An Overview of Adolescent Pregnancy in Rural Areas

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ABSTRACT: *Although explanations for high rates of adolescent pregnancy in the United States are not conclusive, adverse outcomes associated with early childbearing are well-documented. Little is known about the specific circumstances and consequences of adolescent pregnancy in rural areas. This article summarizes a systematic review of literature relevant to pregnancy and pregnancy prevention for rural adolescents for 1980 to 1995. The primary focus of this study was on the eight southeastern states in Department of Health and Human Services Region IV. From approximately 500 relevant citations in the database collected for this review, few dealt explicitly with adolescent pregnancy in rural areas, and an even smaller subset of the literature used empirical data. No data were found that indicated sexual activity was lower among rural teens, or that the risks of adolescent pregnancy and behaviors detrimental to pregnancy outcomes were less common in rural areas. Social isolation, lack of educational and economic opportunities, and limited access to health services are key issues with respect to rural youth and their healthy development. The relatively fewer numbers of health professionals in rural areas, weaker infrastructures for transportation and information, heightened concerns about confidentiality, low rates of insurance coverage, and reluctance to accept social services reduce the likelihood of rural teens receiving adequate preventive or reproductive care. Future research should address the social circumstances of rural adolescents to design effective interventions for teen pregnancy prevention and appropriate reproductive health services for young mothers and families in rural areas.*

Although sexually experienced adolescents are using contraception more frequently and more effectively, until recently, the rate of sexual activity among teens in the United States has been increasing; the result has been an increasing number of adolescent pregnancies (Alan Guttmacher Institute, 1994). Despite the fact that levels of sexual activity are comparable for teens in the United States and other developed countries, teens in the United States have pregnancy and birth rates that are the highest in the developed world (Office of Technology Assessment [OTA], 1991b). As many as 43 percent of American women are likely to become preg-

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nant in their adolescent years, and the risk of adolescent pregnancy is greatest among disadvantaged groups. The majority (more than 85%) of pregnancies among teen-age women are unintended, but about one-half of the 1 million teens who become pregnant each year give birth (Brown & Eisenberg, 1995; National Center for Health Statistics [NCHS], 1993). Though explanations remain uncertain, adverse outcomes associated with early childbearing are well-documented for young mothers and their children (Elster, 1984; Fraser, Brockert, & Ward, 1995; Geronimus, 1987; McAnarney & Hendee, 1989; Ventura, Martin, Mathews, & Clarke, 1996).

Relatively little information is available about rural adolescent females who become pregnant, even though vital statistics show that rural adolescents are as likely to become pregnant as teens in urban areas (Rural Adolescent Pregnancy Project, 1995). In 1988, the latest year that such comparative data were compiled on a national level, about 12 percent of all live births in metropolitan counties were to women younger than 19, compared with 16 percent of births in nonmetropolitan counties (McManus & Newacheck, 1989).

The purpose of this paper is to provide an accessible reference to the subset of literature on adolescent pregnancy, which includes information about rural adolescent populations. The authors undertook a comprehensive literature review in preparation for a report on rural adolescent pregnancy in the Southeast. The primary focus was on the eight states in the Department of Health and Human Services (DHHS) Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee). As discussed further below, Region IV is the area of the United States with the highest proportion of adolescents living in rural areas. Data from this region were analyzed to investigate potential rural and urban differences in pregnancy and birth outcomes among teens. As background, the authors were interested in local, state, and national studies that discussed rural issues that might influence the problems of adolescent pregnancy and pregnancy prevention.

Literature Review

Methods. A systematic literature review included published reports found through electronic databases, adolescent health organizations, and foundation clearinghouses. Relevant literature for rural adolescent pregnancy and pregnancy prevention for the period 1980 through 1995 were identified and reviewed. More than 2,500 citations related to adolescent pregnancy and pregnancy prevention were considered for inclusion. Specific criteria for selection of citations included all studies from January 1980 through December 1995 that were related to adolescent pregnancy and pregnancy prevention in DHHS Region IV, individual states within the region, or the South in general; other relevant studies prior to 1985; and studies from 1985 through 1995 that contained data for rural adolescent pregnancy in any region. The focus of this discussion is an overview of the problem as previously reported in the literature.

Findings. Two of the most notable recent works in the field of adolescent health were published by the OTA (1991a, 1991b, 1991c) (*Adolescent Health, Vols. I, II, and III)* and the National Academy of Sciences (NAS) (Hayes, 1987a, 1987b) (*Risking the Future, Vols. I and II*). Both works are comprehensive reviews of the state of adolescent health by panels of national experts. The reviews provide excellent conceptual frameworks and a general overview for understanding adolescent health and the problem of adolescent pregnancy. The three-volume OTA report covers a wide range of topics related to adolescent health and identifies adolescent pregnancy as a major health problem. The OTA report, however, does not explicitly focus on adolescents in rural areas. Of the more than 1,250 pages, "rural" is indexed as a key word on only 23 pages, and none of the rural references is substantive. The NAS report—authored by physicians, sociologists, demographers, and psychologists—focuses explicitly on the national problem of adolescent pregnancy and national scope of prevention programs. Nowhere in the 337-page report is there either a discussion of the problem in rural areas or any data described according to residence.

From approximately 500 relevant citations selected for the project's database, few deal explicitly with adolescent pregnancy in rural regions. Even fewer are data-based or include residence as an analytic variable. Literature focusing on minority populations in rural areas is even more sparse, despite the availability of vital statistics data, which include both residence and race and ethnicity variables.

The authors identified only six articles in the published literature that explicitly focus on adolescent pregnancy in rural areas. Two of the four published studies were conducted in Region IV. Both examined the same local intervention in South Carolina (Koo, Dunteman, George, Green, & Vincent, 1994; Vincent, Clearie, & Schluchter, 1987). The South Carolina program focused directly on the reduction of adolescent

pregnancy in rural communities by means of a public health information and education campaign targeted at both the adolescent and adult or parent populations. Vincent and colleagues (1987) found that the rate of pregnancy among teens ages 14 to 17 was significantly reduced for those exposed to the community-based education campaign in comparison with those not exposed. The follow-up article by Koo and colleagues (1994) evaluated the results of the intervention after a longer period of time. Once the clinical services were curtailed and the school nurse left, the pregnancy rates of the intervention group rose to the same levels as the control group.

Three of the published studies of rural adolescent pregnancy and sexual activity were conducted in states outside of Region IV: New York (McCormick, Izzo, & Folick, 1985), Minnesota (Yawn & Yawn, 1987), and Maryland (Alexander, et al., 1989). Finally, there was a more recent overview article (Yawn & Yawn, 1993) that reviewed the issues pertaining to teen pregnancy for rural youths and relevant program models. Non-Region IV studies focused mainly on the sexual activity of teens living in rural counties. Two of the studies surveyed high school students ages 14 to 19 (McCormick, et al., 1985; Yawn & Yawn, 1987). The sample used by Alexander and colleagues (1989) was made up of eighth-graders living in three rural Maryland counties. Participants were questioned about their sexual activities; age at first intercourse; specific risk-taking behaviors, such as substance use; contraceptive use; personal relationships; and personal values. The Yawn and Yawn (1987) sample is largely Caucasian, with the majority (85% or more) of respondents living in households at or above 200 percent of the poverty level and, therefore, of limited generalizability. All of these studies reported rates of sexual activity for rural teens comparable with those for their urban peers. Age of initiation of sexual activity and contraceptive use also were comparable for rural and urban youth.

In the overview article by Yawn and Yawn (1993), they cite examples of promising programs for rural youth and point out key factors to consider in program design for adolescents living in more remote communities. Issues such as ethnic isolation, boredom, lack of opportunity, distance to specialized services, and problems obtaining confidentiality in small communities are discussed and reviewed. Yawn and Yawn conclude that all these factors are potential confounders that serve to exacerbate the problem of adolescent pregnancy and its prevention for rural teens. They acknowledge the dearth of evaluation results to judge program success. This is the only article identified in this study's search that focuses explicitly on rural adolescent pregnancy. However, Yawn and Yawn's findings are speculative, with only weak empirical data to support their claims. They rely on citations that do not always appear to support their points. For example, Yawn and Yawn cite an article by Aneshensel, Becerra, Fielder, & Schuler (1990), a study focusing on ethnicity and onset of fertility events among Mexican-American and non-Hispanic white females in Los Angeles, CA. The article does not mention rurality or provide data by residence; however, Yawn and Yawn cite this article as evidence of differences in the decline of teen sexual activity for rural vs. urban adolescents coming from "smaller" communities. There is clearly a need for more rigorous and thorough examination of comparative data for representative samples of rural and urban youth.

The Problem of Teen Pregnancy Among Rural Adolescents in the Southeastern United States

Rural areas characteristically have high rates of poverty, low education levels, high unemployment, and poor health status compared with urban or metropolitan areas. Region IV historically has the highest proportion of rural counties of any region in the United States, with accompanying problems of high poverty and unemployment, limited access to services, and poor health outcomes. Additionally, the South, as a region, has the highest absolute number of both early (10 to 14 years) and late (15 to 19 years) adolescents and is the only region that is expected to have significant increases in the number of adolescents by the year 2000 (Irwin, Brindis, Brodt, Bennett, & Rodriguez, 1991). For these reasons, one might expect to find elevated numbers and rates of pregnancy and poor birth outcomes for the adolescent population in the rural South, relative to other regions and to the urban sectors within the region.

Education and Poverty. It is evident from a number of reports that poverty and limited formal education are significant risk factors for several health problems, including adverse pregnancy outcomes. While rural youth have higher rates of poverty and lower education levels than urban youth, the authors remain unaware of any studies that document the relative effects of these risk factors for pregnancy in a representative sample of urban and rural youth.

Table 1. Multiyear Trend Data for Kids Count Indicators.

	Percentage Graduating From High School					Percentage of Teens Not in School or Labor Force					Percentage of Children in Poverty					Percentage of Children in Single-parent Families				
Year (19--)	87	88	89	90	91	87	88	89	90	91	87	88	89	90	91	87	88	89	90	91
United States	72	71	70	69	69	5	5	5	5	5	20	20	20	20	20	24	24	24	25	25
State																				
Alabama	70	75	70	66	67	8	6	6	6	5	31	30	29	27	25	33	33	33	31	30
Florida	59	58	57	56	56	5	5	5	6	7	20	19	20	22	23	29	29	29	30	31
Georgia	63	61	60	61	63	6	6	6	6	6	23	23	23	23	24	31	31	30	29	29
Kentucky	67	69	67	69	69	7	6	6	6	6	23	22	21	22	23	22	22	24	24	25
Mississippi	65	67	60	64	61	13	9	10	8	7	34	34	34	34	34	29	29	31	34	35
North Carolina	68	67	68	67	67	5	4	5	5	5	19	18	18	18	19	25	25	25	25	26
South Carolina	67	65	65	58	61	6	6	5	4	5	22	22	22	23	24	25	26	26	27	28
Tennessee	68	69	70	69	69	7	6	6	5	6	25	25	26	26	26	25	26	29	31	33

Source: Annie E. Casey Foundation. (1994). *Kids count databook: State profiles of child well-being*. Baltimore, MD: Author.

McManus, Newacheck, and Weader (1990) show that rural areas of the South are at a great economic disadvantage, and that poverty is more prevalent among nonmetropolitan vs. metropolitan youth, with 22 percent—more than 2 million rural adolescents—living below the poverty level. About 20 percent of youth in nonmetropolitan areas and 16 percent in metropolitan areas live in households headed by people who have not completed high school. In 1987, nearly 13 percent of Mississippi youth ages 16 to 18 were neither in school nor employed (Annie E. Casey Foundation, 1994). The 1990 child poverty rates exceeded 50 percent in 61 counties nationwide—46 (75%) of these counties are rural, and more than one-half (25) are in Region IV (Area Resource Files, 1990). Although nearly one-fifth of adolescents younger than 18 in the United States live in poverty, the proportion exceeds 25 percent in the rural South (Children's Defense Fund, 1994). Among black rural teens, the figure jumps to more than one-half (52.5 percent).

Table 2. Child Poverty Rates, 1990.

Location	Younger Than 18 Years	Younger Than 6 Years
United States	20.6	23.0
Rural	22.9	26.7
Metro	20.0	22.0
Rural		
Northeast	16.4	18.3
Midwest	18.4	21.8
South	28.7	34.4
West	20.2	21.2
Rural		
White	18.4	22.0
Black	52.5	58.1

Source: Children's Defense Fund. (1994). *State of America's Children, Yearbook 1994*. Washington, DC: Author.

Health Insurance Coverage Among Rural Residents. Low income levels of rural residents are associated with low rates of health insurance coverage (Short, Monheit, & Beauregard, 1989; Shuptrine, 1992). Almost 1.8 million of the 10.8 million youths (17%) ages 10 to 19 years living in nonmetropolitan areas of the United States were uninsured in 1984. Insurance coverage, closely linked to employment status, is extremely low in the rural South; in Mississippi, 26

Table 3. Percentage of Low Birth Weight Infants, Women Receiving First Trimester Prenatal Care, and Births to Women Younger Than 18, by Race of Mother and State, 1991.

	Percentage of Low Birth Weight Children			Percentage of Early Prenatal Care			Percentage of Births to Women Younger Than 18		
	All	White	Black	All	White	Black	All	White	Black
United States	7.1	5.8	13.6	76.3	79.5	61.9	4.9	3.8	10.3
State									
Alabama	8.7	6.5	13.0	75.3	82.8	61.1	7.2	4.7	11.9
Florida	7.4	5.9	12.4	74.9	79.6	59.6	5.4	3.7	11.2
Georgia	8.6	6.1	12.8	74.5	81.7	62.1	6.7	4.4	10.8
Kentucky	7.2	6.6	12.3	78.4	79.9	64.8	6.5	6.0	11.9
Mississippi	9.7	6.5	13.1	73.9	84.8	62.2	9.2	5.5	13.2
North Carolina	8.4	6.4	13.1	76.5	83.8	60.4	6.3	4.2	10.9
South Carolina	9.2	6.3	13.6	68.8	78.4	53.9	6.7	4.4	10.3
Tennessee	8.8	6.9	14.8	78.1	82.1	65.8	6.7	5.1	12.1

Source: National Center for Health Statistics. (1993). Advance Report of Final Natality Statistics, 1991. *Monthly Vital Statistics Report*, 41(9), Suppl.

percent of children younger than 17 years are uninsured. Even though many rural families are eligible for Medicaid coverage, they are less likely to receive benefits. Despite the fact that rural youths are 22 percent more likely than metropolitan youths to be poor, rural youths are 20 percent less likely to be covered by public assistance (McManus & Newacheck, 1989). The 1990 OBRA regulations require states to provide Medicaid coverage to all two-parent families with income levels below poverty; however, fewer than 6 percent of qualified farm residents are enrolled in Medicaid vs. 44 percent of eligible urban residents (Rowland & Lyons, 1989).

Access to Health Services and Lack of Health Care Providers in Rural Areas. Researchers know from the literature that rural residents have less contact with physicians (OTA, 1990) and reduced access to primary and appropriate specialty services (Rowland & Lyons, 1989) compared with their urban counterparts. This is true for maternal and child health services in rural areas, where high fetal mortality is associated with reduced access to prenatal care (Hughes & Rosenbaum, 1989; Nesbitt, Connell, Hart, & Rosenblatt, 1990). Access to family planning services is especially problematic throughout the South, where health departments provide the majority of rural contraceptive services, compared with a wider variety of providers and sites in urban and metropolitan areas (Firpo & Lewis, 1976). Sponsors of health programs and the general public think that the availability of an adequate range of primary care facilities directly affects the health status of the rural population (Sheps & Bachar, 1981).

Inadequate prenatal care is a major factor in poor pregnancy outcomes, and national studies, such as Kinsman and Slap (1992), estimate that more than one-half of all adolescent mothers receive insufficient prenatal care. Adolescent women, particularly black women, who live in rural areas are even less likely to receive adequate prenatal care (Larson, Hart, & Rosenblatt, 1991). Rural women are at elevated risk for poor pregnancy outcomes because they also are more likely to be poor and uninsured. Even if coverage applies from a parent's health insurance policy, loopholes in the 1978 Pregnancy Discrimination Act permit the exclusion of unmarried, preadolescent, and teenage dependent children from maternity coverage. A

1993 report on insurance coverage of maternity care services (Ricketts, Kolimaga, Taylor, & Savitz, 1993) estimated that in North Carolina alone nearly 63,000 young women between ages 15 and 19 were affected by this exclusion and that approximately 4,207 could be expected to give birth in that year. Persistent obstetrical provider shortages in rural areas further compound the medical and social difficulties associated with adolescent pregnancy.

Health Status of Rural Residents. Not surprisingly, lack of access to health care providers in conjunction with poor economic indicators translates into poor health outcomes for families in the region. All eight states, which have a higher proportion of births to teens for both blacks and whites than the national average, also have elevated rates of low birth weight outcomes (Table 3). The overall health status of children living in the southern states is low compared with other regions of the United States. In all eight states, the child death rate exceeds the national rate, with increases in some of the states throughout the past five years. In 1990, southeastern states ranked between 30th (Kentucky) and 50th (Mississippi) on a well-being index scale developed by the Annie E. Casey Foundation (1994). To date, there has been no analysis of these data by urban or rural residence to determine whether rates for these high-risk states are elevated within rural sectors.

Regional Findings on Risk Factors for Rural Youth

A statewide survey of middle school and high school Minnesota youth was conducted by faculty at the University of Minnesota in collaboration with the Minnesota Extension Service and the Development and Youth Policy Education Program. The investigators found a mean age for first intercourse of 14 years for rural youth, which was similar to youth in the state's urban areas. By the time they reached the 12th grade, 55 percent of rural Minnesota teen-agers had had intercourse. In this study, rural teens were as likely to be sexually active as their urban peers (Walker, Harris, Blum, Schneider, & Resnick, 1990). The data from the Minnesota study imply that the rates of sexual activity for rural youth equal those in urban areas; however, access to health services, especially family planning, is more restricted for the rural group. While these findings suggest that rural youth are at equally high risk for pregnancy and exposure to sexually transmitted diseases, the sample is restricted to Minnesota's unusually ethnically homogeneous population.

Use of contraceptives might be presumed higher for women in metropolitan areas, where access to family planning services is greater. However, a report from one rural area of the South implies this may not always be the case. One study compared rates of modern contraceptive use for women in rural Kentucky with those reported in the 1982 National Survey for Family Growth (Gairola, Hochstrasser, & Garkovich, 1986). Gairola and colleagues' study results suggest that even in a remote, relatively poor region of rural Appalachia, effective rates of contraceptive use may be equal to, if not higher than the national average (87.2% vs. 67.4%, respectively). This study, limited to married couples using sterilization, is of limited relevance, however, to the adolescent population. It suggests that there is a great unmet need for contraception in rural areas, and that removing access barriers may lead to increased utilization (Hochstrasser & Gairola, 1991). Further investigation is needed to understand the extent to which rural residence and related access issues influence contraceptive use and choice of methods for teens in rural areas.

Other research suggests that youth risk behavior is similar, regardless of geographic location. In a study of the effects of rurality and gender on early adolescent alcohol use, Kelleher, Rickert, Hardin, Pope, and Farmer (1992) report significant differences in proportions of adolescents using alcohol across gender and regions of residence. Kelleher and colleagues point out that environmental factors related to alcohol use may be different for rural youth. They postulate that contextual variables, such as parental supervision and types of social events that greatly determine drinking patterns, may differ between rural and urban communities. Their survey of sixth- through eighth-grade youth in rural and urban areas of Arkansas showed that rural youth, including females, use drugs and alcohol as much, if not more than their urban and suburban counterparts. Approximately 43 percent of rural youth and 40 percent of urban youth in the survey reported drinking. As many as 8 percent of both rural and urban youth reported cocaine use. Of interest are the rural and urban differences in parental attitudes, with more than 80 percent of the rural group and close to 63 percent of the urban group reporting parental approval of adolescent drinking. Alcohol use starts at earlier ages in rural areas, with approximately one-half of rural boys and almost one-third of urban boys reporting they had their first drink at age six to eight years. According to the National Clearinghouse for Alcohol

and Drug Information (1991), rural youth risk profiles are similar to those of urban youth. Other studies confirm these findings: rates of alcohol abuse among rural adolescents are not only comparable with but also exceed those for urban youth in some regions (Kelleher, et al., 1992).

Adolescents from both sectors experience common biological, psychological, and emotional changes. Their health problems are primarily centered around lifestyle issues, which include high-risk behaviors pervasive throughout modern society. Problems of nonintentional injuries, trauma, substance abuse, pregnancy, and STDs derive, in part, from poverty, limited economic opportunity, violence, family instability, disintegrating neighborhoods, and unsafe environments. These are problems of rural as well as urban life.

Rural adolescents also must learn to cope with constraints created by their geographic locations. Minimal public transportation, heightened confidentiality concerns, long distances to clinics, and sometimes no telephone in the home are just a few of the barriers that persist in rural areas. For rural adolescents, geographic location alone complicates the decision-making process. For example, contraceptives, which are more easily accessible in an urban environment, may often be difficult for rural youth to obtain due to the distance to a clinic or the lack of anonymity at the local level (Mindick & Shapiro, 1989).

It is possible that cultural norms and prescriptive behaviors are different in rural communities, which are assumed to be more conservative in their attitudes than cities (Hassinger, 1976; Rogers & Burdge, 1972). However, the authors expect that most rural and urban adolescents are exposed to many of the same images and messages prevalent in contemporary media, and that there is pressure to conform to a youth culture that transcends residential boundaries. Preliminary evidence from a report based on a state survey of attitudes toward adolescent pregnancy and pregnancy prevention (North Carolina Coalition for Adolescent Pregnancy, 1993) suggests little variation between rural and urban respondents in their attitudes toward contraceptives for adolescents, sex education in schools, and availability of clinics dispensing birth control to high school students. Parents of teens in both rural and urban counties in North Carolina expressed similar attitudes and concerns about the issues of teen pregnancy and provision of contraceptive services to their children. This report suggests that the cultural differences between rural and urban areas may be less pronounced than might be expected. This state report, however, is preliminary, and the survey used a convenience sample that may not be ethnically, economically, or geographically representative of the United States or other areas.

Pregnancy-related Programs for Rural Adolescents

Most programmatic efforts are not specifically tailored to focus on rural issues in adolescent pregnancy prevention. However, rural counties are included in statewide initiatives. Programs in Region IV vary in content, breadth, location, and target populations (Loda, Speizer, Martin, Skatrud, & Bennett, 1997). Many of the programs cited nationally as models of pregnancy prevention efforts are located in urban centers; meager information on rural programs is available. Yawn and Yawn (1993) stress that urban programs may serve as models once the specific needs of rural communities have been carefully assessed.

The general goals of pregnancy prevention programs have been to increase knowledge of sexuality, provide information about risks of early childbearing, and facilitate access to appropriate health services—most importantly contraception. Additionally, programs have incorporated broader prevention strategies, such as improving career opportunities, increasing self-esteem, fostering religious affiliation, strengthening parent-child communications, and supporting the sexuality-education abilities of parents (Hofferth, 1987). These are generic goals that have been applied regardless of location, residence, or population characteristics and would presumably be effective for programs in rural areas.

Key Elements of Successful Programs. Key elements of successful programs include comprehensiveness with provision of a full range of services, including contraception, flexibility to allow adaptation to local community needs, and intensiveness with long duration of messages reinforced across a variety of media and behavioral contexts (Philliber, 1994). Programs that provide a range of services important to youth and that deal with the underlying problems of poverty and dysfunctional families have been more successful. For example, a study by Brody and colleagues (1994) indicates a strong link between a teenager's ability to develop self-regulation and the family's financial resources. This study suggests that programs that target the entire family may bolster the teen's optimism and self-esteem, which in turn could reduce high-risk behaviors. Effective programs follow

certain principles, including parental involvement, consumer focus, staff perceived by teens as trustworthy and caring, and positive peer interactions that provide youths with alternatives to high-risk activities.

Experts warn that it is prudent to avoid models that have proven ineffective in the past, including school-based educational programs, which use short-term, purely cognitive approaches (Helge, 1989). Effective prevention programs in rural areas need to address more than just cognitive issues such as knowledge of contraception. They must address structural problems such as unemployment, poor housing, and inadequate health care, and they need to address psychosocial factors, which play a crucial role in youth development.

Teen pregnancy is an issue embedded within the social problems that affect rural societies as a whole—poverty, social and cultural isolation, lack of economic opportunity, and family disruption. It is likely that pregnancy prevention and pregnancy outcomes also are problems for older women in rural areas. In future investigations, it will be essential to focus on the entire age spectrum of childbearing women to understand the relative factors of age and residence and the extent to which rural programs and services for teens and adult populations should be specially designed.

Distinguishing Features for Rural Youth Services. Acceptability of services may involve special issues in rural communities, though this issue has not been studied. Characteristics of rural life, including a lack of anonymity and stigmatization of public assistance, contribute to adolescents' reluctance to utilize primary care and preventive services. In rural communities, fears about confidentiality in matters such as contraception may preclude use of services despite availability and economic accessibility.

While acknowledging similarities between issues and problems facing rural and urban youth in America today, it is important to point out differences when designing and implementing programs in the two areas. Rural communities typically do not have the wide diversity and depth of resources in terms of private and nonprofit organizations often found in urban areas. The resources typically found in a rural community that are important for adolescent pregnancy prevention programs usually are organized through public sector venues, such as schools and health departments. Other groups—church-affiliated programs, 4-H Clubs, or other youth organizations—may be willing to collaborate. Yawn and Yawn (1993) suggest that programs in rural areas should use town meetings, county extension meetings, and church and school gatherings as vehicles for educating parents. It is crucial to tailor pregnancy prevention programs to individual rural communities, acknowledging the community's specific strengths and weaknesses. Adaptations of existing programs will prove more successful than attempts to import urban programs or replicate programs used in other rural areas.

Perhaps most important to any program or intervention the researchers found, regardless of its community or site, is the need to dispel the myth that teens in rural areas are not sexually active or engaging in high-risk behaviors. Yawn and Yawn (1993) recommend that a rural program must first address widespread denial of the problem. Community-level advocacy activities promoting reality-based public education are essential to engage the local leadership. Effective strategies are those that involve parents, teachers, and other adults who frequently interface with youth in the community. It is important to have public recognition of the problem and acknowledgment of adverse consequences for youth and their families.

Dryfoos (1991) confirms, from a review of 100 successful adolescent pregnancy prevention programs, the importance of broad, community-wide, comprehensive, multiagency programs. Especially in rural areas with communities that may be quite stable and less transient than urban communities, it is essential to integrate rural youth into their community programs and to coordinate youth-specific development activities within these programs. The researchers expect an effective approach to rural problems will include factors identified by Simons, Finlay, and Yang (1991) for urban teen programs: education and strong basic skills training; a range of nonacademic opportunities for success; links to caring adults who provide positive role models, values, and support; family life education and life planning; comprehensive adolescent health services; and a basic standard of living for all teens and their families, including access to jobs, nutrition, housing, income, and services to meet special needs.

Work conducted by the Search Institute (Blyth, 1993) describes how communities contribute to positive youth development and identifies indicators of relative community strength. Results show that when youth participate in some form of structured community activity, they are less likely to be involved in behaviors that put them at high risk of poor mental and physical health outcomes. Youth living in rural areas with a high degree of social isolation have an

especially difficult challenge of identifying community activities that are accessible and meaningful for them.

Future Research Needs

Recommendations for future research include the need to examine the relative impact of health services on teen pregnancy and pregnancy outcomes in rural areas. What effect does limited access to family planning, abortion, and prenatal care services have on rural adolescent pregnancy and birth outcomes? Health services data that include information by age and race previously have not been made available by residence. Protection of confidentiality has prevented analysis of many rural groups. While specific studies of adolescent pregnancy and risk behaviors have been conducted for urban youth, there have been no regional or national studies that would provide population-based rates for rural teens. The Youth Risk Behavior Survey, focusing on a wide population of youth nationally, has been conducted in a number of schools in more than 35 states. These data could be pooled, sorted by region and type of county, and made available to allow analysis of trends for rural areas.

Family structure and family formation in rural areas is another potential area for research. To what extent do rural teen pregnancy and childbearing occur within marriage, and what difference does this make in terms of service utilization and health outcomes for teens and their families? How are these factors associated with compromised economic status, low levels of educational attainment, and issues of race and ethnicity? It has been assumed that increased travel time, reduced insurance coverage, and lower household education levels put rural teens at special risk. There has not been adequate research to document the importance of these factors for rural youth. Vital statistics that include ZIP code and county of residence allow some basic assessment of trends for rural adolescents. Additionally, specialized surveys that include detailed fertility and health services data, such as the National Survey of Family Growth (NSFG) Cycle V (1995) provide nationally representative samples of women living in rural and urban areas. The newly available NSFG-V data provide new geocodes enabling analysis of risk factors and health outcomes for rural and urban adolescent females.

Additionally, a closer look at existing adolescent pregnancy prevention programs and the extent to which rural teens are currently served by urban sites will direct future planning and determine whether special outreach to rural youth is warranted or whether rural sites should be developed. It is important to recognize not only differences between rural and urban areas when addressing adolescent pregnancy and pregnancy outcomes but also to consider the diversity of rural communities. Wide variations exist within and between rural regions based on ethnicity, culture, education, and economic characteristics. It is essential to examine regional and local variations that may help to explain risk factors and identify appropriate locations for program sites as well as effective interventions.

Conclusions

As Klerman (1993) points out, unless societal changes include better education, improved housing, and relief from poverty, health care alone will not have a significant impact on the problems associated with adolescent pregnancy or parenting. Many of these needs exist in rural areas to an even greater extent than in urban and metropolitan sectors. Social, economic, and environmental problems must be addressed in tandem with efforts to reduce teen pregnancy or improve birth outcomes for rural adolescents. The major issues surrounding teen pregnancy have been extensively discussed in the literature, but specific factors have not received enough attention vis-à-vis the rural sector. The factors of social isolation, lack of economic opportunity, privacy concerns, and limited access to health services and educational programs are key issues with respect to rural youth and their healthy development.

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