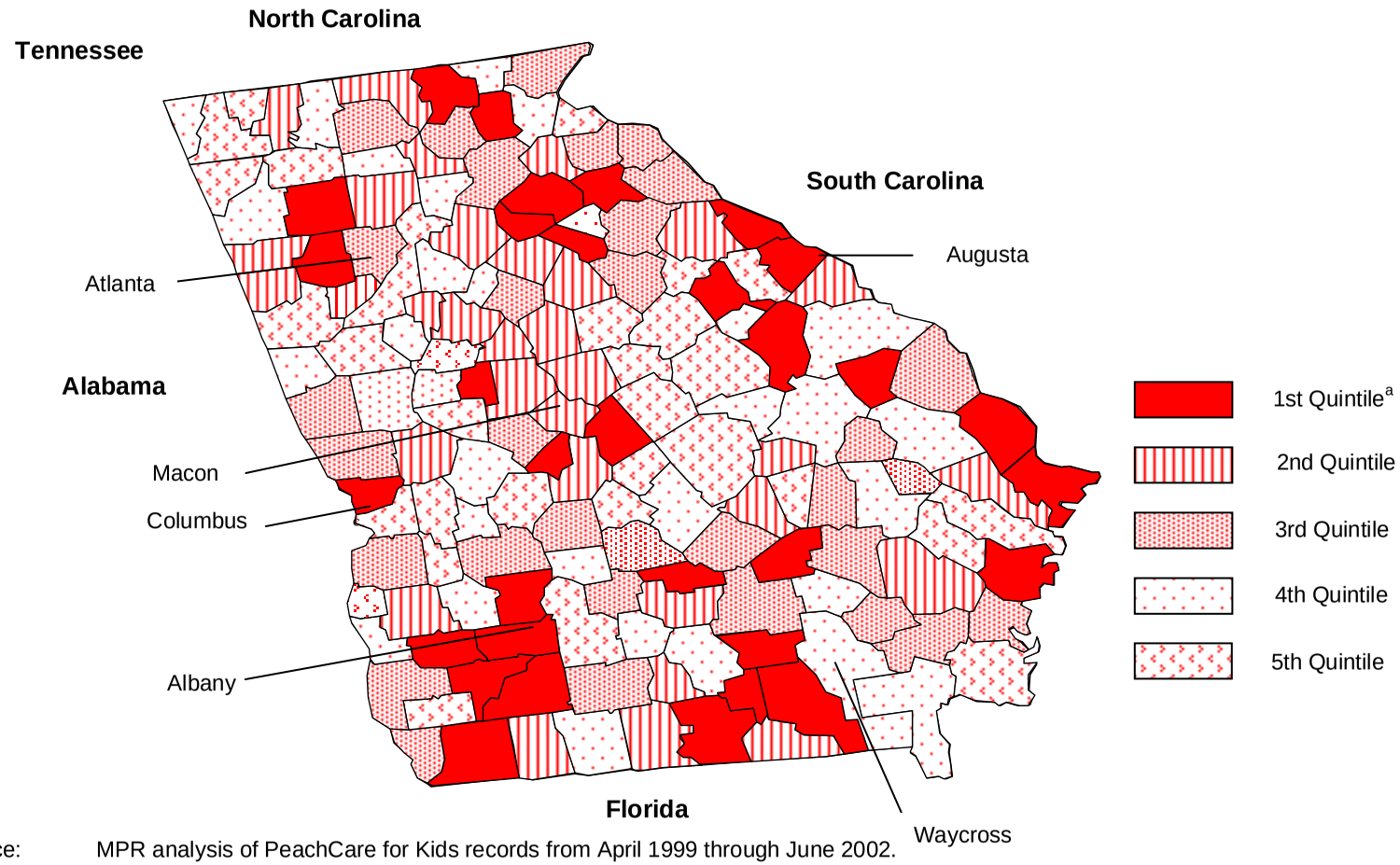
Note: New enrollees are children not enrolled in SCHIP six months prior to the start of an eligibility period.

top-ranked counties and Table A.6 lists the local areas experiencing an enrollment outbreak in a particular quarter, as identified by the second local-level analysis. The following describes results that we could linked to specific outreach activities.

Local Covering Kids Pilot Projects

Georgia's *Covering Kids* grantee has been instrumental in facilitating local pilot projects. The initial grantee was the Southern Institute on Children and Families located in Columbia, South Carolina, which used the state's $850,000 grant to fund three local pilot projects in Atlanta, Waycross, and Augusta. In turn, these pilot projects conducted outreach in 31

Figure 10. Ranking of Counties Based on the Ratio of Actual to Predicted Average Number of New Enrollees: Georgia



Source: MPR analysis of PeachCare for Kids records from April 1999 through June 2002.

Note: New enrollees are children not enrolled in PeachCare for Kids six months prior to the start of an eligibility period. Log-linear regression analysis was used to predict the number of new enrollees controlling for local characteristics that are likely to influence enrollment, such as the population density of the county and the number of children living in households with income under 200 percent of poverty.

[a]Each quintile represents one-fifth of the counties and zip codes in the analysis. For example, the first quintile includes the top 20 percent of counties in terms of the ratio of actual to predicted average number of new enrollees and the second quintile includes the second 20 percent of counties.

counties, of which, 8 (26 percent) were identified by the first local-level analysis as top performing counties in terms of average quarterly number of new enrollees.[24]

Waycross Pilot Project. The *Covering Kids* pilot project in Waycross targeted rural families in 16 counties in Southeastern Georgia. The pilot was administered by the Southeast Health Unit, one of 18 health districts managed by the Georgia Division of Public Health. The pilot focused on developing strategies that relied on physicians and hospitals to identify uninsured children and link them with local health departments. The health departments would help families apply for traditional Medicaid and PeachCare. Three of the 16 targeted counties were identified as top performers in the first local-level analysis of the average quarterly number of new enrollees (Atkinson, Clinch, and Jeff Davis counties).

Augusta Pilot Project. The pilot project in the city of August trained residents at the Medical College of Georgia on the PeachCare application process.[25] As part of their community training, the residents were required to help eligible families enroll. As a result, the residents gained a better understanding of the characteristics and needs of the patients they would soon be caring for and, in turn, uninsured children received help accessing coverage. Of the 14 counties targeted, five (36 percent) were identified in the first local-level analysis of average quarterly new enrollment as top performers (Columbia, Jefferson, Jenkins, Lincoln, and Warren counties). However, four counties were in the bottom group of counties (the fifth quintile), which suggests that the project had mixed results overall, according to our method.

Provider-Based Initiatives

Between April 1999 and March 2000, Chattahoochee County, which includes the city of Columbus (see Figure 10), experienced three increases in the number of new enrollees that were above and beyond what local characteristics would predict, based on the results of the second local-level analysis. In addition, nearby Webster County experienced a six-month period when the number of new enrollees was higher than predicted. This area of the state was served by two competing hospitals that aggressively promoted the PeachCare program, and the outbreaks of enrollment occurred when both hospitals were actively reaching out to families who sought care at their facilities.[26] After the state approved the advertising campaigns developed by the hospitals, other nearby counties experienced surges of enrollment, including Clay, Macon, Quitman, Schley, and Talbot counties (see Table A.6 in Appendix A for the timing of these outbreaks). A similar provider-based initiative occurred in Savannah where two competing hospitals actively helped families who used their facilities to enroll. Several counties in the region, including Chatham, Effingham, and McIntosh,

[24] When the *Covering Kids and Families* grant was awarded in September 2002, the new grantee was the Department of Community Health, the agency that administers the Medicaid and PeachCare programs.

[25] The Medical College is the largest hospital in the region and serves a 14-county area.

[26] The hospitals are located next to one another and share a parking lot.

were identified as top performing areas in the first local-level analysis of average quarterly enrollment.

Providers were not the only organizations that developed local, community-based initiatives. One community had a faith-based initiative that is described in the following box.

Faith-Based Initiatives

State program administrators noted that the city of Albany, located in top performing Dougherty county in southwest Georgia (see Figure 10), had a faith-based initiative that they thought was effective. A group of African American ministers and their congregations established a community-based outreach program for PeachCare. The ministers conducted outreach from their pulpits and members of the congregation followed up with families in their communities. Early in the program, Georgia's SCHIP director traveled to the area to meet with each minister to help in the development of their PeachCare outreach initiatives.

Outreach Mini-Grants

To facilitate local outreach and enrollment activities, the state established a mini-grant program specifically designed to provide funds for grassroots outreach initiatives. The initial mini-grant program operated from October 1999 to June 2000 and provided 20 grants, ranging from $5,000 to $20,000, to reach and enroll eligible children in 43 counties.[27] Georgia's 2000 State Evaluation of PeachCare lists the activities of these grantees, which included distributing program brochures in homeless shelters, schools, and retail outlets; training local service providers; and creating public service announcements (Georgia 2000).

The state commissioned an independent evaluation of the mini-grant program, which found that the mini-grants increased applications by 16 percent compared to a selected comparison group of counties that did not receive mini-grant funds (Georgia 2000). One grantee was a community group in Southwestern Georgia, near the state's border with Alabama, which targeted rural families. This grantee conducted outreach in nine counties, five of which were identified as top-performing counties based on the first local-level analysis (see Figure 10). Mini-grant funds were used to create public service announcements; host PeachCare booths at community events; distribute information at community events, including car seat distribution programs; give presentations at local churches and civic clubs; establish advertising billboards; display PeachCare materials at local businesses; sponsor table mats in restaurants; insert flyers in grocery bags and local telephone bills; and facilitate confidential mailings from a local hospital and Board of Education to families of uninsured children or children participating in the free and reduced-price school lunch program.

Another notable mini-grant awardee was a local Goodwill agency that serves the central region of the state from the area surrounding Macon to Augusta near the South Carolina border (see Figure 10). Its outreach activities targeted seven counties, two of which were in

[27] A second round of grants began in the spring of 2003.

the top 20 percent of counties (first quintile) and three of which were in the top 40 percent of counties (second quintile) based on the first local-level analysis of the average number of new enrollees. This agency initially promoted PeachCare at job fairs and Goodwill stores and integrated PeachCare outreach into its job placement services. After targeting its customers, the Goodwill agency designed and distributed PeachCare information to its own employees through paycheck stuffers.

Further assessment of the results from the first local-level analysis found that of the 43 counties targeted by mini-grant recipients, 21 percent (9 counties) were in the top 20 percent of counties. Although two of the grantees appear to have implemented programs that were particularly successful, the program overall did not have a disproportionate number of top-ranked counties in terms of the average quarterly number of new enrollees.

DISCUSSION

The goal of this study was to test an approach to detecting links between enrollment and outreach. The approach is similar conceptually to the surveillance tools that have been developed to monitor outbreaks of disease. The analysis looks behind the overall number of children enrolled to identify state and local trends in new enrollees: that is, children who were not covered by public insurance during the six months before their enrollment in SCHIP began. We obtained data from three states—Kentucky, Ohio, and Georgia—and analyzed enrollment during the initial years of SCHIP implementation, when state and local outreach programs were most active.

State-Level Findings

The results of the state-level analysis of new enrollees highlighted a range of statewide outreach campaigns, including: statewide Back-to-School campaigns and spillover effects to the traditional Medicaid program in Kentucky, media exposure and improved access to program information and applications in Georgia, and expanded eligibility criteria and simplified application requirements in Ohio. The variation in results across the three states reflect the different approaches used at the state level.

The analysis of statewide trends in the number of new KCHIP and traditional Medicaid-poverty enrollees detected increased enrollment at the same time that Kentucky was conducting Back-to-School campaigns. The state had a well-defined campaign that included media advertising, distribution of program brochures and applications to public school children, and direct assistance for families. The number of new SCHIP and traditional Medicaid-poverty enrollees increased by 39 percent during the FFY 2000 Back-to-School campaign and by 55 percent during the FFY 2001 campaign. These surges of enrollment were driven by new enrollment in the traditional Medicaid-poverty program, which suggests the state's efforts to promote KCHIP had important spillover effects to the traditional Medicaid program.

Media exposure, either through news coverage or a marketing campaign, appears to have influenced the number of children enrolling in Georgia's PeachCare for Kids program.

The state-level analysis detected surges of new enrollment each spring. During spring 2000, the number of new SCHIP enrollees increased by 19 percent at the same time that the program promoted the importance of health insurance for children engaged in sports and when PeachCare received media coverage associated with proposed legislative changes to the program. The following spring, the number of new enrollees increased by 54 percent. In addition to the ongoing marketing and media coverage that occurred at this time, the state improved access to program information and benefits through the introduction of a web site and on-line application.

Ohio experienced one statewide surge in new enrollment during the summer and fall of 2000 when the state pursued several initiatives. In July 2000, the state expanded eligibility from 150 to 200 percent of poverty and simplified documentation requirements for initial applications; about a month later, a statewide Back-to-School campaign began. At this time, the number of new enrollees more than doubled.

Local-Level Findings

Because the two local-level analyses were designed to complement one another, we assessed the results of these analyses together. Overall, the results of the local-level analysis of new enrollees highlighted strategies that were comprehensive, multifaceted, and well focused. These strategies were implemented by a variety of organizations including providers, county social service offices, community-based service organizations, and faith-based groups. In addition, the results point to the important role of funding mechanisms designed to leverage community resources.

Several top-performing areas implemented local outreach initiatives that were comprehensive and integrated a variety of strategies. One example appeared in Cincinnati, Ohio, where several counties came together to coordinate a multifaceted outreach program; at the same time, the local *Covering Kids* pilot project trained childcare workers to provide application assistance and worked with referral agencies to raise awareness of the program. As another example, one community group in Georgia combined numerous community-wide outreach activities (such as a local media campaign and distribution of program materials at different community venues) with direct, one-on-one contacts with children who were uninsured or participating in the free and reduced school lunch program.

Other results suggested that well focused, front-line approaches influenced enrollment. In one region of Georgia, competing hospitals served clusters of counties that experienced surges of enrollment during periods when the hospitals had initiatives to help families of uninsured children obtain coverage. In another example, a top-performing county benefited from a community-wide, faith-based initiative spear-headed by a group of local ministers and their congregations.

The local-level analysis also identified the important role played by financing mechanisms designed to leverage community resources for outreach. These mechanisms included the *Covering Kids* program developed and administered by the Robert Wood Johnson Foundation; the CATCH grants administered by AAP; and state grant programs to

distribute state and federal outreach funds to communities. In Kentucky, one *Covering Kids* pilot project was actively promoting the program to rural families when the targeted area experienced a surge in enrollment. The medical community in Owensboro, Kentucky blended CATCH funds with other grant funding to develop a successful community-wide commitment to maximizing enrollment in public insurance.

Georgia used a mini-grant program to distribute a small proportion of its outreach funds. One mini-grant recipient was a local Goodwill agency that first targeted its clients and then targeted its employees. In Ohio, the state distributed almost all of its outreach funds to counties through a matching grant program, and almost all counties received funding. The local-level analysis identified fewer areas in Ohio than in the other states where specific outreach activities could be linked qualitatively to enrollment. The lack of qualitative results may reflect Ohio's approach to outreach. If the general diffusion of funds across the state resulted in a relatively uniform level of effort for outreach, then it may have been more difficult for the analysis to detect results.

Caveats

The methods and data used in this study have important features that affect the interpretation of results. While providing a credible means to identify outreach strategies associated with increased enrollment, the approach used in this study has at least two important limitations. First, because the approach does not measure impacts, it does not measure the effect of the average or typical outreach activity adopted in a state. Consequently, this study does not tell us what does not work, and it does not provide sufficient information to determine the effectiveness of particular outreach strategies. Second, because the design does not provide a clear measure of the counterfactual—that is, it does not measure how many children would have obtained coverage in the *absence* of a given policy—it cannot determine the precise enrollment gains that result from an effective policy once it is adopted.

The qualitative component of the study also had some important features that affect the interpretation of results. When the results of the quantitative analyses were shared with state program administrators and other knowledgeable individuals, their feedback was based on their own personal knowledge and available documentation. In some instances, individuals were very well informed, had access to appropriate documentation, and could speak in detail about outreach activities that occurred during the study period. In other instances, the individuals we consulted had not been involved in the program during its initial years and had to rely on documentation that did not always provide sufficient details. As a result, the qualitative information was most likely incomplete and the analysis may have missed successful initiatives simply because we lacked enough information to identify them.

Some enrollment results were not always attributed qualitatively to outreach. When the results of our analyses of the KCHIP program were shared with Kentucky's SCHIP director, he noted that some of our results were more likely to be associated with characteristics of the area than outreach. Several counties that were identified by the first local-level analysis as performing above average were along the state's interstate highway system that connects

families to employment in urban areas. In addition, several zip codes identified by the second local-level analysis as experiencing surges of enrollment represent large suburban areas of middle and low-income families that had seen considerable growth in the number of school-age children.

One dramatic surge in enrollment occurred in Shelby County, just east of Louisville, during the fourth quarter of FFY 2000 (July through September 2000). At that time, the number of new enrollees increased by nearly two and a half times over the previous quarter. This surge was most likely the result of erroneous enrollment of large numbers of adolescents that had temporarily moved to Shelby County for a supported work program. Administrators involved in the program were eager to help the participants and used the KCHIP mail-in application to obtain health insurance coverage for them. When the error was detected, the teenagers were disenrolled. A similar situation occurred six months later in Union County, which the analysis detected as well. These results confirmed that our methods successfully identified above average performance and surges of enrollment. The qualitative component of the analysis ensured we did not mistakenly attribute these enrollment results to outreach.

The data from Georgia provided some additional challenges for the analysis of PeachCare enrollment. As mentioned previously, the enrollment records from the PeachCare program did not include zip codes, and urban enrollment could not be disaggregated to the zip code level. As a result, the analysis was not able to identify successful urban outreach initiatives. This is an important limitation because a large proportion of the state's population lives in the Atlanta metropolitan area. The case study of the state had identified several interesting initiatives in Atlanta neighborhoods, such as translation services provided by a Pan-Asian organization, that could not be investigated by this study. In addition, the data did not include eligibility records from the traditional Medicaid program, and the analysis could not control for children who moved from traditional Medicaid to PeachCare. As a result, the measure of new enrollees in PeachCare contained more "noise" than in the other states because it included transfers from the traditional Medicaid program whose PeachCare enrollment would not have been directly influenced by outreach activities at the time of their enrollment in PeachCare. This inability to control for transfers most likely made it more difficult to identify communities that had above average results.

CONCLUSIONS

Outreach for public insurance programs has changed over time, evolving from activities that target the broader population of low-income families to strategies designed for hard-to-reach children (Williams and Rosenbach 2005). States and communities developed an understanding of what was effective using information gathered from targeted surveys, focus groups, analyses of application results, and front-line workers. Although qualitative in nature, states and local communities used this information to guide their decisions regarding the types of outreach and enrollment activities to implement.

Building evidence-based information about the impact of outreach strategies has been hampered by the lack of systematic data that quantifies the type, intensity, and timing of the outreach activities that have occurred. Even if these data could be obtained, a formal impacts study of outreach remains difficult to implement because of the challenge of forming a defensible comparison group. Given the nature of outreach and its general diffusion throughout a state, it is often very difficult to locate similar communities that have not adopted similar outreach activities.

The approach used in this study avoids the difficulties of a formal impacts study by focusing on a relatively narrow research question—what outreach strategies appear effective and had above average results? For a retrospective study, such as the one presented in this report, the approach is useful for identifying outreach strategies and related policies that have worked well in the past. However, the approach may have even more to offer as "a real-time" surveillance tool. Namely, if used to track outbreaks of enrollment in the same manner that surveillance systems are used to track outbreaks of disease, the approach may be very helpful to states and communities as they decide how to allocate limited resources for outreach activities and track their effectiveness over time.

As long as states and local areas have access to current enrollment information for SCHIP and traditional Medicaid, they should be able to replicate this approach successfully. For example, current eligibility records from the state's SCHIP administrative data systems, Medicaid Management Information System (MMIS), or the MSIS data can be used to track the number of new enrollees at the state and local levels.[28] As each quarter of data become available, the trend analysis can be updated to identify increases in new enrollment. The regression methods developed for this study could be used to determine whether any increase identified at the local level was above average and, if so, to trigger an in-depth assessment of the outreach and enrollment activities that occurred at the time of the enrollment outbreak. When done soon after an outreach initiative occurs, the in-depth assessment would produce detailed information about the outreach activities that most likely explained the result. State and local policy makers may find this type of information useful when deciding whether to replicate a particular initiative.

As a surveillance tool, these methods provide information that can help states and communities design better outreach strategies, allocate resources for evidence-based strategies, and identify priorities for outreach funds. A surveillance system can produce information that will complement the qualitative data that states and communities have been collecting. By blending quantitative and qualitative information, states and communities can improve their outreach strategies, better target funds, and ultimately cover more children.

[28] States must report enrollment in SCHIP Medicaid expansion programs in MSIS. States have the option of using MSIS to report enrollment in separate child health programs. As of October 2004, MPR's ongoing quality review of MSIS files indicated that 15 states with separate child health programs reported SCHIP enrollment in MSIS and 18 did not. States that do not report enrollment in separate child health programs through MSIS or their MMIS will have to obtain SCHIP administrative records and link them with eligibility records from the traditional Medicaid program to identify new enrollees in SCHIP and traditional Medicaid.

REFERENCES

Aizer, Anna. "Advertising, Medicaid and Child Health." Providence, RI: Brown University Mimeo, March 29, 2004.

Barents Group, LLC. "Review of the Literature on Evaluations of Outreach for Public Health Insurance and Selected Other Programs." Washington, DC: Barents Group, March 2000.

Centers for Medicare & Medicaid Services. "Revised 2003 SCHIP Enrollment Report." Baltimore, MD: May 18, 2005. Available online at: [www.cms.hhs.gov/NationalSCHIPPolicy/SCHIPER].

Cohen Ross, Donna and Ian Hill. "Enrolling Eligible Children and Keeping Them Enrolled." *The Future of Children*, vol. 13, no. 1, Spring 2003, pp. 81-97.

Georgia Department of Community Health. "Title XXI Evaluation Report." Atlanta, GA: Georgia DCH, March 31, 2000.

Gordon, James A., Jennifer A. Emond, and Carlos A. Camargo. "The State Children's Health Insurance Program: A Multicenter Trial of Outreach Through the Emergency Department." *American Journal of Public Health*, vol. 95, no. 2, February 2005, pp. 250-253.

Hill, Ian, Corinna Hawkes, and Mary Harrington, with Ruchika Bajaj, William Black, Nancy Fasciano, Embry Howell, Heidi Kapustka, and Amy Westpfahl Lutzky. "Congressionally Mandated Evaluation of the State Children's Health Insurance Program. Final Cross-Cutting Report on the Findings from Ten State Site Visits." Princeton, NJ: Mathematica Policy Research, Inc., and The Urban Institute, December 2003.

Irvin, Carol, Nancy Fasciano, and Margo Rosenbach. "SCHIP in Ohio: Evolution and Outlook for the Future." Cambridge, MA: Mathematica Policy Research, Inc., March 2004.

Kentucky Division of Medicaid Services for Maternal and Children's Health. "Title XXI Annual Report for 2002." Frankfort, KY: Kentucky DMS, January 1, 2002.

Meyer, Cheryl L., Carl Brun, Betty Yung, Carla Clasen, Kate Cauley, and William A. Mase. "Evaluation of Social Marking Efforts Designed to Increase Enrollment in the Children's Health Insurance Program (CHIP)." *Journal of Nonprofit & Public Sector Marketing*, vol. 12, no. 2, 2004, pp. 87-104.

Moore, Judith D. "CHIP and Medicaid Outreach and Enrollment: A Hands-On Look at Marketing and Applications." Issue Brief No. 748. Washington, DC: National Health Policy Forum, October 19, 1999.

Ohio Department of Job & Family Services. "ODJFS & OFCF School Based Outreach." Mimeo, undated.

Penn, Catherine, and Robert O. Staib. "Income Self-Declaration Boosts Enrollment for Healthy Start/Healthy Families." Cuyahoga County, OH: Ohio Department of Job & Family Services, Cuyahoga Health & Nutrition, January 2002.

Pettibone, Kristianna, Joanna Shoffner, Jamie Chriqui, Raedell Wallace, Mathew Dunn, and Carissa Baker. "Final Report on the National Survey of SCHIP Administrators for the Congressionally Mandated Evaluation of the Children's Health Insurance Program." Final Report. Princeton, NJ: The MayaTech Corporation and Mathematica Policy Research, Inc., February 2005.

Rosenbach, Margo, Marilyn Ellwood, Carol Irvin, Cheryl Young, Wendy Conroy, Brian Quinn, and Megan Kell. "Implementation of the State Children's Health Insurance Program: Synthesis of State Evaluations: Background for the Report to Congress." Cambridge, MA: Mathematica Policy Research, Inc., March 2003.

Schwalberg, R., Ian Hill, H. Bellamy, and J. Gallagher. "Making Child Health Coverage a Reality: Lessons from Case Studies of Medicaid and CHIP Outreach and Enrollment Strategies." Washington, DC: Health Systems Research, September 1999.

Silow-Carroll, Sharon, Stephanie E. Anthony, Heather Sacks, and Jack A. Meyer. "Reaching Out: Successful Efforts to Provide Children and Families with Health Care." Washington, DC: Economic and Social Research Institute, June 2002.

Trenholm, Christopher. "A Design to Evaluate the Effectiveness of Outreach and Enrollment Policies for Insurance Coverage of Children." Report submitted to the Robert Wood Johnson Foundation. Princeton, NJ: Mathematica Policy Research, Inc., March 2006.

Williams, Susan R., and Margo L. Rosenbach. "Learning by Doing: The Evolution of State Outreach Efforts Under SCHIP." Cambridge, MA: Mathematica Policy Research, Inc., September 22, 2005.

Wooldridge, Judith, Ian Hill, Mary Harrington, Genevieve Kenney, Corinna Hawkes, and Jennifer Haley. "Interim Evaluation Report: Congressionally Mandated Evaluation of the State Children's Health Insurance Program." Princeton, NJ: Mathematica Policy Research, Inc., February 26, 2003.

APPENDIX A

SUPPLEMENTAL TABLES

Table A.1. Top 20 Percent of Counties or Zip Codes in Kentucky Ranked by the Ratio of Actual to Predicted Average Number of New Enrollees[a]

Counties (zip codes) in Top 20 Percent	
Bell	Livingston
Boyd	Madison
Carroll	Mason
Carter	McCracken
Clark	McCreary
Clinton	Montgomery
Fayette (zip code 40509)	Muhlenberg
Fulton	Rowan
Grant	Scott
Greenup	Shelby
Henderson	Simpson
Jefferson (zip codes 40208, 40219, 40272, and 40291)	Warren (zip codes 42101 and 42103)
Kenton (zip codes 41011 and 41015)	Whitley
Leslie	

Source: MPR analysis of Kentucky MSIS eligibility records from April 1999 through June 2002.

Note: Analysis based on 158 counties and zip codes.

[a] Log-linear regression analysis was used to predict the number of new enrollees controlling for local characteristics that are likely to influence enrollment, such as population density of the county and number of children living in households with income under 200 percent of poverty.

Table A.2. Enrollment Outbreaks at the Local Level, by Quarter: Kentucky

Quarter	County (zip code)
April – June 1999	Christian (42240) Daviess (42301) Warren (42103)[a]
July – September 1999	Daviess (42301) Fayette (40505) Lee
October – December 1999	Breathitt Daviess (42301) Hardin (42701) Leslie[a]
January – March 2000	None
April – June 2000	None
July – September 2000	Hardin (40160) Shelby[a]
October – December 2000	Christian (42240) Hancock Jefferson (40202)
January – March 2001	Fayette (40503) Fayette (40509)[a] Fayette (40511) Hardin (42701) Union
April – June 2001	Christian (42240) Fayette (40503) Hardin (42701)
July – September 2001	Daviess (42303) Green Jefferson (40202)
October – December 2001	Fayette (40505) Fayette (40511) Jefferson (42701) Kenton (41071)
January – March 2002	Fayette (40515) Hardin (42701) Kenton (41051)
April – June 2002	Daviess (42303) Fayette (40509)[a] Fayette (40515) Hardin (40160) Hardin (42701) Kenton (41042) Kenton (41071)

Source: MPR analysis of Kentucky MSIS eligibility records from April 1999 through June 2002.

Note: Enrollment outbreaks are ratios of actual to predicted number of new enrollees that are two standard deviations above the average ratio across all local areas. Analysis based on 158 counties and zip codes.

[a] Areas that were in the top 20 percent in terms of the ratio of actual to predicted average quarterly number of new enrollees (see Table A.1).

Table A.3. Top 20 Percent of Counties or Zip Codes in Ohio Ranked by the Ratio of Actual to Predicted Average Number of New Enrollees[a]

Counties (zip codes) in Top 20 Percent	
Adams	Hocking
Brown	Huron
Clark	Marion
Clermont	Montgomery (45403, 45406, 45410, 45417, and 45424)
Columbiana	Pike
Crawford	Portage
Cuyahoga (44128)	Richland
Delaware	Sandusky
Franklin (43211, 43222, 43223, 43228, and 43229)	Seneca
Greene	Summit (44224)
Hamilton (45204, 45205, 45206, 45212, 45214, 45223, 45225, 45231, 45237, 45239, and 45251)	Washington
Highland	Williams
	Wood

Source: MPR analysis of Ohio MSIS eligibility records from April 1999 through June 2002.

Note: Analysis based on 215 counties and zip codes.

[a] Log-linear regression analysis was used to predict the number of new enrollees controlling for local characteristics that are likely to influence enrollment, such as population density of the county and number of children living in households with income under 200 percent of poverty.

Table A.4. Enrollment Outbreaks at the Local Level, by Quarter: Ohio

Quarter	County (zip code)
April – June 1999	Hamilton (45204)[a] Hamilton (45207) Hamilton (45229) Montgomery (45406)[a] Montgomery (45408)
July – September 1999	Ottawa Vinton
October – December 1999	Butler (45042) Mahoning (44507)
January – March 2000	Butler (45011) Franklin (43201)
April – June 2000	Butler (45042)
July – September 2000	Butler (45013) Pike[a] Vinton
October – December 2000	Cuyahoga (44103) Morgan
January – March 2001	Cuyahoga (44106) Cuyahoga (44110) Cuyahoga (44112) Cuyahoga (44118) Cuyahoga (44129) Franklin (43230) Hamilton (45210) Hamilton (45206)[a] Hamilton (45225)[a]
April – June 2001	Butler (45042) Franklin (45210)
July – September 2001	Monroe
October – December 2001	Butler (45042) Franklin (43123) Harrison
January – March 2002	Cuyahoga (44137)
April – June 2002	Franklin (43123)

Source: MPR analysis of Ohio MSIS eligibility records from April 1999 through June 2002.

Note: Enrollment outbreaks are ratios of actual to predicted number of new enrollees that are two standard deviations above the average ratio across all local areas. Analysis based on 215 counties and zip codes.

[a] Areas that were in the top 20 percent in terms of the ratio of actual to predicted average quarterly number of new enrollees (see Table A.3).

Table A.5. Top 20 Percent of Counties in Georgia Ranked by the Ratio of Actual to Predicted Average Number of New Enrollees[a]

Counties in Top 20 Percent	
Atkinson	Lamar
Baker	Lanier
Barrow	Lee
Bartow	Lincoln
Ben Hill	Lowndes
Calhoun	Madison
Chatham	McIntosh
Clinch	Mitchell
Columbia	Muscogee
Decatur	Oconee
Dougherty	Paulding
Effingham	Peach
Jackson	Twiggs
Jeff Davis	Union
Jefferson	Warren
Jenkins	

Source: MPR analysis of PeachCare for Kids eligibility records from April 1999 through June 2002.

Note: Analysis based on 159 counties.

[a] Log-linear regression analysis was used to predict the number of new enrollees controlling for local characteristics that are likely to influence enrollment, such as population density of the county and number of children living in households with income under 200 percent of poverty.

Table A.6. Enrollment Outbreaks at the Local Level, by Quarter: Georgia

Quarter	County (zip code)
April – June 1999	Chattahoochee Lincoln[a] Webster
July – September 1999	Chattahoochee Clinch[a] Glascock Webster Wheeler
October – December 1999	Calhoun[a] Charlton Echols Lanier[a]
January – March 2000	Chattahoochee Johnson Taliaferro
April – June 2000	Clay Hancock Quitman Wilkines
July – September 2000	Baker[a] Hancock
October – December 2000	Lincoln[a] Talbot
January – March 2001	Clay Glascock Jenkins[a] Johnson Macon Quitman Schley Talbot
April – June 2001	Lanier[a] Talbot Taliaferro
July – September 2001	Montgomery Quitman Upson
October – December 2001	Greene
January – March 2002	Hancock
April – June 2002	McDuffie Quitman Seminole Warren[a]

Source: MPR analysis of PeachCare for Kids eligibility records from April 1999 through June 2002.

Note: Enrollment outbreaks are ratios of actual to predicted number of new enrollees that are two standard deviations above the average ratio across all local areas. Analysis based on 159 counties.

[a] Areas that were in the top 20 percent in terms of the ratio of actual to predicted average quarterly number of new enrollees (see Table A.5).