

This article tests the statutory coherence hypothesis, derived from the Sabatier and Mazmanian framework for policy implementation, within the context of the national family planning program. The statutory coherence hypothesis states that effective implementation is a function of the extent to which a statute coherently structures the implementation process. The equitable distribution of statutory benefits is defined as a condition of effective implementation. During the period of study (Fiscal Years 1976-1981), national family planning policy was embedded in four separate statutes. Implementation was operationalized in terms of interstate variation in per capita family planning expenditures under each of the four grant programs. Statutory coherence scores were developed for each of the four enactments. The findings of this study support the statutory coherence hypothesis. Both the theoretical significance and the policy implications of these results are discussed.

TESTING THE STATUTORY COHERENCE HYPOTHESIS The Implementation of Federal Family Planning Policy in the States

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It is a truism that the mere passage of legislation directed toward a public issue does not guarantee intended results. This fact is recognized by scholars, practitioners, and taxpayers alike. Public policies are implemented in complex environments; their implementation is affected by

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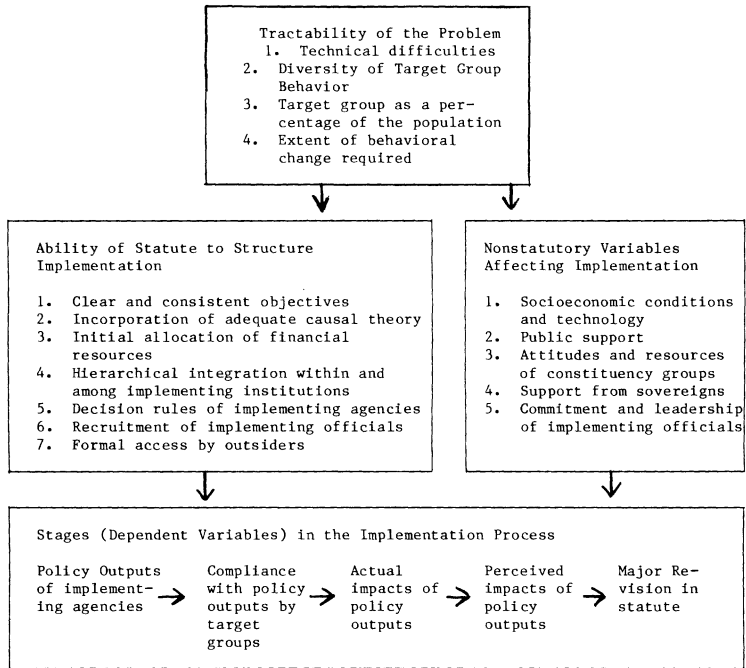


Figure 1: Variables Involved in the Implementation Process.

SOURCE: Sabatier and Mazmanian (1983).

many factors, including socioeconomic conditions, public support, and administrative behavior. This complexity is recognized in the Sabatier and Mazmanian conceptual framework of the implementation process. Indeed, this model comprises sixteen independent variables from three different categories that influence the implementation process (see Figure 1). Despite this complex environment, Sabatier and Mazmanian argue that "the original policymakers can affect substantially the attainment of legal objectives by utilizing the levers at their disposal to coherently structure the implementation process" (Mazmanian and Sabatier, 1983: 25).

What are these levers at the disposal of the original policymakers? In the Sabatier and Mazmanian framework, these elements of statutory coherence include (1) precise and clearly ranked objectives, (2) incor-

poration of an adequate causal theory, (3) provision of adequate funds for implementing organizations, (4) hierarchical integration within and among implementing institutions, (5) favorable decision rules for implementing organizations, (6) commitment of implementing agencies/officials, and (7) opportunities for formal participation by supporters of statutory objectives (Sabatier and Mazmanian, 1981: 3-35; Mazmanian and Sabatier, 1983: 18-48). Indeed, the major contribution of that framework was its attempt to specify a number of legal objectives that could affect the implementation process. The statutory coherence hypothesis can be deduced from this model; that is, effective implementation is a function of the extent to which the above conditions are met (i.e., statutory coherence).

Within most regulatory and distributory policies, there is an inherent assumption, if not an explicit mandate, that implementation will occur evenly across jurisdictions. Although this point is not specifically addressed in the Sabatier and Mazmanian framework, the equitable distribution of statutory benefits or effects generally can be considered a condition of effective implementation. For example, effective implementation of policy in pollution control would imply that similar standards had been enforced throughout the target area. Similarly, effective implementation of a distributory social welfare policy would imply that benefits were equally accessible to all persons in the target population.

The purpose of this article is to test the statutory coherence hypothesis within the context of interjurisdictional variation. Is interjurisdictional variation in program implementation a function of statutory coherence? In other words, can policymakers structure statutes so that interjurisdictional variation in policy outputs is minimized? The first section reviews four empirical studies that have addressed the Sabatier and Mazmanian framework, if not the statutory coherence hypothesis directly. Drawing from the findings of these studies, a policy prototype for testing the statutory coherence hypothesis within the context of interjurisdictional variation is developed. The second section describes the multistatutory national family planning program, a policy area that satisfies the criteria developed in the first section, thus providing a "natural experiment." The third section tests whether interstate variation in policy outputs is related directly to statutory coherence. Finally, the theoretical and policy implications of these findings are discussed.

OTHER EMPIRICAL STUDIES

Several empirical studies have addressed the Sabatier and Mazmanian framework, if not specifically the statutory coherence hypothesis (Sabatier, 1986). Four of these studies are discussed below. Each has provided evidence to support the hypothesis, expanded or clarified the conceptual framework, and contributed to the development of methodology.

The major contribution of the Rosenbaum (1981) study to the statutory coherence hypothesis was methodological. This study compared state wetlands regulation laws and demonstrated that different components of statutory structure were measurable. Ordinal scales for eight statutory variables were constructed and used to rate 16 state laws. The results showed a great deal of variation among the statutes. Even though this study did not test the relationship between variation in statutory structure and variation in implementation outcomes, there was "impressionistic evidence" to indicate support for the statutory coherence hypothesis.

In their study on the local implementation of federal grants for social programs, Browning et al. (1981) assessed implementation in terms of city government responsiveness to the interests of minority groups. By comparing five cities that had a Model Cities program to five cities that did not, they first established that the program created by this federal statute *contributed* to minority mobilization, but was neither "necessary" nor "sufficient" to achieve this legislative goal. In the second part of the study, they tested whether the strength of the statute (i.e., statutory coherence) influenced local implementation by comparing the outputs of implementation of three grant programs, each of which was implemented in five cities. Findings from this phase of the study supported the statutory coherence hypothesis; that is, "grants characterized by strong statutes directed toward benefiting minorities resulted in more effective implementation." However, in terms of the entire framework, Browning et al. pointed out that "local, nonstatutory variables are more important than Sabatier and Mazmanian suggest." In order to assess more completely the effects of statutory coherence, Browning et al. recommended that program results should be studied over time.

Sabatier and Klosterman (1981) tested the statutory coherence hypothesis in a controlled comparison of the implementation of the original McAteer-Petris Act (1965-1968) and its amended version (1970-1972),

which authorized the San Francisco Bay and Conservation Development Commission. The nonstatutory variables remained constant during both periods, thus allowing for a controlled comparison design. Several dependent variables corresponding to different statutory goals were used to represent effective implementation. Again, the statutory coherence hypothesis was largely supported, though they did find "that agency officials are not guided entirely by their legal mandate." Although this study is important both methodologically and theoretically, it did not address interjurisdictional variation in program implementation.

Bullock (1981) examined the Sabatier and Mazmanian model within the context of four different federal programs concerned with equal education opportunities in the public schools: (1) school desegregation in the South, (2) school desegregation in the North, (3) the desegregation of Latinos, and (4) efforts to reduce second-generation discrimination. First, the success of each program in achieving effective implementation was assessed. Next, the extent to which each program satisfied the conditions of effective implementation and tractability was established. Bullock's findings provide support for the statutory coherence hypothesis: "For a number of variables that they (Sabatier and Mazmanian) identified, there does appear to be at least a rough relationship with implementation success." He concluded by speculating about the relative importance of the independent variables, citing four statutory variables as particularly critical: (1) clear standards or objectives, (2) agency support, (3) favorable decision rules, and (4) committed agency officials. Bullock conceded that such speculation was based on intuition; the study design here did not permit the partitioning of statutory effects from tractability and non-statutory variables.

Previous studies have provided support for the statutory coherence hypothesis, but none of these has treated interjurisdictional variation as a condition of effective implementation. An ideal test of the statutory coherence hypothesis within the context of interjurisdictional variation should be conducted on a tractable policy area that has been addressed by several statutes over the same period of time and implemented in different jurisdictions. Within jurisdictions, each of the statutes should face similar nonstatutory pressures. This design would allow the partitioning of effects according to the degree of statutory coherence.

TABLE 1

Study	Design	Instrumentation	Relationship of Findings to Statutory Coherence Hypothesis	Implications for Sabatier and Mazmanian Framework
Rosenbaum	Comparison of wetlands regulation laws in 16 states.	Eight variables to assess statutory structure—each with four ordinal measures.	Hypothesis supported by "impressionistic evidence."	Introduces (1) principle of specificity and (2) principle of enforceability for construction of regulatory statutes.
Browning et al.	Two comparisons: (1) five cities implementing one statute (model cities), (2) comparing five cities with statutory programs (model cities) to five without programs.	Statutory structure measured by single variable with dichotomous measure (i.e., more federal control and less federal control). Dependent variable: one goal specified (responsiveness to minorities).	Hypothesis supported though "nonstatutory variable are more important than Sabatier and Mazmanian suggest."	Extension of Sabatier and Mazmanian framework to distributory policy and to "micro-implementation" by a subordinate or local government.

Sabatier and Klosterman	Controlled comparison of implementation of a statute in one period with implementation of amended statute in another period with nonstatutory variables held constant.	Independent variables: six conditions of effective implementation—three statutory and three nonstatutory, each with six ordinal measures. Dependent variables: Several goals were specified and tested. Uses 12 independent variables to compare the implementation of four different programs.	Hypothesis was largely supported.	Empirical validation of the Sabatier and Mazmanian framework within the context of a regulatory policy. Also indicates that agency officials are not always guided by their legal mandate.
Bullock	Comparison of four equal education opportunity programs.		Hypothesis was supported, though design did not permit separation of the effects of statutory, nonstatutory, and tractability variables.	Speculation about the relative importance of the statutory variables.

THE FEDERAL FAMILY PLANNING PROGRAM

The federal family planning program provides an example of a tractable policy area that has been addressed by several statutes over the same period of time and implemented in several jurisdictions. Moreover, each statute faced similar nonstatutory pressures with respect to family planning as did the other statutes being implemented in the same state. From fiscal years 1976-1981, national family planning policy was embedded in four separate statutes: Title V of the Social Security Act (the maternal and child health block grant); Title X of the Public Health Service Act (originally the Family Planning and Population Research Act of 1970); Title XIX of the Social Security Act (Medicaid); and Title XX of the Social Security Act (the social services block grant). Each of these statutes was implemented in all of the states.¹ Characteristics of each of these statutes are summarized in Table 2. Among these four statutes, there were different mandates for grant mechanisms, administrative authority, and responsibilities for the states. Table 3 shows the dollar and percentage contributions of each of these statutes to all federal expenditures for family planning.

THE STATUTES

Title X was enacted in December 1970. Although it was authorized at a level at which it would dominate other federal funding sources, clearly Congress did not intend for Title X alone to achieve the national goal of ensuring that family planning services and information would be made available to all Americans. Instead, Title X was intended to spearhead that effort. This statute established an Office of Population Affairs (OPA) that was intended to serve as "a primary focus within the Federal Government on matters pertaining to population research and family planning." The OPA was to be under the direction of a Deputy Assistant Secretary for Population Affairs (DASPA) who would carry out the secretary's² functions with respect to family planning services and planning research (U.S. Office of Population Affairs, 1979). Congressional intent was clear—a single national policy was to be implemented through several federal statutes. During the period of study, Title X funds composed between 34 and 48% of all federal expenditures for family planning. This legislation mandated federal administration of the family planning

TABLE 2

Major Statutes Authorizing Federal Funding for Family Planning Services (Fiscal Years 1976-1981)

Statute	Dates Specific Family Planning Provisions in Effect	Grant Mechanism	Notes
Title X, Public Health Service Act	FY 71 - FY 81	Project grants administered by regional offices of the Public Health Service.	
Title V; Social Security Act	FY 67 - FY 81	Formula grants to the states administered by state health department.	FY 68-81 Requirement that 6% of all MCH funds nationally (not on an individual state basis) be spent on family planning.
Title XIX, Social Security Act	FY 67 - FY 81	Reimbursement of providers for individual services. Federal government shares states' expenditures at different rates of individual states according to a formula included in the statute.	No federal ceiling on Title XIX expenditures FY 72-81: 90% federal match for family planning services.
Title XX, Social Security Act	FY 76 - FY 81	Federal government reimburses states for services at 75% of cost up to a ceiling based on state population.	FY 76-81: 90% federal match for family planning. 1% penalty for failure to provide family planning services to AFDC recipients.

TABLE 3
**Expenditures for Family Planning Services by Source of
 Funding (\$ million) and Percentage^a Contribution to Federal
 Outlays (Fiscal Years 1976-1981)**

	1976	1977	1978	1979	1980	1981
Title V	\$ 20.2 (8%)	\$ 24.1 (8%)	\$ 19.4 (6%)	\$ 20.3 (7%)	\$ 21.4 (7%)	\$ 22.2 (6%)
Title X	\$ 89.0 (36%)	\$105.7 (34%)	\$129.1 (43%)	\$126.7 (42%)	\$152.2 (48%)	\$150.9 (44%)
Title XIX	\$100.2 (40%)	\$127.4 (41%)	\$ 83.0 (28%)	\$ 74.4 (25%)	\$ 69.1 (22%)	\$ 89.7 (26%)
Title XX	\$ 39.6 (16%)	\$ 53.5 (17%)	\$ 68.7 (23%)	\$ 78.1 (26%)	\$ 72.8 (23%)	\$ 78.8 (23%)
Total	\$249.0	\$310.7	\$300.2	\$299.5	\$315.5	\$341.6

SOURCE: The Alan Guttmacher Institute

a. Because of rounding, percentages may not sum to 100%

services grants. These grants were monitored by the 10 regional offices of the Public Health Service, which awarded grants on a competitive basis to projects that ranged in size from single clinic sites to statewide programs. The role of state governments was not specified here, although state agencies (e.g., state health departments) were certainly eligible to apply for and compete with other state agencies for family planning service grants.

Title V of the Social Security Act contributed between 6 and 8% of all federal family planning funds for each of the years of the study. This statute required that these formula funds be awarded to state health departments, and also stipulated that nationally at least 6% of all Title V service funds had to be spent on family planning. Because the 6% requirement did not apply to individual state Maternal and Child Health block grants, state health departments had almost complete discretion in how these funds were to be spent.

Title XIX of the Social Security Act (Medicaid)—legislation intended to make health care more accessible for low-income persons—was passed in 1965. Under this program, the federal government reimbursed states

for medical services provided to eligible persons. The federal reimbursement rate was determined by a complex formula that established different reimbursement rates for individual states ranging from 50 to 83%. In 1972, Congress enacted two important changes designed to encourage states to fund family planning services through this program. First, family planning was made a required service for all state Medicaid plans. Second, the rate of federal reimbursement to all states for family planning services was increased to 90%. During the period of study (FY 76-81), Medicaid accounted for 22 to 41% of all expenditures for family planning services. Medicaid funds were administered by state-designated agencies, usually welfare departments. Overall, states had a great deal of discretion in how to treat family planning under the Medicaid program; each state determined its eligibility criteria and defined what services family planning would comprise.

Title XX of the Social Security Act, the Social Services block grant, was enacted in 1975 and implemented in fiscal 1976, replacing Title IV-A. Through this mechanism, federal funds for social services were awarded to states based on their respective populations. As with Title XIX, family planning was a required service, and such services purchased through this mechanism received a favorable federal match. Whereas all other services (except for day care) were reimbursed by the federal government at 75% of the cost to the states, reimbursement for family planning was 90%. From 1976 to 1981, Title XX funds accounted for 16 to 26% of all federal expenditures for family planning. States had many options in the implementation of this program, including determination of eligibility and the range of services to be provided.

TRACTABILITY

By 1976, family planning could be considered a tractable social issue. Tractability refers to the solvability of the problem being addressed, including (a) technical difficulties, (b) diversity of proscribed behavior, (c) the percentage of the total population that the target group represents, and (d) the extent of behavioral change required. First, contraceptive methods were highly effective (Hatcher et al., 1980: 4). Second, there were widely accepted professional standards for the range of social and clinical services that family planning comprises (Hatcher et al., 1980). Third, the use of reliable contraceptive methods was widespread among

middle- and upper-income families (Westoff and Ryder, 1969); therefore, the target population for public programs was easily defined. Moreover, most low-income women wanted to control their fertility, and they did so if services and information were made available (Dryfoos, 1973).

NONSTATUTORY VARIABLES

To a large extent, the nonstatutory variables that affected the implementation of family planning policy were the same within each state. Obviously, there were marked differences among the states in socioeconomic conditions; in public support for family planning; in the attitudes and resources of constituency groups, especially religious groups (National Council of Churches, 1980); in support from sovereigns;³ and in the commitment and leadership skill of implementing officials. However, *within* individual states, nonstatutory factors that influenced family planning implementation were focused more on the issue itself than on individual statutes. At the state level, active constituency groups both supported and opposed family planning. Both types of groups were aware of the multistatutory structure of family planning policy; the national advocacy and opposition groups regularly provided information and tactics to state groups. Moreover, the state laws that influence the implementation of federal family planning policy were directed toward the issue and not toward individual federal statutes (Bush, 1983). With a less controversial topic, one might have expected that the nonstatutory variables affecting each of the statutes would have been relatively more influential in program implementation. However, family planning was a very salient issue; its implementation did not often reflect the incrementalism of other policies.

APPLICATION OF THE SABATIER AND MAZMANIAN FRAMEWORK

Because the tractability and nonstatutory variables were relatively constant within individual states, the national family planning program provided the basis for a quasi-experiment⁴ with which to test the effect of statutory construction on program implementation. Specifically, the

hypothesis that was tested was that interstate variation in program implementation is a function of statutory coherence.

THE DEPENDENT VARIABLE: INTERSTATE VARIATION

The singular most important goal in U.S. family planning policy was to make family planning services available to all Americans who would not otherwise receive them (PL 91-572). Since most middle-class persons already had access to affective contraception (U.S. Commission on Population Growth and the American Future, 1972), this policy was directed toward low-income persons, who in the absence of a government program would not have received these services. "Making services available to all Americans who would not otherwise receive them" implied that services would be distributed similarly across jurisdictions to low-income Americans. In other words, if the policy were implemented effectively, low-income persons in one state would be just as likely to receive publicly subsidized family planning services as those in another state.

Target populations for publicly subsidized family planning services were estimated for every state using a well-defined and widely accepted methodology. These target populations, usually called "women in need" (WIN), are composed of low-income,⁵ fecund, sexually active women who do not have access to other family planned services. "Met need" refers to the percentage of WIN who are served by an organized family planning program (Dryfoos, 1973, 1975).

An ideal way to compare how effective each statute was in producing equitable results among the states would be to analyze the variance in states' met needs by statutes. However, data are not available for publicly subsidized patients served by source of funding (McFarlane, 1987). In fact, most family planning providers had multiple sources of funds that were combined at the project level, so that individual patients were often supported by a mix of funds.

Expenditures for family planning were available by state (McFarlane, 1985). Because funds are spent largely for low-income women (Torres and Forrest, 1985), expenditures per woman in need were a good proxy for program effort. The variance in state expenditures per woman in need by source of funding would measure the effectiveness of each statute in producing equitable results among the states. This measure represents the

TABLE 4
**State Family Planning Expenditures per Woman in Need
 (Fiscal Year 1978)**

State	Title V	Title X	Title XIX	Title XX
Alabama	\$0.46	\$20.16	\$4.40	\$0.25
Alaska	1.90	25.70	18.20	0.00
Arizona	8.35	37.29	0.00	5.92
Arkansas	0.15	26.49	1.40	1.51
California	0.11	17.68	19.05	7.84
Colorado	0.89	19.55	7.38	0.76
Connecticut	1.27	25.80	7.41	17.65
Delaware	0.93	32.14	9.64	2.00
Florida	1.71	18.91	3.14	20.78
Georgia	1.27	19.84	7.98	7.54
Hawaii	8.32	40.86	26.73	27.64
Idaho	3.46	19.69	3.50	16.96
Illinois	4.51	18.94	16.88	9.58
Indiana	12.84	22.12	12.96	1.32
Iowa	2.03	19.36	15.58	6.89
Kansas	0.82	20.00	8.78	2.21
Kentucky	2.57	19.73	10.48	2.25
Louisiana	7.07	7.21	7.48	12.59
Maine	0.00	19.34	20.29	13.77
Maryland	3.38	19.69	22.07	9.17
Massachusetts	0.79	23.86	15.28	4.31
Michigan	4.09	23.28	45.29	1.81
Minnesota	3.68	16.50	18.43	2.13
Mississippi	0.38	20.07	87.52	4.80
Missouri	3.08	23.56	7.08	13.61
Montana	2.52	34.48	7.24	10.20
Nebraska	5.02	25.40	7.82	0.44
Nevada	0.77	49.08	16.00	3.69
New Hampshire	0.88	24.00	10.18	31.29
New Jersey	3.19	32.39	19.61	45.65
New Mexico	N.A.	37.77	1.46	9.43
New York	1.73	18.34	23.23	3.91
North Carolina	2.24	16.94	8.55	15.53
North Dakota	1.38	23.21	4.42	1.79
Ohio	6.07	20.08	15.40	8.00
Oklahoma	7.76	26.29	2.15	0.30
Oregon	3.84	21.12	24.05	37.17
Pennsylvania	1.94	23.32	6.17	11.64
Rhode Island	0.26	14.17	19.00	5.26

TABLE 4 Continued

State	Title V	Title X	Title XIX	Title XX
South Carolina	2.58	27.47	11.39	7.11
South Dakota	0.71	19.86	2.82	0.25
Tennessee	2.60	21.70	13.97	14.28
Texas	6.66	19.60	5.70	30.42
Utah	0.00	23.46	5.89	1.03
Vermont	0.07	25.71	64.29	20.43
Virginia	2.88	12.61	7.52	24.23
Washington	2.53	50.28	21.18	3.78
West Virginia	0.00	13.92	3.50	12.22
Wisconsin	8.47	13.41	30.80	2.64
Wyoming	0.60	36.40	6.10	5.10

first variable in the five stages of implementation in the Sabatier and Mazmanian model.

Within each of the statutes, there was a great deal of variation in adjusted state expenditures for family planning. Table 4 shows these expenditures by state for fiscal 1978. Title V family planning expenditures per woman in need range from 0 in two states (Maine and West Virginia) to \$12.84 in Indiana. Title X adjusted expenditures were lowest in Louisiana (\$7.21) but rose to \$50.28 per woman in need in the state of Washington. Under Title XIX, nine states spent less than \$5.00 per woman in need (Arizona, Arkansas, Florida, Idaho, New Mexico, North Dakota, Oklahoma, South Dakota, and West Virginia), while nine spent more than \$20.00 (Hawaii, Michigan, Mississippi, New York, Oregon, Vermont, Washington, and Wisconsin). Title XX showed a similar range: Five states spent less than \$1.00 per WIN on family planning (Alaska, California, Nebraska, Oklahoma, and South Dakota), while five states spent more than \$25.00 (Hawaii, New Hampshire, New Jersey, Oregon, and Texas).

The overall variation in state family planning expenditures per respective target population is shown in terms of coefficients of variation in Table 5 (Ott, 1977).⁶ The larger coefficients show more variation in state-adjusted family planning expenditures than do the smaller ones. Title X consistently showed the least variation in all the years of the study,

TABLE 5
**State Family Planning Expenditures per Woman in Need
 (Fiscal Years 1976-1981): Coefficients of Variation and Mean
 Expenditures**

Title	1976	1977	1978	1979	1989	1981	1976-1981
Title V	n = 48 100.2 \$3.29	n = 47 104.4 \$3.46	n = 49 99.6 \$2.83	n = 44 100.0 \$3.59	n = 49 117.8 \$3.14	n = 49 140.8 \$3.51	110.5 \$3.30
Title X	n = 50 35.8 \$16.08	n = 50 34.8 \$19.85	n = 50 36.1 \$23.78	n = 50 36.9 \$22.84	n = 50 34.3 \$27.75	n = 50 29.4 \$27.44	34.6 \$22.96
Title XIX	n = 50 103.3 \$13.34	n = 50 108.2 \$17.50	n = 50 105.6 \$14.71	n = 44 123.3 \$14.88	n = 44 88.5 \$10.48	n = 44 88.3 \$13.71	102.9 \$14.10
Title XX	n = 41 118.8 \$7.58	n = 42 92.4 \$9.65	n = 50 104.3 \$9.98	n = 46 111.8 \$11.63	n = 49 99.9 \$9.67	n = 49 104.0 \$10.23	105.2 \$9.79

SOURCE: Alan Guttmacher Institute

with its coefficients of variation ranging from 29.4 in fiscal 1981 to 36.9 in fiscal 1979.

THE INDEPENDENT VARIABLES: STATUTORY COHERENCE

While recognizing the many factors not related to the actual construction of policies affect the attainment of policy objectives, Sabatier and Mazmanian have argued that the characteristics of the policies themselves greatly influence the attainment of policy objectives. These characteristics are divided into seven policy variables: (1) precise and clearly ranked objectives (2) incorporation of adequate causal theory, (3) adequate funding, (4) hierarchical integration, (5) favorable decision rules, (6) committed implementing officials, and (7) formal access by supportive outsiders. The following section discusses each of the statutory variables and measures whether or not the statutes adhere to the concepts associated with these variables. It should be noted that measures were

developed so that the criterion that reflected more statutory coherency was assigned the higher score.

(1) *Precision and clear ranking of policy objectives.* The first concept underlying this statutory variable is the precision of policy objectives. Clear objectives "serve as a resource to actors both inside and outside the implementing institutions who perceive discrepancies between agency outputs and those objectives" (Mazmanian and Sabatier, 1983: 25). For example, the implementation of a family planning program would be subject to much less interpretation by the implementing agencies if the target population, services to be provided, and eligibility criteria were specified in the legislation. The indicators and concomitant measures for this dimension of the variables are the following:

Precision of Policy Objectives

Target Population	Specified (1)	Not Specified (0)
Eligibility	Specified (1)	Not Specified (0)
Services to be Provided	Specified (1)	Not Specified (0)

Closely related to the specificity or precision of statutory objectives is the ranking that the new objectives are given within the totality of the implementing agency's programs. "If this is not done, the new directives are likely to be delayed and accorded low priority as they are incorporated into the agency's programs" (Mazmanian and Sabatier, 1983: 25-26). This dimension of the variable is measured below.

Agency Ranking

Specified (1)	Not Specified (0)
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In spite of the conceptual importance of the ranking concept, none of the four statutes specified a ranking for family planning. The closest that any of these came to the inclusion of the ranking concept was Title V, which required that 6% of the total amount appropriated under this statute must be spent for family planning services. The 6% applied to the program nationally, not on a state-by-state basis. Effectively then, individual state health departments did not have to assign a specific ranking to family planning.

(2) *Adequacy of causal theory.* The second variable utilized in the test of the structural coherency of the pertinent statute is the validity of the causal theory incorporated into the statute.

An adequate causal theory requires that 1) the principal causal linkages between government interventions and the attainment of program objectives be clearly understood, and 2) that the officials responsible for implementing the program have jurisdiction over a sufficient number of critical linkages to actually attain the objectives [Mazmanian and Sabatier, 1983: 26-27].

The feasibility of the objectives of each statutes is the first dimension of this variable. This concept was measured as follows:

Casual Linkages

Well Understood (1)

Not Well Understood (0)

The causal linkages between Title X and the attainment of program objectives were well understood. One of the major objectives of the Title X legislation was to make "comprehensive, voluntary family planning available to all persons" (PL 91-572). Contraceptive technology was very effective by 1970, and at that time, there was already much evidence to show that low-income women in the United States would utilize birth control if family planning services were made available (Harkavy et al., 1969).

With the exception of Title XIX, the linkage between government intervention and the attainment of program objectives was not as well understood for the other statutes. The purpose of the Title V was "to extend and improve the . . . services for reducing infant mortality and otherwise promoting the health of mothers and children." The causal linkages for health alone are not well established, much less what the most effective government intervention would be. Title XX, which incorporated and revised the social service program formerly authorized under Title IV-A, was enacted to enable the poor or near poor to remain or become self-sufficient. Like many antipoverty programs, the causality chain was not well understood (Manhattan Institute, 1985). Finally, the purpose of Title XIX (Medicaid) was to pay for medical care for certain characteristics of individuals. There was no complex chain of causality here—the state simply paid for specific health services for certain categories of impoverished persons (Alan Guttmacher Institute, 1979).

Whether or not officials have jurisdiction over a sufficient number of the critical linkages actually to attain the objectives was the second concept in the causal validity variable. Although this is a logical deduction

from the first concept (whether or not the principal causal linkages between government objectives and the attainment of program objectives is well understood), it cannot be measured when the chain of causality itself is not understood. Because this concept was applicable only to two of the four statutes, no measure was developed.

(3) *Adequate funding.* Money is obviously important for any program. In general, a threshold level of funding is necessary if there is to be any possibility of achieving policy objectives. An inadequate level can doom a program before it begins. Conversely, an adequate level can help, but it cannot guarantee that a program gets off to a decent start (Mazmanian and Sabatier, 1983: 26). Normally, the operationalization of financial resources would be construed as the total or the adequacy of the financial government to the states. However, this measure is very close to the dependent variable, that is, expenditures per woman in need. This case suggests a revision in the Sabatier and Mazmanian framework: In cases in which the principal policy output is per capita expenditures, then financial resources should be omitted as an independent variable.

(4) *Extent of hierarchical integration within and among implementing agencies.* One of the best-documented findings in the implementation literature is the difficulty of obtaining coordinated action within any given agency and among the numerous semiautonomous organizations involved in implementation efforts. This problem is especially acute in the federal policies that rely on state and local organizations for carrying out the details of program delivery in a very heterogeneous system (Sabatier and Mazmanian, 1981: 11-12). This decentralized approach to the implementation of a national policy means that another layer of bargaining, hence contingencies, is introduced (Stein, 1984).

Title X awarded grants directly to family planning projects, while the other three statutes were mandated to fund state agencies. *Ceteris paribus*, one would expect more variation in the implementation of programs administered by 50 state agencies than those that are federally administered. This variable was measured as follows:

State Administration Mandated

No (1) Yes (0)

(5) *Favorable decision rules.* In addition to providing clear and consistent objectives, few veto points, and adequate incentives for compliance, a statute can further the implementation process by stipulat-

ing the formal decision rules of the implementing agencies (Mazmanian and Sabatier, 1983: 27-28). The cumbersome registration procedures and eligibility criteria of many health care providers deter many low-income women from seeking or returning to family planning services (Reynolds, 1970). Moreover, many low-income women, especially very young women (who compose a significant proportion of the target population) have difficulty documenting income levels. Two of the enactments recognized these difficulties and addressed them in their regulations for implementing agencies. Title X mandated that agencies cannot deny services to anyone on the basis of age, marital status, or income. Title XX regulations allowed eligibility to be established by the mere declaration of low income by the applicant. This variable was measured below.

Favorable Decision Rules

Yes (1)

No (0)

(6) *Assignment to implementing agencies/officials committed to statutory objectives.* No matter how well a statute structures the formal decision process, the attainment of its objectives is unlikely unless officials in the managing organizations are strongly committed to the attainment of those objectives. While recognizing that "there are a number of ways in which the framers of statutes can reasonably assure that implementing officials have the requisite commitment to statutory objectives," Sabatier and Mazmanian emphasize assignment to agencies the organizational goals of which are consistent with the policy that therefore will give the new program high priority. The likelihood of an implementing agency having goals that are consistent with the statute is maximized when a new agency is created specifically to administer the statute. Similarly, the assignment of implementation to a prestigious existing agency that perceives the mandate to be compatible with its traditional orientation will also contribute to effective implementation (Mazmanian and Sabatier, 1983: 28).

Only one of the four statutes, Title X, permitted the assignment of funds to new agencies. Moreover, Title X grants were awarded to agencies on a competitive basis. This type of administrative arrangement enhanced the opportunity for agencies and officials whose goals were consistent with Title X actually to implement this program. Title V had to be administered by state health departments, Title XX mandated administration by state welfare departments, and states had the option of adminis-

tering Title XIX through either their welfare or health departments. For the most part, neither state health nor state welfare departments were supportive of family planning (Weinberg, 1974), thus they were unlikely to recruit officials that were strongly supportive of this program. This dimension was scored (0) if there was no opportunity for assignment to a new agency, and (1) if there was an opportunity for assignment to a new agency.

(7) *Formal access by outsiders.* Not only can a policy structure the implementation process through the design characteristics of implementing organizations, but it can also affect the participation of two groups of actors external to those institutions: "(a) the potential beneficiaries and target groups of the program, and (b) the legislative, executive, and judicial sovereigns of the agencies" (Mazmanian and Sabatier, 1983: 28-30). Of the four statutes, only Title X was biased toward supporters of statutory objectives. At the project level, Title X requires that consumers make up at least 50% of the policymaking board. On the national level, Title X requires that a 5-year report be sent to Congress each year giving the program visibility and maintaining the oversight of the legislative "sovereigns." This access concept was measured as follows:

<i>Access for External Supporters</i>	
Yes (1)	No (0)

A composite statutory coherence score was developed from the weighted measures of each of the statutory variables. Because the first variable had more than one measure, these measures have been adjusted so that each statutory variable is given equal weight. Title X received the highest statutory coherence score (5.75), followed by Titles XX, XIX, and V.

TESTING THE STATUTORY COHERENCE HYPOTHESIS

The statutory coherence hypothesis states that effective implementation is a function of the extent to which a statute coherently structures the implementation process. Interstate variance in per capita family planning expenditure under each of the four statutes was used to assess outputs of the implementation process. The weighted scores for statutory coherence are shown in Table 6. The statutory coherence hypothesis suggests the following operational hypothesis: *

TABLE 6
Statutory Coherence Scores for Titles V, X, XIX, and XX (Fiscal Years 1976-1981)

Statutes	1		2	3	4	5	6	Total
	Precision and Clear Ranking	Total						
Title V	0 0 0 0	0	0	0	0	0	0	0
Title X	1 0 0 0	.25	1	1	1	1	1	5.25
Title XIX	0 0 0 0	0	1	0	0	0	0	1
Title XX	0 0 0 0	0	0	0	1 ^a	0	0	1

a. Implemented in 1977

An inverse relationship should exist between measures of statutory coherence and interstate variation in implementation.

FINDINGS

The results of linear bivariate regression ($R^2 = .88$) showed a significant relationship between the statutory coherence scores and the coefficients of variation. In this case, statutory coherence was a powerful predictor of subsequent implementation. The Bonnferroni test demonstrated a significant difference ($\alpha = .05$) between the coefficients of variation measuring Title X implementation and those for Titles V, XIX, and XX. However, no significant difference was detected among the latter three. In other words, the policy outputs of Title X—the most coherent statute—were much more evenly distributed among the states than were the policy outputs of Titles V, XIX, and XX.

DISCUSSION

The findings of this study support the statutory coherence hypothesis, specifically that the extent of interstate variation in the implementation of federal statutes is a function of the extent to which different statutes have coherently structured the implementation process. Among the four grant programs analyzed, the statute showing the most coherence, Title X, also demonstrated significantly less variation in implementation outputs than did the others. Before discussing the significance of these findings, two caveats in the study design are addressed.

First, this study focused on the first of five dependent variables in the Sabatier and Mazmanian model, the policy outputs of implementing agencies. Expenditures per woman in need were used to measure policy outputs because (1) the data were available, and (2) they were substantively linked to the second and third stages in the implementation process. Even though it represents only the first of five stages of implementation, the measure used here was an important and tangible precursor to the following stages.⁷

Second, the quasi-experimental design utilized by this study was based on two major assumptions: (1) that family planning was a tractable issue, and (2) that within individual states, nonstatutory variables were relative-

ly constant for the different statutes. The tractability of family planning has been demonstrated both technologically and programmatically (Hatcher et al., 1980; Cutright and Jaffe, 1976). During the period of study, family planning issues were highly politicized around the issues, not around individual statutes. It is conceivable that nonstatutory variables may have varied for different statutes within the same state, but our assertion remains that this situation would be an exception and not the norm. Even if the nonstatutory consistency assumption is relaxed, the relationship between interstate variation and statutory coherence is too strong to reject the statutory coherence hypothesis.

SIGNIFICANCE OF STUDY TO FRAMEWORK

Not only does this study contribute additional support for the Sabatier and Mazmanian model, it also expands the application of the model. First, this is only the second quantitative test of the statutory coherence hypothesis; the first was the Sabatier and Klosterman study of the San Francisco Bay and Conservation Development Commission. Second, it is the first quantitative test of this hypothesis across a large number of jurisdictions. Third, the concept of effective implementation has been extended to include how evenly benefits are distributed. Interjurisdictional variation is an important component of effective policy implementation. Policymakers are concerned not only with the quantity of policy outputs, but also in how evenly benefits are distributed or regulations are enforced. Fourth, this study applies the statutory coherence hypothesis in the context of interjurisdictional variation to distributory policy at the federal level. Apparently, national policymakers can influence how evenly benefits are distributed to the target populations in the states.

METHODOLOGICAL ISSUES

While these findings strongly support the statutory coherence hypothesis, this study also underscores the need for further development of the Sabatier and Mazmanian conceptual framework. As other researchers have reported (Browning et al., 1981: 143), the operationalization of several of the independent variables was problematic. Admittedly, the measures utilized were crude, for example, the aggregate statutory coherence scores did not show a difference between Titles XIX and XX.

Moreover, there is considerable distance between the measures employed and the broad concepts embodied in the statutory variables. In this case, the results are clear enough so that these issues do not pose a serious validity problem for the study. Nevertheless, further refinement is needed. As discussed earlier, Rosenbaum's work on scaling regulatory policies is very promising; hopefully, it will be extended to distributory policies.

Several other issues that arose from the application of this model to the family planning policy area merit discussion. First, the initial allocation of financial resources probably should be omitted as an independent variable in cases in which the principal policy input is per capita grant expenditures. Had the principal policy output been defined in other than fiscal terms, then the operationalization of the independent variable could have been construed as the total or adequacy of the financial resources to each state. However, this would have been very close to the dependent variable, state family planning expenditures per woman in need. A related issue is how to define an adequate initial allocation in the case of block grants in which the federal government provides a large grant for many services to the states, but actual program budgets are determined at the implementing agency level. Second, the provision of technical assistance and/or staff training may be an important component of statutory structure, especially in new and innovative programs, and perhaps should be considered for inclusion in the Sabatier and Mazmanian framework. For example, the Title X legislation had budgeted line items for each of these. Our impression is that staff training and technical assistance were most important during the early years of the program when few persons in the states had the necessary training or expertise to implement family planning services.

POLICY IMPLICATIONS

In addition to their theoretical and methodological significance, these findings also have policy implications. Recognizing that many factors affect implementation, policymakers do have a substantial capacity to influence policy outputs. Other studies have shown that statutory construction influences the *amount* of policy output produced or the overall extent of compliance achieved. The results of this study indicate that policymakers can influence the *distribution* of policy outputs, a central concern in many federal programs.

The measurement issues discussed earlier precluded the determination of the relative priority of the statutory variables. Knowledge of which variables are most important for effective policy implementation would, of course, be valuable information for policymakers. We would speculate that clear objectives and hierarchical integration are especially important. We conclude that carefully structured federal legislation is more likely to produce the desired national outputs—in this case, the even distribution of program benefits—than will the more flexible grant programs that encourage states to develop their own priorities.

NOTES

1. The only exception here was Arizona, which did not have a Title XIX (Medicaid) program during the period of study.

2. "Secretary" refers to the Secretary of the Department of Health, Education, and Welfare, now the Department of Health and Human Services.

3. "Sovereigns" are the institutions that control the legal and financial resources of the implementing agency. "They will normally include the legislature (and more specifically, the relevant policy and fiscal committees); the chief executive; the courts; and in intergovernmental programs, hierarchical superior agencies." A sovereign may also be an individual, called a "fixer" such as "an important legislator or executive official who controls resources important to crucial actors and who has the desire and the staff resources to monitor closely the implementation process and to intervene on an almost continuous basis" (Mazmanian and Sabatier, 1983: 33-34).

4. There are three prominent characteristics of quasi-experimental designs (Caporaso, 1973; Deniston, 1974): (1) to approximate or simulate manipulation, (2) to provide controls for confounding variables, and (3) to probe the data for causal dependencies.

5. Low-income usually refers to persons living at or below 150% poverty.

6. The coefficient of variation is the standard deviation divided by the population mean (o/u); a statistic that allows the comparison of the variances of populations with different means. This statistic is required here because each of the four statutes has a different national appropriation (Ott, 1977).

7. As discussed earlier, data were unavailable to show patients served by source of funding (i.e., statute). Family planning expenditures per woman in need are a tangible policy output of implementing agencies (Stage 1), as well as a precursor to both compliance with policy outputs by target groups (Stage 2) and actual impacts of policy outputs (Stage 3). The linkage between family planning expenditures and Stage 2 is supported by the fact that over 80% of all publicly subsidized family planning patients are at or below 150% of the poverty level (Alan Guttmacher Institute, 1982: 95). The linkage between Stages 2 and 3 has also been demonstrated (Cutright and Jaffe, 1976).

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