

Mapping Adolescent Reproductive Health Care in Ouachita Parish

Louisiana Public Health Institute
January 2016



Mapping Adolescent Reproductive Health Care in Ouachita Parish

Louisiana Public Health Institute

In partnership with The Children's Coalition for Northeast Louisiana

January 2016

This work was generously supported by the David and Lucille Packard Foundation.



Introduction

Adolescent reproductive health is a critical, yet often neglected, issue in Louisiana. This is evidenced by the fact that Louisiana has some of the highest rates of sexually transmitted infections (STI) and teen births in the country, consistently surpassing national averages. In 2013, Louisiana ranked first in the nation for gonorrhea diagnoses and second for chlamydia.¹ Young people ages 15–24 made up 72% of all chlamydia diagnoses and 67% of gonorrhea diagnoses in the state.² In addition, 25% of all new HIV diagnoses occurred among persons 13–24 years old. The birth rate for adolescent girl's age 15 to 19 in Louisiana was 39.2/1,000 in 2013, the eighth highest teen birth rate in the country.³ Additionally there are clear racial disparities around adolescent reproductive health with African American females making up over half of teen births in Louisiana as compared with 24% in the United States.⁴

Despite having some of the highest STI rates nationally, and a high teen birth rate, state laws restricting adolescent sexual health education and surveillance data pose as major barriers to building coordinated and evidence-supported systems to improve health outcomes. While schools, health care providers, and community-based organizations interact with adolescents within their own institutional arenas, the systems are fragmented and there is no consolidated statewide strategy to address adolescent reproductive health.

To address these challenges, the Louisiana Public Health Institute (LPHI), in partnership with the Children's Coalition for Northeast Louisiana, conducted a one year project **to map strengths and weaknesses of the health system in order to provide reproductive health advocates with tools to understand key systems assets, barriers or gaps, and opportunities to move forward in planning and implementing larger programmatic solutions that address adolescent reproductive health.** The primary rationale for this project was:

- The high rate of STIs.
- An above average teen pregnancy rate.
- The lack of accessible and quality reproductive health services for adolescents and young adults.

This report is a summary of findings from assessments conducted between November 1st, 2014 and December 31st, 2015 with health systems providers and adolescents in Ouachita Parish, Louisiana. The assessments explored: a) reproductive and sexual health services being offered in the community, b) adolescent-friendly features offered by providers, c) perceptions of major health issues for adolescent patients, d) strengths and challenges to providers' services and education around sexual and reproductive health, and e) social networks between providers, community based organizations, and schools in the area.

The Children's Coalition for Northeast Louisiana

The Children's Coalition for Northeast Louisiana is a 501(c)3 non-profit organization located in Monroe, Louisiana serving all of Louisiana Public Health Region 8 including Ouachita, Caldwell, East and West Carroll, Franklin, Jackson, Lincoln, Madison, Morehouse, Richland, Tensas, and

Union Parishes. The Children’s Coalition works at both the community and systems level to address a multitude of issues affecting children and young people in the region through programming in early childhood development, teen parenting support, healthy living, and youth development.

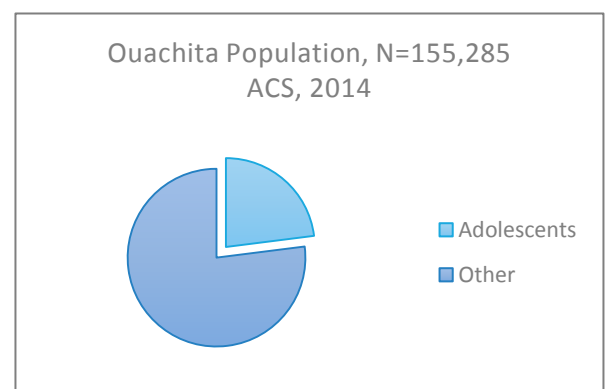
Starting in 2014 LPHI began conducting an initial scan of six youth-serving CBOs to function as potential partners in Ouachita Parish. LPHI staff members traveled to the region to do interviews in order to assess the climate and interest of identified organizations. Children’s Coalition had been recommended by the Region 8’s Healthy Living Coalition, part of LPHI’s Tobacco Free Living Program. Children’s Coalition was chosen to serve as a programmatic partner in the region due to their interest, capacity, and history of coalition building. Their main responsibilities in the first year of the project were to assist in setting up assessment interviews, and to convene a coalition focused on improving adolescent health in the region.

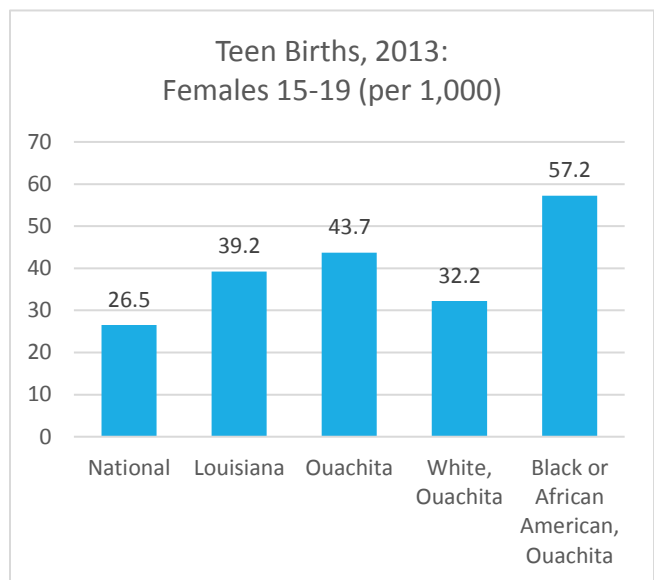
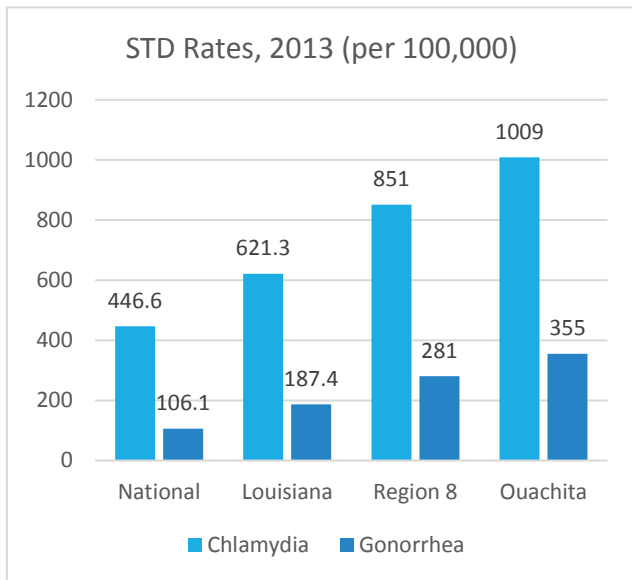
Ouachita Parish

Ouachita Parish is located in Northeastern region of Louisiana. The population estimate for the parish was 155,285 in 2014 with a median age of 34.6 years. Seventy-six percent of the population lives in an urban area (Monroe, LA), however, part of Ouachita Parish is rural, and the majority of the surrounding parishes are rural. Although, the parish as a whole has a slightly higher percentage of females (55% female; 45% male), the adolescent population is approximately 50/50.

Adolescents make up approximately 23% of the total population in Ouachita Parish. Fifty-nine percent of the population is White, 37% is African American, 2% is Hispanic or Latino, and the remaining 2% is other races.

Reproductive health outcomes for adolescents in the region are very poor. In 2013, the region where Ouachita is located had the highest chlamydia and gonorrhea diagnosis rate in the state.⁵ The chlamydia rate in Ouachita Parish (1,009 per 100,000) is over 125% higher than the national average (446.6 per 100,000).² The teen birth rate in Ouachita Parish was nearly 65% higher than the national average at 43.7 births per 1,000 females between 15 and 19 in 2013.⁶ Similar to national trends, the teen birth rate was 77% higher amongst African American teens than their White counterparts, data was not statistically reliable for Hispanic youth.





Methodology

Health Systems Assessments

Health systems assessments were conducted with area hospitals, community health clinics, health care providers, and one school-based health center (SBHC). Providers were recruited through three means:

1. The LPHI project team developed an initial pool of potential providers (nine in Ouachita Parish) by requesting a list from the Louisiana State Department of Health and Hospitals (DHH) of clinics and facilities with at least 10 cases of chlamydia among 15-19 years old diagnosed by providers.ⁱ This number was indicative of providers screening 15-19 year olds for STIs, thus potentially offering a wider range of reproductive health services to youth.ⁱⁱ
2. The LPHI project team purposively sampled known adolescent health care providers in Ouachita Parish;
3. Snowball sampling was used after each interview, whereby provider participant was asked to refer potential provider or client participants. The LPHI project team followed up with each referral and conducted an in-person assessment.

Topics covered by the assessments included operational and appointment information, services currently offered, client population demographics, adolescent health issues, barriers to

ⁱ The latest publicly available data from the LA DHH from which providers were identified was from 2013.

ⁱⁱ This methodology was adapted from The Project Connect Health Systems Intervention. Project Connect is a CDC evidence-based, scalable intervention designed to increase youth access to sexual and reproductive health care services. In Project Connect sites during assessments, providers in the initial pool reported 10 or more cases of chlamydia among 15-19 year olds in the past year. This number was chosen to ideally identify a population of providers who were seeing a large number of youth, had access to an at-risk population, and who were screening youth for chlamydia and reporting results. For more on Project Connect go to <http://www.cdc.gov/std/projects/connect/default.htm>.

reproductive health care, and outreach. Finally, a social network analysis was conducted to understand the interactions or relationships that connect them with other healthcare providers in the community, as well as their interactions or relationship to schools, youth-serving community-based organizations and faith-based organizations. Fourteen providers completed the assessment.

In-Depth Interviews

In-depth interviews (both individual interviews, group interviews and focus groups) were conducted with 46 youth informants between the ages of 14 and 24 years. Participants were identified by the Children’s Coalition of Northeast Louisiana, an LPHI-funded partner, through recruitment at community health clinics, pediatric provider groups, and additional youth-serving community based organizations (CBOs) in Ouachita Parish. Thirteen (13) interviews were conducted over the course of three months between June 1st and September 30th, 2015. Several participants were interviewed individually, and others were broken into focus groups of six to eight participants and small group interviews of two to three participants. Participants were students at private schools, public schools, and at the University of Louisiana at Monroe. Sixteen participants (35%) were female, thirty participants were male (65%). Twenty participants were African American (43%), twenty-five were White (54%), and one was Hispanic (2%).

Key Topics of Investigation Included

- Understanding where and from whom adolescents get their reproductive health information
- Perceptions of the accuracy of the reproductive health information they receive
- Issues encountered by adolescents around access and utilization of reproductive health care
- If and how adolescents engage social media and the internet to access reproductive health information and resources

Interviews varied in length from thirty minutes to an hour. Interviews were recorded and transcribed verbatim for accuracy. A thematic analysis was conducted using a team-based approach. Each team member read through the transcripts and then meet collectively to identify themes and code the data.

Limitations

There were several limitations to this study. The project team assessed five of nine provider groups identified through chlamydia screening rates, but were unable to interview two key community health clinics, and one private provider group who were not interested in participating in the survey. The project team also ultimately made the decision not to assess the juvenile detention center, Swanson’s Center for Youth, as the youth housed there come from all over the state. It is also important to note that the most recently available chlamydia diagnosis data retrieved from the state was from 2012, in the three years that have past, several of the

identified providers have changed operators. These details are noted in the chart below. The project team identified nine additional providers through snowball sampling. Another important limitation was the representativeness of the youth key informant sample. While our sample was reflective of the racial and ethnic composition of adolescents and young adults in Ouachita Parish, males were overrepresented in our sample. In addition, LGBT youth were also underrepresented. However, as males have historically been underrepresented in adolescent reproductive health research, the larger sample of males can also be seen as an asset.⁷

Findings

Mapping the Current Health Care System

Many of the clinic operators are established in the community (on average ~ 20 years). A small number of clinics (3) had operated for under a year. There has been a consolidation of clinics over the last few years owing to budget cuts to the LSU health systems in the region.

Operations: Staffing and Staffing Patterns

Organizations varied in size from small clinics with just a few employees to large hospital systems with over 1,000 employees.

The size of the organizations varied from small private clinics with five full time staff members, to large hospital systems with 2000 staff members. Half of clinics had between 10-20 staff members. Most of the sites (90%) report that all staff work directly with youth.

Clinic Size	Number of Clinics
<10 FT Staff Members	4
10-20 FT Staff Members	7
20-50 FT Staff Members	2
>50 FT Staff Members	1

Medical Staff

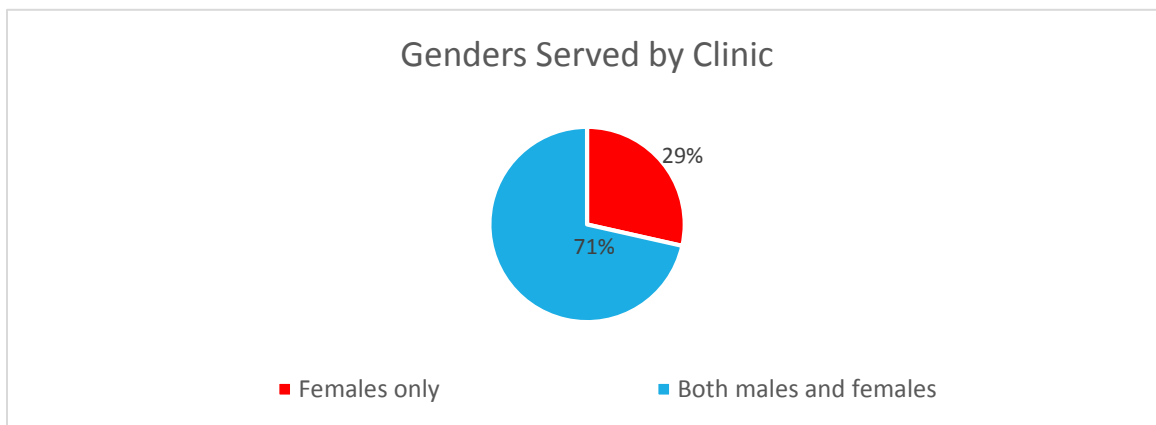
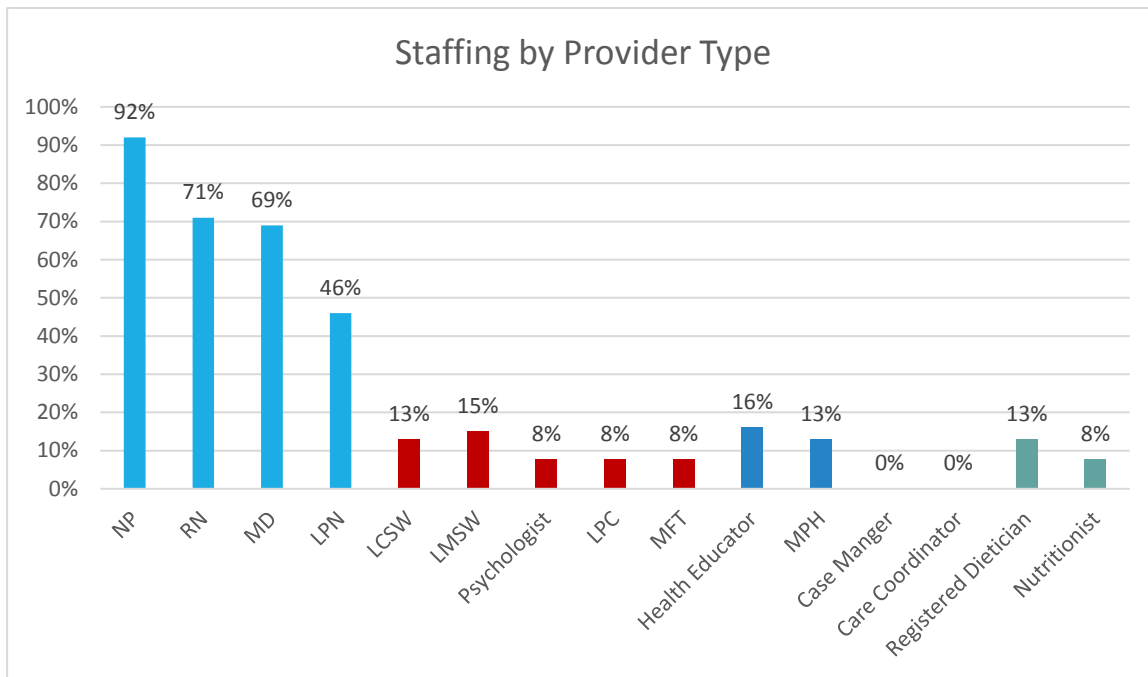
- 64% reported having at least one Medical Doctor (MD)
- 92% of sites reported having at least one Nurse Practitioner (NP)
- 71% reported having at least one Register Nurse (RN)
- 46% reported having at least one Licensed Practicing Nurse (LPN)

Behavioral Health Staff

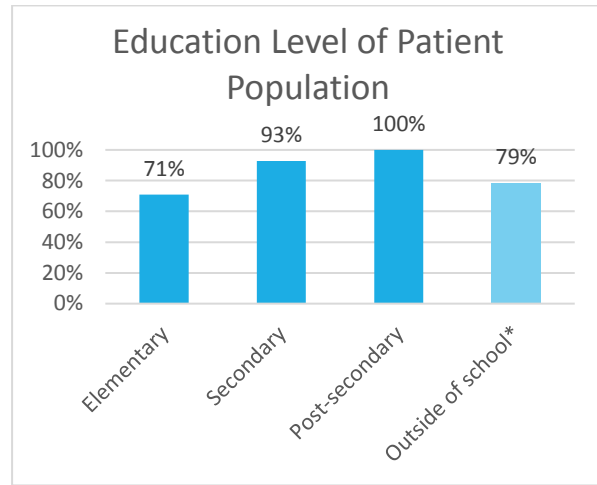
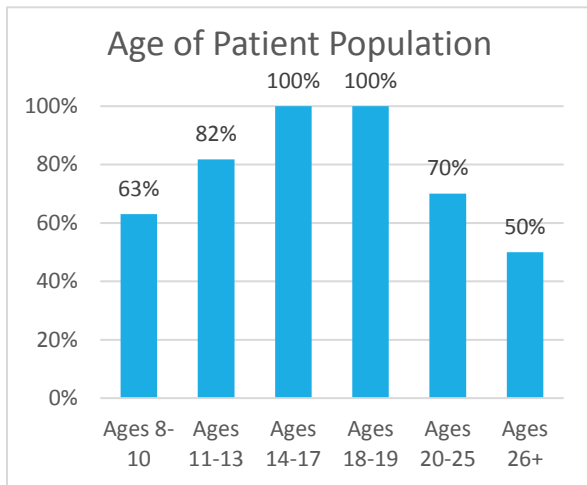
- 13% reported having at least one Licensed Clinical Social Worker (LCSW)
- 15% reported having a Licensed Master Social Worker (LMSW)
- 0% of sites reported having at least one Psychologist on staff
- 20% reported having a Licensed Professional Counselor (LPC)

Health Education and Care Coordination Staff

- 16% of sites reported having at least one health educator or public health professional (MPH)
- 0% of sites reported having at least one case manager
- 0% of sites reported having a care coordinator
- Few sites offered nutrition services, with 13% of sites reporting having at least one registered dieticians and 8% reporting a nutritionist on staff.

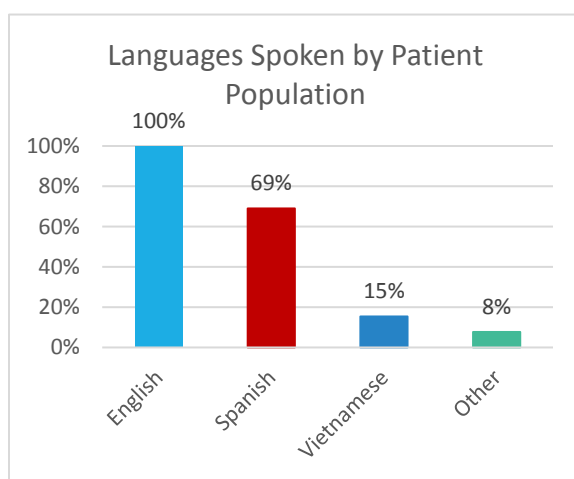
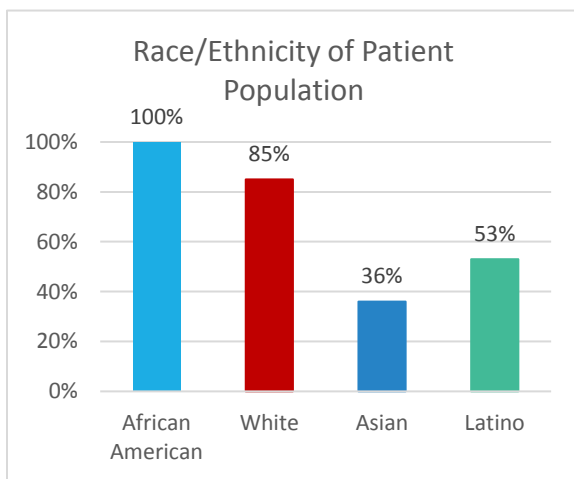


While providers did not provide a numerical breakdown of their patient populations, the majority of providers surveyed reported serving patients between 10-24 years of age. In addition to seeing adolescents who are enrolled in schools, many of the providers reported serving adolescents who are not enrolled, either because they have graduated from secondary school or dropped out. Several of pediatricians that participated in the assessment do not serve patients over 20 years of age. During the youth interviews however, several college aged informants reported that they were still being seen by their pediatricians.



Race/Ethnicity

Providers were asked to identify the race/ethnicity of their patient populations. Eighty-five percent (85%) of providers reported serving White youth. The majority of providers reported serving minority youth. All providers reported serving African American adolescents and young adults, 53% reported serving Latino youthⁱⁱⁱ and 36% reported serving Asian youth.

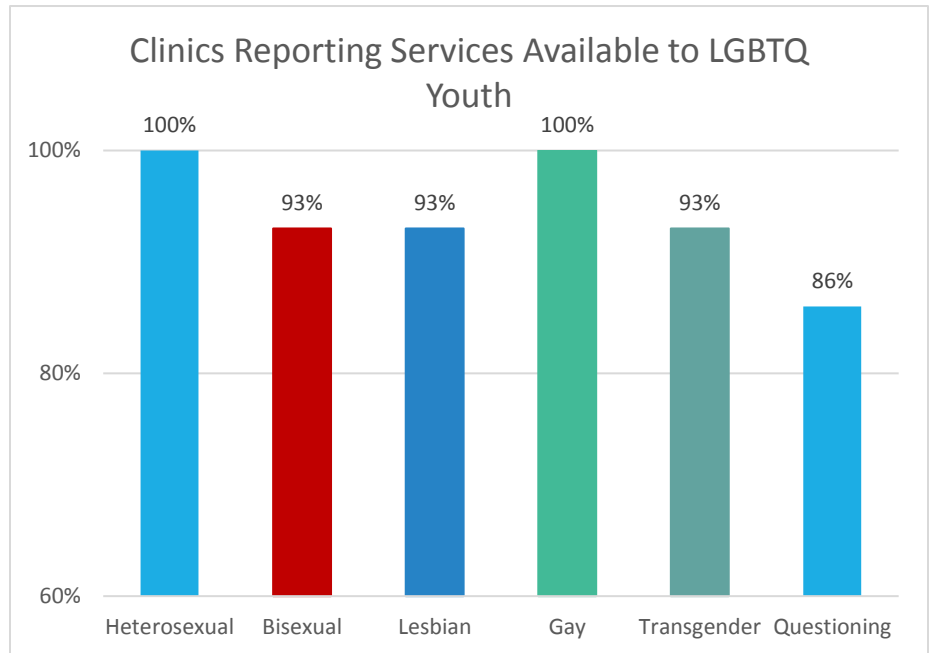


ⁱⁱⁱ Census data shows a 5% increase in the Hispanic population in the parish between 2000-2010 (<http://censusviewer.com/city/LA/Monroe>). Anecdotally, many providers also noted that the Latino population had been growing in Ouachita and its surrounding parishes.

Sexual Orientation

Health providers were asked what sexual orientations they served. None of them reported having a special program for lesbian, gay, bisexual, and transgender (LGBT) youth but they are not turning them away. LGBT adolescents face unique health needs from their straight peers and are also at increased risk for certain negative health outcomes.⁸ Despite these documented needs, barriers to health care systems exist for this population, including insurance concerns, finding

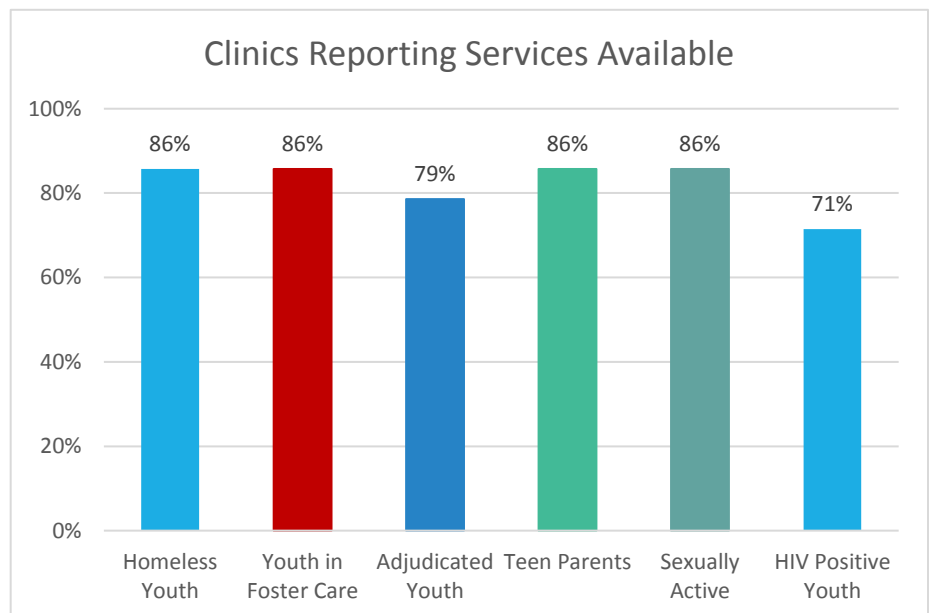
welcoming care, legitimate or perceived provider knowledge and attitudes, and increased likelihood of unemployment, homelessness, and lack of transportation.^{9,10}



Special Population

Adolescents face a high burden of vulnerability, particularly young people who are homeless, system-involved, are teen parents, are LGBT, and are HIV positive. Each of these special populations comes with unique risks and considerations particular to their circumstances. Health providers were asked what special population they served. Nearly all of the clinics reported serving homeless

youth, youth in foster care, adjudicated youth, teen parents, and sexually active teens. Ten out of fourteen clinics reported serving HIV+ youth. None of the clinics reported having a specific program for any special population but they are not turning them away.

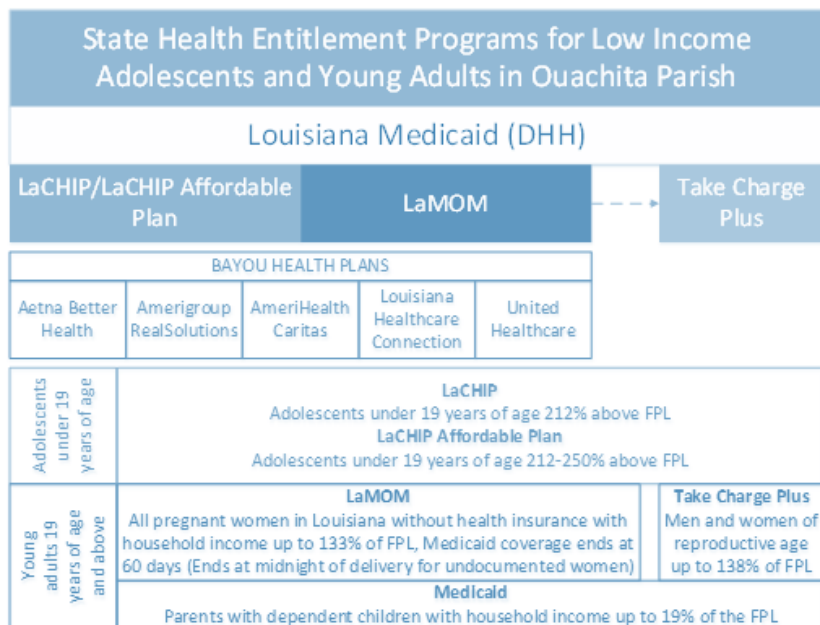


Fees for Services and Health Entitlement Programs

Over one-third of children (35.9%) in Ouachita Parish live at the poverty level and are heavily reliant on low-cost health care options and state health entitlement programs. Sixty-four percent (64%) of the clinics reported having fees associated with services provided. Only 5 clinics offer free services. Many clinics offer a sliding scale but only the public health units have a sliding scale that starts at \$0.

Vaccines for Children (VFC)

Fifty-seven percent (57%) of clinics reported that they are Vaccines for Children (VFC)^{iv} providers. VFC is a federally funded program that provides vaccines for 16 diseases including HPV (human papillomavirus) at no cost to children who might not otherwise be vaccinated because of inability to pay. The Centers for Disease Control (CDC) buys vaccines at a discount and distributes them to grantees—i.e., state health departments and certain local and territorial public health agencies—which in turn distribute them at no charge to those private physicians' offices and public health clinics registered as VFC providers.



Medicaid

All but one clinic reported accepting Medicaid. Medicaid operates several health entitlement programs that are relevant to Ouachita Parish adolescents and young adults. The Louisiana Medicaid Program operates within the Louisiana Department of Health and Hospitals (DHH). Medicaid eligibility is determined using Federal Poverty Guidelines. Individuals qualify to receive Medicaid if they receive Supplemental Security Income (SSI) from the Social Security Administration (SSA) or receive financial help from the Office of Family Support through the Family Independence Temporary Assistance Program (FITAP). Individuals who may qualify for Medicaid include people who:

- Are parents with dependent children under the age of 19 with household income up to 19% of the federal poverty line (FPL) qualify for Medicaid;
- Are disabled according to the definition put forth by the Social Security Administration;
- Have no insurance and need treatment for breast and/or cervical cancer; or

^{iv} For more on the Vaccines for Children program, go to <http://www.cdc.gov/vaccines/programs/vfc/index.html>.

- Have corrected vision no better than 20/200

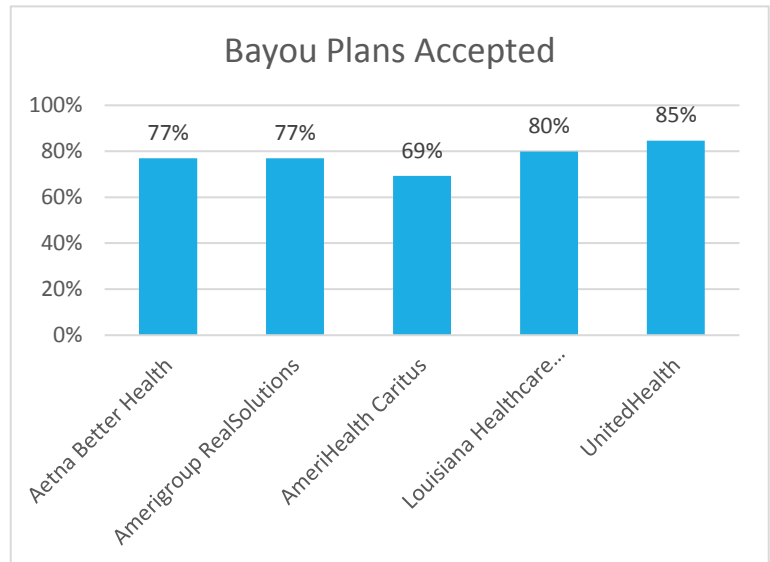
On February 1, 2012, the Bayou Health Plans were launched by DHH. As a result, 246,000 Medicaid recipients across Louisiana were switched to private, managed care organizations (MCOs). There are currently five Bayou Plans operating in Louisiana: Aetna Better Health, Amerigroup RealSolutions, AmeriHealth Caritas, Louisiana Healthcare Connections and United Healthcare. It is up to provider discretion to accept some or all of the different plans. A majority of providers report accepting all of the Bayou Plans.

Louisiana Children’s Health Insurance Program (LaCHIP)

The Louisiana Children’s Health Insurance Program (LaCHIP)^v provides health coverage to uninsured children up to age 19. Children ages 0 to 18 years of age with household income up to 212% of FPL are eligible for LaCHIP. Children with family income between 212-250% of FPL are eligible for the LaCHIP Affordable Plan. The LaCHIP Affordable Plan is a LaCHIP health insurance program for uninsured children in moderate income families whose income is too much to qualify for regular LaCHIP. LaCHIP and LaCHIP Affordable Plan provide Medicaid coverage for doctor visits for primary care, preventive and emergency care, immunizations, prescription medications, hospitalization, mental health and dental care.

Louisiana MOMS (LaMOMS)

The Louisiana MOMS (LaMOMS)^{vi} program was launched on January 1, 2003 and is an expansion of Medicaid coverage for pregnant women, single or married, with total household incomes that do not exceed 133% of the Federal Poverty Level (FPL). LaMOMS pays for pregnancy-related services, delivery, and care up to (60) days postpartum, including doctor visits, lab work/tests, prescription medicines, and hospital care. However, coverage for undocumented immigrants ends at midnight on the date of delivery. Pregnant women must submit an application form online to apply for LaMOMS coverage, with the key requirements being verification of income and verification of pregnancy or expected date of delivery. They can have other insurance coverage in addition to LaMOMS; the other insurance will pay first and Medicaid will cover the amount that is left, up to the Medicaid



^v For more on LaCHIP and LaCHIP Affordable Plan, go to <http://new.dhh.louisiana.gov/index.cfm/page/222>.

^{vi} For more on LaMOM, go to <http://dhh.louisiana.gov/index.cfm/page/231>.

allowed amount. In some case, adolescents who are on LaCHIP will be moved to LaMOMS if then become pregnant. Depending on their age and income level, they may either return to LaCHIP, move to adult Medicaid or be dropped from coverage. Often young women who come off LaMOMS 60 days after delivery remain uninsured until their next pregnancy.

Gaps in Coverage

Louisiana is one of the states that chose not to expand Medicaid under ACA in Louisiana.^{vii} This has had an impact on low income young adults when they turn 19 years of age and are dropped from LaCHIP. Often, these young adults fall into a “coverage gap” of having incomes above Medicaid eligibility limits but below the lower limit for Marketplace premium tax credits. Several youth informants talked about accessing care through the emergency department as a result of not having health insurance.

While young adults may fall into a coverage gap with regard to traditional Medicaid, there is another health entitlement program available to them, Take Charge Plus. In many cases, uninsured young adults are unaware that they are eligible for this health entitlement program or if they are enrolled, their provider may not accept it.

Take Charge Plus

There is extremely low acceptance of Take Charge Plus^{viii} at the clinics in Ouachita Parish. Only 36% clinics reported that they accept Take Charge Plus. Take Charge Plus is a Medicaid Waiver program that provides health coverage for family planning and family planning related services to males and females of reproductive age that do not qualify for Medicaid but are below 138% of the poverty level. Take Charge Plus covers seven office visits (per calendar year) including a well visit and care related to family planning; prescriptions and lab work related to family planning or family planning related services; Birth Control (including pills, patches, implants, injections, condoms, diaphragms, and IUDs); Cervical cancer screening and treatment for cervical dysplasia; Contraceptive counseling and education; Testing and treatment for sexually transmitted infections (STIs other than HIV/AIDS and hepatitis); Voluntary sterilization for males and females (over age 21); Vaccines for males and females for the prevention of HPV; and Transportation for family planning appointments.

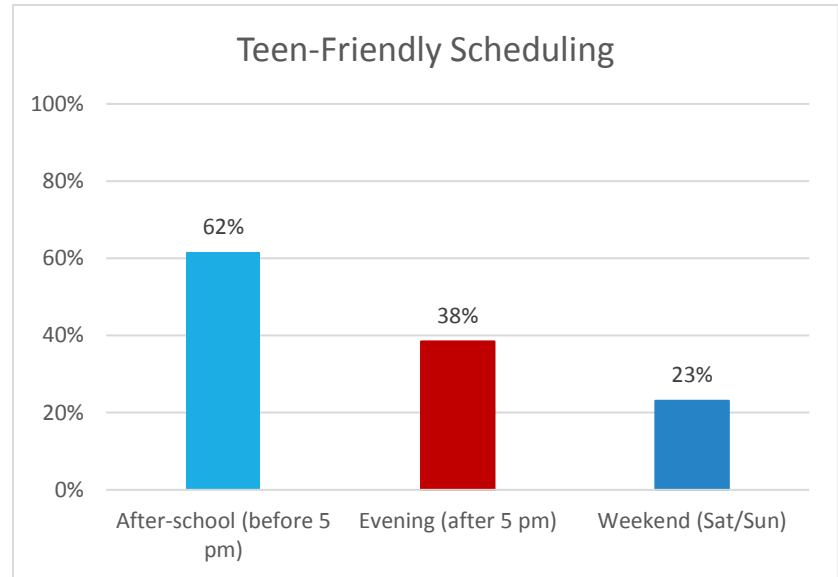


^{vii} With the election of Governor John Bel Edwards, Louisiana is now beginning the process of Medicaid expansion.

^{viii} For more on Take Charge, go to <http://www.dhh.state.la.us/index.cfm/page/232>.

Appointment Information

All but one provider (93%) reported that they are currently accepting new adolescent patients. Providers were asked if they offered after-school appointments (before 5pm), evening appointments (after 5pm), and weekend appointments (Sat/Sun).^{ix} The majority of providers surveyed offered after-school appointments (62%), however only 38% offered evening appointments and even less (23%) offered weekend appointments.



Youth-Friendly Features

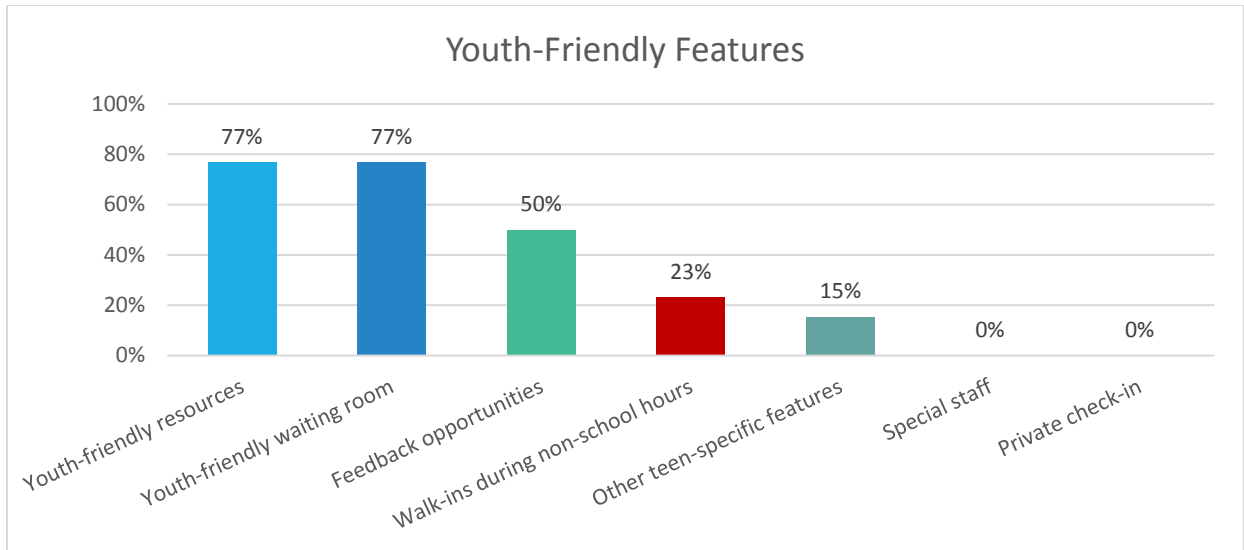
Clinic were asked if they offered the following youth-friendly features:^x

- Special staff member to coordinate or oversee adolescent services
- Materials and resources specifically designed for adolescents
- Walk-in appointments available during after-school hours
- Private check-in available for adolescents
- Waiting room designed to be appealing to adolescents
- An opportunity for adolescents to give feedback on clinic services

Several providers reported having materials and resources specifically designed for adolescents and a youth-friendly waiting room (77%). Only half of providers report offering adolescents an opportunity to provide feedback. One in four providers offer walk-in appointments available during after-school hours (23%). Only a few providers reported having a waiting room designed to be appealing to adolescents (8%) and providing adolescents with the opportunity to provide feedback (56%). Only a quarter of the providers reported having a special staff member to coordinate or oversee adolescent services at the clinic. None of the providers offer a private check-in or a teen friendly treatment room.

^{ix} As outlined by Advocates for Youth and the World Health Organization, a key component to ensuring adolescent access to health care, is that clinics are open and available during times that work with school, recreational activity, and work schedules. Clinics should have flexible hours available in the afternoons and on weekends, with minimal wait times. Ideally, the clinics should advertise times when it is best for adolescents to be seen, which reflect the most convenient time(s) for the adolescents in the community.

^x Project Connect outlines several features for improving adolescent access to quality, comfortable care (<http://www.cdc.gov/std/projects/connect/>).



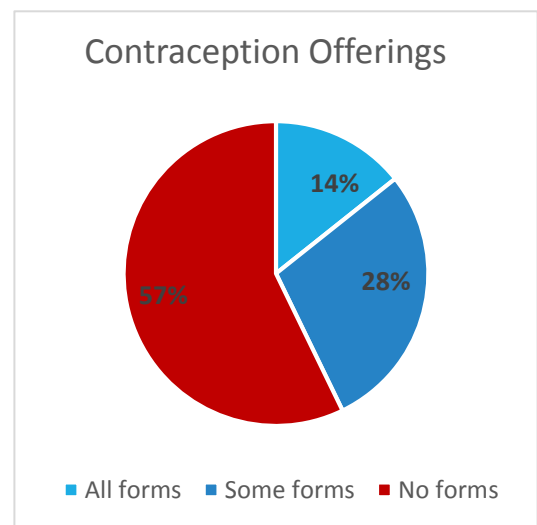
Services Currently Offered

Reproductive Health Services

Providers were asked about the types of reproductive health services they offer. Over a third (38%) reported offering routine pap smears while 62% reported offering breast exams. Just over half (57%) reported offering reproductive health counseling for females. One provider noted that reproductive health counseling was provided informally at discharge. Two-thirds of the providers reported offering reproductive health education. Reproductive health counseling services for males were not as prevalent even through the need is just as great. Thirty-six percent (36%) of the providers reported offered reproductive health counseling for males. Two providers reported that they refer out for this service.

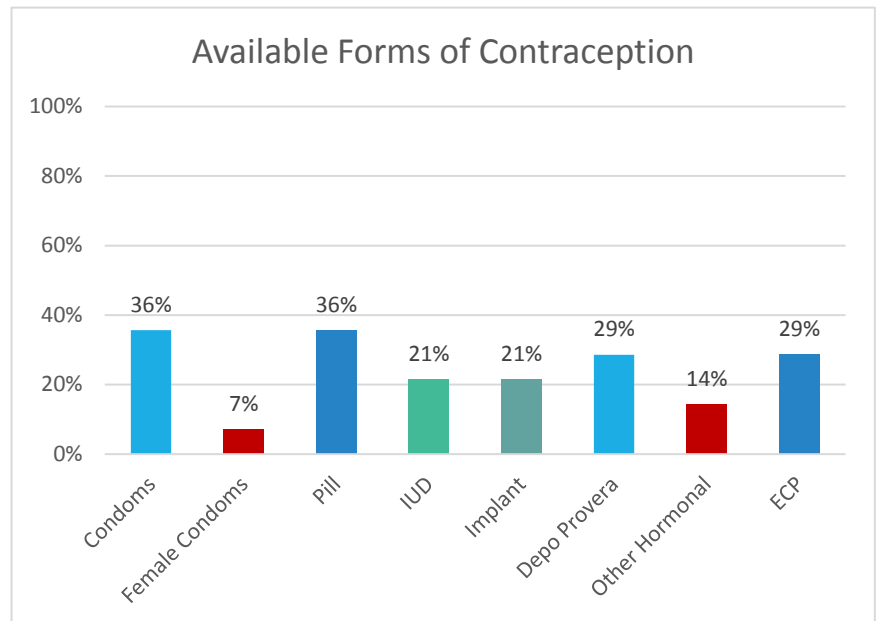
Contraception

Providers were asked which of the following family planning methods they usually provide to adolescents: male condoms, female condoms, oral contraceptives, Intrauterine Devices (IUD), implants (Implanon or Nexplanon), Depo Provera, other hormonal contraceptives and emergency contraception (ECP). Only two providers reported offering all forms of contraception. Over a quarter (28%) reported offering some form of contraception and 57% offer no form of contraception. The school-based health center included in the assessments is legally prohibited from providing contraception, but for the other providers it is an organizational decision. Most clinics provide family planning information. Only one provider reported offering contraception at every visit while another reported that they only offer it to adolescents with parental permission, although



Louisiana state law guarantees minors the right to access contraceptive services without parental consent.¹¹

Just over one third clinics reported offering male condoms and oral contraception. Twenty-nine percent of clinics offer Depo-Provera and emergency contraception (ECP). None of the providers that offer ECP provide it in advance. Twenty-one percent (21%) offer long-acting contraception such as intrauterine devices (IUD) and implants. Only 7% of providers offer female condoms.

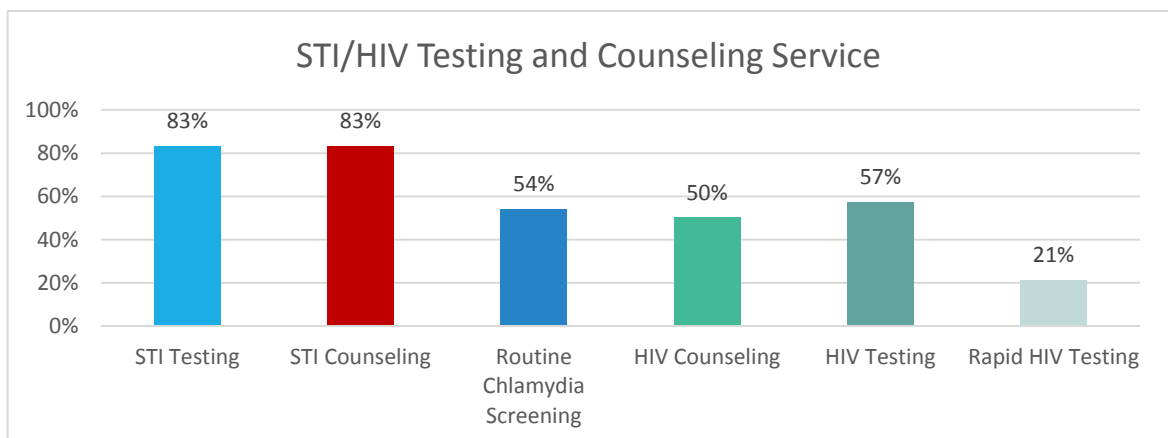


Pregnancy Testing and Services

While a majority of clinics offer pregnancy testing, substantially less offer prenatal/pregnancy counseling services for adolescents. Over three-fourths (78%) of the providers reported that they provide pregnancy testing. Over half (57%) of providers reported that they offer prenatal/pregnancy counseling for females and 46% offer prenatal/pregnancy counseling for males.

STI/HIV Testing and Counseling Service

Most providers (83%) reported offering STI testing and counseling. Just over half (54%) reported that their clinic routinely offers chlamydia screening to all sexually active adolescent patients. Of those clinics that reported screening, 8% tested using culture, 48% used urine-based testing, and 36% used both. Two clinics did not specify. One provider reported only screening for chlamydia in the case of pregnancy. Half of providers reported offering HIV counseling while 57% of providers reported offering HIV testing. Significantly less clinics offer rapid HIV testing (21%).



Abortion Service

None of the clinics that participated in the assessment provide abortion services. The closest abortion providers are in Shreveport and Bossier City (100 miles away). None of the providers in Ouachita identified these providers in their referral networks. Only one provider reported offering abortion counseling.

Health and Wellness Service

Providers were asked about the types of health and wellness services they offer. 43% of providers reported offering behavioral health service. 62% of sites reported offering substance abuse education, however only 38% of sites offer substance abuse counseling. Half of the providers reported offering violence prevention education. 57% of sites offer suicide prevention while only 46% of sites offer bullying prevention and dating violence education.

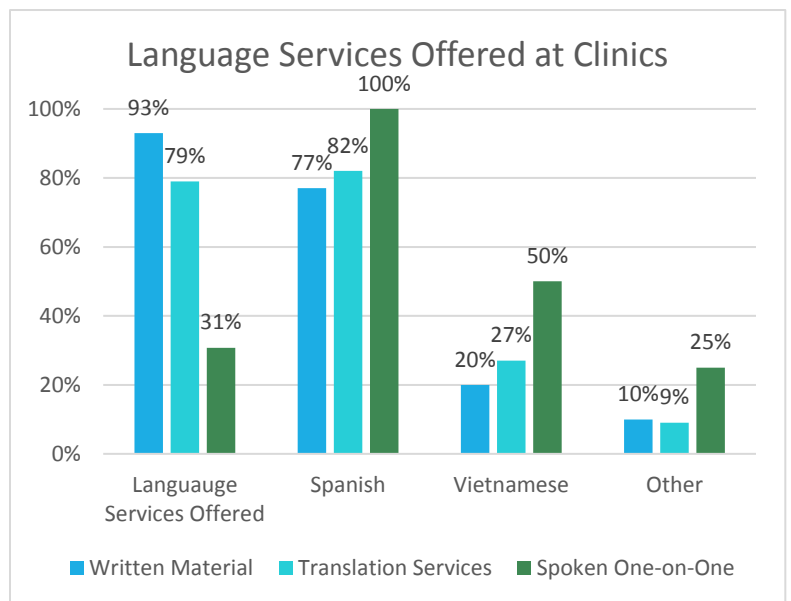
69% reported offering education for parents of teenagers (53%) while half reported offering teen parenting support (54%). Several providers offer nutrition education (84%) but only 25% offer recreational/physical activity.

Referrals

86% of clinics reported providing referral services. Most of the providers reported that they provide services internally; however, the majority of referrals were for behavioral health, followed by STI/HIV testing and obstetric services. 57% of provider reported receiving referrals from school nurses.

Language Services

All but one provider reported offering written material in different languages and most providers reported (79%) providing translation services. Few providers (31%) have staff that provide one-on-one language services. Most of providers (77%) offer written materials in Spanish. Far fewer offer written materials in Vietnamese (20%) or other languages (10%). 79% reported offering translation services, mainly through phone service. Of the providers that reported offering spoken one-on-one service, all of them have a Spanish language speaker on staff or having access to a language line and half report having a Vietnamese language speaker available or having access to a language line.



Outreach to Adolescents

Providers were asked about whether they offered outreach services to adolescents. 64% providers reported in engaging in community outreach service. Only 7% of providers report use social media for outreach and education of adolescents.

Health Issues

Providers and youth informants were asked to identify the main health concerns of adolescent. Most providers (79%) identified reproductive health as not only an issue that they saw for their adolescent patients but also an issue that their patients expressed concern about. 43% of providers identified obesity/nutrition. 21% felt that mental health and access to care were the main health issues faced by adolescent.

Provider Perspectives



Youth Perspectives



The most commonly reported health issues reported by youth informants were of a reproductive health nature. Some type of reproductive health issue was mentioned in every interview conducted with adolescents in Ouachita Parish. More specific concerns of the adolescents in this region around reproductive health ranged from STIs to birth control to pregnancy and pregnancy prevention. The primary health concerns listed by adolescents, not specific to only reproductive health included:

- Sexually Transmitted Infections (STI)/Sexually Transmitted Diseases (STD)
- Birth Control
- Minor illness
- Pregnancy
- Obesity and Nutrition
- Drugs and Substance Abuse



Sexually Transmitted Infections

Sexually transmitted infections (STIs) were the number one reported health issue for both males and females in Ouachita Parish and were mentioned as a major health issue for adolescents in nearly every interview.

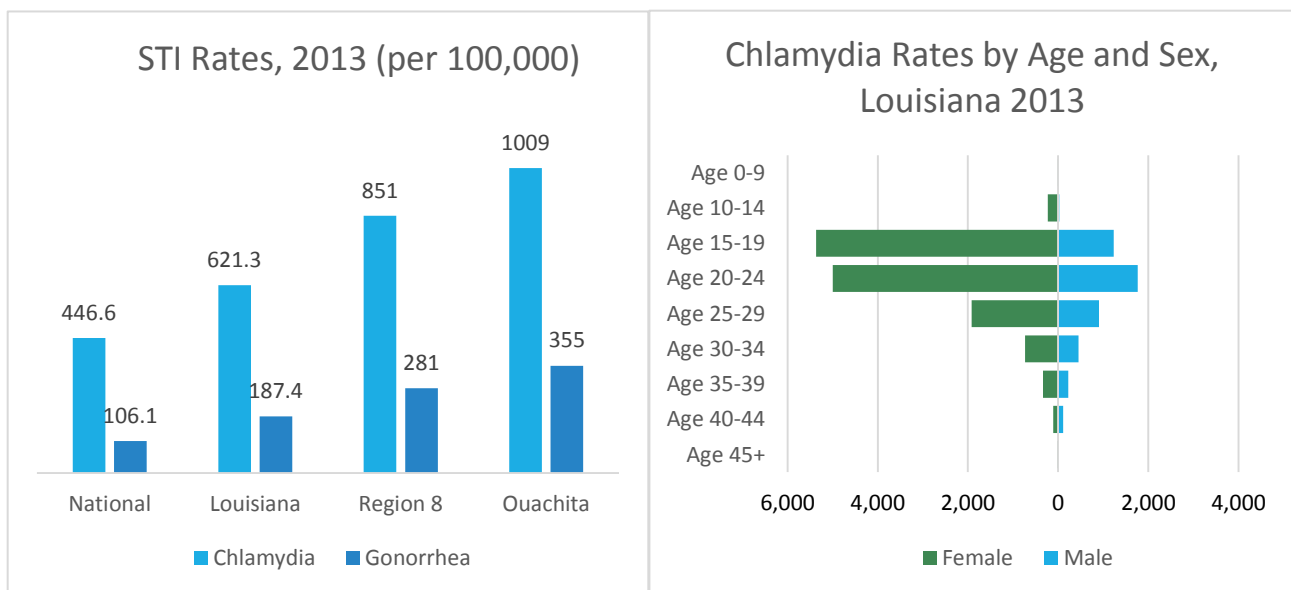
Nationwide estimates suggest that young people aged 15–24 acquire half of all new STIs and that one in four sexually active adolescent females have an STI.¹² Young people are at a higher risk of acquiring STIs due to a combination of behavioral, biological, and cultural reasons. Female adolescents in particular are more susceptible to contracting an infection for anatomical reasons, and also more likely to be screened than their male counterparts contributing to the higher diagnosis rates.

“I know that [high school in Monroe, LA] has been the nation’s number one STD capital for a while. Everyone I know is like ‘be careful.’ And everyone is like, ‘it’s not that big of deal’, but they are rated that for a reason. Obviously this is a big deal and we need to figure it out.”

In 2013, Louisiana ranked first in the nation for gonorrhea diagnoses and second for chlamydia.¹³

Louisiana Public Health Region 8, where Ouachita Parish is located, has the highest chlamydia and gonorrhea diagnosis rate in the state.¹⁴

The chlamydia rate in Ouachita Parish is over 125% higher than the national average.¹⁵



Young people ages 15–24 make up 72% of all chlamydia diagnoses and 67% of gonorrhea diagnoses.¹⁶ In addition, 25% of all new HIV diagnoses occur among persons 13–24 years old. Youth informants were aware that STIs were a great health concern for their community and their age group. However, they also mentioned a lot of ambiguity around diseases, and the

overwhelming feeling that many young people don't know that they have an STI and are hesitant to get treatment. This is particularly important in females as they are more likely to be asymptomatic. Further, research demonstrates that adolescents and young adults are less likely to disclose or seek care when they have an STI. Adolescents interviewed stated:

You probably do know someone. Nobody is going to say, 'Hey, I have an STD,' but we're like number one for chlamydia, we're way up there.

STDs are common. Most people don't know they have it.

[What is the biggest health issue?] *Herpes. There are too many people around here, you have to watch and research.*

Access to Birth Control

Although research demonstrates low utilization rates of birth control other than condoms amongst adolescents nationwide¹⁷, obtaining birth control was cited as one of the main reasons a young person would go to the doctor. However, many participants mentioned:

- 1) They do not know **where** to obtain birth control
- 2) They do not know **how** to obtain birth control
- 3) They feel ashamed to ask about birth control and how to access it

In addition to this, less than half of the providers reported offering any form of birth control, and only two of 14 clinics assessed offered a full range of birth control methods.

[Why do young people go to the doctor?] *Birth control. Everybody is getting pregnant.*

You don't go [to the doctor] for a casual check-up, you only go if you are sick or need to get on birth control.

Youth informants stated that often times a young woman might ask a parent to get birth control under the guise of needing it to improve acne or to help with difficult periods. Many adolescents feel uncomfortable talking to their parents about birth control, and that needing birth control for preventing pregnancy was viewed as embarrassing and shameful.

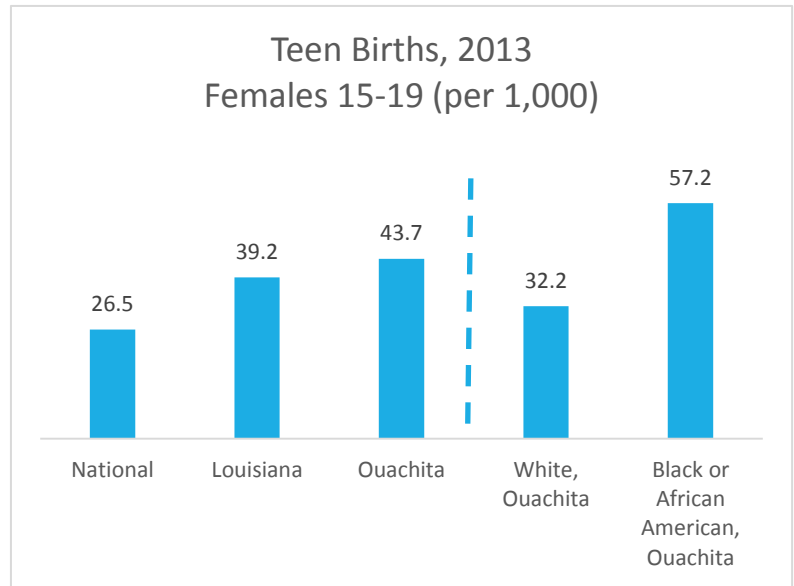
People are more embarrassed, they are too embarrassed to ask someone or to go get it [birth control] themselves.

"People are more embarrassed, they are too embarrassed to ask someone or to go get it [birth control] themselves."

Pregnancy

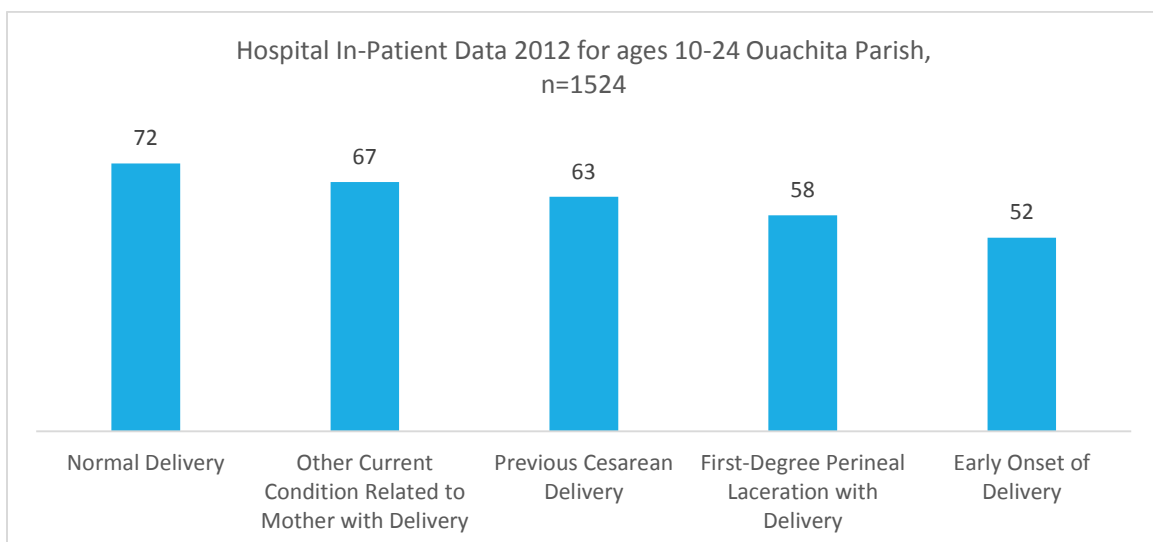
The teen birth rate in Ouachita Parish was 65% higher than the national average at 43.7 births per 1,000 females between 15 and 19 in 2013.¹⁸

Nationally, substantial disparities still exist in rates of teen childbirth, with rates for African American and Hispanic youth remaining more than twice the rate of teen births amongst non-Hispanic white teens.¹⁹ In Ouachita Parish, the teen birth rate was 77% higher amongst African American teens than their white counterparts. Data was not statistically reliable for



Hispanic youth. Teen childbearing carries negative short- and long-term consequences for these young parents and their children, as well as negative social and economic impacts on society. Only 50% of teen mothers earn a high school diploma by age 22, and teen fathers are 25 to 30 % less likely to graduate than teens who are not fathers.²⁰ It is also estimated that 20 to 37% of teen mothers have a subsequent birth within two years of their first child, making 1 in 5 births to a teen mother a repeat birth.^{21,22}

Teen childbearing is associated with an increased risk of an adverse birth outcome including preterm delivery, low birth weight, extremely low birth weight, and neonatal mortality.²³ In Ouachita Parish in 2012, the most recent year for which there is available data, the top five reasons for in-patient admittances to hospitals for ages 10–24 were from pregnancy-related complications. These diagnoses accounted for 20% of all in-patient admittances for people in that age group.



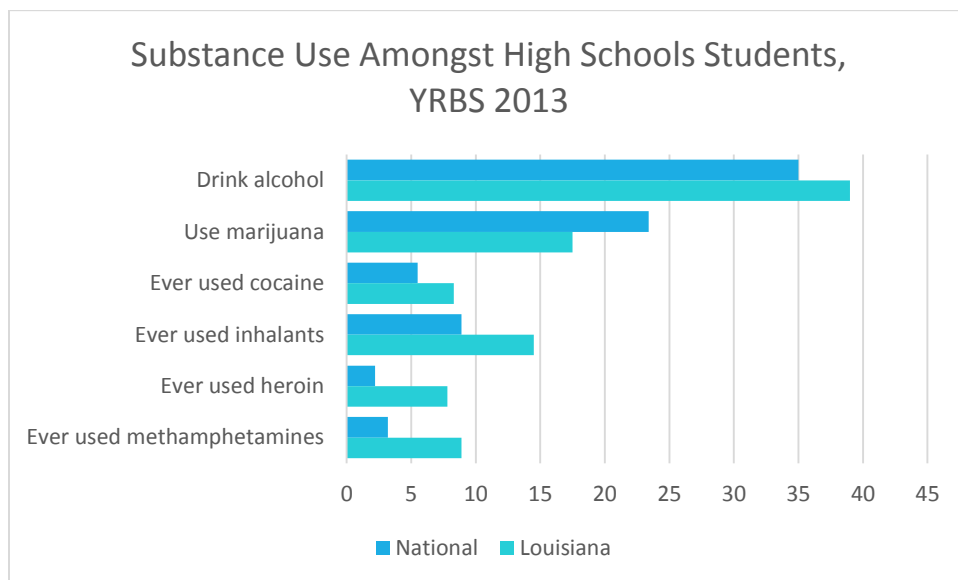
Pregnancy was mentioned by about one-third of youth informants as being a major health issue facing their peers. This is of note given that more than half of the youth interviewed were male. Many participants stated that it was common to see pregnant students at school.

Yes, the pregnancy bug has definitely got around...there are like 50 babies.

Where I went to high school you always had one person that was walking around pregnant.

Drugs and Substance Abuse

According to the 2013 Youth Risk Behavior Survey, approximately 39% of adolescents in Louisiana currently drink alcohol, compared to about 35% nationwide.²⁴ Adolescents in Louisiana were less likely to use marijuana (17.5% versus 23.4%), but were more likely to have ever used cocaine (8.3% versus 5.5%), inhalants (14.5% versus 8.9%), heroin (7.8% versus 2.2%), and methamphetamines (8.9% versus 3.2%).



During the interviews in Ouachita parish, male informants were more likely to mention drugs and substance abuse as a major health issue than female informants. Teens were likely to state drugs and drug abuse as a major health concern rather than alcohol use. Young people who use substances are more likely to have sex, initiate sex at a younger age, and have multiple sex partners, thus placing them at a higher risk of unintended pregnancy and acquiring an STI.²⁵ Alcohol and drug use are also risk factors associated with a greater likelihood of sexual violence.

Barriers to Reproductive Health Services: Provider and Adolescent Perspectives

Providers and youth informants were asked to identify the main barriers that adolescents encounter when trying to access reproductive health services.

Provider Perspective



Youth Perspective



Providers identified transportation (79%), parental apathy/lack of parental involvement (43%) and lack of knowledge of services (29%) as barriers to youth accessing reproductive health services. They identified family resistance/cultural stigma/approval (43%) and lack of time (21%) as barriers to providing better reproductive health education counseling. However, 14% of clinics did not see any barriers to providing better reproductive health education counseling to adolescents.

National studies show that approximately one-quarter of middle and high school students do not recall having had a routine preventative care visit in the past two years. Further, 19% to 27% of adolescents report having forgone health care that they believed was necessary. Similar to national trends, adolescents in Ouachita Parish were hesitant to access services at all, and several mentioned waiting as long as possible before accessing care.

I am always the last person, it has to be really bad for me to go.

Nationally, self-reported reasons for not seeing a health professional when it was needed include: fear of what the doctor would say or do, not wanting parents to know, belief that the problem would go away, lack of transportation, and the inability to pay.

In Ouachita Parish, adolescents face many of these same challenges, as well as others. The main barriers to accessing care reported by youth informants included:

- Cost and insurance issues
- Fear of telling parents
- Lack of knowledge of the process
- Lack of knowledge of services
- Transportation
- Confidentiality



Stigma and Shame

Perceived stigma and shame around seeking reproductive health information and services was ever present within the youth interviews. Whether it was stated directly, or was labeled as being afraid to talk to a parent, or worried about what a teacher or friend might think, it was clear that a “culture of silence” exists surrounding reproductive health. Not only did informants feel an overwhelming sense of shame and stigma, they reported that they felt this perpetuated by parents and schools, and within society in general.

“It’s embarrassing”
“People don’t talk about it”
“I’m worried about what they might think”
“I wouldn’t want to ask”
“Parents are uncomfortable talking about it”

Cost and Insurance Issues

The number one reason that youth informants reported for not accessing health services was the cost. Informants stated that they did not have access to their insurance documents, and that they did not know how to pay for services.

If you don’t know if your parents have insurance you would not want to use it yourself, you don’t want your parents to know. People are probably too scared to ask about it.

Some reported not having insurance, and some simply stated that the biggest issue was medical bills, and not being able to afford it despite having coverage. Other informants expressed frustration over Medicaid age constraints.

Somehow Medicaid stops at 18 and they probably don’t have any money. That’s the biggest one [barrier] I can think of.

Lack of Knowledge of Process and Services Available

Adolescents reported not knowing how to navigate the health care system without their parents. Normal development means that adolescents are beginning to show more independence from parents and spending less time with parents and more time with friends.²⁶ This is also the time when adolescents are making more decisions for themselves, however, the process of how to obtain health care is not taught by parents or at school, especially if a parent feels the teen is not ready to be in control of their own health. This is further complicated by complex health systems, providers, and coverage confusion. Thus, navigating the process of identifying a health care provider, setting up an appointment, getting to that appointment, and understanding how to pay for it can be extremely intimidating and overwhelming.

They probably don't know much about it. They don't talk about it much in school, I am not informed on how to get things like birth control. You know, what to do.

They don't ask. They are young and don't know what we are doing. They don't ask what is confidential and what is not.

Many informants were unsure of where to access health services and named that as one of the largest barriers to obtaining services.

[Not knowing where to go] *That's a big one. I would not know where to go.*

Many of the providers surveyed also felt that there was a greater need for advertising and marketing to young people in the area in order to increase knowledge of where to access services and the types of services available.

Confidentiality was not mentioned as often as other barriers, however, the fear of telling parents and confidentiality are tied together. Research shows that less than 20% of adolescents would seek care related to birth control, STIs, or drug use if parental notice was mandated.²⁷ In Louisiana, minors are guaranteed the right to consent for their own health services, including STI screenings and treatment. However, there is no guarantee for confidentiality for minors, and a provider may inform a parent if the provider believes it is best/necessary to disclose the information or if a parent requests the information/their child's medical record. As one informant mentioned, it is extremely important that adolescents have access to confidential services, especially if they do not want to have their parents involved.

I would go to a clinic where I don't have to have my parents know. My mom is a preacher and I would not want anybody to know.

Transportation

Even if a young person is able to identify a provider and set up an appointment, there is often an issue of transportation and how to actually get to the appointment. Most informants stated that transportation would be an issue for them. Although there is a bus system in Monroe, the participants did not feel that it was always reliable. The most commonly noted way of getting to an appointment would be to have a parent or friend take you. One informant stated that if she needed to get to an appointment she would take her mother's car even though she did not have a driver's license.

Strengthening Youth-Friendly Reproductive Health Services

Providers were asked what areas they would most liked strengthened in youth services. They identified four key areas: clinical services, patient education, health education and external. Under the area of clinical services, providers would like to offer more on-site mental health services and expanded STI services. Providers would also like to strengthen patient engagement and health education, including more classes for adolescents and more sex education materials.

They would also like to expand community outreach and youth awareness about reproductive health services available in the community.

Clinical Services	Patient Engagement	Health Education	External
Mental health services Expanded STI services	Encourage yearly check-up	Adolescent classes Coping skills and decision making Support for adolescent parents More reproductive health education materials	More referrals Parental involvement Transportation Partner with area colleges Engage young adults

Although additional assessments have continued to show that schools, health care providers, and community-based organizations interact with adolescents within primarily their own institutional arenas and large gaps in access and quality exist, some parts of the fragmented service delivery systems are in fact interacting in a limited capacity. Despite no consolidated statewide or local strategy to address adolescent reproductive health, this health systems mapping project was able to identify key areas of strength within the system, areas for improvement, and perhaps most critical, provider identified interest and buy-in around improvement.

Additional areas of note include:

- Ouachita clinics serving adolescents continue to have very **limited contraceptive offerings**. Only 28% reported offering some form of contraception and almost 65% offered no forms of contraception.
- The overall mapping found **no emphasis on vulnerable youth**, such as LGBT youth, systems involved youth, homeless youth, etc.
- Although clinics reported some confidential services, 0% offered adolescents a private check-in. Further exploration around general **privacy law compliance** is needed, as well as **continuing education around youth-friendly services**.
- Very little connection was made between **behavioral health** and reproductive health in Ouachita Parish. Only 43% percent of sites reported offering some form of mental/behavioral health service, only 13% reported having at least one Licensed Clinical Social Worker (LCSW) on staff, and only 15% reported having a Licensed Master Social Worker (LMSW) on staff.

Findings from the mapping and youth interviews have been translated by the LPHI team into a variety of programmatic components to begin exploring ways to support community capacity to address the identified systems gaps including:

School District and School Board Engagement in Ouachita Parish. In the first year of the assessment and mapping project LPHI engaged with the Monroe City School Board and Ouachita Parish School Board around district reproductive health education assessments. Only one district

agreed to complete an assessment. LPHI will continue to build these relationships to support schools in expanding and institutionalizing sex education as a means to decreasing poor adolescent reproductive health outcome in the region.

Ongoing coalition building in Ouachita Parish. Strong community coalitions and collaboration towards a shared vision is essential in meeting the comprehensive reproductive health needs of adolescents in Ouachita Parish. LPHI has worked across Ouachita Parish with the Monroe-based Children’s Coalition to identify key stakeholders (enhanced by the mapping activities) to create strong partnerships across sectors. In 2014/2015 LPHI convened an initial group of partners in Ouachita Parish to begin facilitating the development of an Ouachita Parish planning committee to support ongoing coalition building efforts in the region. Although in its infancy, a core part of our work in Northern Louisiana has been setting the stage to develop a robust community coalition that can support the expansion of sex education in schools and the provision of reproductive health services for adolescents in clinical settings. LPHI, in partnership with the now named Ouachita Parish Adolescent Health Coalition have laid the initial groundwork to begin convening a coalition around adolescent reproductive health in the region, and will continue this work throughout 2016.

Expand access to and quality of reproductive health services. LPHI continues to utilize the data from the assessments to develop an ongoing understanding of the current reproductive health landscape, as well as help facilitate training in Ouachita around youth-friendly services with adolescent health providers.

Ongoing Youth Engagement. LPHI conducted over 30 initial interviews/group interviews with adolescents in Ouachita Parish. These initial interviews provided rich qualitative information on how young people view reproductive health education and services, as well as the way in which they want to access information, education and services. LPHI will continue to explore the ways to design and implement meaningful programming with youth in Ouachita Parish that continues to align with their identified needs and interests. This activity will allow us to not only have a monitoring mechanism around our youth-centered approach, but also allow us to solicit young people’s advice, opinions and engagement in the programming process.

Social Network Analysis

Social networks matter. They are our means for interacting with individuals and systems, spreading ideas and disseminating practices throughout our own social systems. Mapping social networks allows us to understand how communication, information and resources flow, both connecting, or disconnecting people to each other, to organizations, and to systems, as well as the conditions that affect social connection.^{28,29, 30} Understanding the structures of adolescent reproductive health networks is important as those structures can in part determine community outcomes as well as outcomes of interventions. The collective effect of many actors and actions is essential to organizing and sustaining efforts to improve population health and to evaluating them.³¹

A social network is defined as a social structure comprising a set of actors (organizations) or networks of people related to one another (such as relationships, connections, or interactions) by particular characteristics.³² For Ouachita Parish, the social networking exercise generated a total of 229 organizations (or actors) including 64 health providers, 57 youth-serving community-based organization (CBO), 39 schools^{xi}, 26 youth-serving faith-based organizations and 44 organizations that fell into the category of other. The social networks are visualized in Figures 1–11. Health providers are depicted as blue nodes (■), CBO as pink (■), schools as green (■), faith-based organizations as orange (■), and organizations that fell into the category of other are depicted as royal blue nodes (■). The relationships between these organizations (actors) are expressed with nodes and links. Links show exchanges between 2 actors in the network.

The core concepts in social network analysis are degree, density and centrality. Degree refers to the number of connections an organization has in a network. Organizations with many connections can mobilize a large amount of resources and play a central role in the flow of information. Density refers to the ratio of the number of actual connections to all possible connections with 0 equaling low density and 1 equaling high density. Betweenness centrality refers to how often a given organization falls along the shortest path between two other organizations.^{33,34}

The Health Provider Network (shown in Figure 1) has between 0–12 connections (ties) with an average of 2.75 ties. There are a substantial number of health providers that have no ties to the network. The overall density of this network is 0.08 indicating a low density network. Within this network, a few organization have a high level of centrality in relation to the other health providers in the network (shown in Figure 2). The Health Provider and Schools Network is shown in Figure 2 and Figure 3. Within this network, a few health providers and one school display a high level of centrality in relation to the other organizations in the networks. Overall, schools are not central actors in this network. The Health Provider and CBO network (shown in Figure 5) has between 0–28 connections with an average of 4.2 ties. The overall density of this network is 0.04 indicating a low density network. However, there is one health provider and three CBOs that display a high level of centrality in the network (shown in Figure 5). The Health Provider, School and CBO Network (shown in Figure 7 and 8) has between 0–34 connections with an average of 4.8 ties. The overall density of this network is 0.03 indicating a low density network. The Health Provider, Faith-based and Other Organizations Network is depicted in Figure 9. The full network (health providers, CBO, schools, faith-based organizations and other) (shown in Figure 10) has between 0–36 connections (ties) with an average of 6.2 ties. Only one organization (a health provider) was an isolate (meaning that it lacked any ties).

Analysis of the Ouachita networks indicated that there is room for further development of relationships. Within the networks, a small number of health providers, CBO, school and one organization (classified as other) display a high level of centrality in relation to the other

^{xi} Seven schools were located outside of Ouachita Parish. These schools were analyzed in the full network (displayed in light green) but excluded from analysis in the other networks.

organizations in the network (shown in Figure 4, 6, 8, 11). Analyzing the social network around adolescent health access in Ouachita Parish has yielded a more comprehensive picture of how adolescents connect, or do not connect with health systems. This has provided identification of the health providers and CBOs most utilized by adolescents that can be further engaged around expanding access to and quality of youth friendly services. In addition to identifying organizations with high centrality, analysis of the networks also allows for efforts to increase the connectedness of organizations with few or no ties in order to strengthen multisector partnerships. The rationale behind developing multisector partnerships is that, because no single organization or sector has full control over the determinants of population health, effective solutions require inter-organizational coordination and collaboration.³⁵

Key Findings

- Organizations are either densely connected or completely disconnected.
- Analysis showed a less connected health systems network but a stronger community-based organization and school facilitated referral networks to health systems.
- There are select community based organizations, schools and other organizations that are “very connected” within the health services sector and serve as intermediary critical referral organizations regardless of whether they provide direct health care services or not.
- There continue to be health care centers that see large volumes of adolescent health patients that report no connections or relationships with CBOs or referral partners. Further exploration around their network, and how adolescents know to access them needs to be explored.

Figure 1: Health Provider Network

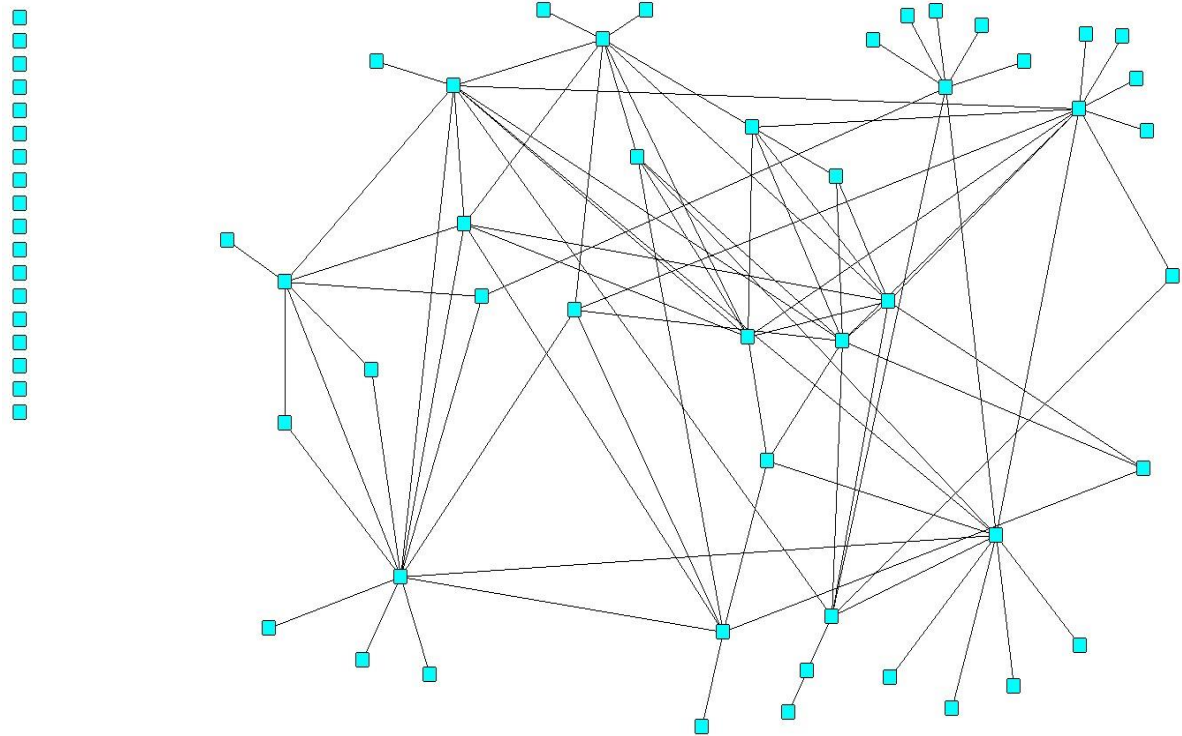


Figure 2: Health Provider Network (Betweenness Centrality)

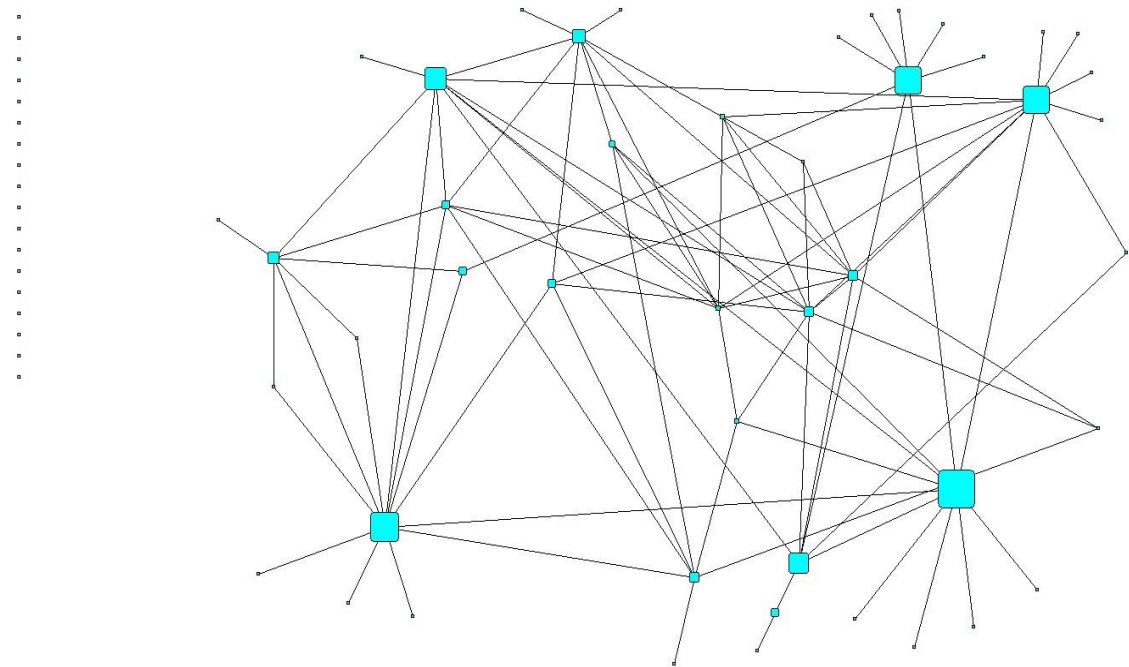


Figure 3: Health Provider and Schools Network

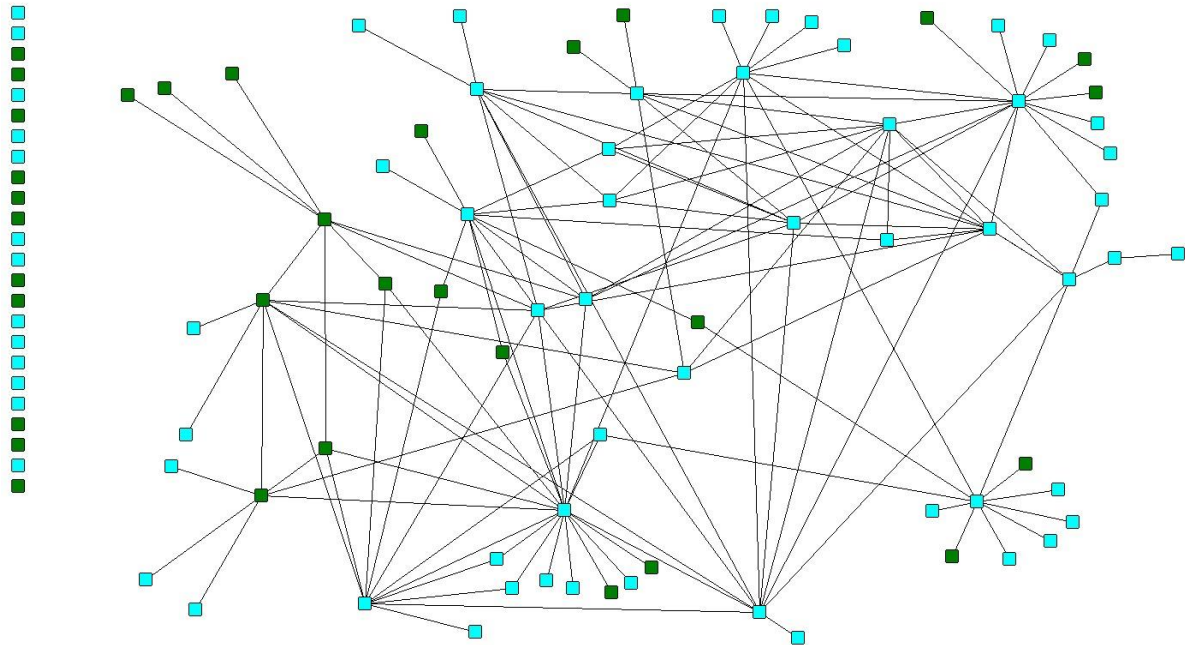


Figure 4: Health Providers and Schools Network (Betweenness Centrality)

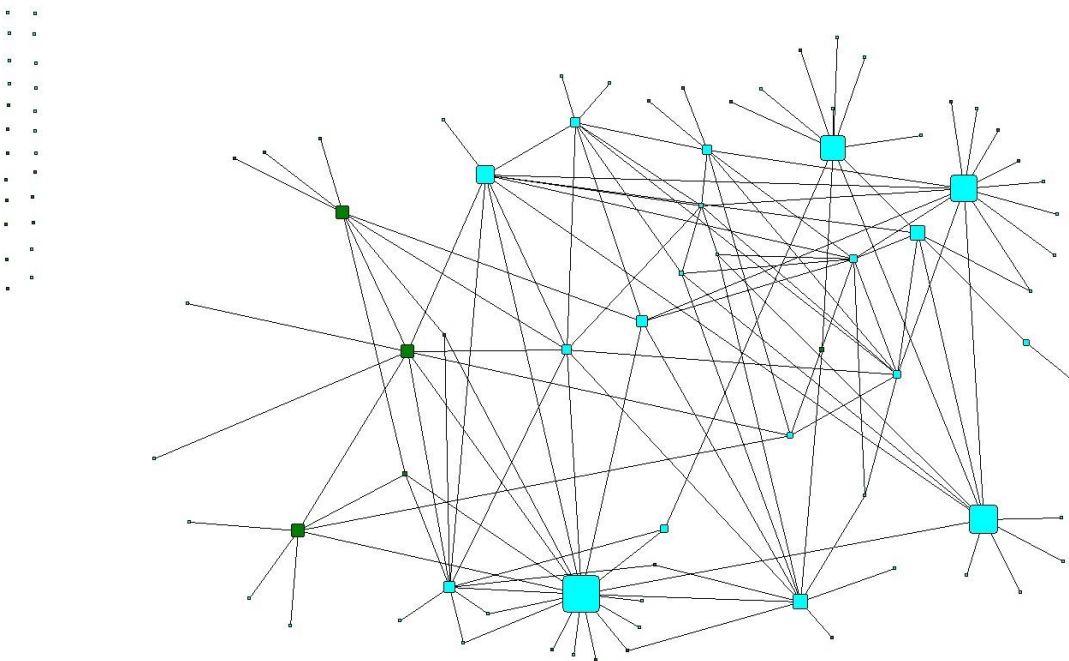


Figure 5: Health Provider and Community-based Organization Network

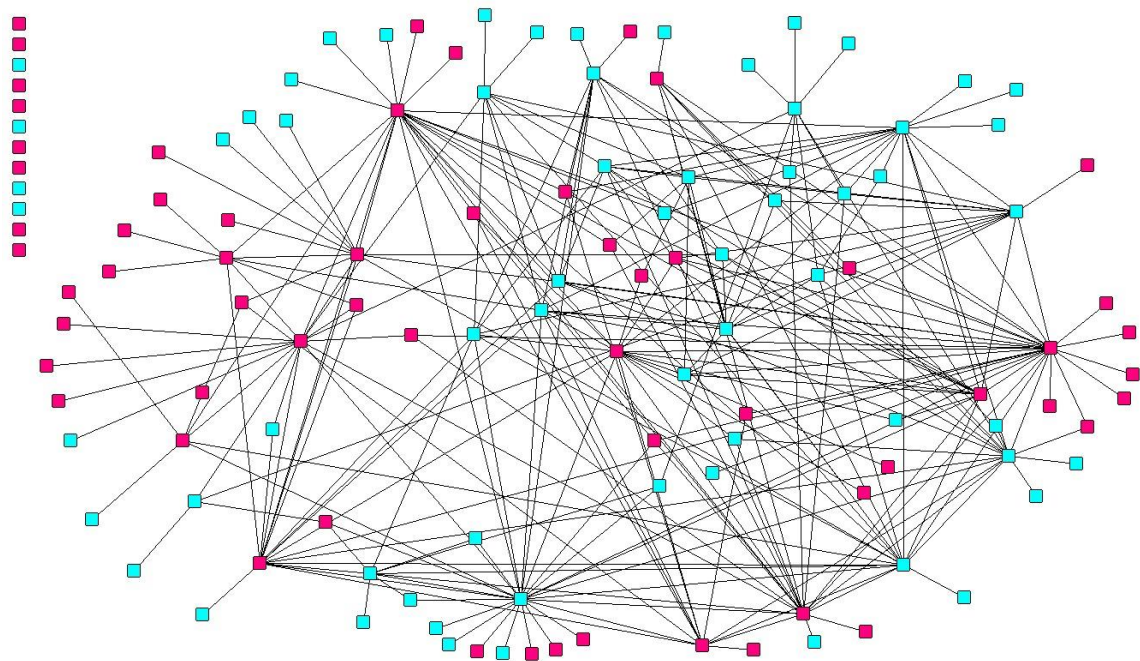


Figure 6: Health Provider and CBO Network (Betweenness Centrality)

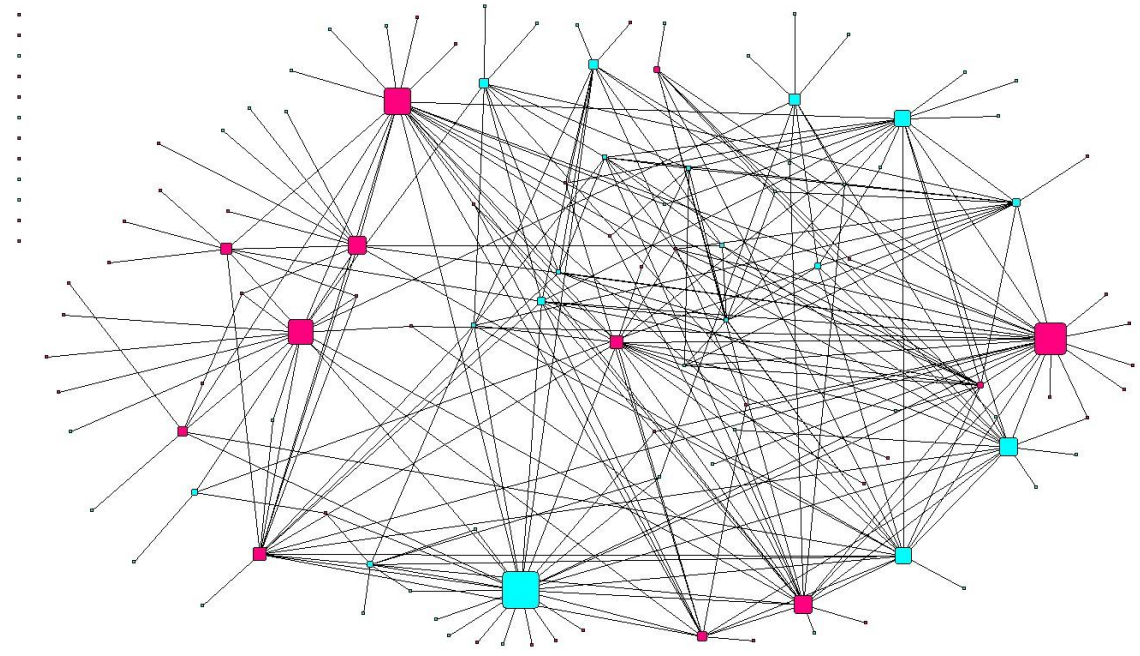


Figure 7: Health Provider, CBO and Schools Network

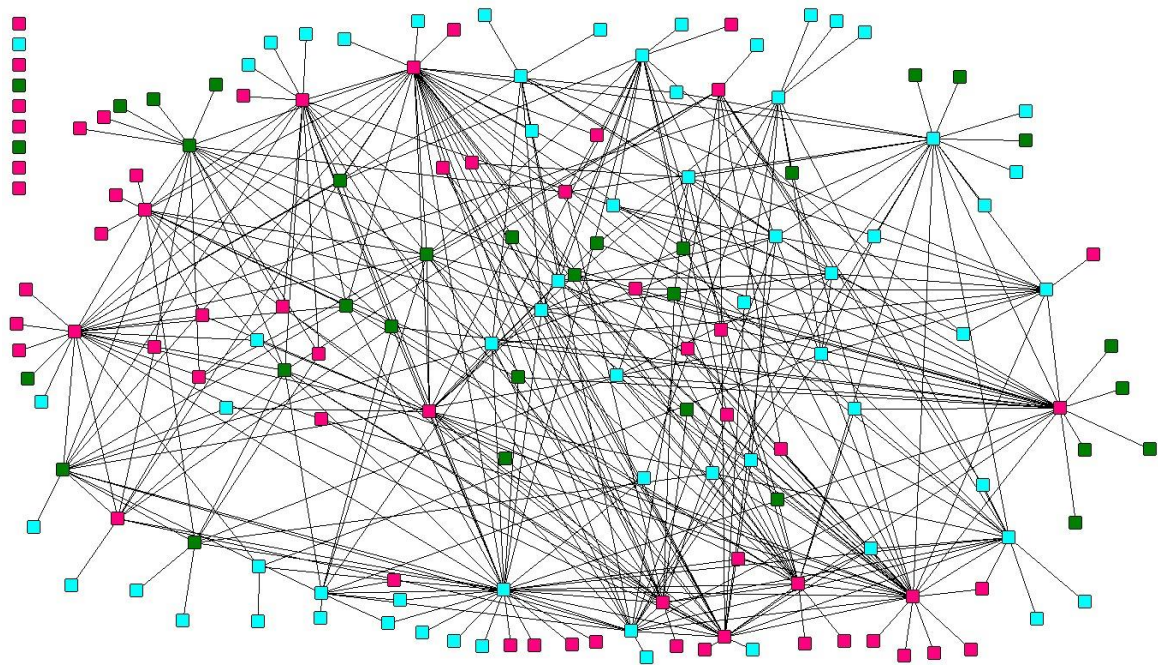


Figure 8: Health Provider, CBO and Schools Network (Betweenness Centrality)

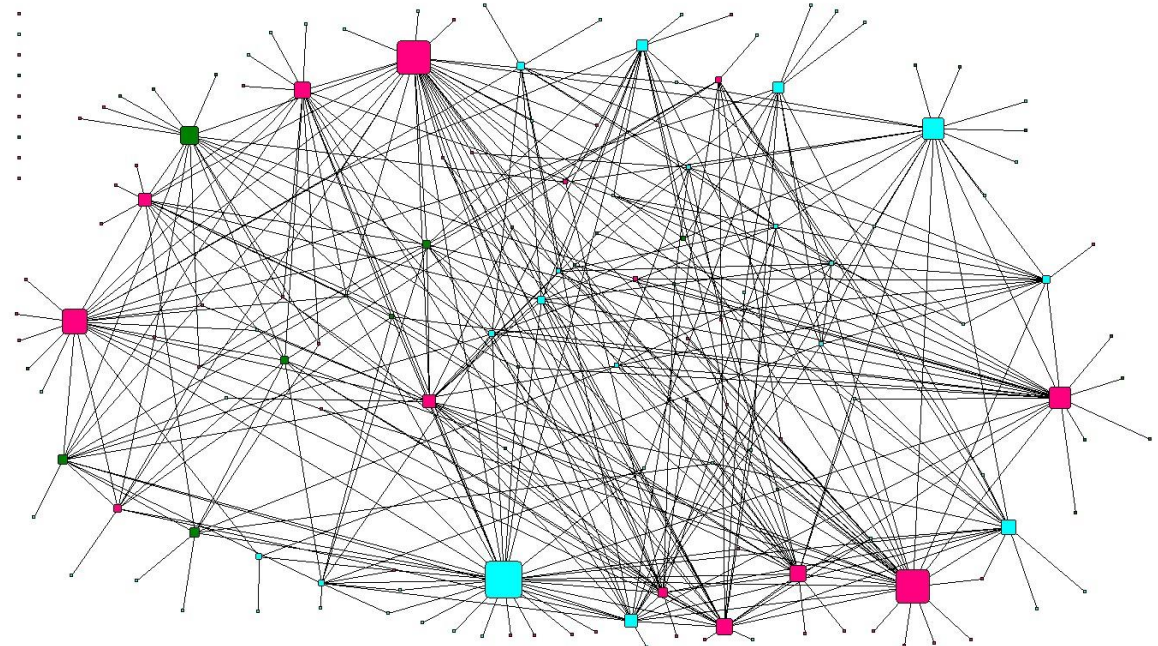


Figure 9: Health Provider, Faith-based and Other Organizations Network

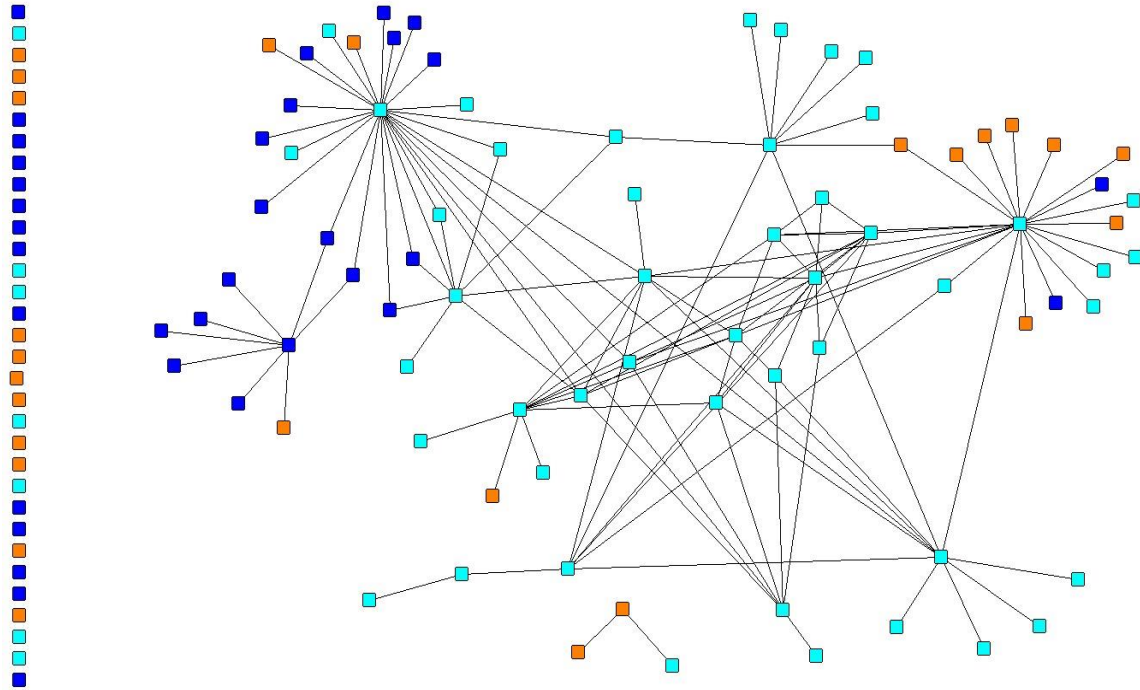


Figure 10: Full Youth Services Network

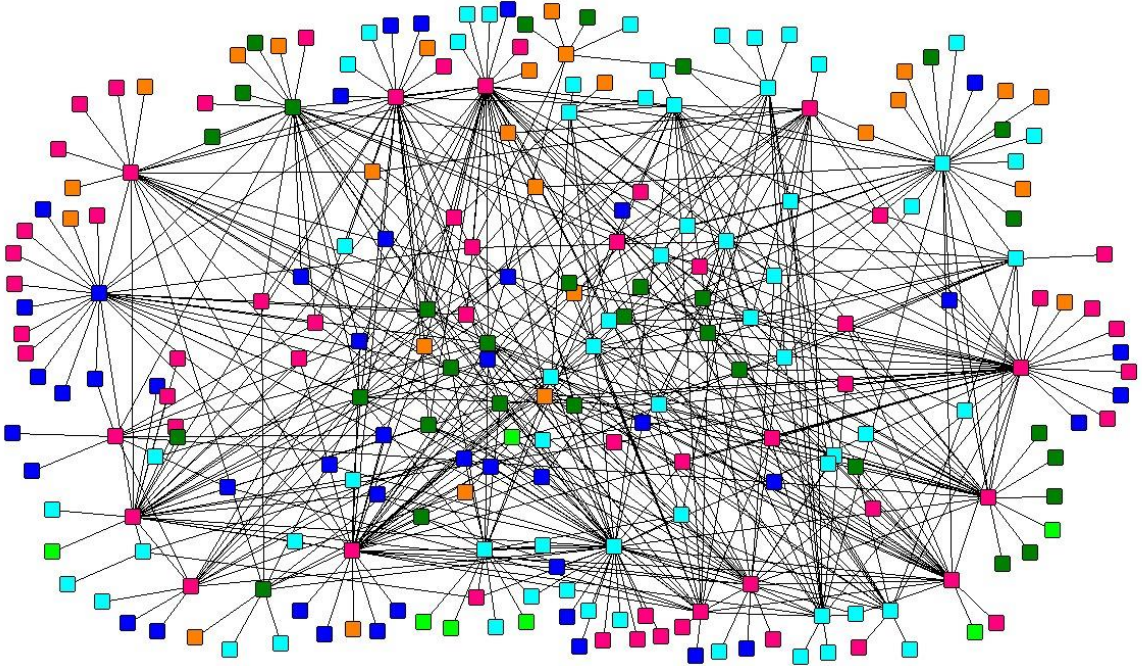
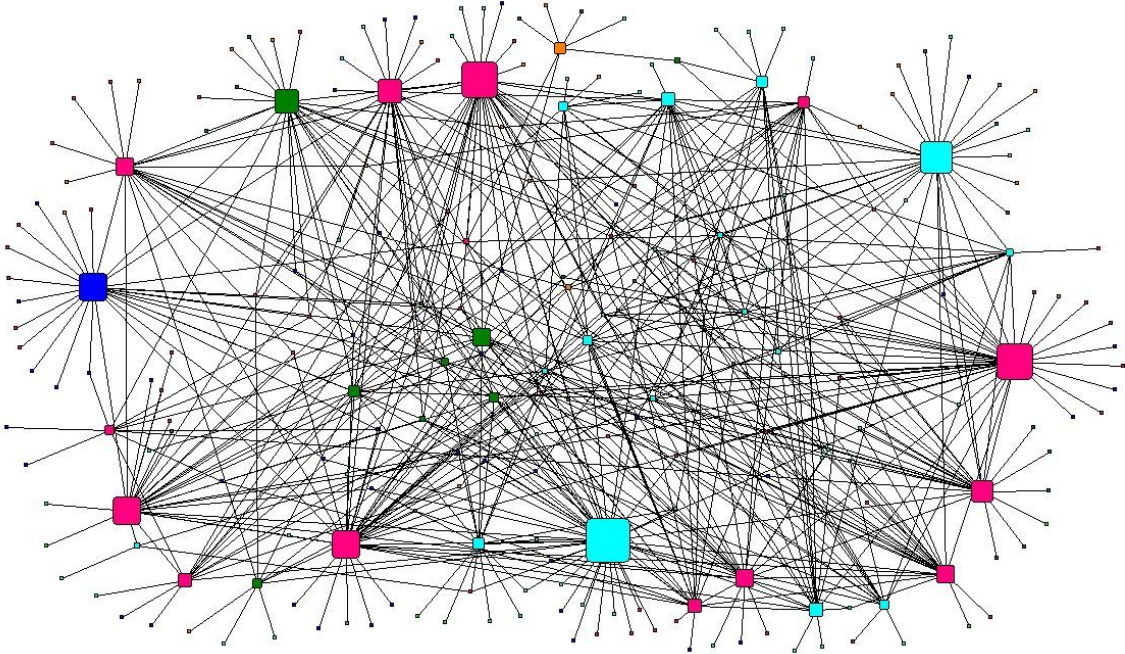


Figure 11: Full Youth Services Network (Betweenness Centrality)



References

- ¹ DHH (2015). 2013 STD/HIV Surveillance Report, State of Louisiana Department of Health and Hospitals Office of Public Health. Retrieved from: dhh.louisiana.gov
- ² DHH (2015). Louisiana 2013 Sexually Transmitted Diseases Annual Report. State of Louisiana Department of Health and Hospitals Office of Public Health. Retrieved from: dhh.louisiana.gov
- ³ CDC (2013). Teen Pregnancy Rate: Accessed at: http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_01.pdf
- ⁴ *ibid*
- ⁵ DHH (2015). Louisiana 2013 Sexually Transmitted Diseases Annual Report. State of Louisiana Department of Health and Hospitals Office of Public Health. Retrieved from: dhh.louisiana.gov
- ⁶ NVSS-N (2013). Births: females 15-19 years (per 1,000). Retrieved from: healthindicators.gov
- ⁷ Yamey (1999). Sexual and reproductive health: What about boys and men?
- ⁸ CDC (2015). Health Risks among Sexual Minority Youth. Retrieved from: cdc.gov
- ⁹ The Fenway Institute. Caring for LGBTQ Youth. Retrieved from The Fenway Guide to LGBT Health: lgbthealtheducation.org
- ¹⁰ Kitts, R.L. (2010). Barriers to Optimal Care between Physicians and Lesbian, Gay, Bisexual, Transgender, and Questioning Adolescent Patients. *Journal of Homosexuality*, 57(6), 730-747.
- ¹¹ *La. Rev. Stat. Ann.* §40:1079.1, 2015.
- ¹² CDC (2015). 2014 Sexually Transmitted Diseases Surveillance. Retrieved from: cdc.gov
- ¹³ DHH (2015). 2013 STD/HIV Surveillance Report, State of Louisiana Department of Health and Hospitals Office of Public Health. Retrieved from: dhh.louisiana.gov
- ¹⁴ DHH (2015). Louisiana 2013 Sexually Transmitted Diseases Annual Report. State of Louisiana Department of Health and Hospitals Office of Public Health. Retrieved from: dhh.louisiana.gov
- ¹⁵ *Ibid.*
- ¹⁶ DHH (2015). 2013 STD/HIV Surveillance Report, State of Louisiana Department of Health and Hospitals Office of Public Health. Retrieved from: dhh.louisiana.gov
- ¹⁷ YRBS (2013). Youth Risk Behavior Surveillance- United States, 2013. Retrieved from: cdc.gov
- ¹⁸ NVSS-N (2013). Births: females 15-19 years (per 1,000). Retrieved from: healthindicators.gov
- ¹⁹ CDC (2015). Social determinants and eliminating disparities in teen pregnancy. Retrieved from: cdc.gov
- ²⁰ [Youth.gov](http://youth.gov) (2015). Adverse Effects, Teen Pregnancy Prevention. Retrieved from: youth.gov
- ²¹ Lewis, Faulkner, Scarborough, & Berkeley (2012). Preventing Subsequent Births for Low-Income Adolescent Mothers: An Exploratory Investigation of Mediating Factors in Intensive Case Management. Retrieved from: nih.gov
- ²² CDC (2013). Vital signs: Repeat births among teens- United States, 2007-2010. Retrieved from: cdc.gov
- ²³ Chen, Wen, Fleming, Demissie, Rhoads, & Walker (2007). Teenage pregnancy and adverse birth outcomes: A large population based retrospective cohort study. Retrieved from: nih.gov
- ²⁴ YRBS (2013). Louisiana 2013 and United States 2013 results. Retrieved from nccd.cdc.gov
- ²⁵ The National Center on Addiction and Substance Abuse (1999). Dangerous liaisons: Substance abuse and sex. Retrieved from: centeronaddiction.org
- ²⁶ CDC (2015). Child Development Teenagers 15-17 Years of Age. Retrieved from: cdc.gov
- ²⁷ Marks A, Malizio J. Hoch J. et al. Assessment of health needs and willingness to utilize health care resources of adolescents in a suburban population. *J Pediatr* 1983;102:456-460.
- ²⁸ Hanneman R. & Riddle M. (2005). *Introduction to social network methods*. Riverside, CA: University of California.
- ²⁹ Rogers, E.M. (2003). *Diffusion of innovations*. New York; London: Free Press.
- ³⁰ Wasserman, S. & Faust, K. (1994). *Social network analysis: methods and applications*. Cambridge: Cambridge University Press.
- ³¹ Woulfe, J., Oliver, T. R., Zahner, S. J., & Siemering, K. Q. (2010). Multisector partnerships in population health improvement. *Prev Chronic Dis*, 7(6), A119.
- ³² Jang, H. L., Lee, Y. S., & An, J. Y. (2012). Application of social network analysis to health care sectors. *Healthcare informatics research*, 18(1), 44-56
- ³³ Borgatti, S.P., Everett, M.G., & Johnson, J.C. (2013). *Analyzing social networks*. Los Angeles: Sage Publications Limited.
- ³⁴ Freeman, S.C. & Freeman, L.C. (1979). The networks network: A study of the impact of a new communications medium on sociometric structure. Social Science Research Reports No. 46, University of California, Irvine.
- ³⁵ Mays, G. P., & Scutchfield, F. D. (2010). Improving public health system performance through multiorganizational partnerships. *Prev Chronic Dis*, 7(6), A116.