

# Assessment of barriers to accessing health services for disadvantaged adolescents in Nigeria



Knowing which adolescents are being left behind on the path to universal health coverage, and why



Federal Ministry of Health of Nigeria



World Health Organization

REGIONAL OFFICE FOR Africa



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The work is the first national pilot of the draft handbook for conducting an adolescent health services barriers assessment, developed by WHO in 2018. This guidance is in keeping with the emphasis in WHO's Thirteenth General Programme of Work 2019–2023 on reducing barriers to health services on the path to universal health coverage.

The assessment in the Federal Republic of Nigeria was managed by Andrew Lingililani Mbewe and Joy Ufere from the Family and Reproductive Health Cluster of the WHO Country Office in Nigeria, who worked in close coordination with the following representatives of the Federal Government of Nigeria for their strategic oversight and to ensure alignment with national policy and planning processes on adolescent health:

- Adebimpe Adebisi, Director of the Department of Family Health, Federal Ministry of Health;
- Chris Ugoboko, Head of the Gender, Adolescent School Health and Elderly Care Division, Department of Family Health, Federal Ministry of Health;
- Oluyemisi Ayoola, Deputy-Director of the Adolescent Health Unit, Department of Family Health, Federal Ministry of Health.

The assessment was commissioned to Nkemdilim Ene (lead consultant), Irene Obi, Ibitola Omotayo and Nonso Onwudinjo from Preston Healthcare Consulting, Abuja. Across the assessment process, a project team composed of representatives of the Federal Government of Nigeria and WHO Country Office in Nigeria (see above for representatives), WHO Regional Office for Africa (Symplise Mbola Mbassi and Taiwo Oyelade), and WHO headquarters (Valentina Baltag, Katherine Gilchrist, Kid Kohl, Theadora Koller, Mary Plummer [consultant] and David Ross) provided regular feedback on all assessment plans and outputs. Special appreciation goes to Katherine Gilchrist for her role in facilitating the working methods of the project team. We also thank Onyema Ajuebor, Technical Officer, Health Workforce, WHO/HQ, and Fahdi Dhkimi, Technical Officer, Health Financing, WHO/HQ, for their inputs.

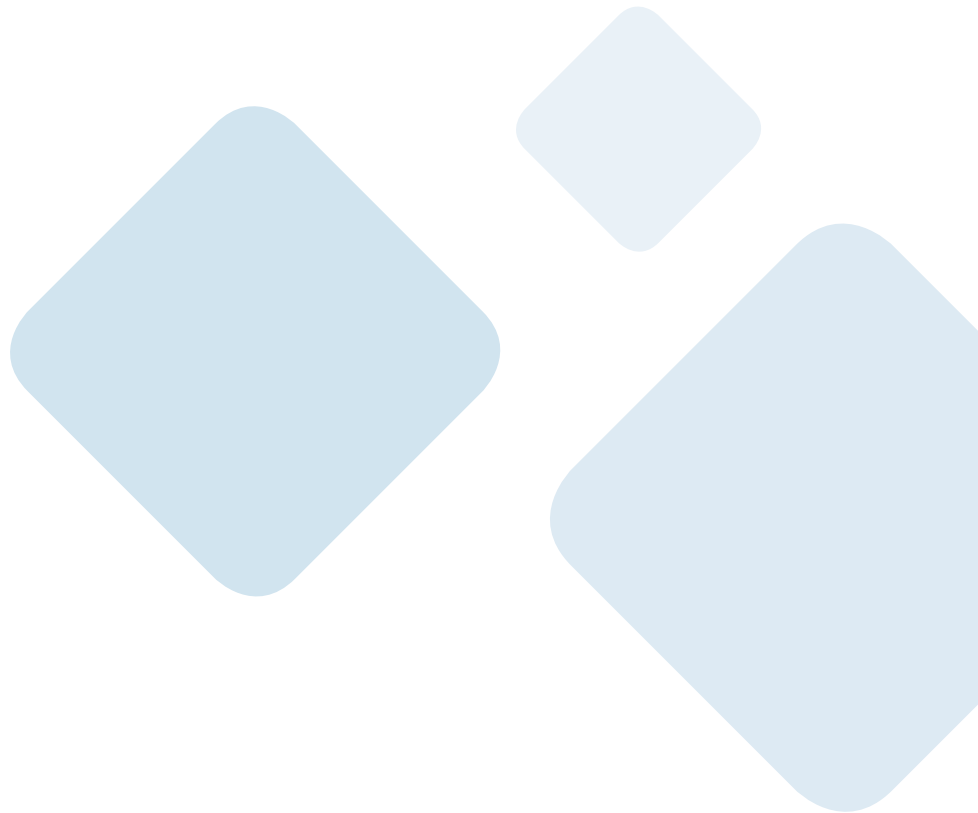
Globally, the work towards the handbook for conducting an adolescent health services barriers assessment was designed and commissioned through a cross-departmental technical collaboration led by Theadora Swift Koller (Technical Officer, Equity; Family, Women's and Children's Health; Gender, Equity and Human Rights) and David Ross (Medical Officer, Research and Development; Maternal, Newborn, Child and Adolescent Health) of WHO headquarters, under the general direction of Veronica Magar (Team Leader, Family, Women's and Children's Health; Gender, Equity and Human Rights) and Rajiv Bahl (Coordinator, Research and Development; Maternal, Newborn, Child and Adolescent Health). The lead author for the global handbook is Mary Louisa Plummer, WHO Consultant on Adolescent Health and Gender, Equity and Human Rights.

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Further piloting of the handbook for conducting an adolescent health services barriers assessment is currently underway in several countries, and will strengthen the guidance given in the handbook with every use.

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This pilot was based on the handbook to assess health service barriers experienced by the most disadvantaged adolescents developed by WHO in April 2018. It will inform broader assessments of barriers to health services and work done on the integration of equity, gender and human rights into policies and programming in Nigeria and beyond.



# Abbreviations

<b>AA-HA!</b>	Accelerated Action for the Health of Adolescents: a global guidance document to support country adolescent health programming
<b>DHIS</b>	District Health Information System
<b>IRIS</b>	Institutional Repository for Information Sharing
<b>MICS</b>	Multiple Indicator Cluster Survey
<b>NA</b>	not applicable
<b>SDG</b>	Sustainable Development Goal
<b>UNFPA</b>	United Nations Population Fund
<b>UNICEF</b>	United Nations Children's Fund
<b>USAID</b>	United States Agency for International Development
<b>WHO</b>	World Health Organization



# Executive summary

Universal health coverage is firmly on the global agenda and takes its bearings from the WHO Constitution of 1948, which declares health a fundamental human right. Universal health coverage is relevant to all the health-related targets of the Sustainable Development Goals (SDGs) and will ensure better health and protection for the world's poorest.

In Nigeria, universal health coverage is also at the top of the health agenda. However, with nearly a quarter of the 191 million population falling between the ages of 10 and 19 years, universal health coverage is unlikely to be achieved without prioritizing adolescent health policy and programming. In acknowledgement of this, Nigeria has included adolescents as a specific area of focus in its draft five-year integrated reproductive, maternal, newborn, child and adolescent health strategic plan (2017–2021). Furthermore, the *National policy on the health & development of adolescents & young people in Nigeria* (2007) (1), the *National strategic framework on the health & development of adolescents & young people in Nigeria* (2007–2011) (2), and the *Action plan for advancing young people's health and development in Nigeria* (2010–2012) (3) are currently being reviewed and revised to ensure that the policies guiding and informing programming adequately reflect the current health needs of adolescents.

To assist the policy reviews, a national situation analysis was commissioned in April 2018 to determine the knowledge, attitudes and perceptions of adolescents aged 10–19 years with regards to available health services. It also sought to determine the unique health needs of adolescents, as well as where they are currently accessing services.

Inclusive policy is needed that guarantees every adolescent's fundamental human rights. This requires going beyond meeting the needs as articulated by the average adolescent to also assessing and meeting the needs of those that live on the fringes of society: the marginalized, under-served and often invisible adolescents.

This report shares the findings from an assessment to identify under-served adolescent groups and to highlight the barriers they experience in accessing health services in Nigeria. It is the product of the first pilot of WHO's draft handbook for conducting an adolescent health services barriers assessment, with a focus on disadvantaged adolescents, a tool designed to assist health ministries in informing policy and programming to ensure no adolescent is left behind.

The specific objectives of this study are to:

1. identify specific groups of under-served adolescents, and define group characteristics and geographic concentration;
2. identify the barriers under-served adolescents experience in accessing health services, by examining specific equity stratifiers such as age, sex, socioeconomic status, geographic location, education and/or marital status;
3. examine the context in which the barriers exist to identify factors that allow them to persist.

## Methods

The assessment detailed in this report was based on the methodology outlined in the handbook for conducting an adolescent health services barriers assessment, which comprises a literature review, quantitative data mining, and qualitative data collection (in the form of focus group discussions and individual interviews with adolescents and key informants).

- ▶ The literature review involved a direct search of relevant websites of the national government, national research institutions, United Nations/multilateral/bilateral agencies, and national/international nongovernmental organizations that work in Nigeria. A keyword search of free academic databases and general internet search engines, and a review of 60 publications and reports published/issued in the last 10 years, were also undertaken.
- ▶ The data mining exercise involved new analyses of 11 databases focusing on relevant indicators which were then disaggregated by equity stratifiers such as age, sex, education, socioeconomic status, place of residence and subnational area.
- ▶ Qualitative data collection involved 12 focus groups with adolescents, as well as interviews with 12 national-level and 24 subnational-level key informants, 12 in-depth interviews with adolescents and 24 in-depth interviews with parents and/or other adult community members in three states (Bayelsa, Borno and Sokoto).

Mining of available quantitative datasets can provide new insights into adolescent health service inequity at the population level. In the Nigerian assessment, however, this process was constrained by substantial limitations of available datasets, indicators and equity stratifiers. Collection of new qualitative data enabled more complex and subtle analyses of barriers to better understand how inequality and inequities, that exist in all societies, affect an individual's access to health services. Such an understanding requires human stories from disadvantaged and under-served adolescents themselves, and the health workers and stakeholders that work on their behalf. With the knowledge that came from these stories, it was possible to paint a more nuanced picture of the needs of the population and what can be done to address them. This people-centred approach resulted in a rich set of data on demand- and supply-side barriers to accessing effective health services for key adolescent populations.

## Theoretical framework

In this report, the findings and subsequent policy and programming entry points for addressing barriers are grouped into five categories of barrier to health service coverage: availability, accessibility, acceptability, contact and use, and effectiveness. These are based on the Tanahashi framework (4): five measures of coverage which can be used to assess the capacity of a health system to deliver the full effect of interventions, i.e. achieve effective coverage. These five measures of coverage reflect five distinct stages in the process of service provision and permit an assessment of the potential capacity to deliver effective coverage, as well as “actual coverage” in terms of health services output.

## Adolescents being left behind

While acknowledging that this is not an exhaustive list, the data mining exercise conducted for this study highlighted the following subgroups of adolescents as being at particular risk of experiencing barriers to care:

- adolescents from households in lower wealth quintiles;
- adolescents with low levels of education;
- adolescents that live in rural areas;
- adolescents that live in northern Nigeria, in particular the North West and North East zones;
- younger adolescents (aged 10–14 years), married and unmarried.

The qualitative components of the study then built on these findings to enable a more in-depth exploration of barriers experienced by three distinct disadvantaged adolescent groups.

1. Adolescent girls under the age of 18 years (married and unmarried), especially those living in the North West and North East zones. Girls aged 10–19 years constitute approximately 11–12% of the population of Nigeria (5). Risks include disproportionate financial constraints, early marriage and early age at first birth (a risk factor for obstetric complications), as well as lack of autonomy when leaving the home (which may deter contact with health services).



Focus group discussion with rural girls (aged 10–19 years) in Sabagreia, Kolokuma/Opokuma, Bayelsa State  
© Preston Healthcare Consulting/Nkem Ene

2. Street boys including *almajiris*,<sup>1</sup> orphans and those using harmful substances. The approximate population of street children in Nigeria was about 7 million in 2013 (6), and they continue to constitute a significant number in urban areas (where they are concentrated) across the country. Younger adolescents (aged 10–14 years) living on the street are often not self-sufficient, and costs involved in accessing care will likely be beyond their reach. Street adolescents are likely to have limited health literacy. Those that abuse substances may be stigmatized by health workers and ostracized from some health facilities, where there is reportedly low knowledge in this area of care.
3. Adolescents living in humanitarian and fragile settings. Relocation of health services away from the conflict zones and limited availability of transportation can hamper access to health services for these adolescents.

<sup>1</sup> An *almajiri* is a person who leaves his home in search of Islamic knowledge, a system practiced in Northern Nigeria.

## Findings

Findings from the different assessment methods are detailed in Annex 2<sup>2</sup> (literature review), Annexes 3 and 4<sup>3</sup> (data mining) and Annexes 7 and 8<sup>4</sup> (qualitative research). The main results from the literature review, data mining and qualitative research were synthesized under the five dimensions of the Tanahashi framework for effective coverage of health services: availability, accessibility, acceptability, contact/use and effectiveness(4).

<sup>2</sup> Annex 2: Literature review summary table: adolescent subpopulation and barrier findings by source document, type of research, study population and type of health service

<sup>3</sup> Annex 3: Data mining summary table: adolescent subpopulation and barrier findings by data source, indicators, stratifiers, inequality measure and type of health service. Annex 4: Dataset indicators showing under-served adolescent population by type of barrier experienced: disaggregated by health service availability, accessibility, acceptability, contact/use and effectiveness/quality

<sup>4</sup> Annex 7: Qualitative research summary table: adolescent subpopulation and barrier findings, by type of health service. Annex 8: Qualitative research summary table: supply- and demand-side barriers to health services experienced by under-served adolescent populations, by coverage dimension.

Each coverage dimension and the related barriers are further explained in the following subsections.

Fig. 1 illustrates the diverse barriers to adolescent health services found by the assessment in Nigeria, and possible entry points for addressing each barrier. The findings are categorized by the Tanahashi dimensions of health service coverage.

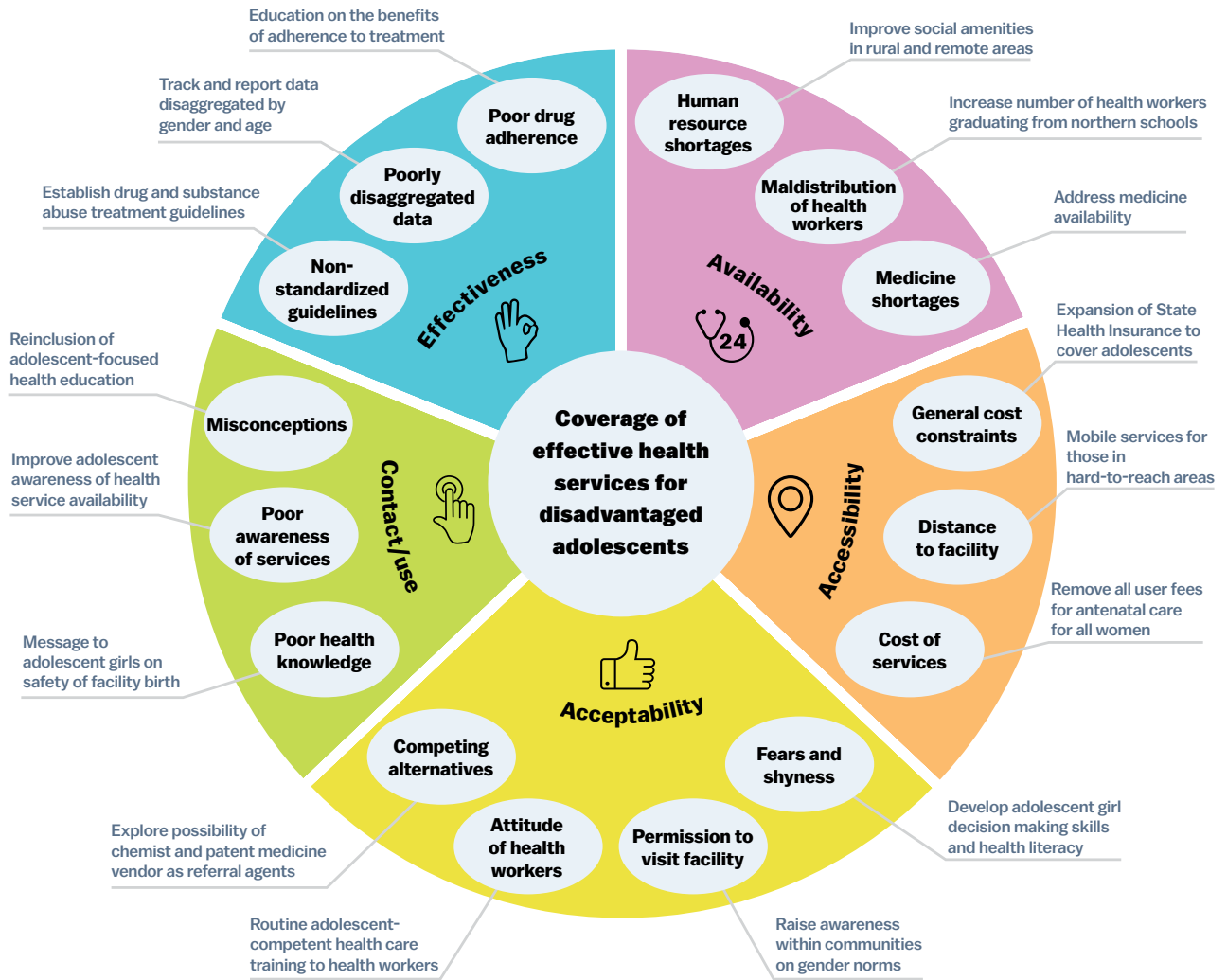


Fig. 1. Barriers to health service coverage for adolescents and suggested interventions, Nigeria



## Availability

Availability coverage relates to the resources available for delivering an intervention and the sufficiency of those resources; for example, the number or density of health facilities and personnel, or the availability of necessary materials such as drugs or equipment. Availability coverage measures the capacity of a health system in relation to the size of the population in need.

The literature review and data mining exercise revealed a range of availability barriers. Some barriers were related to the weak capacity of the health system in general in some parts of the country, particularly in the north and in humanitarian crisis zones outside of internally displaced persons camps. These barriers include: shortages of adequately skilled health workers; maldistribution of health facilities; fewer services in disadvantaged locations, and those provided not necessarily matching population needs; and insufficient drugs, commodities and equipment. While such issues go beyond the scope of Nigeria's forthcoming adolescent health policy and related strategic plan, unless they are addressed, they will undermine reforms toward universal health coverage for adolescents and other age groups.

The literature review also found some availability-related barriers relevant to all adolescents (for example, a lack of adolescent-friendly health services) and those that were specific to disadvantaged adolescents. The latter includes: insufficient services targeting out-of-school adolescents and other high-risk adolescent groups (for example, street children); and, a lack of/weak cross-sectoral services addressing drivers of inequities in exposure to risk factors such as early marriage and/or gender inequality. It also includes insufficient training related to specific adolescent health services; for example, a cross-sectional descriptive study found about half of providers responded that unmarried adolescents should be asked to abstain from sex rather than be provided with contraceptives. Furthermore, the data mining exercise illuminated that while appropriate services are required for disadvantaged adolescent girls, who face considerable health challenges, it is also necessary to address the specific vulnerabilities faced by adolescent boys as their death rates were higher than those of girls for the 2010–2015 period.

The qualitative data from key informant interviews and focus groups reinforced these findings on availability-related barriers, with a significant proportion of the interview time allocated to discussing the impact of health system constraints such as insufficient human resources for health and lack of commodities for adolescent health. An additional underlying issue (apparent across data sources) was the low level of health literacy among adolescents from more disadvantaged communities, with this reportedly heightening exposure to risk factors as well as inhibiting care-seeking from appropriately qualified providers.

### Potential entry points to be further explored for addressing availability barriers

The following recommendations were made to address insufficient services targeting out-of-school adolescents and street children, including orphans.

- Government and its partners could engage local chemists and patent medicine vendors, which represent a relatively unexplored segment of the private sector, to determine the quality and scope of the services currently being offered. This would be useful as these vendors are regularly patronized by underserved adolescents for health care services. This engagement may include, but not be limited to, establishing a database of such providers, determining and enforcing an agreed scope of service, providing training to improve service quality and setting up of a referral system to the formal primary health care system.
- Inclusion of adolescent-targeted health services in the Basic Minimum Package of Health Services at primary health care centres, thereby ensuring that the delivery of care and provision of drugs and commodities, especially to the under-served is fully integrated and prioritized within a costed facility budget. This will include the implementation of adolescent-targeted outreach services and mobile clinic rounds for nomadic adolescents, as well as for those that prefer to access care in a non-clinic setting such as street boys living in urban slums.

The following recommendation was made to strengthen cross-sectoral developmental services addressing drivers of inequitable exposure to risk factors, such as girl-child marriage, gender inequality and substance abuse among street boys.

- Establishment of a national framework for adolescent health and the development of inter-agency planning, which would be replicated at state level. This would ensure inter-ministerial collaboration for multi-faceted service provision by all key government stakeholders.

The following recommendations were made to address the paucity of health workers in remote, rural and hard-to-reach locations, especially female workers in northern states.

- Boosting of general health worker supply and ensuring their appropriate training in accordance with population needs. This effort needs to focus particularly on boosting the number of female health workers, which are in much higher demand in northern states.<sup>5</sup> Graduates of schools of nursing and health technology could have their pre-service curricula enriched with adolescent-specific training courses, as in-service training is more expensive and requires significant service disruption to accomplish.
- Optimizing the roles of CHEWs while ensuring quality services, by training them to perform some tasks previously only carried out by higher-skilled health workers. This way, more skilled personnel would be available to do more intensive clinical and non-clinical tasks. From a health worker's performance perspective, in addition to training, deployment of other strategies<sup>6</sup> to improve health workers effectiveness should be considered such as

supportive and adequate supervision, focused group problem solving, etc.

- Provision of incentives or requirements for health workers to accept posts in rural and urban-poor communities. The exposure to the harsh living conditions could be mitigated by offering such postings as mandatory short-term assignments which are rotated among all staff in public service employment.
- Engagement and training of community volunteers to assist with non-sensitive health education and referrals to health facilities.
- Engagement and training of skilled private health care providers as well as patent medicine vendors for provision of essential adolescent health care. Utilization data emerging from the collaboration of government with the private health sector should be utilized for future planning.

## Accessibility

Accessibility barriers include geographic barriers (distance and availability of transport) and financial barriers (direct out-of-pocket expenditures, such as for medicines, as well as indirect costs such as missed schooling, lost work and child care). Accessibility barriers can also be organizational or informational, such as those related to inconvenient opening times, waiting times and schedules.

The literature review and data mining exercise highlighted the need to address accessibility barriers, with the most critical being financial barriers, transport-related barriers, and barriers linked to information accessibility. According to data found by mining the WHO Health Equity Monitor database using its accompanying Health Equity Assessment Toolkit (HEAT), which uses data from the Nigeria Demographic and Health Survey 2013 (7) and the Multiple Indicator Cluster Survey 2011 (8),<sup>7</sup> socioeconomic-related inequality in accessing and using care is significant among adolescents, with only about 18% of adolescents from poor households able to access and use care compared to 85% from the wealthiest quintile.

<sup>5</sup> Note that any adjustment to the curriculum for community-based midwives should be made taking into account Recommendation 2 on Duration of pre-service training of the *WHO guideline on health policy and system support to optimize community health worker programmes*, 2018. <http://apps.who.int/iris/bitstream/handle/10665/275474/9789241550369-eng.pdf?ua=1&ua=1>

<sup>6</sup> See this article for more information: Rowe AK et al (2018). Effectiveness of strategies to improve health-care provider practices in low-income and middle-income countries: a systematic review. In: *The Lancet*, Volume 6, ISSUE 11, Pe1163-e1175, November 01, 2018. (available from [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(18\)30398-X/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30398-X/fulltext))

<sup>7</sup> Annex 3: Data mining summary table: adolescent subpopulation and barrier findings by data source, indicators, stratifiers, inequality measure and type of health service

Giving further insight, the literature review findings showed that girls (particularly those from poorer households in rural, remote and hard-to-reach settings) are less likely to have access to money for user fees, laboratory fees and purchasing of medicines and commodities. These affordability issues are often exacerbated by the distance to facilities; lack of access to transport and insufficient funds to cover costs of travel pose further barriers. Issues relating to low levels of health information accessibility in disadvantaged communities, as well as the requirement to seek consent from (or be accompanied by) older family members before being able to seek care, were also cited as barriers.

The qualitative component of the study (key informant interviews and focus group discussions) generally reinforced these findings, while providing additional details. For instance, focus group respondents emphasized that reasons for adolescents going directly to traditional healers or patent medicine vendors instead of health facilities include that the former are perceived to be cheaper, in addition to being closer to the vicinity of where rural adolescents live. Some respondents also identified challenges linked to seasonal relocation and not knowing how to access the services in new locations, or being involved in remote agricultural/fishing activities that inhibit access.

In alignment with the national movement towards universal health coverage, many states in Nigeria are in the process of establishing state-level health insurance schemes. Enrolment for adolescents is currently based on the eligibility of parents; therefore, street children and orphans may not be able to access coverage as they lack the family structure to qualify.

### **Potential entry points to be further explored for addressing accessibility barriers**

The following recommendation was made to address the migration of adolescents to remote locations with paucity of health services due to seasonal farming and/or humanitarian crises.

- Provision of information on available health service locations en route for transient populations (adolescents fleeing conflict, nomadic farmers, seasonal fishermen), at their known points of convergence, utilizing affordable mass media platforms such as radio.

The following recommendations were made to address ineligibility of street children and older adolescents (over 18 years) for state-based health insurance coverage.

- Inclusion of disadvantaged adolescents as a “vulnerable” group as an amendment to the 2014 National Health Act, to enable them to obtain free health care as provided for children aged under 5 and pregnant women.
- Definition and costing of adolescent health essential services, and integration into the benefits package.
- Generation of revenues to subsidize access by disadvantaged adolescents to public and faith-based facilities.
- Expansion of the state health insurance scheme subscriber base beyond the formal public sector to adolescents for a set of essential services that will be progressively expanded.
- Active enrollment of all adolescents into the state health insurance through community mobilization and channels such as community-based health insurance and outreach in schools.
- Design and implementation of a payment mechanism (i.e., budget, payer, payment method) to compensate public and private facilities for services provided to adolescents free-of-charge.
- Develop an identification model (e.g., with criteria, conditions and processes) to identify disadvantaged adolescents, building on existing models as appropriate.

The following recommendation was made to address persistence of user fees charged for “free” services, which a majority of underserved adolescents cannot afford.

- Strong sanctioning of violations (illegal charges for free services). Compliance could be monitored by multiple interventions including client exit interviews as part of the Integrated Supportive Supervision checklist as well as community checks.

The following recommendations were made to address the chaperoning of adolescent girls in examination rooms, thereby limiting the quality of interaction with the health provider.

- Definition of the legal age for sole consent for an adolescent to access services. This is imperative to determine to what extent the rights of adolescents are being limited and/or can be effectively advocated for.

Adolescents below 18 years, who currently present in a health facility without an adult guardian or parent, are often turned away.

- Community orientation on the need for privacy in the examination room should be communicated locally through faith and traditional leaders as well as by heads of other community-based organizations.
- Strategic sponsorship by the state government in specific communities of more women to attend community midwifery school thereby enlarging the pool of available female health workers, and can also obviate the need for or serve as chaperones for adolescent girls.

## Acceptability

Acceptability barriers relate to the perceived responsiveness of the provider and perceptions on the quality of care. Examples of possible acceptability barriers include cultural beliefs that are in tension with the service provided; gender-responsiveness of services or gender norms, roles and relations that inhibit access; perceptions of service quality; perceived and actual corruption among health providers; and discriminatory attitudes by providers (based on sex, ethnicity, marital status, religion, caste, sexual orientation and so on).

One of the main findings from the literature review (mentioned in five studies), focus group discussions and key informant interviews was that perceived negative attitudes of health workers towards adolescents formed a barrier to adolescents seeking services. A number of focus group participants expressed concern that they would be deprioritized or disrespected, and that they felt shy to go alone to a provider. In the discussions, certain adolescent populations were found to be more at risk of avoiding health services due to real or perceived negative attitudes of health workers; these include street boys who abuse drugs, adolescent girls and younger adolescents (aged 10–14 years).

The qualitative study found that married adolescent girls may face barriers around the acceptability of seeking maternal health services. Early marriage may limit development in independent decision-making, facilitate poor health literacy and interrupt school

enrolment, leading to less ability to seek out services independently. Although the 2003 Child Rights Act recommends a minimum age of 18 for marriage, it permits parents to override this and give their younger daughters away in marriage if they deem it appropriate<sup>(9)</sup>.

Another key acceptability barrier that emerged from the literature review, data mining exercise and qualitative study was that cultural, religious and social norms often prevent adolescent girls, particularly from the northern regions of Nigeria, from seeking health services due to the practice of chaperoning outside the home. This and other factors have led to adolescent girls in the north having comparatively low contact with certain health services, and widespread cultural aversion to use of contraceptives, use of skilled health personnel at birth and accessing of antenatal care.

Misconceptions about what is involved in certain treatments, fear of parental or societal reactions, and stigma surrounding certain types of health services (particularly those relating to HIV, sexual and reproductive health, and mental health) were cited by a number of studies as reasons for adolescents not seeking treatment.

Finally, an important acceptability barrier that came out strongly in focus group discussions and key informant interviews was misconceptions about the motives of health workers or clinics. Perceptions that clinics ask too many questions and that traditional treatment is superior were motivating factors behind using local chemists and traditional healers instead of seeking treatment from trained personnel.

### Potential entry points to be further explored for addressing acceptability barriers

The following recommendations were made to address the perceived negative attitudes of health workers towards adolescents and increased patronage of chemists among underserved adolescents.

- Integration of adolescent friendliness, value clarification, and adolescent-targeted sexual/reproductive and mental health, in pre-service training curricula for health workers.
- Routine monitoring and supervision of service providers on adolescent-friendly health services,



as well as client exit interviews to record quality of services received by adolescents, for integration into the Integrated Supportive Supervision checklist.

- Training and equipping of pharmacists and patent medicine providers with accurate and sufficient information (using advocacy briefs and information, education and communication materials), to provide basic health education and a minimum range of services to adolescents who patronize them.
- Advocacy within existing community structures (meetings of community leaders, religious leaders) using adolescent health needs fact sheets. This will re-inforce desired health-seeking behaviour among adolescents under their care.
- Integration of family life and HIV/AIDS education curriculum into out-of-school structures, especially vocational and youth-friendly centres, to improve health literacy.
- Engagement of media platforms using radio jingles, dramas and other educational programmes targeting adolescents to educate on health literacy, especially on the need to patronize trained personnel.

The following recommendation was made to address cultural norms in northern Nigeria that increase demand for unskilled traditional birth attendants and/or patronage of chemists.

- Encouragement of girl-child education through advocacy to policy-makers and regional influencers.

## Contact and use

Contact and use barriers are characterized by a lack of actual contact between the service provider and the user when services are available, accessible and acceptable. In general, contact and use barriers relate to lack of awareness of available health services or insufficient understanding of the value of seeking services.

The literature review found that among adolescents in general, there is a lack of awareness about health services that would explain a corresponding lack of expected contact. Groups specifically affected were found to be adolescent refugees, those living in rural settings, as well as those with lower levels of education. Much of the literature also focused on lack

of knowledge among adolescent girls regarding sexual and reproductive health and maternal health services. The findings related to adolescent girls were reinforced by the data mining exercise which found low levels of contraceptive use (modern or traditional methods) among adolescents, indicating a possible lack of awareness; although cultural and social norms are also likely influencing factors (see Acceptability section, above).

The qualitative study reinforced the literature review findings, and a number of focus group participants indicated a general lack of knowledge on what services were available to them. Key informant interviews further indicated that this lack of information affects displaced adolescents, orphans, street adolescents and those from ethnic minorities more acutely, due to being less “tapped into” local social circles. The qualitative study also found that a significant proportion of focus group participants practiced self-diagnosis and prescription, or preferred traditional healers and chemists as opposed to formalized health services. Some focus group participants and several key informants stated that rumours and misconceptions about cost, treatment and/or health workers’ motives can lead to services not being sought and create a preference for traditional healers. Such misconceptions can be further exacerbated by ambitious street chemists and unlicensed pharmacies operating outside their scope of practice.

### Potential entry points to be further explored for addressing contact and use barriers

The following recommendations were made to address low levels of health literacy among adolescents.

- Identification and engagement of mentors for adolescents in varied settings (teachers, parents, community leaders, faith-based organizations, etc.), to improve adolescent health education.
- Promotion of peer-to-peer education programmes for in-school and out-of-school adolescents by engaging grassroots youth social mobilizers to create awareness using adolescent-focused messaging.
- Updating of the family life and HIV/AIDS education curriculum to capture emerging adolescent issues, such as drug abuse.
- Integration of adolescent-specific messaging into existing National Orientation Agency platforms in the form of TV and radio jingles.

- Revitalization of existing social media platforms that specifically target adolescents, such as “DaSubjectMatter.com” and “My Q & My Answer”.
- Creation of adolescent- and youth-friendly social and behavioural change communication materials (cartoon handbooks) to address youth-identified health issues.
- Establishment of linkages between primary health centres and care institutions for persons with disabilities to facilitate and maximize additional entry points.

## Effectiveness

This dimension explores the extent to which treatment has achieved its intended aim and the health needs of the patient have been met. Effective coverage can be influenced by factors such as patient treatment adherence, provider compliance and diagnostic accuracy.

The District Health Information System 2 (DHIS2) software does not currently disaggregate data on clients by age and sex, making demand levels and utilization trends among adolescents difficult to assess. The qualitative findings revealed that adolescents go directly to medicine vendors who “don’t ask questions” instead of health facilities, which immediately casts aspersions on diagnostic accuracy. Major health system weaknesses, such as insufficient numbers of adequately trained staff, and lack of commodities, medicines and equipment, directly result in suboptimal provider compliance with treatment guidelines and negatively impact on quality of care. These observations were consistently cited across all data sources.

For those adolescents who do make contact with health services, issues such as low health literacy, cultural beliefs and preference for traditional healers, gender-/age-related lack of autonomy in decision-making, ongoing financial and distance barriers, lack of confidentiality and disrespectful treatment by health workers, can further inhibit the ability of adolescents to adhere to the prescribed treatment, laboratory testing and/or seek referrals to higher levels of care. While these issues came across particularly strongly in the qualitative component of the study, many were also found in the literature review.

## Potential entry points to be further explored for addressing effectiveness barriers

The following recommendations were made to address inadequately disaggregated health data for adolescents aged 10–19 years.

- Expansion of the current DHIS 2 data disaggregation effort (which includes input on gender and age) to include the type of service being sought at all levels of the health system.
- Progress in achieving the objectives of the Global Financing Facility investment case, the National Strategic Health Development Plan, and so on, should be linked to specific adolescent health indicators.
- Amendment and dissemination of the current reporting tools across all the levels of care to ensure all relevant data are captured.

The following recommendations were made to address limited evidence on substance abuse trends among adolescents in Nigeria, resulting in limited knowledge among health workers on approved treatment modalities especially at the primary health care level.

- Updating of the pre-service training curriculum for nurses, community health extension workers and doctors, with consideration of adolescents’ need for more psychosocial support. The expected adolescent care tasks should be cascaded according to the educational level and experience of the target service provider.
- Exploring distance learning as a viable training modality for service providers who manage adolescent patients with substance abuse issues.
- Baseline studies on the scope and nature of the drug abuse trend in Nigeria should be undertaken to facilitate the development of effective interventions.
- Training of health workers to understand the impact of their attitude on adolescent health-seeking behaviour.
- Modification of the health facility environment to motivate adolescent attendance and compliance while waiting for service.
- Scheduling of adolescent-targeted service times to suit their lifestyle.
- Subsidizing of medicines to ensure compliance with agreed prescriptions.

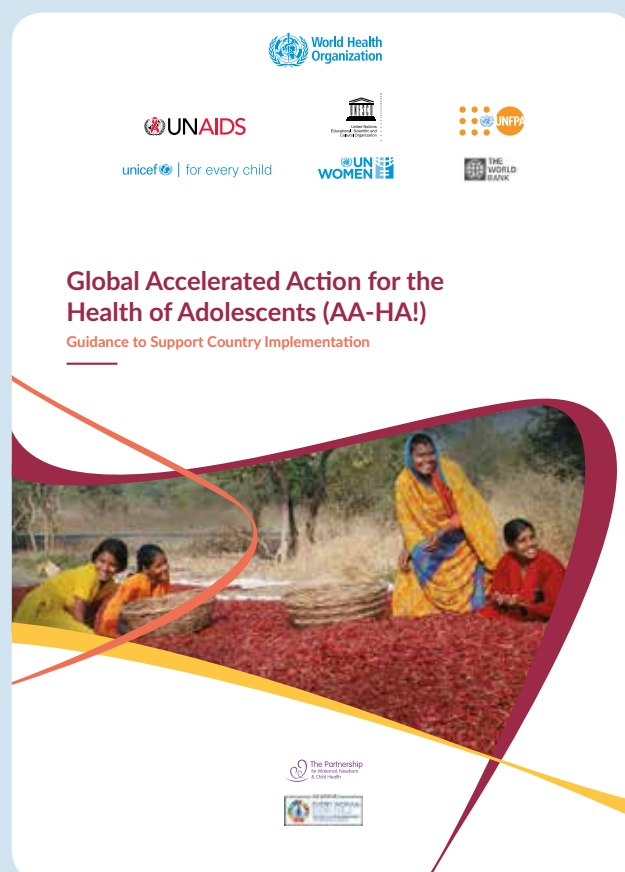
# Background

Universal health coverage is firmly embedded in the Sustainable Development Goals (SDGs) under SDG 3 and takes its bearings from the WHO Constitution of 1948, which declares health a fundamental human right, and from the “health for all” agenda set by the Alma-Ata Declaration in 1978. The SDGs mark an unprecedented commitment to “leaving no one behind”. They articulate the importance of addressing vulnerabilities and discrimination on a global scale.<sup>8</sup> This study and the handbook it is based on are a response to the call to leave no one behind, in particular in relation to disadvantaged adolescents.

## An urgent need to invest in adolescent health worldwide

Around 1.2 billion adolescents (aged 10–19 years) make up 16% of the world’s population. Sub-Saharan Africa is the region where adolescents make up the greatest proportion of the population, with fully 23% of the region’s population aged 10–19 years (10). The 2014 WHO report *Health for the world’s adolescents: a second chance in the second decade* (11) showed that the demonstrable gains from earlier investments in maternal and child health programmes are at risk of being lost without corresponding investments in adolescent health now and in the immediate future. This is validated by more recent WHO data showing that more than 3000 adolescents die every day from largely preventable causes and that exposure to many key risk factors for future adult disease starts, or is consolidated, in adolescence (12). Investments in adolescent health bring a triple dividend of benefits for adolescents now, for their future adult lives, and for the next generation (13).

<sup>8</sup> On 25 September 2015, 193 Member States of the United Nations adopted resolution A/RES/70/1: Transforming our world: the 2030 agenda for sustainable development. The Agenda includes 17 SDGs and 169 targets ([https://unctad.org/meetings/en/SessionalDocuments/ares70d1\\_en.pdf](https://unctad.org/meetings/en/SessionalDocuments/ares70d1_en.pdf)).



Building on the 2014 WHO report, the 2017 *Global accelerated action for the health of adolescents (AA-HA!): guidance to support implementation* (14) emphasizes the importance of moving beyond the health sector to also engage other sectors such as education, social protection, urban planning and the criminal justice system in order to respect, protect and fulfil adolescents’ rights to health. The AA-HA! takes an inclusive approach engaging subsets of the broader adolescent population, and acknowledges that adolescents often bear the brunt of dangers emanating from humanitarian and fragile settings including trauma, poor nutrition and sanitation, harassment, assault and rape. The global AA-HA! guidance sets the stage for urgent action by United Nations agencies, civil society organizations, academics, governments and, most importantly, young people themselves (14).

## Health system reform in Nigeria

Nigeria is currently embarking on health system reforms as prescribed by the National Health Act passed in 2014 (15), which provides a legal and regulatory framework for the delivery of care. Some of the priorities include financing the Basic Health Care Provision Fund, which represents 1% of Nigeria's consolidated annual revenue, for the express purpose of financing the Minimum Package of Health Services at the primary care level (see Box 1). Under the Package, every Nigerian would be entitled to a minimum range of services regardless of their ability to pay. This policy move, along with the "One PHC centre per ward" initiative and the facility accreditation efforts by the National Health Insurance Scheme, will ensure that care is accessible, affordable and of good quality. These efforts collectively lay the foundation for universal health coverage, even for those living in the most remote communities in Nigeria.

## Adolescent health in Nigeria

The population of young people in Nigeria continues to increase as more individuals survive the childhood years and enter into adolescence. The future development of Nigeria, and the world, largely depends on having healthy adolescents who transit into healthy and productive adulthood.

As of 2017 Nigeria has a population of 191 million, of which 44 million (23%) are adolescents between the ages of 10 and 19 years (16). In 2016, Nigeria had an annual population growth rate of 2.6%, and 44% of Nigeria's population was under the age of 15 (17).

A recent analysis by the *Lancet* commission on adolescent health and wellbeing noted that adolescent fecundity in Nigeria is high as are rates of early marriage, although the rates differ across states.

### Box 1. Minimum Package of Health Services

*The Basic Minimum Package of Health Services for Nigeria (2016) consists of nine prioritized health interventions, as given below.*

*Urinalysis test (diabetes screening) and a blood pressure check (cardiovascular disease screening) for all Nigerians, four antenatal care visits for pregnant women, health care visits for children aged under 5 years (malaria, diarrhoea, pneumonia and vaccine-preventable diseases) and emergency medical treatment for road-traffic injuries.*

*Given the huge impact of maternal morbidity and mortality on the disease burden in Nigeria, cost-effective interventions that are likely to reduce the maternal mortality ratio have been prioritized in the Package. SDG target 3.6 provides the justification for reducing deaths from road-traffic injuries: "By 2030, halve the number of global deaths and injuries from road traffic accidents."*

Adolescent pregnancy rates in Nigeria's northern states are more than four times higher than in the south. The median age of marriage is 4 years lower in rural settings (16.6 years) compared to urban settings (20.8 years) (18). Nigeria has an emerging HIV epidemic, particularly in the North Central zone, which is disproportionately affecting adolescents. Rates of unsafe sexual activity among adolescents are high. Infectious diseases other than HIV, although diminishing, are still prominent contributors to burden of disease among adolescents, with malaria and neglected tropical diseases notable among these. While these diseases of poverty are priorities, road-traffic injuries and sexual violence are also prominent. Haemoglobinopathies (such as sickle cell anaemia and iron deficiency anaemia) figure prominently within chronic physical illnesses, and rates of obesity are rising in both sexes.

The unique health outcomes of adolescents underscore the importance of giving critical attention to adolescent health issues in policy and programming. While multisectoral partnerships and actions are needed for the optimal health, development and well-being of young people, the health sector has a leadership role and unique technical responsibilities. The health system has responsibility for developing the health workforce to provide quality health services to young people.

For many years, the Federal Government of Nigeria has recognized the importance of adolescent health services and has made progress towards implementing quality adolescent health services on a large scale. Two overarching policies guide the national approach to adolescent health and development: the 2007 *National policy on the health & development of adolescents & young people in Nigeria* (1) and the *Second national youth policy document of the Federal Republic of Nigeria 2009* (19). Subsequent documents that guide implementation of the policies include

the *National strategic framework on the health & development of adolescents & young people in Nigeria 2007–2011* (2), the *Action plan for advancing young people's health and development in Nigeria: 2010–2012* (3), the *National guidelines for the integration of adolescent and youth friendly services into primary health care facilities in Nigeria* (2013) (20), and the *National standards and minimum service package for adolescent and youth-friendly health services in Nigeria* (2013) (21).

These documents have highlighted the importance of the different dimensions that together contribute to effective adolescent health services, particularly for marginalized or disadvantaged adolescents, and the need to assess those dimensions.

### **Assessment of barriers to accessing health services for disadvantaged adolescents in Nigeria**

In line with WHO's focus on accelerated action to improve the health of the world's 1 billion adolescents over the next decade (11), Nigeria has revisited its approach to provision of care for this subgroup by reviewing its 11-year-old adolescent health policy. In a 2017 review of the *National policy on the health & development of adolescents & young people in Nigeria*, the Federal Government determined that it needed to be revised and updated. Towards that end, an adolescent health situation analysis has been conducted with the goal to develop a new policy and strategic plan. In addition, with the support of WHO and UK aid from the UK government, the Federal Government of Nigeria has conducted this adolescent health services barriers assessment to complement the adolescent health situation analysis and feed directly into development of the new adolescent health policy and related strategic plan.

# Methods

The methodology employed in this assessment of health service barriers experienced by disadvantaged adolescents in Nigeria was adapted from the draft WHO handbook for conducting an adolescent health services barriers assessment with a focus on disadvantaged adolescents (see Box 2).

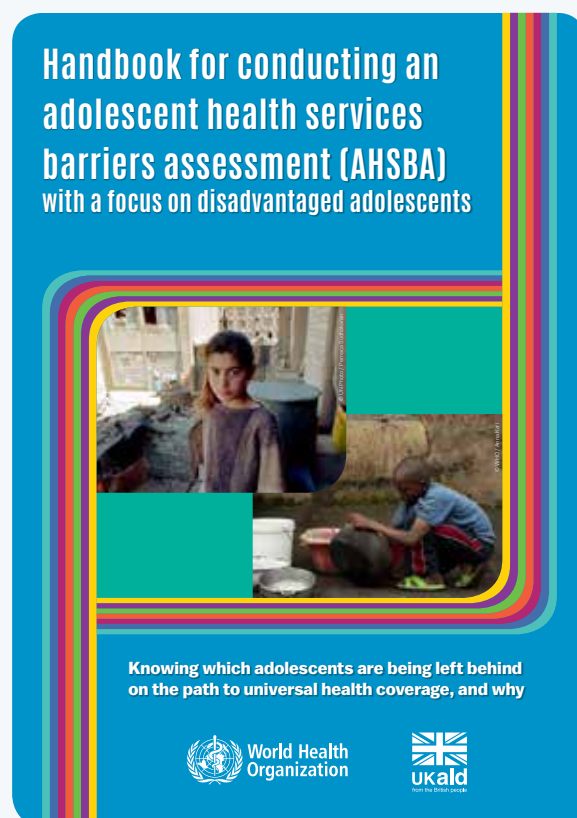
WHO has developed the handbook to help national governments identify which of their adolescent subpopulations might have least access to effective health services, and what barriers those adolescents face.

## Box 2. Handbook for conducting an adolescent health services barriers assessment with a focus on disadvantaged adolescents

The handbook is a comprehensive guide to undertaking an assessment of the barriers to accessing health services faced by adolescents, and specifically the most disadvantaged, often invisible, groups of adolescents such as many adolescent girls, those living in extreme poverty, out-of-school adolescents and those living in rural areas. The handbook is founded on the principle that a person's ability to access health services is influenced by gender norms, roles and relations, and other conditions in which we are born, grow, work, live and age. The wider the disparities between different social groups, the greater the inequities in their ability to obtain health care.

The guidance has two objectives:

- *to build in-country capacity to identify the barriers to effective coverage with health services that are being experienced by disadvantaged adolescents;*
- *to trigger remedial action to address the barriers, as appropriate, to catalyse integration of a focus on “who is being left behind and why” into ongoing country-level monitoring and evaluation of adolescent health services, and to ensure high levels of programme performance.*



The main methods used to conduct an adolescent health services barriers assessment are a literature review, quantitative data mining, and national and subnational qualitative data collection. Fig. 2 shows the table of contents of the handbook.

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Fig. 2. Contents table of the handbook for conducting an adolescent health services barriers assessment

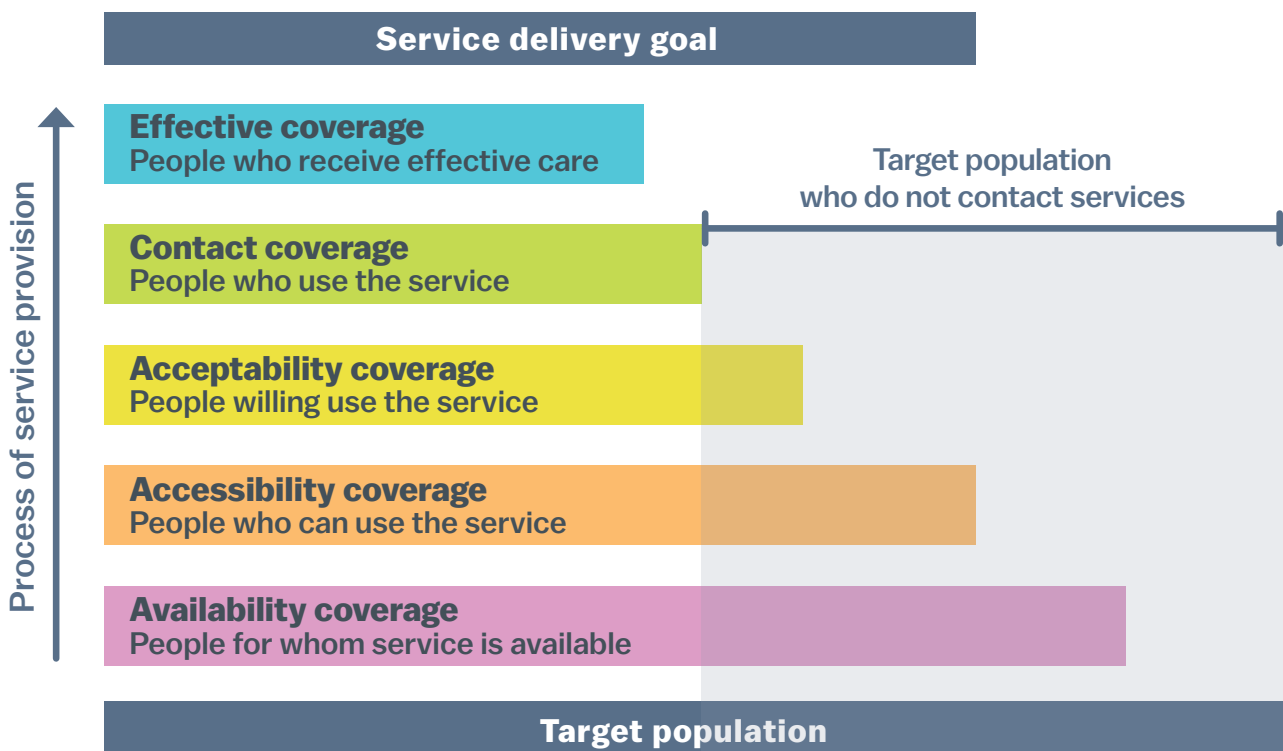
Given the scope of this assessment, it was not feasible to assess all of the conditions and services which can be subsumed under the broad umbrella of adolescent health. For some parts of this assessment, therefore, the Federal Ministry of Health of Nigeria narrowed its focus to three important adolescent health issues and their related health services:

- sexual and reproductive health;
- substance abuse and other mental health issues;
- nutrition.

### Theoretical framework

The handbook for conducting an adolescent health services barriers assessment is grounded in the Tanahashi framework and its five dimensions

of effective health service coverage: availability, accessibility, acceptability, contact and use, and effectiveness (4). These five measures of coverage reflect five distinct stages in the process of service provision and permit an assessment of the potential capacity to deliver effective coverage, as well as “actual coverage” in terms of health services output. These measures of coverage are organized hierarchically so that each measure reflects a more constraining definition of coverage than the previous one. The measures can be used to assess the capacity of a health system to deliver the full effect of interventions, i.e. achieve effective coverage. Fig. 3 illustrates how the different dimensions build upon one another during the process of health care provision to achieve effective coverage of adolescent health services.



Source: Adapted from Tanahashi, 1978 (4).

Fig. 3. Tanahashi model for evaluating health service coverage



By comparing the relative compliance with each of these “conditions”, it is possible to identify the largest “bottleneck” to effective coverage. In other words, the greatest obstacle to effective coverage is where the biggest gap exists between one measure of coverage and the next.

In this report, the Tanahashi framework dimensions were used to classify cross-cutting barriers to health service coverage. The findings and subsequent policy and programming entry points for addressing barriers are grouped into the five categories of barrier.

## Research ethics

This study employed the use of enumerators, who were trained on ethical considerations in research involving human subjects. In addition, the potential participants were informed during the consenting process of their rights as participants, as well as the risks and benefits involved.

The evaluation process adhered to national/subnational laws or standards for conducting research; local Institutional Review Board requirements were identified and fulfilled prior to data collection. In addition, the following ethical issues were considered during the evaluation process.

**Informed consent:** Informed consent information was given to participants, clearly explaining the nature and purpose of the study, procedures of the study, risks and discomforts involved in the study, benefits of and incentives for participation, confidentiality of participants’ identities and responses, and participants’ right to refuse participation at any point. The enumerators obtained oral consent from participants after giving the information about the study. The content of the informed consent form was explained in a language which the participant understood. Obtaining of consent was done in a setting that allowed for individual auditory and visual privacy. (See Annex 6 for the informed consent form).

**Privacy:** To avoid distress emanating from disclosure of participants’ details, information about participants was kept highly confidential. Protection of privacy and confidentiality was also crucial to minimize response bias and ensure the validity of participants’ responses.

## Literature review

The literature search focused on relevant scientific journal articles, technical reports, evaluations, case-studies, technical presentations, working papers, briefings, and other write-ups of qualitative research findings and quantitative survey analyses that were published in the last 10 years. These were identified by: (a) stakeholder consultation; (b) direct search of relevant websites of the national government, national research institutions, United Nations/multilateral/bilateral agencies, and national/international nongovernmental organizations that work in the country; (c) keyword search of free academic databases such as PubMed, MEDLINE, the WHO Library Database (IRIS); and (d) keyword search of general internet search engines, such as Google. (See Annex 1 for an outline of the search criteria used for the literature review).

The selected literature was prioritized. The 60 highest ranking documents were reviewed and summarized. A record was made of the citation information, type of research, type of adolescent study population, and findings on disadvantaged adolescents and health service barriers. Documents were then organized alphabetically by author. (See Annex 2 for a literature review summary table of adolescent subpopulation and barrier findings, by source document, type of research, study population and type of health service).

The literature review summary was further categorized by type of barrier, using the Tanahashi dimensions of availability, accessibility, acceptability, contact/use and effectiveness.

## Quantitative data mining

Available national and international datasets and databases were reviewed and, within those sources, common indicators (such as number of doctors, or births attended by skilled health personnel) underwent stratified analysis (by sex, adolescent age group, education level, socioeconomic status, geographic location and so on). (See Annex 3 for quantitative data sources and the findings on disadvantaged adolescent subpopulations and health service barriers).

Permissions and technical support were obtained to mine the datasets. The quality of data and selection of indicators in available datasets were limited. In many instances, the data only indirectly related to health service coverage or barriers, and/or only allowed comparison of older adolescents with adults rather than assessment of equity within adolescent populations. When adolescent-specific data did not exist, it was necessary to analyse data in broader (for example, 10–24 years) or overlapping (for example, 15–24 years) age groups. Most institutional data, civil registrations and vital statistics were incomplete and census data were outdated (from 2006). Household health surveys were the main data source as these possessed a large number of health indicators and many equity stratifiers at the individual level.

Data source mapping was done by cataloguing and describing the data sources, which were then analysed to identify disadvantaged adolescent subpopulations in Nigeria and the barriers they experience. For each selected dataset, its indicator list was studied to identify the sources providing information on adolescent health inequities, under-served subpopulations, and barriers experienced by adolescents.

These data sources included:

- adolescent health in general, or specific to sexual and reproductive health, substance abuse and other mental health issues, and/or nutrition;
- exposure and vulnerability to risk factors for adolescent health conditions;
- health service coverage dimensions, i.e. availability, accessibility, acceptability, contact/use, effectiveness/quality;
- barriers to effective health service coverage.

The sources in the available datasets were reviewed with consideration of how the data were disaggregated by relevant equity stratifiers (e.g. sex, adolescent age group, education level, economic status, urban/rural residency, and subnational area). Other stratifiers related to ethnicity were also added to this basic list to provide some insight about under-served adolescents. In situations where data were limited, the data was adapted using the closest approximations to desired indicators or stratifiers.

The indicators were critiqued by the assessment consultancy team and evaluated for inclusion, within the context of the equity stratifiers. In total, 11 data sources with 61 indicator and stratifier combinations were analysed (see Annex 3).

Inferences were made to determine the emerging health service coverage barriers. The dataset indicators and their sources were also disaggregated by health service availability, accessibility, acceptability, contact/use and effectiveness/quality (see Annex 4).

## Qualitative data collection

To select respondents for inclusion in the interviews, measurement of inequality was used (see Box 3).

### Box 3. Measurement of inequality

Inequalities that exist between two subgroups were expressed first in absolute measures by presenting the value of a health indicator in the most disadvantaged subgroup and the value of that health indicator in the least disadvantaged subgroup. The following measures of inequality were then utilized.

- **Difference and ratio** were used to measure health inequalities between two subgroups (such as male/female subgroups or urban/rural subgroups) in selected indicators, as applicable. A ratio of 2:1 or above was deemed to be significant.
- **Absolute concentration index** was used to measure absolute inequality in ordered subgroups, such as: level of education among three stated subgroups of no education, primary level, and secondary level and above; economic status among the wealth quintiles; or subnational region among the six geopolitical zones. The absolute concentration index indicates the extent to which a health indicator is concentrated among the disadvantaged or the advantaged. If there is no inequality, the absolute concentration index takes the value zero. Positive values indicate a concentration of the health indicator among the advantaged, while negative values indicate a concentration of the health indicator among the disadvantaged. The larger the value of absolute concentration index, the higher the level of inequality. The reported absolute concentration index estimates are based on calculations in the WHO Health Equity Assessment Toolkit (HEAT) software.
- **Mean difference from best performing subgroup** was used to measure health inequalities between subnational regions (i.e. between states of residence among the six geopolitical zones).

## Interviews with national key informants

Twelve key informant interviews, each lasting 1–2 hours, were conducted by two interviewers at the national level in the federal capital, Abuja. These comprised representatives from the federal ministries of Health, Youth and Sports Development, Women Affairs and Social Development, and Education, specifically targeting individuals working in adolescent health services and related areas, and who may play a role in enabling access to services. Informants were also drawn from international organizations (such as the United Nations Children’s Fund (UNICEF), United States Agency for International Development (USAID) and WHO), national nongovernmental organizations, civil society organizations, implementing partners and faith-based organizations that work on improving the health and welfare of disadvantaged adolescents in Nigeria.

The interviews were tailored to the respondents’ area of expertise and focused on both demand- and supply-side health service barriers experienced by the most disadvantaged adolescents. To learn about the respondents’ experiences and world views in their own

terms, and to avoid suggesting answers to respondents, interviewers asked open-ended questions based on guidelines. This approach allowed respondents to raise unanticipated issues about health service barriers which could then be explored in depth. (See Annex 5 for the national-level key informant interview guide).

## Interviews with subnational key informants

Following the completion of the literature review, data mining and national-level key informant interviews, three states were identified as being likely to have a greater proportion of disadvantaged adolescents: Sokoto State in the North West, Borno State in the North East, and Bayelsa State in the South South zone. These sites were selected for subnational research based on: the country’s adolescent health data; accumulated evidence on which adolescent subpopulations have least access to related health services; size of the adolescent subpopulations; scale of the barriers they experience; and, where adolescent subpopulations are concentrated in the country. See Box 4 for a description of the three states identified for subnational research.

#### Box 4. Description of the three subnational qualitative research sites

1. **Sokoto State (North West):** Issues hampering adolescents' contact and use of available health services in the North West and North East geopolitical zones include sociocultural values and preferences held by the predominant ethnic and religious groups. For example, preferences for home- versus facility-based birth, boy- versus girl-child education and early marriage of girls. There are also prevailing accessibility and supply-side issues such as greater distances between available facilities in rural areas, fewer health workers, lack of needed commodities, and the high cost of user fees compared to family and individual incomes. These factors affect all adolescents; however, young adolescent girls (aged 10–14 years) in these areas are affected more than their contemporaries in other parts of Nigeria.
2. **Borno State (North East):** The issues affecting Sokoto, detailed above, also apply to Borno State in the North East. In addition, compared to the rest of the country, Borno has a relatively high proportion of women not receiving postnatal care in the first 2 days after birth and a relatively low proportion of women that deliver in a health facility. The state has also been under the control of insurgent groups since 2010 and has experienced a humanitarian crisis. This situation is likely to result in limited access to health care for all age groups, including adolescents.
3. **Bayelsa State (South South):** The state with the worst health indices among southern states was Bayelsa. It had the lowest utilization rates for the spectrum of sexual and reproductive health and maternal health services that were measured. Bayelsa is mainly a riverine area, with many hard-to-reach communities accessible only by boat. As a result, there have been documented difficulties experienced by health workers getting to their duty posts and conducting immunization outreaches in those communities, among other challenges. There have been few development partners working in Bayelsa over the past decade and the state has not been the subject of many health service-related research studies, so little has been documented about the experiences of disadvantaged adolescents living there.

In each state, eight key informant interviews were conducted with representatives from subnational health authorities working in adolescent health services and other key areas, representatives of other relevant subnational authorities (related to human rights, youth, social protection, education, women's development) and representatives of nongovernmental and civil society organizations, including:

- one representative of the State Ministry of Health;
- one representative of the State Ministry of Education;
- one representative of the State Ministry of Women Affairs and Social Development;
- one representative of the State Ministry of Youth and Sports Development;
- one representative from the state Primary Health Care Board;
- one local government Primary Health Care Coordinator;

- two representatives from state-level nongovernmental organizations;
- one representative of a faith-based organization.

In addition, in each state, eight in-depth interviews were conducted with four parents, two teachers and two community health workers.

The general questions, approach and record-keeping used for national-level key informant interviews was adapted for the state-level interviews. The assistance of local gatekeepers familiar with the disadvantaged adolescent communities was sought, to recruit disadvantaged adolescents and their parents or teachers for focus group discussions and interviews. This assistance was critical, because adolescents experiencing the least access to effective health services are more likely than other adolescents to be outside existing educational and social systems, contributing to the challenge of identifying and approaching them.

## Focus group discussions and interviews with adolescents

Two local professionals were recruited in each state, who were valuable in helping to secure necessary permissions and consent for participation in focus group discussions from legal minors, parents, guardians, teachers or other legally authorized representatives who live and work closely with disadvantaged adolescents (22). (See Annex 6 for the informed consent form).

The qualitative research protocol and conduct followed the *International ethical guidelines for health-related research involving humans*, which includes a section on research involving children and adolescents (22). Ethical approval was sought and obtained from the National Health Research and Ethics Committee housed within the Department of Health Planning, Research and Statistics of the Federal Ministry of Health. All interviewers underwent child safeguarding training and were required to report any previous involvement in child endangerment.

For subnational research, focus group discussions and interviews with adolescents and adult community members were conducted in local languages familiar to the respondents including Kanuri, Hausa and Pidgin. Wording of the questions was kept simple, and questions were carefully translated and back-translated in advance to check accuracy.

In total, 12 focus group discussions with adolescents, 12 in-depth interviews were conducted with disadvantaged adolescents in three states: Bayelsa, Borno and Sokoto. In each of the three states, four focus group discussions were conducted: two in the urban community (male only and female only) and two in the rural community (male only and female only). Each group consisted of 10 participants: a mix of out-of-school, in-school, persons with disabilities, poor, married and unmarried. Consequently, four in-depth interviews lasting 15–30 minutes were also conducted in each state, targeting two orphans/street children, physically challenged or otherwise especially disadvantaged adolescents identified from each of the larger focus group discussions.



Focus group discussion with boys from rural areas in Konduga, Borno State  
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Focus group discussions were conducted by one facilitator and one note-taker responsible for capturing details and key findings. The note-taker also audio-recorded the discussion. The facilitator asked open-ended questions, without trying to unduly influence participants. Unique identifiers, such as names, were not used to ensure privacy and confidentiality.

See Annex 7 for a qualitative research summary table of adolescent subpopulation and barrier findings, by type of health service; see Annex 8 for a summary table of supply- and demand-side barriers experienced by under-served adolescents, by coverage dimension.

## Limitations

The study has several general limitations, which relate to the limitations of the draft handbook for conducting an adolescent health services barriers assessment, on which the researchers relied to guide the stages of this assessment.

As a first step, the study focuses on identifying the under-served adolescents, the priority issues/diseases that they are frequently experiencing, and the barriers and bottlenecks to general health services and/or adolescent health services, with special reference to a few priority conditions only. It is beyond its scope to detail assessment of many other specialized health services for adolescents, or of inequities in exposure to risk factors and the wider determinants of health (such as water and sanitation, or food security).

The assessment undertaken for this study was designed to produce verifiable findings to inform improvement of national adolescent health programme design, delivery, and monitoring and evaluation, but it is not designed to produce gold-standard research. The quality of the study has relied in part on the quality of existing databases and the rigor of existing studies; therefore, where those sources are limited, the assessment is also limited.

Despite these limitations, the findings are useful as they help to identify the most important adolescent health service data gaps for countries, and can be used to improve ongoing research, monitoring and evaluation.

The study also has some country-specific limitations. Despite nutrition being mentioned as an area of interest for adolescent health programming, especially in the fortification of food with micronutrients, little content related to nutrition of Nigerian adolescents was discovered during the literature review and data mining. It is specifically important to acknowledge that a lack of data does not necessarily mean a lack of a problem, but could instead be due to inadequate visibility and/or information about a problem. More detailed monitoring and evaluation will facilitate generation of useful data in this area.

There was very limited time to fully explore the extent to which humanitarian crises had an effect on adolescent malnutrition including wasting, underweight or micronutrient deficiencies; inadequate assistance, treatment and care of adolescents with disabilities or injuries; violence, such as that as experienced by child soldiers who are primarily boys, and survivors of sexual exploitation and abuse (including early or forced marriage, and female genital mutilation) who are primarily girls and women; HIV and other sexually transmitted infections, early pregnancy, maternal conditions, unsafe abortion, and general sexual and reproductive health needs such as access to condoms and other forms of contraception; water, sanitation and hygiene needs, including materials and facilities for menstrual hygiene management; and mental health problems such as anxiety or trauma (14).

Most of the adolescent health articles reviewed were focused on health needs, health status and treatment preferences as well as knowledge, attitudes and behaviour of the broader adolescent group, without addressing inequities and the subgroups that are most likely to experience them.

Mining of available survey data was useful for demographics and description of service delivery trends, but was found to be limited in its contribution to identification of specific subgroups (street children, orphans, those living in humanitarian crisis settings, and so on).

# Findings

Detailed findings from the different assessment methods are given in Annex 2 (literature review), Annexes 3 and 4 (data mining), and Annexes 7 and 8 (qualitative research). The main results from the literature review, data mining and qualitative research

were synthesized under the five dimensions of the Tanahashi framework for effective coverage of health services (4). Fig. 4 gives an overview of the findings and suggested interventions, categorized by the Tanahashi dimensions of health service coverage.

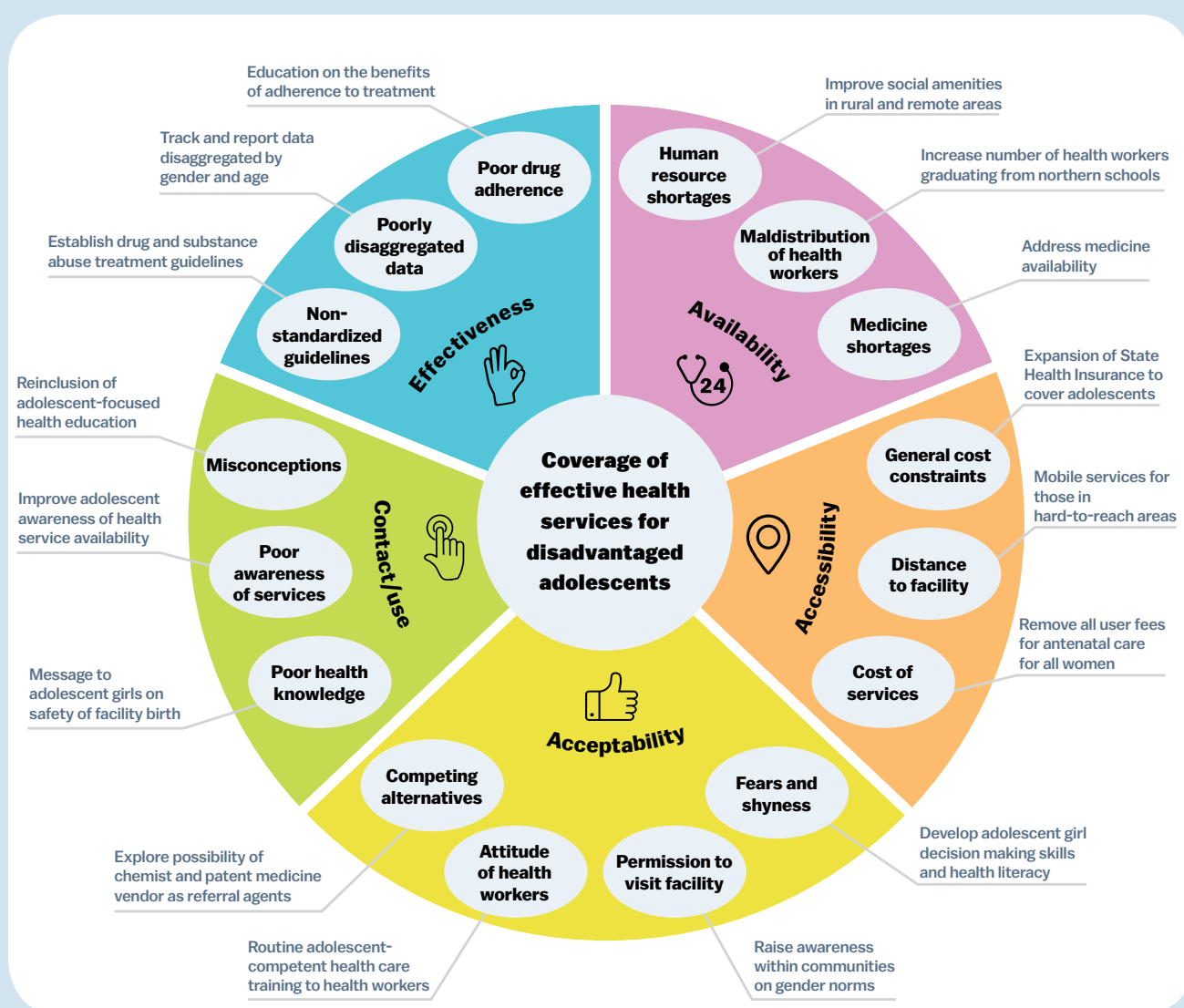


Fig. 4. Barriers to health service coverage for adolescents and suggested interventions, Nigeria

## Availability

The Global Health Workforce Network of WHO defines “availability” as the sufficient supply and appropriate stock of health workers, with the competencies and skill-mix to match the health needs of the population (23). For this report, availability includes the five domains of general service readiness: basic amenities, such as electricity and water; basic equipment; standard precautions, such as sanitation; laboratory tests; and medicines and commodities (24). Availability barriers for adolescents are widespread throughout Nigeria; however, particular regions are disproportionately affected.

According to the Federal Ministry of Health’s *Task-shifting and task-sharing policy for essential health care services in Nigeria* (2014), shortage of and inequitable distribution of appropriate cadres of health workforce are major barriers to the provision of essential health care services (25). A review of the *National human resources for health strategic plan, 2008–2017* reveals that the ratio of available doctors per 100 000 population in the South West zone was seven times higher as compared to the North East and North West zones (26). The plan also highlights zonal disparities in the distribution of other types of health personnel such as nurses, pharmacists and community health workers. Literature review findings were substantiated by the qualitative research, which also found limited availability of human resources for health. In Sokoto State, the majority of respondents reported that although health facilities are available to cater to the general populace, there is a lack of manpower, equipment and commodities. For example, a subnational key informant said, “...‘available’ means a lot of things. Every ward in Sokoto North has one health facility [which provides both] primary health care and general hospital services. It is available but [has] challenges of manpower and equipment”.

Compounding regional disparities, the place of residency within a region can also have a major impact in Nigeria: living in a rural area often means limited availability of health care services, including for adolescents. The Nigeria Demographic and Health Survey 2013 reported a prevalence of family planning services of 27% in urban areas and only 9% in rural areas (ratio of 3:1) (7). Rural areas experience workforce shortages due to the reluctance of health workers to work in places where social amenities are limited.

Otovwe & Elizabeth (2017) studied utilization of primary health care services in Jaba Local Government Area, Kaduna State, North West zone, and highlighted that non-availability of health workers at night or on weekends due to non-residence of the worker in the clinic location can have adverse effects on the health outcomes of patients or users of the service (27).

According to some of the key informants, riverine terrain, as found in Bayelsa and many other communities in the South South zone, is usually only accessible by speedboat or canoe. Such challenges adversely affect the ability to attract and maintain health workers in those communities. As a result, many of these remote health facilities are poorly staffed and services are unavailable.

**“...a lot of doctors can’t get to these facilities... our terrain is difficult to access, so instead of going there the [facility], they [adolescents] use the chemists and birth attendants.”**

*Subnational key informant, Bayelsa State*

Although these issues related to general weak health system capacity go beyond the scope of Nigeria’s forthcoming adolescent health policy and related strategic plan, unless they are addressed they will undermine reforms towards universal health coverage for adolescents, as well as for all other age groups.

The literature review illuminated some availability-related barriers relevant to all adolescents (such as lack of adolescent-friendly services) and those that were specific to disadvantaged adolescents. Homer et al. (2018), in a 30-country study including Nigeria, found that insufficient quantity of the sexual, reproductive, maternal, newborn and adolescent health workforce and inequity in distribution of the limited workforce compounded existing barriers to health care coverage (28). While this is a general problem across the states of Nigeria, the northern states have been found to have proportionately fewer services, commodities and trained personnel available for sexual and reproductive health services compared to states in the southern part of the country. The Nigeria Demographic and Health Survey 2013 highlights this North-South inequity (7). For example, the National Health Facility Survey (2016) reported that Katsina State in the North West



and Taraba State in the North East have no stock of long-acting contraceptive devices, such as implants (29). The same survey also reported inequities in the availability of sexual and reproductive health drugs and commodities, such as oral contraceptive pills, injectable contraceptives and male condoms. In southern states, such as Ebonyi, these commodities were available 18 times more often than in Kogi in the North Central zone (see Annex 3) (29). Regarding disadvantaged adolescents, the literature review revealed insufficient services targeting out-of-school adolescents and other high-risk adolescent groups (for example, street children), and a lack of/weak cross-sectoral services addressing drivers of inequities in exposure to risk factors such as adolescent marriage and/or gender inequality. The data mining exercise illuminated that while appropriate services are needed for disadvantaged adolescent girls (30), who face considerable health challenges, it is also necessary to look at the particular vulnerabilities faced by adolescent boys, as their death rates are higher than those of girls (16).

**“The services exist, but the problem is the staff strength to cater for the adolescent patient. The major problem is that of the medical personnel – they want to stay in the urban area because of social amenities available.”**

*Subnational key informant, Sokoto State*

Conflict in Borno State is ongoing and several communities, such as Konduga, have been designated humanitarian crisis zones for years. According to a key informant at Borno State Ministry of Health, a chronic shortage of skilled health workers exists in Konduga, which is one of the communities where qualitative research was conducted for this assessment. Health services have been concentrated within the state capital, Maiduguri Metropolitan Council, where conflict is least likely to occur. Apart from some health service provision points in camps for internally displaced persons, services were not provided for adolescents who remain in the affected rural areas.

**“Outside the camps for internally displaced people, there are virtually no services available for those in local government areas that are inaccessible to health service providers. Everybody wants to provide services around Maiduguri... more than half of the health facilities in the State are not operational.”**

*Subnational key informant*

**“There is only one clinic here and mostly they only attend to infants, the people there are always busy with treating babies and we [adolescents] are turned away when we go to the health facility.”**

*Boy, focus group discussion, urban*

The literature review (in one cross-sectional descriptive study) found negative attitude of health workers was also a factor that influenced service availability; for example, more than half of study respondents (health care providers) perceived the provision of contraceptives for unmarried adolescents as promoting sexual promiscuity. About half of the providers responded that unmarried adolescents should be asked to abstain from sex rather than be provided with contraceptives (31).

## Accessibility

Accessibility barriers include geographic barriers (distance and availability of transport) and financial barriers (direct out-of-pocket expenditures, such as for medicines, as well as indirect costs such as missed schooling, lost work and child care). They can also be organizational or informational, such as those related to inconvenient opening times, waiting times and schedules.

The extent to which adolescents can access health services in Nigeria depends on a number of socioeconomic factors. The literature review and data mining exercise highlighted the need to address accessibility barriers, with the most critical being financial, transport-related, and those linked to information accessibility. The Centre for Population and Environmental Development, in its 2017 policy

brief series, highlighted that underutilization of adolescent sexual and reproductive health services is due to ascribed service costs and distance to the facility (32). Furthermore, the Federal Ministry of Health, in presenting key findings from focus group discussions held in 2009 with in-school and out-of-school adolescents, highlighted distance to the health facility and financial constraints as the main barriers to accessibility (33).

## Financial access

Accessing care in health facilities often entails user fees to cover consultation costs, laboratory fees, use of commodities and the cost of filling prescriptions. Many adolescents are too young to work, and their access to care is often dependent on the discretion of others such as parents, guardians and teachers. This effect is even more pronounced among disadvantaged adolescents that may not have the social networks to receive such support (for example, orphans), adolescents whose families are in the lowest wealth quintiles or adolescents whose parents hold social, religious or cultural beliefs that conflict with the provision of certain services.

According to data found by mining the WHO Health Equity Monitor database using its accompanying Health Equity Assessment Toolkit (HEAT), which uses

data from the Nigeria Demographic and Health Survey 2013 (7) and the Multiple Indicator Cluster Survey 2011 (8),<sup>9</sup> socioeconomic-related inequality in accessing and using care among adolescents is significant, with only about 18% of adolescents from poor households being able to access and use care compared to 85% of those from the wealthiest quintile.

The literature review supports the data mining conclusions that adolescents in poor households face significant financial barriers to accessing health services. Odo et al. (2018) found for Enugu State that sexual and reproductive health services are not financially accessible to adolescents with low income levels (34). Fagbamigbe & Idemudia (2015) found that adolescents from households in lower wealth quintiles have reduced health-seeking behaviour and

that reasons for non-use of antenatal care varied significantly with wealth status, citing inability to afford cost of antenatal care services as a barrier (35). Rafael et al. (2015) also found that poverty was another strong predictor for adolescent healthcare access, with the odds of becoming pregnant being twice as high for adolescents in the lower wealth quintiles (especially in northern Nigeria) compared to their counterparts in the richest quintile in the country (36). The findings of the assessment showed that girls (particularly from poorer households in rural, remote and hard-to-reach settings) are less likely to have access to money for user fees, laboratory fees, and purchasing of medicines and commodities. Financial constraints were also found to be a major barrier for adolescent girls by the Nigeria Demographic and Health Survey 2013 (7). One explanation for this could be that cultural and social norms in Nigeria can dictate that the needs of male members of the household take precedence over those of female members. For example, USAID's Maternal and Child Survival Program 2017 Nutrition Brief (citing Young and Pike 2012) identified economic constraints as a major barrier to obtaining food in Nigeria and (citing Girard et al. 2012, Hartini et al. 2005 and Saldanha et al. 2012) that family norms meant the needs of children and husbands took precedence over the needs of married women as regards effective nutrition in Nigeria (37).

These affordability issues related to the cost of health services are often exacerbated by adolescents having insufficient funds to cover cost of travel (38, 39). The cost barriers found by the data mining exercise and literature review were also found by the qualitative study, both in key informants interviews and in focus group discussions. Most of the key informants, including government officials, parents and teachers, thought that rural adolescents chose to use herbal mixtures, hand massages and traditional remedies as they were a cheap option.

***“In rural areas they prefer traditional medicine and massaging, which they think is cheaper for them. Even women having babies... their mindset is traditional birth attendants”***

*Subnational key informant*

<sup>9</sup> Annex 3: Data mining summary table of adolescent subpopulation and barrier findings, by data source, indicators, stratifiers, inequality measure and type of health service

**“Girls who are unmarried are less likely to have access to the finance they need, which is different for those who are married and have spousal and family support.”**

*National key informant*

**“There is the problem of [physical] accessibility for those who are disabled, and also the problem of financial accessibility, especially those aged under 14 because they’re less likely to be working.”**

*National key informant*

**“[A barrier is] resources for the adolescents to use to access care because some of these things are not without a cost. When minors present at a hospital, who is going to pay?”**

*National key informant*

Among the adolescents who participated in focus group discussions, there was a strong, and widely held, perception that services cost significantly more in health facilities than at the chemist or pharmacy. Despite many of the participants reporting that they had not actually used facility services personally in many years, or at all, most indicated that they thought using the chemist was a much cheaper option.

**“It is not that people don’t like going to the hospital [clinic], but drugs are expensive there, but in the chemist you can see cheaper drugs to buy”**

*Boy, focus group discussion, Biogbolo, Bayelsa State*

When asked to compare the quality of care rendered by a chemist to that available in health facilities, the focus group participants appeared to place little importance on correct diagnoses or appropriateness of treatment. A chemist’s provision of only what was requested was perceived as more predictable in terms of projecting or

anticipating costs. Female focus group discussants in Sabagreia town described a typical encounter with the chemist as consisting of a request to “mix medicine” for them, after which “two doses for 100 Nigerian naira” was dispensed.

Several northern states, including Borno, which was one of the sites visited for the qualitative part of the study, have *almajiri* schools (children are boarded in the schools to obtain a residential Islamic education). Alawiye-Adams and Babatunde (2013) indicate that many of these adolescents live under very poor conditions, are not able to feed themselves, and often turn to street begging to survive (6). Such children cannot pay for the cost of transporting themselves to the primary health clinic or referral facilities; their severe poverty drives many to opt for traditional alternatives. During a focus group discussion in Borno State, it was discovered that the majority of the adolescents found it much more convenient to patronize patent medicine vendors (chemists) because they are closer, cheaper and less bureaucratic.

**“...sometimes when we do not have money we will leave the drugs and go. When we find money, we would come back and pick the drugs.”**

*Urban girl, focus group discussion, Borno State*

**“...we don’t have a hospital, if we go there they will drive us away, so we’re going to the other hospital which is very very far from our places. Sometimes we cannot be able to afford to go to even the other hospital, so to curtail the sickness we will always go to the chemist and buy medicine and take that, and that’s the only thing, so we are appealing for more clinics and other things that we can be able to access”**

*Urban girl, focus group discussion, Borno State*

In alignment with the national movement towards universal health coverage in Nigeria, many states are in the process of establishing state-level health insurance schemes (40). Enrolment of adolescents is currently based on the eligibility of parents. Street children and orphans may not be able to access coverage as

they lack the family structure to qualify. According to Demographic and Health Survey data from 2013, 12% of adolescents aged 10–14 years are orphaned or at risk or being orphaned due to illnesses among adult household members, and that figure rises to 16% for adolescents aged 15–17 years. There is also an important issue of ensuring that older adolescents (aged over 18 years) are eligible for state-based health insurance coverage.

In both Bayelsa and Sokoto states, most of the key informants stated that the cost barrier to adolescents could be overcome with commencement of the state health insurance schemes, which would reduce out-of-pocket expenses. However, at the time of writing, neither scheme had become operational. Many younger adolescents (aged under 18 years) therefore remain completely dependent on their parents or other relatives for health-related expenses, including eligibility for health insurance coverage. Ajayi and Akpan (2017) (41) investigated who would benefit most from free institutional delivery of children: the evidence generated from the cross-sectional survey of the North Central and South West zones demonstrated that the proportion of beneficiaries of user-fee removal policy was higher in urban areas than in rural under-served areas. This does not reflect differences in need, but is rather a result of low coverage of free maternal health programmes in under-served rural settings (41).

### Geographic access (distance)

Where long distances need to be covered to reach a health facility, adolescents have to forgo time, comfort and money in order to seek care. The literature review and qualitative study found that in rural communities where public transportation services are limited, long – or even relatively short – distances can be a major deterrent. Under these circumstances, disadvantaged adolescents often seek alternative treatments such as herbal medicine, or patronize local patent medicine vendors (chemists).

Federal Ministry of Health (2009) key findings from focus group discussions with in-school and out-of-school adolescents showed that distance to health facilities is a barrier to accessibility (33). The 2013 Nigeria Demographic and Health Survey also validated

these findings (7). The current distribution of health facilities, with a disproportionate number being based in urban centres, means that many rural adolescents have to travel long distances to access health services. There is also a regional difference in the average distance to the nearest health facility. According to the General Household Survey, Panel Report 2012–2013, the mean time to reach a health facility is four times longer in the North East zone of Nigeria than in the South East zone (42). Ujoh and Kwaghsende (2014), in their analysis of the spatial distribution of health facilities in Benue State, concluded that maldistribution of health facilities resulted in overcrowding and consequent lack of proper attention to patients (43).

The qualitative study confirmed that distance is a large factor in adolescents not seeking health services. Even in the relatively well-served south, in Bayelsa, most of the rural-based adolescents in focus group discussions cited distance as one of the main reasons for choosing to patronize the chemist/pharmacy over visiting the health facility. One female focus group discussant in Sabagreia town, in Kolokuma/Opokuma Local Government Area, explained, “We go to the pharmacy rather than the facility because of we do not have transport... so we go to the chemist to treat ourselves... the chemist is in front of our house”.

Key informants in the Bayelsa State Ministry of Health described seasonal health care access barriers for some adolescents living in riverine communities who travel to offshore fishing camps with their parents for months at a time. Others are flooded out of their homes during the rainy season, and frequently relocate to communities on higher ground where they may not be familiar with the location of facilities. Many of the interior rural riverine communities do not have health centres.

The picture is very similar in Borno State in the North East zone, where rural communities have limited access to health facilities. One key informant in Maiduguri said, “...in some rural areas, you would have to move from one village to another, at least 20 or 30 kilometres to get to a health facility.”-*Subnational key informant, Borno state*

Combined with financial barriers, these distances can make accessing health care extremely difficult.

**“Accessibility is difficult since the available services are very few, it is very difficult for young people to reach the services in terms of distance they have to cover.”**

*National key informant*

Even when a rural adolescent lives near a health facility, they may be concerned about privacy or confidentiality because of the small size of their community. In such circumstances, the nearest alternatives are likely to be very far away so adolescents may choose to visit a chemist instead (see Acceptability section, below).

## Acceptability

In Nigeria, awareness of the need for periodic medical check-ups to monitor health and children’s development exists; however, practice of such check-ups is very low (44, 45) and there is no expectation of check-ups during adolescence. Most focus group respondents reported making the transition into adulthood without apparent health problems, and so they saw no reason to visit a health facility. For those adolescents who do require a health service, available and accessible services may not be acceptable to them or their gatekeepers<sup>10</sup> for multiple reasons, including: religious, cultural or gender norms; concerns about confidentiality and limited autonomy; and, negative attitudes of health workers. Each of these factors is discussed in more detail below.

## Religious, cultural and gender norms

Although the 2003 Child Rights Act recommends a minimum age of 18 for marriage, it permits parents to override this and give their younger daughters away in marriage if they deem it appropriate (9). According to the Nigeria Demographic and Health Survey 2013, adolescent girls (particularly those aged under 15) are

<sup>10</sup> A gatekeeper is a person who controls access to something. For adolescents, common gatekeepers are parents, parents-in-law and other family members and members of the community such as religious leaders and elders. Gatekeepers can even be the service providers themselves, where the provider’s own values and norms conflict with the service they are meant to provide.

at risk for early marriage (7), with a high rate of child marriage in northern Nigeria (46, 47). The decision as to when a girl starts a family is often made for her, by family members (such as father, mother, grandmother or aunts) who typically also influence her decision to seek care. Early marriage often goes together with early childbearing: 20% of women in Nigeria (45.7% in the North West and 8% in the South West) have had a live birth before the age of 18, with higher rates found among rural (38.2%) than urban (17.3%) adolescent girls (48). Adolescent girls and young women are less likely than older women to receive antenatal and postnatal care as well as skilled attendance at birth (49). The place of delivery for a pregnant rural adolescent girl is typically at home (76.9%) where she delivers her baby alone or with help from a family member or traditional birth attendant, rather than in a health facility in the presence of skilled personnel (7). This is especially true in northwestern states (87.5%), such as Sokoto (94.2%) and Zamfara (94.2%), and northeastern (79.3%) states such as Bauchi (82.0%) and Borno (82.6%) (7). The compounding factors of an underdeveloped body (girls under the age of 15 are especially at risk of dying during childbirth) (50), the absence of skilled personnel at birth and not being the primary decision-maker concerning her own health put pregnant rural adolescent girls in northern Nigeria at significant risk.

Other parts of the country have similar challenges. A number of parents interviewed in both urban and rural communities in Bayelsa, in the south, stated that when adolescents get pregnant the girl or her relatives may be slow to seek professional help – even if there are complications – because of cultural stigma against caesarean section. While this may be a barrier faced by all women, early marriage can limit independent decision-making, facilitate poor health literacy and interrupt school enrolment leading to a reduced ability to seek out services independently (see also Contact and use and Accessibility sections).

Studies in the literature review (7, 51) found that the requirement, legal or social, to obtain parental consent or have a chaperone in order to access a health service was a strong barrier, particularly for maternal and sexual and reproductive health services and HIV testing and treatment. This was reinforced by the findings of the qualitative study which found in Sokoto, for example, that the lack of ability for parents and adolescents to talk about sexual and reproductive health is a barrier to seeking treatment.

Similarly, in the northern states, one of the most significant barriers to accessing health services for adolescent girls is the need for a chaperone to accompany adolescent girls to the health facility, regardless of their age. When health needs are personal or relate to a stigmatized health issue, this may deter them from expressing their need for services. Indeed,

the data mining exercise correlates these findings showing adolescent girls in the north as having comparatively low contact with maternal health services, and showing widespread cultural acceptability barriers to contraceptive use, using skilled health personnel for births and accessing antenatal care (see Annex 3).



Selfie time with urban adolescent focus group participants in Maiduguri Metropolitan Council, Borno State  
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***“When the minor goes to the hospital, they would be required to have come with a guardian, especially if they came for something that is not typical like malaria. So, if it’s something like reproductive health services, when a minor must come to the facility they are not going to get cooperation from the nurses without being lectured at or people wanting to find out if she’s married already and, if she is married already, depending on what part of the country, they might have wanted her to come with an escort, a mother-in-law, a mother or something of that nature.”***

*National key informant*

Focus group discussions also found that religious and cultural beliefs affect the way health services are perceived by adolescents, thereby limiting their utilization of available services. Many focus group participants openly preferred traditional healers to conventional health services. Depending on their religious background, they may be taught from an early age that illnesses are spiritual and require supernatural intervention.

Adolescents lack orientation on the existing health services (see Contact and use section). This gap in information has led to the reliance on inaccurate information that prevails within the communities.

**“Some people do not believe in going to the hospitals. Whatever happens, they say it is iskar [curse]. They prefer visiting mallams [Islamic scholars] for prayers and other things.”**

*Subnational key informant, Sokoto State*

**“There was a time when personnel were sent from the Federal Ministry of Health to the school for a deworming exercise. Parents immediately started trooping to the school to retrieve their children, accusing the school authorities of [harmfully] vaccinating their children.”**

*Subnational in-depth interviewee, Borno State, urban*

(Uzundu et al., 2015) showed that with the significant gender gap in educational attainment in the Northern region of Nigeria, the majority of the Health workers are male. This further restricts functional access to services in communities with cultural barriers to women receiving care from men. Therefore, female providers appear to be preferred by some in northern Nigeria to deliver care, especially to women (52). Consequently, in regions where the number of female nurses, community health workers and doctors are limited (as is the case in many states in northern Nigeria) access to care is significantly hampered. Other gender norms prioritize women and girls taking care of others or providing financially, saving money for the family over seeking treatment for themselves (53).

Male children are often preferred over their female siblings, who are given comparatively less access to money, food, affection and so on (54). As shown by the National Nutrition and Health Survey (2015), female adolescents are four times more likely than women aged 20–49 years to be severely malnourished at the time of pregnancy and childbirth (54), increasing the likelihood of complications from ante-, intra- and postpartum haemorrhage.

Gender norms affecting boys were observed in the findings of the qualitative study. An upward trend in the rates of drug and substance abuse among adolescent boys was reported in all qualitative research locations, as well as by various studies in the literature review (55, 56). The population of street boys was thought to be on the rise due to high unemployment rates for older adolescents in the current economic climate. According to focus group participants in Sokoto and Bayelsa, street boys are frequently recruited to carry out acts of violence or criminality. Respondents indicated that many are also pressured to join cults and gangs, as well as take part in criminal activity to benefit from provisions and protection. These activities reportedly went hand in hand with the inhaling of substances capable of producing a “high” or “mental fog”. Substances reportedly inhaled include fumes from diesel, petrol, glue and methane (from pit latrines). Illicit drug use included abuse of tramadol, codeine and oxycodone (57). According to the male focus group discussants in Sokoto and Bayelsa, use of substances implies power and control; however, many have reported that drugs also have side-effects which necessitate treatment.

**“I have seen this situation whereby the person that took tramadol was almost dead and they rushed him to the hospital. One of my friends took it and went to fight with his father. It’s not good.”**

*Urban boy, focus group discussion, Bayelsa State*

**“Some take this tramadol because they joined all these secret cults. Some take it for work, so as not to get tired. Some said it helps them to have morale and fight against each other.”**

*Rural boy, focus group discussion, Bayelsa State*

**“My friend wants to quit but the thing has become part of him, he cannot stop it. He is always wanting to go and work when he takes it. He can’t quit because the thing has already attached to his body system and damaged it. That is why he is struggling.”**

*Urban boy, focus group discussion, Bayelsa State*

A health worker in Bayelsa reported that street boys had come to the clinic for help in the past, but they were usually shunned and forced out by staff. Drug detoxification and treatment services for those addicted to substances have not been made available in most public primary care level health facilities. The stigma that is attached to the use of drugs and other substances for recreational purposes may hinder street boys from accessing care when needed.

In some studies, concerns about lack of confidentiality and privacy were found to be a contributing factor associated with low utilization of health services among adolescents (28,33). For example, Femi-Adebayo, Kuyinu & Goodman (2017) cited lack of confidentiality as one of the main factors affecting utilization of youth-friendly health services in Lagos State, Nigeria (58).

## Stigmatization

A majority of Borno State key informants expressed the view that adolescents seeking health care experienced social stigma, especially if seeking services for sexually transmitted infections and/or mental health disorders. Odimegwu, Adedini & Ononokpono (2013) showed that stigmatization of HIV/AIDS patients adversely affects utilization of voluntary counselling and testing in Nigeria (59).

**“It depends on the type of illness or sickness we are talking about. If we are talking about common illnesses like parasitic infections, usually they have no problem, but when it comes to issues of HIV or sexually-transmitted infections they feel ashamed of coming forward. It is always a challenge, even to adults. Issues of sexually-transmitted infections are top secret.”**

*Subnational key informant, Sokoto State, urban area*

Mmari et al. (2016), in a mixed methods study to examine the influence of the neighbourhood social context on adolescent health service utilization, cited lack of trust in providers, stigmatization, embarrassment, fear and exposure to community violence as reasons for lack of utilization (60). Girls that become being pregnant before the age of 18 may experience discrimination, especially when/if they are unmarried. Concern about stigma and discrimination may prevent them from seeking out a health facility delivery and increase the number of deliveries taking place at home (7). Such practices are common among poor, rural girls in northwestern Nigeria, especially in Zamfara State (48).

## Negative attitude of health workers

Negative attitudes were cited as a barrier to adolescents accessing health services in five of the studies analysed for the literature review, and spanned numerous subsets of adolescent populations (7, 32, 33, 49, 61). This barrier also came out strongly in the focus group discussions, where a number of participants expressed concern over their potential treatment by health workers: that they would be deprioritized or disrespected, and that they felt shy to go alone to a provider. There was also a perception held by adolescents in Bayelsa State of being ignored by health workers. This poor attitude of health workers was more forcefully expressed among the urban adolescents. Similarly, adolescents in Sokoto State reported being very affected by the harsh attitude of health care workers to patients.

**“... when you go to the clinics and they ask you when you started having fever and when you tell them 3 days ago, they go on to shout at you and tell you that you are trying to kill yourself, and that if anything bad happens to you that they are not responsible, and they go on to insult you. These things discourage people.”**

*Rural girl, focus group discussion*

Certain adolescent populations were found to be more at risk, as came out of the qualitative study where street boys were said to be denied access to clinics by workers because of drug and substance abuse issues. Perceptions of negative attitudes of health workers



were also found to be a barrier to adolescent girls seeking services, with shyness and fear highlighted as the result of those perceptions. Younger adolescents in particular (aged 10–14 years) expressed fears about not being understood by health workers and the possibility of being verbally reprimanded for not knowing routine facility procedure. Many felt they needed an “agent”, usually a parent, guardian or older sibling, to speak for them with health workers. When they did not want to involve such a person, they often instead chose to privately patronize chemists who had no expectations of them and asked few questions.

**“I would go to the facility with my mother. She will help me talk to the doctor there. I cannot talk to them because they will belittle me, because I am not of age. If there are people older than me there, they will tend to them first before me, unless my mother goes with me.”**

*Girl, focus group discussion, Biogbolo, Bayelsa State*

Services are often not tailored to the needs of adolescents and, reportedly, many facilities lack privacy, confidentiality, record-keeping ledgers and even waiting benches. Youth-friendly centres have largely been discontinued and thus are very limited in number.

**“Youth-friendly services were started in most of the health facilities, but with the insurgency, all these things have been stopped. There are not up to five youth-friendly facilities in the state”**

*Subnational key informant, Borno State, urban area*

## Contact and use

Contact and use barriers are characterized by a lack of actual contact between the service provider and the user when services are available, accessible and acceptable. In general, contact and use barriers can relate to lack of awareness of available health services or insufficient understanding of the value of seeking services.

It is important to first note the limitations on information surrounding contact and use. The District Health Information System 2 (DHIS2) software does not currently disaggregate data on clients by sex and age, making demand levels and utilization trends among adolescents difficult to assess. Despite this limitation, the literature review, data mining exercise and qualitative study can inform on trends related to contact and use. Indeed, the findings from this assessment indicate that many adolescents have low literacy levels on health-related matters. Many also have insufficient understanding of the value of seeking health care and lack awareness on where health services are available.

The literature review found that among adolescents, in general, there is a lack of awareness about health services that would explain a lack of contact. Abiodun et al. (2016) concluded that sexual and reproductive health service utilization among in-school rural adolescents remains low largely due to lack of awareness and existing misconceptions (62). The Federal Ministry of Health, in *National guidelines on promoting access of young people to adolescent & youth-friendly primary health care facilities in Nigeria* (2014), identified that poor knowledge and misconceptions about health issues, poor knowledge on availability of health services, and negative perceptions of health services among young people and their gatekeepers affect contact/use of adolescent and youth-friendly facilities where they exist (61). With regard to adolescent sexual and reproductive health services, the Centre for Population and Environmental Development in its policy brief series (2017) identified lack of awareness about where to get contraceptives and treatment for sexually-transmitted diseases as one of the reasons for underutilization of services (32). Importantly, it was found in one study that boys were not accessing sexual and reproductive health services because they perceived the services to be designated for girls and women (30).

The literature review found that specific groups affected by lack of contact due to lack of awareness of health services include refugee youth (63), rural youth (particularly girls) (30, 62), adolescent girls in the north of the country (49), and those with lower levels of literacy (64). Much of the literature also focused on lack of knowledge among adolescent girls regarding sexual and reproductive health and maternal health services.

These findings related to adolescent girls are reinforced by the data mining exercise, where low levels of contraceptive use (only 2% of 15–19 year olds compared with 16% of 20–49 year olds use modern or traditional methods) were found among adolescents, indicating a possible lack of awareness (7, 8). Cultural and social norms are also likely to be a factor in low levels of contraceptive use (see Acceptability section).

Geographic location and level of education appear to play a large role in contact with health services, with 76.9% of rural pregnant women having home deliveries compared to 37.4% of urban women (7). The Nigeria Demographic and Health Survey (2013) reported that in Sokoto, which had the highest percentage of home deliveries (94.2%), many considered a facility birth as “not necessary” (7). The Survey also reported that 87.7% of females who had home deliveries had received no education at all. Adolescent girls living in rural communities are less likely to come for the required four antenatal visits when compared to their counterparts in urban areas (7). They are also less likely to, or know how to, prevent HIV transmission when compared to male counterparts (65), space births safely (48) or have a skilled attendant present at birth (7). Education can play such an important role not only because it leads to literacy and therefore access to written health information, but also because schools are often used as a medium to disseminate important health information. In northern Nigeria, however, it is common for boys to be favoured for school enrolment over girls, while the girls provide labour at home, often engaged in fetching water, cooking and cleaning (8).

**“Girls do not have access to information. Boys are favoured for school enrolment over the girls. Girls provide a lot of labour for the families. The girl is more disadvantaged.”**

*Subnational key informant, Borno State*

The qualitative study reinforced the findings of the literature review and data mining exercise, with a number of focus group participants indicating a general lack of knowledge about what services were available to them. Key informant interviews also indicated that this lack of information affects displaced adolescents, orphans, street adolescents and those from ethnic

minorities more acutely, due to their being less “tapped into” local social circles. The qualitative study also found that a significant proportion of adolescent focus group participants practice self-diagnosis and prescription, or prefer traditional healers and chemists as opposed to health services. Some focus group participants and several key informants mentioned that rumours and misconceptions about cost, treatment and/or health workers’ motives can lead to services not being sought and a preference for traditional healers. These misconceptions can be supported by street chemists and unlicensed pharmacies operating outside their scope of practice.

**“Many of my friends are afraid that they may be infected with another disease at the hospital. People in society say that if they go to the hospital their blood will be drawn and it would be used for rituals.”**

*Urban boy, focus group participant, Borno State*

## Effectiveness

This dimension explores the extent to which treatment has achieved its intended aim and the health needs of the patient have been met. Effective coverage can be influenced by factors such as patient treatment adherence, provider compliance and diagnostic accuracy.

The multiple issues addressed under the other dimensions will also influence effective coverage. For instance, as emerged from the qualitative research findings in particular, adolescents going directly to medicine vendors who “don’t ask questions” instead of health facilities immediately raises flags with regard to the issue of diagnostic accuracy. Basic health system weaknesses in some parts of the country such as inappropriate numbers of adequately trained staff (sometimes not able to offer quality services in health areas important for adolescents, such as sexual and reproductive health and mental health) (34, 64, 66) and lack of commodities, medicines and equipment (see Availability section) will also result in suboptimal provider compliance and concerns about quality of care. These issues were consistently cited across all data sources.

For those adolescents who do make contact with the services, issues such as low health literacy, cultural beliefs and preference of traditional healers, gender/age-related lack of autonomy in decision-making and family norms on consent, ongoing financial and transport barriers, and lack of confidentiality and disrespectful treatment by health workers can further inhibit the ability of adolescents to protect themselves from risk factors and/or adhere to the prescribed treatment/seek referrals to higher levels of care. While many of these issues came across particularly strongly in the qualitative component of the study, many were also found in the literature review.

Evidence suggests that there are issues with regard to treatment effectiveness and its ability to bring about the desired health outcomes. The Federal Ministry of Health's *National guidelines on promoting access of young people to adolescent & youth-friendly services in primary health care facilities in Nigeria* (2013) identified poor support to adolescents by health providers as a barrier to effective coverage (61). One 2013 study indicated that public mental health facilities, while existent, were ineffective in their treatment (66). A study by Atilola et al. (2017) (64) found that inadequate human resource training was provided in child mental health services and that many of the health workers had limited relevant educational backgrounds. It was found that adolescents within youth correctional institutions were most affected. Another 2017 study found that, for general health services, available staff were not adequately trained and diagnostic services were grossly lacking (27). Low levels of manpower have also been associated with low health service effectiveness. Overcrowded facilities mean that health workers are not always able to provide adolescents with adequate attention and proper care (43). A national key informant in an interview also expressed concerns that rural out-of-school adolescents are not being reached with accurate sexual and reproductive health information.

**“[Barriers include] poor attitudes of care providers and, at times, provider incompetence.”**

*National key informant*

At the state level, focus group participants reported that some health facility staff in Borno State had low levels of education and were not adequately trained, so they were not able to properly diagnose certain conditions. Also, a Borno State key informant stated that health facilities were often staffed by programme implementers or external partners, rather than clinicians. One nongovernmental organization respondent reported difficulties in obtaining routine service data for monitoring antiretroviral drug adherence among people living with HIV and AIDS, due to limited capacity of staff.

Adolescents engaging in drug and substance abuse sometimes find it difficult to present in facilities to request treatment for addiction as a result of the stigmatization associated with mental health. There is much misconception and misinformation on mental health, with the general belief that preternatural or supernatural forces, witches, evil spirits and even God cause mental illness (66, 67). These factors taken together make it difficult for an adolescent to admit to being mentally ill, or even wanting to seek help.

A review of the DHIS2 database revealed that there is currently no facility utilization data reported for this type of care. It is unclear at the time of this report if any training, guidelines or treatment protocols have been issued to address the current or future need for detoxification and/or addiction treatment.

# Emerging potential entry points for action

The following recommendations, which require further elaboration, suggest potential entry points and mitigation strategies for the health service barriers experienced by Nigeria's most disadvantaged adolescents. They are also intended to inform emerging considerations for the national adolescent health policy and programming review, the development of operational plans, and corresponding monitoring and evaluation frameworks. It is important that these recommendations do not stand alone, and for dialogue on their implementation to acknowledge and leverage existing or imminent broader health policies and programming, such as the "One PHC centre per ward" initiative, the Minimum Package of Health Services and the ongoing push for the establishment of state-owned health insurance schemes. Similar opportunities outside the health sector should also be explored, such as within the Education, Women Affairs and Social Development, and Youth and Sports Development ministries. It is recommended that specific entry points be identified to facilitate implementation in ways that are cost-effective, sustainable and politically acceptable to multiple sectors and stakeholders. Given that implementation occurs at state level, it is important that the national guidelines and recommendations are adapted and effectively disseminated at subnational levels. State-level participation and ownership should be sought early in the policy articulation process.

## Availability

Insufficient numbers and inequitable distribution of the different cadres of health workforce available to deliver services, frequent stock outs of needed commodities and drugs, and scarcity of functional equipment were widely reported. These issues undermine the health-seeking behaviour of adolescents and validate the reported perception of the "chemist" or pharmacy being a more convenient option than the health facility.

Lack of social amenities, difficult terrain and security challenges have all contributed to a disproportionate number of health workers seeking to be employed by urban facilities.

The proportion of adolescents that abuse drugs (such as tramadol, codeine and oxycodone) and/or substances (such as glue, diesel and petrol) is rising rapidly. The expertise for managing these and other issues, such as family planning for adolescents, is not readily available in most primary health care clinics around the country.

## Policy implications

- Inclusion of adolescent health services in the Minimum Package of Health Services at primary health care centres thereby ensuring that the delivery of care, especially to under-served adolescents, is fully integrated and prioritized within a costed facility budget.
- Implementation of adolescent-targeted outreach services and mobile clinic rounds for nomadic adolescents, as well as for those that prefer to access care in a non-clinic setting such as street boys living in urban slums.
- Boosting of general health worker supply and ensuring their appropriate training in accordance with population needs. This effort needs to focus particularly on boosting the number of female health workers, which are in much higher demand in northern states.<sup>11</sup> Graduates of schools of nursing and health technology could have their pre-service curricula enriched with adolescent-specific training courses, as in-service training is more expensive and requires significant service disruption to accomplish.

<sup>11</sup> Note that any adjustment to the curriculum for community-based midwives should be made taking into account Recommendation 2 on Duration of pre-service training of the WHO guideline on health policy and system support to optimize community health worker programmes, 2018. <http://apps.who.int/iris/bitstream/handle/10665/275474/9789241550369-eng.pdf?ua=1&ua=1>

- Establishment of a national framework for adolescent health and the development of inter-agency planning which would be replicated at state level. One ministry, department or agency should be identified to handle the responsibility of driving and fostering joint collaboration for multi-faceted service provision by all key government stakeholders, such as the National Primary Health Care Development Agency, and the federal ministries of Health, Education, Youth and Sports, Women's Affairs, Information, Justice, Finance, Police, Prisons, National Population Commission, and so on.

### Programming implications

- Engagement of chemists and patent medicine vendors by government and partners to determine the quality and scope of the services being offered. This is useful as they are regularly patronized by adolescents for health care services. This may include, but is not limited to, establishing a database of such providers, provision of training to improve service quality and setting up of a referral system to the formal primary health care system.
- Leveraging on task-shifting efforts by training community health extension workers to perform some tasks previously only carried out by skilled health workers. This way, more skilled staff would be available to do more intensive clinical tasks.
- Engagement of community volunteers to assist with health education and referrals to health facilities.
- Engagement and training of private health care providers/patent medicine vendors for supplemental provision of essential adolescent health care as well as for adolescent health needs and issues. It is important that utilization data emerging from such a collaboration with the private health sector is shared with government for future planning.
- Provision of incentives or requirements for health workers to accept posts in rural and urban-poor communities. The exposure to the harsh living conditions could be mitigated by offering such postings as mandatory short-term assignments which are rotated among all staff in public service employment.

## Accessibility

Costs associated with transportation, drugs and user fees limit disadvantaged adolescents from utilizing health facility services, especially in remote, rural or hard-to-reach locations where personal (in the case of older adolescents) or parental employment levels are low.

Health facilities in rural settings are often sparsely distributed, leading to long travel times (even when cost is not a factor). The DHIS2 software does not currently disaggregate clients by age, making demand levels and utilization trends among adolescents difficult to measure.

### Policy implications

- Expansion of the state health insurance scheme subscriber base beyond the formal public sector to include trade unions, mutuals and cooperatives. This will ensure that more adolescents can have access to health services.
- Expansion of the state health insurance scheme subscriber base beyond the formal public sector to adolescents for a set of essential services that will progressively be expanded.
- Inclusion of disadvantaged adolescents as a "vulnerable" group as an amendment to the 2014 National health Act, to enable them to obtain free health care as provided for children under 5 and pregnant women.
- Definition and costing of adolescent health essential services, and integration into the benefit package.
- Strong sanctioning of violations (illegal charges for free services). Compliance could be monitored by multiple interventions including client exit interviews as part of the Integrated Supportive Supervision Checklist as well as community checks.
- Definition of the legal age for sole consent for an adolescent to access services, as adolescents below the age of 18 years who present in a health facility without an adult guardian or parent are often turned away. This is imperative to determine to what extent the rights of adolescents are being limited.

### Programming implications

- Availability of information on health service locations to transient populations at their known points of convergence (adolescents fleeing conflict, nomadic farmers, seasonal fishermen) as well as through affordable mass media such as radio.

- Generation of revenues to subsidize access by disadvantaged adolescents to public and faith-based facilities.
- Active enrollment of all adolescents into the state health insurance through community mobilization and channels such as community-based health insurance and outreach in schools.
- Orientation on the need for privacy in the examination room should be communicated locally, through faith and traditional leaders, as well as heads of other community-based organizations.
- Strategic sponsorship by the state government in specific communities of more women to attend community midwifery school thereby enlarging the pool of available female health workers, and can also obviate the need for or serve as chaperones for adolescent girls.
- Design and implementation of a payment mechanism (i.e., budget, payer, payment method) to compensate public and private facilities for services provided to adolescents free-of-charge.
- Develop an identification model (e.g., with criteria, conditions and processes) to identify disadvantaged adolescents, building on existing models as appropriate.

#### Monitoring and evaluation implications

- Client exit interviews should be included in the Integrated Supportive Supervision checklist.

## Acceptability

In northern states, one of the most important cultural gender norms impacting on the decision and ability of female adolescents to access care is the need for a chaperone to accompany them to a health facility, regardless of their age. When health needs are personal or relate to a stigmatized health issue, this may deter adolescent girls from communicating the need for services. In both the northern region and beyond, younger adolescents expressed fears about not being “understood” by health workers and the possibility of being verbally reprimanded for not knowing routine procedures. Many felt they needed an “agent” – usually a parent, guardian or older sibling – to speak for them. These younger adolescents often choose to patronize chemists that have no expectations of them and ask few questions.

Adolescents are often overlooked when they present in clinics, where adults or children are prioritized above them. Many adolescents expressed having to wait a long time to be seen by health workers.

There is also a strong culture in many parts of the country of using traditional herbs and potions to cure common ailments.

#### Policy implications

- Integration of family life and HIV/AIDS education curriculum into out-of-school structures, especially vocational and youth friendly centres. This can be achieved through advocacy towards policy-makers, particularly Youth and Sports ministries.
- Integration of adolescent friendliness, value clarification, and adolescent-targeted sexual/reproductive and mental health, in pre-service training curricula for health workers.
- Strategic sponsorship by the state government in specific communities of more women to attend community midwifery school thereby enlarging the pool of available female health workers, and can also obviate the need for or serve as chaperones for adolescent girls.

#### Programming implications

- Training and equipping of pharmacists and patent medicine vendors with accurate and sufficient information (using advocacy briefs and information, education and communication materials), to provide basic health education and provide a minimum range of services to adolescents who patronize them.
- Advocacy with specific community fact sheets to existing community structures (meetings of community leaders, religious leaders). This can be carried out by conducting advocacy visits and community dialogues.
- Engagement of media using radio jingles, dramas and other educational programmes targeting adolescents to educate on health literacy, especially on the need to patronize trained personnel.
- Encouragement of girl-child education through advocacy towards policy-makers

#### Monitoring and evaluation implications

- Routine monitoring and supervision of service providers on adolescent-friendly health services and integration of such services in the Integrated Supportive Supervision checklist

- Inclusion of client exit interviews in the Integrated Supportive Supervision process to routinely record quality of services received by adolescents at the facilities.

## Contact and use

Where health services are available, accessible and acceptable, under-served adolescents are not utilizing services mainly because they are not aware of the value of seeking skilled health care and their propensity for self-diagnosis and prescription. This is further perpetuated by street chemists and unlicensed pharmacies operating outside their scope of practice.

### Policy implications

- Reviewing of the family life and HIV/AIDS education curriculum to capture emerging adolescent issues, such as drug abuse.

### Programming implications

- Identification and engagement of mentors for adolescents in varied settings (teachers, parents, community leaders, faith-based organizations, as so on) to improve adolescent health education, including the social determinants of high fertility rates among adolescents (such as unprotected sex).
- Promotion of peer-to-peer education programmes for in-school and out-of-school adolescents by engaging grassroots youth social mobilizers to create awareness using adolescent-focused messaging.
- Integration of adolescent-specific messaging into existing National Orientation Agency platforms in the form of TV and radio jingles.
- Revitalizing existing social media platforms to reach adolescents, such as “DaSubjectMatter.com” and “My Q & My Answer”.
- Creation of adolescent- and youth-friendly social and behavioural change communication materials (cartoon handbooks) to address youth-identified health issues.
- Engagement of young people to drive intervention development at all levels. Ensure young people are contributing to what messages are suitable for them.
- Exploring additional entry points to reach out-of-school and disadvantaged adolescents, especially those with disabilities.

## Effectiveness

Health conditions specific to adolescents, such as substance abuse and teenage pregnancy, require specialized expertise that is not always available at primary health care level.

### Policy implications

- Exploring distance learning as a viable training modality for service providers who manage substance abuse adolescents.
- Updating of the pre-service training curriculum for nurses, community health extension workers and doctors, with consideration of adolescents’ need for more psychosocial support.
- The subsidizing of medicines for adolescents to ensure compliance with agreed prescriptions.

### Programming implications

- Training of health workers to understand the impact of their attitude on adolescent health-seeking behaviour.
- Enhancement of the health facility environment, such as through counselling, games and music, to motivate adolescent attendance and compliance while waiting for services. This will improve their engagement, and stimulate their enthusiasm and feeling of safety.
- Scheduling of adolescent-targeted service times to suit their lifestyle.

### Monitoring and evaluation implications

- Expansion of the initial data disaggregation effort (which includes input on gender and age) to include the type of service being provided at all levels of the health care sector (i.e. national, state, local government authority and health facility).
- Amendment and dissemination of the current reporting tools to the lowest levels of care to ensure that all relevant data are captured.
- Progress in achieving the objectives of the Global Financing Facility investment case, the National Strategic Health Development Plan, and so on, should be linked to specific adolescent health indicators.
- Baseline studies on the scope and nature of the drug abuse trend in Nigeria should be undertaken to facilitate the development of effective interventions.

# Conclusion

The movement towards universal health coverage in Nigeria must include subpopulations that have historically been left behind: the invisibles, including disadvantaged adolescents that have hitherto not been invited to lend their voices to the list of documented needs.

The greatest health service inequities, such as non-availability of skilled personnel, non-functional infrastructure, and lack of commodities and equipment, are found in the North West and North East zones of the country as compared to the southern regions. Although these issues, related to weak health system capacity in general, go beyond the scope of Nigeria's forthcoming adolescent health policy and related strategic plan, unless they are addressed they will undermine reforms towards universal health coverage for adolescents, as well as for all other age groups.

Unique and distinct subpopulations of adolescents face far greater challenges in accessing health services than those in the mainstream of society. Street boys (including orphans and *almajiris*) often lack the social support and protection that a family structure provides, including an education and the assumption of health-related costs. Within this group, drug and substance abuse is also reportedly on the rise. Limited health literacy hampers the ability of some adolescents to seek help from the public health system and facilitates the preference for alternative providers. Adolescents in humanitarian crisis settings – as is the case in many communities in Borno State – have very limited availability of services due to the exodus of health workers from local facilities to the safety of municipal centres.

Female adolescents, especially those aged 10–14 years living in rural northern communities, are more likely to deliver their children at home without the assistance of skilled personnel. Cultural, social and gender norms have a strong influence on the choices and expectations of Nigeria's adolescents related to “if and when” to seek care, and magnify the role and influence of gatekeepers in such decisions.

Identifying trends in health service utilization by adolescents needs to start with the routine collection of information disaggregated by age and sex. Leveraging existing efforts at primary health care level, such as performance-based financing, national and state health ses, as well as operationalization of the National Health Act 2014 (15) and the recently launched Patient Bill of Rights, will provide entry points for health education, performance monitoring and improved client experience.

Policy needs to be bolder in its defence of the rights of disadvantaged adolescents, and create avenues for assessment of the progress being made towards meeting their needs. Dialogue with professional regulatory councils on setting new thresholds in order to increase the pool of graduating health professionals is critical in addressing the provider gap in northern Nigeria. Emerging trends, such as the rise in substance abuse and adolescent pregnancy, will need to have adequate funding set aside for research to inform treatment guidelines and protocols for what appears to be next battle ground for adolescent health and development in Nigeria.



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## Annex 1.

### Search criteria for the literature review

Criteria	First- and second-level searches (Searched combinations of all five criteria A–E together to find information on the review questions)	Keywords used in searches
1. Population	First level: general population OR Second level: adolescents (10–19 years), disaggregated by sex and age (e.g. 10–14 years, 15–19 years)	<ul style="list-style-type: none"> <li>• Adolescent</li> <li>• Youth</li> <li>• Child</li> <li>• Young (adult/person/people)</li> <li>• Teen</li> </ul>
2. Geographic location	Nigeria	National – Nigeria OR Subnational – name of state
3. Time period	Published/issued recently (last 5 years)	Search range limited to last 5–10 years
4. Health status	Coverage and/or barriers, as relate to: General health service for adolescents OR Health services for the country: <ul style="list-style-type: none"> <li>• adolescent health service example A – sexual and reproductive health OR</li> <li>• adolescent health service example B – substance abuse/mental health OR</li> <li>• adolescent health service example C – nutrition</li> </ul>	<ul style="list-style-type: none"> <li>• Health service</li> <li>• Health facility</li> <li>• Health promotion/prevention /diagnosis /treatment / rehabilitation</li> <li>• Health service coverage (available, access/accessible, acceptable, contact, use, effective, quality)</li> <li>• Barriers</li> </ul>
5. Sociodemographic status	Content addressing social marginalization, vulnerability, disadvantage, exclusion or related key terms	<ul style="list-style-type: none"> <li>• Vulnerable</li> <li>• Disadvantaged</li> <li>• Marginalized</li> <li>• Social exclusion</li> <li>• Under-served</li> <li>• At risk</li> </ul>



## Annex 2.

### Literature review summary table: adolescent subpopulation and barrier findings by source document, type of research, study population and type of health service

Source citation information	Type of research	Adolescent or related study population	General or priority health services	Findings	
				Under-served adolescent subpopulation	Main health service barrier(s)
1 Abegunde D, Kabo I, Sambisa W, Akomolafe T, Orobato N, Abdulkarim M et al. (2014). Availability, utilization, and quality of emergency obstetric care services in Bauchi State, Nigeria. <i>Int J Gynaecol Obstet.</i> 128(3):251-5. ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/25497052">https://www.ncbi.nlm.nih.gov/pubmed/25497052</a> , accessed 14 June 2018).	Cross-sectional survey	General population	Maternal health	Pregnant adolescent girls	Availability, utilization, and quality of emergency obstetric care services
2 Abiodun O, Olu-Abiodun O, Ani F, Sotunsa O. Sexual and reproductive health knowledge and service utilization among in-school rural adolescents in Nigeria. <i>J AIDS Clin Res.</i> 2016;7(6):576.	School-based cross-sectional study of eligible Nigerian adolescents	In-school rural adolescents	Sexual and reproductive health	In-school rural adolescent girls	Lack of awareness, existing misconceptions about sexual and reproductive health services
3 Adedini SA, Odimegwu C, Bamiwuye O, Fadeyibi O, Wet ND. Barriers to accessing health care in Nigeria: implications for child survival. <i>Global Health Action.</i> 2014;7:10.3402/gha.v7.23499 ( <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3957799/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3957799/</a> ).	Secondary research, household survey (nationally representative)	General population (females of childbearing age, 15-49 years)	Sexual and reproductive health	Married adolescents (15-19 years)	Different ethnic factors (e.g. difficulty in getting permission to seek medical treatment), level of education, resource-related concerns
4 Ahanonu EL (2014). Attitudes of healthcare providers towards providing contraceptives for unmarried adolescents in Ibadan, Nigeria. <i>J Family Reprod Health.</i> 2014;8(1):33-40 ( <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4064762/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4064762/</a> , accessed 11 June 2018).	Cross-sectional descriptive study	General population (health care providers)	Sexual and reproductive health	Married and unmarried adolescents	Unfavourable attitudes of health care providers.
5 Ahmed S, Delaney K, Villalba-Diebold P, Aliyu G, Constantine N, Ememabelem M et al. HIV counseling and testing and access-to-care needs of populations most-at-risk for HIV in Nigeria. <i>AIDS Care.</i> 2012;25(1):85-94 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/22709242">https://www.ncbi.nlm.nih.gov/pubmed/22709242</a> , accessed 14 June 2018).	Cross-sectional study	Adolescents and young persons (18-24 years)	Sexual and reproductive health	Most-at-risk and women	NA

Source citation information	Type of research	Adolescent or related study population	General or priority health services	Findings	
				Under-served adolescent subpopulation	Main health service barrier(s)
6 Ajayi AI, Akpan W. Who benefits from free institutional delivery? Evidence from a cross sectional survey of North Central and southwestern Nigeria. <i>BMC Health Serv Res.</i> 2017;17:620 ( <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5581419/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5581419/</a> , accessed 6 June 2018).	Cross-sectional descriptive survey	General population (females of childbearing age, 15–49 years)	Maternal health	Pregnant women	Socioeconomic and geographic inequality in North Central zone. The proportion of beneficiaries of user-fee removal policy was higher in urban areas than rural under-served areas, resulting in low coverage of the free maternal health programme especially among women of low socioeconomic status residing in under-served areas.
7 Ajuwon A, Titiloye M, Oshiname F, Oyewole O. Knowledge and use of HIV counseling and testing services among young persons in Ibadan, Nigeria. <i>Int Q Community Health Educ.</i> 2011;31(1):33–50 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/21576066">https://www.ncbi.nlm.nih.gov/pubmed/21576066</a> , accessed 11 June 2018).	Cross-sectional survey using mixed methods	Secondary school students and apprentices	Sexual and reproductive health	Male and female young persons (15–25 years)	Fear of stigmatization, perceived exorbitant cost of testing, lack of knowledge on where HIV counselling and testing services are available, belief that HIV counselling and testing is meant only for sexually-active persons
8 Alabi A, Oke O, Adedokun B, Runsewe-Abiodun T. Perception and practice of HIV/AIDS counseling and testing among secondary school adolescents in Ogun Waterside Local Government Area, Ogun State, Southwest Nigeria. <i>Int Q Community Health Educ.</i> 2018;38(3):175–80 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/29333923">https://www.ncbi.nlm.nih.gov/pubmed/29333923</a> , accessed 7 June 2018).	Cross-sectional descriptive study	Secondary school rural adolescent	Sexual and reproductive health	Rural adolescents	Poor adolescents, lack of targeted information
9 Alli F, Maharaj P, Vawda M. Interpersonal relations between health care workers and young clients: barriers to accessing sexual and reproductive health care. <i>J Community Health.</i> 2012;38(1):150–5 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/22782338">https://www.ncbi.nlm.nih.gov/pubmed/22782338</a> , accessed 3 June 2018).	Cross-sectional study	General population (young people, 10–24 years)	Sexual and reproductive health	Young people (10–24 years)	Interpersonal relations between health care workers and young clients
10 Alubo O. Adolescent reproductive health practices in Nigeria. <i>Afr J Reprod Health.</i> 2011;5(3):109 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/12471935">https://www.ncbi.nlm.nih.gov/pubmed/12471935</a> , accessed 11 June 2018).	In-depth interviews and focus group discussions	Tertiary educational institutions	Sexual and reproductive health	Adolescents	NA
11 Aluh D, Anyachebelu O, Anosike C, Anizoba E. Mental health literacy: what do Nigerian adolescents know about depression? <i>Int J Ment Health Syst.</i> 2018;12(1) ( <a href="https://ijmhs.biomedcentral.com/articles/10.1186/s13033-018-0186-2">https://ijmhs.biomedcentral.com/articles/10.1186/s13033-018-0186-2</a> , accessed 6 June 2018).	Cross-sectional descriptive survey conducted among secondary (high) school students in southeast Nigeria	Adolescents	Mental health	Adolescents and young people	No/late detection of mental health issues

Source citation information	Type of research	Adolescent or related study population	General or priority health services	Findings	
				Under-served adolescent subpopulation	Main health service barrier(s)
12 Anigilaje E, Ageda B, Nweke N. Barriers to uptake of prevention of mother-to-child transmission of HIV services among mothers of vertically infected HIV-seropositive infants in Makurdi, Nigeria. <i>Patient Prefer Adherence</i> . 2016;10:57 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/26869770">https://www.ncbi.nlm.nih.gov/pubmed/26869770</a> , accessed 6 June 2018).	Descriptive study using mixed methods	General population (females of childbearing age, 15–49 years)	Maternal health	Pregnant women	Mothers falling asleep, financial constraints, mothers not giving nevirapine to newborns delivered at home, pregnant women's unawareness of HIV-seropositive status, poor health system, lack of funding for services at private and rural health facilities
13 Anugwom E, Anugwom K. Socio-cultural factors in the access of women to HIV/AIDS prevention and treatment services in South-southern Nigeria. <i>Iranian J Public Health</i> . 2016;45(6):754–60 ( <a href="http://ijph.tums.ac.ir/index.php/ijph/article/view/7080">http://ijph.tums.ac.ir/index.php/ijph/article/view/7080</a> , accessed 7 June 2018).	Social survey using unstructured interviews and focus group discussions	General population (females of childbearing age 15–49yrs)	Sexual and Reproductive Health	General population (females of childbearing age 15–49 years)	Sociocultural factors, stereotypes and expectations, male superiority, immorality
14 Arulogun OS, Titiloye MA, Afolabi NB, Oyewole OE, Nwaorgu OG. Experiences of girls with hearing impairment in accessing reproductive health care services in Ibadan, Nigeria. <i>Afr J Reprod Health</i> . 2013;17(1):85–93 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/24069737">https://www.ncbi.nlm.nih.gov/pubmed/24069737</a> , accessed 1 June 2018).	Cross-sectional survey using mixed method	General population (females of childbearing age, 15–49 years)	Sexual and reproductive health	Girls with hearing impairment	Embarrassment, communication issues, cost
15 Atilola O, Ola B, Abiri G, Sahid-Adebambo M, Odukoya O, Adewuyi A et al. Status of mental-health services for adolescents with psychiatric morbidity in youth correctional institutions in Lagos. <i>J Child Adolesc Ment Health</i> . 2017;29(1):63–83 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/28639494">https://www.ncbi.nlm.nih.gov/pubmed/28639494</a> , accessed 13 July 2018).	Audit protocol of mental health services, adolescent substance abuse screening	Adolescents in youth correctional institutions	Mental health	Adolescents in youth correctional institutions	Lack of health workforce training in child mental health services, limited relevant educational backgrounds of health workforce
16 Azfredrick E. Use of counselling services by school-attending adolescent girls in Nigeria. <i>J Child Adolesc Ment Health</i> . 2014;27(1):1–10 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/25531745">https://www.ncbi.nlm.nih.gov/pubmed/25531745</a> , accessed 1 June 2018).	Cross-sectional survey of adolescent girls using a self-report counselling utilization scale	Adolescent school girls	General	Adolescent school girls	Lack of confidential services, fear and shyness on the part adolescent girls
17 Babalola S, Fatusi A. Determinants of use of maternal health services in Nigeria - looking beyond individual and household factors. <i>BMC Pregnancy Childbirth</i> . 2009;9: 43 ( <a href="https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-9-43">https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-9-43</a> , accessed 2 June 2018).	Household longitudinal survey using multistage probability sampling method	General population (females of childbearing age, 15–49 years)	Mental health	Lowly educated and economically distressed older adolescents (15–19 years) in rural areas	Low education, low socioeconomic status and rural residence
18 Cortez R, Saadat S, Marinda E, Oluwole O. Adolescent sexual and reproductive health in Nigeria. Health, nutrition and population global practice knowledge brief. Washington DC: The World Bank Group; 2015 ( <a href="https://openknowledge.worldbank.org/handle/10986/21626">https://openknowledge.worldbank.org/handle/10986/21626</a> , accessed xxx 2018).	Cross-sectional survey using mixed methods (community level)	Adolescents (10–19 years)	Sexual and reproductive health, nutrition	Adolescents (10–19 years)	Poor knowledge and attitude, religious and cultural barriers

Source citation information	Type of research	Adolescent or related study population	General or priority health services	Findings	
				Under-served adolescent subpopulation	Main health service barrier(s)
19 Cheng Y, Li X, Lou C, Sonenstein F, Kalamar A, Jejeebhoy S et al. The association between social support and mental health among vulnerable adolescents in five cities: findings from the study of the well-being of adolescents in vulnerable environments. <i>J Adolesc Health</i> . 2014;55(6 Suppl):S31-8 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/25454000">https://www.ncbi.nlm.nih.gov/pubmed/25454000</a> , accessed 13 June 2018).	Cross-sectional survey	Adolescents (15–19 years)	Mental health	Vulnerable adolescents	NA
20 Delany-Moretlwe S, Cowan F, Busza J, Bolton-Moore C, Kelley K, Fairlie L. Providing comprehensive health services for young key populations: needs, barriers and gaps. <i>J Int AIDS Soc</i> . 2015;18(2 Suppl 1). ( <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4344539/#S0004title">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4344539/#S0004title</a> , accessed 3 June 2018).	Literature review	Young people (10–24 years)	General	Young people (10–24 years)	Low levels of formal education and/or low levels of sex education, stigma, discrimination or victimization at the hands of health care providers, legal status of minors
21 Durowade K, Omokanye L, Elegbede O, Adetokunbo S, Olomofe C, Ajiboye A et al. Barriers to contraceptive uptake among women of reproductive age in a semi-urban community of Ekiti State, southwest Nigeria. <i>Ethiop J Health Sci</i> . 2017;27(2):121–8 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/28579707">https://www.ncbi.nlm.nih.gov/pubmed/28579707</a> , accessed 1 June 2018).	Cross-sectional study using a multistage sampling technique	Females (15–49 years)	Sexual and reproductive health	Women of reproductive age (15–49 years)	Desire for more children, partner disapproval, fear of side-effects
22 Eke A, Alabi-Isama L. Long-acting reversible contraception (LARC) use among adolescent females in secondary institutions in Nnewi, Nigeria. <i>J Obstet Gynaecol</i> . 2011;31(2):164–8 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/21281035">https://www.ncbi.nlm.nih.gov/pubmed/21281035</a> , accessed 7 June 2018).	Cross-sectional study	Adolescent girls (10–19 years)	Sexual and reproductive health	Adolescent girls (10–19 years)	Religious and cultural beliefs
23 Exley J, Pitchforth E, Okeke E, Glick P, Abubakar I, Chari A et al. Persistent barriers to care; a qualitative study to understand women's experiences in areas served by the midwives' service scheme in Nigeria. <i>BMC Pregnancy Childbirth</i> . 2016;16(1):232 ( <a href="https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-016-1026-5">https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-016-1026-5</a> , accessed 14 June 2018).	Qualitative study	General population (females of childbearing age, 15–49 years)	Maternal health	Nursing mothers	Sudden onset of labour, financial barriers, lack of essential drugs and equipment, lack of transportation and absence of staff particularly at night
24 Fagbamigbe AF, Idemudia Es. Barriers to antenatal care use in Nigeria: evidences from non-users and implications for maternal health programming. <i>BMC Pregnancy Childbirth</i> 2015;15:95 ( <a href="https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-015-0527-y">https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-015-0527-y</a> , accessed 6 June 2018).	Document review	General population (females of childbearing age, 15–49 years)	Maternal health	Poor, rural, currently married, less educated females of childbearing age (15–49 years)	Lack of finance

Source citation information	Type of research	Adolescent or related study population	General or priority health services	Findings	
				Under-served adolescent subpopulation	Main health service barrier(s)
25 Federal Ministry of Health, Nigeria. National guidelines on promoting access of young people to adolescent & youth-friendly services in primary health care facilities in Nigeria. Abuja: Federal Ministry of Health; 2013 ( <a href="http://www.health.gov.ng/doc/GuidelinesPromotingAccess.pdf">http://www.health.gov.ng/doc/GuidelinesPromotingAccess.pdf</a> , accessed 5 July 2018).	An appraisal of barriers to youth access of services at the primary health care level	Adolescents, gatekeepers and other stakeholders	General	Adolescents (10–19 years)	Poor knowledge and misconceptions about health issues, poor knowledge of availability of health services, negative perception of health services, poor support to adolescents
26 Federal Ministry of Health, Nigeria. Assessment report of the national response to young people sexual and reproductive health in Nigeria. Abuja: Federal Ministry of Health; 2009 ( <a href="http://www.actionhealthinc.org/publications/docs/Assessment%20Report%20of%20National%20Response%20To%20Young%20People%27s%20Sexual%20and%20Reproductive%20Health%20in%20Nigeria.pdf">http://www.actionhealthinc.org/publications/docs/Assessment%20Report%20of%20National%20Response%20To%20Young%20People%27s%20Sexual%20and%20Reproductive%20Health%20in%20Nigeria.pdf</a> accessed 15 November 2018).	Focus group discussions	In-school and out-of-school adolescents	Sexual and reproductive health	In-school and out-of-school adolescents	Non-confidentiality, fear, shyness, pride, financial constraints, distance to health facility, attitude of health provider
27 Femi-Adebayo T, Kuyinu Y, Adejumo O, Goodman O. Factors affecting utilization of youth friendly health services in Lagos State, Nigeria. <i>Int J Adolesc Med Health</i> . 2017; doi: 10.1515/ijamh-2016-0159 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/28915109">https://www.ncbi.nlm.nih.gov/pubmed/28915109</a> , accessed 11 June 2018).	Cross-sectional descriptive study	Adolescent and young persons (10–24 years)	General services	Adolescent and young persons (10–24 years)	Non-confidentiality, lack of access to facilities
28 Folayan M, Odetoyinbo M, Harrison A, Brown B. Tackling the sexual and reproductive health and rights of adolescents living with HIV/AIDS: a priority need in Nigeria. <i>Afr J Reprod Health</i> . 2014;18(300):102–8 ( <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4664063/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4664063/</a> , accessed 14 June 2018).	Review	Adolescents (10–19 years)	Sexual and reproductive health	Adolescents (10–19 years)	Self-stigmatization, ignorance, discrimination
29 Girard AW, Dzingina C, Akogun O, Mason JB, McFarland DA. Public health interventions, barriers, and opportunities for improving maternal nutrition in Northeast Nigeria. <i>Food Nutr Bull</i> . 2012;33(2 Suppl 1):S51–70 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/22913107">https://www.ncbi.nlm.nih.gov/pubmed/22913107</a> ).	Programme bulletin	General	Nutrition	Adolescents (10–19 years)	Cultural and family norms
30 Homer CSE, Castro Lopes S, Nove A, Michel-Schuldt M, McConville F, Moyo NT et al. Barriers to and strategies for addressing the availability, accessibility, acceptability and quality of the sexual, reproductive, maternal, newborn and adolescent health workforce: addressing the post-2015 agenda. <i>BMC Pregnancy Childbirth</i> . 2018;18(1):55 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/29463210">https://www.ncbi.nlm.nih.gov/pubmed/29463210</a> , accessed 7 June 2018).	Cross-sectional survey	General	General	General	Quality of care, insufficient workforce size, inequity in workforce distribution, lack of transportation, user fees and out-of-pocket expenses

Source citation information	Type of research	Adolescent or related study population	General or priority health services	Findings	
				Under-served adolescent subpopulation	Main health service barrier(s)
31 Isma'il M, Musa I, Salisu A, Kim I, Oyale A, Maiwada A et al. Analysis of accessibility to healthcare facilities in Giwa and Tofa Local Government Areas of Nigeria: GIS approach. <i>Journal of Scientific Research and Reports</i> . 2014;3(22):2900-15 ( <a href="http://www.journalrepository.org/media/journals/JSRR_22/2014/Sep/Muhammad3222013JSRR8183_1.pdf">http://www.journalrepository.org/media/journals/JSRR_22/2014/Sep/Muhammad3222013JSRR8183_1.pdf</a> , accessed 14 June 2018).	Cross-sectional survey using mixed methods	General population	General	General	Distance
32 Jack-Ide IO, Uys L. Barriers to mental health services utilization in the Niger Delta region of Nigeria: service users' perspectives. <i>Pan Afr Med J</i> . 2013;14:159 ( <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3683509/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3683509/</a> , accessed 28 September 2018).	Cross-sectional survey	General	Substance abuse and mental health	Adolescents from low-income households living in rural areas	Ineffectiveness of public mental health care facilities
33 Kakietek J, Geberselassie T, Manteuffel B, Ogungbemi K, Krivlyova A, Bausch S et al. It takes a village: community-based organizations and the availability and utilization of HIV/AIDS-related services in Nigeria. <i>AIDS Care</i> . 2013;25(Supp 1):S78-87 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/23745634">https://www.ncbi.nlm.nih.gov/pubmed/23745634</a> , accessed 14 June 2018).	Household study, qualitative study and fund allocation study	General	Sexual and reproductive health	General	NA
34 Kuyinu Y, Femi-Adebayo T, Odugbemi B, Ukatu E. Causative factors for sexual and reproductive health status of pregnant adolescent girls in urban communities of Lagos, Nigeria. <i>Int J Adolesc Med Health</i> . 2017; doi:10.1515/ijamh-2017-0104 [Epub ahead of print] ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/28915113">https://www.ncbi.nlm.nih.gov/pubmed/28915113</a> , accessed 8 June 2018).	A mixed method study	Adolescents (10-19 years)	Sexual and reproductive health	Pregnant adolescents (10-19 years)	Peer pressure and the desire to develop or maintain a relationship, poor knowledge and utilization of contraceptives
35 Mmari K, Marshall B, Hsu T, Shon JW, Eguavoen A. A mixed methods study to examine the influence of the neighborhood social context on adolescent health service utilization. <i>BMC Health Serv Res</i> . 2016;16(1):433 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/27558634/10.1186/s12913-016-1597-x">https://www.ncbi.nlm.nih.gov/pubmed/27558634/10.1186/s12913-016-1597-x</a> , accessed 7 June 2018).	Cross-sectional study using mixed methods	Very disadvantaged urban adolescents (15-19 years)	General	Very disadvantaged urban adolescents (15-19 years)	Lack of trust in providers, stigmatization, embarrassment, fear, exposure to community violence
36 Mmari K, Blum R, Sonenstein F, Marshall B, Brahmbhatt H, Venables E. Adolescents' perceptions of health from disadvantaged urban communities: findings from the WAVE study. <i>Soc Sci Med</i> . 2014;104:124-32 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/24581070">https://www.ncbi.nlm.nih.gov/pubmed/24581070</a> , accessed 7 June 2018).	Cross-sectional study using in-depth interviews, focus group discussions and photovoice methodology	Very disadvantaged urban adolescents (15-19 years)	General	Very disadvantaged urban adolescents (15-19 years)	NA
37 Muhammed K, Umeh K, Nasir S, Suleiman I. Understanding the barriers to the utilization of primary health care in a low-income setting: implications for health policy and planning. <i>J Public Health Africa</i> 2013;4(2):e13 ( <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5345431/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5345431/</a> , accessed 14 June 2018).	Household survey	General population	General	General population	Lack of essential drugs, high cost of services, inadequate infrastructure in primary health care facilities

Source citation information	Type of research	Adolescent or related study population	General or priority health services	Findings	
				Under-served adolescent subpopulation	Main health service barrier(s)
38 Nigeria Demographic and Health Survey 2013 Abuja: National Population Commission (NPC) [Nigeria], and ICF International: Rockville, Maryland, USA; 2014 ( <a href="https://dhsprogram.com/pubs/pdf/fr293/fr293.pdf">https://dhsprogram.com/pubs/pdf/fr293/fr293.pdf</a> , accessed 8 August 2018).	National sample survey	Adolescent girls (15–19 years)	General	Poorest adolescent girls (15–19 years)	Financial constraints, distance to facility, permission, unwillingness to access services alone
39 Nwalo K, Anasi S. Access to and use of reproductive health information among in-school adolescent girls in Lagos State, Nigeria. <i>Health Education Journal</i> . 2010;71(1):90–101 ( <a href="http://journals.sagepub.com/doi/abs/10.1177/0017896910386525">http://journals.sagepub.com/doi/abs/10.1177/0017896910386525</a> , accessed 14 June 2018).	Descriptive survey	In-school adolescent girls	Sexual and reproductive health	In-school adolescent girls	NA
40 Obiechina G, Ekenedo G. Factors affecting utilization of university health services in a tertiary institution in South-West Nigeria. <i>Niger J Clin Pract</i> . 2013;16(4):454 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/23974738">https://www.ncbi.nlm.nih.gov/pubmed/23974738</a> , accessed 14 June 2018).	Cross-sectional survey	Students	General	Students	High cost of drugs, non-availability of essential drugs, time spent waiting for treatment, inadequate referral services, low satisfaction with services
41 Odetola TD. Health care utilization among rural women of child-bearing age: a Nigerian experience. <i>Pan Afr Med J</i> . 2015;20:151 ( <a href="http://www.panafrican-med-journal.com/content/article/20/151/full/">http://www.panafrican-med-journal.com/content/article/20/151/full/</a> , accessed 28 September 2018).	Descriptive study	General population (females of childbearing age, 15–49 years)	Maternal health	Pregnant women	Illiteracy, distance to facility, affordability, quality of services, spousal and significant other's influence
42 Odimegwu C, Adedini S, Ononokpono D. HIV/AIDS stigma and utilization of voluntary counselling and testing in Nigeria. <i>BMC Public Health</i> . 2013;13(1):465 ( <a href="https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-13-465">https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-13-465</a> , accessed 14 June 2018).	Cross-sectional random study using mixed method approach	General population	Sexual and reproductive health	Adolescents living with HIV/AIDS	Stigmatization
43 Odo AN, Samuel ES, Nwagu EN, Nnamani PO, Atama CS. (2018). Sexual and reproductive health services (SRHS) for adolescents in Enugu state, Nigeria: a mixed methods approach. <i>BMC Health Serv Res</i> . 2018;18:92. ( <a href="https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-017-2779">https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-017-2779</a> , accessed 14 June 2018)	Population and health facility study using mixed methods (state level)	Adolescents (12–22 years)	Sexual and reproductive health	Adolescents (12–19 years)	Sexual and reproductive health services are not adolescent-focused and not financially accessible to adolescents with low income levels, boys perceive sexual and reproductive health services as designated for girls
44 Okanlawon K, Reeves M, Agbaje OF. Contraceptive use: knowledge, perceptions and attitudes of refugee youths in Oru Refugee Camp, Nigeria. <i>Afr J Reprod Health</i> . 2010;14(4):16–25 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/21812194">https://www.ncbi.nlm.nih.gov/pubmed/21812194</a> , accessed 12 June 2018).	Cross-sectional study	Youths	Sexual and reproductive health	Refugee youths	Lack of correct information, misperceptions about safety of contraceptives
45 Okereke CI. Unmet reproductive health needs and health-seeking behaviour of adolescents in Owerri, Nigeria. <i>Afr J Reprod Health</i> . 2010;14(1):54 ( <a href="https://www.ajol.info/index.php/ajrh/article/view/55777/44240">https://www.ajol.info/index.php/ajrh/article/view/55777/44240</a> , accessed 6 June 2018).	Cross-sectional study using mixed methods	Adolescents (10–19 years)	Sexual and reproductive health	Adolescents (10–19 years)	Cultural

Source citation information	Type of research	Adolescent or related study population	General or priority health services	Findings	
				Under-served adolescent subpopulation	Main health service barrier(s)
46 Okoli C, Cleary S. Socioeconomic status and barriers to the use of free antiretroviral treatment for HIV/AIDS in Enugu State, south-eastern Nigeria. <i>Afr J AIDS Res.</i> 2011;10(2):149–55 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/25859737">https://www.ncbi.nlm.nih.gov/pubmed/25859737</a> , accessed 6 June 2018).	People living with HIV	General	Sexual and reproductive health	People living with HIV	High cost of transportation, HIV stigma, long waiting times
47 Okonta P. Adolescent sexual and reproductive health in the Niger Delta Region of Nigeria: issues and challenges. <i>Afr J Reprod Health.</i> 2007;11(1):113 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/17982954">https://www.ncbi.nlm.nih.gov/pubmed/17982954</a> , accessed 11 June 2018).	Review	General	Sexual and Reproductive health	Adolescents	NA
48 Oladepo O, Fayemi M. Perceptions about sexual abstinence and knowledge of HIV/AIDS prevention among in-school adolescents in a western Nigerian city. <i>BMC Public Health.</i> 2011;11(1):304 ( <a href="https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-11-304">https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-11-304</a> , accessed 13 June 2018).	Descriptive cross-sectional survey	Adolescents (15–19 years)	Sexual and reproductive health	Adolescents	NA
49 Olalaye A, Ogwumike F, Olaniyan O. Inequalities in access to healthcare services among people living with HIV/AIDS in Nigeria. <i>Afr J AIDS Res.</i> 2013;12(2):85–94 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/25871378">https://www.ncbi.nlm.nih.gov/pubmed/25871378</a> , accessed 14 June 2018).	Cross-sectional survey	People living with HIV/AIDS	Sexual and reproductive Health	People living with HIV/AIDS in lowest wealth class and females	Travel distance and transport costs
50 Olowokere AE, Adedokun OA, Komolafe AO. Knowledge, perception, access and utilisation of HIV counselling and testing among pregnant women in rural communities of Osogbo town, Nigeria. <i>Australian J RuralHealth.</i> 2018;26(1):33–41 ( <a href="https://onlinelibrary.wiley.com/doi/full/10.1111/ajr.12368">https://onlinelibrary.wiley.com/doi/full/10.1111/ajr.12368</a> , accessed 13 June 2018).	Descriptive cross-sectional survey	General population	Sexual and reproductive health	Rural pregnant women	Fear of how to cope with being HIV-positive, absence of HIV counselling and testing centre
51 Onwujekwe O. Inequities in healthcare seeking in the treatment of communicable endemic diseases in Southeast Nigeria. <i>Soc Sci Med.</i> 2005;61(2):455–63 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/15893059">https://www.ncbi.nlm.nih.gov/pubmed/15893059</a> , accessed 14 June 2018).	Household survey	General population	General	General population	Low socioeconomic status, unavailability of quality services, proximity of the centres, poor attitude of health workers
52 Otovwe A, Elizabeth S. Utilization of primary health care services in Jaba Local Government Area of Kaduna State Nigeria. <i>Ethiop J Health Sci.</i> 2017;27(4):339–50 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/29217936">https://www.ncbi.nlm.nih.gov/pubmed/29217936</a> , accessed 14 June 2018).	Cross-sectional study	General population	General	General population	Non-availability of trained staff, attitude of staff, waiting times, availability of diagnostic services



Source citation information	Type of research	Adolescent or related study population	General or priority health services	Findings	
				Under-served adolescent subpopulation	Main health service barrier(s)
53 Paul-Ebhohimhen VA, Poobalan A, van Teijlingen ER. A systematic review of school-based sexual health interventions to prevent STI/HIV in sub-Saharan Africa. <i>BMC Public Health</i> . 2008;8:4 ( <a href="https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-8-4">https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-8-4</a> , accessed 13 June 2018).	Focused systematic review	Adolescents	Sexual and reproductive health	Adolescents	NA
54 The adolescent experience in-depth: using data to identify and reach the most vulnerable young people: Nigeria 2008. New York: Population Council; 2010 ( <a href="https://www.popcouncil.org/uploads/pdfs/PGY_AdolDataGuides/Nigeria2008.pdf">https://www.popcouncil.org/uploads/pdfs/PGY_AdolDataGuides/Nigeria2008.pdf</a> ).	Household survey (nationally representative)	10–24 years	Sexual and reproductive Health	Rural, female, younger, out-of-school and married adolescents	Lack of access to accurate information on sexual and reproductive health, non-availability of married-adolescent-focused sexual and reproductive health services
55 Rai R, Singh P, Singh L. Utilization of maternal health care services among married adolescent women: insights from the Nigeria Demographic and Health Survey, 2008. <i>Women's Health Issues</i> . 2012;22(4):e407–14 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/22749200">https://www.ncbi.nlm.nih.gov/pubmed/22749200</a> , accessed 7 June 2018).	Document review	Married adolescent women	Maternal health	Married adolescent women, poor uneducated women residing in rural areas	NA
56 Sam-Agudu N, Folayan M, Ezeanolue E. Seeking wider access to HIV testing for adolescents in sub-Saharan Africa. <i>Pediatr Res</i> . 2016;79(6):838–45 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/26882367?report=abstract">https://www.ncbi.nlm.nih.gov/pubmed/26882367?report=abstract</a> , accessed 1 June 2018).	Cross-sectional survey	Adolescents (10–19 years)	Sexual and reproductive health	Adolescents perinatally infected; those with early sexual debut, high mobility and multiple/older partners; pregnant and nonpregnant females	Fear of stigma and family reaction, fear of the impact of a positive diagnosis, perceived risk with respect to sexual exposure, poor attitudes of health care providers, parental consent requirement
57 Sekoni A, Somefun E, Fatoba O, Onajole A. Use of HIV screening services and sexual behavior of in-school adolescents in Surulere Local Government Area, Lagos State. <i>Nig Q J Hosp Med</i> . 2015;25(3):202–8 ( <a href="https://www.ncbi.nlm.nih.gov/pubmed/27295814">https://www.ncbi.nlm.nih.gov/pubmed/27295814</a> , accessed 7 June 2018).	Cross-sectional descriptive study design	In-school adolescents	Sexual and reproductive health	In-school adolescents	NA
58 Umar A. Antenatal care services utilization in Yobe State, Nigeria: examining predictors and barriers. <i>Int J MCH AIDS</i> . 2015;4(1):35–46 ( <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4948156/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4948156/</a> , accessed 14 June 2018).	Document review	General population	Maternal health	Pregnant adolescent girls	NA
59 University of Ibadan (2012). . [online] Available at: <a href="http://www.mhlap.org/jdownloads/mhlap%202012/mental_health_situation_analysis_in_nigeria.doc">http://www.mhlap.org/jdownloads/mhlap%202012/mental_health_situation_analysis_in_nigeria.doc</a> [Accessed 14 Nov. 2018].	Situation analysis	People with mental illness	Mental health	Adolescents with mental illness	Stigmatization, widespread misconceptions, gross inadequacy of health workforce and materials
60 Ujoh F, Kwaghsende F. Analysis of the spatial distribution of health facilities in Benue State, Nigeria. <i>Public Health Research</i> . 2014;4(5):210–8 ( <a href="http://article.sapub.org/10.5923.j.phr.20140405.09.html">http://article.sapub.org/10.5923.j.phr.20140405.09.html</a> ).	Health facility survey (state level)	General population	Sexual and reproductive health and nutrition	Adolescents (15–19 years)	Maldistribution of health facilities resulting in overcrowding and consequent lack of proper attention to patients

### Annex 3.

#### Data mining summary table: adolescent subpopulation and barrier findings by data source, indicators, stratifiers, inequality measure and type of health service

Data source	Indicators	Stratifiers	Measure(s) of inequality		General or priority health services	Findings	
			Poles	Ratio		Under-served adolescent subpopulation	Main health service barrier(s)
1	Total population (10–14 years)	Sex	Male 12.1 million Female 11.6 million	1.04/1.00	NA	NA	NA
2	Total population (15–19 years)	Sex	Male 10.1 million Female 9.8 million	1.03/1.00	NA	NA	NA
3	Deaths by age group (10–14 years)	Sex	Male 264 000 Female 234 000	1.13/1.00	General	Male adolescents	NA
4	Deaths by age group (15–19 years)	Sex	Male 252 000 Female 227 000	1.11/1.00	General	Male adolescents	NA
5	Percentage of girls (10–14 years) by state	Place of residence (state)	Kano 9.5% Ekiti 0.7%	13.6/1.00	NA	NA	NA
6	Percentage of girls (10–14 years) by place of residence	Place of residence	Rural 59.8% Urban 40.2%	1.49/1.00	NA	NA	NA
7	Population of adolescents living with HIV	Place of residence (state – subnational)	Lagos 29 000 Ekiti <500	58.0/1.00	Sexual and reproductive health and rights	Adolescents in Lagos	NA
8	No. of new HIV infections	Place of residence (state – subnational)	Lagos 6 900 Ekiti, Katsina and Zamfara <100	69.0/1.00	Sexual and reproductive health and rights	Adolescents in Lagos	NA
9	No. of new HIV infections	Sex	Female 26 000 Male 15 000	1.73/1.00	General	Female adolescents	NA
10	Knowledge of HIV prevention among young people (%)	Sex	Male 27% Female 22.3%	1.21/1.00	General	Female adolescents	NA
11	No. of nurses per 100 000 population	Place of residence (zone – subnational)	Federal Capital Territory 52 North West 11	4.72/1.00	General	Adolescents in the North West	Poor availability of nurses
12	No. of doctors per 100 000 population	Place of residence (zone – subnational)	South West 26 North East and North West 4	6.5/1.00	General	Adolescents in North West and North East	Poor availability of doctors
13	No. of pharmacists	Place of residence (zone – subnational)	Federal Capital Territory 51 North East 2	25.5/1.00	General	Adolescents in North East	Poor availability of pharmacists
14	No. of community health officers	Place of residence (zone – subnational)	North Central 26 Federal Capital Territory 5	5.2/1.00	General	Adolescents in Federal Capital Territory	Poor availability of community health officers

Data source	Indicators	Stratifiers	Measure(s) of inequality		General or priority health services	Findings		
			Poles	Ratio		Under-served adolescent subpopulation	Main health service barrier(s)	
15	Primary health facilities with oral pills (%)	Place of residence (state –subnational)	Ebonyi 56.2% Kogi 3.2%	17.6/1.00	Sexual and reproductive health and rights	Adolescents in Kogi	Poor availability of oral pills	
16	Primary health facilities with injectable contraceptives (%)	State (subnational)	Ogun 58.7% Taraba 1.4%	41.9/1.00	Sexual and reproductive health and rights	Adolescents in Taraba	Poor availability of injectables	
17	National Health Facility Survey (2016)	Primary health facilities with male condoms (%)	State (subnational)	Ebonyi 76.5% Katsina 2.8%	27.3/1.00	Sexual and reproductive health and rights	Adolescents in Katsina	Poor availability of male condoms
18		Primary health facilities with implants/ intrauterine contraceptive devices (%)	State (subnational)	Delta 32.3% Kwara and Katsina 0%	Infinity	Sexual and reproductive health and rights	Adolescents in Kwara and Katsina	Poor availability of implants/ IUCDs
19	Vaccine availability in primary health facilities (%)	Zone	North West 46.8% North Central 24.0%	1.95/1.00	Infectious diseases	Adolescents in North Central	Poor availability of vaccines	
20	General Household Survey, Panel Report (2012–2013)	Mean time to reach hospital/health facility	Zone (subnational)	North East (male/female) 141.2/115.4 mins South East (male/female) 27.8/30.6 mins	Male 5.08/1.00 Female 3.77/1.00	General	Adolescents in the North East	Far distance to facility
21		Mean time to reach hospital/health facility	Place of residence	Rural (male/female) 59.8/52.1 mins Urban (male/female) 30.7/28.1 mins	Male 1.95/1.00 Female 1.85/1.00	General	Adolescents in rural areas	Far distance to facility
22	Mean time to reach hospital/health facility	Sex	Male 48.9 mins Female 42.7 mins	1.15/1.00	General	Male adolescents	Far distance to facility	
23	WHO Health Equity Monitor database and HEAT: NDHS (2013) MICS (2011)	Antenatal care coverage, at least four visits in the 5 years preceding the survey (%)	Economic status	Absolute concentration index (estimate = 14.0)  Wealthiest quintile = 85.6% Poorest quintile = 18.0%	4.76/1.00	General (women of childbearing age)	Adolescent girls (15–19 years) from households in the low wealth quintiles	Financial
24	WHO Health Equity Monitor database and HEAT: NDHS (2013) MICS (2011)	Antenatal care coverage, at least four visits in the 5 years preceding the survey (%)	Education	Absolute concentration index (estimate = 12.4)  Secondary school and above = 79.6% No education = 27.6%	2.88/1.00	General (women of childbearing age)	Adolescent girls (15–19) years with low level of education (no education and primary level only)	Low literacy level
25	WHO Health Equity Monitor database HEAT: NDHS (2013) MICS (2011)	Antenatal care coverage, at least four visits in the 5 years preceding the survey (%)	Place of residence	Difference (estimate = 36.3)  Urban = 74.5% Rural = 38.2%	1.95/1.00	General (women of childbearing age)	Adolescent girls (15–19) years in rural areas	Lack of easy access to services

Data source	Indicators	Stratifiers	Measure(s) of inequality		General or priority health services	Findings	
			Poles	Ratio		Under-served adolescent subpopulation	Main health service barrier(s)
26 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Antenatal care coverage, at least four visits in the 5 years preceding the survey (%)	Subnational region	Mean difference from best performing subgroups (estimate = 35.8)  South West = 87% North West = 30%	2.9/1.00	General (women of childbearing age)	Adolescent girls (15–19 years) in North West and North East	Cultural, distance
27 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Births attended by skilled health personnel (in the 5 years preceding the survey) %	Economic status	Absolute concentration index (estimate = 16.0)  Wealthiest quintile = 85.3% Poorest quintile = 5.7%	14.97/1.00	General (women of childbearing age)	Adolescents (15–19 years) from households in low wealth quintiles	Financial
28 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Births attended by skilled health personnel (in the 5 years preceding the survey) %	Education	Absolute concentration index (estimate = 14.9)  Secondary or more = 75.6% No education = 11.7%	6.46/1.00	General (women of childbearing age)	Adolescent girls (15–19 years) with low level of education (no education or primary level only)	
29 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Births attended by skilled health personnel (in the 5 years preceding the survey) %	Place of residence	Difference (estimate = 44.3)  Urban = 67% Rural = 23%	2.91/1.00	General (women of childbearing age)	Adolescents (15–19 years) in rural areas	Availability, accessibility (distance, cultural)
30 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Births attended by skilled health personnel (in the 5 years preceding the survey) %	Subnational region	Mean difference from best performing subgroups (estimate = 44.4)  South East & South West = 82% North West = 12%	6.83/1.00	General (women of childbearing age)	Adolescents (15–19 years) in northern Nigeria	Cultural, distance
31 WHO Health Equity Monitor database and HEAT: NDHS (2013) MICS (2011)	Contraceptive prevalence, modern and traditional methods (%)	Age	Difference (NDHS estimate = 14.2 MICS estimate = 14.8)  20–49 years = 16.3% 15–19 years = 2.1%	7.76/1.00	General (15–49 years)	Adolescents (15–19 years)	Contact/ use
32 WHO Health Equity Monitor database and HEAT: NDHS (2013) MICS (2011)	Contraceptive prevalence, modern and traditional methods (%)	Place of residence	Difference (NDHS estimate = 18.3 MICS estimate = 11.1)  Urban = 26.8% Rural = 8.5%	3.15/1.00	General (15–49 years)	Adolescents (15–19 years) in rural areas	Access to information, availability of services
33 WHO Health Equity Monitor database and HEAT: NDHS (2013) MICS (2011)	Contraceptive prevalence, modern and traditional methods (%)	Economic status	Absolute concentration index (NDHS estimate = 7.1 MICS estimate = 5.2)  NDHS Wealthiest quintile = 36.7% Poorest quintile = 1.7%	21.59/1.00	General (15–49 years)	Adolescents (15–19 years) from households in the poor wealth quintiles	Financial

Data source	Indicators	Stratifiers	Measure(s) of inequality		General or priority health services	Findings	
			Poles	Ratio		Under-served adolescent subpopulation	Main health service barrier(s)
34 WHO Health Equity Monitor database and HEAT: NDHS (2013) MICS (2011)	Contraceptive prevalence, modern and traditional methods (%)	Subnational region	Mean difference from best performing subgroups (estimate = 22.9)  South West = 38.0%  North East = 3.2%	11.88/1.00	General (15–49 years)	Adolescent girls (15–19 years) in the north, especially in North East zone	Cultural, acceptability of services where available
35 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Demand for family planning satisfied, modern and traditional methods (%)	Age	Difference (estimate = 36.7)  20–49 years = 52.0%  15–19 years = 15.3%	3.40/1.00	General (15–49 years)	Adolescents (15–19 years)	Social access/contact
36 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Demand for family planning satisfied, modern and traditional methods (%)	Economic status	Absolute concentration index (estimate = 12.1)  Wealthiest quintile = 75.5% Poorest quintile = 11.6%	6.51/1.00	General (15–49 years)	Adolescents (15–19 years) from households in wealth quintiles 1–3	Financial
37 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Demand for family planning satisfied, modern and traditional methods (%)	Place of residence	Difference (estimate = 30.6)  Urban = 66.0 Rural = 35.4	1.86/1.00	General (15–49 years)	Adolescents (15–19 years) in rural areas	Geographic access
38 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Demand for family planning satisfied, modern and traditional methods (%)	Education	Absolute concentration index (estimate = 10.8)  Secondary level or more = 67.6%  No education = 16.5%	4.10/1.00	General (15–49 years)	Adolescents (15–19 years) with low level of education (no education or primary level only)	
39 WHO Health Equity Monitor database and HEAT: NDHS (2013)	Demand for family planning satisfied, modern and traditional methods (%)	Place of residence (subnational region)	Mean difference from best performing subgroups (estimate = 23.4)  South West = 73.8%  North East = 16.2%	4.56/1.00	General (15–49 years)	Adolescents (15–19 years) in North West and North East	
40  WHO Health Equity Monitor database and HEAT: NDHS (2013) MICS (2011)	Pregnant women sleeping under insecticide-treated nets (%)	Economic status	Absolute concentration index  (NDHS estimate = 0.5 MICS estimate = 0.7)  NDHS Q3 = 21.0% Q1 = 12.8%  MICS Q2 = 19.6% Q1 = 13.5%	NDHS 1.64/1.00 MICS 1.45/1.00	General (women 15–49 years)	Adolescents (15–19 years) from households in the poorest wealth quintile (quintile 1)  Adolescents (15–19 years) from households in the wealthiest quintile (quintile 5)	Financial, lack of access to information

Data source	Indicators	Stratifiers	Measure(s) of inequality		General or priority health services	Findings	
			Poles	Ratio		Under-served adolescent subpopulation	Main health service barrier(s)
41 UNICEF Adolescent health indicators (2016)	Percentage of girls that have given birth by age 18	Place of residence	Rural 36% Urban 15%	2.4/1.00	Family planning (sexual and reproductive health)	Rural girls	Geographic access
42	Percentage of girls that have given birth by age 18	Socioeconomic status	Poorest 28% Wealthiest 2%	14.0/1.00	Family planning (sexual and reproductive health)	Poor girls	Financial access
43 NDHS (2013), Table 9.5	Percentage of girls/women that had home delivery	Age (15–19 years)	Home delivery 74.2% Health facility 24.5%	3.03/1.00	Maternal health	Adolescent girls	Social access/contact
44 NDHS (2013), Table 9.5	Percentage of girls/women that had home delivery	Place of residence	Rural 76.9% Urban 37.4%	2.05/1.00	Maternal health	Rural women	Geographic access
45 NDHS (2013) Table 9.5	Percentage of girls/women that had home delivery	State	North West, Sokoto 94.2% South East, Imo 7.5%	12.56/1.00	Maternal health	Northern women	Acceptability/contact (some cited it was not necessary)
46 NDHS (2013) Table 9.5	Percentage of girls/women that had home delivery	Socioeconomic status	Lowest wealth quintile 93.1% Highest wealth quintile 19.1%	4.87/1.00	Maternal health	Poor women	Financial access
47 NDHS (2013), Table 9.5	Percentage of girls/women that had home delivery	Education	None 87.7% More than secondary level 7.8%	11.24/1.00	Maternal health	Uneducated women	Contact (estimated date of delivery (EDD) not known, no antenatal care)
48 NDHS (2013), Table 9.7	Percentage of girls aged under 20 that had delivery facilitated by skilled provider	Age (15–19 years)	20–34 years 41.1% Less than 20 years 25.2%	1.63/1.00	Maternal health	Adolescent girls	Social access (culture)/contact
49 UNICEF State of the World's Children, Statistical Table (2017)	Percentage of adolescents (10–19 years) currently married/in union (2011–2016)	Sex	Female 29% Male 1%	29/1.00	Adolescent development	Adolescent girls	Social access (culture)/contact
50 UNICEF State of the World's Children, Statistical Table (2017)	Percentage of adolescents (10–19 years) that justify wife-beating (2011–2016)	Sex	Female 33% Male 27%	1.22/1.00	Adolescent development/gender-based violence	Adolescents	Social access (culture)/contact
51 UNICEF State of the World's Children, Statistical Table (2017)	Percentage of adolescents (10–19 years) that use mass media (2011–2016)	Sex	Male 54% Female 50%	1.08/1.00	Adolescent development	Adolescent girls	Health literacy/contact
52 UNICEF State of the World's Children, Statistical Table (2017)	Percentage of adolescents (10–19 years) that have comprehensive knowledge of HIV	Sex	Male 29% Female 22%	1.32/1.00	Sexual and reproductive health	Adolescent girls	Health literacy/contact

Data source	Indicators	Stratifiers	Measure(s) of inequality		General or priority health services	Findings	
			Poles	Ratio		Under-served adolescent subpopulation	Main health service barrier(s)
53 MICS (2016–2017), Table RH1	Fertility rate (15–19 years)	Place of residence	Rural 154 Urban 59	2.61/1.00	Sexual and reproductive health	Rural adolescents	Geographic access
54 MICS (2016–2017), Table RH3	Percentage of women (20–24 years) that had a live birth before age 18	Age (below 18)	30.80%	NA	NA	NA	NA
55 MICS (2016–2017), Table RH3	Percentage of women (20–24 years) that had a live birth before age 18	Place of residence	Rural 38.2 Urban 17.3	2.21/1.00	NA	NA	NA
56 MICS (2016–2017), Table RH3	Percentage of women (20–24 years) that had a live birth before age 18	Place of residence	North West 45.7% South West 8.0%	571/1.00	Maternal health	Northern adolescent girls	Social access (culture)/contact
57 MICS (2016–2017), Table RH3	Percentage of women (20–24 years) that had a live birth before age 18	Place of residence	Rural 38.2% Urban 17.3%	2.21/1.00	Maternal health	Rural adolescent girls	Geographic access
58 MICS (2016–2017), Table RH3	Percentage of women (20–24 years) that had a live birth before age 18	Education	None 52.5% More than secondary level 3.0%	17.5/1.00	Maternal health	Uneducated adolescent girls	Health literacy/contact
59 MICS (2016–2017), Table RH3	Percentage of women (20–24 years) that had a live birth before age 18	Socioeconomic status	Lowest wealth quintile 54.7% Highest wealth quintile 7.6%	7.19/1.00	Maternal health	Poor adolescent girls	Social access (culture)/contact, financial
60 MICS (2016–2017), Table RH3	Percentage of women (20–24 years) that had a live birth before age 18	Household-head ethnicity	Hausa 47% Igbo 6.1%	7.71/1.00	Maternal health	Adolescent girls of Hausa ethnicity	Social access (culture)/contact
61 MICS (2016–2017), Table RH3	Percentage of women (20–24 years) that had a live birth before age 18	Place of residence	Zamfara 55.1% Anambra 1.1%	5.00/1.00	Maternal health	Adolescent girls from Zamfara State	Social access (culture)/contact, geographic

## Annex 4.

### Dataset indicators showing under-served adolescent population by type of barrier experienced: disaggregated by health service availability, accessibility, acceptability, contact/use and effectiveness/quality

Health service coverage dimension	Under-served adolescent population	Type of barrier	Type of health service (check if applicable)			
			General health service	Health service example A – sexual and reproductive health	Health service example B – substance abuse and mental health	Health service example C – nutrition
Availability	1. Adolescents in North West	Poor availability of nurses and doctors	✓			
	2. Adolescents in North East	Poor availability of pharmacists and doctors	✓			
	3. Adolescents in the Federal Capital Territory	Poor availability of community health officers	✓			
	4. Adolescents in Katsina	Poor availability of male condoms, implants/intrauterine contraceptive devices		✓		
	5. Adolescent girls in Kwara	Poor availability of implants/intrauterine contraceptive devices		✓		
	6. Adolescents in Kogi	Poor availability of oral contraceptives		✓		
	7. Adolescent girls in Taraba	Poor availability of injectables		✓		
	8. Adolescents in North Central	Poor availability of vaccines	✓			
	9. Adolescents in Nigeria	Few mental health workers			✓	
	10. Adolescents in Nigeria	Very low mental health expenditure			✓	
	11. Rural and poor adolescents in Nigeria	Very low mental health expenditure at primary health care level			✓	
Accessibility	1. Poor adolescent girls (aged under 18 years)	Financial (cost)		✓		
	2. Rural adolescent girls (aged under 18 years)	Geographic (distance)		✓		
	3. Rural adolescents girls (15–19 years)	Geographic (distance)		✓		
	4. Pregnant adolescent girls (aged under 20 years)	Age (need for agents)		✓		✓
	5. Pregnant girls/women in the lowest wealth quintile	Financial (cost)		✓		
	6. Rural, pregnant girls/women	Geographic (distance)		✓		
	7. Pregnant girls (15–19 years) in the lowest wealth quintile	Financial (cost)	✓			
	8. Rural adolescents girls (15–19 years)	Geographic (distance)		✓		
	9. Rural adolescent girls (aged under 18 years)	Geographic (distance)		✓		



Health service coverage dimension	Under-served adolescent population	Type of barrier	Type of health service (check if applicable)			
			General health service	Health service example A – sexual and reproductive health	Health service example B – substance abuse and mental health	Health service example C – nutrition
Acceptability	1. Married adolescent girls (10–19 years)	Sociocultural (gender norms)		✓		
	1. Adolescent girls (aged under 18 years) from Zamfara State	Sociocultural (place of residence)		✓		
Contact/use	2. Adolescent girls (aged under 18 years) of Hausa ethnicity	Sociocultural (ethnicity)		✓		
	3. Uneducated adolescent girls (aged under 18 years)	Poor health literacy		✓		
	4. Northern adolescent girls (aged under 18 years)	Sociocultural (place of residence)		✓		
	5. Adolescent girls (10–19 years)	Poor health literacy		✓		
	6. Pregnant adolescent girls (15–19 years)	Sociocultural (age)		✓		
	7. Pregnant, uneducated adolescent girls (aged under 20 years)	Poor health literacy		✓		
	8. Pregnant girls/women in the North West, especially Sokoto	Sociocultural (place of residence – zone/state)		✓		
	9. Northern adolescent girls (15–19 years)	Sociocultural (place of residence – zone/state)		✓		
	10. Uneducated adolescent girls (aged under 18 years)	Poor health literacy		✓		
	11. Northern adolescent girls (15–19 years)	Sociocultural (place of residence – zone/state)		✓		
	Effectiveness/quality	1. Adolescents with mental health illness	Inadequate training of health workers			✓
2. Adolescents with mental health illness		Underqualified mental health workers			✓	
3. Adolescents in rural areas of Nigeria		Poor availability of health workers	✓			
4. Adolescents in Nigeria		Negative attitude of health workers	✓			
5. Adolescents in Nigeria		Limited diagnostic services	✓			
6. Adolescents in urban areas of Nigeria		Overcrowded health facilities			✓	
7. Rural out-of-school adolescents in Nigeria		Little or no accurate sexual and reproductive health information		✓		
8. Adolescents in Nigeria		Health service provider incompetence	✓			
9. Adolescents in North East		Underqualified health workers	✓			
10. Adolescents in North East		Inadequate health care delivery training	✓			

## Annex 5.

### Key informant interview guide: national level

#### Introduction

My name is \_\_\_\_\_ and my colleague's name is \_\_\_\_\_. On behalf of the Federal Ministry of Health, we are currently doing some research into the barriers faced by adolescents in accessing health services in Nigeria, and would like to focus on those adolescents that are most at risk of being under-served. We think that you may have some unique insights into their experiences, and would like to interview you for this purpose.

Before you decide whether or not to participate, I will explain why the research is being conducted and what it will involve. Please feel free to ask if anything is unclear, or if you would like more information. If you are satisfied, you will be asked whether you wish to participate in the study. If the answer is Yes, you will be asked to sign an informed consent form. You will be given a signed copy of the consent form to keep.

Your participation in this study is completely voluntary. If you decide not to participate, you will not lose any benefits to which you are entitled. If you agree to participate in the study, you are free to skip any questions or to end your participation at any time without penalty. You will not lose any benefits to which you are entitled, and this will not affect your relationship with the facilitators.

Your responses will be kept confidential and will not be linked to your name.

Name of participant: \_\_\_\_\_

Participant type: \_\_\_\_\_

Date: \_\_\_\_\_

Signature of participant \_\_\_\_\_

Interviewer's statement:

I, the undersigned, confirm that I have personally defined and explained to the participant, in a language that she/he understands, the nature and extent of the research.

Interviewer's name: \_\_\_\_\_

Date and signature of interviewer: \_\_\_\_\_

Comments:

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## Key informant interview questions

1. How would you rate adolescents' overall access to quality health services in Nigeria? Would you say it is excellent, good or poor? Why?
2. Is this access different for adolescent boys and girls? For younger or older adolescents?
3. What do you believe are the main barriers for adolescents in accessing health services in Nigeria? In other words, what are the main reasons why adolescents may not get the health services they need?
4. In Nigeria, which group(s) of adolescents have the greatest difficulty accessing general (primary) health services? You can consider groups that might be easy to measure (such as poor, rural or ethnic minorities), but also groups which are not as obvious or easy to measure (such as migrant labourers, married girls, street children or sexually-active school pupils).
5. What are the main barriers that block these groups of adolescents from accessing health services? (Discuss each group mentioned previously).

Several steps need to be achieved for an adolescent to obtain effective health services, including those related to:

- a) Availability (do the services exist)?
  - b) Accessibility (can the adolescents reach the services)?
  - c) Acceptability (are the services acceptable to the adolescents)?
  - d) Contact/use (has the adolescent contacted and/or used the services)?
  - e) Effectiveness (are the services of good quality and are they effective)?
6. For the disadvantaged adolescents you have already described, do they mainly face barriers of availability, accessibility, acceptability, use or effectiveness? If you like, you can consider each of these issues one at a time.
  7. What changes to current services should be made to address barriers and improve access for the most disadvantaged adolescents?

(Repeat questions to fully cover adolescent health service examples A, B and C, if applicable).

*After completing these questions, explain the plan to conduct focus group discussions with under-served adolescents at the subnational level. Ask where the respondent thinks it would be best to conduct this subnational research, and any recommendations he/she may have about possible key informants to interview or local professionals to collaborate with during the research.*

## Annex 6.

### Informed consent form for gatekeeper on behalf of adolescents aged 10–17 years

State \_\_\_\_\_

Local Government Area \_\_\_\_\_

Hello! I am \_\_\_\_\_ and my partner is \_\_\_\_\_.

We are here on behalf of the World Health Organization/Federal Ministry of Health.

We are currently doing research to assess health service barriers experienced by the most under-served adolescents in Nigeria. We would like to interview adolescents in your school/home.

**Purpose:** The aim is to understand if any groups of adolescents experience great barriers in obtaining health care, and if so, what barriers they face. We also want to learn how health service access can be improved for adolescents who experience great barriers.

We would like to request your permission for the adolescent(s) in your charge to participate in the group discussions for the study. Their participation is completely voluntary. The results of the study will be presented in a report to be submitted to the World Health Organization/Federal Ministry of Health, the sponsors of this study.

Kindly contact **Dr Nkem Ene** ([prestonhc.ene@gmail.com](mailto:prestonhc.ene@gmail.com)) if you have further questions regarding this discussion after now. Thank you for allowing me to explain this to you.

Do you give permission for us to ask your wards/students questions under the study?

Yes  No

Name of parent, guardian/teacher: \_\_\_\_\_

Designation: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

#### Interviewer's statement

I, the undersigned, confirm that I have personally defined and explained to the participant, in a language that she/he understands, the nature and extent of the research.

Interviewer's name: \_\_\_\_\_

Date and signature of interviewer: \_\_\_\_\_

## Annex 7.

### Qualitative research summary table: adolescent subpopulation and barrier findings, by type of health service

General or priority health services	Findings	
	Under-served adolescent subpopulation	Main health service barrier(s)
General	Rural adolescents	<ul style="list-style-type: none"> <li>• Lack of adequate facilities</li> <li>• Lack of personnel</li> <li>• Lack of service</li> <li>• Low level of education</li> <li>• Lack of awareness/information</li> <li>• Far distance to facility</li> <li>• Stigma associated with certain diseases</li> <li>• Fears and misconceptions that hospital treatment is harmful</li> <li>• Belief that traditional treatment is superior</li> </ul>
General	Migrant adolescents	<ul style="list-style-type: none"> <li>• Migration</li> </ul>
General	Younger adolescents	<ul style="list-style-type: none"> <li>• Parental consent</li> <li>• Cultural norms</li> <li>• Lack of information</li> <li>• Lack of finances</li> </ul>
General	Older adolescents	<ul style="list-style-type: none"> <li>• Substance abuse</li> </ul>
Priority-Mental Health	Drug-using adolescents	<ul style="list-style-type: none"> <li>• Lack of information</li> </ul>
General	Male adolescents	<ul style="list-style-type: none"> <li>• Limited attention/programmes</li> <li>• Kidnapping as child soldiers</li> <li>• Geographic location (South)</li> </ul>
General	Female adolescents	<ul style="list-style-type: none"> <li>• Geographic location (North)</li> <li>• Negative attitude of health workers</li> </ul>
General	Out-of-school adolescents	<ul style="list-style-type: none"> <li>• Difficulty benefitting from programmes</li> <li>• Lack of information</li> </ul>
General	Socially/culturally excluded or marginalized adolescents	<ul style="list-style-type: none"> <li>• No contact with public</li> </ul>
General	Unmarried adolescent girls	<ul style="list-style-type: none"> <li>• Discrimination by health workers</li> <li>• Little or no family support</li> <li>• Little or no finance</li> </ul>
General	Married adolescent girls	<ul style="list-style-type: none"> <li>• Need for spousal consent</li> </ul>
General	Poor adolescents	<ul style="list-style-type: none"> <li>• Extreme poverty causing lack of finance</li> </ul>
General	Street adolescents	<ul style="list-style-type: none"> <li>• Unstable living environment</li> <li>• Lack of time</li> <li>• Lack of finances</li> <li>• Lack of awareness/information on existing services</li> </ul>
General	Vulnerable orphans	<ul style="list-style-type: none"> <li>• Extreme poverty causing lack of finance</li> <li>• Lack of awareness/information on existing services</li> </ul>
General	Single parent adolescents	<ul style="list-style-type: none"> <li>• Stigmatization</li> <li>• Lack of finances</li> </ul>
General	Adolescents separated by humanitarian crises	<ul style="list-style-type: none"> <li>• Lack of finances</li> </ul>
General	Physically challenged adolescents	<ul style="list-style-type: none"> <li>• Accessibility</li> </ul>
General	adolescents	<ul style="list-style-type: none"> <li>• Lack of parental care</li> <li>• Extreme poverty causing lack of finance</li> </ul>
General	Adolescents in conflict zones	<ul style="list-style-type: none"> <li>• Non-availability of functional health facilities</li> <li>• Limited supply of health workers</li> <li>• Lack of drugs, commodities, supplies and other equipment</li> </ul>
General	Adolescent girls in rural areas	<ul style="list-style-type: none"> <li>• Low levels of education</li> <li>• Limited access to information on services</li> <li>• Emotional state of girls and shyness</li> </ul>
General	Ethnic minorities or internally displaced persons	<ul style="list-style-type: none"> <li>• Lack of awareness/information on existing services</li> <li>• Extreme poverty</li> <li>• Social isolation</li> </ul>

## Annex 8.

### Qualitative research summary table: supply- and demand-side barriers to health services experienced by under-served adolescent populations, by coverage dimension

Coverage dimension	Main health service barriers	
	Supply-side	Demand-side
Availability	<b>Key informant interviews</b> <ul style="list-style-type: none"> <li>Lack of facilities</li> <li>Lack of qualified health workers</li> <li>Lack of information/awareness</li> <li>Lack of drugs, commodities and other essential supplies</li> <li>Lack of services</li> <li>Lack of adolescent-focused health care/centres</li> </ul>	Not applicable
Accessibility	<b>In-depth interviews</b> <ul style="list-style-type: none"> <li>Expensive services and drugs</li> <li>Long distance to hospitals</li> <li>Excessive questioning</li> </ul>	<b>Key informant interviews</b> <ul style="list-style-type: none"> <li>Disability</li> <li>High levels of poverty</li> </ul> <b>Focus group discussion, key informant interviews and in-depth interviews</b> <ul style="list-style-type: none"> <li>Inability to afford the cost of health care services e.g user fees</li> </ul>
Acceptability	<b>Key informant interviews</b> <ul style="list-style-type: none"> <li>Unattractive and unfriendly services to adolescents</li> <li>Focus group discussion</li> <li>Negative attitude of health workers</li> </ul>	<b>Key informant interviews</b> <ul style="list-style-type: none"> <li>Norms</li> <li>Lack of privacy</li> <li>Negative attitude of health workers</li> <li>Religion</li> <li>Stigma associated with certain diseases</li> <li>Preference for traditional methods</li> </ul> <b>Focus group discussion and in-depth interviews</b> <ul style="list-style-type: none"> <li>Cultural beliefs against education of adolescents on sexual and reproductive health</li> <li>Sociocultural environment makes adolescents prefer traditional systems</li> <li>Fears and misconceptions that services are harmful</li> </ul>
Contact/use	<b>Key informant interviews</b> <ul style="list-style-type: none"> <li>Adverse attitude of health care workers</li> </ul> <b>In-depth interviews</b> <ul style="list-style-type: none"> <li>Lack of proper awareness and information provided</li> </ul>	<b>Key informant interviews</b> <ul style="list-style-type: none"> <li>Self-determination</li> <li>Parents/guardian determination</li> <li>Competing traditional and spiritual alternatives</li> <li>Belief that illnesses are spiritual</li> </ul> <b>Focus group discussion and in-depth interviews</b> <ul style="list-style-type: none"> <li>Personal feelings of shyness or embarrassment</li> <li>High levels of illiteracy</li> <li>Low levels of awareness</li> </ul>
Effectiveness/ quality	<b>Key informant interviews</b> <ul style="list-style-type: none"> <li>Insufficient funds</li> <li>Policy-makers' nonchalance towards adolescent health</li> <li>Unqualified health workers</li> <li>Poor diagnosis of diseases</li> <li>Difficulties monitoring drug adherence</li> </ul>	



