GEORGIA IMMUNIZATION STUDY

2012 Final Report

Georgia Department of Public Health
Immunization Program | Acute Disease Epidemiology Unit
Eighteen Public Health Districts

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Additional gratitude goes to Mike Chaney from the Georgia Chapter of the American Academy of Pediatrics for his support on making this study more pertinent to pediatricians throughout Georgia.

Executive Summary

The 2012 Georgia Immunization Study (GIS) was conducted by the Georgia Department of Public Health Epidemiology Program, Georgia Immunization Program and Public Health Districts. However, this study could not have been conducted without the assistance of the private providers, public health providers and Vaccines for Children providers of Georgia that contributed to this collaborative effort. Their cooperation and assistance throughout the study was greatly appreciated.

The two-year old GIS employs a retrospective cohort research design to determine the up-to-date immunization rate for children born in the state of Georgia. Immunization history data for 18 Health District cohorts of children who turned two in January of 2012, were analyzed to calculate these rates. Identifying information was obtained from electronic birth records, and immunization history data were collected primarily via the Georgia Registry of Immunization Transactions and Services (GRITS). Immunization rates for the 4:3:1:3:3:1:4 series (4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 Hepatitis B, 1 Varicella, and 4 PCV) were based on the childhood immunization and catch-up schedules recommended by the Advisory Committee on Immunization Practices (ACIP) in 2012[1].

Each child's immunization record was reviewed in GRITS for completeness. If the child's record was not up-to-date, an effort was made by local public health staff to contact parents and providers to obtain any missing immunization history data. If further follow-up revealed that the child was truly not up-to-date, the data collection process served as a reminder-recall system. If all of the 4:3:1:3:3:1:4 series dates occurred before the child reached 24 months, the child was classified as *up-to-date by 24 months*. Children were excluded from the *up-to-date by 24 month*s classification if some of the 4:3:1:3:3:1:4 dates occurred after the child reached 24 months of age. Due to the reminder-recall effect of the data collection process, readers are strongly encouraged to use the *up-to-date by 24 months* measures for reporting purposes, since these were the rates prior to any parent or provider contact. In 2012, the Georgia statewide up-to-date immunization rate by 24 months was 84.5%, up from 82.4% in 2011 (Page 18, Table 2).

Efforts to bring children up-to-date were evident in an overall 10.8% increase in immunization rate between 24 months of age and the end of the data collection period (Page xxvi, Appendix Table E-1). This increase is evidence that the children who are not up-to-date by 24 months can be brought up-to-date within six months if adequate patient recall and educational measures are taken. Although the majority of immunizations from our sample were administered in the private sector, the increase in up-to-date immunization rates by the end of the data collection is a testament to how instrumental District- and County-level public health staff can be in raising childhood immunization rates for a selected group of children. In addition, this increase shows that parents want their children to stay current on their vaccinations, but may benefit from reminders and follow-up from their providers.

Although acute infection with Hepatitis B causes severe disease in only a small proportion of those infected, the greater burden of disease lies in those cases progressing to chronic infection, cirrhosis, and liver cancer later in life. Therefore, timely immunization practices with hepatitis B vaccine are a high priority for the Georgia Immunization Program, as well as for providers and hospitals throughout the state. Among the 2012 study sample of children who were born in Georgia in 2010, 82.7% received their first dose of hepatitis B vaccine at birth (Page xxvii, Appendix Table E-2), down from 83.4% in 2011 (children born in 2009) but up from 76.2% in 2010 (children born in 2008). In addition, the percentage of children who received the entire 3-dose hepatitis B series by 24 months of age slightly decreased from 96.5% in 2011 to 96.1% in 2012. These data suggest that the best way to protect children from hepatitis B infection by 24 months of age is to vaccinate at birth. Credit goes to birthing hospitals, obstetricians, pediatricians and public health staff who have been dedicated to this cause.

[1] Department of Health and Human Services – Centers for Disease Control and Prevention. (February 10, 2012). MMWR weekly: Recommended Immunization Schedules for Persons Aged 0 Through 18 Years --- United States, 2012. MMWR 2012; 61(5). Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6105a5.htm

There was considerable variation by District in the percent of 24 month old children found to be fully immunized by 24 months, ranging from 77.3% in the Fulton District (3-2) to 92.9% in the Rome District (1-1). Between 2011 and 2012, District up-to-date by 24 months immunization rates rose by 2.5% overall for the state, with the greatest increase of 16.2% seen in the Columbus District (7-0) (Page xxvi, Appendix Table E -1).

Although the percentage of Georgia children who received the fourth dose of DTaP by 24 months of age increased in 2012, it continues to significantly lag behind the percentage of children who received the third dose by 24 months of age. In fact, 97.0% of children had received 3 doses of DTaP by 24 months of age while only 87.0% had received their fourth dose in 2012 (Page 18, Table 2). The third dose can be given as early as 6 months of age; however the fourth dose must be delayed until at least 12 months and 6 months after the third dose. These results suggest that patient recall efforts specific for the fourth dose of DTaP may be helpful for children after their one year check-up. Future studies will assess the role of Medicaid and what role loss of coverage may contribute to the drop in fourth dose DTaP coverage.

Some variation remained by District in the percent of two-year-olds reported to be fully immunized by the end of the data collection period, ranging from 84.0% in the Fulton District (3-2) to 98.7% in the Columbus District (7-0). These data support that contact with parents and providers during data collection *made a difference*. The greatest impact was seen in the Dublin District (5-1), where up-to-date immunization rates rose 20.0% by the end of the data collection period.

Individual Health District results revealed some common demographic themes when identifying "high risk" groups, i.e. those less often up-to-date by 24 months. The groups that were high risk in at least seven Districts included children of unmarried mothers, children of mothers with previous children, and children of mothers less than 25 years of age. The groups that were high risk in at least nine Districts included children receiving immunizations from two providers instead of only one, children whose birth was covered by government-assisted insurance and children of mothers without a college education. Future study years will reveal which of these associations is consistent from year to year. Please see Section III (Page 25) for individual Health District results.

A notable finding of the 2012 GIS is that no significant differences were noted in up-to-date immunization rates in any of the WIC populations. For example, there were no Districts in the state where children enrolled in WIC were significantly more likely to be up-to-date on their immunizations by 24 months (Page 24). However, in the South Central (Dublin) District (5-1), children enrolled in WIC were significantly less likely to be up-to-date on their immunizations by 24 months. Districts and healthcare providers are encouraged to review these WIC enrollment data (Page 24, Table 8) to determine the possible reasons for these trends, and share them with the Immunization Program as efforts continue to improve immunization rates in Georgia.

Perhaps one of the most important parts of the 2012 report is the list of the top 3 Health Districts for various categories, including response rates, series immunization rates, and antigen-specific immunization rates (Page 23, Table 7). These rankings highlight our *Immunization Champions*; Districts challenged by a specific measure are encouraged to reach out to these champions to identify strategies for success.

The 2012 GIS report offers the people of Georgia and its Public Health Districts a chance to study demographic and immunization history data simultaneously, so that evidence-based programs can be created to raise immunization rates across the state of Georgia. The 2012 data clearly show that although the vast majority of immunizations are administered outside of public health clinics, public health staff can effectively collaborate with parents and private sector providers, and have an impact on improving coverage rates.

Abbreviations & Vaccine Names

Abbreviations	Definitions
2YO	Two year old
ACIP	Advisory Committee on Immunization Practices
CDC	Centers for Disease Control and Prevention
GIS	Georgia Immunization Study
GRITS	Georgia Registry of Immunization Transactions and Services
NIS	National Immunization Survey (CDC)
UTD	Up-to-date [immunization history]
WIC	Women, Infants, and Children Program
Vaccine Names	
DTaP	Diphtheria, Tetanus, and acellular Pertussis [vaccine]
IPV	Inactivated Polio Virus [vaccine]
MMR	Measles, Mumps, Rubella [vaccine]
HepB	Hepatitis B [vaccine]
Hib	Haemophilus influenza type b [vaccine]
Varicella	Varicella (chicken pox) [vaccine]
PCV	Pneumococcal Conjugate Vaccine
Rotavirus	Rotavirus [vaccine]
Influenza	Seasonal Influenza [vaccine]
HepA	Hepatitis A [vaccine]

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Section I

Project Overview

Methods

Study Design

The annual Georgia Immunization Study (GIS) employs a retrospective cohort research design to ascertain the up-to-date (UTD) immunization rate for two-year-old children born in the state of Georgia. Immunization history data for cohorts of children who turned two in January, 2012 from 18 Health Districts were analyzed to calculate these rates. Identifying information was obtained from electronic birth records, and immunization history data were collected primarily via the Georgia Registry of Immunization Transactions and Services (GRITS). Immunization rates for the 4:3:1:3:3:1:4 vaccine series (4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 Hepatitis B, 1 Varicella, and 4 PCV vaccine doses) were based on the childhood immunization and catch-up schedules recommended by the Advisory Committee on Immunization Practices (ACIP) in 2012.

At the end of the six-month data collection period, each immunization date was compared to the child's birth date to determine whether it was administered before or after 24 months of age. If all of the 4:3:1:3:3:1:4 series administration dates occurred before the child reached 24 months of age, then the child was classified as *UTD by 24 months*. Children were excluded from the *UTD by 24 month*s classification if some of the 4:3:1:3:3:1:4 administration dates occurred after the child reached 24 months of age. A distinction was made between "UTD by 24 months" and "UTD by end of data collection" because the data collection process, which involved contact with each child's parent and healthcare provider, indirectly served as a reminder-recall system. Many of the parents of study participants were simply unaware that their child was not current on their immunizations; therefore, the difference between the percentage of children *UTD by 24 months* and children *UTD by end of data collection* may be a proxy measure of the impact of parent and provider contact in raising immunization rates. Children who were classified as *UTD by 24 months* were also included in the *UTD by end of data collection* group. UTD immunization rates (both *UTD by 24 months* and *UTD by end of data collection*) were calculated for the state sample and the District samples, as well as for demographic groups within these samples.

Target and Sample Populations

The target population of the 2012 GIS included all 24-month-old children born in the state of Georgia in 2010. A sample of 2,589 children born in the month of January 2010 was selected for the study. The sample design allowed for independent estimates for each of the 18 Health Districts in the state. The final sample estimate for the state was based on weighted data to account for differential probabilities of selection for each Health District and selected from the total number of statewide births during the month of January 2010. The number of children randomly selected from each District depended on population distribution statistics, response rates and District immunization rates from the 2011 GIS. Information for each child, including all available birth certificate variables, was collected.

Examples of the type of birth certificate information obtained for each child included:

- Child's first, middle, and last name
- Child's sex
- Child's date of birth
- Child's gestational age
- Mother's residential and mailing address(es)
- Mother's residential county
- Mother's first, middle, and last name
- Father's first, middle, and last name (if available)
- Mother's race and ethnicity

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- Mother's level of education
- Mother's marital status
- Mother's age
- Payment type used to cover child's birth

Other demographic variables used in the analysis, such as Provider Type and Number of Providers, were obtained during the data collection period. The WIC enrollment variable was collected for each child by matching the names and dates of birth for all of the sample children with WIC enrollment data. If a child was found to be enrolled in WIC for any amount of time during their first 24 months of life, they were designated as "enrolled in WIC".

The provider-related variables were compiled using GRITS data. When the data were originally collected at the State Epi office, the number of providers was recorded. Each child was classified as having 1, 2, or 3+ providers.

The "Provider Type" variable was determined based on the location where each individual vaccine was administered (see Part III: Immunization History, below). If a child received vaccines exclusively in private provider offices, the child was classified as "Private Sector Only". If a child received vaccines exclusively in public health clinics, the child was classified as "Public Sector Only". If a child received vaccines in both private provider offices *and* public health clinics, the child was classified as "Both".

Data Collection

An electronic web-based data collection system named "TWOY" was used to systematically collect the required information for each child. The TWOY system follows the recommended schedule of childhood immunizations jointly approved by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP).
The TWOY data collection system contains five distinct sections to be completed by the public health data collectors: Child, Notes, Guardians, Providers, and VX List (Immunization History).

Data collection was carried out primarily by County and District Public Health Nurses. Data collectors in each Health District participated in training via conference call at the start of the data collection period. A Training Manual was also provided and made available on the TWOY log-in screen.

Data Collection Protocol

Step #1: Search for immunization records at State and local health departments.
Before the data collection process began at the Health District level, the Principal Investigator at the State Epi office queried GRITS records and loaded the immunization history of each child into the TWOY system. If a child was up-to-date (UTD) at this point, the child was listed as "Complete, Based on Initial GRITS Record", and no longer required follow-up. If a child was *not* UTD at this point, the data collection process was passed to the District staff, with the dates found in GRITS already entered into the TWOY system. Next, data collectors reviewed GRITS records or health department records for additional immunization history. If the child's immunization record was still incomplete, the data collectors proceeded to Steps 2 and 3 below.

Step #2: Search for immunization records through the parent(s) and/or guardian(s).
In this step, data collectors used the contact information from the birth certificate or any updated contact information found at the health department or in GRITS to contact the child's parent. Data collectors also used sources such as city phone directories, directory assistance, and the internet to find current

contact information for parents.

Parents were then contacted by phone and/or letter and asked to provide an immunization history or the location of immunization information for their child (i.e., the name of the doctor or clinic office). Data collectors also sent consent forms to parents. In some cases, representatives made home visits to collect data.

Step #3: Search for immunization records through private physician(s).
In this step, data collectors contacted private physicians by phone or fax and requested the child's immunization history. Most physicians preferred to respond by updating the child's immunization history in GRITS. In some cases, providers preferred to communicate by phone, fax, or office visit.

Step #4: Data returned to State Epi office and checked for accuracy.
Using the TWOY system, data collectors completed follow-up on all children by the end of the six-month data collection period, and all completed records were reviewed by the Principal Investigator throughout the process. Attempts were made to resolve any unclear information before data cleaning using Stata/SE 10.

Data Analysis
The 2012 data analysis methods were the same as those employed in 2011. Analyses were done using Stata/SE 10 software and macros developed by the Principal Investigator.

Demographic variables were used to determine which demographic groups are more or less often *UTD by 24 months*. UTD immunization rates for demographic groups were assessed at both the state and District levels.

Up-to-date (UTD) immunization rates were calculated using each individual vaccine date for each child. An immunization was classified as given prior to the 24 months birthday if the difference between the dose date and the child's DOB was equal to or less than 24 months; this was the case even for dates that were not originally found in the child's GRITS record. For a child to be considered UTD by 24 months, all of the doses in the 4:3:1:3:3:1:4 series had to be given within 24 months of the child's birth date.

To account for possible scheduling delays by physician office staff, a 2-week grace period was applied to the 24-month calculations.

Limitations
The following describe important limitations of the study that should be considered when interpreting study results:

1. There were three limitations related to sampling:

- Although the study included a random sample of children born in January 2010 and, thus, represented a fair estimate of immunization rates for all two-year-olds born in 2010, it could not account for variations that may routinely occur in other months of the year.

- Second, limiting the sample to children born in one month does not form the basis of a surveillance system capable of detecting changes in the health care system.

- Third, there may be children in the eligible sample who were erroneously included in the eligible sample and listed as unable-to-locate. Examples of this type of error would be cases where a child died, was adopted, or was part of a military family, but the child's ineligibility related to these circumstances never became known to the public health data collectors because the child could not

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be found.

2. Response rates for each District are included on the first and second pages of all District reports. Response rate is calculated by subtracting the number of "Unable to Locate" children by the number of eligible participants and then dividing by the number of eligible participants. Caution should be taken when interpreting immunization rates for a District with a low response rate. The reason for this necessary caution is that the children who are unable-to-locate could also be the least UTD. However, we cannot use their immunization history without knowing that it is current, so they must be excluded. Table A shows how the response rate was calculated for the state sample; this same method was used for each of the Health District samples.

3. Maternal race/ethnicity was used as a demographic variable in the analysis. The categories included in analysis were:

- White, non-Hispanic (n=1058)
- White, Hispanic (n=112)
- Black (n=958)
- Unspecified, Hispanic (n=229)
- Asian (n=56)
- Multiracial (n=41)

Some race/ethnicity demographics were not used in analyses due to an insufficient number of cases. In addition, Hispanic ethnicity was divided between two race categories, "white, Hispanic" and "unspecified, Hispanic" because the majority of Hispanics were found in the "white" race and "unspecified" race. This issue occurs at the electronic birth record level, where the people collecting birth data may not understand the necessity of entering a race *and* ethnicity. For this to change, training will have to take place at birthing hospitals throughout the state. For future studies, the possibility of combining the two Hispanic fields will be considered.

Table 1: Sampling Scheme, GIS Georgia, 2012

	2012 (n)
Original Sample	2,973
Ineligible	130
Eligible Sample	2,835
Refused to Participate	8
Unable to Locate†	246
Final Sample	2,589
Response Rate (%)	92.3

† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Section II

Statewide Results

State of Georgia

2012 Georgia Immunization Study Report

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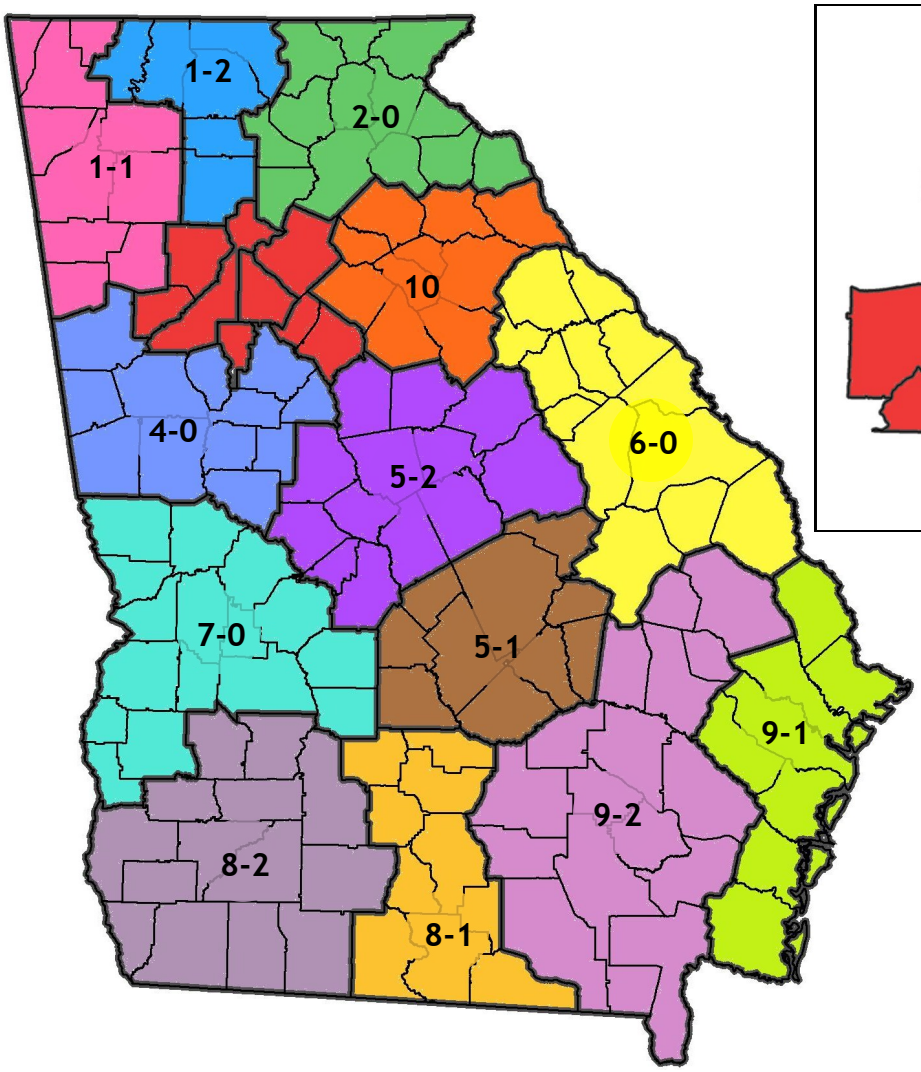

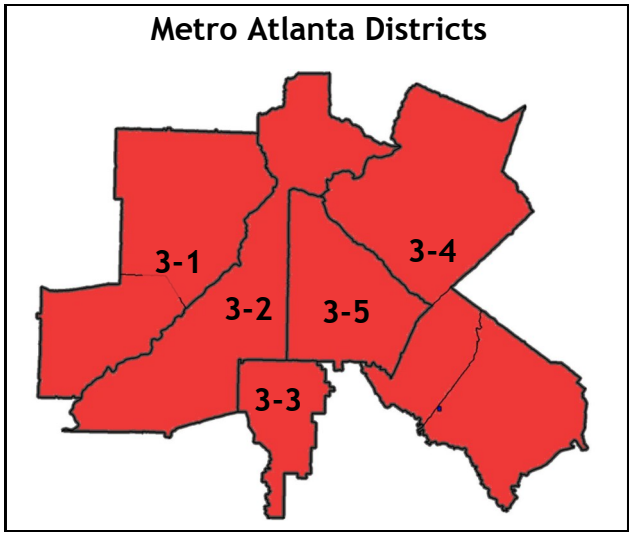

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From 24 months to End of Data Collection: The UTD immunization rate by 24 months of age for the state sample was 84.5%, which increased to 93.6% by the end of the six-month data collection period (Table 2).

From 2011 to 2012: Up-to-date (UTD) coverage by 24 months increased by 2.5% from 2011 to 2012. UTD coverage rates by the end of data collection were comparable between 2011 and 2012 (Figure 1).

Sample population demographics for Georgia and their effect on immunization rates are discussed on the following pages.

Table 1: Sampling Scheme, Georgia, 2012

	2011 (n)	2012 (n)
Original Sample	2,447	2,973
Ineligible	82	130
Eligible Sample	2,359	2,835
Refused to Participate	6	8
Unable to Locate†	210	246
Final Sample	2,150	2,589
Response Rate (%)	91.4	92.3

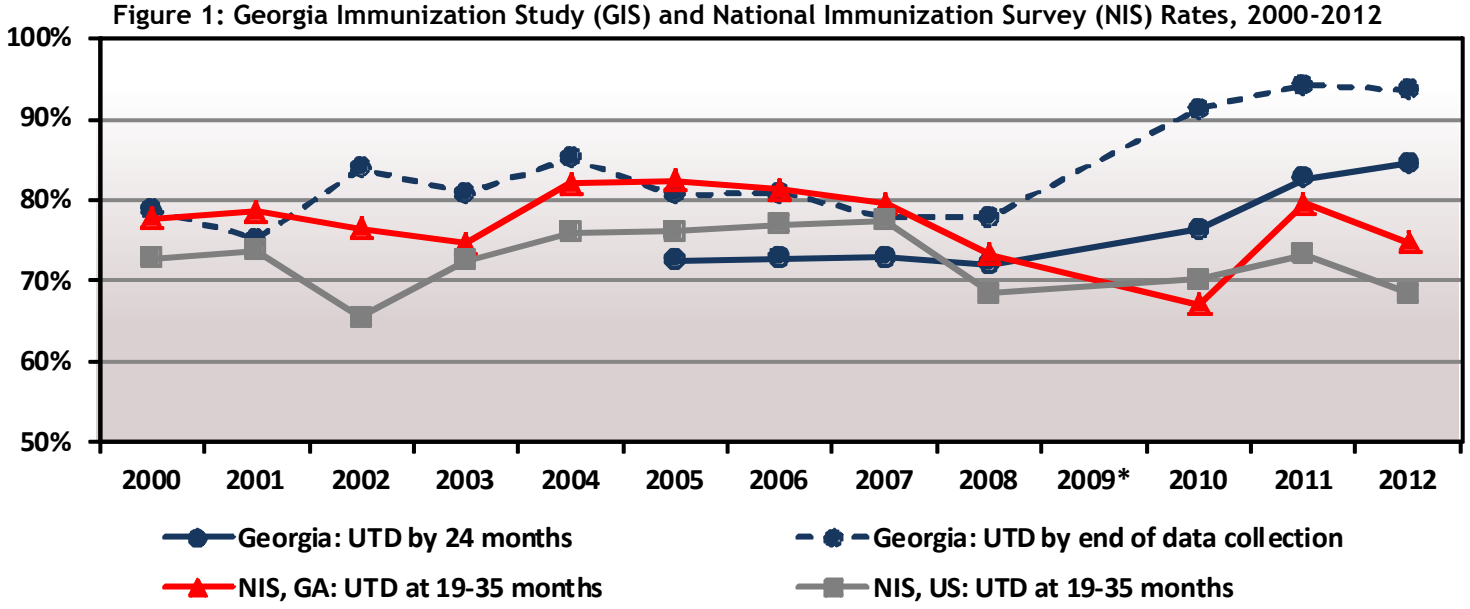
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 2: Immunization Summary by Series and Vaccine Antigen, Georgia, 2012

	2011 (%)	2012 (%)
UTD immunization rate* **by 24 months**	82.4	84.5
UTD immunization rate* **by end of six-month data collection†**	94.0	93.6
4 DTaP **by 24 months**	85.8	87.0
3 DTaP **by 24 months**	97.5	97.0
3 IPV **by 24 months**	96.7	96.0
1 MMR **by 24 months**	93.0	93.2
UTD Hib **by 24 months**	95.1	96.1
3 Hep B **by 24 months**	96.5	96.1
1 Varicella **by 24 months**	93.9	94.2
UTD PCV **by 24 months**	96.7	92.2
2 Rotavirus **by 24 months**	83.8	70.6
2 Hep A **by 24 months**	53.1	57.3
1+ Influenza **by 24 months**	60.1	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 1: Georgia Immunization Study (GIS) and National Immunization Survey (NIS) Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

Table 3: Sample Population Demographics, Georgia, 2012		
	State Sample of Jan. 2010 Births n=2,589 (%)	*All Georgia 2010 Births n= 133,668 (%)*
Maternal Race/Ethnicity‡,†		
White, non-Hispanic (n=1,058)	40.9	42.7
White, Hispanic (n=112)	4.3	4.2
Black (n=958)	37.0	33.0
Unspecified, Hispanic (n=229)	8.8	9.5
Asian (n=56)	2.2	3.3
Multiracial (n=41)	1.6	3.2
Maternal Education‡,†		
Some College+ (n=1,076)	41.6	46.8
HS Diploma/GED (n=779)	30.1	29.0
9th-11th grade (n=457)	17.7	14.2
<9th grade (n=160)	6.2	5.3
WIC[θ]		
Non-WIC (n=1423)	54.9	-
WIC (n=1166)	45.1	-
Metro Residence[θ]		
Metro (n=1,969)	76.1	53.9
Non-metro (n=617)	23.8	46.1
Maternal Marital Status‡		
Married (n=1,269)	49.0	54.5
Unmarried (n=1,314)	50.8	45.5
Repeat Birth‡		
First Child (n=1,102)	42.6	42.7
Repeat Birth (n=1,484)	57.3	57.3
Gestational Age‡		
<37 weeks (n=296)	11.4	12.2
37+ weeks (n=2,293)	88.6	87.8
Provider Type†,θ		
Public Sector Only (n=52)	2.0	-
Private Sector Only (n=1,728)	66.7	-
Both (n=172)	6.6	-
Payment at Birth‡		
Government Assist (n=1,304)	50.4	46.6
Private Insurance (n=711)	27.5	31.0
Other (n=129)	5.0	5.7
Self Pay (n=141)	5.4	5.0

Notable Demographic Findings: Overall, the study sample for the state was comparable to the 2010 Georgia birth cohort, but varied for certain demographic variables (Table 3).

For example, the final state sample contained a much larger percentage of children residing in a metro area versus a non-metro area (76.1% vs. 53.9%) and a lower number of mothers over 35 years of age (11.6% vs. 35.7%) compared to the 2010 birth cohort.

The state sample also had a higher number of children whose mothers were less than 25 years of age compared to all Georgia 2010 births (41.3% vs. 37.0%).

Other demographic measures for the state sample were similar to the findings of the 2010 Georgia birth cohort as a whole.

Some demographic variables were measured outside of the birth record and could not be measured for the entire 2010 Georgia birth cohort, namely WIC status, Number of Providers, and Provider Type.

	% of State Sample (n=2,589)	*% of Georgia 2010 Births (n=133,668)*
Child's Gender‡		
Male (n=1,303)	50.3	51.3
Female (n=1,286)	49.7	48.7
Number of Providers†,θ		
1 (n=1,326)	51.2	-
2 (n=444)	17.1	-
3 (n=182)	7.0	-
Maternal Age‡		
<25 years (n=1,068)	41.3	37.0
25-34 years (n=1,220)	47.1	27.3
35+ years (n=301)	11.6	35.7

Θ Please refer to Appendix B for detailed information about the collection of information for this variable.
† Indicates that the percentages for this variable may not add up to 100.0% because the information was missing in some cases.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.

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Table 4: UTD Immunization Rates by 24 months by demographic group, Georgia—2012

	UTD by 24 months (%)	*UTD by end of data collection (%)*
Georgia Sample (n=2,589)	**84.5**	*93.6*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=1,058)	**85.0**	*92.3*
White, Hispanic (n=112)	**89.3**	*96.4*
Black (n=958)	**81.6**	93.2
Unspecified, Hispanic (n=229)	**86.5**	96.5
Asian (n=56)	**94.6**	*96.4*
Multiracial (n=41)	**90.2**	*100.0*
Maternal Education‡,†		
Some College+ (n=1,076)	**86.6**	*94.1*
HS Diploma/GED (n=779)	**82.9**	*92.8*
9th-11th grade (n=457)	**82.9**	*93.2*
<9th grade (n=160)	**85.6**	*96.3*
WIC$^{\theta}$		
Non-WIC (n=1423)	**89.4**	*94.2*
WIC (n=1166)	**87.0**	*93.5*
Maternal Age‡		
<25 years (n=1,068)	**83.6**	*94.3*
25-29 years (n=1,220)	**84.8**	*92.7*
30+ years (n=301)	**86.7**	*94.4*
Maternal Marital Status‡ and Repeat Birth‡ Combination		
Married, First Birth (n=494)	**90.7**	*94.9*
Unmarried, First Birth (n=607)	**87.6**	*96.9*
Married, Repeat Birth (n=775)	**82.5**	*92.7*
Unmarried, Repeat Birth (n=707)	**79.6**	*90.7*
Gestational Age‡		
<37 weeks (n=296)	**83.5**	*94.3*
37+ weeks (n=2,293)	**84.7**	*93.5*
Provider Type†,$^{\theta}$		
Public Sector Only (n=52)	**73.1**	*92.3*
Private Sector Only (n=1,728)	**86.0**	*93.8*
Both (n=172)	**73.8**	*94.8*
Payment at Birth‡,†		
Government Assist (n=1,304)	**82.1**	*92.9*
Private Insurance (n=711)	**88.2**	*94.8*
Other (n=129)	**89.2**	*96.1*
Self Pay (n=141)	**87.2**	*95.7*

UTD Immunization Rates by Demographic Group: In Georgia, immunization rates by 24 months of age varied between certain demographic groups (Table 4).

In terms of maternal race/ethnicity, children of Asian, Hispanic, and multiracial mothers were the most often UTD by 24 months.

Higher maternal education was positively associated with UTD by 24 months coverage rates above the high school level.

Children of mothers who had previous children were less often UTD by 24 months than children of mothers without previous children. In addition, children of married mothers were more often UTD by 24 months than children of unmarried mothers.

Children whose birth was covered by private insurance were more often UTD by 24 months than children whose birth was covered by government-assisted insurance.

In terms of number of providers, children with 2 providers were less often UTD by 24 months than those with only one provider, or three providers.

	UTD by 24 months (%)	*UTD by end of data collection (%)*
Number of Providers†,$^{\theta}$		
1 (n=1,326)	**85.4**	*94.0*
2 (n=444)	**82.4**	*92.3*
3 (n=182)	**85.0**	*95.9*
Child's Gender‡		
Male (n=1,303)	**84.6**	*94.2*
Female (n=1,286)	**84.5**	*92.9*
Metro Residence$^{\theta}$		
Metro (n=1,969)	**83.9**	*93.0*
Non-metro (n=617)	**86.4**	*95.3*

Footnotes

θ "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

To varying degrees, demographic-related disparities between the study sample and the Georgia birth cohort resolved by the end of data collection (Table 4, *column in italics*).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p.13), the statewide results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age and may be reasonable recipients for targeted educational and outreach efforts:

- Children of less educated mothers
- Children of mothers with previous children
- Children of unmarried mothers
- Children receiving immunizations from two or more providers or lacking a medical home

Please refer to Section III for Health District specific rates and trends.

Table 5: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, Georgia, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	76.1	76.4	76.5	84.5	85.8	87.0
3 Polio by 24 months	87.8	87.8	87.5	95.1	96.7	96.0
1 MMR by 24 months	86.1	91.4	92.7	91.5	93.0	93.2
UTD Hib by 24 months	87.5	91.1	86.1	90.0	95.1	96.1
3 Hepatitis B by 24 months	88.4	88.8	88.7	94.8	96.5	96.1
1 Varicella by 24 months	86.5	85.2	85.5	92.9	93.9	94.2
UTD PCV by 24 months	73.6	77.2	81.6	90.5	96.7	92.2
2 Rotavirus*	-	-	-	72.6	83.8	70.6
1 Influenza*,† by 24 months	-	-	-	58.2	60.1	57.1
2 Hepatitis A* by 24 months	-	-	-	—	53.1	55.1
Hepatitis B birth dose*	54.8	58.3	66.2	76.2	83.4	82.7

* This vaccine is not included in the 4:3:1:3:3:1:4 vaccine series, which is the series routinely measured for this age group.

† The first year of receiving the influenza vaccine requires 2 doses to be protected for that year; measuring 1 dose is a way to measure general interest in receiving the influenza vaccine, not completion or protection against influenza illness.

Immunization Rates by Vaccine Antigen: In Georgia, the UTD immunization rate by 24 months for most vaccine antigens remained steady from 2006 to 2008, but increased to higher rates than ever in 2010 and remained high through 2012 (Table 5).

Among Georgia coverage rates by antigen in 2012, the DTaP UTD immunization rate was lowest at 87.0%, similar to 85.8% in 2011. The PCV UTD immunization rate was the second-lowest at 92.2%, down from 96.7% in 2011.

Since first being ACIP-recommended in 2002, UTD coverage by 24 months for the pneumococcal conjugate vaccine increased in Georgia from 43.4% in 2005 (not shown) to 92.2% in 2012.

Antigen-Specific Conclusions: Because of the lower coverage rates for DTaP and PCV vaccineshe antigen-specific data suggest that these vaccines could reasonably be the primary focus of District- and County-level immunization campaigns.

State of Georgia Immunization Study Report, p6

District Immunization Rates: While the statewide UTD immunization coverage rate by 24 months was 84.5%, variation was seen between Districts. The Districts with the highest UTD immunization rates by 24 months were Districts 1-1, 1-2, 4-0, 7-0 and 8-1. The Districts with the lowest UTD immunization rates by 24 months were Districts 3-2, 3-4, 5-1, 6-0, and 9-1 (Figure 3 and Table 6).

Response rates for each District are included on the second page of all District reports (Section III) and caution should be taken when interpreting immunization rates for a District with a low response rate.

The reason for this necessary caution is that the children who were classified as unable-to-locate could also be the least UTD. However, we cannot use their immunization history without knowing that it is current, so they must be excluded.

Figure 3: UTD by 24 months Immunization Rates by District, Georgia, 2012

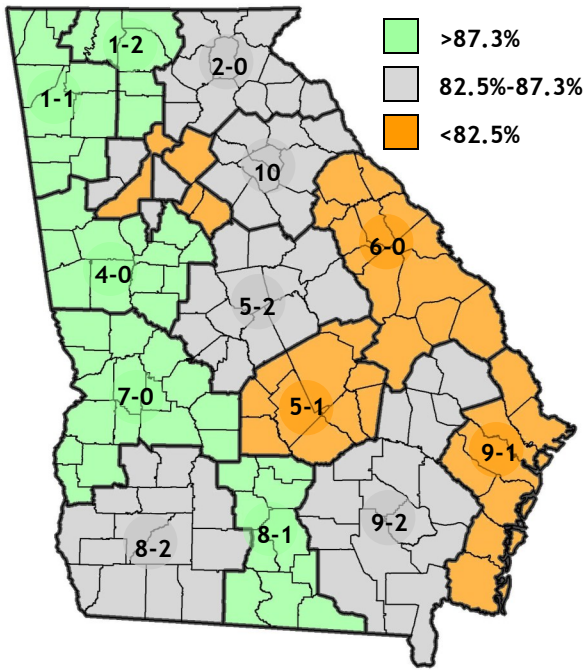


Table 6: District UTD Immunization Rates by 24 months and by End of Data Collection, Georgia, 2012

District	UTD by 24 months (%)	UTD by end of data collection (%)	Final Sample Size (n)
1-1 Northwest (Rome)	92.9	96.9	127
1-2 North Georgia (Dalton)	87.4	95.1	143
2-0 North (Gainesville)	84.1	94.4	126
3-1 Cobb-Douglas	82.9	95.0	140
3-2 Fulton	77.3	84.0	194
3-3 Clayton	83.9	95.2	124
3-4 Gwinnett, Newton, Rockdale	81.5	91.8	195
3-5 DeKalb	87.3	98.0	150
4-0 LaGrange	88.1	96.7	151
5-1 South Central (Dublin)	77.9	93.5	77
5-2 North Central (Macon)	85.4	93.7	158
6-0 East Central (Augusta)	82.4	93.7	159
7-0 West Central (Columbus)	91.0	98.7	156
8-1 South (Valdosta)	88.9	96.3	81
8-2 Southwest (Albany)	83.3	88.6	132
9-1 Coastal (Savannah)	80.7	93.4	181
9-2 Southeast (Waycross)	84.4	93.8	128
10-0 Northeast (Athens)	85.0	90.4	167
Georgia	**84.5**	**93.5**	**2,589**
Color Shading Legend	: <82.5%	: 82.5%-87.3%	: >87.3%

State of Georgia Immunization Study Report, p7

Immunization Success Measures by Health District: Data analyses for this study were done on the state-level, allowing for uniform data analysis covering all of the 18 Health Districts in Georgia. However, there are key measures that can be very telling of a Health District's success in keeping their children up-to-date on all of their immunizations by 24 months of age.

Please refer to Table 7 for a list of these success measures and the first-, second-, and third-placing Health Districts as applicable to each measure. The top portion of the table addresses the Districts who had the highest immunization coverage rates and response rates as well as one-year increases. Some of these measures represent an average over a five-year span and some are only relative to 2012 results.

The lower portion of the Table addresses the vaccine antigen-specific coverage by 24 months and only includes 2012 results.

Congratulations to all of the Districts Immunization Champions; those ranking in the top three for any of the categories!

Table 7: District Immunization Champions, Georgia, 2007-2012

Category	1st Place	2nd Place	3rd Place	State
Highest Response Rate, 2012	Gaines. District (2-0) 100.0%	Augusta District (6-0) 99.4%	Athens District (10-0) 98.2%	92.3%
Highest UTD by 24 months in 2012	Rome District (1-1) 92.9%	Columbus District (7-0) 91.0%	Valdosta District (8-1) 88.9%	84.5%
Highest UTD by end of data collection, 2012	Columbus District (7-0) 98.7%	DeKalb District (3-5) 98.0%	Rome District (1-1) 96.9%	93.6%
Highest 5-year Average: Response Rate (2007-2012)	Augusta District (6-0) 99.9%	Gaines. District (2-0) 98.0%	Dalton District (1-2) 97.7%	92.8%
Highest 5-year Average: UTD by 24 months (2007-2012)	Gainesville Dist. (2-0) 84.7%	Augusta District (6-0) 83.8%	Rome District (1-1) 82.0%	77.7%
Greatest Increase in UTD by 24 months from 2011 to 2012	Columbus District (7-0) 12.7%	Dalton District (1-2) 9.1%	LaGrange District (4-0) 6.8%	2.1%
Greatest Increase in UTD by end of data collection from 2011 to 2012	Columbus District (7-0) 9.1%	LaGrange District (4-0) 7.2%	Dalton District (1-2) 3.8%	-0.4%
Greatest Increase in UTD from 24 months to end of data collection, 2012	Dublin District (5-1) 15.6%	Savannah District (9-1) 12.7%	Cobb District (3-1) 12.1%	9.1%
Highest Coverage*: 4+ DTaP Doses, 2012	Rome District (1-1) 95.3%	Columbus District (7-0) 93.6%	Dalton District (1-2) 90.2%	87.0%
Highest Coverage*: 3+ Polio Doses, 2012	Valdosta District (8-1) 98.8%	Columbus District (7-0) 98.7%	Savannah District (9-1) 98.3%	96.0%
Highest Coverage*: 1 MMR Dose, 2012	Rome District (1-1) 96.9%	Columbus District (7-0) 96.8%	LaGrange District (4-0) 96.7%	93.2%
Highest Coverage*: UTD Hib, 2012	Columbus District (7-0) 98.7%	LaGrange District (4-0) 98.7%	Rome District (1-1) 98.4%	96.1%
Highest Coverage: Hepatitis B Birth Dose, 2012**	Columbus District (7-0) 94.2%	Valdosta District (8-1) 91.4%	Macon District (5-2) 90.5%	82.7%
Highest Coverage*: 3+ Hepatitis B Doses, 2012	Columbus District (7-0) 99.4%	Savannah District (9-1) 98.9%	Valdosta District (8-1) 98.8%	96.1%
Highest Coverage*: 1 Varicella Dose, 2012	LaGrange District (4-0) 98.7%	Rome District (1-1) 98.4%	Dalton District (1-2) 97.9%	94.2%
Highest Coverage*: UTD PCV, 2012	Valdosta District (8-1) 98.8%	Athens District (10-0) 97.0%	Rome District (1-1) 96.9%	92.2%
Highest Coverage*: 1+ Hepatitis A Doses, 2012	Albany District (8-2) 64.4%	Valdosta District (8-1) 64.2%	Columbus District (7-0) 63.5%	57.3%
Highest Coverage*: 1+ Influenza Doses, 2012	Dalton District (1-2) 71.3%	Gainesville District (2-0) 69.1%	Rome District (1-1) 64.6%	57.1%

***Highest immunization coverage by 24 months of age.**
****Highest percentage of children who received the first dose of Hepatitis B within their first 3 days of life.**

Findings Related to WIC Enrollment: Statewide results do not show an overall disparity in UTD immunization rate by 24 months between WIC-enrolled children and children not enrolled in WIC (see Table 4). This appears to be consistent with District-level analyses. In general, Health District does not appear to modify the effect of WIC on UTD immunization status by 24 months of age. District 5-1 was the only District where the children enrolled in WIC had a significant difference (lower) in immunization rate than those not enrolled in WIC. The other seventeen Districts did not show any significant difference between WIC groups (Figure 4 and Table 8).

As can be seen in Section III, each District has distinct population demographics. Immunization campaigns that work for one District may not work for another, but disparities, like this one related to WIC enrollment, can lead to opportunities for idea-sharing between Districts and between programs.

Figure 4: Immunization Rates among WIC and Non-WIC Enrolled Children, Georgia, 2012

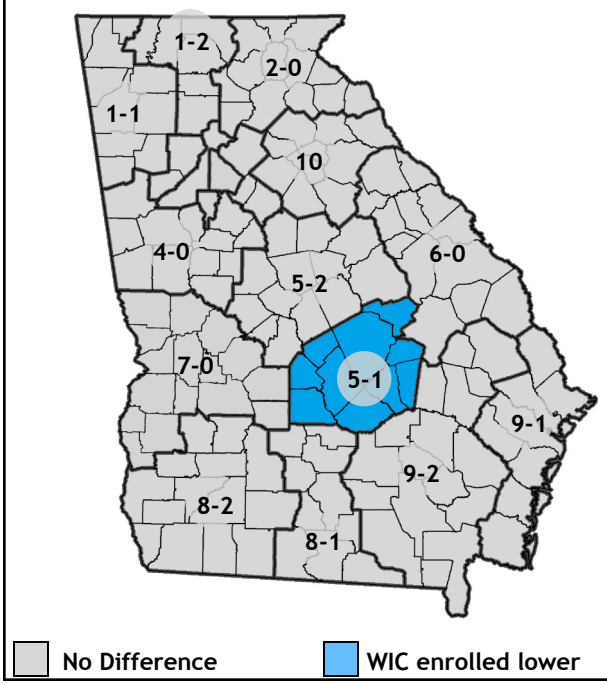


Table 8: Difference in UTD Immunization Rate by 24 months between WIC Enrollment Groups, Georgia, 2012

District	Immunization Rate for children enrolled in WIC (%)	Immunization Rate for children *not* enrolled in WIC (%)	Disparity (WIC Rate-Non-WIC Rate) (%)	95% Confidence Interval of Difference (% — %)*
1-1 Northwest (Rome)	93.2	94.1	-0.9	-9.4 — 7.6
1-2 North Georgia (Dalton)	90.4	87.9	2.5	-7.9 — 12.9
2-0 North (Gainesville)	87.7	84.1	3.6	-8.5 — 15.7
3-1 Cobb-Douglas	90.0	87.8	2.2	-8.5 — 12.9
3-2 Fulton	77.3	75.6	1.7	-10.5 — 13.9
3-3 Clayton	90.2	90.5	-0.3	-10.7 — 10.1
3-4 Gwinnett, Newton, Rockdale	84.5	90.1	-5.6	-15.1 — 3.9
3-5 DeKalb	98.5	96.5	2.0	-2.9 — 6.9
4-0 LaGrange	94.7	94.7	0.0	-7.4 — 7.4
5-1 South Central (Dublin)	76.3	97.4	-21.1	-35.5 — -6.7
5-2 North Central (Macon)	86.3	94.1	-7.8	-17.1 — 1.5
6-0 East Central (Augusta)	80.7	88.2	-7.5	-18.7 — 3.7
7-0 West Central (Columbus)	91.0	95.5	-4.5	-12.2 — 3.2
8-1 South (Valdosta)	86.0	94.7	-8.7	-21.3 — 3.9
8-2 Southwest (Albany)	83.6	87.7	-4.1	-16.0 — 7.8
9-1 Coastal (Savannah)	85.5	85.7	-0.2	-10.5 — 10.1
9-2 Southeast (Waycross)	86.4	85.5	0.9	-11.2 — 13.0
10-0 Northeast (Athens)	85.9	91.3	-5.4	-15.5 — 4.7
Georgia	**87.0**	**89.4**	**-2.4**	**-4.9 — 0.1**

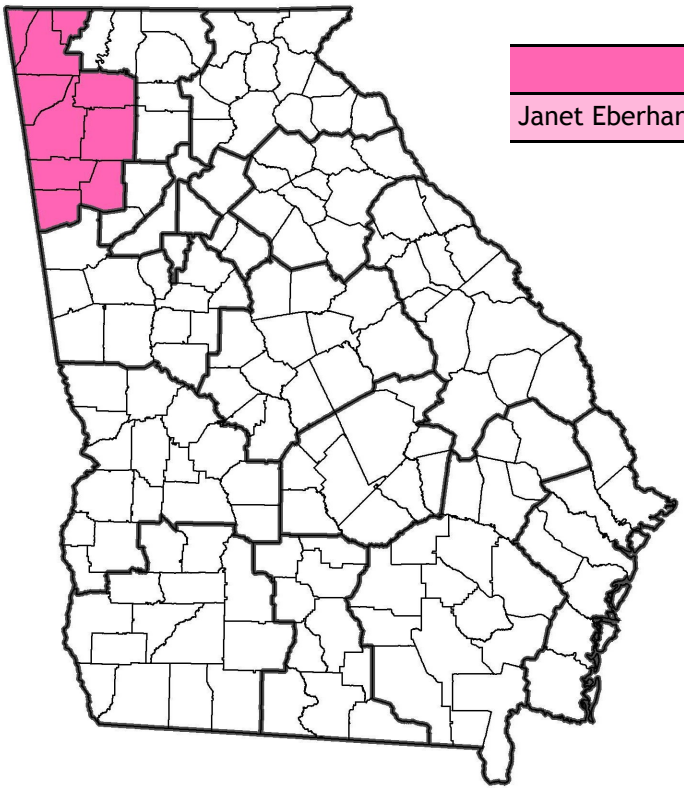
*If the confidence interval overlaps zero, then the difference between groups is not statistically significant.

Section III

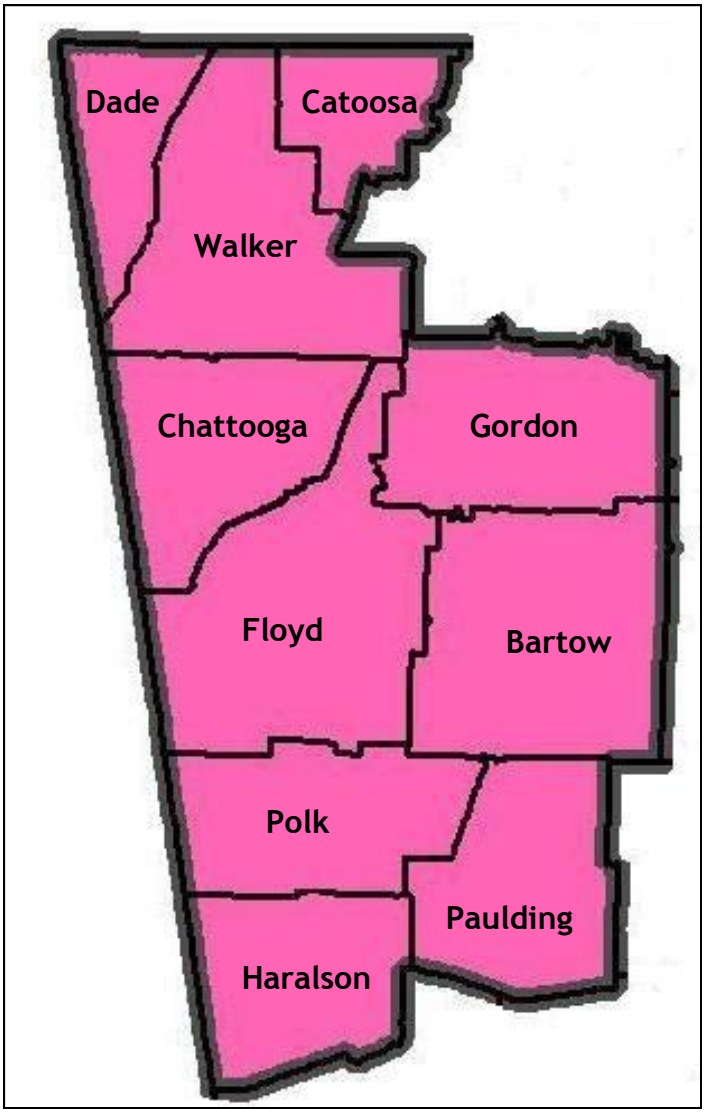
Health District Immunization Reports

District 1-1

2012 Georgia Immunization Study Report



District 1-1 Data Collection Team	
Janet Eberhart, RN, BSN	District Immunization Coordinator



County	Sample	Metro
Bartow	20	Metro
Catoosa	2	Metro
Chattooga	4	Nonnetro
Dade	1	Metro
Floyd	26	Metro
Gordon	15	Nonmetro
Haralson	14	Metro
Paulding	29	Metro
Polk	9	Nonmetro
Walker	7	Metro
District 1-1	**127**	
District UTD by 24 months Immunization Rate	**92.9%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	

District 1-1

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 1-1 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was higher than the state rate (92.9% vs. 84.5%). By the end of data collection, the District UTD immunization rate remained higher than the state rate (96.9% vs. 93.6%) (Table 1-1-B).

From 2011 to 2012: The District 1-1 UTD immunization rate by 24 months increased by 5.2% from 2011 to 2012. The District UTD immunization rate by the end of data collection increased by 1.2% from 2011 to 2012 (Figure 1-1-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 1-1-A: GIS Sampling Scheme, District 1-1, 2012

	District 1-1 (n)	State (n)
Original Sample	150	2,973
Ineligible	4	130
Refused to Participate	1	8
Eligible Sample	145	2,835
Unable to Locate†	18	246
Final Sample	127	2,589
Response Rate (%)	87.6%	92.3%

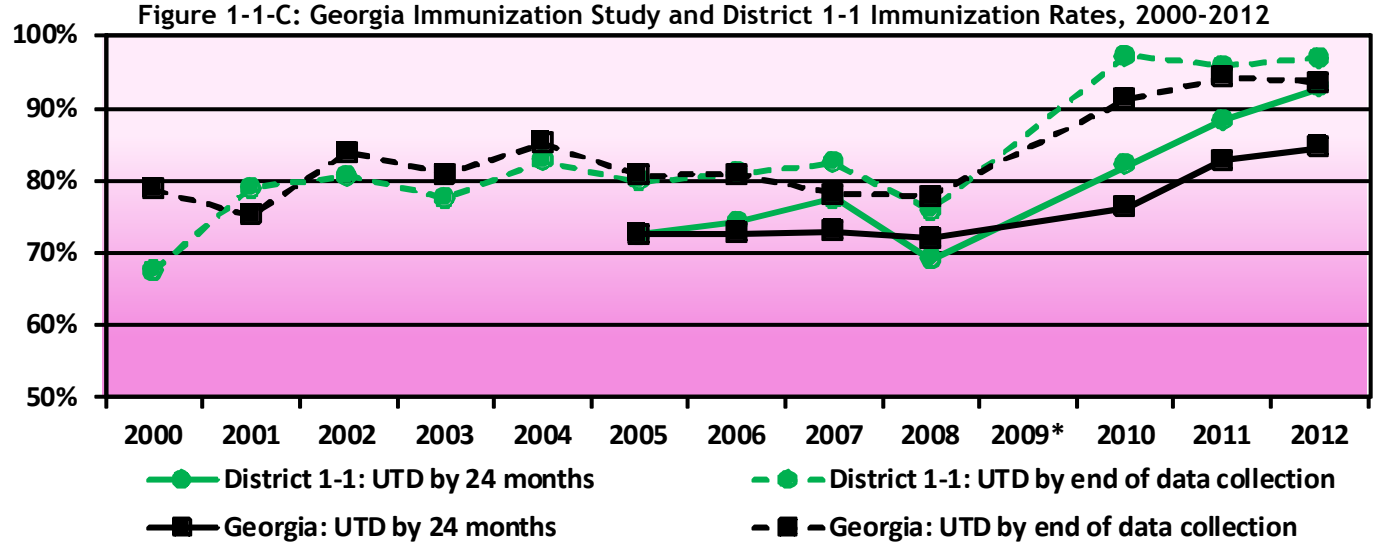
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 1-1-B: Immunization Summary by Series & Vaccine Antigen, District 1-1, 2012

	District 1-1 (%)	State Average (%)
UTD immunization rate* by 24 months	92.9	84.5
UTD immunization rate* by end of data collection†	96.9	93.6
4 DTaP by 24 months	95.3	87.0
3 DTaP by 24 months	98.4	97.0
3 IPV by 24 months	97.6	96.0
1 MMR by 24 months	96.9	93.2
UTD Hib by 24 months	98.4	96.1
3 Hep B by 24 months	97.6	96.1
1 Varicella by 24 months	98.4	94.2
UTD PCV by 24 months	96.9	92.2
2 Rotavirus by 24 months	78.7	70.6
2 Hep A by 24 months	63.0	57.3
1+ Influenza by 24 months	64.6	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 1-1-C: Georgia Immunization Study and District 1-1 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 1-1, Georgia Immunization Study Report, p3

Table 1-1-F: UTD Immunization Rates by Demographic group, District 1-1, 2012

	State Avg. UTD by 24 months (%)	1-1—UTD by 24 months (%)	*1-1—UTD by end of d.c.[β] (%)*
District 1-1 Sample (n=127)	**84.5**	**92.9**	*96.9*
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=90)	**85.0**	**92.2**	*96.7*
White, Hispanic (n=5)	**89.3**	**100.0**	*100.0*
Black (n=12)	**81.6**	**91.7**	*91.7*
Unspecified, Hispanic (n=2)	**86.5**	**100.0**	*100.0*
Asian (n=0)	**94.6**	**-**	*-*
Multiracial (n=2)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=53)	**86.6**	**96.2**	*96.2*
HS Diploma/GED (n=41)	**82.9**	**85.4**	*95.1*
9th-11th grade (n=23)	**82.9**	**100.0**	*100.0*
<9th grade (n=9)	**85.6**	**88.9**	*100.0*
WIC[θ]			
Non-WIC (n=68)	**89.4**	**94.1**	*97.1*
WIC (n=59)	**87.0**	**93.2**	*96.6*
Maternal Age[‡]			
<25 years (n=63)	**83.6**	**92.1**	*98.4*
25-34 years (n=53)	**84.8**	**94.3**	*96.2*
35+ years (n=11)	**86.7**	**90.9**	*90.9*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=38)	**90.7**	**97.4**	*97.4*
Unmarried, First Birth (n=27)	**87.6**	**88.9**	*100.0*
Married, Repeat Birth (n=44)	**82.5**	**88.6**	*93.2*
Unmarried, Repeat Birth (n=18)	**79.6**	**100.0**	*100.0*
Gestational Age[‡]			
<37 weeks (n=23)	**83.5**	**91.3**	*95.7*
37+ weeks (n=104)	**84.7**	**93.3**	*97.1*
Provider Type[†,θ]			
Public Sector Only (n=1)	**73.1**	**100.0**	*100.0*
Private Sector Only (n=107)	**86.0**	**94.4**	*98.1*
Both (n=9)	**73.8**	**100.0**	*100.0*
Payment at Birth[‡,†]			
Government Assist (n=53)	**82.1**	**88.7**	*96.2*
Private Insurance (n=46)	**88.2**	**95.7**	*95.7*
Other (n=12)	**89.2**	**100.0**	*100.0*
Self Pay (n=5)	**87.2**	**100.0**	*100.0*

UTD Immunization Rates by Demographic Group: In District 1-1, the UTD immunization rates among white, non-Hispanics was higher than the state's UTD by 24 months rate (92.2% vs. 85.0%), however the District's other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 1-1-F).

For District 1-1, children of mothers with a high school diploma/GED and no college education were least often UTD by 24 months (85.4%). In terms of maternal age, children of mothers 35+ years of age were least often UTD by 24 months of age (90.9%).

In terms of the maternal marital status and repeat births, children of unmarried mothers with previous children were most often UTD by 24 months (100.0%), and this was markedly different from the overall state finding (79.6%). In addition, the District data support the importance of a medical home; children who had one provider (Number of Providers) were more often UTD than those with two providers (96.3% vs. 92.9%).

Although many demographic-related disparities resolved by the end of data collection, some still remained and some new disparities emerged (Table 1-1-F, *column in italics*). For example, children of

	State Avg. UTD by 24 months (%)	1-1—UTD by 24 months (%)	*1-1—UTD by end of d.c.[β] (%)*
Number of Providers[†,θ]			
1 (n=81)	**85.4**	**96.3**	*98.8*
2 (n=28)	**82.4**	**92.9**	*100.0*
3+ (n=6)	**85.0**	**83.3**	*83.3*
Child's Gender[‡]			
Male (n=60)	**84.6**	**95.0**	*98.3*
Female (n=67)	**84.5**	**91.0**	*95.5*
Metro Residence[θ]			
Metro (n=99)	**83.9**	**92.9**	*96.0*
Non-metro (n=28)	**86.4**	**92.9**	*100.0*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic group.

mothers with a high school diploma or college education were slightly less likely to be UTD by the end of data collection, but these groups were larger than those of lesser educated mothers (96.2% and 95.1% vs. 100.0%).

In addition, the District data support the importance of a medical home; children who had one or two providers (Number of Providers) remained more often UTD by the end of the data collection, than those with 3+ providers (98.8% and 100.0% vs. 83.3%).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 1-1 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of mothers with a high school diploma/GED level of education
- Children of mothers 35+ years of age
- Firstborn children of unmarried mothers and children of married mothers with previous children
- Children receiving immunizations from more than two providers

Table 1-1-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 1-1, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	76.1	79.1	74.1	88.6	88.3	95.3
3 Polio by 24 months	89.0	93.4	90.7	98.6	96.8	97.6
1 MMR by 24 months	89.6	89.6	86.4	95.0	92.6	96.9
UTD Hib by 24 months	86.5	88.5	84.6	92.9	95.7	98.4
3 Hepatitis B by 24 months	90.8	94.0	93.2	96.4	96.8	97.6
1 Varicella by 24 months	80.4	89.0	86.4	95.7	92.6	98.4
UTD PCV by 24 months	80.4	81.9	82.1	95.0	95.7	96.9
2 Rotavirus	-	-	-	67.9	87.2	78.7
1 Influenza by 24 months	-	-	-	61.4	70.2	64.6

Immunization Rates by Vaccine Antigen: In District 1-1, the UTD immunization rate by 24 months for most vaccine antigens increased to higher rates than ever in 2012 (Table 1-1-G).

Among District 1-1 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP showed the most improvement over 2011, rising from 88.3% to 95.3%. The UTD immunization rates for MMR and Varicella showed the second highest improvements at 96.9% and 98.4%, up from 92.6% and 92.6%, respectively, in 2011.

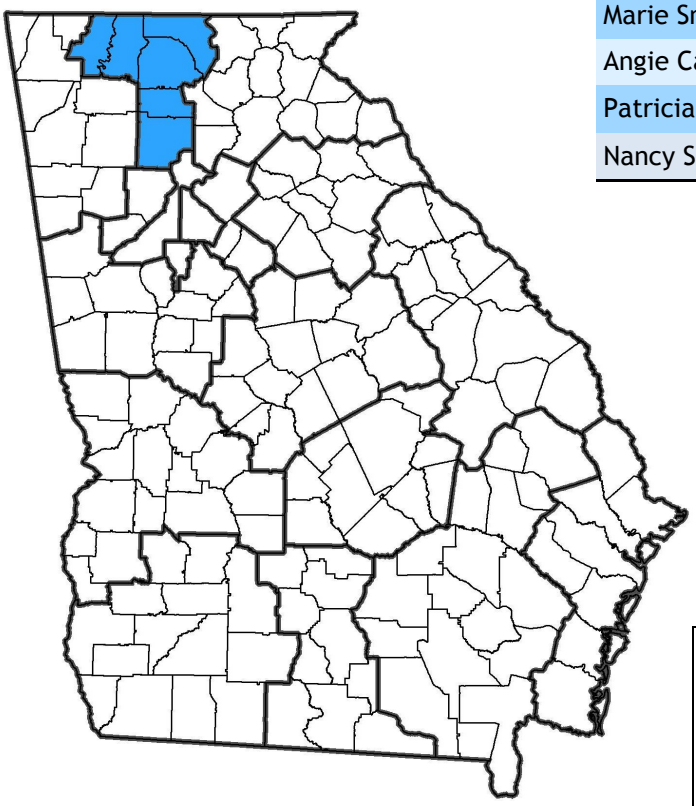
Since first being ACIP-recommended in 2002, UTD coverage by 24 months for the pneumococcal conjugate vaccine increased from 49.4% in 2005 (not shown) to 96.9% in 2012.

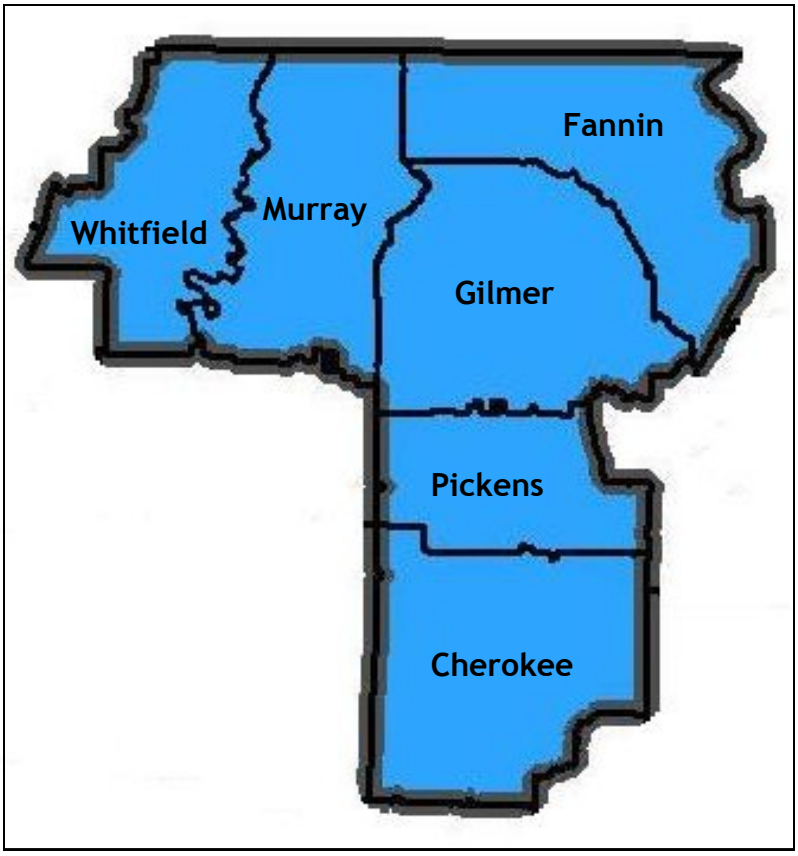
Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP, MMR, and PCV vaccines could reasonably be the primary focus of District and County-level immunization campaigns, though levels are over 95% for all antigen-specific immunizations.

District 1-2

2012 Georgia Immunization Study Report

District 1-2 Data Collection Team	
Marie Smith, RN	District Immunization Coordinator
Angie Callaway, RN	Secondary Data Collector
Patricia Mason LPN	Secondary Data Collector
Nancy Stackhouse, LPN	Secondary Data Collector





County	Sample	Metro
Cherokee	69	Metro
Fannin	5	Nonmetro
Gilmer	11	Nonmetro
Murray	14	Metro
Pickens	9	Metro
Whitfield	35	Metro
District 1-2	**143**	
District UTD by 24 months Immunization Rate	**87.4%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	

District 1-2

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 1-2 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was higher than the state rate (87.4% vs. 84.5%), and remained higher at the end of data collection (95.1 vs. 93.6%) (Table 1-2-B).

From 2011 to 2012: The District 1-2 UTD immunization rate by 24 months increased by 11.6% from 2011 to 2012. The District UTD immunization rate by the end of data collection increased by 4.2% from 2011 to 2012 (Figure 1-2-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 1-2-A: GIS Sampling Scheme, District 1-2, 2012

	District 1-2 (n)	State (n)
Original Sample	159	2,973
Ineligible	9	130
Refused to Participate	1	8
Eligible Sample	149	2,835
Unable to Locate†	6	246
Final Sample	143	2,589
Response Rate (%)	96.0%	92.3%

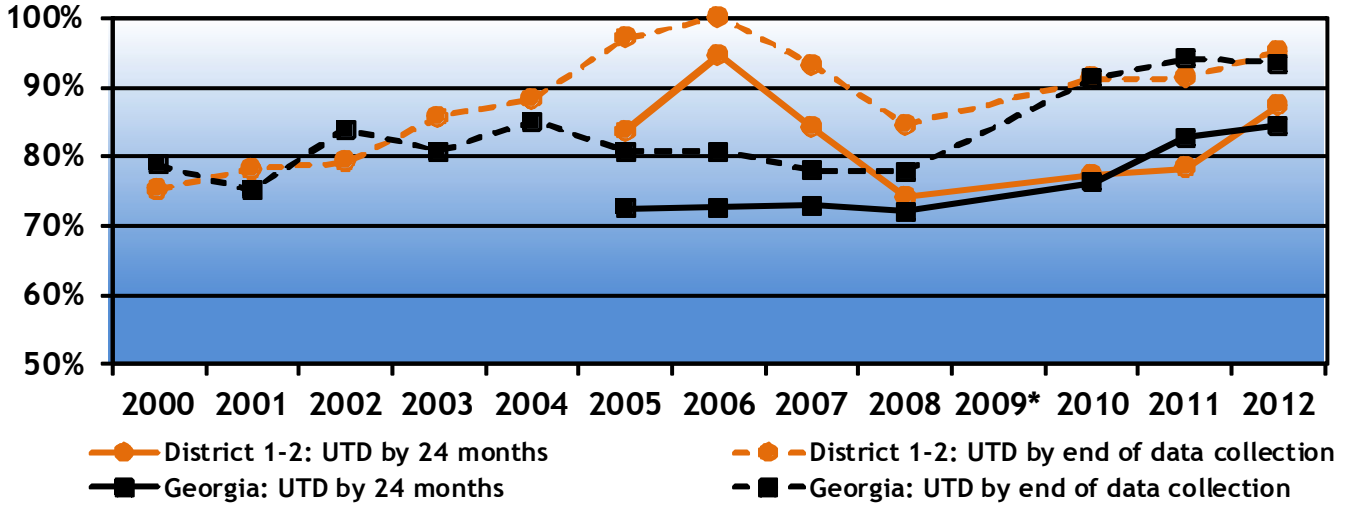
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 1-2-B: Immunization Summary by Series & Vaccine Antigen, District 1-2, 2012

	District 1-2 (%)	State Average (%)
UTD immunization rate* by 24 months	87.4	84.5
UTD immunization rate* by end of data collection†	95.1	93.6
4 DTaP by 24 months	90.2	87.0
3 DTaP by 24 months	97.9	97.0
3 IPV by 24 months	97.9	96.0
1 MMR by 24 months	95.8	93.2
UTD Hib by 24 months	97.9	96.1
3 Hep B by 24 months	98.6	96.1
1 Varicella by 24 months	97.9	94.2
UTD PCV by 24 months	93.0	92.2
2 Rotavirus by 24 months	69.9	70.6
2 Hep A by 24 months	59.4	57.3
1+ Influenza by 24 months	71.3	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 1-2-C: Georgia Immunization Study and District 1-2 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 1-2, Georgia Immunization Study Report, p3

Table 1-2-F: UTD Immunization Rates by Demographic group, District 1-2, 2012

	State Avg. UTD by 24 months (%)	1-2—UTD by 24 months (%)	*1-2—UTD by end of d.c.[θ] (%)*
District 1-2 Sample (n=143)	**84.5**	**87.4**	*95.1*
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=93)	**85.0**	**88.1**	*93.6*
White, Hispanic (n=2)	**89.3**	**50.0**	*100.0*
Black (n=5)	**81.6**	**60.0**	*80.0*
Unspecified, Hispanic (n=26)	**86.5**	**88.5**	*100.0*
Asian (n=2)	**94.6**	**100.0**	*100.0*
Multiracial (n=0)	**90.2**	**NA**	*NA*
Maternal Education[‡,†]			
Some College+ (n=49)	**86.6**	**87.8**	*93.9*
HS Diploma/GED (n=38)	**82.9**	**92.1**	*94.7*
9th-11th grade (n=25)	**82.9**	**84.0**	*96.0*
<9th grade (n=19)	**85.6**	**89.5**	*100.0*
WIC			
Non-WIC (n=91)	**89.4**	**87.9**	*94.5*
WIC (n=52)	**87.0**	**90.4**	*98.1*
Maternal Age[‡]			
<25 years (n=55)	**83.6**	**87.3**	*98.2*
25-34 years (n=68)	**84.8**	**86.8**	*92.7*
35+ years (n=20)	**86.7**	**90.0**	*95.0*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=39)	**90.7**	**94.9**	*97.4*
Unmarried, First Birth (n=23)	**87.6**	**95.7**	*100.0*
Married, Repeat Birth (n=50)	**82.5**	**78.0**	*88.0*
Unmarried, Repeat Birth (n=28)	**79.6**	**85.7**	*100.0*
Gestational Age[‡]			
<37 weeks (n=9)	**83.5**	**77.8**	*100.0*
37+ weeks (n=134)	**84.7**	**88.1**	*94.8*
Provider Type[†]			
Public Sector Only (n=3)	**73.1**	**100.0**	*100.0*
Private Sector Only (n=118)	**86.0**	**89.0**	*94.9*
Both (n=12)	**73.8**	**66.7**	*91.7*
Payment at Birth[‡,†]			
Government Assist (n=50)	**82.1**	**88.0**	*94.0*
Private Insurance (n=48)	**88.2**	**83.3**	*93.8*
Other (n=8)	**89.2**	**87.5**	*100.0*
Self Pay (n=16)	**87.2**	**87.5**	*100.0*

UTD Immunization Rates by Demographic Group: In District 1-2, children of Hispanic mothers of unspecified race were UTD by 24 months at a similar rate as children of white, non-Hispanic mothers (88.5% vs. 88.1%). The District's other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 1-2-F).

Children of mothers 25-34 years of age were least often UTD by 24 months of age (86.8%). In terms of maternal marital status and repeat births, children of married mothers with previous children were least often UTD by 24 months (78.0%).

Children born at a gestational age of 37+ weeks were more often UTD by 24 months than those born at a gestational age less than 37 weeks (88.1 vs. 77.8%).

Most children had only one provider, and were more often UTD by 24 months of age than children with 2 providers (89.2% vs. 76.7%).

Although many demographic-related disparities resolved by the end of data collection, some still remained and some new ones emerged (Table 1-2-F, *column in italics*). For example, children of Hispanic mothers remained more often UTD at the end of data collection when compared to children

	State Avg. UTD by 24 months (%)	1-2—UTD by 24 months (%)	*1-2—UTD by end of d.c.[θ] (%)*
Number of Providers[†]			
1 (n=83)	**85.4**	**89.2**	*96.4*
2 (n=30)	**82.4**	**76.7**	*86.7*
3+ (n=12)	**85.0**	**100.0**	*100.0*
Child's Gender[‡]			
Male (n=77)	**84.6**	**85.7**	*92.2*
Female (n=66)	**84.5**	**89.4**	*98.5*
Metro Residence[Θ]			
Metro (n=121)	**83.9**	**86.8**	*95.0*
Non-metro (n=20)	**86.4**	**90.0**	*95.0*

Footnotes

θ "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

of non-Hispanic mothers, the next largest group (100% vs. 93.6%).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 1-2 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of white, non-Hispanic mothers
- Children of mothers 25-34 years of age
- Children of married mothers with previous children
- Children who were born at a gestational age of less than 37 weeks
- Children whose residence is in a metropolitan county

Table 1-2-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 1-2, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	94.6	86.4	75.9	86.8	81.7	90.2
3 Polio by 24 months	100.0	93.2	91.4	96.5	93.9	97.9
1 MMR by 24 months	94.6	93.2	86.2	91.2	90.4	95.8
UTD Hib by 24 months	94.6	97.7	89.7	85.1	91.3	97.9
3 Hepatitis B by 24 months	97.3	97.8	91.4	96.5	95.7	98.6
1 Varicella by 24 months	94.6	95.5	87.9	94.7	93.0	97.9
UTD PCV by 24 months	89.2	88.6	86.2	93.9	93.0	93.0
2 Rotavirus	-	-	-	77.2	82.6	69.9
1 Influenza by 24 months	-	-	-	60.5	60.0	71.3

Immunization Rates by Vaccine Antigen: In District 1-2, the UTD immunization rates by 24 months for most vaccine antigens rose between 2006 and 2012. A notable increase occurred for the UTD 4 DTaP measure, rising from 81.7% in 2011 to 90.2% in 2012 (Table 1-2-G).

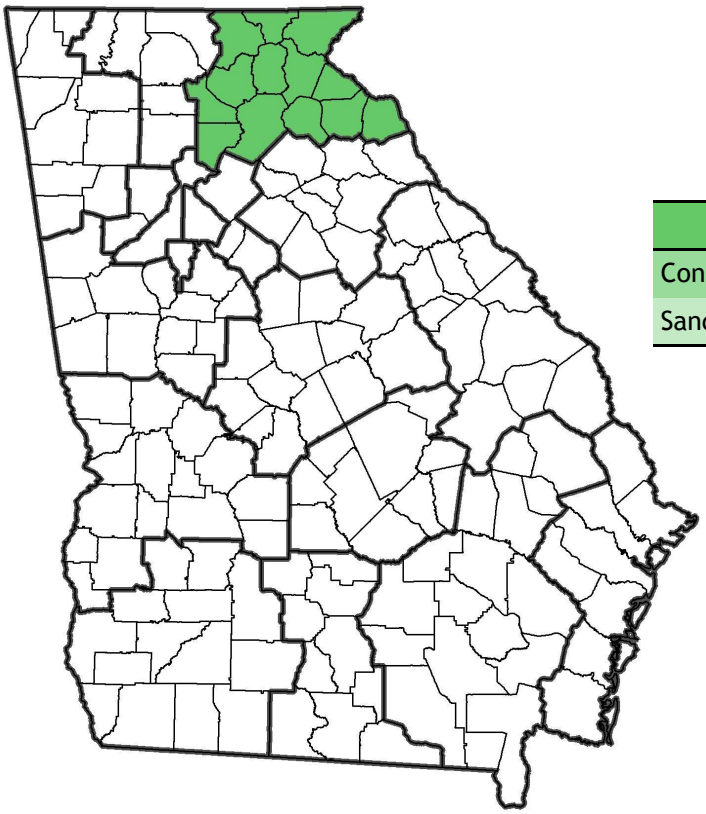
Among District 1-2 immunization rates by vaccine antigen in 2012, the UTD immunization rate for PCV showed no change at 93.0%. The UTD immunization rate for Rotavirus was the only antigen-specific immunization rate to actually decrease between 2011 and 2012.

Since first being ACIP-recommended in 2002, UTD coverage by 24 months for the pneumococcal conjugate vaccine increased from 57.5% in 2005 (not shown) to 93.0% in 2012.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP and PCV vaccines could reasonably be the primary focus of District and County-level immunization campaigns.

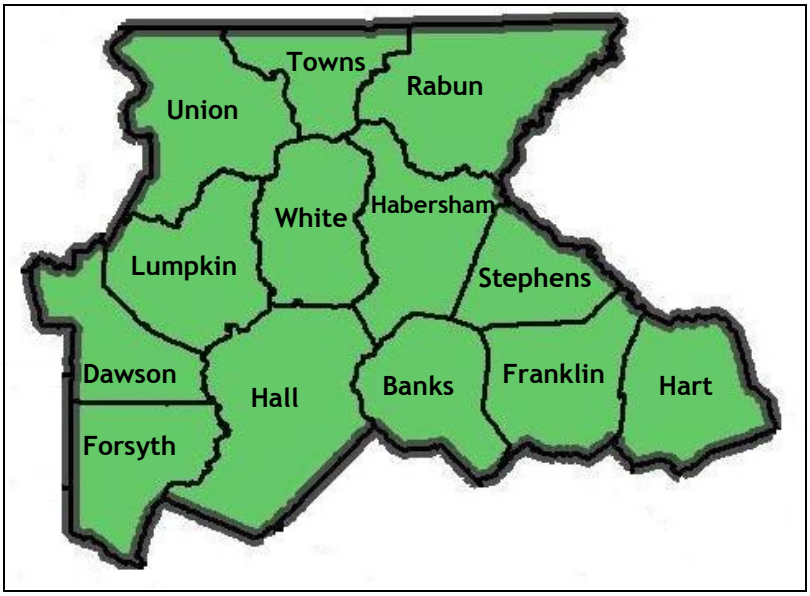
District 2-0

2012 Georgia Immunization Study Report



District 2-0 Data Collection Team	
Constance Martin RN BSN	District Immunization Coordinator
Sandy T. Moore	Primary Data Collector

County	Sample	Metro
Banks	1	Nonmetro
Dawson	2	Metro
Forsyth	33	Metro
Franklin	6	Nonmetro
Habersham	17	Nonmetro
Hall	46	Metro
Hart	2	Nonmetro
Lumpkin	4	Nonmetro
Rabun	2	Nonmetro
Stephens	5	Nonmetro
Towns	0	Nonmetro
Union	3	Nonmetro
White	5	Nonmetro
District 2-0	**126**	
District UTD by 24 months Immunization Rate	**84.1%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 2-0

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 2-0 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was lower than the state rate (84.1% vs. 84.5%). By the end of data collection, the District UTD immunization rate was higher than the state rate (94.4% vs. 93.6%) (Table 2-0-B).

From 2011 to 2012: The District 2-0 UTD immunization rate by 24 months decreased by 3.2% from 2011 to 2012. The District UTD immunization rate by the end of data collection decreased by 0.8% from 2011 to 2012 (Figure 2-0-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 2-0-A: GIS Sampling Scheme, District 2-0, 2012

	District 2-0 (n)	State (n)
Original Sample	138	2,973
Ineligible	12	130
Refused to Participate	0	8
Eligible Sample	126	2,835
Unable to Locate†	0	246
Final Sample	126	2,589
Response Rate (%)	100.0%	92.3%

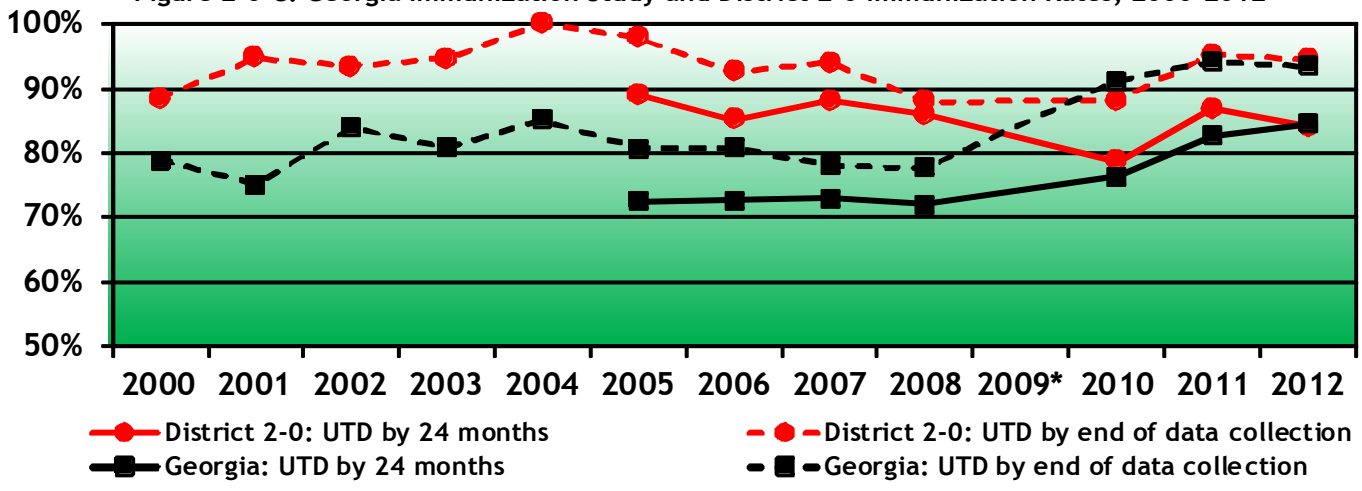
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 2-0-B: Immunization Summary by Series & Vaccine Antigen, District 2-0, 2012

	District 2-0 (%)	State Average (%)
UTD immunization rate* **by 24 months**	84.1	84.5
UTD immunization rate* **by end of data collection†**	94.4	93.6
4 DTaP **by 24 months**	86.5	87.0
3 DTaP **by 24 months**	97.6	97.0
3 IPV **by 24 months**	96.8	96.0
1 MMR **by 24 months**	96.0	93.2
UTD Hib **by 24 months**	96.8	96.1
3 Hep B **by 24 months**	93.5	96.1
1 Varicella **by 24 months**	95.2	94.2
UTD PCV **by 24 months**	90.5	92.2
2 Rotavirus **by 24 months**	89.7	70.6
2 Hep A **by 24 months**	51.6	57.3
1+ Influenza **by 24 months**	69.1	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 2-0-C: Georgia Immunization Study and District 2-0 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 2-0, Georgia Immunization Study Report, p3

Table 2-0-F: UTD Immunization Rates by Demographic group, District 2-0, 2012

	State Avg. UTD by 24 months (%)	2-0—UTD by 24 months (%)	*2-0—UTD by end of d.c.[ϐ] (%)*
District 2-0 Sample (n=126)	**84.5**	84.1	94.4
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=75)	**85.0**	**77.3**	*90.7*
White, Hispanic (n=21)	**89.3**	**95.2**	*100.0*
Black (n=5)	**81.6**	**100.0**	*100.0*
Unspecified, Hispanic (n=7)	**86.5**	**85.7**	*100.0*
Asian (n=6)	**94.6**	**100.0**	*100.0*
Multiracial (n=0)	**90.2**	-	-
Maternal Education[‡,†]			
Some College+ (n=46)	**86.6**	**84.8**	*93.5*
HS Diploma/GED (n=41)	**82.9**	**75.6**	*92.7*
9th-11th grade (n=25)	**82.9**	**92.0**	*96.0*
<9th grade (n=9)	**85.6**	**88.9**	*100.0*
WIC			
Non-WIC (n=69)	**89.4**	**84.1**	*92.8*
WIC (n=57)	**87.0**	**87.7**	*96.5*
Maternal Age[‡]			
<25 years (n=50)	**83.6**	**80.0**	*94.0*
25-34 years (n=58)	**84.8**	**89.7**	*94.8*
35+ years (n=18)	**86.7**	**77.8**	*94.4*
Maternal Marital Status[‡], & Repeat Birth[‡] Combination			
Married, First Birth (n=34)	**90.7**	**94.1**	*97.1*
Unmarried, First Birth (n=22)	**87.6**	**77.3**	*86.4*
Married, Repeat Birth (n=48)	**82.5**	**77.1**	*93.8*
Unmarried, Repeat Birth (n=22)	**79.6**	**90.9**	*100.0*
Gestational Age[‡]			
<37 weeks (n=15)	**83.5**	**93.3**	*100.0*
37+ weeks (n=111)	**84.7**	**82.9**	*93.7*
Provider Type[†]			
Public Sector Only (n=3)	**73.1**	**100.0**	*100.0*
Private Sector Only (n=67)	**86.0**	**83.6**	*95.5*
Both (n=3)	**73.8**	**100.0**	*100.0*
Payment at Birth[‡,†]			
Government Assist (n=60)	**82.1**	**81.7**	*95.0*
Private Insurance (n=39)	**88.2**	**87.2**	*94.9*
Other (n=12)	**89.2**	**83.3**	*91.7*
Self Pay (n=2)	**87.2**	**100.0**	*100.0*

UTD Immunization Rates by Demographic Group: In District 2-0, children of white, non-Hispanic mothers were least likely to be UTD by 24 months compared to the District sample as a whole (77.3% vs. 84.1%) and this discrepancy remained at the end of data collection (90.7% vs. 94.4%) although other race/ethnicity groups were small (Table 2-0-F).

Children of mothers with some college education were more often UTD at 24 months compared to children of mothers who had only completed high school (84.8% vs. 75.6%).

In terms of maternal age, children of mothers 35+ years of age were least often UTD by 24 months of age (77.8%) and children of mothers 25-34 years of age were most often UTD by 24 months (89.7%).

In terms of maternal marital status and repeat births, children of unmarried mothers who were firstborn were least often UTD at the end of data collection (86.4%) (see Table 2-0-F).

The District 2-0 data support the importance of a medical home; children who had one provider (Number of Providers) were more often UTD by 24 months than those with two providers (85.2% vs. 70.0%).

	State Avg. UTD by 24 months (%)	2-0—UTD by 24 months (%)	*2-0—UTD by end of d.c.[ϐ] (%)*
Number of Providers[†]			
1 (n=54)	**85.4**	**85.2**	*96.3*
2 (n=10)	**82.4**	**70.0**	*90.0*
3 (n=7)	**85.0**	**100.0**	*100.0*
Child's Gender[‡]			
Male (n=74)	**84.6**	**78.4**	*90.5*
Female (n=52)	**84.5**	**92.3**	*100.0*
Metro Residence			
Metro (n=84)	**83.9**	**83.3**	*94.1*
Non-metro (n=42)	**86.4**	**85.7**	*95.2*

Footnotes

ϐ "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

Although many demographic-related disparities resolved by the end of data collection, some still remained (Table 2-0-F, *column in italics*).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 2-0 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of white, non-Hispanic mothers
- Children of mothers who completed a high school education
- Children of unmarried mothers without previous children and married mothers with previous children
- Children receiving immunizations from two different providers

Table 2-0-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 2-0, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	85.2	89.3	88.0	86.9	90.3	86.5
3 Polio by 24 months	92.6	94.1	92.0	95.2	97.9	96.8
1 MMR by 24 months	85.2	94.1	94.0	92.9	94.5	96.0
UTD Hib by 24 months	96.3	94.1	88.0	91.7	97.2	96.8
3 Hepatitis B by 24 months	96.3	96.4	92.0	96.4	97.9	93.7
1 Varicella by 24 months	88.9	95.2	94.0	91.7	95.2	95.2
UTD PCV by 24 months	77.8	88.1	90.0	90.5	97.2	90.5
2 Rotavirus	-	-	-	79.8	92.4	89.7
1 Influenza by 24 months	-	-	-	65.5	66.2	69.1

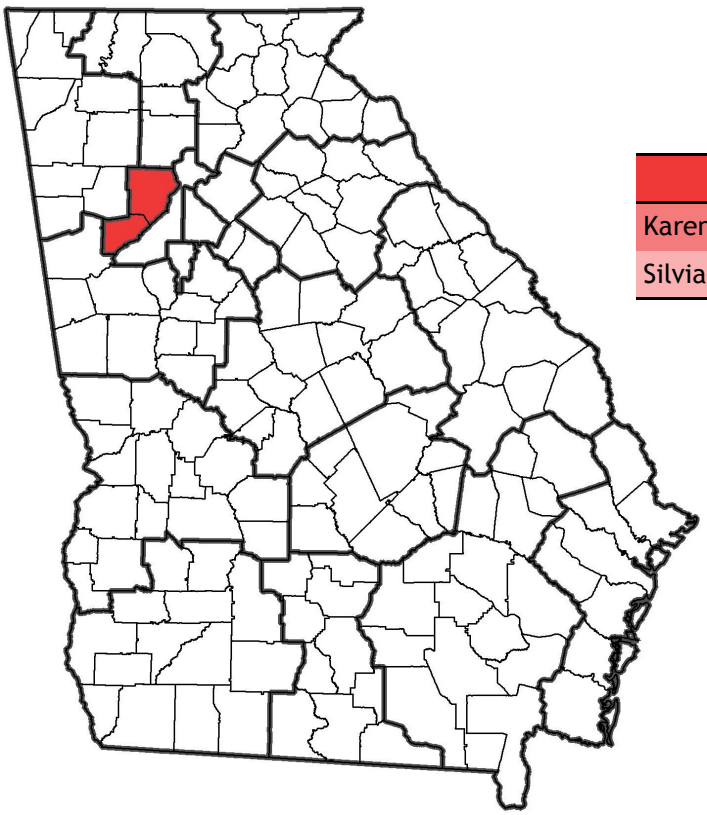
Immunization Rates by Vaccine Antigen: In District 2-0, the UTD immunization rates for most vaccine antigens fluctuated from 2006 to 2012, and most decreased between 2011 and 2012. Only MMR coverage rates increased from 2011 to 2012 (Table 2-0-G).

Among District 2-0 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was lowest at 86.5%, down from 90.3% in 2011. The UTD immunization rate for PCV was the second-lowest at 90.5%, down from 97.2% in 2011.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP vaccine should be the primary focus of District and County-level immunization campaigns.

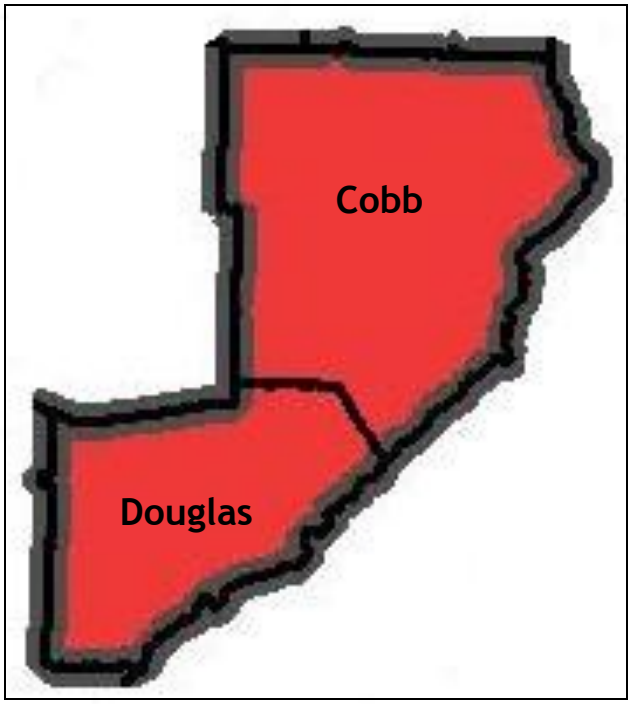
District 3-1

2012 Georgia Immunization Study Report



District 3-1 Data Collection Team	
Karen Thomas, RN	District Immunization Coordinator
Silvia Frausto	Data Collector

County	Sample	Metro
Cobb	118	Metro
Douglas	22	Metro
District 3-1	**140**	
District UTD by 24 months Immunization Rate	**82.9%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 3-1

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 3-1 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was lower than the state rate (82.9% vs. 84.5%). By the end of data collection, the District UTD immunization rate was higher than the state rate (95.0% vs. 93.6%) (Table 3-1-B).

From 2011 to 2012: The District 3-1 UTD immunization rate by 24 months decreased by 3.2% from 2011 to 2012. The District UTD immunization rate by the end of data collection increased by 0.7% from 2011 to 2012 (Figure 3-1-C).

Sample population demographics for this District and their effect on UTD immunization rates are discussed on the following pages.

Table 3-1-A: GIS Sampling Scheme, District 3-1, 2012

	District 3-1 (n)	State (n)
Original Sample	171	2,973
Ineligible	14	130
Refused to Participate	0	8
Eligible Sample	157	2,835
Unable to Locate†	17	246
Final Sample	140	2,589
Response Rate (%)	89.8%	92.3%

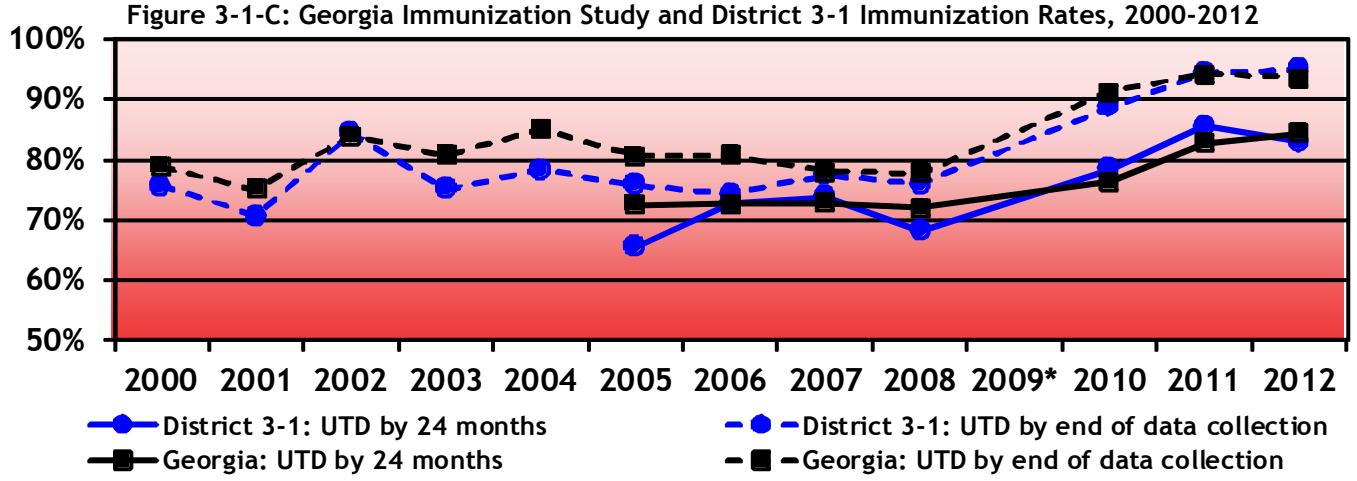
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 3-1-B: Immunization Summary by Series & Vaccine Antigen, District 3-1, 2012

	District 3-1 (%)	State Average (%)
UTD immunization rate* by 24 months	82.9	84.5
UTD immunization rate* by end of data collection†	95.0	93.6
4 DTaP by 24 months	85.7	87.0
3 DTaP by 24 months	95.7	97.0
3 IPV by 24 months	94.3	96.0
1 MMR by 24 months	90.7	93.2
UTD Hib by 24 months	93.6	96.1
3 Hep B by 24 months	95.0	96.1
1 Varicella by 24 months	91.4	94.2
UTD PCV by 24 months	92.1	92.2
2 Rotavirus by 24 months	75.7	70.6
2 Hep A by 24 months	52.9	57.3
1+ Influenza by 24 months	60.0	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 3-1-C: Georgia Immunization Study and District 3-1 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 3-1, Georgia Immunization Study Report, p3

Table 3-1-F: UTD Immunization Rates by Demographic group, District 3-1, 2012

	State Avg. UTD by 24 months (%)	3-1—UTD by 24 months %	*3-1—UTD by end of d.c.[β] (%)*
District 3-1 Sample (n=140)	**84.5**	82.9	95.0
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=58)	**85.0**	**79.3**	*93.1*
White, Hispanic (n=14)	**89.3**	**85.7**	*100.0*
Black (n=44)	**81.6**	**81.8**	*95.5*
Unspecified, Hispanic (n=8)	**86.5**	**100.0**	*100.0*
Asian (n=3)	**94.6**	**100.0**	*100.0*
Multiracial (n=4)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=78)	**86.6**	**85.9**	*98.7*
HS Diploma/GED (n=36)	**82.9**	**69.4**	*86.1*
9th-11th grade (n=17)	**82.9**	**88.2**	*94.1*
<9th grade (n=5)	**85.6**	**100.0**	*100.0*
WIC[θ]			
Non-WIC (n=90)	**89.4**	**87.8**	*94.4*
WIC (n=50)	**87.0**	**90.0**	*94.0*
Maternal Age[‡]			
<25 years (n=38)	**83.6**	**76.3**	*92.1*
25-34 years (n=76)	**84.8**	**86.8**	*96.1*
35+ years (n=26)	**86.7**	**80.8**	*96.2*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=34)	**90.7**	**91.2**	*94.1*
Unmarried, First Birth (n=25)	**87.6**	**88.0**	*100.0*
Married, Repeat Birth (n=55)	**82.5**	**80.0**	*96.4*
Unmarried, Repeat Birth (n=26)	**79.6**	**73.1**	*88.5*
Gestational Age[‡]			
<37 weeks (n=13)	**83.5**	**84.6**	*100.0*
37+ weeks (n=127)	**84.7**	**82.7**	*94.5*
Provider Type[†]			
Public Sector Only (n=)	**73.1**	-	-
Private Sector Only (n=)	**86.0**	-	-
Both (n=)	**73.8**	-	-
Payment at Birth[‡,†]			
Government Assist (n=65)	**82.1**	**76.9**	*92.3*
Private Insurance (n=49)	**88.2**	**91.8**	*100.0*
Other (n=8)	**89.2**	**75.0**	*100.0*
Self Pay (n=4)	**87.2**	**75.0**	*100.0*

UTD Immunization Rates by Demographic Group: In District 3-1, children of white, non-Hispanic mothers, the largest demographic group in this District sample, were less often UTD by 24 months compared to the District sample as a whole (79.3% vs. 82.9%). Children of Black mothers were UTD by 24 months at a rate consistent with the District sample (81.8% vs. 82.9%). The District's other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 3-1-F).

In terms of maternal education, children of mothers with a high school diploma were less often UTD by 24 months compared to children of mothers with some college education (69.4% vs. 85.9%).

With regard to maternal age, children of mothers <25 years of age were least often UTD by 24 months of age (76.3%). With regard to maternal marital status and repeat births, children of unmarried mothers with previous children were the least often UTD by 24 months (73.1%).

In terms of payment at birth, District 3-1 children whose birth costs were covered by private insurance were more often UTD than children whose birth costs were covered by government-assisted insurance (91.8% vs. 76.9%).

	State Avg. UTD by 24 months (%)	3-1—UTD by 24 months (%)	*3-1—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=)	**85.4**	-	-
2 (n=)	**82.4**	-	-
3+ (n=)	**85.0**	-	-
Child's Gender[‡]			
Male (n=78)	**84.6**	**83.3**	*94.9*
Female (n=62)	**84.5**	**82.3**	*95.2*
Metro Residence[θ]			
Metro (n=140)	**83.9**	**82.9**	*95.0*
Non-metro (n=0)	**86.4**	0	*0*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

Although many demographic-related disparities resolved by the end of data collection, some still remained (Table 3-1-F, *column in italics*).

For example, children of white non-Hispanic mothers remained the least often UTD (93.1%).

In addition, children of mothers with only a high school diploma remained less often UTD by the end of data collection compared to those whose mothers had a college level education (86.1% vs. 98.7%).

Information on provider type and number of providers per child was not available.

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 3-1 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of white, Hispanic mothers
- Children whose mothers have a high school graduate level of education
- Children whose mothers are <25 years of age
- Children whose birth was covered by government-assisted insurance

Table 3-1-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 3-1, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	73.9	80.1	77.6	88.8	89.7	85.7
3 Polio by 24 months	83.0	90.3	88.5	94.0	98.3	94.3
1 MMR by 24 months	86.2	87.2	88.0	94.0	94.8	90.7
UTD Hib by 24 months	87.2	86.7	85.3	90.3	97.7	93.6
3 Hepatitis B by 24 months	86.2	90.3	87.4	94.0	96.6	95.0
1 Varicella by 24 months	83.5	84.1	85.8	93.3	95.4	91.4
UTD PCV by 24 months	79.4	83.2	82.0	91.0	98.3	92.1
2 Rotavirus	-	-	-	79.9	87.4	75.7
1 Influenza by 24 months	-	-	-	61.9	74.7	60.0

Immunization Rates by Vaccine Antigen: In District 3 -1, the UTD immunization rates by 24 months for most vaccine antigens fluctuated from 2006 to 2010, but all increased to higher rates in 2011, and then all decreased in 2012. (Table 3-1-G).

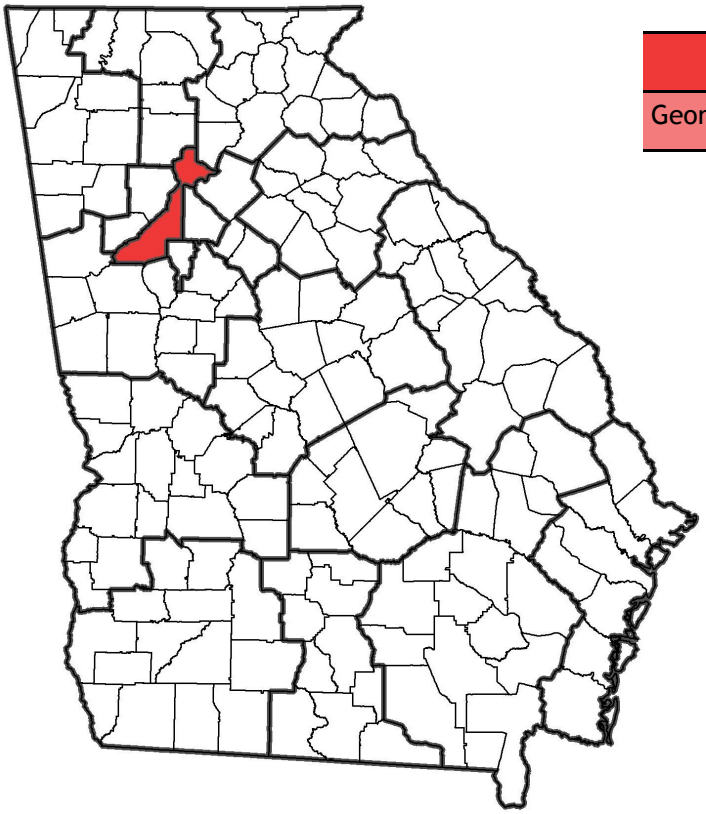
Among District 3-1 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was lowest at 85.7%, as it has been over the last 6 years. The UTD immunization rate for MMR was the second-lowest at 90.7%, though it remained higher than in 2008 when it was 88.0%.

Since first being ACIP-recommended in 2002, UTD coverage by 24 months for the pneumococcal conjugate vaccine increased from 45.1% in 2005 (not shown) to 98.3% in 2011, then fell to 92.1% in 2012.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP and MMR vaccines could reasonably be the primary focus of District and County-level immunization campaigns.

District 3-2

2012 Georgia Immunization Study Report



District 3-2 Data Collection Team	
Georgia Goseer, RN	District Immunization Coordinator

County	Sample	Metro
Fulton	194	Metro
District 3-2	194	
District UTD by 24 months Immunization Rate	77.3%	
State of Georgia	2,589	
State UTD by 24 months Immunization Rate	84.5%	

District 3-2

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 3-2 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was lower than the state rate (77.3% vs. 84.5%). At the end of data collection, the District UTD immunization rate remained lower than the state rate (84.0% vs. 93.6%) (Table 3-2-B).

From 2011 to 2012: The District 3-2 UTD immunization rate by 24 months decreased by 5.6% from 2011 to 2012. The District UTD immunization rate by the end of data collection decreased by 11.0% from 2011 to 2012 (Figure 3-2-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 3-2-A: GIS Sampling Scheme, District 3-2, 2012

	District 3-2 (n)	State (n)
Original Sample	225	2,973
Ineligible	4	130
Refused to Participate	1	8
Eligible Sample	220	2,835
Unable to Locate†	26	246
Final Sample	194	2,589
Response Rate (%)	89.1%	92.3%

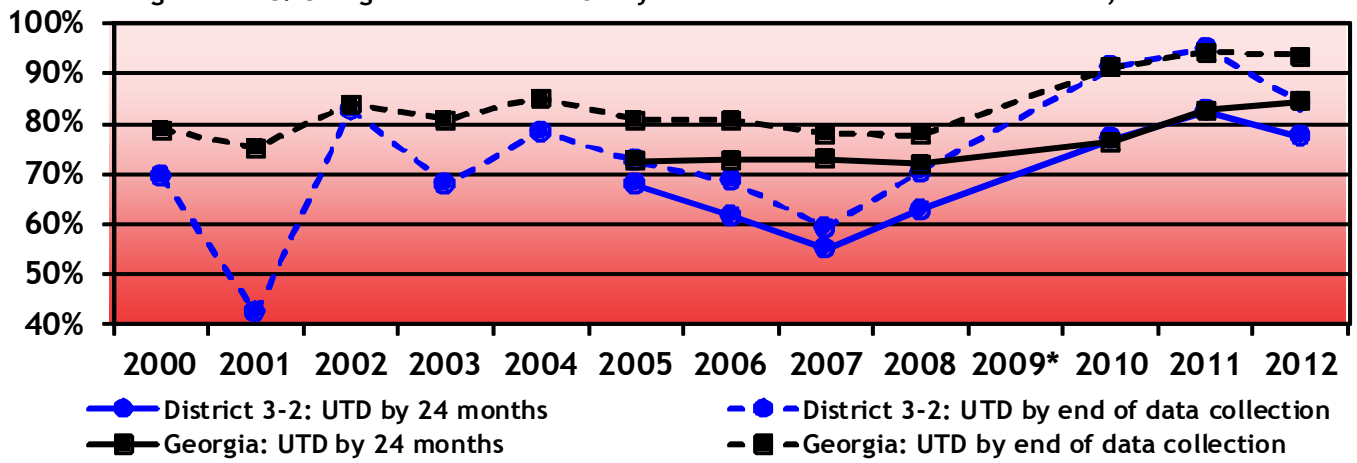
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 3-2-B: Immunization Summary by Series & Vaccine Antigen, District 3-2, 2012

	District 3-2 (%)	State Average (%)
UTD immunization rate* **by 24 months**	77.3	84.5
UTD immunization rate* **by end of data collection†**	84.0	93.6
4 DTaP **by 24 months**	83.0	87.0
3 DTaP **by 24 months**	93.8	97.0
3 IPV **by 24 months**	91.2	96.0
1 MMR **by 24 months**	87.1	93.2
UTD Hib **by 24 months**	93.8	96.1
3 Hep B **by 24 months**	93.3	96.1
1 Varicella **by 24 months**	88.7	94.2
UTD PCV **by 24 months**	86.6	92.2
2 Rotavirus **by 24 months**	73.2	70.6
2 Hep A **by 24 months**	50.0	57.3
1+ Influenza **by 24 months**	57.2	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 3-2-C: Georgia Immunization Study and District 3-2 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 3-2, Georgia Immunization Study Report, p3

Table 3-2-F: UTD Immunization Rates by Demographic group, District 3-2, 2012

	State Avg. UTD by 24 months (%)	3-2—UTD by 24 months %	*3-2—UTD by end of d.c.[β] (%)*
District 3-2 Sample (n=194)	**84.5**	77.3	84.0
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=53)	**85.0**	**79.3**	*81.1*
White, Hispanic (n=2)	**89.3**	**100.0**	*100.0*
Black (n=94)	**81.6**	**71.3**	*83.0*
Unspecified, Hispanic (n=31)	**86.5**	**90.3**	*93.6*
Asian (n=6)	**94.6**	**83.3**	*83.3*
Multiracial (n=4)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=93)	**86.6**	**80.7**	*86.0*
HS Diploma/GED (n=46)	**82.9**	**80.4**	*91.3*
9th-11th grade (n=32)	**82.9**	**65.6**	*71.9*
<9th grade (n=11)	**85.6**	**90.9**	*90.9*
WIC[θ]			
Non-WIC (n=119)	**89.4**	**75.6**	*82.4*
WIC (n=75)	**87.0**	**77.3**	*88.0*
Maternal Age[‡]			
<25 years (n=66)	**83.6**	**72.7**	*80.3*
25-34 years (n=97)	**84.8**	**79.4**	*85.6*
35+ years (n=31)	**86.7**	**80.7**	*87.1*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=46)	**90.7**	**82.6**	*87.0*
Unmarried, First Birth (n=49)	**87.6**	**75.5**	*89.8*
Married, Repeat Birth (n=47)	**82.5**	**83.0**	*87.2*
Unmarried, Repeat Birth (n=52)	**79.6**	**69.2**	*73.1*
Gestational Age[‡]			
<37 weeks (n=17)	**83.5**	**76.5**	*82.4*
37+ weeks (n=177)	**84.7**	**77.4**	*84.2*
Provider Type[†]			
Public Sector Only (n=3)	**73.1**	**66.7**	*100.0*
Private Sector Only (n=128)	**86.0**	**74.2**	*80.5*
Both (n=4)	**73.8**	**100.0**	*100.0*
Payment at Birth[‡,†]			
Government Assist (n=79)	**82.1**	**68.4**	*79.8*
Private Insurance (n=75)	**88.2**	**82.7**	*88.0*
Other (n=12)	**89.2**	**83.3**	*83.3*
Self Pay (n=9)	**87.2**	**88.9**	*88.9*

UTD Immunization Rates by Demographic Group: In District 3-2, children of black mothers were less often UTD by 24 months when compared to the District sample as a whole (71.3% vs. 77.3%). Most of the District's other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 3-2-F).

In terms of maternal education, children of mothers who were still in high school were the least often UTD by 24 months (65.6%). In contrast, children of mothers with a high school or some college education were the most often UTD by 24 months (80.4% and 80.7%).

Children of mothers 35+ years of age were most often up to date by 24 months of age (80.7%).

In terms of maternal marital status and the repeat births, children of married mothers were the most often UTD by 24 months (82.6% and 83.0%).

Children whose birth costs were covered by private insurance were more often UTD by 24 months than those whose birth costs were covered by government-assisted insurance (82.7% vs. 68.4%).

In addition, the District data support the importance of a medical home; children who

	State Avg. UTD by 24 months (%)	3-2—UTD by 24 months (%)	*3-2—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=103)	**85.4**	**74.8**	*82.5*
2 (n=24)	**82.4**	**66.7**	*70.8*
3+ (n=8)	**85.0**	**100.0**	*100.0*
Child's Gender[‡]			
Male (n=90)	**84.6**	**77.8**	*85.6*
Female (n=104)	**84.5**	**76.9**	*82.7*
Metro Residence[θ]			
Metro (n=194)	**83.9**	**77.3**	*84.0*
Non-metro (n=0)	**86.4**	-	-

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

received immunizations from only one provider (Number of Providers) were more often UTD than those receiving immunizations from two providers (74.8% vs. 66.7%).

Although many demographic-related disparities resolved by the end of data collection, some still remained (Table 3-2-F, *column in italics*).

For example, children of mothers who were still in high school remained the least often UTD by the end of data collection (see Table 3-2-F).

Similarly, children receiving immunizations from only one provider remained more often UTD by the end of data collection, compared to children receiving immunizations by two providers (82.5% vs. 70.8%).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 3-2 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of black mothers
- Children whose mothers are still in high school
- Children of unmarried mothers
- Children whose birth was covered by government-assisted insurance
- Children receiving immunizations from more than one provider

Table 3-2-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 3-2, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	63.9	58.7	66.4	84.3	86.3	83.0
3 Polio by 24 months	79.4	72.2	79.9	94.0	96.3	91.2
1 MMR by 24 months	79.4	68.8	78.5	91.7	93.8	87.1
UTD Hib by 24 months	81.6	70.7	74.8	89.8	95.0	93.8
3 Hepatitis B by 24 months	76.5	71.3	78.5	94.0	96.3	93.3
1 Varicella by 24 months	79.8	68.1	78.1	93.1	91.9	88.7
UTD PCV by 24 months	70.8	61.8	70.8	89.8	96.9	86.6
2 Rotavirus	-	-	-	72.7	86.9	73.2
1 Influenza by 24 months	-	-	-	61.1	58.8	57.2

Immunization Rates by Vaccine Antigen: In District 3-2, UTD immunization rates by 24 months consistently increased for most vaccine antigens occurring from 2006 to 2010, reaching an all-time high in 2011 in all but varicella and influenza vaccines. All antigen-specific rates dropped in 2012, most notably PCV (96.9% to 86.6%). (Table 3-2-G).

Among District 3-2 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP by vaccine antigen was lowest at 83.0%, even lower than 84.3% in 2010. The PCV UTD immunization rate was second-lowest at 86.6%.

Since first being ACIP-recommended in 2002, UTD coverage by 24 months for the pneumococcal conjugate vaccine increased from 49.8% in 2005 (not shown) to 96.9% in 2011, but then decreased to 86.6% in 2012.

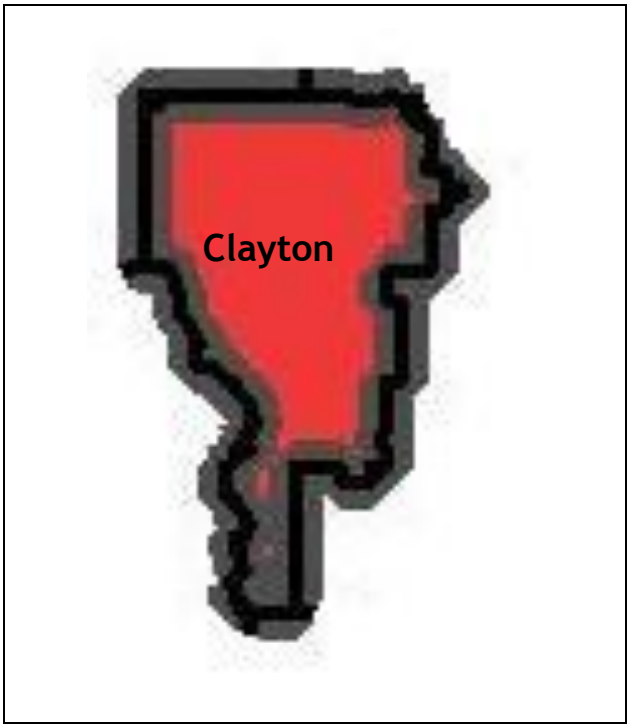
Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that DTaP, MMR, varicella, and PCV vaccines could reasonably be the primary focus of District immunization campaigns.

District 3-3

2012 Georgia Immunization Study Report

District 3-3 Data Collection Team	
Freda Sheppard, LPN	District Immunization Coordinator

County	Sample	Metro
Clayton	124	Metro
District 3-3	**124**	
District UTD by 24 months Immunization Rate	**83.9%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 3-3

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 3-3 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was lower than the state rate (83.9% vs. 84.5%). By the end of data collection, the District UTD immunization rate was higher than the state rate (95.2% vs. 93.6%) (Table 3-3-B).

From 2011 to 2012: The District 3-3 UTD immunization rate by 24 months decreased by 0.8% from 2011 to 2012. The District UTD immunization rate by the end of data collection remained unchanged between 2011 and 2012 (Figure 3-3-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 3-3-A: GIS Sampling Scheme, District 3-3, 2012

	District 3-3 (n)	State (n)
Original Sample	139	2,973
Ineligible	3	130
Refused to Participate	1	8
Eligible Sample	135	2,835
Unable to Locate†	11	246
Final Sample	124	2,589
Response Rate (%)	91.9%	92.3%

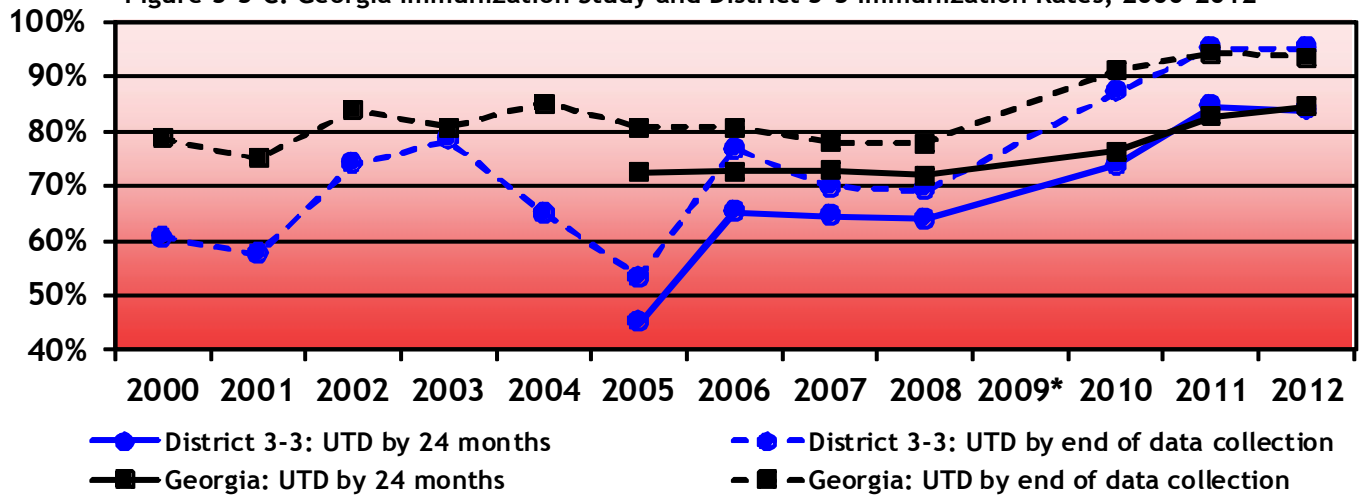
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 3-3-B: Immunization Summary by Series & Vaccine Antigen, District 3-3, 2012

	District 3-3 (%)	State Average (%)
UTD immunization rate* by 24 months	83.9	84.5
UTD immunization rate* by end of data collection†	95.2	93.6
4 DTaP by 24 months	84.7	87.0
3 DTaP by 24 months	94.4	97.0
3 IPV by 24 months	95.2	96.0
1 MMR by 24 months	94.4	93.2
UTD Hib by 24 months	93.6	96.1
3 Hep B by 24 months	96.0	96.1
1 Varicella by 24 months	96.0	94.2
UTD PCV by 24 months	92.0	92.2
2 Rotavirus by 24 months	62.9	70.6
2 Hep A by 24 months	54.0	57.3
1+ Influenza by 24 months	41.9	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 3-3-C: Georgia Immunization Study and District 3-3 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 3-3, Georgia Immunization Study Report, p3

Table 3-3-F: UTD Immunization Rates by Demographic group, District 3-3, 2012

	State Avg. UTD by 24 months (%)	3-3—UTD by 24 months %	*3-3—UTD by end of d.c.[β] (%)*
District 3-3 Sample (n=124)	**84.5**	83.9	95.2
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=4)	**85.0**	**50.0**	*75.0*
White, Hispanic (n=2)	**89.3**	**50.0**	*50.0*
Black (n=75)	**81.6**	**86.7**	*96.0*
Unspecified, Hispanic (n=31)	**86.5**	**83.9**	*96.8*
Asian (n=4)	**94.6**	**100.0**	*100.0*
Multiracial (n=2)	**90.2**	**50.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=40)	**86.6**	**80.0**	*95.0*
HS Diploma/GED (n=39)	**82.9**	**87.2**	*94.9*
9th-11th grade (n=23)	**82.9**	**87.0**	*95.7*
<9th grade (n=14)	**85.6**	**85.7**	*100.0*
WIC[θ]			
Non-WIC (n=63)	**90.5**	**90.5**	*96.8*
WIC (n=61)	**90.2**	**90.2**	*93.4*
Maternal Age[‡]			
<25 years (n=38)	**83.6**	**89.5**	*97.4*
25-34 years (n=67)	**84.8**	**76.1**	*92.5*
35+ years (n=19)	**86.7**	**100.0**	*100.0*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=18)	**90.7**	**83.3**	*94.4*
Unmarried, First Birth (n=30)	**87.6**	**93.3**	*96.7*
Married, Repeat Birth (n=30)	**82.5**	**76.7**	*96.7*
Unmarried, Repeat Birth (n=45)	**79.6**	**82.2**	*93.3*
Gestational Age[‡]			
<37 weeks (n=10)	**83.5**	**80.0**	*90.0*
37+ weeks (n=114)	**84.7**	**84.2**	*95.6*
Provider Type[†]			
Public Sector Only (n=1)	**73.1**	**100.0**	*100.0*
Private Sector Only (n=94)	**86.0**	**83.0**	*94.7*
Both (n=6)	**73.8**	**83.3**	*83.3*
Payment at Birth[‡,†]			
Government Assist (n=53)	**82.1**	**81.1**	*96.2*
Private Insurance (n=24)	**88.2**	**91.7**	*95.8*
Other (n=10)	**89.2**	**90.0**	*90.0*
Self Pay (n=19)	**87.2**	**79.0**	*94.7*

UTD Immunization Rates by Demographic Group: In District 3-3, children of unspecified, Hispanic mothers were similarly UTD by 24 months when compared to the District sample as a whole (83.9%). Children of black mothers were more often UTD by 24 months (86.7%).The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 3-3-F).

In terms of maternal education, children of mothers with a college education were the least often UTD by 24 months (80.0%) of all of the maternal education groups, although this difference resolved by the end of data collection.

Children of mothers between the ages of 25 and 34 years were least likely to be UTD at 24 months (76.1%) compared to this demographic group in the state as a whole (84.8%).

In terms of maternal marital status and repeat births, children of married mothers with previous children were the least often UTD by 24 months (76.7%) although this resolved by the end of data collection.

District 3-3 children whose birth costs were covered by private insurance were more often UTD by 24 months than children whose birth costs were

	State Avg. UTD by 24 months (%)	3-3—UTD by 24 months (%)	*3-3—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=65)	**85.4**	**84.6**	*93.9*
2 (n=24)	**82.4**	**87.5**	*95.8*
3+ (n=11)	**85.0**	**66.7**	*88.9*
Child's Gender[‡]			
Male (n=62)	**84.6**	**87.1**	*95.2*
Female (n=62)	**84.5**	**80.6**	*95.2*
Metro Residence[θ]			
Metro (n=123)	**83.9**	**83.7**	*95.1*
Non-metro (n=0)	**86.4**	-	-

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

covered by government-assisted insurance (91.7% vs. 81.1%).

Children with two providers were more often UTD by 24 months than those with one provider (87.5% vs. 84.6%) but this may be explained by the larger number of children in the latter group.

Although many demographic-related disparities resolved by the end of data collection, some still remained (Table 3-3-F, *column in italics*).

For example, children of mothers aged 25-34 years remained the least often UTD by the end of data collection compared to the other two groups (92.5%).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 3-3 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of Hispanic mothers
- Children whose mothers with some college education
- Children whose mothers are between 25-34 years of age
- Children of married mothers with previous children
- Children whose birth was covered by government-assisted insurance

Table 3-3-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 3-3, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	70.7	68.4	69.3	78.7	88.5	84.7
3 Polio by 24 months	84.2	87.5	79.7	92.9	97.1	95.2
1 MMR by 24 months	83.5	79.6	78.7	90.8	93.3	94.4
UTD Hib by 24 months	85.4	81.6	74.8	91.5	94.2	93.6
3 Hepatitis B by 24 months	86.6	88.8	84.2	92.9	97.1	96.0
1 Varicella by 24 months	82.3	80.3	79.2	90.1	94.2	96.0
UTD PCV by 24 months	59.2	61.8	70.8	85.8	98.1	91.9
2 Rotavirus	-	-	-	61.7	81.7	62.9
1 Influenza by 24 months	-	-	-	48.9	47.2	41.9

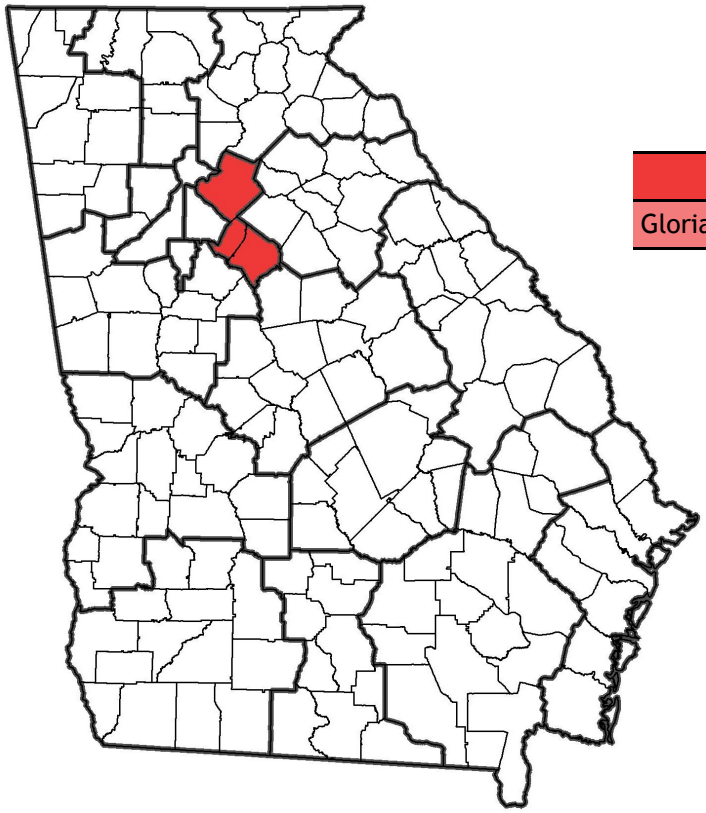
Immunization Rates by Vaccine Antigen: In District 3-3, the UTD immunization rates by 24 months steadily increased for all vaccine antigens through 2011. In 2012, most immunization rates by antigen fell slightly, though remained higher than rates in 2010. Both the MMR and the varicella UTD immunization rates rose in 2012 to 94.4% and 96.0% respectively (Table 3-2-G).

Among District 3-3 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was lowest at 84.7%, down from 88.5% in 2011. The UTD immunization rate for PCV was the second-lowest at 91.9%, down from 98.1% in 2011.

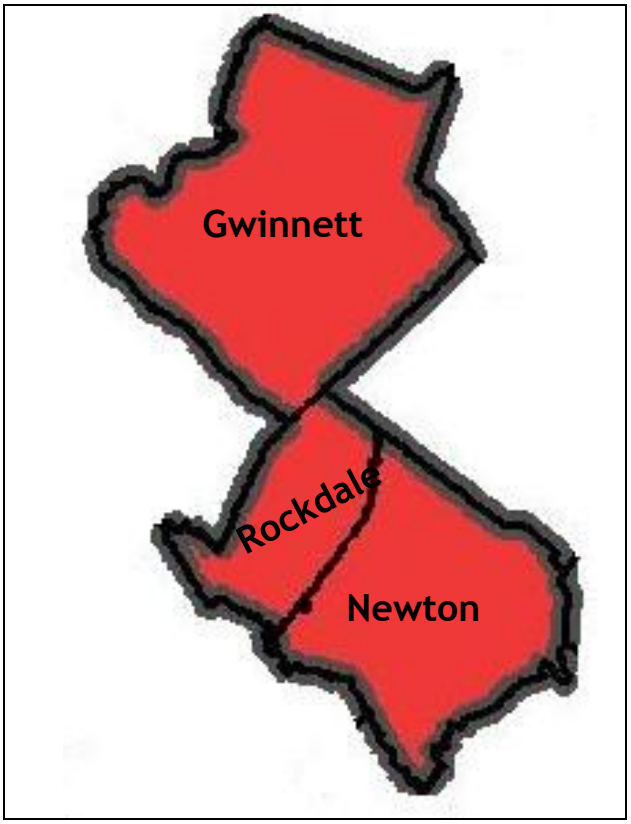
Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP and PCV vaccines could reasonably be the primary focus of District immunization campaigns.

District 3-4

2012 Georgia Immunization Study Report



District 3-4 Data Collection Team	
Gloria Melvin	District Immunization Coordinator



County	Sample	Metro
Gwinnett	152	Metro
Newton	20	Metro
Rockdale	23	Metro
District 3-4	**195**	
District UTD by 24 months Immunization Rate	**81.5%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	

District 3-4

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 3-4 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was lower than the state rate (81.5% vs. 84.5%). At the end of data collection, the District UTD immunization rate remained lower than the state rate (91.8% vs. 93.6%) (Table 3-4-B).

From 2011 to 2012: The District 3-4 UTD immunization rate by 24 months increased by 1.9% from 2011 to 2012. The District UTD immunization rate by the end of data collection decreased by 1.6% from 2011 to 2012 (Figure 3-4-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 3-4-A: GIS Sampling Scheme, District 3-4, 2012

	District 3-4 (n)	State (n)
Original Sample	232	2,973
Ineligible	17	130
Refused to Participate	0	8
Eligible Sample	215	2,835
Unable to Locate†	20	246
Final Sample	195	2,589
Response Rate (%)	90.7%	92.3%

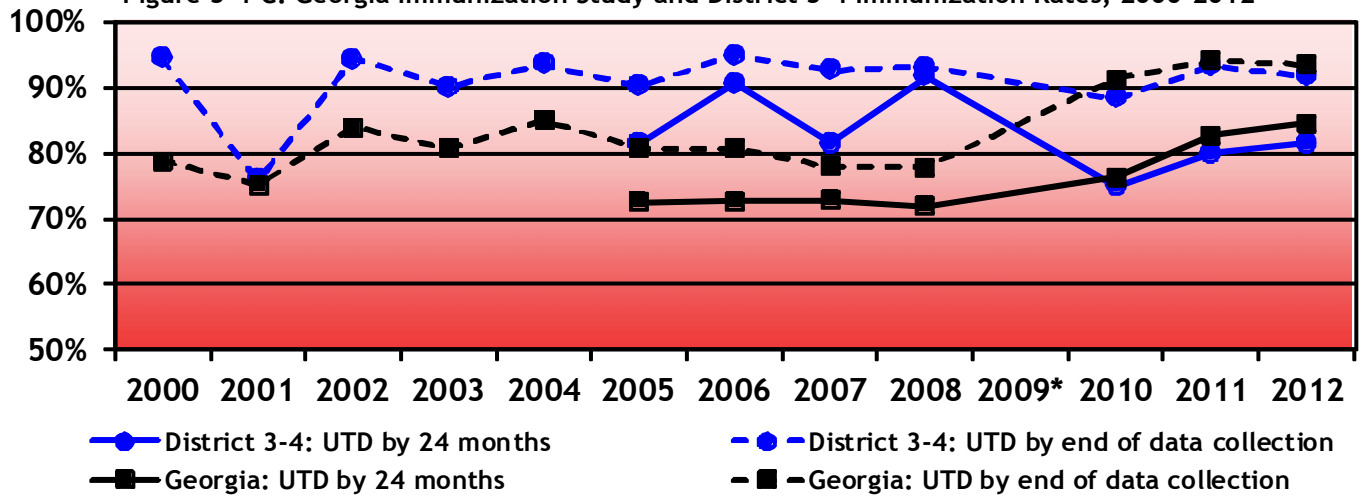
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 3-4-B: Immunization Summary by Series & Vaccine Antigen, District 3-4, 2012

	District 3-4 (%)	State Average (%)
UTD immunization rate* by 24 months	81.5	84.5
UTD immunization rate* by end of data collection†	91.8	93.6
4 DTaP by 24 months	83.6	87.0
3 DTaP by 24 months	97.4	97.0
3 IPV by 24 months	95.9	96.0
1 MMR by 24 months	91.8	93.2
UTD Hib by 24 months	96.9	96.1
3 Hep B by 24 months	92.8	96.1
1 Varicella by 24 months	91.8	94.2
UTD PCV by 24 months	91.3	92.2
2 Rotavirus by 24 months	81.0	70.6
2 Hep A by 24 months	54.4	57.3
1+ Influenza by 24 months	59.0	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 3-4-C: Georgia Immunization Study and District 3-4 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 3-4, Georgia Immunization Study Report, p3

Table 3-4-F: UTD Immunization Rates by Demographic group, District 3-4, 2012

	State Avg. UTD by 24 months (%)	3-4—UTD by 24 months %	*3-4—UTD by end of d.c.[β] (%)*
District 3-4 Sample (n=195)	**84.5**	81.5	91.8
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=46)	**85.0**	**78.3**	*87.0*
White, Hispanic (n=21)	**89.3**	**76.2**	*85.7*
Black (n=58)	**81.6**	**79.3**	*93.1*
Unspecified, Hispanic (n=38)	**86.5**	**84.2**	*97.4*
Asian (n=12)	**94.6**	**91.7**	*91.7*
Multiracial (n=4)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=84)	**86.6**	**84.5**	*89.3*
HS Diploma/GED (n=55)	**82.9**	**78.2**	*92.7*
9th-11th grade (n=19)	**82.9**	**68.4**	*89.5*
<9th grade (n=25)	**85.6**	**88.0**	*100.0*
WIC[θ]			
Non-WIC (n=111)	**89.4**	**90.1**	*93.7*
WIC (n=84)	**87.0**	**84.5**	*90.5*
Maternal Age[‡]			
<25 years (n=66)	**83.6**	**78.8**	*92.4*
25-34 years (n=96)	**84.8**	**81.3**	*90.6*
35+ years (n=33)	**86.7**	**87.9**	*93.9*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=44)	**90.7**	**84.1**	*90.9*
Unmarried, First Birth (n=34)	**87.6**	**85.3**	*94.1*
Married, Repeat Birth (n=75)	**82.5**	**78.7**	*90.7*
Unmarried, Repeat Birth (n=42)	**79.6**	**81.0**	*92.9*
Gestational Age[‡]			
<37 weeks (n=20)	**83.5**	**60.0**	*80.0*
37+ weeks (n=175)	**84.7**	**84.0**	*93.1*
Provider Type[†]			
Public Sector Only (n=5)	**73.1**	**60.0**	*100.0*
Private Sector Only (n=143)	**86.0**	**83.2**	*92.3*
Both (n=6)	**73.8**	**66.7**	*83.3*
Payment at Birth[‡,†]			
Government Assist (n=59)	**82.1**	**79.7**	*89.8*
Private Insurance (n=61)	**88.2**	**80.3**	*86.9*
Other (n=8)	**89.2**	**87.5**	*100.0*
Self Pay (n=11)	**87.2**	**100.0**	*100.0*

UTD Immunization Rates by Demographic Group: In District 3-4, children of Asian mothers were more often UTD by 24 months compared to the District sample as a whole (91.7% vs. 81.5%). Children of white Hispanic mothers were least often UTD compared to the District sample as a whole (76.2% vs. 81.5%) (Table 3-4-F).

In terms of maternal education, District 3-4 children of mothers with a college education and those of mothers with a <9th grade education were the most often UTD by 24 months (84.5% and 88.0% respectively).

Children of mothers 35+ years of age were most often UTD by 24 months (87.9%).

In terms of maternal marital status and repeat births, children of mothers with previous children were less often UTD by 24 months than first-born children (see Table 3-4-F).

Additionally, the District data support the importance of a medical home (Number of Providers); children who had only one provider (82.5%) were more often UTD than those with more than one provider (see Table 3-4-F).

Although most demographic-related disparities

	State Avg. UTD by 24 months (%)	3-4—UTD by 24 months (%)	*3-4—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=97)	**85.4**	**82.5**	*95.9*
2 (n=39)	**82.4**	**79.5**	*84.6*
3+ (n=18)	**85.0**	**75.0**	*83.3*
Child's Gender[‡]			
Male (n=99)	**84.6**	**79.8**	*91.9*
Female (n=96)	**84.5**	**83.3**	*91.7*
Metro Residence[θ]			
Metro (n=195)	**83.9**	**81.5**	*91.8*
Non-metro (n=0)	**86.4**	-	-

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

resolved by the end of data collection, some still remained and some new ones emerged (Table 3-4-F, *column in italics*).

A new disparity was identified in District 3-4; children whose birth costs were covered by private insurance were less often UTD by the end of data collection than children whose birth was covered by government-assisted insurance (86.9% vs. 89.8%).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 3-4 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of white, Hispanic mothers
- Children whose mothers have not completed high school
- Children of mothers < 25 years of age.
- Children whose mothers have previous children
- Children born at <37 weeks gestation
- Children receiving immunizations from more than one provider.

Table 3-4-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 3-4, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	91.5	84.0	94.4	81.7	83.9	83.6
3 Polio by 24 months	96.6	90.1	95.8	88.3	96.1	95.9
1 MMR by 24 months	93.2	91.4	95.8	86.7	90.6	91.8
UTD Hib by 24 months	94.9	93.8	95.8	85.0	97.2	96.9
3 Hepatitis B by 24 months	94.9	92.6	95.8	90.0	93.3	92.8
1 Varicella by 24 months	94.0	93.8	94.4	90.0	91.7	91.8
UTD PCV by 24 months	92.3	85.2	97.2	88.3	97.8	91.3
2 Rotavirus	-	-	-	75.0	91.7	81.0
1 Influenza by 24 months	-	-	-	61.7	60.6	59.0

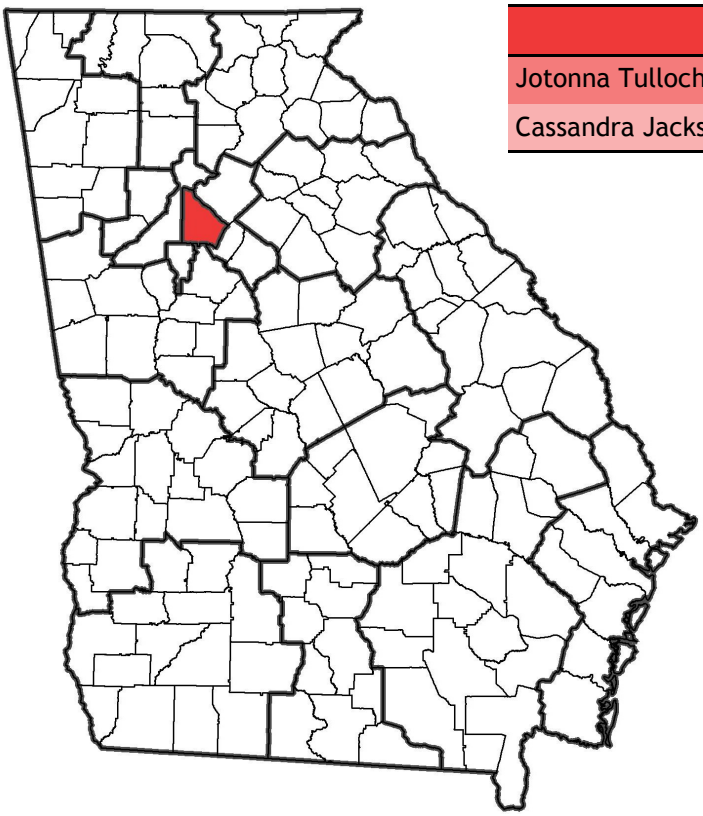
Immunization Rates by Vaccine Antigen: In District 3-4, the UTD immunization rates by 24 months for most vaccine antigens fluctuated between 2006 and 2010, increased in 2011, and then decreased in 2012 (Table 3-4-G).

Among District 3-4 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was lowest at 83.6%, down from 83.9% in 2011. The UTD immunization rate for PCV was the second-lowest at 91.3%, down from 97.8% in 2011.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP, MMR, and varicella vaccines could reasonably be the primary focus of District and County-level immunization campaigns.

District 3-5

2012 Georgia Immunization Study Report



District 3-5 Data Collection Team	
Jotonna Tulloch, BS	District Immunization Coordinator
Cassandra Jackson, LPN	Primary Data Collector

County	Sample	Metro
DeKalb	150	Metro
District 3-5	**150**	
District UTD by 24 months Immunization Rate	**87.3%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	

District 3-5

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 3-5 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was higher than the state rate (87.3% vs. 84.5%). By the end of data collection, the District UTD immunization rate remained higher than the state rate (98.0% vs. 93.6%) (Table 3-5-B).

From 2011 to 2012: The District 3-5 UTD immunization rate by 24 months increased by 2.9% from 2011 to 2012. The District UTD immunization rate by the end of data collection increased by 2.4% from 2011 to 2012 (Figure 3-5-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 3-5-A: GIS Sampling Scheme, District 3-5, 2012

	District 3-5 (n)	State (n)
Original Sample	195	2,973
Ineligible	2	130
Refused to Participate	0	8
Eligible Sample	193	2,835
Unable to Locate†	43	246
Final Sample	150	2,589
Response Rate (%)	83.4%	92.3%

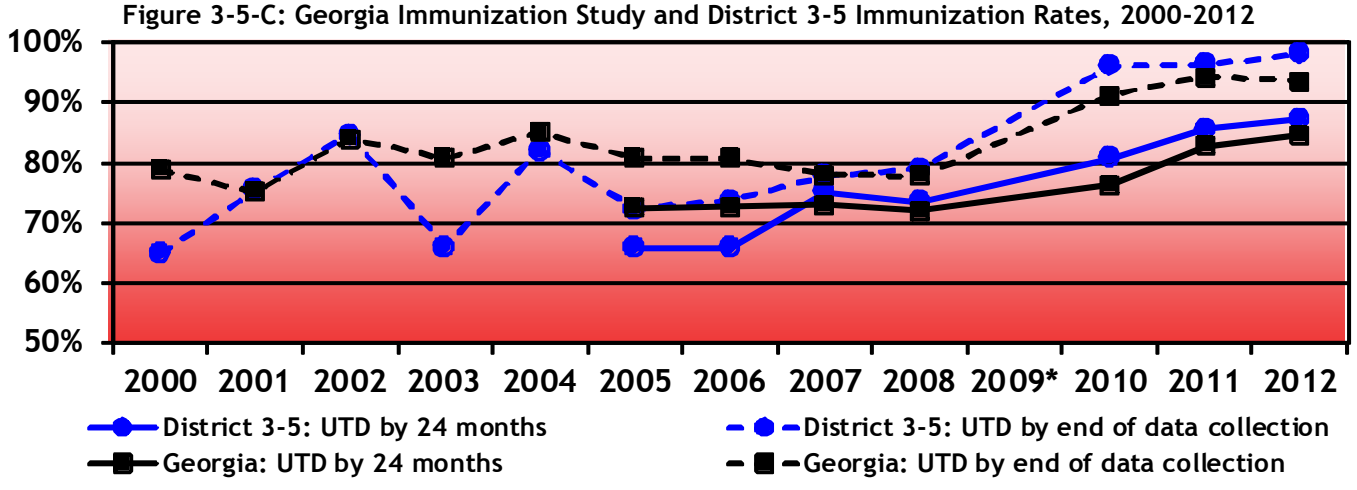
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 3-5-B: Immunization Summary by Series & Vaccine Antigen, District 3-5, 2012

	District 3-5 (%)	State Average (%)
UTD immunization rate* by 24 months	87.3	84.5
UTD immunization rate* by end of data collection†	98.0	93.6
4 DTaP by 24 months	90.0	87.0
3 DTaP by 24 months	98.7	97.0
3 IPV by 24 months	98.0	96.0
1 MMR by 24 months	96.0	93.2
UTD Hib by 24 months	97.3	96.1
3 Hep B by 24 months	96.0	96.1
1 Varicella by 24 months	96.7	94.2
UTD PCV by 24 months	96.0	92.2
2 Rotavirus by 24 months	75.3	70.6
2 Hep A by 24 months	60.7	57.3
1+ Influenza by 24 months	64.0	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 3-5-C: Georgia Immunization Study and District 3-5 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 3-5, Georgia Immunization Study Report, p3

Table 3-5-F: UTD Immunization Rates by Demographic group, District 3-5, 2012

	State Avg. UTD by 24 months (%)	3-5—UTD by 24 months %	*3-5—UTD by end of d.c.[β] (%)*
District 3-5 Sample (n=150)	**84.5**	**87.3**	98.0
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=34)	**85.0**	**91.2**	*94.1*
White, Hispanic (n=4)	**89.3**	**100.0**	*100.0*
Black (n=69)	**81.6**	**84.1**	*98.6*
Unspecified, Hispanic (n=19)	**86.5**	**79.0**	*100.0*
Asian (n=8)	**94.6**	**100.0**	*100.0*
Multiracial (n=2)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=67)	**86.6**	**88.1**	*97.0*
HS Diploma/GED (n=41)	**82.9**	**80.5**	*97.6*
9th-11th grade (n=12)	**82.9**	**91.7**	*100.0*
<9th grade (n=14)	**85.6**	**100.0**	*100.0*
WIC[θ]			
Non-WIC (n=85)	**89.4**	**96.5**	*98.8*
WIC (n=65)	**87.0**	**98.5**	*100.0*
Maternal Age[‡]			
<25 years (n=42)	**83.6**	**88.1**	*100.0*
25-34 years (n=85)	**84.8**	**88.2**	*96.5*
35+ years (n=23)	**86.7**	**82.6**	*100.0*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=19)	**90.7**	**89.5**	*94.7*
Unmarried, First Birth (n=37)	**87.6**	**86.5**	*100.0*
Married, Repeat Birth (n=53)	**82.5**	**88.7**	*96.2*
Unmarried, Repeat Birth (n=41)	**79.6**	**85.4**	*100.0*
Gestational Age[‡]			
<37 weeks (n=18)	**83.5**	**88.9**	*94.4*
37+ weeks (n=132)	**84.7**	**87.1**	*98.5*
Provider Type[†]			
Public Sector Only (n=0)	**73.1**	-	-
Private Sector Only (n=99)	**86.0**	**87.9**	*98.0*
Both (n=6)	**73.8**	**50.0**	*83.3*
Payment at Birth[‡,†]			
Government Assist (n=60)	**82.1**	**86.7**	*96.7*
Private Insurance (n=55)	**88.2**	**92.7**	*98.2*
Other (n=8)	**89.2**	**87.5**	*100.0*
Self Pay (n=16)	**87.2**	**87.5**	*100.0*

UTD Immunization Rates by Demographic Group: In District 3-5, children of white, non-Hispanic mothers were more often UTD by 24 months compared to the District sample as a whole (91.2% vs. 87.3%). Children of Hispanic mothers were less often UTD compared to the District sample as a whole (82.6% vs. 87.3%). The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 3-5-F).

In terms of maternal education, District 3-5 children of mothers with a high school diploma/GED were least often UTD by 24 months (see Table 3-5-F).

District 3-5 children whose birth costs were covered by private insurance were more often UTD by 24 months than children whose birth was covered by government-assisted insurance (92.7% vs. 86.7%).

Children receiving immunizations from one provider were more often UTD by 24 months than those receiving immunizations from two providers(88.0 vs. 76.2%).

To varying degrees, demographic-related disparities resolved by the end of data collection (Table 3-5-F, *column in italics*).

	State Avg. UTD by 24 months (%)	3-5—UTD by 24 months (%)	*3-5—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=75)	**85.4**	**88.0**	*98.7*
2 (n=21)	**82.4**	**76.2**	*95.2*
3+ (n=9)	**85.0**	**87.5**	*87.5*
Child's Gender[‡]			
Male (n=73)	**84.6**	**87.7**	*97.3*
Female (n=77)	**84.5**	**87.0**	*98.7*
Metro Residence[θ]			
Metro (n=150)	**83.9**	**87.3**	*98.0*
Non-metro (n=0)	**86.4**	-	-

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 3-5 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of Hispanic mothers
- Children whose birth costs were covered by government-assisted insurance
- Children receiving immunizations from more than one provider.

Table 3-5-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 3-5, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	72.8	78.7	77.8	88.0	86.2	90.0
3 Polio by 24 months	80.3	85.1	82.1	94.7	97.8	98.0
1 MMR by 24 months	82.3	86.0	84.6	94.7	92.8	96.0
UTD Hib by 24 months	81.5	85.1	82.1	93.3	96.4	97.3
3 Hepatitis B by 24 months	80.3	87.8	84.0	94.7	98.6	96.0
1 Varicella by 24 months	82.3	85.5	84.0	94.7	93.5	96.7
UTD PCV by 24 months	66.7	77.4	81.5	90.7	97.8	96.0
2 Rotavirus	-	-	-	76.0	91.3	75.3
1 Influenza by 24 months	-	-	-	64.0	64.5	64.0

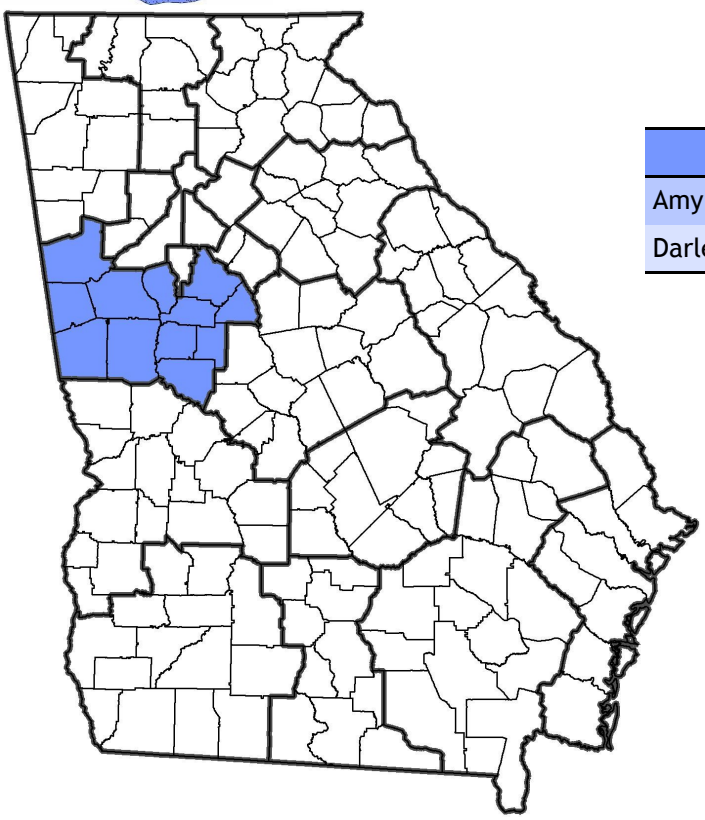
Immunization Rates by Vaccine Antigen: In District 3-5, the UTD immunization rate by 24 months for most vaccine antigens remained steady from 2006 to 2008, and then increased from 2010 to 2012 (Table 3-5-G).

Among District 3-5 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was lowest at 90.0%, but rose from 86.2% in 2011. The UTD immunization rate for MMR was the second-lowest in 2011 but has risen to 96.0% in 2012.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP vaccine could reasonably be the primary focus of District immunization campaigns.

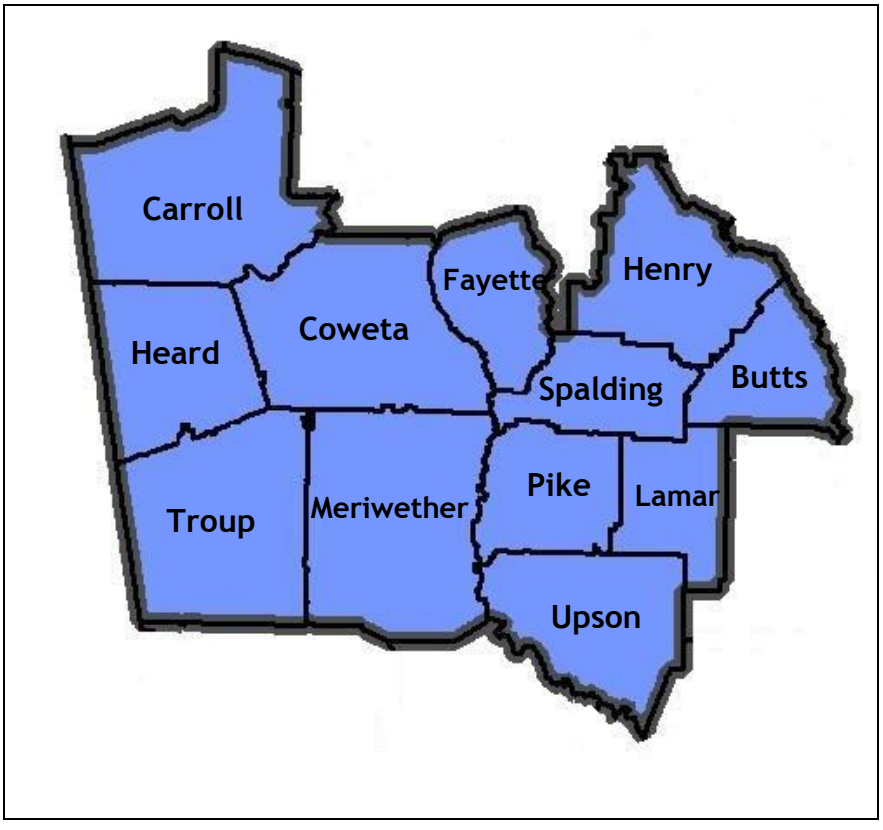
District 4-0

2012 Georgia Immunization Study Report



District 4-0 Data Collection Team	
Amy Fenn, RN	District Immunization Coordinator
Darlene Sheets	Secondary Data Collector

County	Sample	Metro
Butts	6	Metro
Carroll	21	Metro
Coweta	24	Nonmetro
Fayette	10	Nonmetro
Heard	1	Nonmetro
Henry	49	Nonmetro
Lamar	3	Nonmetro
Meriwether	2	Metro
Pike	5	Metro
Spalding	8	Nonmetro
Troup	15	Nonmetro
Upson	7	Nonmetro
District 4-0	**151**	
District UTD by 24 months Immunization Rate	**88.1%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 4-0

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 4-0 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was higher than the state rate (88.1% vs. 84.5%). By the end of data collection, the District UTD immunization rate remained higher than the state rate (96.7% vs. 93.6%) (Table 4-0-B).

From 2011 to 2012: The District 4-0 UTD immunization rate by 24 months increased by 8.4% from 2011 to 2012. The District UTD immunization rate by the end of data collection increased by 8.0% from 2011 to 2012 (Figure 4-0-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 4-0-A: GIS Sampling Scheme, District 4-0, 2012

	District 4-0 (n)	State (n)
Original Sample	184	2,973
Ineligible	2	130
Refused to Participate	0	8
Eligible Sample	182	2,835
Unable to Locate†	31	246
Final Sample	151	2,589
Response Rate (%)	86.3%	92.3%

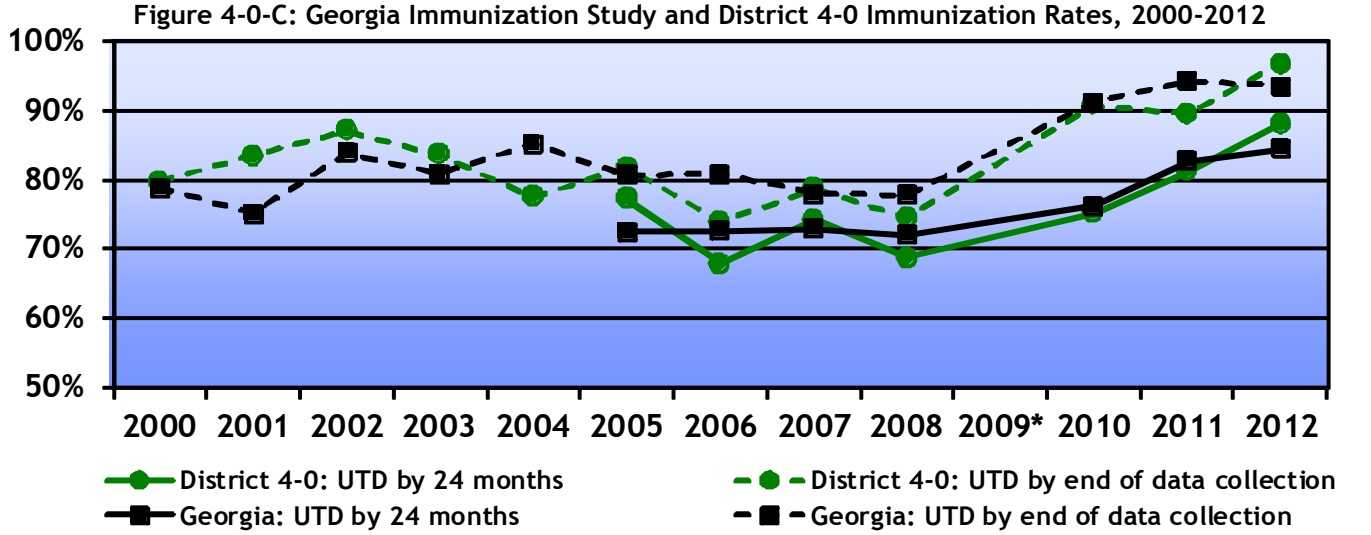
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 4-0-B: Immunization Summary by Series & Vaccine Antigen, District 4-0, 2012

	District 4-0 (%)	State Average (%)
UTD immunization rate* by 24 months	88.1	84.5
UTD immunization rate* by end of data collection†	96.7	93.6
4 DTaP by 24 months	89.4	87.0
3 DTaP by 24 months	98.7	97.0
3 IPV by 24 months	97.4	96.0
1 MMR by 24 months	96.7	93.2
UTD Hib by 24 months	98.7	96.1
3 Hep B by 24 months	98.7	96.1
1 Varicella by 24 months	98.7	94.2
UTD PCV by 24 months	96.0	92.2
2 Rotavirus by 24 months	66.2	70.6
2 Hep A by 24 months	62.3	57.3
1+ Influenza by 24 months	51.7	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 4-0-C: Georgia Immunization Study and District 4-0 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 4-0, Georgia Immunization Study Report, p3

Table 4-0-F: UTD Immunization Rates by Demographic group, District 4-0, 2012

	State Avg. UTD by 24 months (%)	4-0—UTD by 24 months (%)	*4-0—UTD by end of d.c.[β] (%)*
District 4-0 Sample (n=151)	**84.5**	88.1	96.7
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=79)	**85.0**	**87.3**	*94.9*
White, Hispanic (n=2)	**89.3**	**100.0**	*100.0*
Black (n=50)	**81.6**	**88.0**	*98.0*
Unspecified, Hispanic (n=9)	**86.5**	**88.9**	*100.0*
Asian (n=4)	**94.6**	**100.0**	*100.0*
Multiracial (n=3)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=75)	**86.6**	**89.3**	*97.3*
HS Diploma/GED (n=28)	**82.9**	**100.0**	*100.0*
9th-11th grade (n=32)	**82.9**	**75.0**	*90.6*
<9th grade (n=3)	**85.6**	**66.7**	*100.0*
WIC[θ]			
Non-WIC (n=94)	**89.4**	**94.7**	*97.9*
WIC (n=57)	**87.0**	**94.7**	*96.5*
Maternal Age[‡]			
<25 years (n=62)	**83.6**	**85.5**	*96.8*
25-34 years (n=69)	**84.8**	**89.9**	*97.1*
35+ years (n=20)	**86.7**	**90.0**	*95.0*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=36)	**90.7**	**94.4**	*97.2*
Unmarried, First Birth (n=32)	**87.6**	**87.5**	*100.0*
Married, Repeat Birth (n=49)	**82.5**	**89.8**	*100.0*
Unmarried, Repeat Birth (n=34)	**79.6**	**79.4**	*88.2*
Gestational Age[‡]			
<37 weeks (n=13)	**83.5**	**84.6**	*100.0*
37+ weeks (n=138)	**84.7**	**88.4**	*96.4*
Provider Type[†]			
Public Sector Only (n=5)	**73.1**	**80.0**	*80.0*
Private Sector Only (n=110)	**86.0**	**90.0**	*97.3*
Both (n=14)	**73.8**	**64.3**	*92.9*
Payment at Birth[‡,†]			
Government Assist (n=59)	**82.1**	**81.4**	*94.9*
Private Insurance (n=60)	**88.2**	**91.7**	*98.3*
Other (n=10)	**89.2**	**90.0**	*90.0*
Self Pay (n=3)	**87.2**	**100.0**	*100.0*

UTD Immunization Rates by Demographic Group: In District 4-0, the UTD by 24 months immunization rates for the two largest race/ethnicity groups—children of white, non-Hispanic mothers and children of black mothers, were above the state average. The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 4-0-F).

In terms of maternal education, children of mothers without a high school diploma or GED and no college education remained the least often UTD by 24 months among the maternal education groups (75.0%).

In terms of maternal age, children of mothers in the <25 years age group were least often UTD by 24 months of age (85.5%). In terms of maternal marital status and repeat births, children of unmarried mothers were less often UTD by 24 months than children of married mothers (see Table 4-0-F).

Children whose birth costs were covered by private insurance were more likely to be UTD at 24 months than those whose birth costs were covered by government assisted insurance.

In District 4-0, children with one healthcare provider were more often UTD by 24 months than those with

	State Avg. UTD by 24 months (%)	4-0—UTD by 24 months (%)	*4-0—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=77)	**85.4**	**92.2**	*98.7*
2 (n=34)	**82.4**	**79.4**	*88.2*
3+ (n=18)	**85.0**	**85.7**	*100.0*
Child's Gender[‡]			
Male (n=84)	**84.6**	**86.9**	*96.4*
Female (n=67)	**84.5**	**89.6**	*97.0*
Metro Residence[θ]			
Metro (n=129)	**83.9**	**86.8**	*96.1*
Non-metro (n=22)	**86.4**	**95.5**	*100.0*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

two providers (92.2% vs. 79.4%). In addition, children living in metro counties (see page 1 of District 4-0 Immunization Report) were less often UTD by 24 months than those living in non-metro counties (86.8% vs. 95.5%).

Although many demographic-related disparities resolved by the end of data collection, some still remained (Table 4-0-F, *column in italics*).

For example, children of mothers without a high school diploma or GED and no college education remained the least often UTD by the end of the data collection (90.6%).

Children residing in metro counties remained slightly less often UTD by the end of the data collection than children living in non-metro counties (96.1% vs. 100%).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 4-0 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children whose mothers have no high school or college education
- Children of mothers <25 years of age
- Children of mothers with previous children
- Children with two healthcare providers as opposed to one
- Children living in metro counties (see page 1 of District 4-0 Immunization Report)

Table 4-0-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 4-0, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	71.7	78.2	74.6	88.5	84.2	89.4
3 Polio by 24 months	88.0	92.4	85.4	96.6	97.1	97.4
1 MMR by 24 months	80.4	84.0	86.0	87.9	92.4	96.7
UTD Hib by 24 months	83.7	88.4	81.6	87.9	94.7	98.7
3 Hepatitis B by 24 months	89.1	91.6	86.5	97.1	97.1	98.7
1 Varicella by 24 months	82.1	85.8	84.3	89.7	93.0	98.7
UTD PCV by 24 months	66.3	80.0	81.1	89.7	96.5	96.1
2 Rotavirus	-	-	-	69.5	79.5	66.2
1 Influenza by 24 months	-	-	-	56.9	57.9	51.7

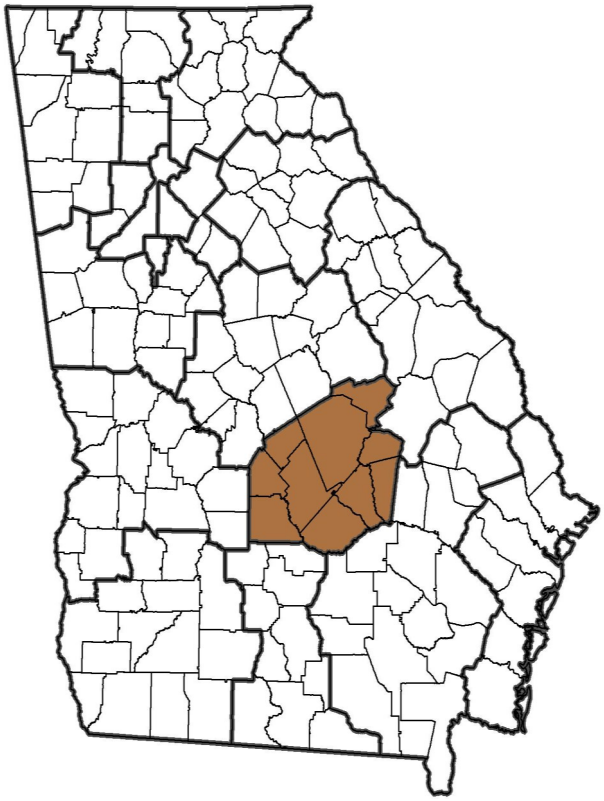
Immunization Rates by Vaccine Antigen: In District 4-0, the UTD immunization rate by 24 months for most vaccine antigens remained steady from 2005 to 2008, but then increased steadily through 2012 (Table 4-0-G).

Among District 4-0 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was lowest at 89.4%, but rose from 88.5% in 2010. The UTD immunization rate for MMR rose from 87.9% in 2010 to 96.7% in 2012. The PCV UTD immunization rate was the only major antigen that decreased but only to 96.1% from 96.5% in 2011.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP vaccine could reasonably be the primary focus of District and County -level immunization campaigns.

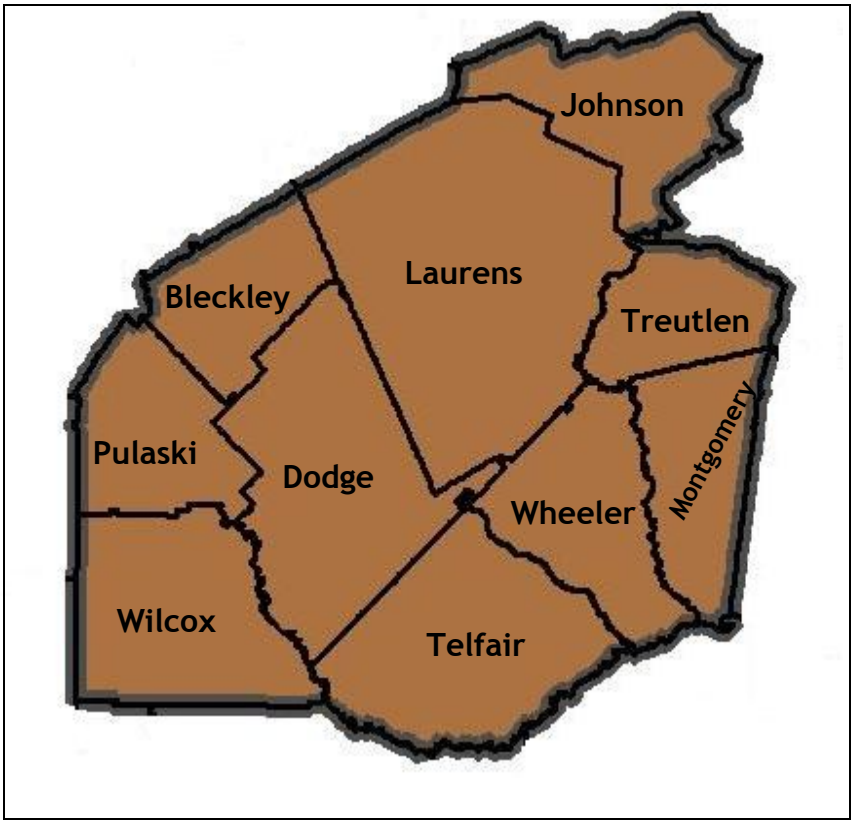
District 5-1

2012 Georgia Immunization Study Report



District 5-1 Data Collection Team	
Patty Portwood, BS, Ed	District Immunization Coordinator
Additional Data Collection Staff	
Jlna Adams, RN, MSN	Brenda Clarke, RN
Kitty Coleman	Donna Collins, RN
Terri Griffin, RN	Mable Harden, RN
Daphenia Harmon	Daisy Haines, RN
Allison Ledford, LPN	Debbie Martin, RNC
Wanda Moore, RNC	Mary Powell, RN
Brittany Swain, LPN	Amy Tanner, RN
Suzanne Usher, RN	Brenda Williams, RN
Joni R. Wilson, RN	

County	Sample	Metro
Bleckley	10	Nonmetro
Dodge	14	Nonmetro
Johnson	3	Nonmetro
Laurens	27	Nonmetro
Montgomery	4	Nonmetro
Pulaski	3	Nonmetro
Telfair	3	Nonmetro
Treutlen	6	Nonmetro
Wheeler	3	Nonmetro
Wilcox	4	Nonmetro
District 5-1	**77**	
District UTD by 24 months Immunization Rate	**77.9%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 5-1

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 5-1 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was lower than the state rate (77.9% vs. 84.5%). By the end of data collection, the District UTD immunization rate was equal to the state rate (93.5% vs. 93.6%) (Table 5-1-B).

From 2011 to 2012: The District 5-1 UTD immunization rate by 24 months decreased by 2.6% from 2011 to 2012. The District UTD immunization rate by the end of data collection decreased by 0.5% from 2011 to 2012 (Figure 5-1-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 5-1-A: GIS Sampling Scheme, District 5-1, 2012

	District 5-1 (n)	State (n)
Original Sample	87	2,973
Ineligible	4	130
Refused to Participate	0	8
Eligible Sample	83	2,835
Unable to Locate†	6	246
Final Sample	77	2,589
Response Rate (%)	94.0%	92.3%

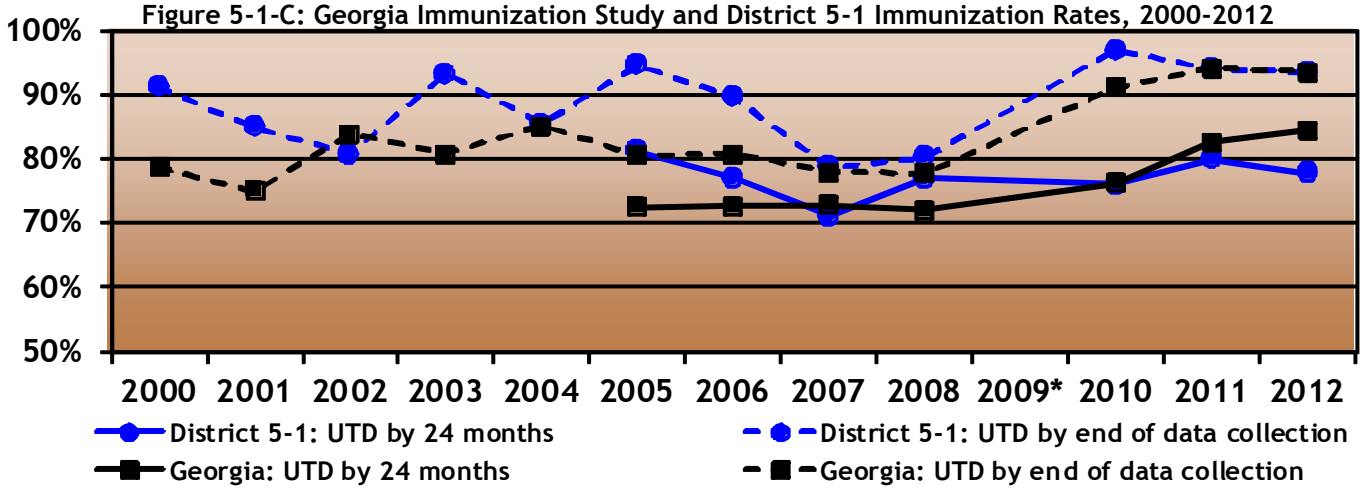
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 5-1-B: Immunization Summary by Series & Vaccine Antigen, District 5-1, 2012

	District 5-1 (%)	State Average (%)
UTD immunization rate* by 24 months	77.9	84.5
UTD immunization rate* by end of data collection†	93.5	93.6
4 DTaP by 24 months	79.2	87.0
3 DTaP by 24 months	94.8	97.0
3 IPV by 24 months	92.2	96.0
1 MMR by 24 months	85.7	93.2
UTD Hib by 24 months	90.9	96.1
3 Hep B by 24 months	96.1	96.1
1 Varicella by 24 months	87.0	94.2
UTD PCV by 24 months	89.6	92.2
2 Rotavirus by 24 months	45.5	70.6
2 Hep A by 24 months	54.5	57.3
1+ Influenza by 24 months	46.8	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 5-1-C: Georgia Immunization Study and District 5-1 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 5-1, Georgia Immunization Study Report, p3

Table 5-1-F: UTD Immunization Rates by Demographic group, District 5-1, 2012

	State Avg. UTD by 24 months (%)	5-1—UTD by 24 months (%)	*5-1—UTD by end of d.c.[β] (%)*
District 5-1 Sample (n=77)	**84.5**	77.9	93.5
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=38)	**85.0**	**76.3**	*89.5*
White, Hispanic (n=3)	**89.3**	**100.0**	*100.0*
Black (n=31)	**81.6**	**77.4**	*96.8*
Unspecified, Hispanic (n=2)	**86.5**	**50.0**	*100.0*
Asian (n=1)	**94.6**	**100.0**	*100.0*
Multiracial (n=0)	**90.2**	-	-
Maternal Education[‡,†]			
Some College+ (n=24)	**86.6**	**79.2**	*95.8*
HS Diploma/GED (n=23)	**82.9**	**82.6**	*91.3*
9th-11th grade (n=15)	**82.9**	**80.0**	*100.0*
<9th grade (n=3)	**85.6**	**66.7**	*100.0*
WIC[θ]			
Non-WIC (n=39)	**89.4**	**97.4**	*97.4*
WIC (n=38)	**87.0**	**76.3**	*94.7*
Maternal Age[‡]			
<25 years (n=28)	**83.6**	**75.0**	*100.0*
25-34 years (n=40)	**84.8**	**80.0**	*87.5*
35+ years (n=9)	**86.7**	**77.8**	*100.0*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=11)	**90.7**	**90.9**	*90.9*
Unmarried, First Birth (n=14)	**87.6**	**64.3**	*100.0*
Married, Repeat Birth (n=31)	**82.5**	**77.4**	*93.6*
Unmarried, Repeat Birth (n=20)	**79.6**	**80.0**	*90.0*
Gestational Age[‡]			
<37 weeks (n=3)	**83.5**	**100.0**	*100.0*
37+ weeks (n=74)	**84.7**	**77.0**	*93.2*
Provider Type[†]			
Public Sector Only (n=4)	**73.1**	**50.0**	*75.0*
Private Sector Only (n=54)	**86.0**	**83.3**	*96.3*
Both (n=11)	**73.8**	**72.7**	*100.0*
Payment at Birth[‡,†]			
Government Assist (n=51)	**82.1**	**72.6**	*92.2*
Private Insurance (n=15)	**88.2**	**80.0**	*93.3*
Other (n=3)	**89.2**	**100.0**	*100.0*
Self Pay (n=1)	**87.2**	**100.0**	*100.0*

UTD Immunization Rates by Demographic Group: In District 5-1, the UTD by 24 months immunization rates for the largest racial/ethnic groups - children of white, non-Hispanic mothers and children of black mothers, were below the state average as were the District rates as a whole (Table 5-1-F).

In terms of maternal education, children of mothers with the lowest level of education (<9th grade) were the least often UTD by 24 months (66.7%) though this was a small sample size; the remaining groups had similar though somewhat higher rates.

Surprisingly, in terms of WIC enrollment, children not enrolled in WIC were more often UTD by 24 months than those enrolled in WIC (97.4% vs. 76.3%).

In terms of maternal age, children of mothers <25 years were the least often UTD by 24 months (75.0%). In terms of maternal marital status and repeat births, children of unmarried mothers with first birth children were the least often UTD by 24 months (64.3%).

Children whose birth costs were covered by private insurance were more likely to be UTD by 24 months (80.0%) than those whose birth costs were covered through government assisted insurance (72.6%).

	State Avg. UTD by 24 months (%)	5-1—UTD by 24 months (%)	*5-1—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=49)	**85.4**	**77.6**	*93.9*
2 (n=17)	**82.4**	**88.2**	*100.0*
3+ (n=3)	**85.0**	**66.7**	*100.0*
Child's Gender[‡]			
Male (n=40)	**84.6**	**77.5**	*95.0*
Female (n=37)	**84.5**	**78.4**	*91.9*
Metro Residence[θ]			
Metro (n=0)	**83.9**	-	-
Non-metro (n=77)	**86.4**	**77.9**	*93.5*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

The District 5-2 data do not support the importance of a medical home; children who had two providers (Number of Providers) were more often UTD by 24 months (88.2%).

Although many demographic-related disparities resolved by the end of data collection, some still remained and a new one was identified (Table 5-1-F, *column in italics*).

Children of white, non-Hispanic mothers remained less often UTD than children of other racial/ethnic groups.

Oddly, children with one provider remained less often UTD than children with two providers by the end of data collection (93.9% vs. 100.0%).

Children of mothers aged 25-34 years became the least often UTD while those <25 years were brought up to date (87.5% vs. 100%) by the end of data collection.

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 5-1 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of mothers having less than a high school education
- Children of mothers <25 years of age
- Children of unmarried mothers with no previous children
- Children whose birth costs were covered by government- assisted insurance
- Children with only one provider administering immunizations
- Children enrolled in the WIC program

Table 5-1-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 5-1, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	81.3	74.2	78.7	85.1	80.0	79.2
3 Polio by 24 months	91.7	95.5	93.4	95.5	94.0	92.2
1 MMR by 24 months	97.9	84.9	90.2	92.5	94.0	85.7
UTD Hib by 24 months	89.6	86.4	86.9	89.6	90.0	90.9
3 Hepatitis B by 24 months	97.9	92.4	98.4	98.5	98.0	96.1
1 Varicella by 24 months	89.6	86.4	90.2	94.0	96.0	87.0
UTD PCV by 24 months	85.4	74.2	86.9	95.5	96.0	89.6
2 Rotavirus	-	-	-	50.7	66.0	45.5
1 Influenza by 24 months	-	-	-	46.3	44.0	46.8

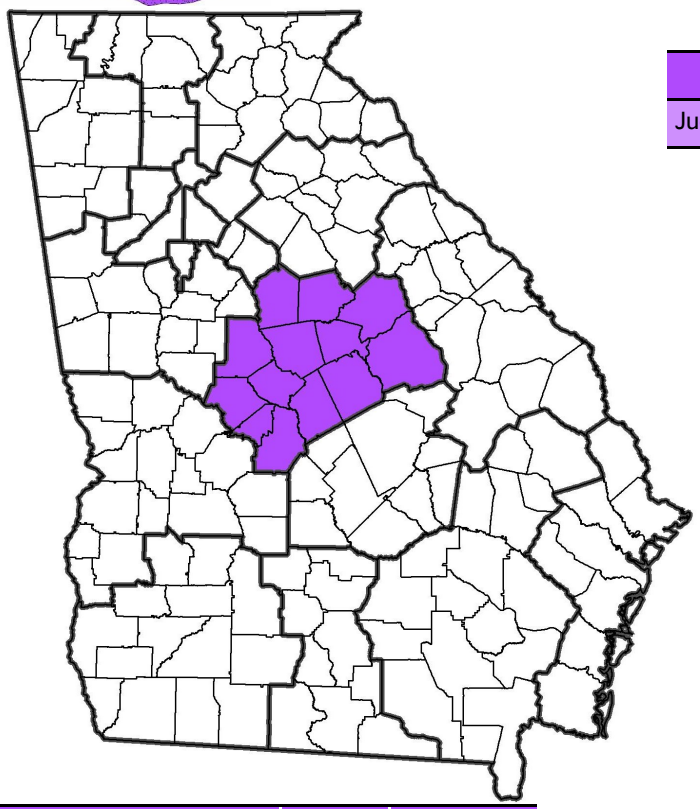
Immunization Rates by Vaccine Antigen: In District 5-1, the UTD immunization rate by 24 months for most vaccine antigens fluctuated from 2006 to 2012 (Table 5-1-G).

Among District 5-1 immunization rates by vaccine antigen in 2012, the UTD by 24 months of age immunization rate for DTaP was the lowest at 79.2%, down from 85.1% in 2010. The UTD immunization rate for MMR was second-lowest at 85.7%, similar to 84.9% in 2007.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP, MMR, varicella, and PCV vaccines could reasonably be the primary focus of District and County-level immunization campaigns.

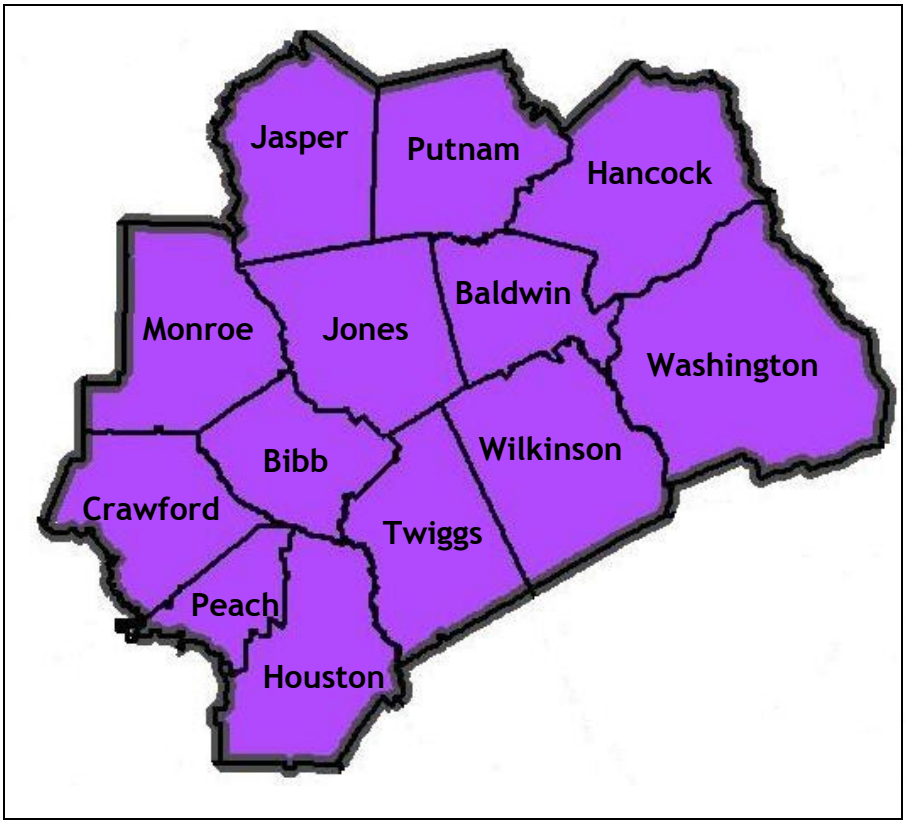
District 5-2

2012 Georgia Immunization Study Report



District 5-2 Data Collection Team	
Judy McChargue, RN	District Immunization Coordinator

County	Sample	Metro
Baldwin	18	Nonmetro
Bibb	59	Metro
Crawford	0	Metro
Hancock	0	Nonmetro
Houston	35	Metro
Jasper	6	Metro
Jones	5	Metro
Monroe	4	Metro
Peach	18	Nonmetro
Putnam	3	Nonmetro
Twiggs	3	Metro
Washington	3	Nonmetro
Wilkinson	4	Nonmetro
District 5-2	**158**	
District UTD by 24 months Immunization Rate	**85.4%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 5-2

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 5-2 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was slightly higher than the state rate (85.4% vs. 84.5%). By the end of data collection, the District UTD immunization rate was similar to the state rate (93.7% vs. 93.6%) (Table 5-2-B).

From 2011 to 2012: The District 5-2 UTD immunization rate by 24 months increased by 2.3% from 2011 to 2012. The District UTD immunization rate by the end of data collection decreased by 5.4% from 2011 to 2012 (Figure 5-2-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 5-2-A: GIS Sampling Scheme, District 5-2, 2012

	District 5-2 (n)	State (n)
Original Sample	166	2,973
Ineligible	4	130
Refused to Participate	0	8
Eligible Sample	162	2,835
Unable to Locate†	4	246
Final Sample	158	2,589
Response Rate (%)	97.5%	92.3%

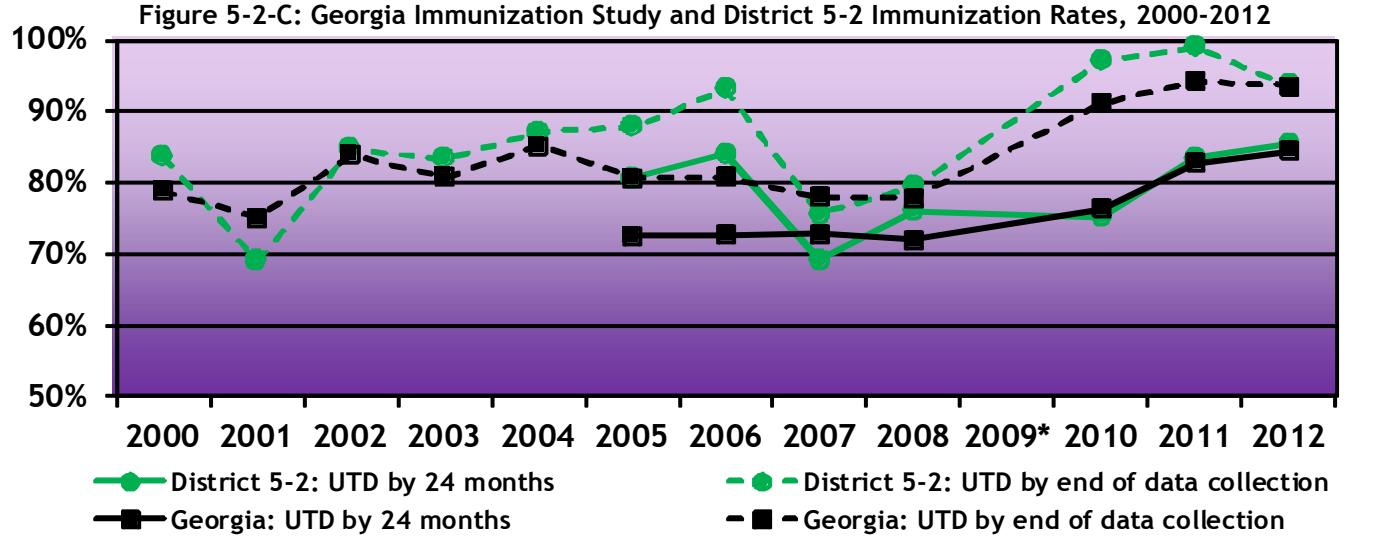
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 5-2-B: Immunization Summary by Series & Vaccine Antigen, District 5-2—2012

	District 5-2 (%)	State Average (%)
UTD immunization rate* **by 24 months**	85.4	84.5
UTD immunization rate* **by end of data collection†**	93.7	93.6
4 DTaP **by 24 months**	86.1	87.0
3 DTaP **by 24 months**	96.8	97.0
3 IPV **by 24 months**	95.6	96.0
1 MMR **by 24 months**	93.0	93.2
UTD Hib **by 24 months**	95.6	96.1
3 Hep B **by 24 months**	96.2	96.1
1 Varicella **by 24 months**	94.3	94.2
UTD PCV **by 24 months**	91.8	92.2
2 Rotavirus **by 24 months**	52.5	70.6
2 Hep A **by 24 months**	57.6	57.3
1+ Influenza **by 24 months**	50.6	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 5-2-C: Georgia Immunization Study and District 5-2 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 5-2, Georgia Immunization Study Report, p3

Table 5-2-F: UTD Immunization Rates by Demographic group, District 5-2, 2012

	State Avg. UTD by 24 months (%)	5-2—UTD by 24 months (%)	*5-2—UTD by end of d.c.[β] (%)*
District 5-2 Sample (n=158)	**84.5**	85.4	93.7
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=76)	**85.0**	**85.5**	*94.7*
White, Hispanic (n=5)	**89.3**	**100.0**	*100.0*
Black (n=72)	**81.6**	**83.3**	*91.7*
Unspecified, Hispanic (n=2)	**86.5**	**100.0**	*100.0*
Asian (n=1)	**94.6**	**100.0**	*100.0*
Multiracial (n=1)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=72)	**86.6**	**88.9**	*95.8*
HS Diploma/GED (n=52)	**82.9**	**80.8**	*90.4*
9th-11th grade (n=23)	**82.9**	**91.3**	*95.7*
<9th grade (n=6)	**85.6**	**83.3**	*100.0*
WIC[θ]			
Non-WIC (n=85)	**89.4**	**94.1**	*96.5*
WIC (n=73)	**87.0**	**86.3**	*90.4*
Maternal Age[‡]			
<25 years (n=69)	**83.6**	**84.1**	*92.8*
25-34 years (n=78)	**84.8**	**85.9**	*94.9*
35+ years (n=11)	**86.7**	**90.9**	*90.9*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=25)	**90.7**	**100.0**	*100.0*
Unmarried, First Birth (n=38)	**87.6**	**89.5**	*97.4*
Married, Repeat Birth (n=39)	**82.5**	**82.1**	*92.3*
Unmarried, Repeat Birth (n=56)	**79.6**	**78.6**	*89.3*
Gestational Age[‡]			
<37 weeks (n=26)	**83.5**	**84.6**	*96.2*
37+ weeks (n=132)	**84.7**	**85.6**	*93.2*
Provider Type[†]			
Public Sector Only (n=2)	**73.1**	**50.0**	*100.0*
Private Sector Only (n=115)	**86.0**	**86.1**	*94.8*
Both (n=10)	**73.8**	**70.0**	*90.0*
Payment at Birth[‡,†]			
Government Assist (n=101)	**82.1**	**83.2**	*93.1*
Private Insurance (n=46)	**88.2**	**91.3**	*95.7*
Other (n=3)	**89.2**	**66.7**	*100.0*
Self Pay (n=6)	**87.2**	**100.0**	*100.0*

UTD Immunization Rates by Demographic Group: In District 5-2, children of black mothers were less often UTD by 24 months among the maternal race/ethnicity groups (83.3%). The UTD by 24 months immunization rates for children of white, non-Hispanic mothers were similar to the District sample overall(85.5% vs. 85.4%). The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 5-2-F).

In terms of maternal education, children of mothers with a high school diploma or GED and no college education were the least often UTD by 24 months among the maternal education groups (80.8%).

Children of mothers with maternal age <25 years were least likely to be UTD by 24 months (84.1%). In terms of maternal marital status and repeat births, children of mothers with previous children were the least often UTD by 24 months, (see Table 5-2-F).

Children in District 5-2 whose birth costs were covered by private insurance were more often UTD by 24 months than those whose birth costs were covered by government-assisted insurance (91.3% vs. 83.2%). In addition, the District data support the importance of a medical home; children who

	State Avg. UTD by 24 months (%)	5-2—UTD by 24 months (%)	*5-2—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=99)	**85.4**	**84.9**	*95.0*
2 (n=21)	**82.4**	**76.2**	*90.5*
3+ (n=7)	**85.0**	**100.0**	*100.0*
Child's Gender[‡]			
Male (n=78)	**84.6**	**88.5**	*96.2*
Female (n=80)	**84.5**	**82.5**	*91.3*
Metro Residence[θ]			
Metro (n=116)	**83.9**	**84.5**	*92.2*
Non-metro (n=42)	**86.4**	**88.1**	*97.6*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

had one provider (Number of Providers) were more often UTD by 24 months than those with two providers (84.9% vs. 76.2%).

To varying degrees, demographic-related disparities improved by the end of data collection (Table 5-2-F, *column in italics*).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 5-2 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of black mothers
- Children of mothers with a high school diploma or GED, but no college education
- Children of mothers with previous children
- Children whose birth costs were covered by government-assisted insurance
- Children receiving immunizations from two different providers

Table 5-2-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 5-2, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	86.3	76.9	81.3	81.2	87.6	86.1
3 Polio by 24 months	95.4	91.0	88.8	95.5	96.9	95.6
1 MMR by 24 months	93.1	84.6	89.6	93.2	96.9	93.0
UTD Hib by 24 months	92.4	82.1	85.8	90.2	94.9	95.6
3 Hepatitis B by 24 months	93.9	88.5	91.0	97.0	97.9	96.2
1 Varicella by 24 months	93.9	84.6	88.1	95.5	96.9	94.3
UTD PCV by 24 months	75.6	78.2	85.1	90.2	97.9	91.8
2 Rotavirus	-	-	-	65.4	68.0	52.5
1 Influenza by 24 months	-	-	-	49.6	53.6	50.6

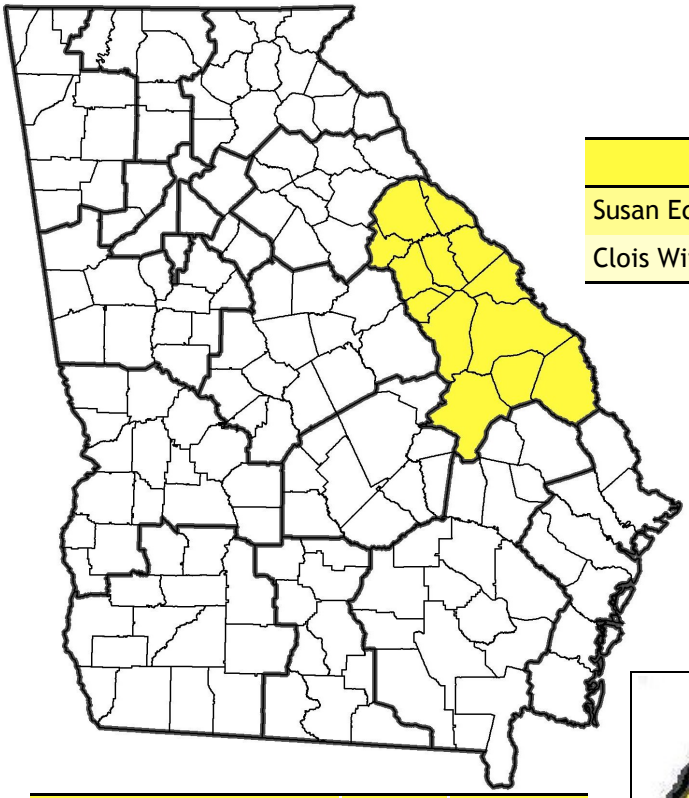
Immunization Rates by Vaccine Antigen: In District 5-2, the UTD immunization rate by 24 months for most vaccine antigens fluctuated from 2006 to 2010, increasing to highest rates for most antigens in 2011, then falling slightly in 2012 (Table 5-2-G).

Among District 5-2 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was the lowest at 86.1%, down from 87.6% in 2011. The UTD immunization rate for PCV was second-lowest at 91.8%, down from 97.9% in 2011.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP vaccine should be the primary focus of District and County-level immunization campaigns.

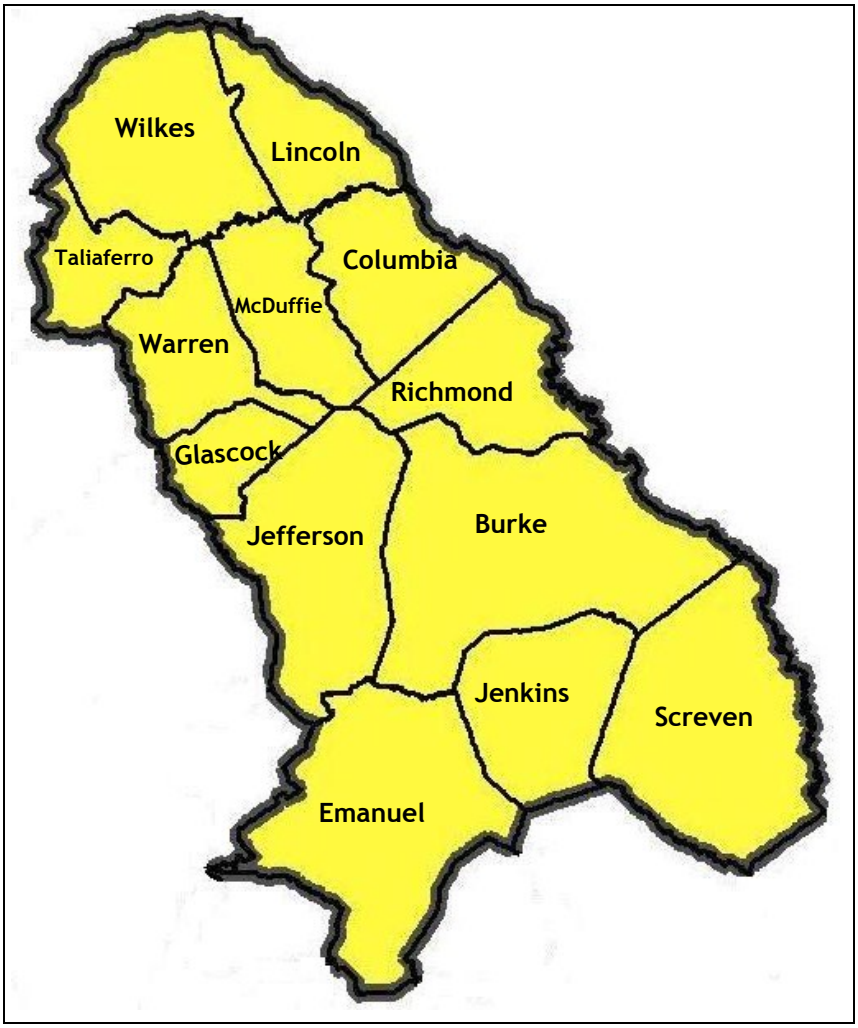
District 6-0

2012 Georgia Immunization Study Report



District 6-0 Data Collection Team	
Susan Edmunds, RN	District Immunization Coordinator
Clois Witt, RN	Primary Data Collector

County	Sample	Metro
Burke	11	Metro
Columbia	13	Metro
Emanuel	10	Nonmetro
Glascock	0	Nonmetro
Jefferson	8	Nonmetro
Jenkins	4	Nonmetro
Lincoln	3	Nonmetro
McDuffie	9	Metro
Richmond	89	Metro
Screven	5	Nonmetro
Taliaferro	1	Nonmetro
Warren	1	Nonmetro
Wilkes	5	Nonmetro
District 6-0	**159**	
District UTD by 24 months Immunization Rate	**82.4%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 6-0

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 6-0 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was lower than the state rate (82.4% vs. 84.5%). By the end of data collection, the District UTD immunization rate was similar to the state rate (93.7% vs. 93.6%) (Table 6-0-B).

From 2011 to 2012: The District 6-0 UTD immunization rate by 24 months increased by 4.6% from 2011 to 2012. The District UTD immunization rate by the end of data collection decreased by 5.2% from 2011 to 2012 (Figure 6-0-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 6-0-A: GIS Sampling Scheme, District 6-0, 2012

	District 6-0 (n)	State (n)
Original Sample	174	2,973
Ineligible	14	130
Refused to Participate	0	8
Eligible Sample	160	2,835
Unable to Locate†	1	246
Final Sample	159	2,589
Response Rate (%)	99.4%	92.3%

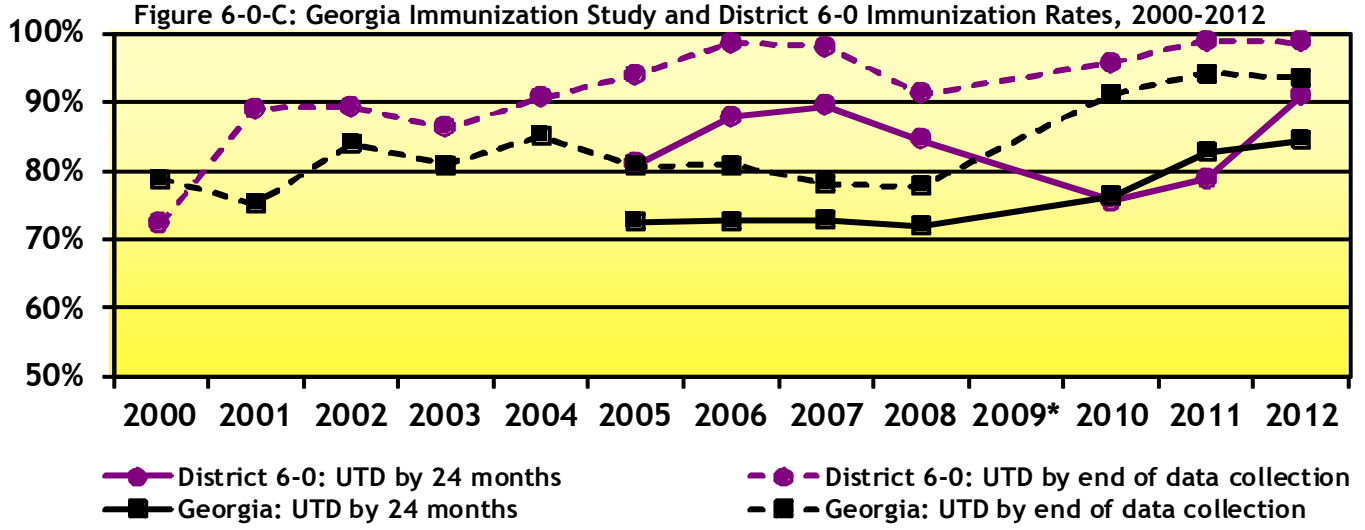
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 6-0-B: Immunization Summary by Series & Vaccine Antigen, District 6-0, 2012

	District 6-0 (%)	State Average (%)
UTD immunization rate* **by 24 months**	82.4	84.5
UTD immunization rate* **by end of data collection†**	93.7	93.6
4 DTaP **by 24 months**	84.3	87.0
3 DTaP **by 24 months**	96.3	97.0
3 IPV **by 24 months**	95.6	96.0
1 MMR **by 24 months**	89.9	93.2
UTD Hib **by 24 months**	93.7	96.1
3 Hep B **by 24 months**	93.7	96.1
1 Varicella **by 24 months**	91.8	94.2
UTD PCV **by 24 months**	88.1	92.2
2 Rotavirus **by 24 months**	62.9	70.6
2 Hep A **by 24 months**	47.8	57.3
1+ Influenza **by 24 months**	52.2	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 6-0-C: Georgia Immunization Study and District 6-0 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 6-0, Georgia Immunization Study Report, p3

Table 6-0-F: UTD Immunization Rates by Demographic group, District 6-0, 2012

	State Avg. UTD by 24 months (%)	6-0—UTD by 24 months (%)	*6-0—UTD by end of d.c.[β] (%)*
District 6-0 Sample (n=159)	**84.5**	82.4	93.7
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=50)	**85.0**	**86.0**	*96.0*
White, Hispanic (n=3)	**89.3**	**100.0**	*100.0*
Black (n=93)	**81.6**	**79.6**	*92.5*
Unspecified, Hispanic (n=5)	**86.5**	**60.0**	*80.0*
Asian (n=1)	**94.6**	**100.0**	*100.0*
Multiracial (n=4)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=58)	**86.6**	**89.7**	*96.6*
HS Diploma/GED (n=63)	**82.9**	**85.7**	*92.1*
9th-11th grade (n=34)	**82.9**	**67.7**	*94.1*
<9th grade (n=4)	**85.6**	**50.0**	*75.0*
WIC[θ]			
Non-WIC (n=76)	**89.4**	**88.2**	*97.4*
WIC (n=83)	**87.0**	**80.7**	*90.4*
Maternal Age[‡]			
<25 years (n=71)	**83.6**	**81.7**	*94.4*
25-34 years (n=74)	**84.8**	**82.4**	*91.9*
35+ years (n=14)	**86.7**	**85.7**	*100.0*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=16)	**90.7**	**93.8**	*93.8*
Unmarried, First Birth (n=44)	**87.6**	**86.4**	*100.0*
Married, Repeat Birth (n=36)	**82.5**	**88.9**	*97.2*
Unmarried, Repeat Birth (n=63)	**79.6**	**73.0**	*87.3*
Gestational Age[‡]			
<37 weeks (n=23)	**83.5**	**78.3**	*95.7*
37+ weeks (n=136)	**84.7**	**83.1**	*93.4*
Provider Type[†]			
Public Sector Only (n=4)	**73.1**	**75.0**	*100.0*
Private Sector Only (n=104)	**86.0**	**87.5**	*95.2*
Both (n=18)	**73.8**	**55.6**	*88.9*
Payment at Birth[‡,†]			
Government Assist (n=116)	**82.1**	**80.2**	*92.2*
Private Insurance (n=36)	**88.2**	**88.9**	*100.0*
Other (n=1)	**89.2**	**100.0**	*100.0*
Self Pay (n=3)	**87.2**	**66.7**	*66.7*
Number of Providers[†]			
1 (n=98)	**85.4**	**87.8**	*94.9*
2 (n=18)	**82.4**	**72.2**	*94.4*
3+ (n=10)	**85.0**	**50.0**	*90.0*
Child's Gender[‡]			
Male (n=68)	**84.6**	**86.8**	*97.1*
Female (n=91)	**84.5**	**79.1**	*91.2*
Metro Residence[θ]			
Metro (n=120)	**83.9**	**80.8**	*92.5*
Non-metro (n=39)	**86.4**	**87.2**	*97.4*

UTD Immunization Rates by Demographic Group: In District 6-0, children of black mothers were less often UTD by 24 months than children of white, non-Hispanic mothers (79.6.4% vs. 86.0%) and lower than the District rate as a whole (82.4%). The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 6-0-F).

In terms of maternal education, children of mothers with a high school diploma/GED or some college education were more often UTD by 24 months than children of mothers with less education.

In terms of maternal age, higher maternal age was associated with higher UTD immunization rates by 24 months of age (see Table 6-0-F). In terms of the maternal marital status and repeat births, children of married mothers were more often UTD by 24 months than children of unmarried mothers (see Table 6-0-F). Children of unmarried mothers who already had at least one other child were least often UTD at 24 months (73.0%).

Children born at a gestational age of less than 37 weeks were less often UTD by 24 months than those born at a gestational age of more than 37 weeks (78.3% vs. 83.1%).

Children whose birth costs were covered by

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

government-assisted insurance were less likely to be UTD at 24 months and accounted for the majority of the children sampled in this District (80.2%).

The District data support the importance of a medical home; children who had one provider were more often UTD by 24 months than those with two providers (87.8% vs. 72.2%).

Additionally, children residing in non-metro counties (see page 1 of District 6-0 Immunization Report) were more often UTD by 24 months than those residing in metro counties (87.2% vs. 80.8%).

To varying degrees, most demographic-related disparities resolved by the end of data collection (Table 6-0-F, *column in italics*).

Some disparities in terms of lower immunization rates in District 6-0 remained at the end of the study. These were among children of black and unspecified Hispanic mothers, children of mothers with less than a high school education, children of unmarried mothers with previous children, children whose birth costs were covered by government-assisted insurance, and children living in metro counties (see page 1 of District 6-0 Immunization Report).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 6-0 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of black mothers
- Children of mothers without a high school diploma/ GED education
- Children with mothers under 25 years of age
- Children of unmarried mothers with previous children
- Children who were born at a gestational age of less than 37 weeks
- Children whose birth costs were covered by government-assisted insurance
- Children who receive immunizations from 2 providers instead of one
- Children residing in metro counties (see page 1 of District 6-0 Immunization Report)

Table 6-0-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 6-0, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	89.2	89.4	84.4	80.0	80.0	84.3
3 Polio by 24 months	98.7	97.9	100	95.6	97.7	95.6
1 MMR by 24 months	93.2	95.7	95.6	93.3	91.8	89.9
UTD Hib by 24 months	94.6	97.9	97.8	91.1	95.3	93.7
3 Hepatitis B by 24 months	100	97.9	100	93.3	98.8	93.7
1 Varicella by 24 months	96.0	97.9	91.1	93.3	94.1	91.8
UTD PCV by 24 months	91.9	93.6	95.6	84.4	98.8	88.1
2 Rotavirus	-	-	-	60.0	75.3	62.9
1 Influenza by 24 months	-	-	-	53.3	61.2	52.2

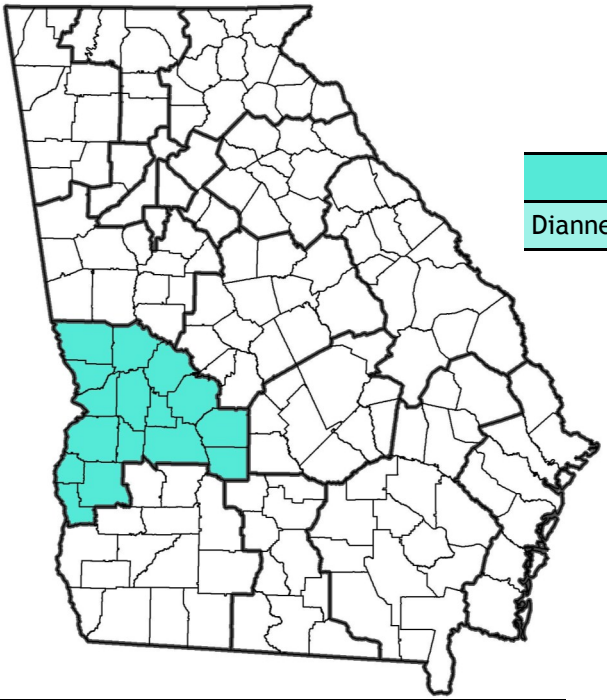
Immunization Rates by Vaccine Antigen: In District 6-0, the UTD immunization rate by 24 months for most vaccine antigens remained somewhat steady from 2006 to 2010, with some note-worthy increases in 2011, particularly for PCV, which increased from 84.4% in 2010 to 98.8% in 2011. Subsequently rates for almost all vaccine antigens fell in 2012 (Table 6-0-G).

Among District 6-0 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was the lowest at 84.3%, although this was higher than in 2011 (80.0%). The UTD immunization rate for PCV was second-lowest at 88.1%, down from 98.8% in 2011.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP, PCV, and MMR vaccines could reasonably be the primary focus of District and County-level immunization campaigns.

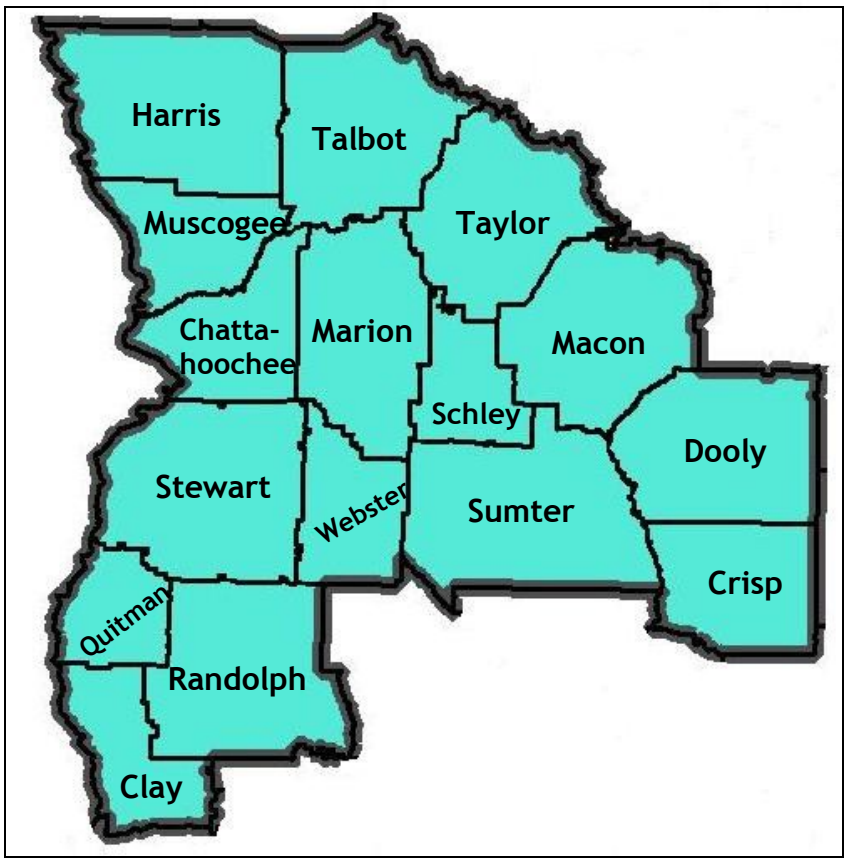
District 7-0

2012 Georgia Immunization Study Report



District 7-0 Data Collection Team	
Dianne Robinson, RN, MSN	District Immunization Coordinator

County	Sample	Metro
Chattahoochee	2	Metro
Clay	0	Nonmetro
Crisp	11	Nonmetro
Dooly	6	Nonmetro
Harris	11	Metro
Macon	4	Nonmetro
Marion	5	Metro
Muscogee	83	Metro
Quitman	0	Nonmetro
Randolph	7	Nonmetro
Schley	3	Nonmetro
Stewart	1	Nonmetro
Sumter	21	Nonmetro
Talbot	1	Nonmetro
Taylor	1	Nonmetro
Webster	0	Nonmetro
District 7-0	**156**	
District UTD by 24 months Immunization Rate	**91.0%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 7-0

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 7-0 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was higher than the state rate (91.0% vs. 84.5%). By the end of data collection, the District UTD immunization rate remained higher than the state rate (98.7% vs. 93.6%) (Table 7-0-B).

From 2011 to 2012: The District 7-0 UTD immunization rate by 24 months increased by 16.2% from 2011 to 2012. The District UTD immunization rate by the end of data collection increased by 10.2% from 2011 to 2012 (Figure 7-0-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 7-0-A: GIS Sampling Scheme, District 7-0, 2012

	District 7-0 (n)	State (n)
Original Sample	179	2,973
Ineligible	6	130
Refused to Participate	0	8
Eligible Sample	173	2,835
Unable to Locate†	17	246
Final Sample	156	2,589
Response Rate (%)	92.5%	92.3%

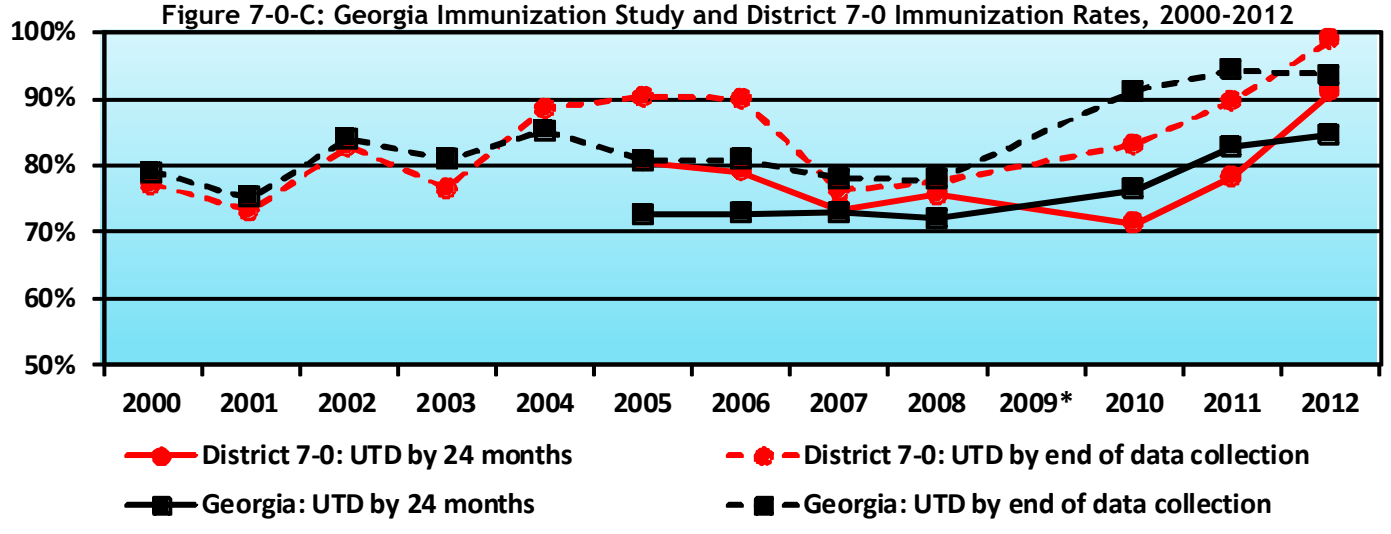
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 7-0-B: Immunization Summary by Series & Vaccine Antigen, District 7-0, 2012

	District 7-0 (%)	State Average (%)
UTD immunization rate* by 24 months	91.0	84.5
UTD immunization rate* by end of data collection†	98.7	93.6
4 DTaP by 24 months	93.6	87.0
3 DTaP by 24 months	99.4	97.0
3 IPV by 24 months	98.7	96.0
1 MMR by 24 months	96.8	93.2
UTD Hib by 24 months	98.7	96.1
3 Hep B by 24 months	99.4	96.1
1 Varicella by 24 months	96.2	94.2
UTD PCV by 24 months	95.5	92.2
2 Rotavirus by 24 months	65.4	70.6
2 Hep A by 24 months	63.5	57.3
1+ Influenza by 24 months	59.0	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 7-0-C: Georgia Immunization Study and District 7-0 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 7-0, Georgia Immunization Study Report, p3

Table 7-0-F: UTD Immunization Rates by Demographic group, District 7-0, 2012

	State Avg. UTD by 24 months (%)	7-0—UTD by 24 months (%)	*7-0—UTD by end of d.c.[β] (%)*
District 7-0 Sample (n=156)	**84.5**	91.0	98.7
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=49)	**85.0**	**93.9**	*100.0*
White, Hispanic (n=0)	**89.3**	-	-
Black (n=86)	**81.6**	**89.5**	*98.8*
Unspecified, Hispanic (n=7)	**86.5**	**85.7**	*85.7*
Asian (n=3)	**94.6**	**66.7**	*100.0*
Multiracial (n=2)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=64)	**86.6**	**93.8**	*98.4*
HS Diploma/GED (n=50)	**82.9**	**88.0**	*100.0*
9th-11th grade (n=34)	**82.9**	**91.2**	*100.0*
<9th grade (n=7)	**85.6**	**85.7**	*85.7*
WIC[θ]			
Non-WIC (n=67)	**89.4**	**95.5**	*98.5*
WIC (n=89)	**87.0**	**91.0**	*100.0*
Maternal Age[‡]			
<25 years (n=79)	**83.6**	**86.1**	*98.7*
25-34 years (n=69)	**84.8**	**97.1**	*98.6*
35+ years (n=8)	**86.7**	**87.5**	*100.0*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=14)	**90.7**	**85.7**	*92.9*
Unmarried, First Birth (n=47)	**87.6**	**91.5**	*100.0*
Married, Repeat Birth (n=40)	**82.5**	**92.5**	*100.0*
Unmarried, Repeat Birth (n=55)	**79.6**	**90.9**	*98.2*
Gestational Age[‡]			
<37 weeks (n=25)	**83.5**	**88.0**	*100.0*
37+ weeks (n=131)	**84.7**	**91.6**	*98.5*
Provider Type[†]			
Public Sector Only (n=1)	**73.1**	**100.0**	*100.0*
Private Sector Only (n=101)	**86.0**	**93.1**	*100.0*
Both (n=10)	**73.8**	**80.0**	*100.0*
Payment at Birth[‡,†]			
Government Assist (n=85)	**82.1**	**88.2**	*98.8*
Private Insurance (n=30)	**88.2**	**96.7**	*100.0*
Other (n=22)	**89.2**	**100.0**	*100.0*
Self Pay (n=9)	**87.2**	**77.8**	*88.9*

UTD Immunization Rates by Demographic Group: In District 7-0, the UTD by 24 months immunization rates for children of black mothers were lower than that for children of white, non-Hispanic mothers (89.5% vs. 93.9%) and lower than the District rate as a whole (91.0%). The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 7-0-F).

Children of mothers with less than a high school education were the least often UTD by 24 months (85.7%), but were also the smallest group.

In terms of maternal age, children of mothers 25-34 years of age were the most often UTD by 24 months (97.1%). In terms of maternal marital status and repeat births, children of married mothers without previous children were slightly less often UTD by 24 months (see Table 7-0-F).

Children whose birth costs were covered by government-assisted insurance were less often UTD by 24 months than those whose birth was covered by private insurance (88.2% vs. 96.7%).

Children living in metro counties (see page 1 of District 7-0 Immunization Report) were less often UTD by 24 months of age than children living in non -metro counties (89.2% vs. 94.4%).

	State Avg. UTD by 24 months %	7-0—UTD by 24 months (%)	*7-0—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=66)	**85.4**	**90.9**	*100.0*
2 (n=31)	**82.4**	**93.6**	*100.0*
3+ (n=15)	**85.0**	**93.3**	*100.0*
Child's Gender[‡]			
Male (n=77)	**84.6**	**94.8**	*98.7*
Female (n=79)	**84.5**	**87.3**	*98.7*
Metro Residence[θ]			
Metro (n=102)	**83.9**	**89.2**	*98.0*
Non-metro (n=54)	**86.4**	**94.4**	*100.0*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

Almost all demographic-related disparities resolved by the end of data collection(Table 7-0-F, *column in italics*).

Children of married mothers with no previous children remained slightly less likely to be UTD by the end of data collection than the District rate as a whole (92.9% vs. 98.7%).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 7-0 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of black mothers
- Children of mothers with no high school education
- Children of mothers from <25 years of age
- Children of married mothers with no previous children
- Children living in metro counties (see page 1 of District 7-0 Immunization Report)

Table 7-0-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 7-0—2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	85.0	75.2	79.5	83.7	80.9	93.6
3 Polio by 24 months	94.0	84.8	90.7	95.4	95.7	98.7
1 MMR by 24 months	92.0	88.6	88.7	89.9	92.2	96.8
UTD Hib by 24 months	92.0	90.5	88.1	91.5	94.8	98.7
3 Hepatitis B by 24 months	95.0	89.5	88.1	93.0	98.3	99.4
1 Varicella by 24 months	94.0	87.6	88.7	93.0	93.0	96.2
UTD PCV by 24 months	75.0	81.0	84.1	86.8	95.7	95.5
2 Rotavirus	-	-	-	83.7	83.5	65.4
1 Influenza by 24 months	-	-	-	67.4	60.0	59.0

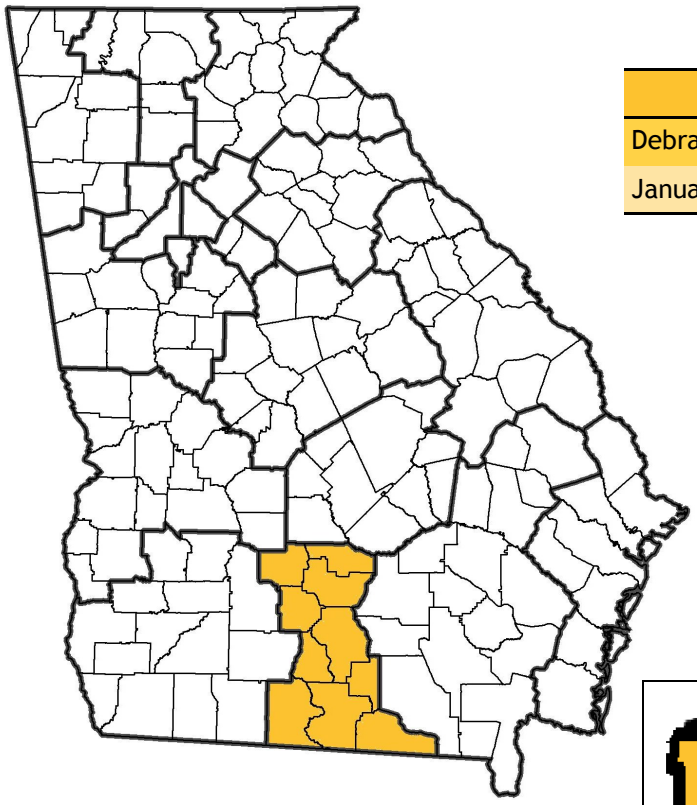
Immunization Rates by Vaccine Antigen: In District 7-0, the UTD immunization rate by 24 months for most vaccine antigens remained somewhat steady from 2006 to 2010, with some note-worthy increases in 2011, and again in 2012 (Table 7-0-G).

Among District 7-0 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was the lowest at 93.6% although this was markedly elevated from 80.9% in 2011. The UTD immunization rate for PCV was second-lowest at 95.5%, down slightly from 95.7% in 2011.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP vaccine could reasonably be the primary focus of District and County -level immunization campaigns.

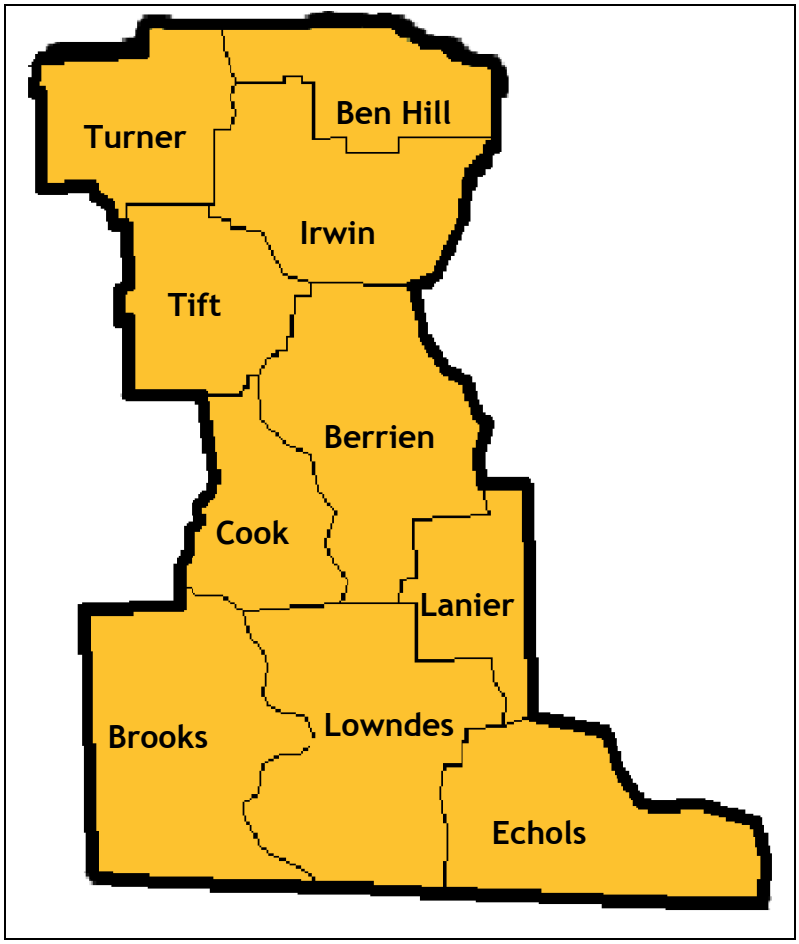
District 8-1

2012 Georgia Immunization Study Report



District 8-1 Data Collection Team	
Debra Adams, RN, APRN	District Immunization Coordinator
January Smith, MPH	District Epidemiologist

County	Sample	Metro
Ben Hill	4	Nonmetro
Berrien	9	Nonmetro
Brooks	4	Metro
Cook	7	Nonmetro
Echols	0	Metro
Irwin	2	Nonmetro
Lanier	3	Metro
Lowndes	41	Metro
Tift	11	Nonmetro
Turner	0	Nonmetro
District 8-1	**81**	
District UTD by 24 months Immunization Rate	**88.9%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 8-1

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 8-1 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was higher than the state rate (88.9% vs. 84.5%). By the end of data collection, the District UTD immunization rate remained higher than the state rate (96.3% vs. 93.6%) (Table 8-1-B).

From 2011 to 2012: The District 8-1 UTD immunization rate by 24 months decreased by 2.2% from 2011 to 2012. The District UTD immunization rate by the end of data collection increased by 0.2% from 2011 to 2012 (Figure 8-1-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 8-1-A: GIS Sampling Scheme, District 8-1, 2012

	District 8-1 (n)	State (n)
Original Sample	87	2,973
Ineligible	0	130
Refused to Participate	0	8
Eligible Sample	87	2,835
Unable to Locate†	6	246
Final Sample	81	2,589
Response Rate (%)	93.1%	92.3%

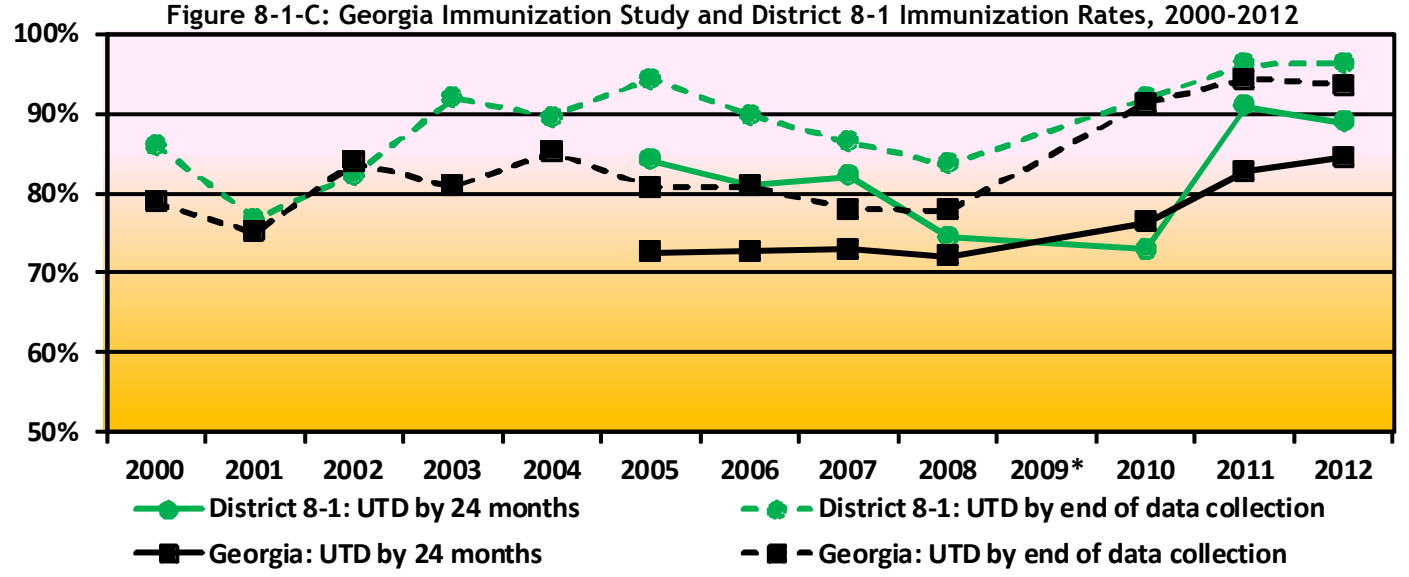
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 8-1-B: Immunization Summary by Series & Vaccine Antigen, District 8-1, 2012

	District 8-1 (%)	State Average (%)
UTD immunization rate* by 24 months	88.9	84.5
UTD immunization rate* by end of data collection†	96.3	93.6
4 DTaP by 24 months	90.1	87.0
3 DTaP by 24 months	98.8	97.0
3 IPV by 24 months	98.8	96.0
1 MMR by 24 months	95.1	93.2
UTD Hib by 24 months	95.1	96.1
3 Hep B by 24 months	98.8	96.1
1 Varicella by 24 months	97.5	94.2
UTD PCV by 24 months	98.8	92.2
2 Rotavirus by 24 months	84.0	70.6
2 Hep A by 24 months	64.2	57.3
1+ Influenza by 24 months	58.0	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 8-1-C: Georgia Immunization Study and District 8-1 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 8-1, Georgia Immunization Study Report, p3

Table 8-1-F: UTD Immunization Rates by Demographic group, District 8-1, 2012

	State Avg. UTD by 24 months %	8-1—UTD by 24 months (%)	*8-1—UTD by end of d.c.[β] (%)*
District 8-1 Sample (n=81)	**84.5**	88.9	96.3
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=28)	**85.0**	**89.3**	*96.4*
White, Hispanic (n=3)	**89.3**	**100.0**	*100.0*
Black (n=35)	**81.6**	**88.6**	*97.1*
Unspecified, Hispanic (n=5)	**86.5**	**100.0**	*100.0*
Asian (n=0)	**94.6**	-	-
Multiracial (n=0)	**90.2**	-	-
Maternal Education[‡,†]			
Some College+ (n=34)	**86.6**	**88.2**	*94.1*
HS Diploma/GED (n=30)	**82.9**	**90.0**	*96.7*
9th-11th grade (n=13)	**82.9**	**92.3**	*100.0*
<9th grade (n=2)	**85.6**	**50.0**	*100.0*
WIC[θ]			
Non-WIC (n=38)	**89.4**	**94.7**	*97.4*
WIC (n=43)	**87.0**	**86.0**	*95.3*
Maternal Age[‡]			
<25 years (n=48)	**83.6**	**85.2**	*97.9*
25-34 years (n=28)	**84.8**	**92.9**	*92.9*
35+ years (n=5)	**86.7**	**100.0**	*100.0*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=14)	**90.7**	**85.7**	*100.0*
Unmarried, First Birth (n=30)	**87.6**	**96.7**	*96.7*
Married, Repeat Birth (n=18)	**82.5**	**83.3**	*88.9*
Unmarried, Repeat Birth (n=19)	**79.6**	**84.2**	*100.0*
Gestational Age[‡]			
<37 weeks (n=8)	**83.5**	**87.5**	*100.0*
37+ weeks (n=73)	**84.7**	**89.0**	*95.9*
Provider Type[†]			
Public Sector Only (n=0)	**73.1**	-	-
Private Sector Only (n=69)	**86.0**	**94.2**	*97.1*
Both (n=7)	**73.8**	**57.1**	*100.0*
Payment at Birth[‡,†]			
Government Assist (n=61)	**82.1**	**85.3**	*95.1*
Private Insurance (n=11)	**88.2**	**100.0**	*100.0*
Other (n=1)	**89.2**	**100.0**	*100.0*
Self Pay (n=1)	**87.2**	**100.0**	*100.0*
Number of Providers[†]			
1 (n=38)	**85.4**	**94.7**	*97.4*
2 (n=23)	**82.4**	**95.7**	*95.7*
3+ (n=15)	**85.0**	**69.2**	*100.0*
Child's Gender[‡]			
Male (n=39)	**84.6**	**84.6**	*92.3*
Female (n=42)	**84.5**	**92.9**	*100.0*
Metro Residence[θ]			
Metro (n=48)	**83.9**	**89.9**	*97.9*
Non-metro (n=33)	**86.4**	**87.9**	*93.9*

UTD Immunization Rates by Demographic Group: In District 8-1, children of white, non-Hispanic mothers and black mothers were the largest demographic race/ethnicity groups in this District, and both had UTD rates by 24 months similar to the District rate as a whole and higher than the state average. The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 8-1-F).

Children of mothers with some college education were slightly less likely to be UTD at 24 months compared to those whose mothers had less education. Children of unmarried mothers who were the firstborn children were the most often UTD by 24 months (96.7%).

Most children received government-assisted insurance at the time of birth, this group was slightly less likely to be UTD at 24 months than the District as a whole (85.3% vs. 88.9%).

District 8-1 children with two providers were slightly more often UTD than those with just one provider (95.7% vs. 94.7%).

To varying degrees, most demographic-related disparities resolved by the end of data collection, though some persisted (Table 8-1-F, *column in*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

italics).

For example, children of mothers with some college education remained less UTD by the end of data collection (94.1%) than the rest of the group.

The immunization rate of children with mothers 25-34 years of age remained unchanged at the end of data collection (92.9%).

Children of married mothers with previous children had the lowest UTD rate by the end of data collection (88.9%) compared to children with mothers regardless of marital status or repeat births

By the end of data collection children residing in non-metro counties (see page 1 of District 8-1 Immunization Report) remained lower than those in metro counties with regard to UTD rate.

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 8-1 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of mothers with some college education
- Children of mothers less than 25 years of age
- Children of married mothers with previous children
- Children receiving immunizations from 3+ providers
- Children residing in non-metro counties (see page 1 of District 8-1 Immunization Report)

Table 8-1-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 8-1, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	81.0	83.2	79.5	84.7	94.8	90.1
3 Polio by 24 months	91.4	93.7	91.5	92.9	97.4	98.8
1 MMR by 24 months	86.2	90.5	85.5	88.2	96.1	95.1
UTD Hib by 24 months	89.7	96.8	92.3	92.9	96.1	95.1
3 Hepatitis B by 24 months	94.8	97.9	92.3	92.9	96.1	98.8
1 Varicella by 24 months	87.9	92.6	87.2	90.6	94.8	97.5
UTD PCV by 24 months	70.7	84.2	87.2	87.1	97.4	98.8
2 Rotavirus	-	-	-	83.5	92.2	84.0
1 Influenza by 24 months	-	-	-	60.0	61.0	58.0

Immunization Rates by Vaccine Antigen: In District 8-1, the UTD immunization rate by 24 months for most vaccine antigens remained somewhat steady in District 8-1 from 2006 to 2010, with all antigens increasing in 2011. In 2012 half of the rates by antigen decreased slightly although rates remain high (Table 8-1-G).

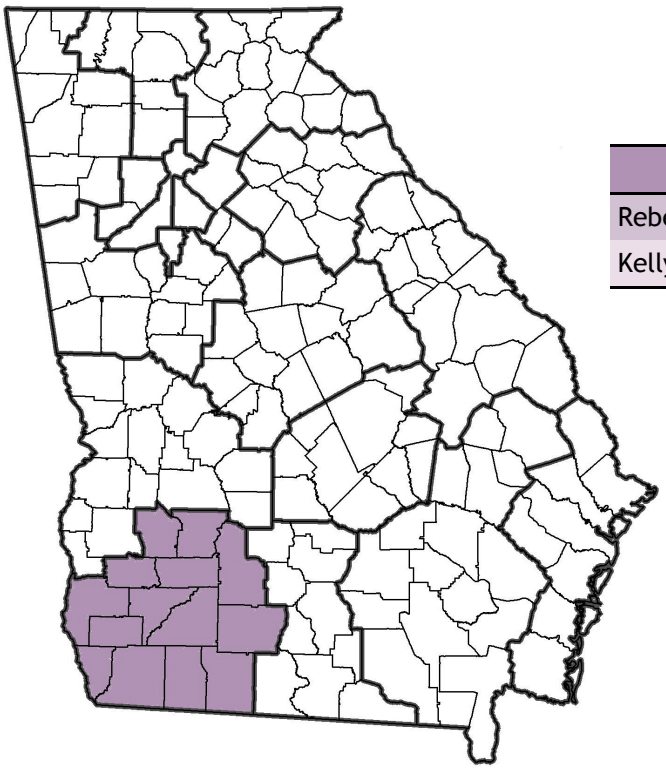
Among District 8-1 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP dropped the most and was lowest at 90.1%, down from 94.8% in 2011.

Since first being ACIP-recommended in 2002, the UTD coverage by 24 months for the pneumococcal conjugate vaccine increased from 37.5% in 2005 (not shown) to 98.8% in 2012 in District 8-1.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP vaccine could reasonably be the primary focus of District and County -level immunization campaigns.

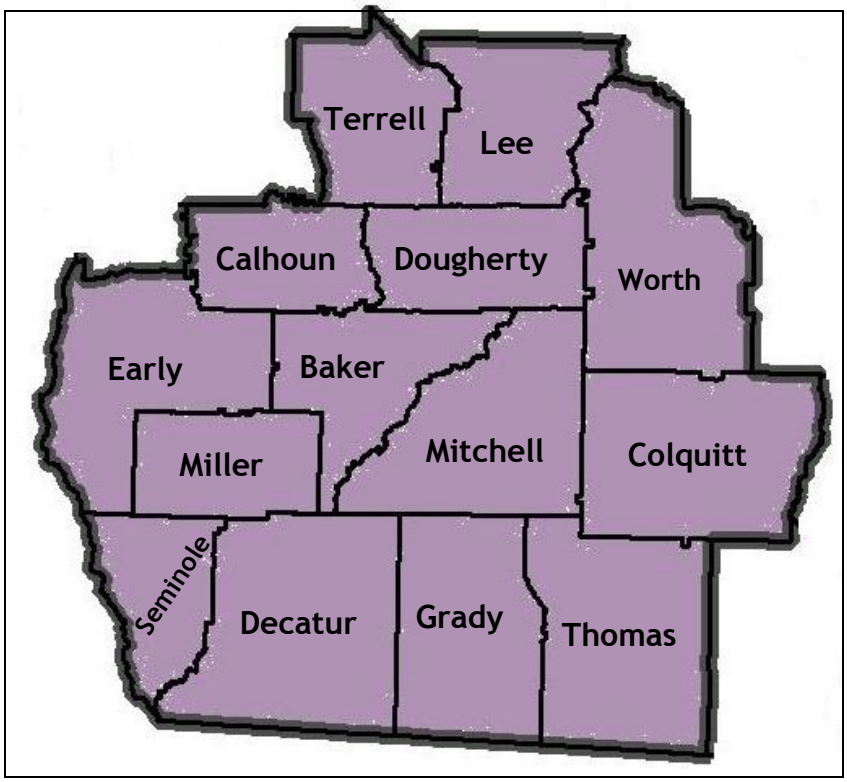
District 8-2

2012 Georgia Immunization Study Report



District 8-2 Data Collection Team	
Rebecca Snow, LPN	District Immunization Coordinator
Kelly Tillery	Primary Data Collector

County	Sample	Metro
Baker	0	Metro
Calhoun	1	Nonmetro
Colquitt	26	Nonmetro
Decatur	12	Nonmetro
Dougherty	30	Metro
Early	3	Nonmetro
Grady	9	Nonmetro
Lee	8	Metro
Miller	3	Nonmetro
Mitchell	14	Nonmetro
Seminole	2	Nonmetro
Terrell	4	Metro
Thomas	15	Nonmetro
Worth	5	Metro
District 8-2	**132**	
District UTD by 24 months Immunization Rate	**83.3%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 8-2

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 8-2 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was lower than the state rate (83.3% vs. 84.5%). By the end of data collection, the District UTD immunization rate remained lower than the state rate (88.6% vs. 93.6%) (Table 8-2-B).

From 2011 to 2012: The District 8-2 UTD immunization rate by 24 months decreased by 0.7% from 2011 to 2012. The District UTD immunization rate by the end of data collection decreased by 8.5% from 2011 to 2012 (Figure 8-2-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 8-2-A: GIS Sampling Scheme, District 8-2, 2012

	District 8-2 (n)	State (n)
Original Sample	143	2,973
Ineligible	4	130
Refused to Participate	0	8
Eligible Sample	139	2,835
Unable to Locate†	7	246
Final Sample	132	2,589
Response Rate (%)	95.0%	92.3%

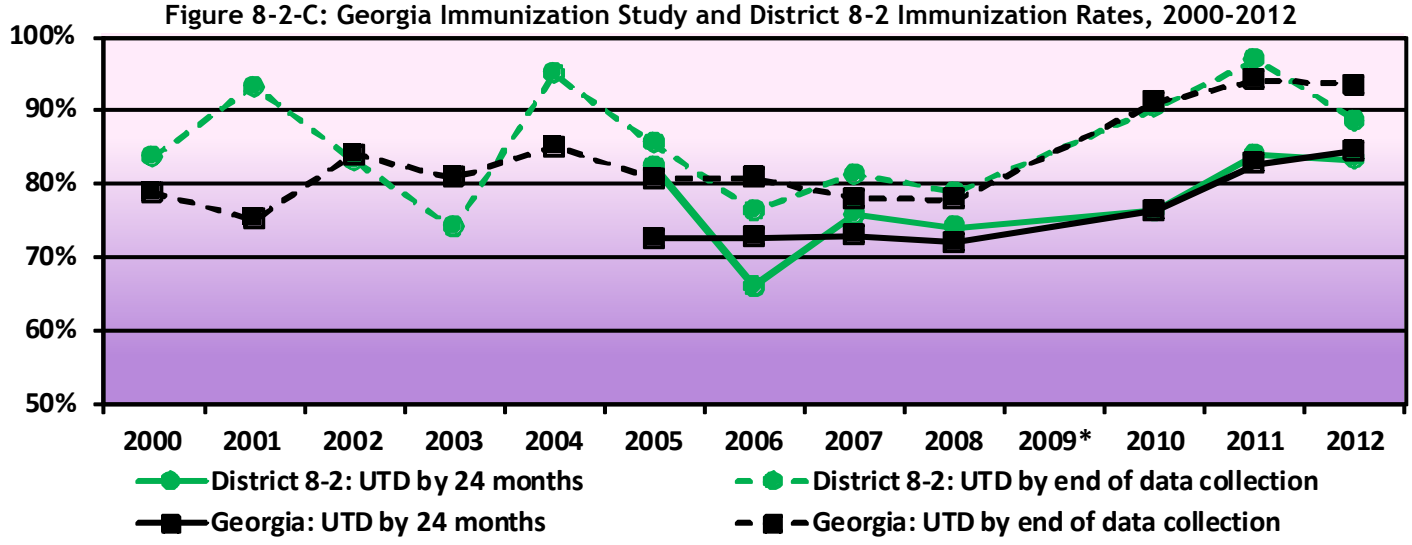
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 8-2-B: Immunization Summary by Series & Vaccine Antigen, District 8-2, 2012

	District 8-2 (%)	State Average (%)
UTD immunization rate* by 24 months	83.3	84.5
UTD immunization rate* by end of data collection†	88.6	93.6
4 DTaP by 24 months	86.4	87.0
3 DTaP by 24 months	93.9	97.0
3 IPV by 24 months	93.2	96.0
1 MMR by 24 months	91.7	93.2
UTD Hib by 24 months	95.5	96.1
3 Hep B by 24 months	96.2	96.1
1 Varicella by 24 months	90.2	94.2
UTD PCV by 24 months	88.6	92.2
2 Rotavirus by 24 months	78.8	70.6
2 Hep A by 24 months	64.4	57.3
1+ Influenza by 24 months	56.8	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 8-2-C: Georgia Immunization Study and District 8-2 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 8-2, Georgia Immunization Study Report, p3

Table 8-2-F: UTD Immunization Rates by Demographic group, District 8-2, 2012

	State Avg. UTD by 24 months (%)	8-2—UTD by 24 months (%)	*8-2—UTD by end of d.c.[β] (%)*
District 8-2 Sample (n=132)	**84.5**	83.3	88.6
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=55)	**85.0**	**85.5**	*89.1*
White, Hispanic (n=0)	**89.3**	-	-
Black (n=64)	**81.6**	**81.3**	*87.5*
Unspecified, Hispanic (n=11)	**86.5**	**81.8**	*90.9*
Asian (n=0)	**94.6**	-	-
Multiracial (n=1)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=47)	**86.6**	**87.2**	*91.5*
HS Diploma/GED (n=50)	**82.9**	**84.0**	*88.0*
9th-11th grade (n=26)	**82.9**	**76.9**	*84.6*
<9th grade (n=7)	**85.6**	**71.4**	*85.7*
WIC[θ]			
Non-WIC (n=65)	**89.4**	**87.7**	*89.2*
WIC (n=67)	**87.0**	**83.6**	*88.1*
Maternal Age[‡]			
<25 years (n=73)	**83.6**	**87.7**	*91.8*
25-34 years (n=49)	**84.8**	**77.6**	*83.7*
35+ years (n=10)	**86.7**	**80.0**	*90.0*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=15)	**90.7**	**86.7**	*93.3*
Unmarried, First Birth (n=44)	**87.6**	**93.2**	*95.5*
Married, Repeat Birth (n=31)	**82.5**	**80.7**	*83.9*
Unmarried, Repeat Birth (n=42)	**79.6**	**73.8**	*83.3*
Gestational Age[‡]			
<37 weeks (n=14)	**83.5**	**92.9**	*92.9*
37+ weeks (n=118)	**84.7**	**82.2**	*88.1*
Provider Type[†]			
Public Sector Only (n=8)	**73.1**	**62.5**	*75.0*
Private Sector Only (n=86)	**86.0**	**84.9**	*89.5*
Both (n=15)	**73.8**	**80.0**	*93.3*
Payment at Birth[‡,†]			
Government Assist (n=49)	**82.1**	**87.8**	*91.8*
Private Insurance (n=7)	**88.2**	**71.4**	*85.7*
Other (n=8)	**89.2**	**100.0**	*100.0*
Self Pay (n=10)	**87.2**	**80.0**	*90.0*

UTD Immunization Rates by Demographic Group: In District 8-2, the UTD by 24 months immunization rate for children of black mothers was lowest at 81.3%; this was the largest maternal race/ethnicity demographic group. Children of white, non-Hispanic mothers had a UTD by 24 months immunization rate slightly above the District as a whole (85.5% vs. 83.3%). The remaining race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 8-2-F).

In District 8-2, higher maternal education was associated with UTD coverage rates by 24 months, although the sample size for the <9th grade maternal education group was too small to draw any conclusions (see Table 8-2-F).

In terms of maternal age, children of mothers 25-34 years of age were the least often UTD by 24 months (77.6%). In terms of the maternal marital status and repeat births, children of mothers with previous children were less often UTD by 24 months than children of mothers without previous children (see Table 8-2-F).

Most children's birth costs were covered by government-assisted insurance and as such were more likely to be UTD at 24 months. The data also support a medical home as children with two

	State Avg. UTD by 24 months (%)	8-2—UTD by 24 months (%)	*8-2—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=82)	**85.4**	**84.2**	*87.8*
2 (n=24)	**82.4**	**75.0**	*91.7*
3+ (n=3)	**85.0**	**100.0**	*100.0*
Child's Gender[‡]			
Male (n=67)	**84.6**	**82.1**	*91.0*
Female (n=65)	**84.5**	**84.6**	*86.2*
Metro Residence[θ]			
Metro (n=51)	**83.9**	**76.5**	*80.4*
Non-metro (n=81)	**86.4**	**87.7**	*93.8*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

providers were less likely to be UTD at 24 months than those with only one provider (75.0% vs. 84.2%).

Children living in metro counties (see page 1 of District 8-2 Immunization Report) were less likely to be UTD at 24 months than those living in non-metro counties (76.5% vs. 87.7%).

Several of these demographic-related disparities persisted through the end of data collection (Table 8-2 -F, *column in italics*).

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 8-2 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of less educated mothers
- Children who were born at a gestational age of 37+ weeks
- Children of mothers 25—34 years of age
- Children of mothers with previous children
- Children living in metro counties (see page 1 of District 8-2 Immunization Report)

Table 8-2-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 8-2, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	71.7	78.2	78.4	86.8	86.0	86.4
3 Polio by 24 months	84.3	88.5	90.7	98.3	95.7	93.2
1 MMR by 24 months	85.0	88.5	87.1	92.1	94.6	91.7
UTD Hib by 24 months	91.3	89.7	82.7	90.4	93.6	95.5
3 Hepatitis B by 24 months	88.2	92.7	94.2	97.4	96.8	96.2
1 Varicella by 24 months	84.3	89.4	86.3	96.5	94.6	90.2
UTD PCV by 24 months	72.4	78.2	80.6	93.9	96.8	88.6
2 Rotavirus	-	-	-	83.3	90.3	78.8
1 Influenza by 24 months	-	-	-	62.3	58.1	56.8

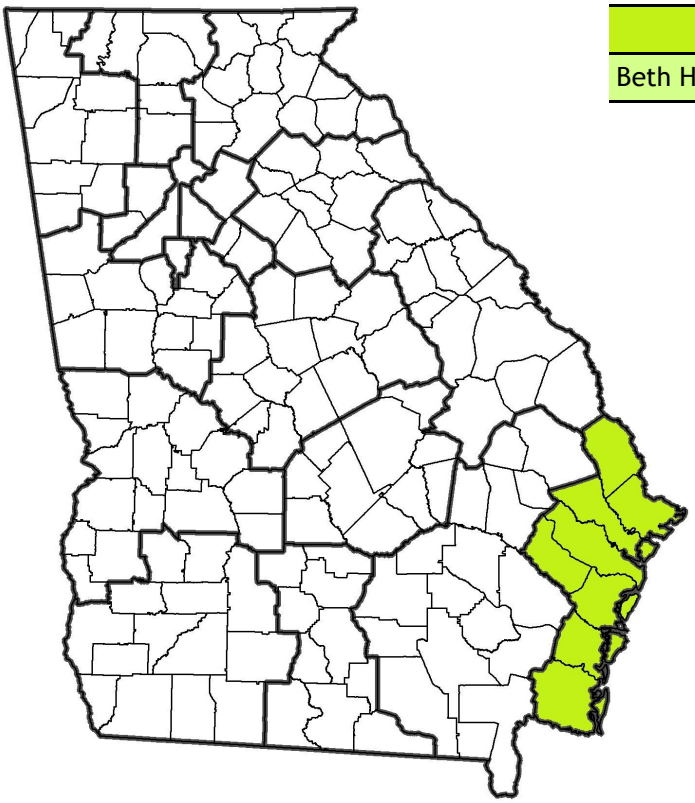
Immunization Rates by Vaccine Antigen: In District 8-2, the UTD immunization rate by 24 months for most vaccine antigens dropped from 2006 to 2008 in District 8-2, then peaked in 2010 or 2011. Only one antigen, Hib, peaked in 2012 (Table 8-2-G).

Among District 8-2 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was the lowest at 86.4%, similar to 86.8% in 2010. The UTD immunization rate for PCV was second-lowest at 88.6%, down from 96.8% in 2011.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP vaccine and the PCV vaccine could reasonably be the primary focus of District and County-level immunization campaigns, with Varicella and MMR close behind.

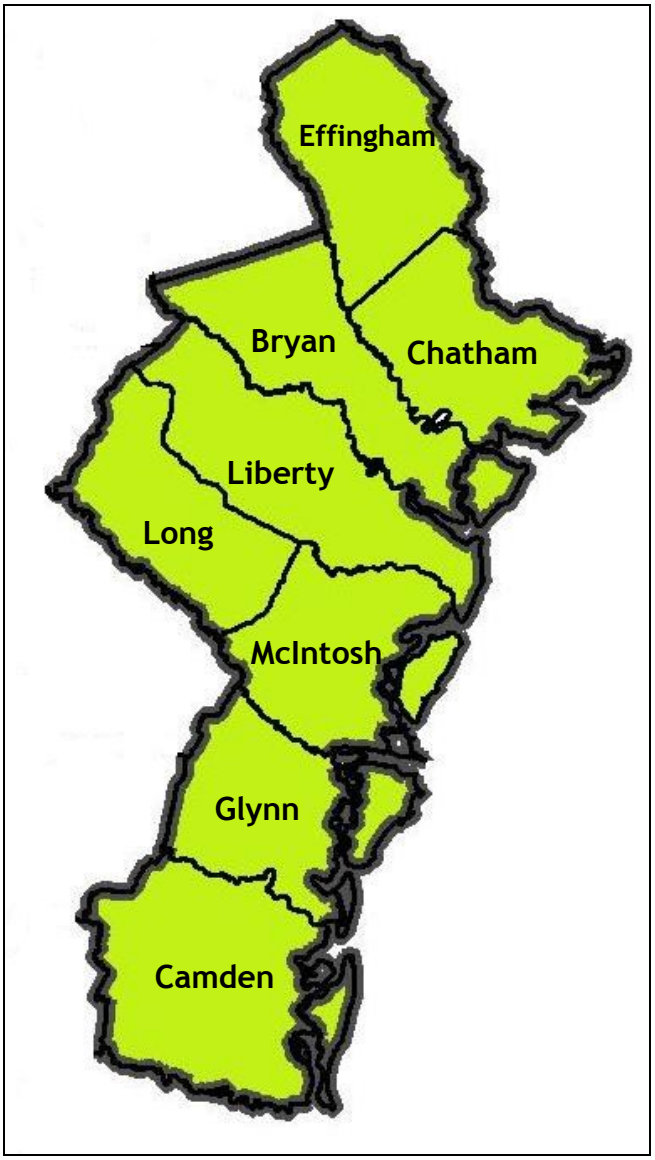
District 9-1

2012 Georgia Immunization Study Report



District 9-1 Data Collection Team	
Beth Hausauer, RN, MSN	District Immunization Coordinator

County	Sample	Metro
Bryan	8	Metro
Camden	8	Nonmetro
Chatham	104	Metro
Effingham	14	Metro
Glynn	25	Metro
Liberty	15	Metro
Long	3	Metro
McIntosh	4	Metro
District 9-1	**181**	
District UTD by 24 months Immunization Rate	**80.7%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 9-1

Georgia Immunization Study Report, p2

From 24 Months to End of Data Collection: In the District 9-1 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was lower than the state rate (80.7% vs. 84.5%). By the end of data collection, the District UTD immunization rate was similar to the state rate (93.4% vs. 93.6%) (Table 9-1-B).

From 2011 to 2012: The District 9-1 UTD immunization rate by 24 months increased by 5.1% from 2011 to 2012. The District UTD immunization rate by the end of data collection decreased by 0.3% from 2011 to 2012 (Figure 9-1-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 9-1-A: GIS Sampling Scheme, District 9-1—2012

	District 9-1 (n)	State (n)
Original Sample	216	2,973
Ineligible	11	130
Refused to Participate	0	8
Eligible Sample	205	2,835
Unable to Locate†	24	246
Final Sample	181	2,589
Response Rate (%)	89.7%	92.3%

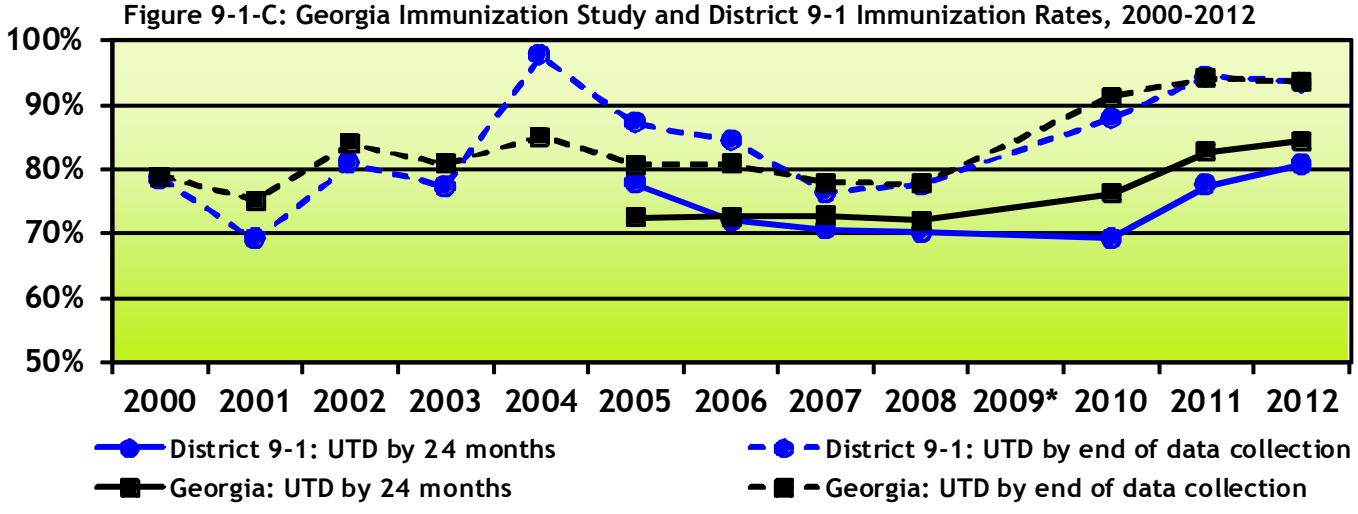
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 9-1-B: Immunization Summary by Series & Vaccine Antigen, District 9-1—2012

	District 9-1 (%)	State Average (%)
UTD immunization rate* **by 24 months**	80.7	84.5
UTD immunization rate* **by end of data collection†**	93.4	93.6
4 DTaP **by 24 months**	85.1	87.0
3 DTaP **by 24 months**	98.3	97.0
3 IPV **by 24 months**	98.3	96.0
1 MMR **by 24 months**	91.7	93.2
UTD Hib **by 24 months**	96.7	96.1
3 Hep B **by 24 months**	98.9	96.1
1 Varicella **by 24 months**	94.5	94.2
UTD PCV **by 24 months**	90.1	92.2
2 Rotavirus **by 24 months**	61.9	70.6
2 Hep A **by 24 months**	60.2	57.3
1+ Influenza **by 24 months**	59.7	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 9-1-C: Georgia Immunization Study and District 9-1 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 9-1, Georgia Immunization Study Report, p3

Table 9-1-F: UTD Immunization Rates by Demographic group, District 9-1—2012

	State Avg. UTD by 24 months (%)	9-1—UTD by 24 months (%)	*9-1—UTD by end of d.c.[β] (%)*
District 9-1 Sample (n=181)	**84.5**	**80.7**	93.4
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=73)	**85.0**	**83.6**	*90.4*
White, Hispanic (n=7)	**89.3**	**71.4**	*100.0*
Black (n=80)	**81.6**	**78.8**	*95.0*
Unspecified, Hispanic (n=6)	**86.5**	**83.3**	*100.0*
Asian (n=2)	**94.6**	**100.0**	*100.0*
Multiracial (n=7)	**90.2**	**71.4**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=80)	**86.6**	**81.3**	*95.0*
HS Diploma/GED (n=52)	**82.9**	**78.9**	*90.4*
9th-11th grade (n=34)	**82.9**	**85.3**	*94.1*
<9th grade (n=12)	**85.6**	**75.0**	*91.7*
WIC[θ]			
Non-WIC (n=98)	**89.4**	**85.7**	*93.9*
WIC (n=83)	**87.0**	**85.5**	*91.6*
Maternal Age[‡]			
<25 years (n=79)	**83.6**	**81.0**	*93.7*
25-34 years (n=85)	**84.8**	**78.8**	*94.1*
35+ years (n=17)	**86.7**	**88.2**	*88.2*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=28)	**90.7**	**96.4**	*100.0*
Unmarried, First Birth (n=49)	**87.6**	**89.8**	*100.0*
Married, Repeat Birth (n=44)	**82.5**	**77.3**	*88.6*
Unmarried, Repeat Birth (n=60)	**79.6**	**68.3**	*88.3*
Gestational Age[‡]			
<37 weeks (n=20)	**83.5**	**80.0**	*95.0*
37+ weeks (n=161)	**84.7**	**80.8**	*93.2*
Provider Type[†]			
Public Sector Only (n=3)	**73.1**	**66.7**	*100.0*
Private Sector Only (n=144)	**86.0**	**81.9**	*93.8*
Both (n=8)	**73.8**	**87.5**	*100.0*
Payment at Birth[‡,†]			
Government Assist (n=124)	**82.1**	**81.5**	*91.9*
Private Insurance (n=45)	**88.2**	**86.7**	*97.8*
Other (n=3)	**89.2**	**33.3**	*100.0*
Self Pay (n=4)	**87.2**	**75.0**	*100.0*

UTD Immunization Rates by Demographic Group: In District 9-1, the UTD by 24 months immunization rates for the two largest race/ethnicity groups - children of white, non-Hispanic mothers and children of black mothers - were lower than the state average (83.6% and 78.8% respectively). The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 9-1-F).

Children of mothers with less than a 9th grade education were the least often UTD by 24 months (75.0%) among the maternal education groups, but were also the smallest group.

Children with mothers in the 35+ years age group were the most likely to be UTD by 24 months (88.2%).

Children of unmarried mothers with previous children were the least often UTD by 24 months of age (68.3%), followed by children of married mothers with previous children (77.3%).

Children receiving immunizations from both public and private providers were more often UTD by 24 months than those receiving immunizations exclusively in the private sector (87.5% vs. 81.9%). In terms of payment at birth, District 9-1 children whose birth costs were covered by private insurance

	State Avg. UTD by 24 months (%)	9-1—UTD by 24 months (%)	*9-1—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=108)	**85.4**	**80.6**	*93.5*
2 (n=38)	**82.4**	**84.2**	*94.7*
3+ (n=9)	**85.0**	**88.9**	*100.0*
Child's Gender[‡]			
Male (n=90)	**84.6**	**80.0**	*95.6*
Female (n=91)	**84.5**	**81.3**	*91.2*
Metro Residence[θ]			
Metro (n=171)	**83.9**	**80.1**	*93.0*
Non-metro (n=10)	**86.4**	**90.0**	*100.0*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

were more often UTD by 24 months than children whose birth costs were covered by government-assisted insurance (86.7% vs. 81.5%).

The District 9-1 data did not support the importance of a medical home; children who had one provider (Number of Providers) were less often UTD by 24 months than those with two providers (80.6% vs. 84.2%).

Children who resided in metro counties (see page 1 of District 9-1 Immunization Report) were less likely to be UTD at 24 months than those who resided in non-metro counties (80.1% vs. 90.0%).

Although many demographic-related disparities resolved by the end of data collection, some still remained (Table 9-1-F).

For example, children of mothers who had previous children remained less likely to be UTD by the end of data collection than children of mothers who did not have previous children.

Children residing in metro counties remained less likely to be UTD by the end of data collection than those in non-metro counties.

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 9-1 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of mothers with <9th grade education
- Children of mothers 25-34 years of age
- Children of unmarried mothers with previous children
- Children of mothers using government-assisted insurance for the birth event
- Children with only one provider
- Children residing in metro counties (see page 1 of District 9-1 Immunization Report)

Table 9-1-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 9-1—2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	76.8	77.1	75.4	74.3	83.8	85.1
3 Polio by 24 months	92.3	87.9	88.6	92.1	98.6	98.3
1 MMR by 24 months	85.7	86.4	80.7	87.9	90.9	91.7
UTD Hib by 24 months	90.5	87.1	88.6	87.1	94.4	96.7
3 Hepatitis B by 24 months	92.3	87.1	89.5	91.4	94.4	98.9
1 Varicella by 24 months	89.9	86.4	83.3	90.0	93.7	94.5
UTD PCV by 24 months	69.6	77.9	80.7	89.3	94.4	90.1
2 Rotavirus	-	-	-	65.7	71.8	61.9
1 Influenza by 24 months	-	-	-	57.9	61.3	60.2

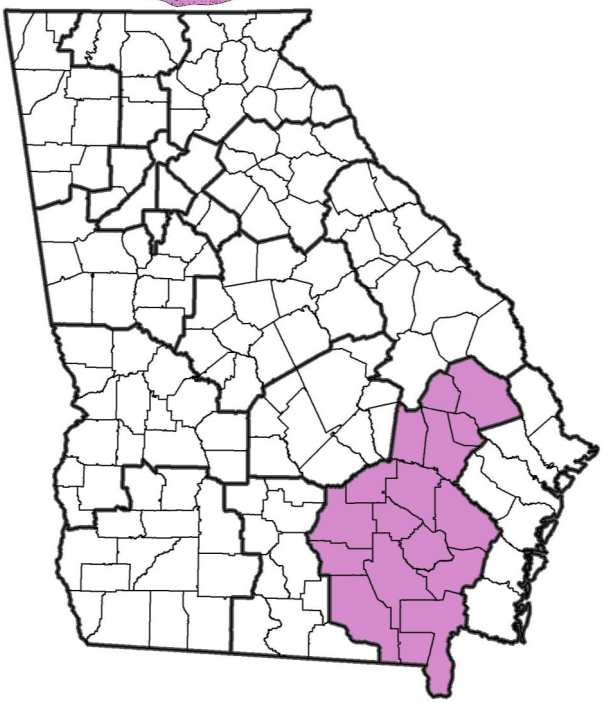
Immunization Rates by Vaccine Antigen: In District 9-1, the UTD immunization rate by 24 months for most vaccine antigens remained somewhat steady from 2006 to 2010, with all antigens increasing in 2011, and then again in 2012 (Table 9-1-G).

Among District 9-1 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was the lowest at 85.1%, up from 83.8% in 2011. The UTD immunization rate for PCV was second-lowest at 90.1%, down from 94.4% in 2011.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP and PCV vaccines could reasonably be the primary focus of District and County-level immunization campaigns.

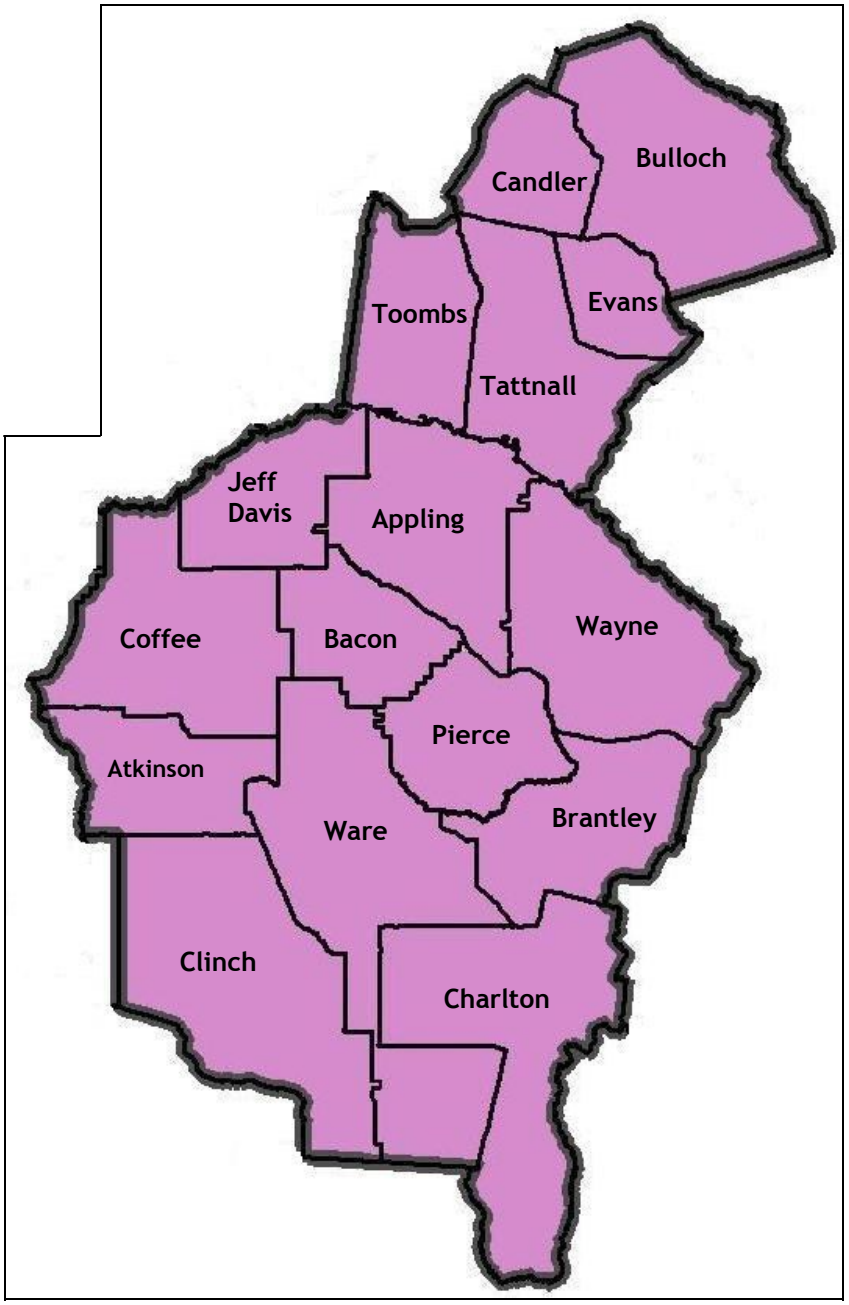
District 9-2

2012 Georgia Immunization Study Report



District 9-2 Data Collection Team	
Kay Davis, RN	District Immunization Coordinator

County	Sample	Metro
Appling	13	Nonmetro
Atkinson	1	Nonmetro
Bacon	8	Nonmetro
Brantley	0	Nonmetro
Bulloch	21	Nonmetro
Candler	3	Nonmetro
Charlton	2	Nonmetro
Clinch	2	Nonmetro
Coffee	13	Nonmetro
Evans	6	Nonmetro
Jeff Davis	7	Nonmetro
Pierce	5	Nonmetro
Tattnall	6	Nonmetro
Toombs	13	Nonmetro
Ware	15	Nonmetro
Wayne	13	Nonmetro
District 9-2	**128**	
District UTD by 24 months Immunization Rate	**84.4%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 9-2

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 9-2 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was similar to the state rate (84.4% vs. 84.5%). At the end of data collection, the District UTD immunization rate remained similar to the state rate (93.8% vs. 93.6%) (Table 9-2-B).

From 2011 to 2012: The District 9-2 UTD immunization rate by 24 months increased by 0.7% from 2011 to 2012. The District UTD immunization rate by the end of data collection increased by 1.1% from 2011 to 2012 (Figure 9-2-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 9-2-A: GIS Sampling Scheme, District 9-2, 2012

	District 9-2 (n)	State (n)
Original Sample	140	2,973
Ineligible	6	130
Refused to Participate	0	8
Eligible Sample	134	2,835
Unable to Locate†	6	246
Final Sample	128	2,589
Response Rate (%)	95.5%	92.3%

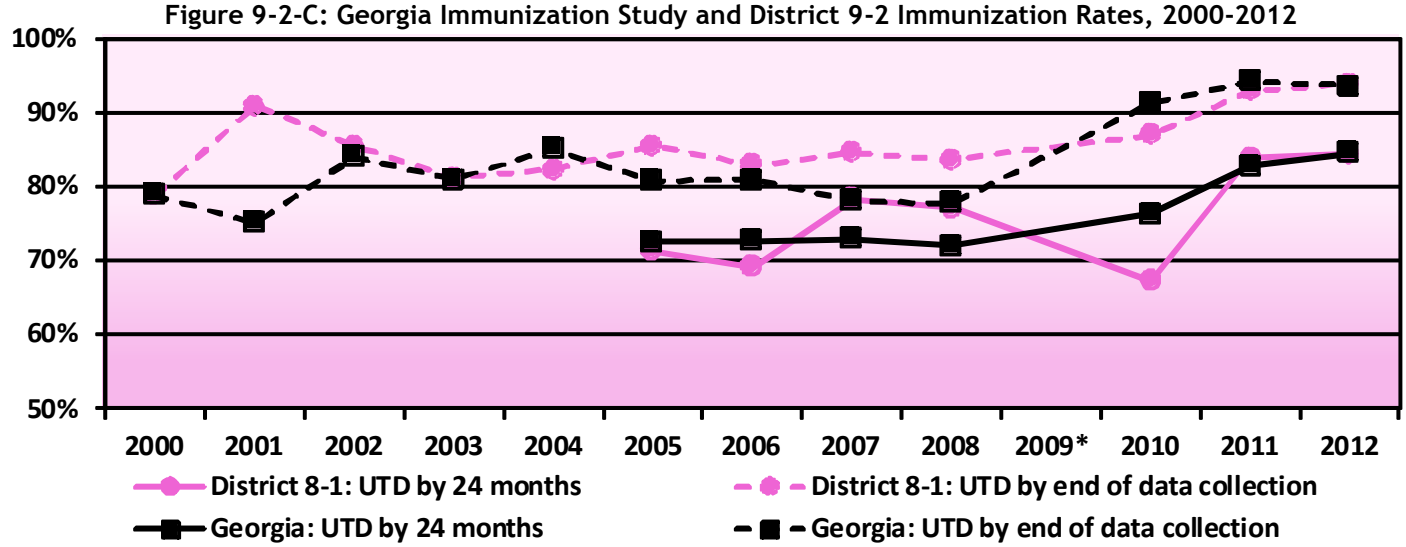
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 9-2-B: Immunization Summary by Series & Vaccine Antigen, District 9-2, 2012

	District 9-2 (%)	State Average (%)
UTD immunization rate* **by 24 months**	84.4	84.5
UTD immunization rate* **by end of data collection†**	93.8	93.6
4 DTaP **by 24 months**	83.6	87.0
3 DTaP **by 24 months**	96.1	97.0
3 IPV **by 24 months**	95.3	96.0
1 MMR **by 24 months**	94.5	93.2
UTD Hib **by 24 months**	96.1	96.1
3 Hep B **by 24 months**	96.9	96.1
1 Varicella **by 24 months**	93.8	94.2
UTD PCV **by 24 months**	89.1	92.2
2 Rotavirus **by 24 months**	64.1	70.6
2 Hep A **by 24 months**	60.9	57.3
1+ Influenza **by 24 months**	50.8	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 9-2-C: Georgia Immunization Study and District 9-2 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

District 9-2, Georgia Immunization Study Report, p3

Table 9-2-F: UTD Immunization Rates by Demographic group, District 9-2, 2012

	State Avg. UTD by 24 months (%)	9-2—UTD by 24 months (%)	*9-2—UTD by end of d.c.β (%)*
District 9-2 Sample (n=128)	**84.5**	**84.4**	93.8
Maternal Race/Ethnicity‡,†			
White, Non-Hispanic (n=66)	**85.0**	87.9	*95.5*
White, Hispanic (n=5)	**89.3**	100.0	*100.0*
Black (n=43)	**81.6**	74.4	*88.4*
Unspecified, Hispanic (n=9)	**86.5**	100.0	*100.0*
Asian (n=0)	**94.6**	-	-
Multiracial (n=3)	**90.2**	66.7	*100.0*
Maternal Education‡,†			
Some College+ (n=40)	**86.6**	90.0	*95.0*
HS Diploma/GED (n=50)	**82.9**	82.0	*94.0*
9th-11th grade (n=30)	**82.9**	80.0	*93.3*
<9th grade (n=6)	**85.6**	83.3	*83.3*
WICθ			
Non-WIC (n=62)	**89.4**	85.5	*93.5*
WIC (n=66)	**87.0**	86.4	*93.9*
Maternal Age‡			
<25 years (n=70)	**83.6**	85.7	*94.3*
25-34 years (n=49)	**84.8**	81.6	*93.9*
35+ years (n=9)	**86.7**	88.9	*88.9*
Maternal Marital Status‡ & Repeat Birth‡ Combination			
Married, First Birth (n=23)	**90.7**	**91.3**	*100.0*
Unmarried, First Birth (n=26)	**87.6**	**92.3**	*92.3*
Married, Repeat Birth (n=36)	**82.5**	**75.0**	*91.7*
Unmarried, Repeat Birth (n=43)	**79.6**	**83.7**	*93.0*
Gestational Age‡			
<37 weeks (n=20)	**83.5**	**80.0**	*95.0*
37+ weeks (n=108)	**84.7**	**85.2**	*93.5*
Provider Type†			
Public Sector Only (n=7)	**73.1**	**85.7**	*100.0*
Private Sector Only (n=91)	**86.0**	**86.8**	*92.3*
Both (n=26)	**73.8**	**76.9**	*100.0*
Payment at Birth‡,†			
Government Assist (n=90)	**82.1**	**83.3**	*94.4*
Private Insurance (n=23)	**88.2**	**87.0**	*95.7*
Other (n=0)	**89.2**	**-**	-
Self Pay (n=11)	**87.2**	**90.9**	*90.9*

UTD Immunization Rates by Demographic Group: In District 9-2, the UTD by 24 months immunization rate for children of white, non-Hispanic mothers was higher than that for children of black mothers (87.9% vs. 74.4%) - the two largest racial/ethnic groups in District 9-2. The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 9-2-F).

Maternal education was associated with higher UTD immunization rates by 24 months, with the exception of children whose mothers had less than a 9th grade education (see Table 9-2-F).

In terms of maternal age, children of mothers 25-34 years of age were least often UTD by 24 months of age (81.6%). Children of mothers who had no previous children were more often UTD by 24 months than those with previous children, regardless of marital status (see Table 9-2-F).

Children receiving immunizations from both public and private providers were the less often UTD by 24 months than those receiving immunizations exclusively in the private sector (76.9% vs. 86.8%).

District 9-2 children whose birth costs were covered by government-assisted insurance were less often

	State Avg. UTD by 24 months (%)	9-2—UTD by 24 months (%)	*9-2—UTD by end of d.c.β (%)*
Number of Providers†			
1 (n=82)	**85.4**	**85.4**	*92.7*
2 (n=35)	**82.4**	**82.9**	*97.1*
3+ (n=7)	**85.0**	**100.0**	*100.0*
Child's Gender‡			
Male (n=62)	**84.6**	**83.9**	*96.8*
Female (n=66)	**84.5**	**84.9**	*90.9*
Metro Residenceθ			
Metro (n=1)	**83.9**	**100.0**	*100.0*
Non-metro (n=127)	**86.4**	**84.3**	*93.7*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

UTD by 24 months than children whose birth costs were covered by private insurance (83.3% vs. 87.0%).

Children who received their immunizations from one provider were slightly more likely to be UTD at 24 months than those who had two providers (85.4% vs. 82.9%).

Although many demographic-related disparities resolved by the end of data collection, some still remained (Table 9-2-F, *column in italics*).

For example, children of black mothers remained less often UTD by the end of the data collection period than children of white, non-Hispanic mothers (88.4% vs. 95.5%).

Children whose birth costs were covered by government-assisted insurance remained less often UTD than children whose birth costs were covered by private insurance (94.4% vs. 95.7%).

Male children were more often UTD by the end of data collection than female children (96.8% vs. 90.9%) which was a reversal of the trend at 24 months.

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 9-2 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of mothers without college education
- Children of mothers between 25-34 years of age
- Children of mothers with previous children
- Children immunized in both the private and public sectors
- Children whose birth costs were covered by government-assisted insurance
- Children who received immunizations from two providers vs. a single provider

Table 9-2-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 9-2, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	73.2	81.4	79.5	75.7	85.6	83.6
3 Polio by 24 months	91.1	91.5	91.6	94.4	95.5	95.3
1 MMR by 24 months	83.7	87.6	88.0	86.9	94.6	94.5
UTD Hib by 24 months	84.6	88.4	88.0	82.2	92.8	96.1
3 Hepatitis B by 24 months	89.4	93.0	95.2	92.5	95.5	96.9
1 Varicella by 24 months	86.2	90.7	91.6	88.8	95.5	93.8
UTD PCV by 24 months	68.3	76.7	85.5	86.0	96.4	89.1
2 Rotavirus	-	-	-	73.8	81.1	64.1
1 Influenza by 24 months	-	-	-	51.4	49.6	60.9

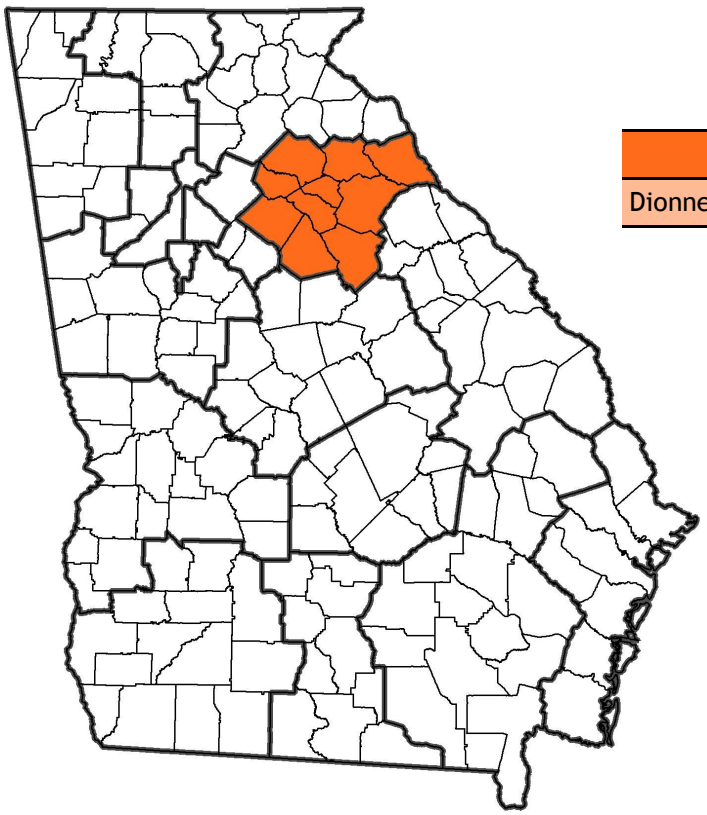
Immunization Rates by Vaccine Antigen: In District 9-2, the UTD immunization rates by 24 months for most vaccine antigens fluctuated from 2006 to 2010; with all vaccine antigens increased in 2011, and several decreased in 2012 (Table 9-2-G).

Among District 9-2 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was the lowest at 83.6%, down from 85.6% in 2011. The UTD immunization rate for PCV was second-lowest at 89.1%, down from 96.4% in 2011.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP and PCV vaccines could reasonably be the primary focus of District and County-level immunization campaigns.

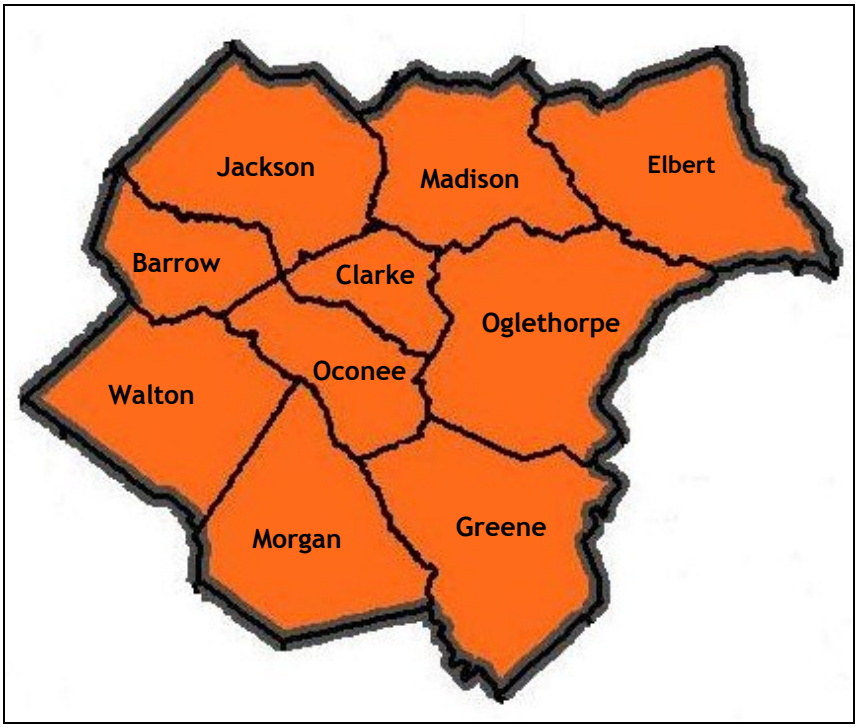
District 10-0

2012 Georgia Immunization Study Report



District 10 Data Collection Team	
Dionne Hansey	Immunization Administrative Specialist

County	Sample	Metro
Barrow	31	Metro
Clarke	48	Metro
Elbert	9	Nonmetro
Greene	3	Nonmetro
Jackson	22	Nonmetro
Madison	10	Metro
Morgan	7	Nonmetro
Oconee	9	Metro
Oglethrope	1	Metro
Walton	27	Metro
District 10	**167**	
District UTD by 24 months Immunization Rate	**85.0%**	
State of Georgia	**2,589**	
State UTD by 24 months Immunization Rate	**84.5%**	



District 10-0

Georgia Immunization Study Report, p2

From 24 months to End of Data Collection: In the District 10 sample, the up-to-date (UTD) immunization rate of children by 24 months of age was similar to the state rate (85.0% vs. 84.5%). By the end of data collection, the District UTD immunization rate was lower than the state rate (90.4% vs. 93.6%) (Table 10-B).

From 2011 to 2012: The District 10 UTD immunization rate by 24 months increased by 7.9% from 2011 to 2012. The District UTD immunization rate by the end of data collection decreased by 2.7% from 2011 to 2012 (Figure 10-C).

Sample population demographics for this District and their effect on up-to-date (UTD) immunization rates are discussed on the following pages.

Table 10-0-A: GIS Sampling Scheme, District 10, 2012

	District 10 (n)	State (n)
Original Sample	180	2,973
Ineligible	9	130
Refused to Participate	1	8
Eligible Sample	170	2,835
Unable to Locate†	3	246
Final Sample	167	2,589
Response Rate (%)	98.2%	92.3%

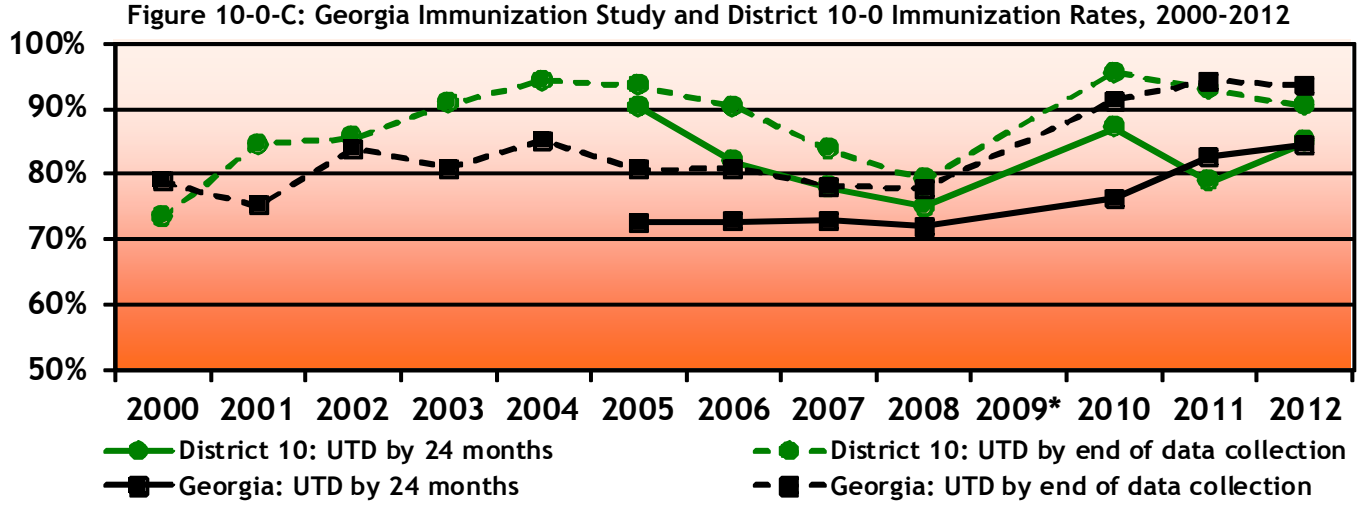
† Children were classified as "Unable to Locate" if every conceivable effort was made to locate and communicate with the child's guardian and the child's provider was either unknown or also unable to locate the guardian.

Table 10-0-B: Immunization Summary by Series & Vaccine Antigen, District 10, 2012

	District 10 (%)	State Average (%)
UTD immunization rate* by 24 months	85.0	84.5
UTD immunization rate* by end of data collection†	90.4	93.6
4 DTaP by 24 months	89.2	87.0
3 DTaP by 24 months	98.8	97.0
3 IPV by 24 months	95.8	96.0
1 MMR by 24 months	94.6	93.2
UTD Hib by 24 months	98.2	96.1
3 Hep B by 24 months	95.2	96.1
1 Varicella by 24 months	95.8	94.2
UTD PCV by 24 months	97.0	92.2
2 Rotavirus by 24 months	79.0	70.6
2 Hep A by 24 months	55.1	57.3
1+ Influenza by 24 months	50.3	57.1

† This value includes children who become UTD during the data collection period. This number, when compared to the values followed with "by 24 months", is a testament to the efforts of District staff to reach the children originally listed as incomplete in their District.
* This rate includes children up-to-date by ACIP-recommended catch-up schedule.

Figure 10-0-C: Georgia Immunization Study and District 10-0 Immunization Rates, 2000-2012



* 2009 data was not collected due to personnel vacancy.

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Table 10-0-F: UTD Immunization Rates by Demographic group, District 10, 2012

	State Avg. UTD by 24 months (%)	10—UTD by 24 months (%)	*10—UTD by end of d.c.[β] (%)*
District 10 Sample (n=167)	**84.5**	**85.0**	*90.4*
Maternal Race/Ethnicity[‡,†]			
White, Non-Hispanic (n=91)	**85.0**	**83.5**	*87.9*
White, Hispanic (n=13)	**89.3**	**100.0**	*100.0*
Black (n=42)	**81.6**	**81.0**	*92.9*
Unspecified, Hispanic (n=11)	**86.5**	**90.9**	*90.9*
Asian (n=3)	**94.6**	**100.0**	*100.0*
Multiracial (n=2)	**90.2**	**100.0**	*100.0*
Maternal Education[‡,†]			
Some College+ (n=72)	**86.6**	**84.7**	*88.9*
HS Diploma/GED (n=44)	**82.9**	**79.6**	*86.4*
9th-11th grade (n=40)	**82.9**	**90.0**	*95.0*
<9th grade (n=4)	**85.6**	**100.0**	*100.0*
WIC[θ]			
Non-WIC (n=103)	**89.4**	**91.3**	*92.2*
WIC (n=64)	**87.0**	**85.9**	*89.1*
Maternal Age[‡]			
<25 years (n=71)	**83.6**	**84.5**	*91.6*
25-34 years (n=79)	**84.8**	**83.5**	*88.6*
35+ years (n=17)	**86.7**	**94.1**	*94.1*
Maternal Marital Status[‡] & Repeat Birth[‡] Combination			
Married, First Birth (n=40)	**90.7**	**87.5**	*92.5*
Unmarried, First Birth (n=36)	**87.6**	**86.1**	*94.4*
Married, Repeat Birth (n=49)	**82.5**	**85.7**	*87.8*
Unmarried, Repeat Birth (n=41)	**79.6**	**80.5**	*87.8*
Gestational Age[‡]			
<37 weeks (n=19)	**83.5**	**89.5**	*89.5*
37+ weeks (n=148)	**84.7**	**84.5**	*90.5*
Provider Type[†]			
Public Sector Only (n=2)	**73.1**	**50.0**	*100.0*
Private Sector Only (n=97)	**86.0**	**83.5**	*88.7*
Both (n=7)	**73.8**	**85.7**	*100.0*
Payment at Birth[‡,†]			
Government Assist (n=89)	**82.1**	**85.4**	*91.0*
Private Insurance (n=41)	**88.2**	**85.4**	*90.2*
Other (n=0)	**89.2**	-	-
Self Pay (n=11)	**87.2**	**90.9**	*100.0*

UTD Immunization Rates by Demographic Group: In District 10-0, children of white, non-Hispanic mothers and black mothers had similar UTD immunization rates by 24 months (83.5% and 81.0%, respectively); these were the largest demographic groups in District 10-0. The other race/ethnicity group sample sizes were too small to draw any definite conclusions (Table 10-0-F).

Higher maternal education was not associated with UTD coverage rates, although the sample size for the <9th grade maternal education group was too small to draw any conclusions (see Table 10-0-F).

Children of mothers 35+ years of age were the most often UTD by 24 months (94.1%). Children of unmarried mothers with previous children were least often UTD by 24 months (80.5%).

In terms of payment at birth, District 10 children whose birth costs were covered by government-assisted insurance were UTD by 24 months as often as children whose birth was covered by private insurance (85.4% vs. 85.4%).

Interestingly, children who received their vaccinations from more than one provider were more often UTD by 24 months than children with only one provider (92.6% vs. 79.7%).

	State Avg. UTD by 24 months (%)	10—UTD by 24 months (%)	*10—UTD by end of d.c.[β] (%)*
Number of Providers[†]			
1 (n=69)	**85.4**	**79.7**	*88.4*
2 (n=27)	**82.4**	**92.6**	*96.3*
3+ (n=6)	**85.0**	**100.0**	*100.0*
Child's Gender[‡]			
Male (n=85)	**84.6**	**84.7**	*92.9*
Female (n=82)	**84.5**	**85.4**	*87.8*
Metro Residence[θ]			
Metro (n=125)	**83.9**	**86.4**	*90.4*
Non-metro (n=42)	**86.4**	**81.0**	*90.5*

Footnotes

β "d.c." is an abbreviation for "data collection"

‡ Indicates that this variable corresponds to the data collected at the time of delivery.

† Indicates that the sample size numbers for this variable may not add up to the total District sample size because the information was missing in some cases.

Θ Please see Appendix C for additional information regarding the methodology in obtaining this variable.

* Indicates that there were less than 10 children in this demographic category.

District 10, Georgia Immunization Study Report, p4

Although many demographic-related disparities resolved by the end of data collection, some still remained (Table 10-0-F, *column in italics*).

For example, children of mothers 35+ years of age remained the most UTD among the maternal age categories (94.1%).

Children of mothers who had previous children remained less often UTD by the end of data collection than those with no previous children.

Demographic Conclusions: In spite of the small sample size and inherent limitations of the data (Methods, p 13), the District 10 results suggest that the following groups are the least often up-to-date on their immunizations by 24 months of age:

- Children of mothers with a high school diploma or GED
- Children of mothers 25-34 years of age
- Children of unmarried mothers with previous children
- Children with more than only one provider
- Children who reside in non-metro counties (see page 1 of District 10-0 Immunization Report)

Table 10-0-G: Vaccine Antigen-Specific Immunization Coverage (%) by 24 months of age, District 10, 2006-2012

	2006	2007	2008	2010	2011	2012
4 DTaP by 24 months	86.1	80.8	78.0	91.6	84.9	89.2
3 Polio by 24 months	93.1	86.5	87.1	97.7	96.0	95.8
1 MMR by 24 months	91.7	88.5	84.1	95.4	89.9	94.6
UTD Hib by 24 months	95.8	86.5	87.1	95.4	95.0	98.2
3 Hepatitis B by 24 months	93.1	88.5	87.9	97.0	95.0	95.2
1 Varicella by 24 months	91.7	89.4	85.6	97.0	93.9	95.8
UTD PCV by 24 months	76.4	79.8	84.1	97.7	95.0	97.0
2 Rotavirus	-	-	-	74.8	82.8	79.0
1 Influenza by 24 months	-	-	-	59.5	53.5	50.3

Immunization Rates by Vaccine Antigen: In District 10, the UTD immunization rates by 24 months for most vaccine antigens were at their highest in 2010, decreased across the board in 2011, and improved again in 2012(Table 10-0-G).

Among District 10-0 immunization rates by vaccine antigen in 2012, the UTD immunization rate for DTaP was the lowest at 89.2%, up from 84.9% in 2011. The UTD immunization rate for MMR was the second-lowest at 94.6%, up from 89.9% in 2011.

Since first being ACIP-recommended in 2002, UTD coverage by 24 months for the pneumococcal conjugate vaccine increased from 37.1% in 2005 (not shown) to 97.0% in 2012.

Vaccine Antigen-Specific Conclusions: The antigen-specific data suggest that the DTaP vaccine could reasonably be the primary focus of District and County -level immunization campaigns.

Appendix

Georgia Immunization Study, 2012

Appendix A: Margins of Error, p1

Appendix Table A-1: Margins of Error for UTD Immunization Rates by 24 months, Georgia, 2012							
District	Final Sample (n)	Imm Rate	1-Imm Rate	Margin of Error	95% Confidence Intervals		
1-1 Northwest (Rome)	127	92.9%	7.1%	4.5%	88.4%	-	97.4%
1-2 North Georgia (Dalton)	143	87.4%	12.6%	5.4%	82%	-	92.8%
2-0 North (Gainesville)	126	84.1%	15.9%	6.4%	77.7%	-	90.5%
3-1 Cobb-Douglas	140	82.9%	17.1%	6.2%	76.7%	-	89.1%
3-2 Fulton	194	77.3%	22.7%	5.9%	71.4%	-	83.2%
3-3 Clayton	124	83.9%	16.1%	6.5%	77.4%	-	90.4%
3-4 Gwinnett, Newton, Rockdale	195	81.5%	18.5%	5.5%	76.0%	-	87.0%
3-5 DeKalb	150	87.3%	12.7%	5.3%	82.%	-	92.6%
4-0 LaGrange	151	88.1%	11.9%	5.2%	82.9%	-	93.3%
5-1 South Central (Dublin)	77	77.9%	22.1%	9.3%	68.6%	-	87.2%
5-2 North Central (Macon)	158	85.4%	14.6%	5.5%	79.9%	-	90.9%
6-0 East Central (Augusta)	159	82.4%	17.6%	5.9%	76.5%	-	88.3%
7-0 West Central (Columbus)	156	91.0%	9.0%	4.5%	86.5%	-	95.5%
8-1 South (Valdosta)	81	88.9%	11.1%	6.8%	82.1%	-	95.7%
8-2 Southwest (Albany)	132	83.3%	16.7%	6.4%	76.9%	-	89.7%
9-1 Coastal (Savannah)	181	80.7%	19.3%	5.7%	75.0%	-	86.4%
9-2 Southeast (Waycross)	128	84.4%	15.6%	6.3%	78.1%	-	90.7%
10-0 Northeast (Athens)	167	85.0%	15.0%	5.4%	79.6%	-	90.4%
Georgia	**2,589**	**84.5%**	**15.5%**	**1.4%**	**83.1%**	**-**	**85.9%**

Appendix A: Margins of Error, p2

Appendix Table A-2: Margins of Error for UTD Immunization Rates by End of Six-Month Data Collection, Georgia, 2012

District	Final Sample (n)	Imm Rate	1-Imm Rate	Margin of Error	95% Confidence Intervals
1-1 Northwest (Rome)	127	96.9%	3.1%	3.0%	93.9% - 99.9%
1-2 North Georgia (Dalton)	143	95.1%	4.9%	3.5%	91.6% - 98.6%
2-0 North (Gainesville)	126	94.4%	5.6%	4.0%	90.4% - 98.4%
3-1 Cobb-Douglas	140	95.0%	5.0%	3.6%	91.4% - 98.6%
3-2 Fulton	194	84.0%	16.0%	5.2%	78.8% - 89.2%
3-3 Clayton	124	95.2%	4.8%	3.8%	91.4% - 99.0%
3-4 Gwinnett, Newton, Rockdale	195	91.8%	8.2%	3.9%	87.9% - 95.7%
3-5 DeKalb	150	98.0%	2.0%	2.2%	95.8% - 100.0%
4-0 LaGrange	151	96.7%	3.3%	2.8%	93.9% - 99.5%
5-1 South Central (Dublin)	77	93.5%	6.5%	5.5%	88.0% - 99.0%
5-2 North Central (Macon)	158	93.7%	6.3%	3.8%	89.9% - 97.5%
6-0 East Central (Augusta)	159	93.7%	6.3%	3.8%	89.9% - 97.5%
7-0 West Central (Columbus)	156	98.7%	1.3%	1.8%	96.9% - 100.0%
8-1 South (Valdosta)	81	96.3%	3.7%	4.1%	92.2% - 100.0%
8-2 Southwest (Albany)	132	88.6%	11.4%	5.4%	83.2% - 94.0%
9-1 Coastal (Savannah)	181	93.4%	6.6%	3.6%	89.8% - 97.0%
9-2 Southeast (Waycross)	128	93.8%	6.2%	4.2%	89.6% - 98.0%
10-0 Northeast (Athens)	167	90.4%	9.6%	4.5%	85.9% - 94.9%
Georgia	**2589**	**93.6%**	**6.4%**	**0.9%**	**92.7% - 94.5%**

Appendix B: Description of Demographic Variables, p1

Variable	How Often Missing for State Sample (%)	Source	Additional Information
Maternal Race	12.3%	Electronic Birth Records	Was combined with maternal ethnicity variable to form race/ethnicity category.
Maternal Ethnicity	5.1%	Electronic Birth Records	Only used in combination with white race and undefined race because the statewide sample had fewer than 10 children for whom maternal race was defined, not "white", with Hispanic ethnicity.
Maternal Education	4.5%	Electronic Birth Records	Additional coding not needed; standard measure in GA Electronic Birth Records.
Maternal Age	0%	Electronic Birth Records	Originally coded as number of days. Maternal age break-down chosen based on HEDIS measures
Maternal Marital Status	0.2%	Electronic Birth Records	Additional coding not needed; standard measure in GA Electronic Birth Records. See below for more information about combination with repeat birth variable.
Repeat Birth	0.1%	Electronic Birth Records	Additional coding not needed; standard measure in GA Electronic Birth Records. Combined with maternal marital status to limit possible effect modification or confounding between the two variables.
Gestational Age <37 weeks	0%	Electronic Birth Records	Additional coding not needed; standard measure in GA Electronic Birth Records.
Payment at Birth	11.7%	Electronic Birth Records	Additional coding was required to create "Government Assist" classification, combining all different codes involving Medicaid, Medicare, and Georgia Better Health Care
Child's Gender	0%	Electronic Birth Records	Additional coding not needed; standard measure in GA Electronic Birth Records.
Provider Type	24.6%	GRITS/Data Collectors	For each administered vaccine, the provider was assessed as either private, public or unknown. If a child only received immunizations from a public health department, they were classified as "public only". If a child received immunizations exclusively from (a) private provider/s, they were classified as "private only". If they received immunizations from a mixture, they were classified as "both"
Number of Providers	24.6%	GRITS/Data Collectors	For each administered vaccine, the provider was researched. For records where the same provider administered all vaccines, the child was classified as having "1" provider. For two different providers, the child would have "2" providers. The number of providers was limited to 3.

Appendix B: Description of Demographic Variables, p2

Variable	Missing for State Sample (%)	Source	Additional Information
WIC Enrollment	N/A	WIC Program	Yearly cumulative lists of enrolled children were used to match children from the study sample to the enrollment list using names and dates of birth. The duration of enrollment was not calculated, so the children classified as "WIC enrolled" could have been enrolled for a short amount of time or for their entire lives.
Metro Residence	0.1%	2003 Rural-Urban Continuum Codes, Economic Research Service	R-U Continuum Code was assigned by child's residential county and later categorized as metro or non-metro using guide in below table.

	2003 Rural-Urban Continuum Codes*
	Metro Counties
1	Counties in metro areas of 1 million population or more
2	Counties in metro areas of 250,000 to 1 million population
3	Counties in metro areas of fewer than 250,000 population
	Non-Metro Counties
4	Urban population of 20,000 or more, adjacent to metro area
5	Urban population of 20,000 or more, not adjacent to metro area
6	2,500 to 19,999, adjacent to metro area
7	2,500 to 19,999, not adjacent to metro area
8	Completely rural or less than 2,500 population, adjacent to metro area
9	Completely rural or less than 2,500 population, not adjacent to metro area

* This coding scheme was originated in 1975 by David L. Brown, Fred K. Hines, and John M. Zimmer, then of the Economic Research Service, for a report *Social and Economic Characteristics of the Population in Metro and Nonmetro Counties: 1970*. It was updated after both the 1980 and 1990 censuses, with a somewhat more restrictive procedure for determining metro adjacency. The versions based on the 1970, 1980, and 1990 Censuses are all found on this ERS website: http://www.ers.usda.gov/briefing/rurality/ruralurbcon/

Appendix C: Reasons for Incomplete Immunization History

Appendix Table C: Frequency of Reasons for Incomplete Immunizations by End of Data Collection, Georgia, 2012

A.Religious Exemption
B.Medical Exemption
C.Temporary Vaccine Shortage
D.Parental Refuses to Vaccinate*
E.Parental Chooses to use Delayed Schedule
F.Physician Chooses to use Delayed Schedule
G.Missed Appointments/Convenience Issue
H.Unable to Locate Parent and/or Physician
I.Other

District	Sample	A	B	C	D	E	F	G	H	I	Total
1-1 Northwest (Rome)	127	0	0	0	1	3	0	0	0	0	**4**
1-2 North Georgia (Dalton)	143	0	0	0	2	1	0	3	0	0	**6**
2-0 North (Gainesville)	126	2	0	0	2	0	0	3	0	0	**7**
3-1 Cobb-Douglas	140	2	0	0	3	0	0	2	0	1	**8**
3-2 Fulton	194	0	0	0	0	21	3	0	0	6	**30**
3-3 Clayton	124	0	0	0	0	2	0	1	0	3	**6**
3-4 Gwinnett, Newton, Rockdale	195	0	1	0	6	3	2	0	0	3	**15**
3-5 DeKalb	150	0	0	0	0	0	0	1	0	0	**1**
4-0 LaGrange	151	0	0	0	0	2	0	1	0	1	**4**
5-1 South Central (Dublin)	77	0	0	0	1	2	0	0	0	0	**3**
5-2 North Central (Macon)	158	1	1	0	0	0	0	6	0	2	**10**
6-0 East Central (Augusta)	159	0	0	2	0	1	1	6	0	0	**10**
7-0 West Central (Columbus)	156	0	0	0	0	1	0	0	0	0	**1**
8-1 South (Valdosta)	81	0	0	0	0	2	0	0	0	1	**3**
8-2 Southwest (Albany)	132	0	0	0	1	4	0	9	0	1	**15**
9-1 Coastal (Savannah)	181	1	1	0	2	7	1	0	0	1	**13**
9-2 Southeast (Waycross)	128	1	0	0	0	4	1	2	0	0	**8**
10-0 Northeast (Athens)	167	0	0	0	2	11	1	1	0	0	**15**
Georgia	**2,589**	**7**	**3**	**2**	**20**	**64**	**9**	**35**	**0**	**19**	**159**

***Child was classified as "Parent Refusal to Vaccinate" if a parent refused one or more vaccine series.**

Table 1-1-D: Sample Population Demographics, District 1-1, 2012		
	District 1-1 Final %	State Final Sample %
District 1-1 Final Sample	n=127	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=90)	70.9	40.9
White, Hispanic (n=5)	3.9	4.3
Black (n=12)	9.5	37.0
Unspecified, Hispanic (n=2)	1.6	8.9
Asian (n=0)	0	2.2
Multiracial (n=2)	1.6	1.6
Maternal Education‡,†		
Some College+ (n=53)	41.7	41.6
HS Diploma/GED (n=41)	32.3	30.1
9th-11th grade (n=23)	18.1	17.7
<9th grade (n=9)	7.1	6.2
WIC$^{\theta}$		
Non-WIC (n=68)	53.5	54.9
WIC (n=59)	46.5	45.1
Metro Residence$^{\theta}$		
Metro (n=99)	78.0	76.1
Non-metro (n=28)	22.0	23.8
Maternal Marital Status‡		
Married (n=82)	64.6	49.0
Unmarried (n=45)	35.4	50.8
Repeat Birth‡		
First Child (n=65)	51.2	42.6
Repeat Birth (n=62)	48.8	57.3
Gestational Age‡		
<37 weeks (n=23)	18.1	11.4
37+ weeks (n=104)	81.9	88.6
Provider Type†,$^{\theta}$		
Public Sector Only (n=1)	0.8	2.0
Private Sector Only (n=107)	84.3	66.7
Both (n=9)	7.1	6.6
Payment at Birth‡		
Government Assist (n=)53	41.7	50.4
Private Insurance (n=46)	36.2	27.5
Other (n=12)	9.5	5.0
Self Pay (n=5)	3.9	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as white, non-Hispanic was greater for the District sample than for the overall state sample (70.9% vs. 40.9%), while the proportion of children with mothers classified as Black was much lower (9.5% vs. 37.0%) (Table 1-1-D).

A similar proportion of children were enrolled in WIC in the District sample compared to the proportion enrolled in WIC in the overall state sample (46.5% vs. 45.1%).

The District 1-1 sample had a greater proportion of children with married mothers when compared to the state sample (64.6% vs. 49.0%) as well as a greater proportion of children who were seen by only one provider (63.8% vs. 51.2%).

The District 1-1 sample had a smaller proportion of children whose payment for birth cost was through government assistance compared to the state sample (41.7% vs. 50.4%) while the proportion covered by private insurance was greater (36.2% vs. 27.5%)

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 1-1 Final (%)	State Final Sample (%)
Child's Gender‡		
Male (n=60)	47.2	50.3
Female (n=67)	52.8	49.7
Number of Providers†,$^{\theta}$		
1 (n=81)	63.8	51.2
2 (n=28)	22.1	17.2
3+ (n=8)	6.3	7.0
Maternal Age‡		
<25 years (n=63)	49.6	41.3
25-34 years (n=53)	41.7	47.1
35+ years (n=11)	8.7	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 1-2-D: Sample Population Demographics, District 1-2,2012		
	District 1-2 Final %	State Final Sample %
District 1-2 Final Sample	n=143	*n=2,589*
Maternal Race/Ethnicity[‡,†]		
White, Non-Hispanic (n=93)	65.0	40.9
White, Hispanic (n=2)	1.4	4.3
Black (n=5)	3.5	37.0
Unspecified, Hispanic (n=26)	18.2	8.9
Asian (n=2)	1.4	2.2
Multiracial (n=0)	0	1.6
Maternal Education[‡,†]		
Some College+ (n=49)	34.3	41.6
HS Diploma/GED (n=38)	26.6	30.1
9th-11th grade (n=25)	17.5	17.7
<9th grade (n=19)	13.3	6.2
WIC[θ]		
Non-WIC (n=91)	63.6	54.9
WIC (n=52)	36.4	45.1
Metro Residence[†,θ]		
Metro (n=121)	84.6	76.1
Non-metro (n=20)	14.0	23.8
Maternal Marital Status [†,‡]		
Married (n=89)	62.2	49.0
Unmarried (n=51)	35.7	50.8
Repeat Birth[†,‡]		
First Child (n=63)	44.1	42.6
Repeat Birth (n=78)	54.6	57.3
Gestational Age[‡]		
<37 weeks (n=9)	6.3	11.4
37+ weeks (n=134)	93.7	88.6
Provider Type[†,θ]		
Public Sector Only (n=3)	2.1	2.0
Private Sector Only (n=118)	82.5	66.7
Both (n=12)	8.4	6.6
Payment at Birth[†,‡]		
Government Assist (n=50)	35.0	50.4
Private Insurance (n=48)	33.6	27.5
Other (n=8)	5.6	5.0
Self Pay (n=16)	11.2	5.4

Notable Demographic Findings: The proportion of children with mothers classified as white, non-Hispanic was greater for the District sample than for the overall state sample (65.0% vs. 40.9%), while the proportion of children with mothers classified as Black was much lower (3.5% vs. 37.0%) (Table 1-2-D).

For the District 1-2 sample, the proportion of children enrolled in WIC was less than that of the state sample (36.4% vs. 45.1%).

A smaller proportion of children in the District 1-2 sample had mothers with some college education compared to the state sample (34.3% vs. 41.6%). The District sample had a larger proportion of children whose mothers were married (62.2% vs. 49.0%), as well as a larger proportion of children whose birth costs were covered by private insurance (33.6% vs. 27.5%).

For the District 1-2 sample, a larger proportion of children were born at a gestational age of 37+ weeks when compared to the overall state sample (93.7% vs. 88.6%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 1-2 Final (%)	State Final Sample (%)
Child's Gender[‡]		
Male (n=77)	53.9	50.3
Female (n=66)	46.2	49.7
Number of Providers[†,θ]		
1 (n=83)	58	51.2
2 (n=30)	21.0	17.2
3+ (n=20)	14.0	7.0
Maternal Age[‡]		
<25 years (n=55)	38.5	41.3
25-34 years (n=68)	47.6	47.1
35+ years (n=20)	14.0	11.6

θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 2-0-D: Sample Population Demographics, District 2-0, 2012		
	District 2-0 Final %	State Final Sample %
District 2-0 Final Sample	n=126	*n=2,589*
Maternal Race/Ethnicity[‡,†]		
White, Non-Hispanic (n=75)	59.6	40.9
White, Hispanic (n=21)	16.7	4.3
Black (n=5)	4.0	37.0
Unspecified, Hispanic (n=7)	5.6	8.9
Asian (n=6)	4.8	2.2
Multiracial (n=0)	0	1.6
Maternal Education[‡,†]		
Some College+ (n=46)	36.5	41.6
HS Diploma/GED (n=41)	32.5	30.1
9th-11th grade (n=25)	19.8	17.7
<9th grade (n=9)	7.1	6.2
WIC[Θ]		
Non-WIC (n=69)	54.8	54.9
WIC (n=57)	45.2	45.1
Metro Residence[Θ]		
Metro (n=84)	66.7	76.1
Non-metro (n=42)	33.3	23.8
Maternal Marital Status[‡]		
Married (n=82)	65.1	49.0
Unmarried (n=44)	34.9	50.8
Repeat Birth[‡]		
First Child (n=56)	44.4	42.6
Repeat Birth (n=70)	55.6	57.3
Gestational Age[‡]		
<37 weeks (n=15)	11.9	11.4
37+ weeks (n=111)	88.1	88.6
Provider Type[†]		
Public Sector Only (n=3)	2.4	2.0
Private Sector Only (n=67)	53.2	66.7
Both (n=3)	2.4	6.6
Payment at Birth[†,‡]		
Government Assist (n=60)	47.6	50.4
Private Insurance (n=39)	31.0	27.5
Other (n=12)	9.5	5.0
Self Pay (n=2)	1.6	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as white, non-Hispanic was greater for the District sample than for the overall state sample as a whole(59.6% vs. 40.9%) (Table 2-0-D).

The proportion of children enrolled in WIC was similar to the state sample (45.2% vs. 45.1%).

The District sample had a smaller proportion of children whose mothers had some college education than the state sample (36.5% vs. 41.6%). There was a larger proportion of male children in the District sample than the state sample (58.7% vs. 50.3%)

There was a larger proportion of children of married mothers than the state sample (65.1% vs. 49.0%).

Other demographic measures for this District were similar to findings for the state sample.

	District 2-0 Final (%)	State Final Sample (%)
Child's Gender[‡]		
Male (n=74)	58.7	50.3
Female (n=52)	41.3	49.7
Number of Providers[†]		
1 (n=54)	43.0	51.2
2 (n=10)	7.9	17.2
3+ (n=9)	7.2	7.0
Maternal Age[‡]		
<25 years (n=50)	40.0	41.3
25-34 years (n=58)	46.0	47.1
35+ years (n=18)	14.3	11.6

Θ Please see Appendix **B** for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 3-1-D: Sample Population Demographics, District 3-1, 2012		
	District 3-1 Final %	State Final Sample %
District 3-1 Final Sample	n=140	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=58)	41.4	40.9
White, Hispanic (n=14)	10.0	4.3
Black (n=44)	31.4	37.0
Unspecified, Hispanic (n=8)	5.7	8.9
Asian (n=3)	2.1	2.2
Multiracial (n=4)	2.9	1.6
Maternal Education‡,†		
Some College+ (n=78)	55.7	41.6
HS Diploma/GED (n=36)	25.7	30.1
9th-11th grade (n=17)	12.1	17.7
<9th grade (n=5)	3.6	6.2
WIC$^{\theta}$		
Non-WIC (n=90)	64.3	54.9
WIC (n=50)	35.7	45.1
Metro Residence$^{\theta}$		
Metro (n=140)	100.0	76.1
Non-metro (n=0)	0	23.8
Maternal Marital Status‡		
Married (n=89)	63.6	49.0
Unmarried (n=51)	36.4	50.8
Repeat Birth‡		
First Child (n=59)	42.1	42.6
Repeat Birth (n=81)	57.9	57.3
Gestational Age‡		
<37 weeks (n=13)	9.3	11.4
37+ weeks (n=127)	90.7	88.6
Provider Type†		
Public Sector Only (n= N/A)	-	2.0
Private Sector Only (n= N/A)	-	66.7
Both (n= N/A)	-	6.6
Payment at Birth†,‡		
Government Assist (n=65)	46.4	50.4
Private Insurance (n=49)	35.0	27.5
Other (n=8)	5.7	5.0
Self Pay (n=4)	2.9	5.4

Notable Demographic Findings: The maternal race/ethnicity breakdown was similar between the District sample and the overall state sample (Table 3-1-D).

A larger proportion of children in the District 3-1 sample had mothers with some college education than the state sample (55.7% vs. 41.6%), as well as a larger proportion with married mothers (63.6% vs. 49.0%).

The District sample had a smaller proportion of children enrolled in WIC than the state sample overall (35.7% vs. 45.1%)

The District sample had a higher proportion of mothers who used private insurance as their payment for birth costs than the state sample (35.0%vs. 27.5%)

Provider type and number of providers was not available for the District 3-1 sample.

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 3-1 Final (%)	State Final Sample (%)
Child's Gender‡		
Male (n=78)	55.7	50.3
Female (n=62)	44.3	49.7
Number of Providers†		
1 (n= N/A)	-	51.2
2 (n= N/A)	-	17.2
3+ (n= N/A)	-	7.0
Maternal Age‡		
<25 years (n=38)	38	41.3
25-34 years (n=76)	54.3	47.1
35+ years (n=26)	18.6	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 3-2-D: Sample Population Demographics, District 3-2, 2012		
	District 3-2 Final %	State Final Sample %
District 3-2 Final Sample	n=194	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=53)	27.3	40.9
White, Hispanic (n=2)	1.0	4.3
Black (n=94)	48.5	37.0
Unspecified, Hispanic (n=31)	16.0	8.9
Asian (n=6)	3.1	2.2
Multiracial (n=4)	2.1	1.6
Maternal Education‡,†		
Some College+ (n=93)	47.9	41.6
HS Diploma/GED (n=46)	23.7	30.1
9th-11th grade (n=32)	16.5	17.7
<9th grade (n=11)	5.7	6.2
WIC$^{\theta}$		
Non-WIC (n=119)	61.3	54.9
WIC (n=75)	38.7	45.1
Metro Residence$^{\theta}$		
Metro (n=194)	100.0	76.1
Non-metro (n=0)	0	23.8
Maternal Marital Status‡		
Married (n=93)	47.9	49.0
Unmarried (n=101)	52.1	50.8
Repeat Birth‡		
First Child (n=95)	49.0	42.6
Repeat Birth (n=99)	51.0	57.3
Gestational Age‡		
<37 weeks (n=17)	8.8	11.4
37+ weeks (n=177)	91.2	88.6
Provider Type†		
Public Sector Only (n=3)	1.6	2.0
Private Sector Only (n=128)	66.0	66.7
Both (n=4)	2.1	6.6
Payment at Birth†,‡		
Government Assist (n=79)	40.7	50.4
Private Insurance (n=75)	38.7	27.5
Other (n=12)	6.2	5.0
Self Pay (n=9)	4.6	5.4

Notable Demographic Findings: The proportion of children with mothers classified as black was greater for the District sample than for the overall state sample (48.5% vs. 37.0%) (Table 3-2-D). The proportion of children with mothers classified as white, non-Hispanic was smaller for the District sample than for the overall state sample (27.3% vs. 40.9%)

For the District 3-2 sample, a slightly smaller proportion of children were enrolled in WIC than the total state sample (38.7% vs. 45.1%).

A larger proportion of children in the District 3-2 sample had mothers with some college education than the state sample (47.9% vs. 41.6%). The District sample also had a larger proportion of children whose birth costs were covered by private insurance (38.7% vs. 27.5%) and a smaller proportion covered using government assistance (40.7% vs. 50.4%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 3-2 Final (%)	State Final Sample (%)
Child's Gender‡		
Male (n=90)	46.4	50.3
Female (n=104)	53.6	49.7
Number of Providers†		
1 (n=103)	53.1	51.2
2 (n=24)	12.4	17.2
3+ (n=8)	4.13	7.0
Maternal Age‡		
<25 years (n=66)	34.0	41.3
25-34 years (n=97)	50.0	47.1
35+ years (n=31)	16.0	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 3-3-D: Sample Population Demographics, District 3-3, 2012		
	District 3-3 Final %	State Final Sample %
District 3-3 Final Sample	n=124	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=4)	3.2	40.9
White, Hispanic (n=2)	1.6	4.3
Black (n=75)	60.5	37.0
Unspecified, Hispanic (n=31)	25.0	8.9
Asian (n=4)	3.2	2.2
Multiracial (n=2)	1.6	1.6
Maternal Education‡,†		
Some College+ (n=40)	32.3	41.6
HS Diploma/GED (n=39)	31.5	30.1
9th-11th grade (n=23)	18.6	17.7
<9th grade (n=14)	11.3	6.2
WIC$^{\theta}$		
Non-WIC (n=63)	50.8	54.9
WIC (n=61)	49.2	45.1
Metro Residence†,$^{\theta}$		
Metro (n=123)	99.2	76.1
Non-metro (n=0)	0	23.8
Maternal Marital Status†,‡		
Married (n=48)	38.7	49.0
Unmarried (n=75)	60.5	50.8
Repeat Birth†,‡		
First Child (n=48)	38.7	42.6
Repeat Birth (n=75)	60.5	57.3
Gestational Age‡		
<37 weeks (n=10)	8.1	11.4
37+ weeks (n=114)	91.9	88.6
Provider Type†		
Public Sector Only (n=1)	0.8	2.0
Private Sector Only (n=94)	75.8	66.7
Both (n=6)	4.9	6.6
Payment at Birth†,‡		
Government Assist (n=53)	42.7	50.4
Private Insurance (n=24)	19.4	27.5
Other (n=10)	8.1	5.0
Self Pay (n=19)	15.3	5.4

Notable Demographic Findings: The proportion of children with mothers classified as black was greater for the District sample than for the overall state sample (60.5% vs. 37.0%), as was the proportion of children with mothers classified as Hispanic (26.6% vs. 13.2%) (Table 3-3-D). The proportion of children with mothers classified as white, non-Hispanic was much smaller for the District sample than for the overall state sample (3.2% vs. 40.9%)

The proportion of children that were enrolled in WIC in the District sample was slightly larger than the proportion in the total state sample (49.2% vs. 45.1%).

A smaller proportion of children in the District 3-3 sample had mothers with some college education than the state sample (32.3% vs. 41.6%). In addition, the District sample had a larger proportion of children whose birth costs were covered by self-pay (15.3% vs. 5.4%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 3-3 Final %	State Final Sample %
Child's Gender‡		
Male (n=62)	50.0	50.3
Female (n=62)	50.0	49.7
Number of Providers†		
1 (n=65)	52.4	51.2
2 (n=24)	19.4	17.2
3+ (n=11)	9.7	7.0
Maternal Age‡		
<25 years (n=38)	30.7	41.3
25-34 years (n=67)	54.0	47.1
35+ years (n=19)	15.3	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 3-4-D: Sample Population Demographics, District 3-4, 2012		
	District 3-4 Final %	State Final Sample %
District 3-4 Final Sample	n=195	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=46)	23.6	40.9
White, Hispanic (n=21)	10.8	4.3
Black (n=58)	29.7	37.0
Unspecified, Hispanic (n=38)	19.5	8.9
Asian (n=12)	6.2	2.2
Multiracial (n=4)	2.1	1.6
Maternal Education‡,†		
Some College+ (n=84)	43.1	41.6
HS Diploma/GED (n=55)	28.2	30.1
9th-11th grade (n=19)	9.7	17.7
<9th grade (n=25)	12.8	6.2
WIC$^{\theta}$		
Non-WIC (n=111)	56.9	54.9
WIC (n=84)	43.1	45.1
Metro Residence$^{\theta}$		
Metro (n=195)	100.0	76.1
Non-metro (n=0)	0	23.8
Maternal Marital Status‡		
Married (n=119)	61.0	49.0
Unmarried (n=76)	39.0	50.8
Repeat Birth‡		
First Child (n=78)	40.0	42.6
Repeat Birth (n=117)	60.0	57.3
Gestational Age‡		
<37 weeks (n=20)	10.3	11.4
37+ weeks (n=175)	89.7	88.6
Provider Type†		
Public Sector Only (n=5)	2.6	2.0
Private Sector Only (n=143)	73.3	66.7
Both (n=6)	3.1	6.6
Payment at Birth†,‡		
Government Assist (n=59)	30.3	50.4
Private Insurance (n=61)	31.3	27.5
Other (n=8)	4.1	5.0
Self Pay (n=11)	5.6	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as Hispanic was greater for the District sample than for the overall state sample (30.3% vs. 13.2%). The proportion of children whose mothers were classified as white, non-Hispanic was smaller for the District sample than for the state sample (23.6% vs. 40.9%) (Table 3-4-D).

The proportion of children that were enrolled in WIC in the District sample was similar to the proportion enrolled in WIC in the total state sample (43.1% vs. 45.1%).

The District sample had a larger proportion of children whose mothers were married than the state sample (61.0% vs. 49.0%). Similarly, the District sample had a larger proportion of those with providers in the Private Sector (73.3% vs. 66.7%).

A much lower proportion of children were covered by government assistance at the time of birth than the state sample (30.3% vs. 50.4%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 3-4 Final %	State Final Sample %
Child's Gender‡		
Male (n=99)	50.8	50.3
Female (n=96)	49.2	49.7
Number of Providers†		
1 (n=97)	49.7	51.2
2 (n=39)	20.0	17.2
3+ (n=18)	9.2	7.0
Maternal Age‡		
<25 years (n=66)	33.9	41.3
25-34 years (n=96)	49.2	47.1
35+ years (n=33)	16.9	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 3-5-D: Sample Population Demographics, District 3-5, 2012		
	District 3-5 Final %	State Final Sample %
District 3-5 Final Sample	n=150	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=34)	22.7	40.9
White, Hispanic (n=4)	2.7	4.3
Black (n=69)	46.0	37.0
Unspecified, Hispanic (n=19)	12.7	8.9
Asian (n=8)	5.3	2.2
Multiracial (n=2)	1.3	1.6
Maternal Education‡,†		
Some College+ (n=67)	44.7	41.6
HS Diploma/GED (n=41)	27.3	30.1
9th-11th grade (n=12)	8.0	17.7
<9th grade (n=14)	9.3	6.2
WIC$^{\theta}$		
Non-WIC (n=85)	56.7	54.9
WIC (n=65)	43.3	45.1
Metro Residence$^{\theta}$		
Metro (n=150)	100	76.1
Non-metro (n=0)	0	23.8
Maternal Marital Status‡		
Married (n=72)	48.0	49.0
Unmarried (n=78)	52.0	50.8
Repeat Birth‡		
First Child (n=56)	37.3	42.6
Repeat Birth (n=94)	62.7	57.3
Gestational Age‡		
<37 weeks (n=18)	12.0	11.4
37+ weeks (n=132)	88.0	88.6
Provider Type†		
Public Sector Only (n=0)	0	2.0
Private Sector Only (n=99)	66.0	66.7
Both (n=6)	4.0	6.6
Payment at Birth‡		
Government Assist (n=60)	40.0	50.4
Private Insurance (n=55)	36.7	27.5
Other (n=8)	5.3	5.0
Self Pay (n=16)	10.7	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as white, non-Hispanic was smaller for the District sample than for the overall state sample (22.7% vs. 40.9%). The proportion of children whose mothers were classified as black was greater for the District sample than for the state sample (46.0% vs. 37.0%) (Table 3-5-D).

The proportion of children that were enrolled in WIC in the District sample was similar to the proportion enrolled in WIC in the total state sample (43.4% vs. 45.1%).

The District sample had a larger proportion of children whose birth costs were covered by private insurance (36.7% vs. 27.5%) vs. government assistance (40.0% vs. 50.4%). In addition, the District sample had a smaller proportion of first-born children compared to the state sample (37.3% vs. 42.6%) and a smaller proportion of mothers age less than 25 years (28.0% vs. 41.3%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 3-5 Final %	State Final Sample %
Child's Gender‡		
Male (n=73)	48.7	50.3
Female (n=77)	51.3	49.7
Number of Providers†		
1 (n=75)	50.0	51.2
2 (n=21)	14.0	17.2
3+ (n=9)	6.0	7.0
Maternal Age‡		
<25 years (n=42)	28.0	41.3
25-34 years (n=85)	56.7	47.1
35+ years (n=23)	15.3	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 4-0-D: Sample Population Demographics, District 4-0, 2012		
	District 4-0 Final %	State Final Sample %
District 4-0 Final Sample	n=151	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=79)	52.3	40.9
White, Hispanic (n=2)	1.3	4.3
Black (n=50	33.1	37.0
Unspecified, Hispanic (n=9)	6.0	8.9
Asian (n=4)	2.7	2.2
Multiracial (n=3)	2.0	1.6
Maternal Education‡,†		
Some College+ (n=75)	49.7	41.6
HS Diploma/GED (n=28)	18.5	30.1
9th-11th grade (n=32)	21.2	17.7
<9th grade (n=3)	2.0	6.2
WIC$^{\Theta}$		
Non-WIC (n=94)	62.3	54.9
WIC (n=57)	37.7	45.1
Metro Residence$^{\Theta}$		
Metro (n=129)	85.4	76.1
Non-metro (n=22)	14.6	23.8
Maternal Marital Status‡		
Married (n=85)	56.3	49.0
Unmarried (n=66)	43.7	50.8
Repeat Birth‡		
First Child (n=68)	45.0	42.6
Repeat Birth (n=83)	55.0	57.3
Gestational Age‡		
<37 weeks (n=13)	8.6	11.4
37+ weeks (n=138)	91.4	88.6
Provider Type†		
Public Sector Only (n=5)	3.3	2.0
Private Sector Only (n=110)	72.9	66.7
Both (n=14)	9.3	6.6
Payment at Birth‡		
Government Assist (n=59)	39.1	50.4
Private Insurance (n=60)	39.7	27.5
Other (n=10)	6.6	5.0
Self Pay (n=3)	12.6	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as white, non-Hispanic was greater for the District sample than for the overall state sample (52.3% vs. 40.9%) (Table 4-0-D).

The proportion of children that were enrolled in WIC in the District sample was slightly less than the proportion enrolled in WIC in the total state sample (37.7% vs. 45.1%).

The District sample had a higher proportion of children whose mothers had some college education than the state sample (49.7% vs. 41.6%). In addition, the District sample had a greater proportion of children whose birth costs were covered by private insurance (39.7% vs. 27.5%) and a smaller proportion of children whose births were covered by government assistance (39.1% vs. 50.4%) than the state sample.

The District also had a larger proportion of children whose provider was in the private sector (72.9% vs. 66.7%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 4-0 Final %	State Final Sample %
Child's Gender‡		
Male (n=84)	55.6	50.3
Female (n=67)	44.4	49.7
Number of Providers†		
1 (n=77)	51.0	51.2
2 (n=34)	22.5	17.2
3+ (n=18)	12.0	7.0
Maternal Age‡		
<25 years (n=62)	41.1	41.3
25-34 years (n=69)	45.7	47.1
35+ years (n=20)	13.3	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 5-1-D: Sample Population Demographics, District 5-1, 2012		
	District 5-1 Final %	State Final Sample %
District 5-1 Final Sample	n=77	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=38)	49.4	40.9
White, Hispanic (n=3)	3.9	4.3
Black (n=31)	40.3	37.0
Unspecified, Hispanic (n=2)	2.6	8.9
Asian (n=1)	1.3	2.2
Multiracial (n=0)	0	1.6
Maternal Education‡,†		
Some College+ (n=24)	31.2	41.6
HS Diploma/GED (n=23)	29.9	30.1
9th-11th grade (n=15)	19.5	17.7
<9th grade (n=3)	3.9	6.2
WIC$^{\theta}$		
Non-WIC (n=39)	50.6	54.9
WIC (n=38)	49.4	45.1
Metro Residence$^{\theta}$		
Metro (n=0)	0	76.1
Non-metro (n=77)	100.0	23.8
Maternal Marital Status‡		
Married (n=42)	54.6	49.0
Unmarried (n=34)	44.2	50.8
Repeat Birth‡		
First Child (n=25)	32.5	42.6
Repeat Birth (n=52)	67.5	57.3
Gestational Age‡		
<37 weeks (n=3)	3.9	11.4
37+ weeks (n=74)	96.1	88.6
Provider Type†		
Public Sector Only (n=4)	5.2	2.0
Private Sector Only (n=54)	70.1	66.7
Both (n=11)	14.3	6.6
Payment at Birth‡		
Government Assist (n=51)	66.2	50.4
Private Insurance (n=15)	19.5	27.5
Other (n=3)	3.9	5.0
Self Pay (n=1)	1.3	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as white, non-Hispanic was greater for the District sample than for the overall state sample (49.4% vs. 40.9%). (Table 5-1-D).

The proportion of children that were enrolled in WIC in the District sample was slightly larger when compared to the proportion in the total state sample (49.4% vs. 45.1%).

The District sample had a smaller proportion of children whose mothers had some college education than the overall state sample (31.2% vs. 41.6%). In addition, the District sample had a larger proportion of children whose birth costs were covered by government assistance (66.2% vs. 50.4%).

The District sample had a larger proportion of children whose provider types were found in both sectors (private & public) than the overall state sample (14.3% vs. 6.6%). Similarly, there was a higher proportion of mothers for whom this child was not their first (67.5% vs. 57.3%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 5-1 Final %	State Final Sample %
Child's Gender‡		
Male (n=40)	52.0	50.3
Female (n=37)	48.1	49.7
Number of Providers†		
1 (n=49)	63.6	51.2
2 (n=17)	22.1	17.2
3+ (n=3)	3.9	7.0
Maternal Age‡		
<25 years (n=28)	36.4	41.3
25-34 years (n=40)	52.0	47.1
35+ years (n=9)	11.7	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 5-2-D: Sample Population Demographics, District 5-2, 2012		
	District 5-2 Final %	State Final Sample %
District 5-2 Final Sample	n=158	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=76)	48.1	40.9
White, Hispanic (n=5)	3.2	4.3
Black (n=72)	45.6	37.0
Unspecified, Hispanic (n=2)	1.3	8.9
Asian (n=1)	0.6	2.2
Multiracial (n=1)	0.6	1.6
Maternal Education‡,†		
Some College+ (n=72)	45.6	41.6
HS Diploma/GED (n=52)	32.9	30.1
9th-11th grade (n=23)	14.6	17.7
<9th grade (n=6)	3.8	6.2
WIC$^{\Theta}$		
Non-WIC (n=85)	53.8	54.9
WIC (n=73)	46.2	45.1
Metro Residence$^{\Theta}$		
Metro (n=116)	73.4	76.1
Non-metro (n=42)	26.6	23.8
Maternal Marital Status‡		
Married (n=64)	40.5	49.0
Unmarried (n=94)	59.5	50.8
Repeat Birth‡		
First Child (n=63)	39.9	42.6
Repeat Birth (n=95)	60.1	57.3
Gestational Age‡		
<37 weeks (n=26)	16.5	11.4
37+ weeks (n=132)	83.5	88.6
Provider Type†		
Public Sector Only (n=2)	1.3	2.0
Private Sector Only (n=115)	72.8	66.7
Both (n=10)	6.3	6.6
Payment at Birth‡		
Government Assist (n=101)	63.9	50.4
Private Insurance (n=46)	29.1	27.5
Other (n=3)	1.9	5.0
Self Pay (n=6)	3.8	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as white, non-Hispanic or black was greater for the District sample than for the overall state sample (48.1% vs. 40.9%) and (45.6% vs. 37.0%), respectively (Table 5-2-D).

The proportion of children that were enrolled in WIC in the District sample was similar when compared to the proportion in the total state sample (46.2% vs. 45.1%).

A larger proportion of children in the District sample were covered through government assistance at birth than for the state sample as a whole (63.9% vs. 50.4%). Similarly, the proportion of children having only one provider was larger in the District (62.7% vs. 51.2%) than in the state sample.

In District 5-2, a smaller proportion of children whose mothers were married compared to that of the state sample (40.5% vs. 49.0%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 5-2 Final %	State Final Sample %
Child's Gender‡		
Male (n=78)	49.4	50.3
Female (n=80)	50.6	49.7
Number of Providers†		
1 (n=99)	62.7	51.2
2 (n=21)	13.3	17.2
3+ (n=7)	4.4	7.0
Maternal Age‡		
<25 years (n=69)	43.7	41.3
25-34 years (n=78)	49.4	47.1
35+ years (n=11)	7.0	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 6-0-D: Sample Population Demographics, District 6-0, 2012		
	District 6-0 Final %	State Final Sample %
District 6-0 Final Sample	n=159	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=50)	31.5	40.9
White, Hispanic (n=3)	1.9	4.3
Black (n=93)	58.5	37.0
Unspecified, Hispanic (n=5)	3.1	8.9
Asian (n=1)	0.6	2.2
Multiracial (n=4)	2.5	1.6
Maternal Education‡,†		
Some College+ (n=58)	36.5	41.6
HS Diploma/GED (n=63)	39.6	30.1
9th-11th grade (n=34)	21.4	17.7
<9th grade (n=4)	2.5	6.2
WIC$^{\theta}$		
Non-WIC (n=76)	47.8	54.9
WIC (n=83)	52.2	45.1
Metro Residence$^{\theta}$		
Metro (n=120)	75.5	76.1
Non-metro (n=39)	24.5	23.8
Maternal Marital Status‡		
Married (n=52)	32.7	49.0
Unmarried (n=107)	67.3	50.8
Repeat Birth‡		
First Child (n=60)	37.7	42.6
Repeat Birth (n=99)	62.3	57.3
Gestational Age‡		
<37 weeks (n=23)	14.5	11.4
37+ weeks (n=136)	85.5	88.6
Provider Type†		
Public Sector Only (n=4)	2.5	2.0
Private Sector Only (n=104)	65.4	66.7
Both (n=18)	11.3	6.6
Payment at Birth‡		
Government Assist (n=116)	73.0	50.4
Private Insurance (n=36)	22.6	27.5
Other (n=1)	0.6	5.0
Self Pay (n=3)	1.9	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as black was much higher for the District than for the overall state sample (58.5% vs. 37.0%) (Table 6-0-D) and lower for white non-Hispanic and white Hispanic mothers (31.5% vs. 40.9%) and (1.9% vs. 4.3%) respectively.

The proportion of children that were enrolled in WIC in the District sample was higher when compared to the proportion in the total state sample (52.2% vs. 45.1%).

In addition, the District sample had a smaller proportion of children whose mothers were married than the state sample (32.7% vs. 49.0%). Similarly, there was a smaller proportion of mothers with some college+ education (36.5% vs. 41.6%).

The District sample had a much higher number of children whose birth costs were covered through government assistance (73.0% vs. 50.4%) than the state sample.

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 6-0 Final %	State Final Sample %
Child's Gender‡		
Male (n=68)	42.8	50.3
Female (n=91)	57.2	49.7
Number of Providers†		
1 (n=98)	61.6	51.2
2 (n=18)	11.3	17.2
3+ (n=10)	6.3	7.0
Maternal Age‡		
<25 years (n=71)	44.7	41.3
25-34 years (n=74)	46.5	47.1
35+ years (n=14)	8.8	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 7-0-D: Sample Population Demographics, District 7-0, 2012		
	District 7-0 Final %	State Final Sample %
District 7-0 Final Sample	n=156	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=49)	31.4	40.9
White, Hispanic (n=0)	0	4.3
Black (n=86)	55.1	37.0
Unspecified, Hispanic (n=7)	4.5	8.9
Asian (n=3)	1.9	2.2
Multiracial (n=2)	1.3	1.6
Maternal Education‡,†		
Some College+ (n=64)	41.0	41.6
HS Diploma/GED (n=50)	32.1	30.1
9th-11th grade (n=34)	21.8	17.7
<9th grade (n=7)	4.5	6.2
WIC$^{\theta}$		
Non-WIC (n=67)	42.9	54.9
WIC (n=89)	57.1	45.1
Metro Residence$^{\theta}$		
Metro (n=102)	65.4	76.1
Non-metro (n=54)	34.6	23.8
Maternal Marital Status‡		
Married (n=54)	34.6	49.0
Unmarried (n=102)	64.4	50.8
Repeat Birth‡		
First Child (n=61)	39.1	42.6
Repeat Birth (n=95)	60.9	57.3
Gestational Age‡		
<37 weeks (n=25)	16.0	11.4
37+ weeks (n=131)	84.0	88.6
Provider Type†		
Public Sector Only (n=1)	0.6	2.0
Private Sector Only (n=101)	64.7	66.7
Both (n=10)	6.4	6.6
Payment at Birth‡		
Government Assist (n=85)	54.5	50.4
Private Insurance (n=30)	19.2	27.5
Other (n=22)	14.1	5.0
Self Pay (n=9)	5.8	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as black was greater for the District sample than for the overall state sample (55.1% vs. 37.0%) and the proportion of mothers classified as white, non-Hispanic mothers was lower (31.4% vs. 40.9%).

The proportion of children that were enrolled in WIC in the District sample were higher than the proportion in the total state sample (57.1% vs. 45.1%).

The District sample also had a larger proportion of children with unmarried mothers than the overall state sample (64.4% vs. 50.8%), as well as a larger proportion of children with mothers less than 25 years of age (50.6% vs. 41.3%).

The District 7-0 sample had a smaller proportion of children whose births were covered by private insurance compared to the state sample (19.2% vs. 27.5%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 7-0 Final %	State Final Sample %
Child's Gender‡		
Male (n=77)	49.4	50.3
Female (n=79)	50.6	49.7
Number of Providers†		
1 (n=66)	42.3	51.2
2 (n=31)	19.9	17.2
3+ (n=15)	9.6	7.0
Maternal Age‡		
<25 years (n=79)	50.6	41.3
25-34 years (n=69)	44.2	47.1
35+ years (n=8)	5.1	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 8-1-D: Sample Population Demographics, District 8-1, 2012		
	District 8-1 Final %	State Final Sample %
District 8-1 Final Sample	n=81	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=28)	34.6	40.9
White, Hispanic (n=3)	3.7	4.3
Black (n=35)	43.2	37.0
Unspecified, Hispanic (n=5)	6.2	8.9
Asian (n=0)	0	2.2
Multiracial (n=0)	0	1.6
Maternal Education‡,†		
Some College+ (n=34)	42.0	41.6
HS Diploma/GED (n=30)	37.0	30.1
9th-11th grade (n=13)	16.1	17.7
<9th grade (n=2)	2.5	6.2
WIC$^{\Theta}$		
Non-WIC (n=38)	46.9	54.9
WIC (n=43)	53.1	45.1
Metro Residence$^{\Theta}$		
Metro (n=48)	59.3	76.1
Non-metro (n=33)	40.7	23.8
Maternal Marital Status‡		
Married (n=32)	39.5	49.0
Unmarried (n=49)	60.5	50.8
Repeat Birth‡		
First Child (n=44)	54.3	42.6
Repeat Birth (n=37)	45.7	57.3
Gestational Age‡		
<37 weeks (n=8)	9.9	11.4
37+ weeks (n=73)	90.1	88.6
Provider Type†		
Public Sector Only (n=0)	0	2.0
Private Sector Only (n=69)	85.2	66.7
Both (n=7)	8.6	6.6
Payment at Birth‡		
Government Assist (n=61)	75.3	50.4
Private Insurance (n=11)	13.6	27.5
Other (n=1)	1.2	5.0
Self Pay (n=1)	1.2	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as black was greater for the District sample than for the overall state sample (43.2% vs. 37.0%) (Table 8-1-D).

The proportion of children that were enrolled in WIC in the District sample was somewhat higher than the proportion in the total state sample (53.1% vs. 45.1%).

A larger proportion of children in the District sample had unmarried mothers than the state sample (60.5% vs. 50.8%) as well as a larger proportion of children who were firstborn than for the state sample as a whole (54.3% vs. 42.6%).

The District sample had a higher number of children who were covered through government assistance at the time of birth (75.3% vs. 50.4%). In addition, the District sample had a higher number of children with mothers less than 25 years of age (59.3% vs. 41.3%) than the state sample.

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 8-1 Final %	State Final Sample %
Child's Gender‡		
Male (n=39)	48.2	50.3
Female (n=42)	51.9	49.7
Number of Providers†		
1 (n=38)	47.0	51.2
2 (n=23)	28.4	17.2
3+ (n=15)	18.5	7.0
Maternal Age‡		
<25 years (n=48)	59.3	41.3
25-34 years (n=28)	34.6	47.1
35+ years (n=5)	6.2	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 8-2-D: Sample Population Demographics, District 8-2, 2012		
	District 8-2 Final %	State Final Sample %
District 8-2 Final Sample	n=132	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=55)	41.7	40.9
White, Hispanic (n=0)	0	4.3
Black (n=64)	48.5	37.0
Unspecified, Hispanic (n=11)	8.3	8.9
Asian (n=0)	0	2.2
Multiracial (n=1)	0.8	1.6
Maternal Education‡,†		
Some College+ (n=47)	35.6	41.6
HS Diploma/GED (n=50)	37.9	30.1
9th-11th grade (n=26)	19.7	17.7
<9th grade (n=7)	5.3	6.2
WIC$^{\theta}$		
Non-WIC (n=65)	49.2	54.9
WIC (n=67)	50.8	45.1
Metro Residence$^{\theta}$		
Metro (n=51)	38.6	76.1
Non-metro (n=81)	61.4	23.8
Maternal Marital Status‡		
Married (n=46)	34.9	49.0
Unmarried (n=86)	65.2	50.8
Repeat Birth‡		
First Child (n=59)	44.7	42.6
Repeat Birth (n=73)	55.3	57.3
Gestational Age‡		
<37 weeks (n=14)	10.6	11.4
37+ weeks (n=118)	89.4	88.6
Provider Type†		
Public Sector Only (n=8)	6.1	2.0
Private Sector Only (n=86)	65.2	66.7
Both (n=15)	11.4	6.6
Payment at Birth‡†		
Government Assist (n=49)	37.1	50.4
Private Insurance (n=7)	5.3	27.5
Other (n=8)	6.1	5.0
Self Pay (n=10)	7.6	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as black was greater for the District sample than for the overall state sample (48.5% vs. 37.0%) (Table 8-2-D).

The proportion of children that were enrolled in WIC in the District sample was slightly higher than the total state sample (50.8% vs. 45.1%).

The District sample had a larger proportion of mothers who were unmarried (65.2% vs. 50.8%) along with a larger proportion of children whose mothers were in the <25 years age group (55.3 vs. 41.3%) than the state sample.

The District also had a large proportion of children who had payment at birth information missing (43.9%) for reasons that are unknown, which could account for the major difference in the proportion of children whose birth was covered by private insurance between the District and State samples (5.3% vs. 27.5%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 8-2 Final %	State Final Sample %
Child's Gender‡		
Male (n=67)	50.8	50.3
Female (n=65)	49.2	49.7
Number of Providers†		
1 (n=82)	62.1	51.2
2 (n=24)	18.2	17.2
3+ (n=3)	2.3	7.0
Maternal Age‡		
<25 years (n=73)	55.3	41.3
25-34 years (n=49)	37.1	47.1
35+ years (n=10)	7.6	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 9-1-D: Sample Population Demographics, District 9-1—2012		
	District 9-1 Final %	State Final Sample %
District 9-1 Final Sample	n=181	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=73)	40.3	40.9
White, Hispanic (n=7)	3.9	4.3
Black (n=80)	44.2	37.0
Unspecified, Hispanic (n=6)	3.3	8.9
Asian (n=2)	1.1	2.2
Multiracial (n=7)	3.9	1.6
Maternal Education‡,†		
Some College+ (n=80)	44.2	41.6
HS Diploma/GED (n=52)	28.7	30.1
9th-11th grade (n=34)	18.8	17.7
<9th grade (n=12)	6.6	6.2
WIC$^{\theta}$		
Non-WIC (n=98)	54.1	54.9
WIC (n=83)	45.9	45.1
Metro Residence$^{\theta}$		
Metro (n=171)	94.5	76.1
Non-metro (n=10)	5.5	23.8
Maternal Marital Status‡		
Married (n=72)	39.8	49.0
Unmarried (n=109)	60.2	50.8
Repeat Birth‡		
First Child (n=77)	42.5	42.6
Repeat Birth (n=104)	57.5	57.3
Gestational Age‡		
<37 weeks (n=20)	11.1	11.4
37+ weeks (n=161)	89.0	88.6
Provider Type†		
Public Sector Only (n=3)	1.7	2.0
Private Sector Only (n=144)	79.6	66.7
Both (n=8)	4.4	6.6
Payment at Birth‡		
Government Assist (n=124)	68.5	50.4
Private Insurance (n=45)	24.9	27.5
Other (n=3)	1.7	5.0
Self Pay (n=4)	2.2	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as Hispanic was less for the District sample than for the overall state sample (7.2% vs. 13.2%) (Table 9-1-D).

The proportion of children that were enrolled in WIC in the District sample was similar than the proportion in the total state sample (45.9% vs. 45.1%).

A larger proportion of children in the District 9-1 sample had mothers who were unmarried than the state as a whole (60.2% vs. 50.8%). The District sample also had a higher number of infants whose births were covered by government assistance (68.5% vs. 50.4%)than the state sample.

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 9-1 Final %	State Final Sample %
Child's Gender‡		
Male (n=90)	49.7	50.3
Female (n=91)	50.3	49.7
Number of Providers†		
1 (n=108)	59.7	51.2
2 (n=38)	21.0	17.2
3+ (n=9)	5.0	7.0
Maternal Age‡		
<25 years (n=79)	43.7	41.3
25-34 years (n=85)	47.0	47.1
35+ years (n=17)	9.4	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 9-2-D: Sample Population Demographics, District 9-2, 2012		
	District 9-2 Final %	State Final Sample %
District 9-2 Final Sample	n=128	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=66)	51.6	40.9
White, Hispanic (n=5)	3.9	4.3
Black (n=43)	33.6	37.0
Unspecified, Hispanic (n=9)	7.0	8.9
Asian (n=0)	0	2.2
Multiracial (n=3)	2.3	1.6
Maternal Education‡,†		
Some College+ (n=40)	31.2	41.6
HS Diploma/GED (n=50)	39.1	30.1
9th-11th grade (n=30)	23.4	17.7
<9th grade (n=6)	4.7	6.2
WIC$^{\theta}$		
Non-WIC (n=62)	48.4	54.9
WIC (n=66)	51.6	45.1
Metro Residence$^{\theta}$		
Metro (n=1)	0.8	76.1
Non-metro (n=127)	99.2	23.8
Maternal Marital Status‡		
Married (n=59)	46.1	49.0
Unmarried (n=69)	53.9	50.8
Repeat Birth‡		
First Child (n=49)	38.3	42.6
Repeat Birth (n=79)	61.7	57.3
Gestational Age‡		
<37 weeks (n=20)	15.6	11.4
37+ weeks (n=108)	84.4	88.6
Provider Type†		
Public Sector Only (n=7)	5.5	2.0
Private Sector Only (n=91)	71.1	66.7
Both (n=26)	20.3	6.6
Payment at Birth‡†		
Government Assist (n=90)	70.3	50.4
Private Insurance (n=23)	18.0	27.5
Other (n=0)	0	5.0
Self Pay (n=11)	8.6	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as white, non-Hispanic was greater for the District sample than for the overall state sample (51.6% vs. 40.9%) (Table 9-2-D).

The proportion of children that were enrolled in WIC in the District sample was slightly higher than the proportion in the total state sample (51.6% vs. 45.1%).

The District 9-2 sample had a smaller proportion of children whose mothers had some college education than the state sample (31.2% vs. 41.6%).

A larger proportion of children received immunizations from both public and private providers in the District 9-2 sample (20.3% vs. 6.6%) than the state sample.

More children in the District sample received government assistance at the time of birth (70.3% vs. 50.4%), and a larger proportion of children had mothers in the <25 years age group (54.7% vs. 41.3%) than the state sample.

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 9-2 Final %	State Final Sample %
Child's Gender‡		
Male (n=62)	48.4	50.3
Female (n=66)	51.6	49.7
Number of Providers†		
1 (n=82)	64.1	51.2
2 (n=35)	27.3	17.2
3+ (n=7)	5.5	7.0
Maternal Age‡		
<25 years (n=70)	54.7	41.3
25-34 years (n=49)	38.3	47.1
35+ years (n=9)	7.0	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Table 10-0-D: Sample Population Demographics, District 10, 2012	District 10 Final %	State Final Sample %
District 10 Final Sample	n=167	*n=2,589*
Maternal Race/Ethnicity‡,†		
White, Non-Hispanic (n=91)	54.5	40.9
White, Hispanic (n=13)	7.8	4.3
Black (n=42)	25.2	37.0
Unspecified, Hispanic (n=11)	6.6	8.9
Asian (n=3)	1.8	2.2
Multiracial (n=2)	1.2	1.6
Maternal Education‡,†		
Some College+ (n=72)	43.1	41.6
HS Diploma/GED (n=44)	26.4	30.1
9th-11th grade (n=40)	24.0	17.7
<9th grade (n=4)	2.4	6.2
WIC$^{\Theta}$		
Non-WIC (n=103)	61.7	54.9
WIC (n=64)	38.3	45.1
Metro Residence$^{\Theta}$		
Metro (n=125)	74.9	76.1
Non-metro (n=42)	25.2	23.8
Maternal Marital Status‡		
Married (n=89)	53.3	49.0
Unmarried (n=77)	46.1	50.8
Repeat Birth‡		
First Child (n=76)	45.5	42.6
Repeat Birth (n=91)	54.5	57.3
Gestational Age‡		
<37 weeks (n=19)	11.4	11.4
37+ weeks (n=148)	88.6	88.6
Provider Type†		
Public Sector Only (n=2)	1.2	2.0
Private Sector Only (n=97)	58.1	66.7
Both (n=7)	4.2	6.6
Payment at Birth‡†		
Government Assist (n=89)	53.3	50.4
Private Insurance (n=41)	24.6	27.5
Other (n=0)	0	5.0
Self Pay (n=11)	6.6	5.4

Notable Demographic Findings: The proportion of children whose mothers were classified as white, non-Hispanic was greater for the District sample than for the overall state sample (54.5% vs. 40.9%) while the proportion of children whose mothers were classified as black was less (25.2% vs. 37.0%) (Table 10-0-D).

The proportion of children that were enrolled in WIC in the District sample was slightly lower than the proportion in the total state sample (38.3% vs. 45.1%).

The District sample also had a lower proportion of children with unmarried mothers than the state sample (46.1% vs. 50.8%).

Other demographic measures for this District were similar to findings for the state sample as a whole.

	District 10 Final %	State Final Sample %
Child's Gender‡		
Male (n=85)	50.9	50.3
Female (n=82)	49.1	49.7
Number of Providers†		
1 (n=69)	41.3	51.2
2 (n=27)	16.2	17.2
3+ (n=10)	6.0	7.0
Maternal Age‡		
<25 years (n=71)	42.5	41.3
25-34 years (n=79)	47.3	47.1
35+ years (n=17)	10.2	11.6

Θ Please see Appendix B for additional information regarding the methodology in obtaining this variable.
‡ Indicates that this variable corresponds to the data collected at the time of delivery.
† Indicates that the percentages for this variable may not add up to 100% because the information was missing in some cases.

Appendix E: District immunization Measures, p1

Appendix Table E-1: District Immunization Coverage Rates, 2012

Highest Rate

A. District Response Rate
B. UTD by 24 months, 2012
C. UTD by end of data collection, 2012
D. Average Response Rate, 2005-2012*
E. Average UTD by 24 months, 2005-2012*
F. Percent change in UTD by 24 months, 2011 to 2012
G. Percent change in UTD by end of data collection, 2011 to 2012
H. Percent change in UTD from 24 months to end of data collection, 2012

*Immunization Rate not calculated for 2009

District	A (%)	B (%)	C (%)	D (%)	E (%)	F (%)	G (%)	H (%)
1-1 Northwest (Rome)	87.6	92.9	96.9	89.8	79.5	5.2	1.3	4.3
1-2 North Georgia (Dalton)	96.0	87.4	95.1	98.3	82.8	11.6	4.2	8.8
2-0 North (Gainesville)	100	84.1	94.4	97.3	85.4	-2.4	-0.1	12.2
3-1 Cobb-Douglas	89.8	82.9	95.0	90.9	75.4	-3.2	0.7	14.6
3-2 Fulton	89.1	77.3	84.0	84.2	69.2	-5.6	-11.0	8.7
3-3 Clayton	91.9	83.9	95.2	87.0	68.7	-0.8	0.0	13.5
3-4 Gwinnett, Newton, Rockdale	90.7	81.5	91.8	93.0	83.1	1.9	-1.6	12.6
3-5 DeKalb	83.4	87.3	98.0	83.6	76.2	2.9	2.4	12.3
4-0 LaGrange	86.3	88.1	96.7	92.2	76.1	8.4	8.0	9.8
5-1 South Central (Dublin)	94.0	77.9	93.5	97.0	77.2	-2.6	-0.5	20.0
5-2 North Central (Macon)	97.5	85.4	93.7	93.5	79.1	2.3	-5.4	9.7
6-0 East Central (Augusta)	99.4	82.4	93.7	99.4	84.0	4.6	-5.2	13.7
7-0 West Central (Columbus)	92.5	91.0	98.7	92.1	78.1	16.2	10.2	8.5
8-1 South (Valdosta)	93.1	88.9	96.3	93.2	81.4	-2.2	0.2	8.3
8-2 Southwest (Albany)	95.0	83.3	88.6	95.6	77.4	-0.7	-8.5	6.4
9-1 Coastal (Savannah)	89.7	80.7	93.4	88.3	74.0	5.1	-0.3	15.7
9-2 Southeast (Waycross)	95.5	84.4	93.8	96.4	75.9	0.7	1.1	11.1
10-0 Northeast (Athens)	98.2	85.0	90.4	93.0	82.3	7.9	-2.7	6.4
Georgia	**92.3**	**84.5**	**93.6**	**91.0**	**76.2**	**2.5**	**-0.4**	**10.8**

Appendix E: District immunization Measures, p2

Appendix Table E-2: District Vaccine Antigen-Specific Immunization Measures, 2012

Highest Rate

District	4 DTaP (%)	3+ Polio (%)	1 MMR (%)	UTD Hib (%)	HepB Birth (%)	3 HepB (%)	1 Varic. (%)	UTD PCV (%)	2+ Rota. (%)	1+ Flu (%)
1-1 Northwest (Rome)	95.3	97.6	96.9	98.4	85.8	97.6	98.4	96.9	78.7	64.6
1-2 North Georgia (Dalton)	90.2	97.9	95.8	97.9	76.9	98.6	97.9	93.0	69.9	71.3
2-0 North (Gainesville)	86.5	96.8	96.0	96.8	69.8	93.5	95.2	90.5	89.7	69.1
3-1 Cobb-Douglas	85.7	94.3	90.7	93.6	70.0	95.0	91.4	92.1	75.7	60.0
3-2 Fulton	83.0	91.2	87.1	93.8	84.0	93.3	88.7	86.6	73.2	57.2
3-3 Clayton	84.7	95.2	94.4	93.6	89.5	96.0	96.0	92.0	62.9	41.9
3-4 Gwinnett, Newton, Rockdale	83.6	95.9	91.8	96.9	77.9	92.8	91.8	91.3	81.0	59.0
3-5 DeKalb	90.0	98.0	96.0	97.3	82.7	96.0	96.7	96.0	75.3	64.0
4-0 LaGrange	89.4	97.4	96.7	98.7	82.8	98.7	98.7	96.0	66.2	51.7
5-1 South Central (Dublin)	79.2	92.2	85.7	90.9	88.3	96.1	87.0	89.6	45.5	46.8
5-2 North Central (Macon)	86.1	95.6	93.0	95.6	90.5	96.2	94.3	91.8	52.5	50.6
6-0 East Central (Augusta)	84.3	95.6	89.9	93.7	83.6	93.7	91.8	88.1	62.9	52.2
7-0 West Central (Columbus)	93.6	98.7	96.8	98.7	94.2	99.4	96.2	95.5	65.4	59.0
8-1 South (Valdosta)	90.1	98.8	95.1	95.1	91.4	98.8	97.5	98.8	84.0	58.0
8-2 Southwest (Albany)	86.4	93.2	91.7	95.5	87.1	96.2	90.2	88.6	78.8	56.8
9-1 Coastal (Savannah)	85.1	98.3	91.7	96.7	86.2	98.9	94.5	90.1	61.9	59.7
9-2 Southeast (Waycross)	83.6	95.3	94.5	96.1	86.7	96.9	93.8	89.1	64.1	50.8
10-0 Northeast (Athens)	89.2	95.8	94.6	98.2	68.3	95.2	95.8	97.0	79.0	50.3
Georgia	**87.0**	**96.0**	**93.2**	**96.1**	**82.7**	**96.1**	**94.2**	**92.2**	**70.6**	**57.1**

Additional Resources

For more information about the Georgia Department of Public Health Immunization Program, please visit the following website:
http://dph.georgia.gov/immunization-section

For past Georgia Immunization Study Final Reports, please visit the following website:
http://dph.georgia.gov/immunization-publications

For more information about the Georgia Department of Public Health Acute Disease Epidemiology Unit, please visit the following website:
http://dph.georgia.gov/acute-disease-epidemiology

For more information about the Centers for Disease Control and Prevention's (CDC) National Immunization Survey (NIS), please visit the following website:
http://www.cdc.gov/nchs/nis.htm

To access current vaccine schedules, vaccine information sheets and other immunization materials, please visit the Immunization Action Coalition website:
http://www.immunize.org

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