Continuing Education

Sustained Reduction in Adolescent Pregnancy Rates Through School and Community-Based Education, 1982–2000

Murray Vincent, J. Wanzer Drane, Praphul Joshi, Saikiran Shankarnarayan, and Michelle Nimmons

Abstract

The resident population of Bamberg County, SC, has been exposed to multiples of public health information and education interventions since October 1982 with the intent to reduce the occurrence of unintended pregnancies among unmarried adolescents. Data analyses were conducted to compare 20 years of pregnancy rates among girls aged 14–17 years for Bamberg County, the original three comparison counties, and the rates for the state of South Carolina from 1981 to 2000. Bamberg County had 3 consecutive years statistically higher than the state and the three comparison counties from 1981 through 1983, but never thereafter. When regressing pregnancy rates on the passage of time since 1980, the state of South Carolina, Bamberg County, and Williamsburg County showed statistically significant declining slopes to their trend lines, whereas Lee and Clarendon Counties did not show any significant trend whatsoever. This data analysis documents the sustained reduction of adolescent pregnancies in Bamberg County among girls aged 14–17 years during the time period from 1981 to 2000, which are most likely attributable to the continued presence of the School/Community Program from October 1982 to the present time. Sustainability of the program is attributed to community readiness for such a program, adequate funding, staff stability, competent leadership, comprehensive program planning, policy changes, and implementation of theory-based "best-practice" interventions.

In 1987, Vincent, Clearie, and Schluchter reported the results of the School/Community Program for Sexual Risk Reduction Among Teens (School/Community Program) project conducted in a rural South Carolina county (Vincent et al., 1987). The estimated pregnancy rate (live births plus fetal deaths plus induced abortions) per 1,000 female population for girls aged 14–17 years in the county's Western portion had declined remarkably in years 2 and 3 after the intervention began, and the changes were statistically significant when compared with three sociodemographically similar counties and also with the Eastern portion of the county. The Centers for Disease Control and Prevention funded scientists from Research Triangle Institute to conduct a secondary analysis of the School/Community Program. The scientific reassessment reaffirmed the earlier report by verifying that the intervention, and access to contraception, created the reductions in teen pregnancy (Koo, Dunteman, George, Green, & Vincent, 1994). In this article we report the sustained success of this comprehensive

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Table 1. Profiles of Counties Used in the Evaluation of the School/Community Program (1982 and 1998 Residence Data)

County	Bamberg		Clarendon		Lee		Williamsburg	
	1982	1998	1982	1998	1982	1998	1982	1998
Population	18,796	16,658	27,928	32,502	19,154	20,119	39,456	37,217
% Non-White[a]	58	63	58	55	62	65	63	67
Population/square mile	46	42	46	54	46	49	41	40
Annual per capita income $	5,875	17,130	5,338	16,016	5,398	13,390	5,386	15,111
% Adult population without high school diploma	57	41	58	45	60	46	57	44

Sources: *Statistical Abstract of South Carolina*, 1983 and 2000-01

[a]There are no significant racial or ethnic population subgroups other than White and African American.

school/community approach in reducing adolescent pregnancies from 1981–2000.

METHODS

Program Intervention

The School/Community Program has been in place in a rural South Carolina county (Bamberg) since October 1982 and continues as of this writing. According to the 1980 census 58% of Bamberg County residents were African American and 42% were White (1980 Census of population, 1981). Table 1 provides a demographic profile of Bamberg County and the three comparison counties in 1982 and 1998. These counties exhibit much similarity and can be classified as being predominantly African American, rural, low-income, under-educated, agriculturally dependent, with negligible migration and without developed public transport systems (SC Statistical Abstract, 1999). Historically, before the implementation of the School/Community Program, Bamberg County continuously ranked among the top 20% of 46 South Carolina counties in regard to estimated pregnancy rates (EPR) for girls 14 to 17 years per 1,000 female population (Office of Health Education and Division of Maternal Health, 1985).

The objectives of the School/Community Program have remained the same from 1982 to the present. The outcome objective is to reduce over time the occurrence of unintended pregnancies among never-married teens and preteens. The primary behavioral objective is to postpone initial voluntary sexual intercourse among never-married teens and preteens. The secondary behavioral objective is to promote, among never-married teens and preteens who choose to become sexually active and who do not desire a pregnancy to occur, the consistent use of effective contraception. The educational objective is to promote the postponement of initial voluntary intercourse as the positive, preferred sexual and health decision. The educational objective has five subcomponents addressing the modifiable factors that contribute to unintended pregnancy among unmarried adolescents: (1) to increase decision-making skills; (2) to improve interpersonal communication skills; (3) to enhance self-esteem; (4) to align personal values with those of the family, church, and community; and (5) to increase knowledge of human reproductive anatomy, physiology, and contraception.

An underlying premise has always existed regarding program implementation. Because teen pregnancy is a complex sociocultural problem with many risk factors, the hypothesis is clearly simple; that is, the greater number of interventions and community changes one can create, the greater likelihood of reducing teen pregnancies. The tasks for the program staff and its board members and advocates are to orchestrate and facilitate desired changes in the community related to the mission of the initiative. More specifically, program staff work to create partnerships with schools, faith organizations, public health, physicians, human service providers, business leaders, media, and other community organizations and their leaders to develop, augment, and enhance teen pregnancy-related programs or services within their organizations and for community members. Access to health services, especially public health family planning clinics, has always been a School/Community Project core program component.

The majority of the interventions occur in the schools through age-appropriate health and sexuality education for youth in grades K–12. Additionally, other interventions include peer counseling, media awareness, an array of youth development activities, and enhanced school nursing services. Graduate coursework and continuous in-service and supportive assistance to teachers and counselors have always been primary intervention strategies. Teachers completing graduate coursework acquire extensive knowledge and skills regarding reproductive anatomy/physiology; human growth changes; child/adolescent decision-making processes; family planning and contraception; ethical/value influences on sexual behavior; developing self-esteem in youth; methods to elicit parent-child interaction; community medical and public health resources; curriculum organization; and teaching methodologies for use with children, adolescents, and adults.

The intervention dosage has been and

continues to be much greater in the original site location in the western half of the county. Beginning in 1987 and 1988 graduate coursework for teachers was provided in the eastern half of the county along with subsequent school-based program interventions. The school-based interventions in the eastern half of the county have continued to the present. However, over the years the frequency and intensity has been much less than the interventions in the original site located in the Western half of the county. Community awareness and adult programs, media messages, and linkages with human service providers began in 1982 in the original site and were begun in 1986 in the eastern part of the county and have continued up to the present time.

The organizational structure of the School/Community Program has changed since 1995 due to availability of additional funding. Three health educators were hired in 1995–1996, and three more health educators were hired in 1998. These six health educators provide direct age-appropriate sexuality education and life skills sessions to students in grades 3–12. These health educators see every student at least once per week in the classroom. Additionally, all Medicaid-enrolled youths meet twice per month in individual sessions with these health educators. During the past 2 years 80–85% of the Bamberg School District 2 students met eligibility requirements and were enrolled as Medicaid recipients. Individual counseling and referral services for at-risk youths and their families also is provided. For more specific description of the range of intervention options, refer to the original article, or a detailed overview of the School/Community Program can be found elsewhere (Kelly & Vincent, 1995).

Funding for the School/Community Program was initially provided through a 5-year (1982–1987) grant to the University of South Carolina Arnold School of Public Health from the Office of Adolescent Pregnancy Programs, U.S. Department of Health and Human Services. From 1987 to 1995 the South Carolina Health and Human Services Finance Commission funded the initiative, which included program administration, technical assistance, and program evaluation from the University of South Carolina. Since 1995 the program has continued autonomously with funding provided to the Bamberg School District 2 by the South Carolina Department of Social Services (Medicaid), Governor's Cooperative Agreement for Substance Abuse Prevention, Safe and Drug-Free Schools, and South Carolina County Grants for Adolescent Pregnancy Prevention Initiatives. Medicaid has provided the bulk of the funding for the School/Community Program since 1991.

Table 2. Annual Age-Specific Estimated Pregnancy Rates (EPR) for Girls Age 14–17 Years, 1981 to 2000, for South Carolina and the Four Study Counties

Year	SC Rate[A]	Bamberg Rate	Clarendon Rate	Lee Rate	Williamsburg Rate
1981	49.0	55.8	51.8	42.9	34.6
1982	47.6	67.1**	62.3*	36.1	47.7
1983	47.0	57.0	39.3	43.0	44.8
1984	45.3	40.5	52.7	46.7	50.4
1985	49.8	36.6	60.2	53.7	54.9
1986	50.9	37.7	45.4	38.8	42.7
1987	54.6	48.5	76.7***	42.9	41.8
1988	57.3	47.7	50.0	35.4	44.7
1989	55.1	53.3	69.0*	48.4	52.7
1990	51.2	44.3	65.1*	34.9	40.1
1991	50.1	57.4	56.6	42.6	48.9
1992	47.0	42.6	51.2	46.8	51.9
1993	45.0	25.4	42.9	47.5	40.2
1994	47.6	38.8	58.8	50.0	40.0
1995	44.9	41.8	43.5	48.4	45.5
1996	42.5	38.8	55.3*	60.7*	40.6
1997	42.2	36.9	45.2	50.8	24.2
1998	39.1	34.8	50.0	45.9	28.2
1999	37.6	39.1	56.6***	38.3	29.7
2000	34.5	24.6	37.5	35.0	30.6

Note: EPR = (live births + fetal deaths + induced abortions)/1,000 female population. Source: South Carolina Department of Health and Environmental Control. County rates are significantly higher than the SC rate. *p .05. **p .01. ***p .005.
[A]SC rate excluding data from the four study counties.

Evaluation

This current evaluation assessment is different from the original evaluation article (Vincent et al., 1987). In the original article, data was used from the half of the county that received the intensive interventions from 10/82 to 10/86, which was then compared with the portion of the targeted county that received no interventions (other than spillover effects). Additionally, three other South Carolina counties with sociodemographic similarity were selected and used as comparison groups. For ethical reasons and because of contractual agreements the other half of the targeted county began receiving interventions in 1987, which continued thereafter. This analysis for the years of 1981 to 2000 used data from the entire targeted county and is described as the intervention county as compared with the three noncontiguous comparison counties. Table 2 shows the EPR per 1,000 girls aged 14–17 years for the intervention county, three comparison counties, and South Carolina from 1981 to 2000. Estimated pregnancies include live

Table 3. Probabilities by County Comparing the Rate of Each Against the Combined Rate of the Other Three Counties

Year	Bamberg P R	Clarendon P R	Lee P R	Williamsburg P R
1981	.04	.06	.63	1.00
1982	.03	.04	.99	.93
1983	.04	.91	.66	.57
1984	.90	.21	.63	.32
1985	.99	.09	.46	.29
1986	.76	.25	.70	.41
1987	.71	.00001	.91	1.00
1988	.37	.18	.93	.55
1989	.66	.02	.86	.82
1990	.63	.0004	.95	.96
1991	.21	.20	.89	.75
1992	.84	.37	.64	.23
1993	.99	.26	.12	.41
1994	.88	.01	.31	.96
1995	.70	.61	.32	.44
1996	.91	.09	.04	.97
1997	.50	.05	.02	1.00
1998	.72	.01	.13	1.00
1999	.57	.0008	.61	1.00
2000	.92	.11	.35	.71

Note: Boldface indicates .05 or less

births, fetal deaths, and abortions. These data are collected by the Office of Vital Records and Public Health Statistics, South Carolina Department of Health and Environmental Control (DHEC). The DHEC has a cross-reporting system of these events with neighboring states thus adding to the accuracy of their accounting irrespective of where within the state or within neighboring states the events occurred.

Statistical Methods

The 20 years from 1981 through 2000, inclusively, were covered by the data. They consisted of numbers of girls from 14 to 17 years of age and the respective numbers of pregnancies among those girls for South Carolina and the four counties included in this study, namely Bamberg, Clarendon, Lee and Williamsburg. Those numbers from the four counties were subtracted from the state counts so that comparisons would be free of bias due to the presence of counts from the four study counties within the counts of the entire state of South Carolina. Also, the incidence of teen pregnancy for South Carolina was calculated by year. The actual rate of pregnancies in a county was then compared with the actual state rate for that year. When count data are analyzed, the best probability model is often the Poisson probability function, and that function was used here. The Poisson mean was calculated by the product of the absolute state rate and the number of girls at risk within a county. The significant levels or *p*-values are the probabilities of equal or greater number of pregnancies given a mean as calculated above. Lastly, we utilized a simple linear regression to calculate the pregnancy rate trends in the four study counties and the state of South Carolina 20-year period from 1981 to 2000.

RESULTS

Table 2 contains the rates for the four counties and the state rates after the numbers from the four counties were removed. Against those state rates were calculated the expected numbers for the four counties and the probabilities of excesses against expectations. Bamberg County incidence was statistically significantly higher in 1982, the first year of the grant, but never thereafter. Clarendon, one of the control counties, was higher for 6 of the 20 years. Lee County has only one excess in 1996, whereas Williamsburg County has none. Later we discuss whether these findings support a positive result for the interventions in Bamberg County.

Table 3 contains probabilities as to whether the pregnancy rates in each of the study counties were higher than expected as compared with the other three counties. To make comparisons, we used numbers from three counties to determine the anticipated pregnancy rate for the fourth county. The actual rate of the fourth county was compared with the anticipated rate using the Poisson distribution just as we did previously. Bamberg County was higher than the combined other three counties during 1981–1983; however, the School/Community Project did not begin until November 1982, and the county rate was never again higher in the 20-year epoch. Regarding the comparison counties, Clarendon was higher in 8 of the 20 years, Lee was higher twice during the 20 years, and Williamsburg was never higher in the 20 years.

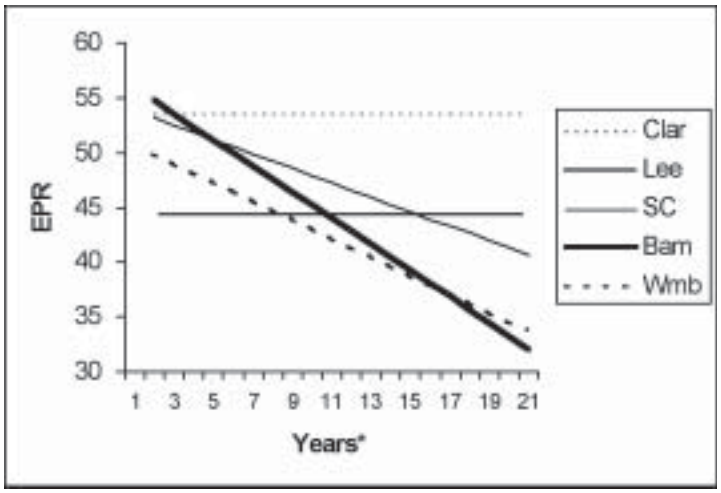
Linear regression was utilized to demonstrate the differences in temporal pregnancy rates of the four counties and the state of South Carolina from 1981 through 2000. The equation for all of the five lines is $Y = b_0 + b_1X$, where b_0 is the expected number for 1980, and b_1 is decrease in number of pregnancies per year since 1980 [pregnancy rate = $b_0 + b_1$ (year – 1980)]. Table 4 shows the regression estimations of pregnancy rates for 1981 and 2000. Regression lines for the four counties are displayed in Figure 1. South Carolina, Bamberg, and Williamsburg all had descending trend lines, whereas Clarendon and Lee counties are best characterized with two horizontal lines.

Table 4. Linear Regression Estimations of Pregnancy Rates, 14 to 17-Year-Old Girls, in South Carolina and Four Study Counties, 1981 and 2000

Area	b_0	b_1	Expected Pregnancy Rates 1981	Expected Pregnancy Rates 2000
SC	53.76	-0.6578	53.10	40.61
Bamberg	55.97	-1.193	54.77	32.10
Clarendon	53.57	0	53.51	53.51
Lee	44.44	0	44.44	44.44
Williamsburg	50.62	-0.8497	49.77	33.62

Note: Preg Rate = $b_0 + b_1$ (Year – 1980)

Figure 1. Temporal Trends of the Rates of Teen Pregnancies in the Study Counties and South Carolina, Years 1981 and 2000



* Years from 1981 (Year - 1) to 2000 (Year - 20).

DISCUSSION

In Table 2, using the entire state as the standard, absent the four study counties, the rate of pregnancies in Bamberg County was statistically high only in 1982. In the control counties, Clarendon was statistically high in 6 out of the 20 years. Lee, a traditionally low teen pregnancy rate county, was, nevertheless, high in 1996, whereas Williamsburg, also traditionally having low teen pregnancy rates, was never statistically high. The conclusion from this data analysis that the intervention in Bamberg was the source of the decrease seems inappropriate, because almost the entire state experienced temporal decreases over the same period.

A slightly different picture is obtained when each of the study counties is compared with the other three. In Table 3 Bamberg begins with 3 consecutive years statistically higher than the other three, but never thereafter. However, for the following 17 years its teen pregnancy rates are statistically inseparable from the combination of the other three counties. Clarendon, which had 6 years of statistically high rates when compared with the state, had 8 years of high rates when compared with only the other three counties. Lee's teen pregnancy rates were statistically higher only once against the other three counties. Lastly, Williamsburg's rates were never statistically significantly higher than the other three counties for any year from 1981 through 2000.

When regressing pregnancy rates on the passage of time since 1980, South Carolina and Bamberg and Williamsburg Counties showed statistically significant negative slopes to their trend lines (Table 4 and Figure 1). Lee and Clarendon Counties did not show any significant trend whatsoever. Of public health importance taken from the composite of these three analyses are the following.

- There was a general downturn in teen pregnancy rates across the entire state from 1981 to 2000.
- When pregnancy rates were estimated by linear regression, the rest of the state fell from 53.1 to 40.6, and Williamsburg fell from 49.8 to 33.6 pregnancies per 1,000 teen girls, whereas Clarendon and Lee Counties were more or less constant. The intervention county, Bamberg, had rates fall from 54.8 to 32.1 pregnancies per 1,000 girls.
- The intervention county started higher and ended lower than the other study counties as well as those other 42 counties of South Carolina as measured by a linear regression.

There can now be a very strong suggestion and a conclusion that the intervention in Bamberg did have a positive effect in reducing the rate of teen pregnancies.

CONCLUSIONS

An analysis over a 20-year period of teen pregnancy rates in four South Carolina counties provides much food for thought. Demographic comparisons from 1980 and 2000 census data (Table 1) confirm that these four counties essentially retained the same characteristics, that is, predominantly African-American populations, rural, low-per capita incomes, and undereducated as per the percentages of adult population earning high school diplomas.

The intervention county realized reductions in teen pregnancy in the mid-1980s and maintained low EPR up to the present time. The annual state report for the year 2000 shows that Bamberg County ranked the third lowest of the 46 South Carolina counties in pregnancy rates (35.4/1,000) for 15–17 year old girls (Office of Public Health Statistics and Information Services, 2002). This ranking is commendable considering that the intervention county residents were relatively undereducated and low-income when compared to other South Carolina counties that had realized low pregnancy rates in the decade of the 1990s.

Although not fully known, the authors surmise that the comparison counties did not experience any discontinuation of programs/services that might have affected the occurrence of pregnancies among teen females. Family planning services provided by the DHEC are excellent in all public health districts with no interruption or discontinuation of funding over the past two decades. HIV/AIDS programs through the DHEC have flourished, and comprehensive preventive and treatment services exist in all counties. Resistance to sexuality education, teen access to family planning services, and opposition to abortion exists throughout the state, and we believe that these forces were similar in the intervention and comparison counties.

Williamsburg County is an interesting case study as a comparison county. This county retains similar demographic characteristics as the intervention county, that is, poor, rural, undereducated and predominantly African American. Our data show a tradition of low pregnancy rates and sustained low rates over the 20-year time period. Informants from the DHEC and South Carolina State Department of Education report that important events occurred from the mid-1980s to the present in Williamsburg County. Leaders and "champions" dedicated to teen pregnancy prevention became active in 1985–1987 in the implementation of a community-based reproductive risk reduction project. Outcomes of this activism resulted in comprehensive health education programs in the schools, supportive advocacy by youth leaders, improved public health clinic access, school nurses funded by the DHEC, and a "Saving the Males" project implemented to create African American leadership. These and other similar interventions continued during the 1990s and likely explain the low teen pregnancy rates in this county over the 20-year study period.

We conclude that the sustained reductions of adolescent pregnancies in the intervention county are related to and most likely attributable to the continued presence of the School/Community Program from October 1982 to the present. The important factors that may have sustained this 21-year project are reviewed in the historical overview that follows.

Community Readiness

Communities are in varying degrees of "readiness" and receptivity in recognizing the problem of teen pregnancy and accepting the responsibility to resolve the problem. When contemplating the initiation of a comprehensive multiple intervention in a community, go where you are wanted. In this scenario the residents of the western half of Bamberg and Bamberg School District 2 were ready to attack teen pregnancy.

(1) During the preparatory period when the lead investigator was completing the grant proposal for funding from the Adolescent Family Life Program, Office of Adolescent Pregnancy Programs, criteria were established to seek out a small rural county with high EPR, high out-of-wedlock pregnancies, and low socioeconomic status. A number of counties were identified and solicited as to their interest in being considered for such a demonstration project.

(2) Bamberg School District 2, in conjunction with the local Denmark community in the western half of the county, was selected based on the aforementioned criteria. Most important in the selection process was the demonstrated desire of the superintendent of the school district, two members of his staff, and the existence of the Lodestar Group. Lodestar had been initiated in 1981 due to their concerns about adolescent pregnancies, school dropouts, incestuous relationships, and the low levels of sexual knowledge and decision-making skills of their youth. Moreover, the school administration and Lodestar members had previously contacted the University of South Carolina for assistance in addressing their community's high rate of teen pregnancy. These individuals were instrumental in developing the awareness and readiness for the School/Community Programs.

Adequate Funding

Funding is absolutely necessary to sustain a comprehensive School/Community initiative in a community. Community values dictate decisions as to how and what will be invested in the community. This community accepted its responsibilities and approved of the investments to support programs and services to reduce teen pregnancy. Adequate funding is needed to hire leadership personnel who have the ownership of responsibility to plan, orchestrate, and implement interventions in the communities.

The School/Community Program began with $50,000 of federal funds, plus in-kind financial support, in 1982. The funding steadily increased over the years and currently is in excess of $400,000 per year as described earlier in this article. The School/Community Program has existed for 21 consecutive years, becoming more comprehensive in programming as it evolved, and thusly sustained because of the competent and credible leadership of its directors and their excellent staff members.

Administrative and Staff Stability

Qualified, organized, and dynamic leadership by the director and staff members must exist to sustain a School/Community initiative.

From its inception in November 1982 to the present there have been only four project directors. The current director began in February 1994 and continues as of this date. The first two directors were the only staff members during their tenure except for graduate student assistants and the weekly visitations and graduate coursework instruction provided by the

principal investigator. An additional staff member was employed to work with the third director in 1992. The fourth director acquired additional funding in 1995 and now has six full-time health educators. Since 1991 a full-time administrative assistant has been employed primarily to process Medicaid enrollment and reimbursement. Essentially, until the past 8 years, the staffing has been small with most of the responsibilities for program implementation resting with the project director and his/her ability to facilitate and orchestrate the different interventions. It is appropriate to recognize that up to 1995 the School/Community Program was directed and administered by the principal investigator and graduate assistants from a school of public health. Though subjectively speculative, the association of the university with the Bamberg County School Districts and the community residents was extremely beneficial for the success of the initiative. The university was perceived by the county residents as a reputable and competent organization that would provide good programs and services for its citizens.

Director and Staff Competencies and Leadership

Competent staff skilled in program planning, community change strategies, educational methods, individual behavior change, and policy revisions can be successful in implementing best practices sexuality-related interventions with minimal community opposition. Bamberg County has not experienced any severe resistance or disapproval of the School/Community Program since its inception in November 1982. One explanatory factor for acceptance of the School/Community Program model was the placement of the initiative in the Bamberg School District 2 as the "hub" organization that endorsed and philosophically committed to the project. Immediately in January 1983, a 3-credit hour graduate course in Family Life Education was provided tuition-free for teachers in Denmark, SC, followed by the same course for 25 additional teachers in the summer of 1983. The logic for this intervention was to heighten awareness and develop skills for these adult teachers. The outcome was believed to be the positive influence these teachers could have in their homes, religious organizations, youth organizations, and, of course, the larger impact they could have on curriculum determinations and direct instruction for youth in the schools. From 1983 to 1990 nine graduate courses were provided to Bamberg County teachers on sexuality education, elementary school health education, and teen pregnancy prevention. These courses continued through the decade of 1990s, but less frequently in the last 3–5 years. In-service education in 1–2 hour sessions has been regularly provided for teachers in each school year along with monthly teacher newsletters, which serve to elevate awareness and provide more instructional strategies. The ACE survey (sexual behaviors, attitudes, and knowledge) was completed by practically all high school students in each of the county high schools from 1983–1987, 1989, and 1992. Immediate feedback of the survey results by school, gender, and age was provided to the schools, media, and community groups.

A proactivist school nurse, employed prior to the project in 1981, distributed condoms and referred students to the public health satellite clinic in the Denmark community and the Bamberg County Health Department.

A K-12 integrated sexuality education was prepared by a team of teachers, reviewed by community members, and approved by the Bamberg 2 School Board, which in 1986 institutionalized the instruction of sexuality-related content. The first school-based clinic in South Carolina was created for Denmark-Olar high school and began its operation in April 1986 with funding from South Carolina state agencies. The clinic provided comprehensive services provided by school nurses and scheduled services by public health professionals and other organizations such as mental health and juvenile justice. Included was full family planning education services for a short period from October 1986 until March 1987. A South Carolina upstate legislator created legislation approved by the South Carolina legislature that prohibited school-based contraceptive services. The contraceptive services were then removed from the clinic, even though this downstate rural and predominantly African-American community was supportive of their Teen Life Center and its programs and services. All of the preceding information illustrates the variety of program activities occurring over the past 21 years in the rural South Carolina county. The School/Community Program has been institutionalized, primarily funded by Medicaid, accepted by its citizens, and is a good example of the programming that can occur when the stable leadership exists in a School/Community setting. Researchers would like to know which of the many interventions are most productive, what dosage level is necessary, and what sequence is most desirable. These important attribution questions can be speculated on, but not answered in precise terms. We are of the opinion that graduate level coursework for school personnel is critical because these persons influence school curricular content, enthusiastically teach their subject matter, teach church school courses, serve as Scout leaders, and talk among their friends about the worth of having a sexually educated community. This is only speculation, however, and confirmation of this opinion cannot be provided. As implied previously, one absolutely must employ a talented lead-person who is the "champion" and can motivate, coordinate, and implement the multiples of needed interventions.

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