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MODELS OF ILLEGITIMACY: UNITED STATES, 1969

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Abstract—Three theoretical perspectives on illegitimacy, the anomic, the subgroup, and the demographic, are reviewed and compared. A composite causal model is then developed and estimated using areal data derived from the 1970 U.S. Census. While theoretical nonspecificity disallowed a definitive test, all three perspectives yielded valuable insight into the complex mechanisms underlying illegitimacy rates. Results indicate that variation in illegitimacy rates is systematically related to variation in social structure and that integration of the three positions should prove useful to further research.

Studies of illegitimacy in the United States have been guided by a succession of theoretical perspectives. This article reviews three such perspectives and discusses historical shifts in the factors believed to influence illegitimacy rates.

After a period of early studies which interpreted illegitimacy as evidence of genetic inferiority or moral degeneration, writers began to examine relationships between environmental conditions and illegitimacy rates (Hankins, 1932; Vincent, 1961: Chapter 1; Kronick, 1966; review these trends). This initial perspective developed by social scientists related deteriorating social and economic conditions to a decline in the influence of sociocultural norms and values that otherwise would limit nonmarital sex (Reed, 1934; Frazier, 1939). Durkheim (1951) termed the social condition in which individuals are released from the restraining influence of social controls as one of "anomie."

The anomic perspective emphasized migration from stable rural communities to rapidly expanding urban areas, unstable economic conditions, and increased marital dissolution. These key social processes were linked by Durkheim and later Frazier to the breakdown of traditional normative order which upheld controls that limited premarital sexual activity and assured the marriage of pregnant unmarried women prior to delivery (Petersen, 1960). Frazier (1939), analyzing post-Civil War trends in black illegitimacy, focused on family and community stability as critical variables. Stability linked the individual to primary and secondary social groups thereby increasing the salience of traditional norms that restricted nonmarital coitus for women; for men, these norms emphasized personal responsibility for contraception and possibly for marriage if pregnancy occurred. In sum, the anomic theory of illegitimacy stated that aggregate social conditions which disrupt the proscriptive power of stable family and community institutions will increase rates of illegitimate births.

The subcultural perspective was derived from studies of lower-class and minority subgroup behavior (Whyte, 1943; Myrdal, 1944; Rodman, 1966). It related higher rates of illegitimacy among lower than higher status subgroups to differences between middle and lower-class norms concerning nonmarital sexual behavior and illegitimacy. This model viewed rates of nonmarital births as influenced *not* by a breakdown in normative order but by

conformity to specific subcultural norms related to nonmarital sexual activity, contraception, abortion, and forced marriage (Rainwater, 1960, 1965; Kantner and Zelnik, 1969; Zelnik and Kantner, 1970). Low levels of integration with the majority normative order were believed to preserve norms at odds with those professed by the dominant class, thus perpetuating higher illegitimacy rates among lower-than-middle income groups, among nonwhites compared to whites, and among isolated or unintegrated urban subgroups compared to stable, rural populations (Cutright, 1972: Table 30).

The third perspective examined is a demographic model of illegitimacy. Within this framework, aggregate socioeconomic factors influence nonmarital fertility by affecting rates of sexual activity and the degree of "contraceptive vigilance" (Ryder, 1974) in the unmarried population. For example, an economic factor believed to influence illegitimacy by increasing rates of unprotected coitus is the Aid to Families with Dependent Children (AFDC) program (Kallen and Miller, 1971; Cutright, 1973: Tables 15, 16, and 17; Sklar and Berkov, 1974; Placek and Hendershot, 1974; Winegarden, 1974; Presser and Salsbury, 1975). Hypothesized aggregate effects are ultimately traced to individual level influences on the utility of out-of-wedlock births. The model also relates rates of illegitimacy to the availability of non-familial roles that provide alternatives to motherhood (Easterlin, 1975; Scanzoni, 1975; Cutright and Polonko, 1977), knowledge of reproduction, and availability of modern contraceptive methods (Ryder, 1973; Westoff, 1976). These variables in turn are viewed as determined by the socioeconomic structure of the community, the delivery of birth control services by organized medicine (Cutright and Jaffe, 1977), the population's norms concerning nonmarital sex, the use of different birth control methods, and the social stigma attached to failure to legitimate an out-of-wedlock pregnancy by marriage.

Clearly, these three perspectives have substantial overlap amongst them. Many differences in emphasis are traceable to the relative position of the observer. For example, what may appear to an outsider as a breakdown in social control may be viewed by subgroup members as conforming behavior to a competing set of norms. Thus, while both the anomic and subgroup perspectives add valuable insight to the causal structure of illegitimacy, they are not mutually exclusive. The demographic viewpoint seeks to avoid many of the arguments between anomic and subgroup theorists by deemphasizing individual personality characteristics and focusing on the external structures of rewards and sanctions that influence behaviors leading to illegitimate births. Again, this viewpoint is a complement rather than an alternative to other positions.

Further difficulties of theoretical discrimination are created by substantial problems arising from the operationalization of key concepts. For example, while much of the anomic perspective is stated in dynamic terms, variables included in our model are static and cross-sectional. The reader should remain aware that the success of any theoretical prediction is largely dependent on the quality of operationalization.

Therefore, this study cannot test the relative validity of the anomic, subgroup, and demographic perspectives on illegitimacy. Rather, we attempt to develop and test a general model of rates of illegitimacy by combining elements from the three viewpoints.

Before hypothesizing effects of specific variables on rates of illegitimacy, we discuss the use of geographic areas as units of analysis, sources of data, and the measures used as indicators of key concepts.

METHOD

Aggregate Data

Aggregate data expressed as rates for populations in areal units are appropriate

for this study because all three perspectives emphasize aggregate social conditions which affect illegitimacy. Also, a major problem in individual-level studies of fertility has been the inability to control variation in women's or couples' desire for children. Aggregation limits variation in preferences for illegitimate children and other possible sources of measurement error (Cain and Weininger, 1973).

Aggregate data also allow examination of the effects on fertility of opportunities for women to work. This variable is important because nonworking women in areas with many opportunities should experience higher opportunity costs of illegitimate childbearing than nonworking women in areas with fewer opportunities. The *potential* for employment, as well as employment itself, may influence behaviors related to bearing an illegitimate child. Thus, the aggregate rate of employment, a proxy for both potential and actual female labor force participation, is hypothesized to influence the fertility of *both* working and nonworking women. This may also be true for the effects of other variables, for example, the impact of school enrollment rates on illegitimacy.

Our purpose is not to interpret estimated coefficients as individual-level effects nor is this permissible (Hannan and Burstein, 1974). Our objective is to examine the "fit" between a general model derived from three perspectives on nonmarital fertility and rates of illegitimacy for small areas of the U.S. in 1969.

Sources and Areal Units

The data are special tabulations on counties gathered by the 1970 Census and prepared for study by Cutright and Jaffe (1977). Beginning with the 1970 count of white women aged 15 to 44, Cutright and Jaffe (1977:10, for justification) used counties to create statistical areal units (SAUs). A county became one SAU if it had at least 20,000 white females aged 15 to 44; counties with smaller white populations were aggregated with contiguous areas. The 3,067 counties with usable data were reduced to 778 SAUs. In each SAU we computed characteristics specific to never-married whites aged 15 to 19, 20 to 29, and 30 to 44.

Many counties had few or no black women aged 15 to 44 and only 1,490 were available to create 237 SAUs for black women. Counties with at least 10,000 black women aged 15 to 44 formed separate SAUs; counties with smaller black populations were aggregated to form 237 SAUs. In each SAU we computed characteristic specific to never-married black women aged 15 to 19, 20 to 29, and 30 to 44.

Any SAU with fewer than 300 women in a subgroup (for example, black, never-married, aged 30 to 44) was omitted to maintain reliability. Because race and age interact with variables related to illegitimacy (for example, the effect of education on illegitimacy differs by age and race), we computed all analyses separately by age and race. Further, differences by race are related theoretically to the subcultural perspective on illegitimacy.

Dependent Variable

The dependent variable is the 1969 count of illegitimate births (from Vital Statistics Natality Tapes) per 1,000 women aged 15 to 19, 20 to 29, and 30 to 44, not living with a husband in 1970, by race.

Independent Variables

Population density is the natural logarithm of total population in SAUs in 1970, divided by square miles.

Intact marriage is the number of women who are married and have a spouse present, per 1,000 ever-married women, by age and race.

Migration is the number of never-married women per 1,000, by age and race, who in 1965 resided outside their 1970 county of residence.

Labor-force participation is the number of women in the labor force, per 1,000 never-married women, by age and race.

School enrollment is the number of

women enrolled in school, per 1,000 never-married women, by age and race.

Low education in each subgroup is the number of never-married women per 1,000 who have completed fewer than 8 years of school (see Cain and Weininger, 1973, for justification of this cutoff point).

Physician density in each SAU is the number of primary-care doctors and chiropractors per 1,000 women aged 15 to 44. We omitted interns, residents, fellows and physicians primarily concerned with teaching or research (Office of Economic Opportunity, 1972; p. 298).

Region: Southern and Nonsouthern. SAUs in states in the U.S. Census South are coded 1; all others are coded 0.

AFDC benefits. For each SAU we used monthly AFDC benefits for late 1967 in the appropriate state. In the average state, actual mean AFDC benefits understate cash income by about 23 percent (U.S. DHEW, 1970a: Table 82). Therefore, we used the maximum cash benefits available to the average AFDC family with no other income. To control variation in family size among SAUs, we divided the average maximum monthly benefits by the mean size of families that receive AFDC (U.S. DHEW, 1970b: Table 4; 1970a: Table 82). Interstate migration from late 1967 to 1969 should not bias estimates of AFDC effects because most AFDC mothers have never lived outside their 1967 state of residence. Of those who had migrated before 1967, most had either migrated as adults within regions that had similar benefit levels or had moved between regions with different levels before age 20 (U.S. DHEW, 1970b: Tables 47 and 48).

Statistical Model

Specification of the model is identical by race but differs slightly by age. Labor-force participation and low education are omitted from the equations for women aged 15 to 19. Among teenagers, unemployment is high; employment is fragmented and part-time. Therefore, women indicated as in the labor force in all likelihood were unemployed or only employed for a short time in noncareer oriented positions which should have little influence on fertility-related behaviors. Low education is not included in the 15 to 19 equation because it is almost perfectly related, by definition, to school enrollment. School enrollment, while essential in the analysis of teenage women, is excluded from the equation for women aged 30 to 44 because so few are enrolled in school. Rather, the labor force variable is of key theoretical importance to the illegitimacy patterns of these older women.

After testing for curvilinear effects, we logged population density and applied an ordinary least squares linear regression model. Metric and beta coefficients, the significance level of regression coefficients, and explained variance are reported.

Expected Effects

Table 1 shows the expected effect of each predictor on illegitimacy. The anomic perspective predicts that areas with high population density, high in-migration, and low levels of education will have higher illegitimacy. Lower illegitimacy rates should characterize areas with high family stability and many opportunites for women to hold jobs, go to school, or both. If traditional beliefs about the South are correct (as suggested by Reed, 1977), then SAUs in the South should have stronger primary and secondary group ties, and therefore, lower anomie and illegitimacy than other regions. High AFDC benefits should stabilize the economic and social life of a community and therefore reduce illegitimacy. Physician density should reduce illegitimacy as an indicator of community development.

Subcultural theorists emphasize environmental effects on the norms of lower-status subgroups. To the extent that high population density, high AFDC benefits, and low levels of education promote subgroup isolation, they may strengthen a subgroup's normative controls and thereby increase illegitimacy. In contrast,

Table 1.—Expected Effects of Independent Variables on Illegitimacy, by Theoretical Perspective

Independent Variables	Theoretical Perspective		
	Anomie	Subgroup	Demographic
Population density (log)	+	+	-
Intact marriage	-	0	0
Migration	+	-	-
Female labor force	-	-	-
School enrollment	-	-	-
Low education	+	+	+
Physician density	-	0	-
Southern region	-	-	0
AFDC benefits	-	+	+

Note: Positive sign means that high levels of the independent variable should increase illegitimacy. Zero indicates no predicted effect.

high rates of in-migration and many opportunites for women to work or go to school should weaken subgroup controls by promoting integration and thus reduce illegitimacy. Physician density has no predicted effect (Jaffe and Polgar, 1966). Because Southern culture traditionally has maintained a restrictive nonmarital sexual code, we expect lower illegitimacy in the South than in the non-South (Reed, 1977). The hypothesized negative effect of South should apply to both black and white illegitimacy rates. However, because Southern black groups have traditionally maintained more permissive sexual norms than Southern white culture, we expect the effect of South to be stronger in white than in black equations.

The demographic model (Blake, 1965, 1974; Presser, 1971; Hartley, 1975; Scanzoni, 1975; Cutright and Polonko, 1977) predicts negative effects of population density, migration, female employment and school enrollment. These variables should increase direct and indirect opportunity costs of having children for potential unwed mothers. Physician density should reduce illegitimacy by increasing access to effective birth control methods and thus reduce the cost of birth control (Cutright, 1971; Easterlin, 1975). Low education should be related to higher illegitimacy because in areas with high rates of poorly educated women, knowledge of reproduction will be low and the opportunity costs of a birth also will be relatively low (Ryder, 1973; Easterlin, 1975). AFDC payments should increase illegitimacy because cash and in-kind payments reduce the balance of costs to rewards (Winegarden, 1974). The model does not predict effects of either Southern residence or stability of married couples.

The similarity of predictions in Table 1 makes it impossible to support or to reject strongly any one position. The expected effects of female labor-force participation, school enrollment, and low education are

identical in all models. For example, lower-class norms may promote nonmarital sex but demographic theorists might view these same norms as reducing the costs of sexual intercourse relative to abstinence. Similarly, low education may reduce opportunity costs (demographic theory) but also may be related to membership in an anomic community. Either effect should increase illegitimacy.

However, some unique hypotheses are generated. Only demographic theory predicts negative effects of population density. The theory of anomie generates unique predictions for the effects of marital stability, migration, and AFDC payments.

FINDINGS

The rate of illegitimacy for blacks in all age groups is several times that of whites the same age, and for both whites and blacks the rates increase with age and then decline (Table 2). Population density and physician density are slightly higher in black than in white SAUs because more blacks than whites live in cities. Because the South has more black than white SAUs but lower welfare payments than other regions, white SAUs have a higher mean AFDC benefit level. Intact marriage, migration, female labor-force participation and school enrollment are higher for white than for black SAUs. However, in each age group the rate of low education has a higher mean level in black than in white SAUs.

Both beta and metric regression coefficients are in Table 3. Metric coefficients indicate the change in the dependent variable related to a one-unit change in an independent variable and are used in cross-equation comparisons, while beta coefficients are standardized and therefore reflect the relative importance of variables within each equation. We first describe the pattern of results and then assess the findings in light of hypotheses derived from the three theoretical perspectives.

As expected, labor-force participation negatively affected the illegitimacy rate in all equations where it was included and was significant in three of four equations. Effects of population density were mixed: the general significance and negative influence on rates of older whites and blacks reversed among teenagers where the coefficient was approximately zero for whites and positive but insignificant among blacks.

The effects of intact marriage on illegitimacy show a marked interaction with race. In all white equations, the effect is negative and significant; among blacks, the variable is completely inconsequential. The influence of migration is somewhat similar: positive and significant effects in two of three white equations but no effects among blacks.

As expected, school enrollment reduces illegitimacy among black and white teenagers. However for women aged 20 to 29 school enrollment is significant only among whites. Hypothesized positive effects of low education are strongly supported by coefficients in equations for women aged 30 to 44 of both races. This influence is age-specific, however, as effects on women aged 20 to 29 are trivial.

Physician density, an indicator of access to contraception emphasized by the demographic perspective, shows no significant effects in any equation. We believe this result is more reflective of the insensitivity of this specific proxy as opposed to the inconsequence of the theoretical concept it was supposed to represent.

The hypothesis relating Southern region to illegitimacy is strongly supported; in each equation the coefficient is negative and significant, as predicted. However, the expectation that this variable would show stronger influences on white than on black illegitimacy is shown to be completely in error. Rather, the three largest effects of South are those in the equations for black women.

AFDC benefits indicate another strong interaction with race. While the variable has no effect on illegitimacy rates of teenagers, it is significantly related to *increased*

Table 2.—Means and Standard Deviations of Variables Included in a Linear Regression Model of Illegitimate Births per 1,000 Unmarried Women by Age and Race: United States, 1969–1970[a]

	Whites			Blacks		
	15 - 19	20 - 29	30 - 44	15 - 19	20 - 29	30 - 44
Illegitimacy rate, 1969	9.76	20.81	5.57	84.88	89.52	20.17
	(3.78)	(7.87)	(2.98)	(23.44)	(20.63)	(8.38)
Population density (log)	10.74	10.79	11.38	12.03	12.20	12.07
	(3.36)	(3.42)	(3.39)	(3.44)	(3.40)	(3.34)
Intact marriage	799.9	890.7	892.4	666.4	715.3	675.3
	(43.4)	(23.7)	(27.1)	(75.8)	(42.7)	(46.6)
Migration, 1965-1970	161.3	279.0	169.4	90.4	138.9	86.1
	(66.9)	(142.7)	(95.2)	(64.2)	(85.3)	(66.8)
Labor-force participation	269.6	744.1	741.1	180.5	624.2	652.8
	(77.9)	(79.8)	(113.0)	(61.9)	(88.5)	(105.3)
School enrollment	840.0	229.5	57.7	779.1	139.7	53.3
	(32.5)	(117.4)	(29.3)	(43.7)	(58.2)	(38.0)
Low education	40.3	64.0	117.7	96.1	104.3	264.9
	(26.6)	(46.1)	(101.5)	(45.9)	(54.5)	(119.1)
Physician density	3.42	3.45	3.59	3.59	3.58	3.59
	(1.82)	(1.86)	(1.89)	(2.00)	(2.01)	(1.98)
Southern region	.41	.42	.42	.70	.70	.69
	(.49)	(.49)	(.49)	(.46)	(.46)	(.46)
AFDC benefits, 1967	32.4	32.3	32.4	27.2	27.1	27.4
	(11.3)	(11.3)	(10.9)	(10.6)	(10.7)	(10.6)
Number of SAUs	607	602	450	188	182	192

a- Standard deviations in parentheses.

Table 3.—Ordinary Least Squares Coefficients for a Linear Regression Model of Illegitimacy Rates by Age and Race: United States, 1969

	Whites			Blacks		
	15 - 19	20 - 29	30 - 44	15 - 19	20 - 29	30 - 44
Population density (log)	-.017 (-.015)	-.328 (-.143)[a]	-.085 (-.097)	.854 (.125)	-2.01 (-.331)[a]	-.398 (-.159)[b]
Intact marriage	-.006 (-.065)[b]	-.080 (-.229)[a]	-.029 (-.264)[a]	.033 (.106)	.009 (.019)	-.020 (-.112)
Migration, 1965-1970	.018 (.311)[a]	.011 (.203)[a]	.001 (.010)	.001 (.001)	.022 (.089)	.002 (.019)
Labor-force participation	--	-.019 (-.195)[a]	-.001 (-.026)	--	-.037 (-.159)[b]	-.014 (-.172)[a]
School enrollment	-.016 (-.134)[a]	-.034 (-.513)[a]	--	-.102 (-.191)[a]	-.008 (-.022)	--
Low education	--	-.008 (-.042)	.007 (.232)[a]	--	.028 (.073)	.014 (.202)[a]
Physician density	.130 (.062)	-.114 (-.027)	.102 (.065)	-.159 (-.014)	.847 (.083)	-.497 (-.117)
Southern region	-2.32 (-.302)[a]	-6.30 (-.395)[a]	-2.55 (-.423)[a]	-18.51 (-.361)[a]	-26.04 (-.581)[a]	-9.95 (-.552)[a]
AFDC benefits, 1967	.008 (.023)	.127 (.183)[a]	.062 (.226)[a]	.048 (.022)	-.530 (-.276)[a]	-.325 (-.410)[a]
R^2	.169	.336	.259	.253	.200	.223

a- $p < .05$. b- $p < .10$.

NOTE: Beta coefficients are in parentheses; metric coefficients are not.

white and *decreased* black illegitimacy for women aged 20 to 29 and 30 to 44.

We now compare the pattern of estimated coefficients to hypotheses derived from the three theoretical perspectives (Table 1). For female labor-force participation, school enrollment and low education, all three theories predicted identical effects. In general, the patterns of labor-force participation and school enrollment conform to expectations as all coefficients evidence the expected sign and six of seven are significant. Low education was expected to increase illegitimacy. This expectation was met only for women aged 30 to 44; among women aged 20 to 29 low education had little influence. In terms of the theoretical perspectives, this result appears most congruent with the demographic position which posited effects of low education as a proxy for contraceptive efficacy. Lack of education may not strongly affect contraceptive knowledge or use among younger women where exposure early in their childbearing career to a variety of contraceptive techniques was more prevalent than for older women. The patterns of coefficients are consistent with the hypothesis that among younger cohorts the strength of the education-contraception-fertility relationship is lessening because of greater general dissemination of contraception knowledge.

With respect to population density, the demographic theory predicted a negative effect on illegitimacy while the other two theories hypothesized a positive influence. The negative population-density coefficients for women aged 20 to 29 and 30 to 44 provide moderate support for the demographic theory: the net effect of population density is to reduce rather than increase illegitimacy and three of four effects are significant for older women. However, for teenagers the negative effect is sharply attenuated and among blacks even becomes positive. This suggests that for women aged 15 to 19 effects of increased costs of illegitimate children in more dense areas may be offset by influences associated with urban residence discussed by the anomic and subgroup positions. The effects of physician density, a proxy for access to modern birth control methods, are also important to the demographic theory which predicts that high density will reduce illegitimacy.

The theory of anomie differs from the other theories in its predicted effect of AFDC payments. This position hypothesizes that AFDC should reduce illegitimacy by contributing to family and community economic stability. Benefits have no significant relationship to either white or black teenagers. The expected negative effect occurs for blacks aged 20 to 29 and 30 to 44 and is significant for both groups. The anomic hypothesis is not supported for whites where positive and significant coefficients among women aged 20 to 29 and 30 to 44 support the demographic viewpoint. Paradoxically, criticism of the AFDC program (Kallen and Miller, 1971; Placek and Hendershot, 1974) as a cause of increasing illegitimacy usually refers to blacks. However if any positive effect of AFDC on nonmarital fertility exists, it is only among whites.

Examining the general pattern of coefficients by race, we note that effects of intact marriages and migration, emphasized by the anomic perspective, apply only to illegitimacy patterns among whites. This suggests that the normative order and community stability have a stronger influence on sex-related behaviors among white than among black unmarried couples. No one perspective emerges clearly as most successful, however. For example, strong effects of Southern region and the absence of physician-density influences dilute the validity of the demographic position while negative effects of population density strengthen its value. Similarly, the anomic perspective seems generally inapplicable to black illegitimacy patterns; however, its unique prediction of a negative AFDC effect is strongly supported only among blacks.

These results reinforce our initial statement that the very nature of the three perspectives reviewed, in terms of both

conceptual development and precise operationalization, made any definitive test impossible. This analysis shows that for specific age groups and women of specific race, each of the viewpoints offers insights into the social process underlying illegitimacy. A more complete understanding of illegitimacy will depend not upon the exclusion of certain perspectives but on the integration and development of diverse positions.

CONCLUSION

Three theories of illegitimacy were examined and used to generate hypotheses relating social variables to rates of nonmarital fertility. The theory of anomie emphasized deterioration of the socioeconomic environment and effects from family and community instability. These conditions disrupt individual integration into primary and secondary groups thus dissolving the restrictive norms that lower rates of nonmarital sexual behavior. High rates of illegitimacy result.

In opposition, subcultural theory stated that illegitimacy is caused not by a *lack* of normative control but by a specific separate set of lower-class or minority group subcultural norms that differ from those of the middle class. Race and class differences in nonmarital fertility are therefore attributed to differences in normative structure.

The third perspective, demographic theory, examined variation in rates of illegitimacy in relation to aggregate socioeconomic factors that influence rates of sexual activity and the degree of contraceptive vigilance in the unmarried population. Effects are explained in terms of their impact on the utility of nonmarital childbearing.

We compared causal variables that reflect the different emphases of the three theories and estimated linear regression equations separately for black and white unmarried women aged 15 to 19, 20 to 29, and 30 to 44. Results supported our prediction that the estimated equations would differ by age and race. Further, our belief that the three perspectives, rather than being mutually exclusive, would each offer valuable insight into relations between specific variables and the illegitimacy of different subgroups of women was strongly reinforced.

Given the complexity of behaviors underlying illegitimacy rates, future research should be guided by a flexible theory that incorporates elements from each of the anomic, subgroup, and demographic perspectives.

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