



Original article

Integrated Community Strategies for Linking Youth to Adolescent Reproductive Health Services: A Case Study

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A B S T R A C T

Purpose: This article describes the development and promotion of a full-service adolescent health center at a local health department intended to increase teen access to contraceptive and reproductive health care. This work was conducted as part of a multicomponent, community-based teen pregnancy prevention initiative in Gaston County, North Carolina.

Methods: To increase access to adolescent reproductive health services, we implemented multiple integrated strategies: (1) building community support for adolescent reproductive health services; (2) providing technical assistance to the health department in opening the Teen Wellness Center (TWC), a teen-centered, full-service clinic; (3) strengthening referral partnerships between community organizations and clinical services; and (4) educating teens on how to access reproductive health services. Data were collected to examine the change in the number of adolescent reproductive health clients after the opening of the TWC.

Results: In the first year, the TWC was opened, 1,675 adolescent clients received reproductive health services, for a 12.5% increase compared with the prior year. The number of adolescent clients who received more than one type of reproductive health services (e.g., wellness visit and family planning services) increased by 133%. The number of adolescent clients who received family planning services increased by 3.8%.

Conclusions: The project achieved an increase in adolescent reproductive health clients. Establishment of a teen-centered, full-service clinic and working with youth-serving agencies to increase knowledge of the clinic's services are promising approaches to increasing teen access to reproductive health care.

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IMPLICATIONS AND
CONTRIBUTION

Adolescents are an underserved population, yet reproductive health services are critical to teen pregnancy prevention. The strategies documented in this article show promise for communities interested in increasing teen access to reproductive health care.

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To address historically high rates of teen birth in Gaston County, North Carolina, the Adolescent Pregnancy Prevention Campaign of North Carolina (APPCNC) implemented a 5-year, multicomponent, community-wide teen pregnancy prevention project from 2010 to 2015. The average Gaston County birth rate for 2006–2009 was 56.4 per 1,000 females aged 15–19 years, which was 21% higher than the state average of 46.5 per 1,000 females for the same time period. Gaston also has a history of ethnic and racial disparities in rates of teen birth. The average

2006–2009 teen birth rate for Gaston minority females (North Carolina adolescent birth rates were reported for minorities as one population for 2006–2009.) was 30% higher than that for non-Hispanic whites (71.7 vs. 55.1 per 1,000 females aged 15–19 years).

APPCNC's work in Gaston County was supported by a community-wide demonstration project through the Centers for Disease Control and Prevention (CDC) in partnership with the Office of Adolescent Health. The CDC/Office of Adolescent Health community-wide teen pregnancy prevention initiative offered an overarching framework that included five components: (1) implementing evidence-based interventions (EBIs) for youth; (2) increasing youth access to contraceptive and reproductive health services; (3) mobilizing the community to address teen pregnancy prevention; (4) educating key stakeholders on teen pregnancy prevention approaches; and (5) working with diverse communities to provide culturally appropriate strategies (see Mueller et al., this issue [1], for more background and information about the overall approach).

The importance of the second component, increasing youth access to contraceptive and reproductive health services, is supported by findings linking declines in teen pregnancy nationally to increased use of contraception by adolescents [2–4]. APPCNC staff and local stakeholders sought to increase teen access to contraception in Gaston County through the development of the Teen Wellness Center (TWC), a full-service adolescent health center at the health department, and efforts to link adolescents to care at the TWC. Through the design of the TWC, the health department recognized an opportunity to increase their capacity to implement the best practices for adolescent reproductive health services, a need found in many publicly funded health centers. Specifically, the project was able to address two common challenges faced by publicly funded health centers—the lack of a special access point to services for adolescents and adolescents not being aware of their services [5,6]. Key benefits of designing a full-service adolescent health center included (1) the designated teen-friendly center provided a special access point and (2) adolescents seeking acute care, well checkups, or other services such as sports physicals could be provided with education and access to reproductive health care [7]. Once the TWC was developed, the APPCNC engaged in multiple strategies to educate teens and adults in the community about the TWC and to increase awareness and use.

In this article, the authors describe the development of the TWC and the multicomponent strategies designed to increase access to adolescent reproductive health services (ARHS) at the TWC. We describe how strategies were implemented and present associated outcomes. Finally, we discuss the findings, highlighting the lessons learned from the project.

Methods

Implementation methods

The target population for intervention activities included youth aged 12–19 years. In 2010, there were 22,411 Gaston youths in this age range [8]. Table 1 illustrates how implementation strategies described in this section fit within the project's framework.

Partnership with the health department. Gaston County Health Department was the largest provider of ARHS in the county, with 1,000 ARHS clients in 2010. Before the project, adolescent clients

Table 1

Strategies for increasing access to ARHS by project component

Project component	Strategy supporting access to ARHS
Community mobilization	<ul style="list-style-type: none"> Assess community support for ARHS access Build community leaders' capacity to support ARHS access
Stakeholder education	<ul style="list-style-type: none"> Normalize support for ARHS access through presentations to community groups on community attitudes and project approaches
Evidence-based programs	<ul style="list-style-type: none"> Implement supplemental lesson on ARHS access to youth enrolled in evidence-based programs
Increase youth access to contraceptive and reproductive health services	<ul style="list-style-type: none"> Assess youth attitudes about ARHS access Open Teen Wellness Center Expand ARHS referral network of community organizations

ARHS = adolescent reproductive health services.

were seen in various locations within the health department, with separate areas for family planning, sexually transmitted infections (STIs), immunization, and child health (sick- and well-child) clinics. In initial meetings to explore how the health department could partner with APPCNC to achieve project goals, the medical director expressed interest in integrating services in a more holistic, teen-friendly environment, where every visit provided an opportunity for ARHS [9]. The medical director noted that teen health services were underutilized, and strategies were needed to ensure that teens knew about their free or low-cost confidential services. To address these interests, APPCNC entered into a formal partnership with the health department through a memorandum of understanding to (1) develop a TWC for all teen health services, where a sexual health history would be taken at every visit (regardless of the visit reason); (2) offer contraception to sexually active teens on a routine basis; and (3) develop formal and informal partnerships with community organization for the purpose of increasing referrals to the TWC.

Community mobilization and stakeholder education. The project sought to develop community support for increased access to ARHS, and the TWC in particular, through three leadership teams. A core partner team, composed of leaders from Gaston County youth-serving organizations, such as the health department and public schools, was charged with providing community-level leadership for the project. Activities included leading presentations on teen pregnancy for community groups, promoting access to ARHS among their peers and elected officials, and planning for project sustainability. A community mobilization team with representatives from grassroots organizations, such as sorority and fraternity alumnae chapters and faith-based organizations, promoted access to ARHS through a series of awareness events held at local churches and distribution of TWC outreach materials through local businesses. The project facilitated formation of a youth leadership team whose members worked with the designers of the TWC to create a teen-friendly physical environment. The youth leadership team held numerous youth-focused outreach events, such as a “get ready for prom” event, where they distributed information on how to access the TWC.

A recurring theme in early conversations with core partner and community mobilization team members was the perception that religious values were highly regarded by the community at large and by elected officials in particular. They voiced concerns that these religious values may influence a lack of support for the

TWC's focus on ARHS. Because approval by the board of county commissioners was needed for the health department to develop the TWC, community mobilization and stakeholder education strategies were directly tied to increased access. The project then conducted a representative survey of parental attitudes toward teen pregnancy prevention. Results showed that parents of youth aged 18 years or younger thought it was important for teens to have access to ARHS and birth control (Project Needs Assessment and Evaluation Reports can be accessed at appcnc.org/initiatives/gaston-youth-connected). Project staff and leadership team members presented these findings to elected officials, boards of health and education, Rotary Clubs, and other community groups. These presentations reached approximately 250 community members between 2011 and 2012. The intent of the presentations was to normalize the availability of ARHS and build community support for the TWC. During this time, approval from the board of county commissioners was obtained to develop the TWC.

Development of the Teen Wellness Center. APPCNC provided technical assistance to the health department as they developed the TWC. Technical assistance topics drew from the best practice recommendations for ARHS include teen-friendly environments, confidential services, time alone with the provider, and the availability of contraception at every visit [5]. Knowing that efforts to increase access to ARHS could be thwarted or enhanced by teens sharing stories about the TWC with their peers, the project focused on providing a positive TWC client experience. The APPCNC worked with the health department to incorporate Gaston teen opinions about ARHS gleaned from focus groups conducted with 52 youths during the project's first year (Project Needs Assessment and Evaluation Reports can be accessed at appcnc.org/initiatives/gaston-youth-connected). A key focus group finding reinforced the medical director's early concerns about health service delivery in separate physical spaces. For example, because there was a separate waiting area for the family planning clinic, one youth commented that getting birth control at the health department can mess up your reputation. Findings about teen preferences for provider characteristics were used to inform the selection of TWC staff. Youth commented that they wanted knowledgeable, nonjudgmental, and caring providers. The health department was deliberate in their selection of staff, particularly staff who were nonjudgmental and enjoyed working with teens. Some focus group youth identified a fear of their parents finding out they were having sex as a barrier to obtaining reproductive health services. North Carolina minors' consent to confidential health services laws allows teens to obtain these services without parental consent [9,10], but not all focus group teens were aware of these laws. The health department developed materials that informed parents about teens' need for private time with their health care provider; they also created separate waiting areas for parents and teens to reinforce the idea that the TWC supports their clients' growing independence. Input from the youth leadership team led to a physical environment that included bright colors, modern furniture, and youth-facing posters.

Evidence-based interventions and knowledge of ARHS. APPCNC incorporated strategies to increase access to the TWC within the EBI component of the overall project. In collaboration with the health department, APPCNC developed a supplemental lesson for project-delivered evidence-based reproductive health education interventions. The lesson addressed focus group findings that

Gaston adolescents were not aware of their rights to confidential health services. The supplemental lesson included information on rights to access ARHS, how to make an appointment, and where to access ARHS in Gaston County, highlighting the TWC. Although not required, some program partners offered the lesson at the TWC or included a tour. The supplement was approved as an adaptation by the CDC and was the only major adaptation that occurred. During the first 2 years, 1,377 youths received the supplemental lesson through their enrollment in one of the seven evidence-based programs. These programs included: All4You!, ¡Cuidate!, Making Proud Choices!, Making a Difference!, Project AIM, SiHLE, and Teen Outreach Program. Programs took place in community settings, such as park and recreation centers, after school programs, and the juvenile detention center. Youth were recruited through community programs in which they were involved (such as a church group), flyers distributed at schools, or word of mouth.

Efforts to increase access to the Teen Wellness Center. The project supported a teen health advocate who worked in the TWC. In addition to contraceptive counseling, appointment reminders, and text or phone response to sexual health questions, the teen health advocate conducted outreach to inform adolescents and parents of TWC services. During the first 2 years of implementation, the teen health advocate conducted outreach efforts with approximately 740 youths in locations such as recreation centers, churches, schools, and malls. Additional outreach included training for 160 youth-serving professionals, including school nurses and counselors, on how to make an effective referral to the TWC. Over the 5-year project period, youth leadership team members made more than 700 peer referrals.

Evaluation methods

The project's 5-year evaluation plan included process and outcome measures for each project component (Project Needs Assessment and Evaluation Reports can be accessed at appcnc.org/initiatives/gaston-youth-connected). Process questions focused on continuous quality improvement, implementation quality, reach/dosage for intended target populations, and stakeholders' lessons learned. Outcome questions addressed the extent to which the project met stated annual objectives, which included changes in practices, knowledge, attitudes, and intended behavior. Both qualitative and quantitative methods were used, including analyses of data collected through administrative records, surveys, focus groups, and interviews. Evaluation methods specific to the TWC and efforts to increase the use of the TWC are described in detail in the following section.

Supplemental lesson. To assess changes in youth knowledge and intended behavior regarding accessing ARHS, we developed a presurvey/postsurvey that was aligned with learning objectives common to the seven programs implemented. The survey included 48 items pertaining to pregnancy prevention, five of which were aligned with supplemental lessons on access to ARHS. Knowledge outcomes included rights to access services and where to obtain ARHS. The intended behavior outcome included intention to visit a doctor or clinic for birth control. Differences between preresponse and postresponse were analyzed using the chi-square test for survey items with a dichotomous, correct/incorrect response (e.g., items related to

minor's rights to access services). A matched pairs *t* test analysis was used to analyze knowledge of accessing clinic services which included summed correct scores for four dichotomous responses. Data presented in this article reflect surveys administered between October 2011 and September 2013.

Teen satisfaction survey. Client satisfaction with their visit to the TWC was assessed through a self-report survey. Satisfaction items aligned with youth preferences for ARHS were expressed in the focus groups. Six items aligned with staff interactions (e.g., showed they cared and kept my information private); seven with structural characteristics (e.g., wait time and ease in getting an appointment); and three with overall quality (e.g., would recommend to a friend). Two waves of data collection took place: all clients were asked to complete the survey at the end of their visit in May 2012 (first month, TWC was open) and in May 2013. APPCNC uploaded responses into SPSS and conducted frequency analyses to identify areas of needed improvement and to measure changes over time.

Utilization of ARHS at the Teen Wellness Center. To assess progress in achieving the goal of increased utilization of ARHS at the TWC, we compared the number and type of ARHS clients and visits between May 2011 and April 2012, the year before opening the TWC, with May 2012–April 2013, the first year the TWC was opened. Data were supplied by the health department and included a deidentified record of visits for clients aged 12–19 years during these periods. ARHS clients were defined as: (1) any client where a protocol was in place that required taking a sexual health history and providing sexual health guidance (i.e., annual physical; Health department providers use the American Academy of Pediatrics Bright Futures guidelines <http://brightfutures.aap.org/>.) and (2) clients who received family planning services, such as contraceptive guidance and provision, pregnancy testing, or pap smears. STI clients were not included in the evaluation. In keeping with the best practice of providing seamless services, STI clients in the TWC also received contraceptive guidance and were coded as family planning clients. In the baseline year, STI and family planning services received two separate codes, as clients were seen in separate clinics. Because it was not possible to identify STI as a separate service category in the TWC data, we were unable to compare STI services from baseline to implementation.

The CDC determined that this project was public health practice and did not require the international review board's review. The evaluation adhered to privacy protections; no identifiable information was included in any of the data used for this evaluation.

Results

Supplemental lesson

A total of 1,274 completed a matched set of presurveys and postsurveys. Youth who did not complete a response to all the items in the ARHS domain were not included in the analyses. Some of the greatest gains in prescores/postscores centered on the knowledge of minors' rights to access ARHS ($n = 902$; $t = 26.4$, $p < .001$) and where to access ARHS ($n = 466$, $t = 26.5$, $p = .000$). Scores for intent to access ARHS increased by 19.5% compared with baseline ($n = 889$, $t = 11.4$, $p < .001$).

Teen satisfaction

Surveys were completed by 178 TWC clients in May 2012; 150 clients completed the survey in May 2013. Satisfaction ratings were high in both the periods. Average ratings for items that related to staff interactions (confidential, caring, and knowledgeable) increased from 91% in May 2012 to 98% in May 2013. Ratings for structural characteristics (affordability, wait time, and convenience) were 92% in 2012 and 93% in 2013.

Utilization of ARHS at the Teen Wellness Center

Year-to-year changes in the use of ARHS are shown in Table 2. Compared with the baseline year, there was a 12.5% increase (1,675 vs. 1,489) in the number of unduplicated ARHS clients. Although, the number of duplicated ARHS clients (i.e., clients who received separate well-child and family planning visits) is small, these clients more than doubled (49 vs. 21) in the first year of TWC operation. About one third (16/49) initially presented as a new well-child client and then returned for a family planning visit at a later date, often within the same week. The remaining two thirds of the dual-service clients first presented as a family planning client and returned for a well-child visit.

The increase in ARHS clients is largely explained by an 83.1% increase (357 vs. 195) in the number of adolescents who came to the TWC for a well-child visit. The number of well-child clients who were aged 15–19 years, an age group more likely to be sexually active, more than doubled (178 vs. 64). The number of family planning clients increased slightly by 3.8% (1,367 vs. 1,315) largely due to the increase among older adolescents: the number of family planning clients aged 18–19 years increased by 12.0% (786 vs. 702), whereas the number of family planning clients aged 15–17 years decreased by 7.4% (512 vs. 550).

Table 2

The number of adolescent reproductive health service clients, by age and visit type

	May 2011–April 2012, before Teen Wellness Center				May 2012–April 2013, first-year Teen Wellness Center operation			
	Client ages (years)				Client ages (years)			
	12–14	15–17	18–19	Total	12–14	15–17	18–19	Total
Number of well-child and family planning clients (two visit types)	7	12	2	21	10	23	16	49
Number of well-child clients receiving sexual health screening/counseling	131	59	5	195	179	136	42	357
Number of family planning clients	63	550	702	1,315	69	512	786	1,367
Total clients unduplicated across services	187	597	705	1,489	238	625	812	1,675

Discussion

Project staff and community partners addressed the goal of increased access to ARHS at the TWC by integrating strategies throughout multiple components of a community-wide teen pregnancy prevention initiative. Teens who participated in EBI's increased their knowledge of how and where to access ARHS, particularly at the TWC. The selection of TWC staff was informed by focus group findings on the topic, and clients provided high satisfaction ratings for staff interactions.

By focusing on a No Wrong Door Approach, project stakeholders anticipated an increase in the number of adolescents who, at a minimum, received a sexual health history and guidance. The project set a goal for a 10% increase in the number of clients using the TWC. The number of ARHS clients aged 15–19 years at the TWC, the project's primary clinic implementation site, in fact increased by 12.5%, with the largest gains (83.1%) in the number who received a well-child visit. This finding is important because teens routinely receive a sexual health history and guidance as part of the well-child visit at the TWC. It appears the message that youth could come to the TWC for any reason, communicated through the project's multicomponent outreach strategies, was successful. This finding holds promise for increasing access to ARHS, as youth may find less stigma associated with seeking services from a clinic that offers a full range of health services versus one that provides only services labeled as family planning or STI. Dual-service clients who first received a family planning visit and a subsequent well-child visit illustrate how a No Wrong Door Approach is beneficial for overall adolescent health. Project stakeholders are hopeful that teens who have a positive experience with a well-child visit will return for family planning services at a later date, even if that date is several years in the future at the time when the young person becomes sexually active.

The 12% increase in family planning clients aged 18–19 years was encouraging, as that age group is more likely than younger adolescents to be sexually active [11]. Possible explanations for the increase include project efforts to build community awareness of the disparity in teen pregnancies by age, where older teens account for 75% of Gaston teen pregnancies. The decrease in family planning clients aged 15–17 years could be explained by fewer sexually active teens in this age group, particularly if the TWC brought in a larger percentage of pediatric patients who were not yet sexually active as compared with those young people previously served by the health department.

There are a number of limitations in this case study. It is not possible to say with certainty the extent to which these strategies directly or indirectly contributed to the increase in clients. This evaluation examined changes after the first year of TWC operation. There is a value in examining changes in subsequent years to determine if increased use of ARHS is sustained. The inability to examine changes in the number of adolescent clients who received STI services (e.g., testing or treatment) limited the ability to capture the full array of change in access to ARHS. Clients who received contraception at a well-child visit may have been coded as family planning clients for billing purposes, which limits the ability to fully identify dual-service clients. Although the evaluation included a range of process measures, it did not track project costs. A cost-benefit analysis would be of interest for future evaluations. This case

study illustrates one community's experiences, which limits the ability to generalize results. Additional field-based implementation studies would add to the literature on effective approaches to increase access to ARHS.

Lessons learned

The authors identified three major lessons learned. First, the use of data to inform and strengthen project strategies was woven throughout the project. Staff and stakeholders found it helpful to have data that showed community support for ARHS before marketing services. They used focus group findings on Gaston teens' preferences about how ARHS are delivered to inform the design of the TWC. Monitoring client experiences with the TWC created confidence among staff that they were marketing teen-friendly ARHS to Gaston teens.

Second, the results support the project's intentional focus on promoting ARHS to teens and adults who interact with teens. The project incorporated marketing of the TWC into diverse strategies that involved an array of stakeholders from multiple sectors. Engaging school personnel, Teen Action Council members, and staff from youth-serving organizations exemplifies how communities can implement the Institute of Medicine's recommendations to involve community organizations in linking adolescents to health services [12].

Third, findings from youth focus groups and evidence-based program presurveys/postsurveys showed a strong need among adolescents to have information on how and where to access ARHS. Delivery of the supplemental lesson on how and where to make an appointment, which led to knowledge gains on access to ARHS, highlights the importance of providing teens with this information. The Office of Adolescent Health Teen Pregnancy Prevention Program's investment in increasing the reach of evidence-based teen pregnancy prevention interventions across the country provides an opportunity for the field to consider the utility of adding a supplemental lesson on access to ARHS.

Finally, the overarching lesson learned is the value of adopting a multicomponent approach to teen pregnancy prevention. In this case study, the implementation of an array of strategies across the project's five components appeared to have been effective in contributing to a 12.5% increase in the number of teens who received ARHS. Communities interested in increasing adolescent use of family planning services may consider implementing the multicomponent strategies described in this article, such as increasing community acceptance of ARHS, educating teens about the availability of confidential, teen-friendly ARHS, and working with youth-serving organizations to link teens to ARHS. They may explore adopting a streamlined, No Wrong Door Approach to provide contraception to sexually active teens, regardless of the reason for their health visit. We also recommend that they adopt ARHS outreach activities that address teens' concerns, such as concerns about confidentiality, anonymity, and side effects.

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References

- [1] Mueller T, Tevendale HD, Fuller TR, et al. Teen pregnancy prevention: Implementation of a multicomponent, community-wide approach. *J Adolesc Health* 2017;60:S9–17.
- [2] Santelli JS, Lindbergh LD, Finer LB, et al. Explaining recent declines in adolescent pregnancy in the United States: The contribution of abstinence and improved contraceptive use. *Am J Public Health* 2007;97:150–6.
- [3] Boonstra HD. What is behind the declines in teen pregnancy rates? *Guttmacher Policy Rev* 2014;17:15–21.
- [4] Manlove J, Karpilow Q, Welte K, Thomas A. Linking changes in contraceptive use to declines in teen pregnancy rates. *Societies* 2015;6:1.
- [5] Romero LM, Olaiya O, Hallum-Montes R, et al. Efforts to increase implementation of evidence-based clinical practices to improve adolescent-friendly reproductive health services. *J Adolesc Health* 2017;60:S30–7.
- [6] Mead K, Beeson T, Wood S, et al. The role of federally qualified health centers in delivering family planning services to adolescents. *Am J Public Health* 2015;57:87–93.
- [7] Hagan JF, Shaw JS, Duncan PM. *Bright futures: Guidelines for health supervision of infants, children, and adolescents*. Elk Grove Village, IL: American Academy of Pediatrics; 2008.
- [8] State Center for Health Statistics website. Available at: <http://www.schs.state.nc.us/data/>. Accessed August 26, 2014.
- [9] Nordin JD, Solber LJ, Parker ED. Adolescent primary care visit patterns. *Ann Fam Med* 2010;8:511–6.
- [10] North Carolina General Assembly Web site. Available at: http://www.ncga.state.nc.us/EnactedLegislation/Statutes/PDF/ByArticle/Chapter_32A/Article_4.pdf. Accessed on September 24, 2014.
- [11] Chandra A, Martinez GM, Mosher WD, et al. Fertility, family planning, and reproductive health of U.S. women: Data from the 2002 National Survey of Family Growth. *Vital Health Stat* 2005;23:1–160.
- [12] Lawrence RS, Appleton Gootman J, Sim L. *Adolescent health services: Missing opportunities*. Institute of Medicine/National Research Council. Washington DC: The National Academies Press; 2009. Available at: <http://www.nap.edu>. Accessed October 24, 2014.