

PRACTITIONER'S CORNER

State Immunization Registries and Public Opinion: The Case of Georgia

Katherine G. Willoughby and Gregory D. Streib

DRAMATIC CHANGES have occurred in the intergovernmental system in the last two decades. A process that began as “shift and shaft” federalism during the Reagan years has led to a major transformation in the role and function of state governments. One benefit has been enhanced state discretion in the development and implementation of important new policies—as is illustrated by welfare reform. The downside, of course, is an increased financial burden (Hebert, Wright, and Brudney 1992) and a reduced but steady tide of unfunded mandates (Ray and Conlan 1996; Antonelli 1996).

Certainly, the states have supported new and expanded activities and services. State governors have shown an unprecedented level of leadership (Pear 1995), and they have taken steps to further refine their administrative machinery (Jenks and Wright 1993). A recent report on the federal system notes that the states have launched initiatives to “overhaul their civil service, procurement, training and information systems and to revise

their management procedures” (Weissert and Schram 1996, 18). The revenue capacity of the states, following the recession of the early 1990s, is favorable as well. “State own-source general revenues have grown considerably faster than have the own-source revenues of either federal or local governments” (Hebert, Wright, and Brudney 1992, 6). In fact, state governments may be in the best position of any level of government in the United States to take on and support new and expanded responsibilities.

While the invigorated state governments have shone brightly on the national stage, we wonder how their citizens view this new dynamism. In most cases, they have probably become accustomed to less aggressive action. We suspect that there may be a rough adjustment period ahead, as states expand their responsibilities and exercise their new powers. Polling data show that the public believes states can run things better than the federal government (Roper Center for Public Opinion Research 1996), but how long will this perception last once states accept greater responsibility for our society’s more intractable problems? At least in the case of immunization registries, the success of important new state policies will depend in part on how well the states can manage public opinion.

The authors thank the Applied Research Center in the School of Policy Studies at Georgia State University for including their polling items in the quarterly Georgia State Poll.

Registries: A Major Policy Development

The push for state immunization registries can be traced to policy developments at the federal level. President Clinton inaugurated the federal Vaccines for Children (VFC) program in 1993. This program established a goal of immunizing 90 percent of infants up to 24 months of age by the year 2000 (Cutts et al. 1992). It also initiated an intensive campaign to mobilize clinicians and families and offered free vaccines for qualified children. Qualified children were defined as Medicaid eligibles, uninsured children, American Indians, and children whose health insurance plans do not cover immunizations (Lee and Vladeck 1994).

The Vaccines for Children program was developed in response to alarming rises in preventable diseases. In 1990 for example, there were 500 measles cases per week—many times the record low of 1,497 during all of 1983. Birth defects from congenital rubella syndrome were also on the rise. Diseases such as measles and rubella were spreading because less than half of all two-year-old children were receiving vaccines at the recommended ages (Gibbs 1993). Current immunization policies were working for school-aged children, but younger children were being overlooked. “Immunization at school entry does not prevent the life-threatening diseases of infancy for which most of these vaccines exist” (Freed, Bordley, and DeFriese 1993, 66).

What was missing from the federal legislation that created the VFC program was a proactive system that would help to assure that children receive appropriate immunizations. This is important because the overwhelming majority of children begin an immunization program and drop out before they are two years old (Gibbs 1993). However, there are technical barriers to a national registry, such as the lack of consistency in the collection and management of medical data. Political sensitivities are also a factor. The idea of a massive database in Washington, D.C., containing medical or other personal information might be unsettling to many.

State Immunization Registries

With little fanfare, the states have acted on their own to satisfy the need for immunization data. Some cities and counties have also developed their own immunization registries, but these efforts can only be seen as stop-gap measures, given our highly mobile population. In the course of our research, we contacted every state in the country in the autumn of 1996 and inquired about registry development. We collected descriptive information, enabling legislation, and rules and regulations from every state with a registry. All 50 states responded to our initial request. Follow-up telephone calls were made in the summer of 1997 to verify the status of registry development in each state.

Based on the findings of our survey, Table 1 illustrates the development of state immunization registries. Some states have passed legislation related to an immunization registry or a system for state collection of immunization data. As noted in the table, most of this legislation was passed in the last five years. There is, however, little consistency in this legislation. For example, for 10 states the registry legislation requires the development of a centralized immunization record and tracking system to be managed by the state. Other states (including California, Louisiana, and Oregon) provide for the creation of local or community registries that will feed data to the state. North Carolina’s immunization law does not create a central registry directly but does mandate local health departments to file monthly immunization reports with the Department of Environment, Health and Natural Resources. This law also allows for the sharing of information with other users of immunization data.

In Table 1, we categorize states according to their stage of registry development as follows:

Goal Setting. This category includes states that may be exploring registry options. Some states in this category operate local, countywide, or regional registries that may

Table 1: Statewide Immunization Registries: Stages of Development

Goal Setting	Implementation	
	Partial	Advanced
Alaska	Alabama ^{ab} (1995)	Arizona ^{ab} (1996)
California ^a (1995)	Colorado ^{ab} (1992)	Arkansas ^{ab} (1995)
Georgia ^{ab} (1996)	Connecticut ^{ab} (1994)	Delaware
Hawaii	Florida	Iowa
Idaho	Illinois	Mississippi ^{ab} (1994)
Indiana	Kansas	Missouri
Louisiana ^a (1995)	Kentucky	Nevada
Maine	Massachusetts	North Carolina ^a (1993)
Maryland	Michigan ^{ab} (1996)	North Dakota
Minnesota	Nebraska	Ohio
Montana	New Jersey	Oklahoma
New Hampshire	New York	Oregon ^a (1993)
New Mexico	Rhode Island ^{ab} (1996)	South Carolina
Pennsylvania	Texas	South Dakota
Vermont	Utah	Tennessee ^{ab} (1995)
Virginia	Washington	
West Virginia		
Wisconsin		
Wyoming		

^a State has legislation related to an immunization information and recording system. Such a system may simply require local providers to collect information on immunizations for state reporting purposes, but may not necessarily authorize a centralized, statewide registry. Year of legislation is indicated in parentheses.

^b State legislation specifies the creation of a centralized, statewide immunization registry.

provide information to a centralized database sometime in the future.

Partial Implementation. This category includes states in which some providers support a statewide registry. These public, private, or managed care organizations may provide immunization data on Medicaid clients only. The registry may be piloted in one or several local governments or regions within the state.

Advanced Implementation. In these states, most public providers support a statewide registry through data input and record referral. In some of these states, private providers may also participate.

Our findings show that 31 states have a statewide registry that is at least partially implemented. However, even the most advanced registries are not yet fully functional. No statewide registry or system includes all public and private providers or contains immunization data on all children in the state. Approximately 20 states operate registries or systems that have not been established by law. However, several of these have legislation or pending legislation related to sharing immunization information among providers.

Issues of Privacy and Confidentiality

Concerns about registry data focus on the types of information collected and the security of that information. Current plans call for the Georgia registry to contain social security numbers for parents and children, parental addresses, the mother's maiden name, an immunization history, the child's sex, and information on adverse reactions to immunizations. It would be naïve to believe that such information could not be used to harm or stigmatize the information provider. Such information could be useful to law enforcement officials, creditors, immigration authorities, or estranged spouses. Parents may also be concerned that failure to vaccinate their child would provide a basis for an investigation by child protection authorities, as has happened in New York City (Gostin and Lazarini 1995). It does not take much imagination to foresee the kinds of problems that misused registry data could cause. Even if actions based on the information were legal, they would be undesirable from the view of the information provider. Such threats—real or imagined—could form the basis for public opposition to a state registry or produce high levels of noncompliance that would undermine the effectiveness of the system.

Once the information is collected, it could easily fall into the wrong hands. A primary purpose of registries is to make vital data easier to obtain, and the states have been flexible when allowing access to immunization data. "At least 40 states expressly grant

access to health departments, health care providers, school officials, and epidemiologists or other researchers” (Gostin and Lazzarini 1995, 1796). Our research finds that states fall along a wide continuum regarding access to registry data.

For instance, the Michigan Childhood Immunization Registry (MCIR) requirements outline specific reports that can be generated for information users, such as “immunization-oriented reports, system administrator reports, and reports for counties and Detroit” (Subcommittee on MCIR Requirements 1997). At the other end of the spectrum, Mississippi allows disclosure of immunization data to “any traditional consumer of” and “others having a legitimate and tangible interest in” such information and data (State of Mississippi 1994). Georgia is typical of most states with registry legislation. Access rights are addressed specifically in the legislation, but they are fairly broad. Registry data may be released by the state health department to a local health department, medical service provider, school, or child care facility without the consent of the child’s parents or guardians (Official Code of Georgia Annotated [O.C.G.A.] §31-12-3.1 [1996]).

Regarding legal protection for registry data, our content analysis of the legislation shows that significantly less than half of the states have such protection written into registry law (see Table 1). While some specifically designate immunization information as confidential (e.g., Tennessee, California, Louisiana, Oregon, and Michigan), other states are explicit that individually identifiable (not necessarily medical) information is confidential (e.g., Arizona, Colorado, and Georgia). On the other hand, Mississippi’s registry law states that “immunization information shall not be considered confidential patient records” (Mississippi Senate Bill 2135 [1994]).

The Case of Georgia

The Georgia registry offers a unique opportunity for study, since it has developed from

a comprehensive piece of legislation, which is not typical of most states (see Table 1). There is much that can be learned and applied to other states that are further behind in the registry development process. Georgia first passed legislation to create a statewide registry and is now developing rules and regulations to govern its operation as well as investigating its hardware and software capacity. The state has not yet begun to operate a registry. We sought information from Georgia residents to learn more about how they viewed critical aspects of the immunization registry prior to implementation. Our research had three major objectives:

1. Ascertain if the general public appreciates registry benefits;
2. Assess the level of public concern about the personal information that will be collected and stored by the registry; and
3. Discover how the public views some of the individuals and groups that might have access to registry data.

Immunization registries are an interesting example of expanded state authority. The need for registries is clear—the lives of many young children are on the line, and systematic tracking of immunizations is one certain method of protecting their health. However, there is no denying the fact that immunization registries are highly invasive. At a time when most nightly newscasts feature at least one information-related horror story, the states are quietly developing large databases containing significant personal information. It can be argued that much personal information is already available and that registries do not really set a high-water mark for information collection, but this may not ease public fears. Thus, our study was motivated by a desire to find out where the public stands on some of these important issues and to help assure that their interests and concerns are fully addressed in the policy-making process.

Methodology

The data reported in this study were collected by a telephone poll conducted in the spring of 1997 by the Applied Research Center of Georgia State University. All adult residents of Georgia with a working telephone (including new and unlisted numbers) are eligible for the Georgia State Poll, which is conducted quarterly. Interviewing was conducted on weekdays from 10:00 a.m. to 9:15 p.m., Monday through Thursday, and from 10:00 a.m. to 5:00 p.m. on Friday. Weekend interviewing was conducted on Saturday from 11:00 a.m. to 7:00 p.m., and on Sunday from 10:00 a.m. to 6:00 p.m. Each phone number was contacted a minimum of seven times, or until a final disposition was reached. The collected results were weighted using the most recent U.S. Census data on Georgia.

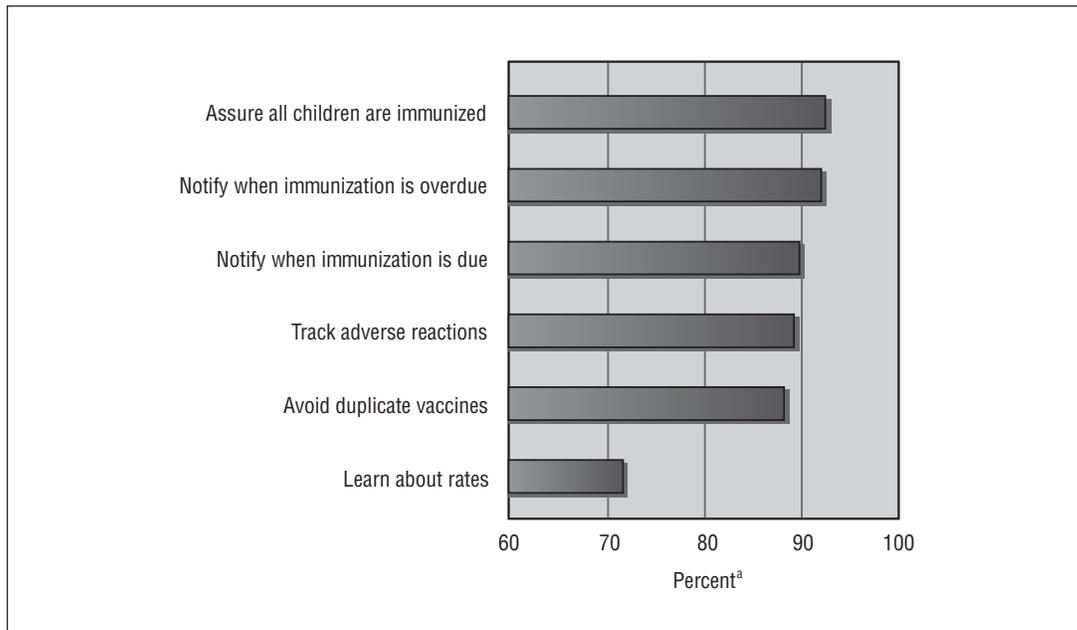
The margin of error for the poll is 3.5 percentage points, plus or minus the reported percentage, for all Georgians. Error for sub-

groups is likely to be somewhat larger. The response rate for the spring 1997 poll was 70 percent. A total of 862 Georgia residents were contacted for this poll. The immunization-related items were developed by the authors, in partnership with a number of administrators working for the state of Georgia. Representatives of the Georgia Chapter of the American Academy of Pediatrics also reviewed the items.

Findings

The respondents were told that the state of Georgia was developing an immunization registry and that this registry would contain immunization information on all children in Georgia under the age of 18 years old. The interviewers then walked respondents through three groups of items that were developed in accordance with our research questions. Figure 1 displays the potential benefits of an immunization registry.

Figure 1: The Benefits of an Immunization Registry



Note: The valid responses range from 801 to 807 on these items.

^a Percentage of those viewing item as "important."

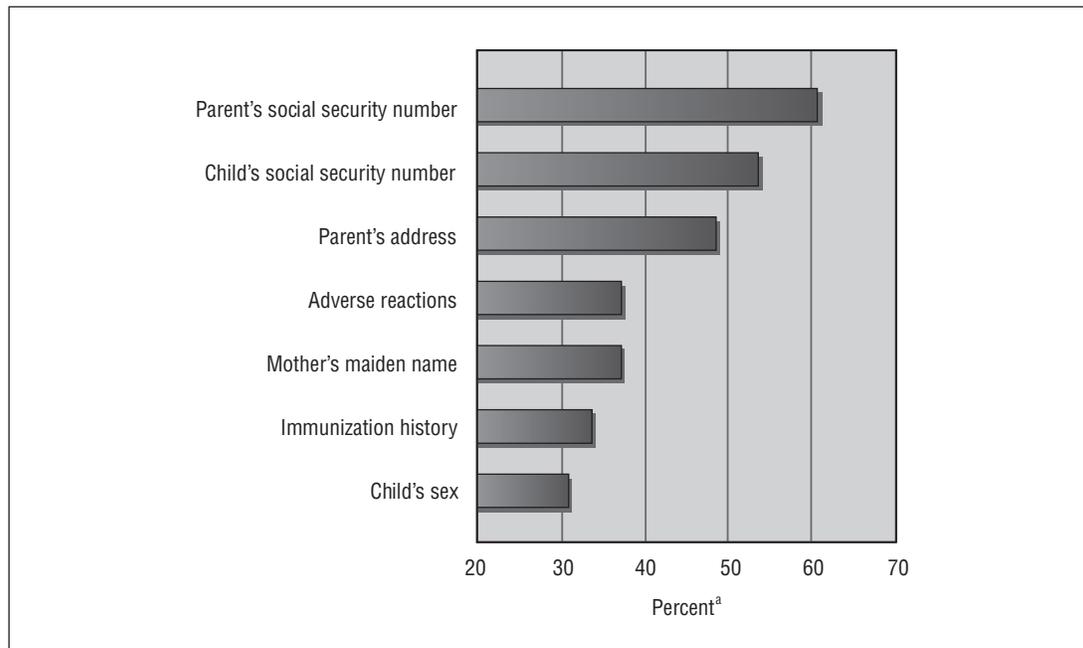
The highest level of approval was for the item “getting all children immunized.” Over 90 percent of the respondents felt that this was important. In addition, over 90 percent of the respondents felt it was important to notify parents or guardians when children were overdue for an immunization. Exactly 90 percent of the respondents felt that it was important to give notifications when immunizations were due. Georgia law requires that the registry provide these functions, unless a health care provider wishes to assume this responsibility (O.C.G.A. §31-17-3.1 [1996]).

The second series of items pertained to the level of invasiveness of the registry. Respondents were asked how concerned they were about the type of information that the Georgia registry would contain. Response categories included “very concerned,” “somewhat concerned,” “not concerned at all,” or “not sure.” The percentage of respondents indicating that they were “very concerned” is presented in Figure 2.

The findings displayed in Figure 2 clearly show high levels of concern for the types of information to be included in the Georgia Immunization Registry. For example, over half of the respondents were very concerned about the inclusion of the social security numbers of parents and children. For registry officials, these data elements are essential to identify individual children in what will eventually become an extremely large database.

Nearly 50 percent of the respondents indicated that they were very concerned about the inclusion of the parent’s address. Obviously, notifications could not be sent without a parental address, so this data element is also critical to the mission of the registry. Noteworthy percentages also indicate that respondents were very concerned about all of the other data elements. Including even the child’s sex or immunization history is perceived as a potential source of trouble. These findings suggest that many respon-

Figure 2: Concerns about Immunization Data Elements



Note: The valid responses range from 801 to 807 on these items

^a Percentage of those who are “very concerned” about each data element.

dents are uneasy about the information requirements of the Georgia registry.

We also used cross-tabulation analysis to examine the levels of concern within different demographic groupings. We found that the personal characteristics of the respondents were more important than where they lived within the state. As a general rule, the most important variables were income, education, the presence of children in the home under 18 years of age, and race. Higher incomes and education levels had an inverse relationship with level of concern. As might be expected, the respondent's level of concern was reduced when there were no children under 18 in the home.

However, the most important determinant of respondent attitudes concerning the Georgia registry was race. Table 2 shows that level of concern is markedly higher for African American respondents. (All other minority groups were excluded from the table due to their small numbers.) In many cases, the association between race and level of concern produced a statistically significant chi-square statistic. The data elements that produced statistically significant associations include child's social security number, parent's address, adverse reactions to immunizations, immunization history, and child's sex.

The Cramer's V statistic is also reported, since it helps to control for the fact that chi-square values are inflated when sample sizes are large. The value of the Cramer's V statistic ranges from 0 to 1. The values in Table 2 are noteworthy, but they do not even approach the highest possible values of the statistic. What is interesting is that their highest values are for adverse reactions and child's sex. In both cases, these were data elements that produced relatively little concern among whites, while the level of concern among African Americans remained at high levels. It seems reasonable to speculate that African Americans object more to the principle of the registry database, while the white respondents evaluate the level of threat on an item-by-item basis.

The final items dealt with how respondents perceived those individuals and groups who would have access to the registry database. The respondents were asked, "How confident are you that the following types of groups or organizations *would not* abuse the personal or confidential information they are given?" Under Georgia law, each of the individuals and groups listed has access to registry information and data. The respondents were asked to indicate if they were "very confident," "somewhat confident," "not very confident," "not confident at all," or "not sure." Confidence is highest in doctors, but even their numbers fail to impress (see Table 3). That is, only 53 percent of the respondents were very confident that doctors would not abuse confidential information. On a somewhat brighter note, over 80 percent of the respondents were at least somewhat confident that doctors would not abuse confidential information.

Only 38 percent of the respondents were very confident that hospital emergency personnel would not abuse confidential information; nearly 20 percent indicated that they were not confident at all. Of most concern are the ratings given to doctor's office personnel and school administrators. Both of these groups are apt to have a great deal of contact with registry data, and the public does not have great confidence in their ability to maintain the confidentiality of this information.

Results from a cross-tabulation analysis on the items displayed in Table 3 varied little. The level of confidence was consistent across both demographic and personal characteristics. Race was not a major distinguishing factor for any of these items.

Discussion

Our findings should be of interest to academics concerned with federalism and the limits to state authority. Undoubtedly, registries are mushrooming at the state level because the issue has been too controversial for

the federal government to tackle. It might be argued that states can get this job done, given that they are better respected than the federal government—and are perhaps less feared. However, our findings suggest that there might be some problems ahead for the states if they continue on their present course, and

that the public's goodwill might be put to the test.

Our findings should alert practitioners that careful planning is needed before implementing any type of central database that stores personal, medical, or financial information. As noted earlier, many states are operating

Table 2: Concerns about Types of Immunization Data

Data Element	Response Categories	Race (percent)		Row Total	Cramer's V
		White	African American		
Parent's social security number	Very concerned	58.7	68.6	479	.109
	Somewhat concerned	18.2	14.1	135	
	Not very concerned	6.8	2.7	46	
	Not concerned at all	11.0	8.1	81	
	Not sure	5.3	6.5	44	
Child's social security number	Very concerned	52.5	58.5	422	.157**
	Somewhat concerned	21.8	18.6	165	
	Not very concerned	7.7	2.7	51	
	Not concerned at all	10.2	4.9	70	
	Not sure	7.8	15.3	75	
Parent's address	Very concerned	46.8	56.0	383	.120*
	Somewhat concerned	24.9	15.2	177	
	Not very concerned	11.7	8.2	85	
	Not concerned at all	10.9	13.6	90	
	Not sure	5.7	7.1	47	
Adverse reactions	Very concerned	34.3	47.0	291	.151**
	Somewhat concerned	20.2	13.1	145	
	Not very concerned	17.2	9.3	120	
	Not concerned at all	22.2	21.3	172	
	Not sure	6.0	9.3	53	
Mother's maiden name	Very concerned	35.7	44.0	295	.092
	Somewhat concerned	21.5	20.7	167	
	Not very concerned	16.7	10.3	119	
	Not concerned at all	20.0	18.5	154	
	Not sure	6.0	6.5	48	
Immunization history	Very concerned	31.5	41.2	263	.118*
	Somewhat concerned	21.0	15.9	154	
	Not very concerned	17.8	10.4	125	
	Not concerned at all	23.5	26.4	188	
	Not sure	6.2	6.0	48	
Child's sex	Very concerned	26.7	46.7	244	.203**
	Somewhat concerned	13.3	15.9	108	
	Not very concerned	20.8	14.3	150	
	Not concerned at all	31.4	18.7	221	
	Not sure	7.9	4.4	55	

Note: Respondents were asked how concerned they were about the type of information the registry would contain.

^a N = 598; ^b N = 185. *p < .05. **p < .01.

(albeit partially) immunization registries without legal stipulations to protect the privacy and confidentiality of the information stored, retrieved, and exchanged by users. In fact, registry legislation and rules governing registry operation will have to be developed retroactively in these states. For example, at the time of this study, Illinois was developing legislation related to confidentiality of informa-

tion stored in its registry. Georgia's more systematic approach of passing legislation and then developing rules and regulations prior to collecting registry data should provide a valuable model.

Our survey also indicates that administrators must pursue registry implementation with patience. No fully functioning registries currently exist. Most registries have been created

Table 3: Concerns about Groups and Individuals with Access to Immunization Data

Group or Individual	Response Categories	Percent	Row Total
Doctors	Very confident	53.1	429
	Somewhat confident	31.2	252
	Not very/not confident at all	8.8	71
	Not sure	7.0	56
Hospital emergency personnel	Very confident	38.4	310
	Somewhat confident	34.9	282
	Not very/not confident at all	19.2	155
	Not sure	7.5	61
The state division of public health	Very confident	33.0	266
	Somewhat confident	35.1	283
	Not very/not confident at all	20.8	168
	Not sure	11.0	89
Medical researchers	Very confident	29.7	239
	Somewhat confident	34.7	279
	Not very/not confident at all	23.3	188
	Not sure	12.3	99
Doctor's office personnel	Very confident	28.1	227
	Somewhat confident	37.5	303
	Not very/not confident at all	25.1	203
	Not sure	9.3	75
School administrators	Very confident	28.1	226
	Somewhat confident	33.8	273
	Not very/not confident at all	23.9	193
	Not sure	14.3	115
University faculty	Very confident	24.1	193
	Somewhat confident	36.3	291
	Not very/not confident at all	24.6	197
	Not sure	14.9	120
Child care facilities operators	Very confident	22.5	180
	Somewhat confident	35.6	284
	Not very/not confident at all	30.1	240
	Not sure	11.8	94

Note: Respondents were asked, "How confident are you that the following types of groups or individuals *would not* abuse the personal or confidential information they are given?"

in an ad hoc manner, often starting out as a demonstration site in one locality or region of a state, then incrementally bringing other (provider) sites on board. Administrators must understand the long-range time requirements necessary for establishing a registry.

State administrators must also be prepared for intense public scrutiny as registries become more visible. Specifically, state officials must be ready to answer tough questions about confidentiality and access. The public does appear to appreciate registry benefits, but the level of concern is very high regarding much of the data to be collected, and confidence is low in certain individuals and groups who will have access to the data. The race issue also needs careful consideration. African Americans have reason to be concerned about government-inspired research efforts, and their reservations should not be taken lightly. Public relations campaigns can stress the need for registries and the important contributions they can make in disease prevention and health care cost reduction. State initiatives undoubtedly will involve community outreach; some personal contact will be necessary in communities where resistance is greatest. The positive benefits of immunization registries will not be realized if childhood visits to the doctor are hindered.

Ultimately, the findings of this study can be useful for public policy development. For example, our results coincide with those of Bacot and Dawes's examination of the factors that influence environmental policy development in states (1996). Their research shows that public groups, or "civic environmentalism," have greater influence on the environmental policies of states than does financial ability. They conclude that innovation in state policy is more likely attributable to public ethos than traditional politics, manifested by "education, economic and operation incentives" (Bacot and Dawes 1996, 133). Our work examines citizens' acceptance of a new policy, and we presume that a high level of acceptability is essential to the success of this initiative. Our data are specific to Geor-

gia, but we strongly suspect that we have tapped into some issues that are national in scope.

Katherine G. Willoughby is an associate professor in the Department of Public Administration and Urban Studies, School of Policy Studies, Georgia State University. Her areas of expertise include state and local government budget processes, bureaucratic decision behavior, and public program analysis and evaluation. Her work appears in numerous academic journals. In addition to her work on immunization registries, she is involved in research to assess performance-based budgeting in the 50 states.

Gregory D. Streib is a professor in the Department of Public Administration and Urban Studies in the School of Policy Studies at Georgia State University. He has published widely in the areas of local government and public management. In addition to his current work on immunization registries, he is developing a national study examining the use of performance measures in municipal governments.

References

- Antonelli, Angela. 1996. Promises unfulfilled: Unfunded mandates reform act of 1995. *Regulation* 19: 44-52.
- Bacot, A. Hunter, and Roy Dawes. 1996. Responses to federal devolution: Measuring state environmental efforts. *State and Local Government Review* 28, no. 2 (Spring): 124-35.
- Cutts, Felicity T., Elizabeth R. Zell, Dean Mason, Robert H. Bemier, Eugene F. Dinl, and Walter A. Orensein. 1992. Monitoring progress toward U.S. preschool immunization goals. *Journal of the American Medical Association* 267: 1952-55.
- Freed, Gary L., W. Clayton Bordley, and Gordon H. DeFriese. 1993. Childhood immunization programs: An analysis of policy issues. *The Milbank Quarterly* 71: 65-96.
- Gibbs, W. Wayt. 1993. Preventing the preventable. *Scientific American* 268: 135.
- Gostin, Lawrence O., and Zita Lazzarini. 1995. Childhood immunization registries: A national review of public health information systems and the protec-

- tion of privacy. *Journal of the American Medical Association* 274: 1793-99.
- Hebert, F. Ted, Deil S. Wright, and Jeffrey I. Brudney. 1992. Challenges to state government: Policy and administrative leadership in the 1990s. *Public Productivity and Management Review* 16: 1-21.
- Jenks, Stephen S., and Deil S. Wright. 1993. An agency-level approach to change in the administrative functions of American state governments. *State and Local Government Review* 25, no. 2 (Spring): 78-86.
- Lee, Philip R., and Bruce C. Vladeck. 1994. Childhood immunization initiative. *Journal of the American Medical Association* 271: 1230.
- Pear, Robert. 1995. Shifting where the bucks are. *New York Times* (October 29): 4-1: 5.
- Ray, Marcella R., and Timothy J. Conlan. 1996. At what price? Costs of federal mandates since the 1980s. *State and Local Government Review* 28, no. 1 (Winter): 7-16.
- Roper Center for Public Opinion Research. 1996. Devolution in the polls: Long-term shift in public opinion. *Rockefeller Institute Bulletin* 1996. Albany, N.Y.: Rockefeller Institute of Government.
- State of Mississippi. 1994. Regulations for the establishment and maintenance of a statewide childhood immunization registry. October 21. Draft.
- Subcommittee on Michigan Childhood Immunization Registry (MCIR) Requirements. 1997. Decisions of the Advisory Committee on Immunizations Subcommittee on MCIR Requirements: Project update. Available from <http://www.mdmh.state.mi.us>. Accessed Fall 1996–Winter 1997.
- Weissert, Carol S., and Sanford F. Schram. 1996. The state of American federalism, 1995–1996. *Publius* 26: 1-26.