HCD EXCHANGE

Adolescent Needs and Mindsets, Desires and Preferences: Insights from HCD+ASRH Programs

A Landscape Analysis: Publication 2

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Since 2020, the HCDExchange has worked to advance learning and practice related to the integration of human-centered design and adolescent sexual and reproductive health (HCD+ASRH). We are a Community of Practice that brings together young people, program implementers, designers, evaluators and funders. It is our collective mission to uncover, drive and share learning in this emergent area of global health programming and address sexual and reproductive health (SRH) needs and rights in low-resource settings.

JSI Research & Training Institute, Inc. (JSI) and inSupply Health are the grantholders. JSI is a global health technical assistance and research organization dedicated to advancing health equity and improving the health of individuals and communities. inSupply Health is a JSI affiliate based in East Africa. inSupply designs people-centered, scalable, sustainable health solutions.

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Contents

Foreword

This landscape analysis report is part of a series of learning products completed during the first phase of HCDExchange (2020—2022). It focuses on the experience of generating adolescent insights in HCD+ASRH programming and applying them in developing SRH solutions and improving SRH outcomes. Findings are based on a selection of projects implemented in sub-Saharan Africa and South Asia from 2015 to 2022. The landscape analysis is intended to fill a gap in documentation and curated learning on the application of HCD to ASRH to guide practice and future investment.

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Acronyms

ASRH	Adolescent Sexual and Reproductive Health
AYSRH	Adolescent and Youth Sexual and Reproductive Health
A360	Adolescents 360
HCD	Human-Centered Design
HCD+ASRH	Human-Centered Design in Adolescent Sexual and Reproductive Health
IPPF	International Planned Parenthood Federation
LMIC	Low and Middle Income Countries
MIC	Middle Income Countries
MSI	Marie Stopes International
SSA	sub-Saharan Africa
SA	South Asia
SRH	Sexual and Reproductive Health
UNICEF	United Nations Children's Fund
WHO	World Health Organization
NGO	Non-Governmental Organization

A Glossary of Terms can be found in Annex 1.

Executive Summary

Introduction

The integration of human-centered design (HCD) in global health practice is an emerging area of exploration and learning. To advance learning on the application of HCD in adolescent sexual reproductive health (HCD+ASRH), the HCDExchange conducted a landscape analysis examining the generation and use of adolescent insights through HCD. The landscape analysis focuses on HCD+ASRH programs and experiences in sub-Saharan Africa and South Asia. The results of this analysis are presented in two complementary reports. This report, Report 2, illustrates and discusses the types of insights generated in HCD+ASRH programs reviewed in this landscape analysis, categorizing them as insights related to adolescent needs and mindsets, desires and preferences. Report 1 addresses the purpose and process of generating and applying adolescent insights through HCD in the context of ASRH programming. It also discusses the value of using an HCD approach, and briefly illustrates solutions that have emerged from HCD+ASRH programs in the last ten years.

For the purposes of this report, **an adolescent** is defined as any person between ages, 10 to 19 years. Documents also refer to youth, or persons aged 15 to 24 years and the term 'young people' combines the adolescent and youth age groups to include persons aged 10 to 24 years (World Health Organization, 2006). **Insights** refer to information that helps ASRH practitioners and designers gain a detailed and personal understanding of the target population.

Process and Methodology

Four learning questions were used to guide data collection and analysis:

1. How does the generation and use of adolescent insights take place in the HCD process and what kinds of insights emerge at each stage of the process?
2. What ASRH design solutions worked and in which context? How have adolescent insights been used to improve ASRH design solutions?
3. What kinds of adolescent insights have been gleaned over the last ten years and how have they been used to guide HCD+ASRH programming?
4. How do adolescent insights compare across settings (region/country), gender, age and marital status?

Researchers conducted a rapid review of published and gray literature including 28 documents that met the review criteria. They drew mainly on the experience of 11 interventions and experiences in 11 countries in sub-Saharan Africa and South Asia. Limitations included the lack of available written material that we attribute to the nascent stage of HCD+ASRH programming, as well as the lack of consistent and agreed terminology to describe and study the practice of insights generation in HCD+ASRH. We also observed some institutional hesitancy to share details around the methods and results of design research and adolescent insights generation, and the contribution of insights generation to ASRH interventions and outcomes.

Findings

The report highlights common themes gathered from the HCD+ASRH programs reviewed and provides examples of insights generated through HCD. These programs span nine countries including: Kenya, Nigeria, Ethiopia, Tanzania, Uganda, South Africa, India, Pakistan, and Burkina Faso.[1] Common themes have been categorized into adolescent needs and mindsets, desires, and preferences in this report. It is important to note that these insights have been curated from a selection of HCD+ASRH programs in specific countries and communities. They are not intended for generalization to other settings.

Adolescent needs and mindsets are insights that provide a deeper understanding of an adolescents' life and context, and are often generated at the inspiration phase of the HCD process. Adolescent desires are insights that are at the center of HCD research and

1 For the landscape analysis, we drew on experiences from 11 countries. However, for the purposes of this report we have used evidence from programs and experience in only nine of those countries.

engagement with end users. Understanding these enables practitioners to view adolescent SRH decisions and considerations in the context of their vision for their future. Adolescent preferences are insights that are solution-specific, often generated when practitioners wish to test concepts and actual solutions or interventions.

This report also discusses ways in which the HCD process compares insights across different user groups. For example, the HCD process does not approach user group segmentation in the same way as ASRH programs, through large-scale surveys. HCD-generated insights approach segmentation through research and engagement with small subsets of users grouped by characteristics that might influence user needs, desires and experience. To support comparison of different user groups, designers often construct personas (semi-fictional characters) to represent different end users. These personas are used to test specific solutions for and with particular subgroups depending on program objectives.

Conclusions

Many of the insights identified through the landscape analysis did not contribute remarkably to a new understanding of adolescent needs and desires, compared to adolescent insights that have been gleaned through more traditional forms of research. In addition, most of the insights that were documented emerged at the inspiration phase of the HCD process. It was difficult to identify and synthesize insights generated at the ideation, prototyping and implementation phases because of limited documentation in reports and literature. Yet, as noted in Report 1, the insights that are generated at the early phases of the HCD process evolve and transform as the solution takes shape and are adapted to the context of the adolescent. Using HCD methods to increase understanding of adolescents is highly effective for shaping and refining solutions with adolescents based on the detailed and valuable contextual and experiential information that HCD produces. Better documentation of insights generated at the ideation, prototyping and implementation phases is required to highlight the unique contribution of an HCD approach and its role in developing desirable, feasible and viable ASRH solutions. Aligning documented insights with the prototypes and solutions that they inform, increases understanding of the role of insights in advancing ASRH.

Introduction

The integration of human-centered design (HCD) into global health practice is an emerging area of exploration and learning. To advance learning related to the application of HCD in adolescent sexual reproductive health (HCD+ASRH), the HCDExchange conducted a landscape analysis examining **the generation and use of adolescent insights through HCD**. Members of the HCDExchange Community of Practice identified this topic as a key learning domain for the community, where curation of experience and evidence would improve understanding of the use of HCD in ASRH programming and contribute to the evidence base.

The aim of the landscape analysis is to review, curate and share lessons from recent HCD+ASRH programming experience to better understand how HCD is used to generate and apply adolescent insights in the context of ASRH programming. It focuses on experiences in sub-Saharan Africa and South Asia, capturing, where feasible, early-stage investment in this approach to ASRH programming. The introduction of HCD into ASRH programming reflects program managers' and funders' assumptions of the value of taking a holistic, people-centric approach to ASRH. Through the application of HCD approaches, managers and funders aim to integrate the lived and shared experience of youth into program design and develop a comprehensive understanding and appreciation of young people's needs and desires related to health services and products (LaFond and Cherney, 2021). HCD-generated insights from youth and their communities are intended to help drive improvement in service uptake and behaviors that promote SRH and wellbeing. Significant investments in HCD+ASRH programs in the past eight years have generated a large body of "insights" evidence on youth attitudes, motivations and behaviors related to SRH (Johnson, Sandhu and Tyler, 2019).

This landscape analysis is presented in two complementary reports which frame and illustrate the topic. This report, **Report 2**, focuses on the types of insights generated in HCD+ASRH programs reviewed in this landscape analysis. It categorizes them as insights related to adolescent needs and mindsets, desires and preferences. It provides the reader with examples of the kinds of insights that emerged from HCD+ASRH programming and discusses common themes and relevance to practitioners and funders.

Report 1 addresses the purpose and process of generating and applying adolescent insights through HCD in the context of ASRH programming. It discusses the journey of insights generation and use, the value of using an HCD approach from the perspective of practitioners and funders and briefly illustrates solutions that have emerged from HCD+ASRH programs.

This report begins with definitions of adolescents and HCD-generated insights to frame the discussion. It then presents the objectives of the landscape analysis as well as methods and limitations. Findings present a curated analysis of a range of HCD-generated adolescent insights that emerged from 10 ASRH programs and experiences in sub-Saharan Africa and South Asia. These programs span 9 countries including Kenya, Nigeria, Ethiopia, Tanzania, Uganda, South Africa, India, Pakistan and Burkina Faso. We highlight common themes as well as important distinctions among insights gathered from these programs. Common themes have been categorized into adolescent needs, desires and preferences. The report concludes with a summary of learning related to the generation and use of adolescent insights with HCD, and a short discussion of implications for future programming, investment and research related to HCD+ASRH.

How are **'adolescents'** and **'insights'** defined in HCD+ASRH?

AN ADOLESCENT is defined as any person between ages 10 to 19 years. Written documents also refer to youth, or persons aged 15 to 24 years and the term 'young people' combines the adolescent and youth age groups to include persons aged 10 to 24 years (World Health Organization, 2006). For the purpose of this document, we focus on adolescents as defined above unless we specify different age groups in the discussion.

INSIGHTS, as defined in documents and by interview respondents, refer to information that helps ASRH practitioners and designers gain a detailed and personal understanding of the target population. These are often categorized as adolescent needs, aspirations, desires and preferences. Practitioners highlighted that insights generated through HCD are often expected to introduce new, user-centered framing of a problem or an experience that will add value to the program.

Perceptions and definitions of insights

"Insights are pieces of information that allow for new ways of looking at a problem and new understandings about the population we're trying to reach. It is information that is gathered through talking with that population, and then really listening to them, and trying to get beneath the surface sometimes of what is actually being said to what's driving behavior and action."

- Technical Advisor, Ethiopia

"Learnings that capture adolescent needs, experiences, attitudes around SRH and ASRH programs."

- Research and Evaluation Lead, South Africa

"An insight in HCD needs to be rooted in people's lives and lived experiences. It is something that brings the user voice to the forefront, and is actionable... I think in the HCD context an insight should seek to inspire action."

- Designer, India

Learning objectives for the landscape analysis

- → Document adolescent insights from HCD+ASRH projects in sub-Saharan Africa and South Asia and the processes and approaches used to generate and apply insights.
- → Identify common themes and learnings, and compare learning across different stakeholders and geographies.

Learning Questions

1. How does the generation and use of adolescent insights take place in the HCD process and what kinds of insights emerge at each stage of the process?
2. What ASRH design solutions worked and in which context? How have adolescent insights been used to improve ASRH design solutions?
3. What kinds of adolescent insights have been gleaned over the last 10 years and how have they been used to guide HCD+ASRH programming?
4. How do adolescent insights compare across settings (region/country), gender, age and marital status?

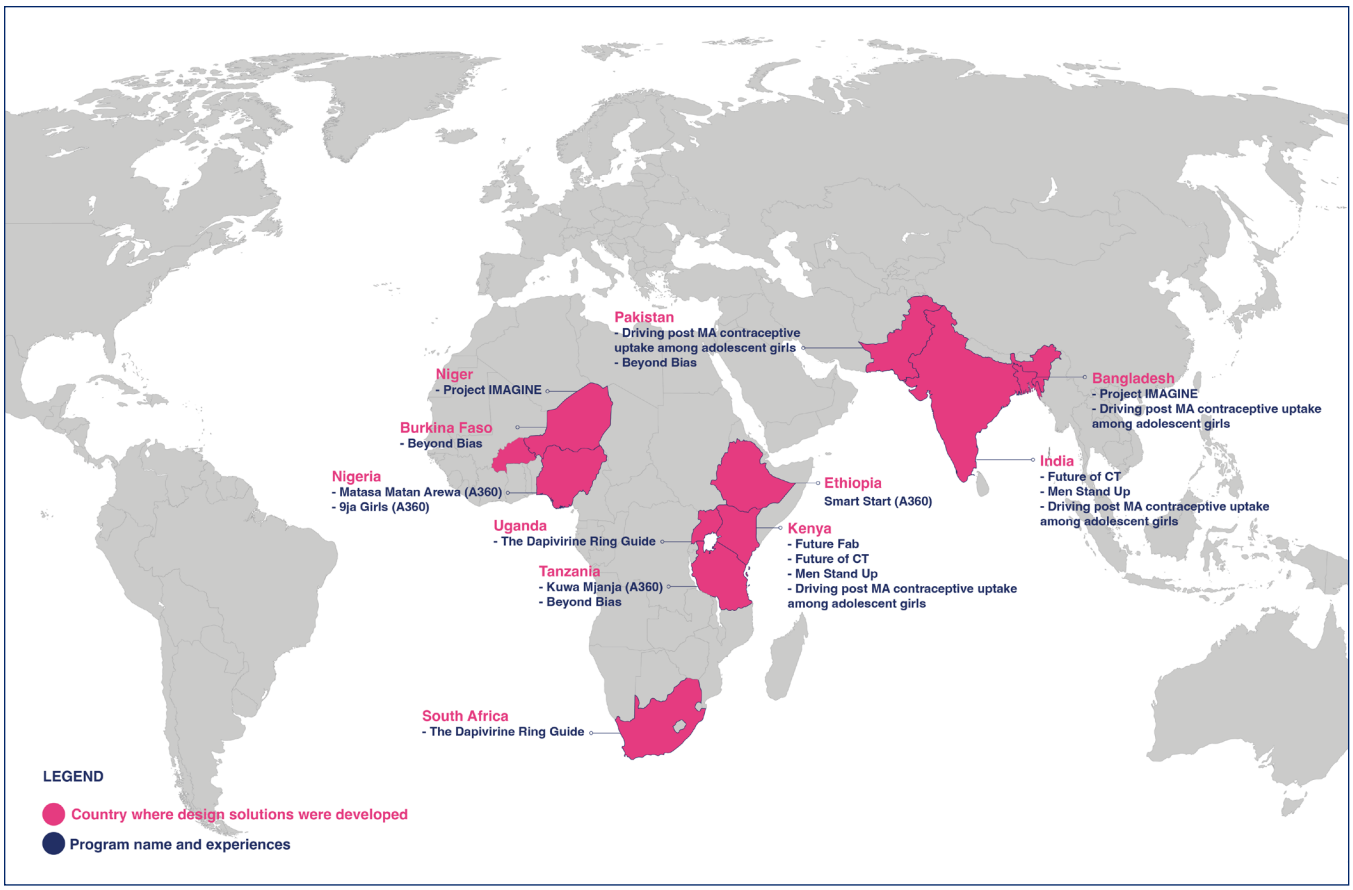
Methods

This landscape analysis took place over a period of four months and applied qualitative research methods to gather evidence from primary and secondary data sources. We conducted a rapid review of 28 documents available in the public domain and curated them to inform the analysis. We conducted 11 interviews with health and design practitioners and program managers currently working in HCD+ASRH programs, focusing on key programs and insights generation experience to supplement information provided from secondary data.

The majority of written evidence in this review was sourced from publicly available program documents emanating from large multi-country programs, and primarily from anglophone countries in sub-Saharan Africa. Recognizing the geographic and linguistic limitations of the sources, we conducted a focused search for written material specific to HCD+ASRH in francophone Africa. We incorporated the few available materials identified into our review.

Thematic content analysis was carried out to synthesize and distill information presented in this report. Across the documents and experts consulted, we drew on 11 interventions and experiences in the following countries: Kenya, Nigeria, Ethiopia, Tanzania, Uganda, South Africa, Niger, India, Pakistan, Bangladesh and Burkina Faso (Figure 1).

Figure 1: HCD+ASRH interventions and experiences reviewed by country



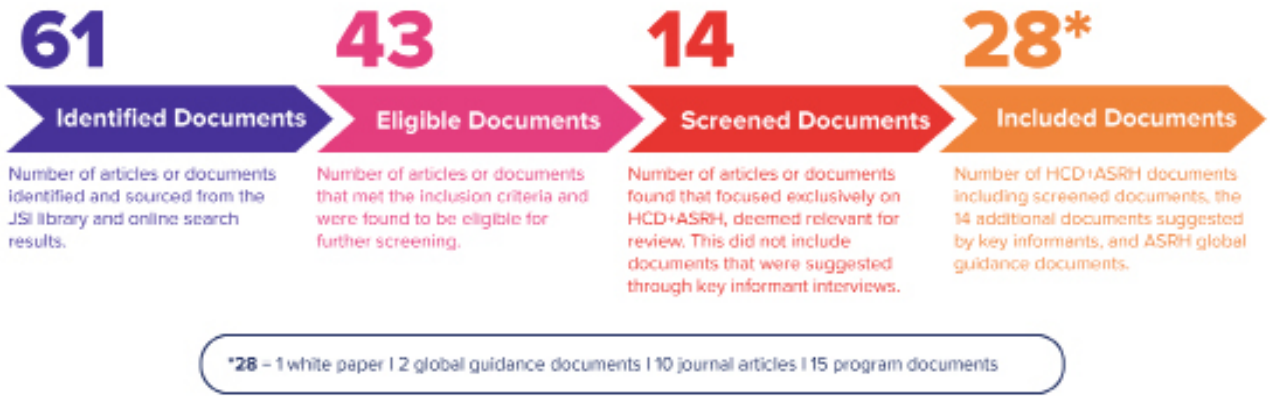
Rapid review process

The rapid review (Figure 2) was carried out over a period of five weeks, beginning in February 2021 and ending in March 2021. Using WHO guidance[2] on Rapid Reviews, the team refined learning questions to narrow the scope of the literature search, applying FINER criteria.[3] Next, the research team used search terms[4] to identify a broad scope of existing evidence using online search engines (including PubMed, EMBASE and Google Scholar). HCD+ASRH program websites and a research advisory service at JSI were also accessed to identify additional publications and documents on HCD+ASRH programming.

Figure 2: Rapid review process

The initial search produced 61 documents and the research team collated them to facilitate selection and review (Figure 3). The team applied pre-defined inclusion criteria to select the documents for review. Criteria included the population of interest, interventions developed, geographical setting and outcomes of interest (Annex 2), resulting in 43 eligible documents. We then applied a rigorous critical appraisal process to ensure relevance to the topic area (intersection of HCD+ASRH) and the learning questions resulting in 14 documents. Two team members appraised each document to ensure alignment with the inclusion criteria and learning questions. The research team added 14 additional documents to the literature review based on recommendations from key informants. A total of 28 documents were reviewed for the landscape analysis.

Figure 3: Rapid review document screening and selection



2 Tricco, A. C., Langlois, E. V, & Straus, S. E. (2017). Rapid Reviews to Strengthen Health Policy and Systems: A Practical Guide. https://apps.who.int/iris/bitstream/handle/10665/258698/9789241512763-eng.pdf;sequence=1

3 FINER criteria is used to refine broad research questions to make them focused and suitable for use in a simple, rapid review. FINER criteria for refinement check to see if the question is: Feasible, Interesting, Novel, Ethical and Relevant. For more on FINER criteria see: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6322175/#sec1-3title, Accessed in December, 2020.

4 A keyword search was done, applying a different combination of the following terms: "Human Centered Design" OR "Design" OR "HCD" AND "Adolescent Insights" AND "Adolescent Health" OR "Adolescent Sexual and Reproductive Health" OR "ASRH programs" OR "ASRH" OR "Adolescent rights" AND "youth program" OR "Youth engagement programs" OR "youth insights" AND "sub-Saharan Africa" OR "South Asia" OR "Global South."

From the final set of 14 documents, relevant textual and graphic information and excerpts were transferred and analyzed in Microsoft Excel. Information was then synthesized into brief summaries for each learning question. Finally, summaries from data extraction were used to refine the discussion questions used in interviews with practitioners and program managers.

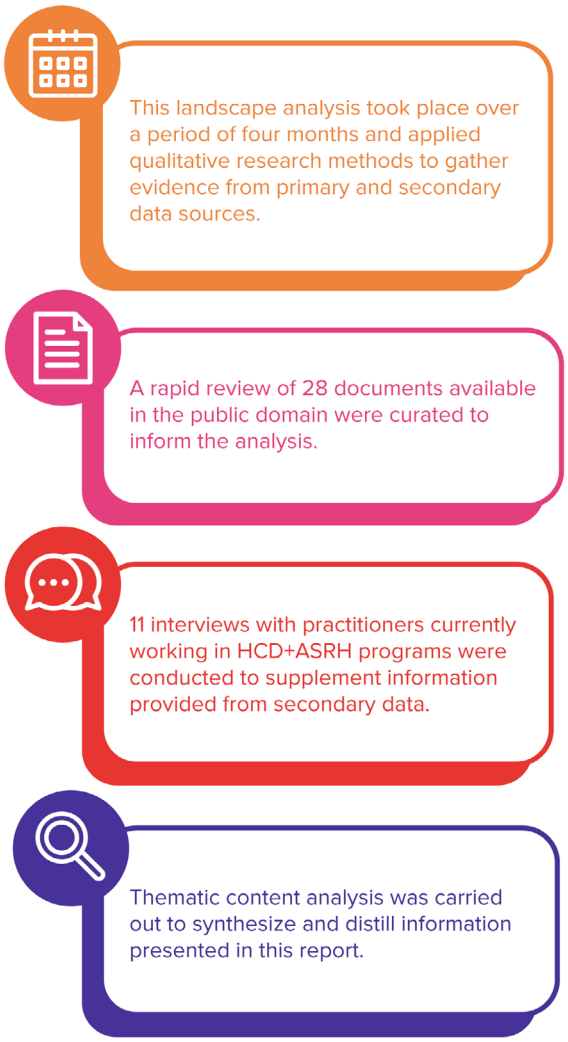
Expert key informant interviews

Interviews with HCD+ASRH practitioners and program managers took place over a six-week period from April to May 2021. A purposive sampling strategy was applied to identify experts with experience in designing and implementing HCD+ASRH programs, particularly those who were involved with the projects we reviewed.

The HCDExchange Partner Database[5] served as the initial sampling frame to identify and recruit respondents. The research team then used snowball sampling to identify additional respondents that were not within the partner database (Suri, 2011).

A total of 11 interviews were conducted. Interview data from expert consultations was digitally recorded and transcribed using Otter.ai. A set of *a priori* thematic codes were applied to interview data and refined to include emerging themes from interview transcripts to complete the thematic analysis.

Figure 4: Methodology at a glance



Data synthesis

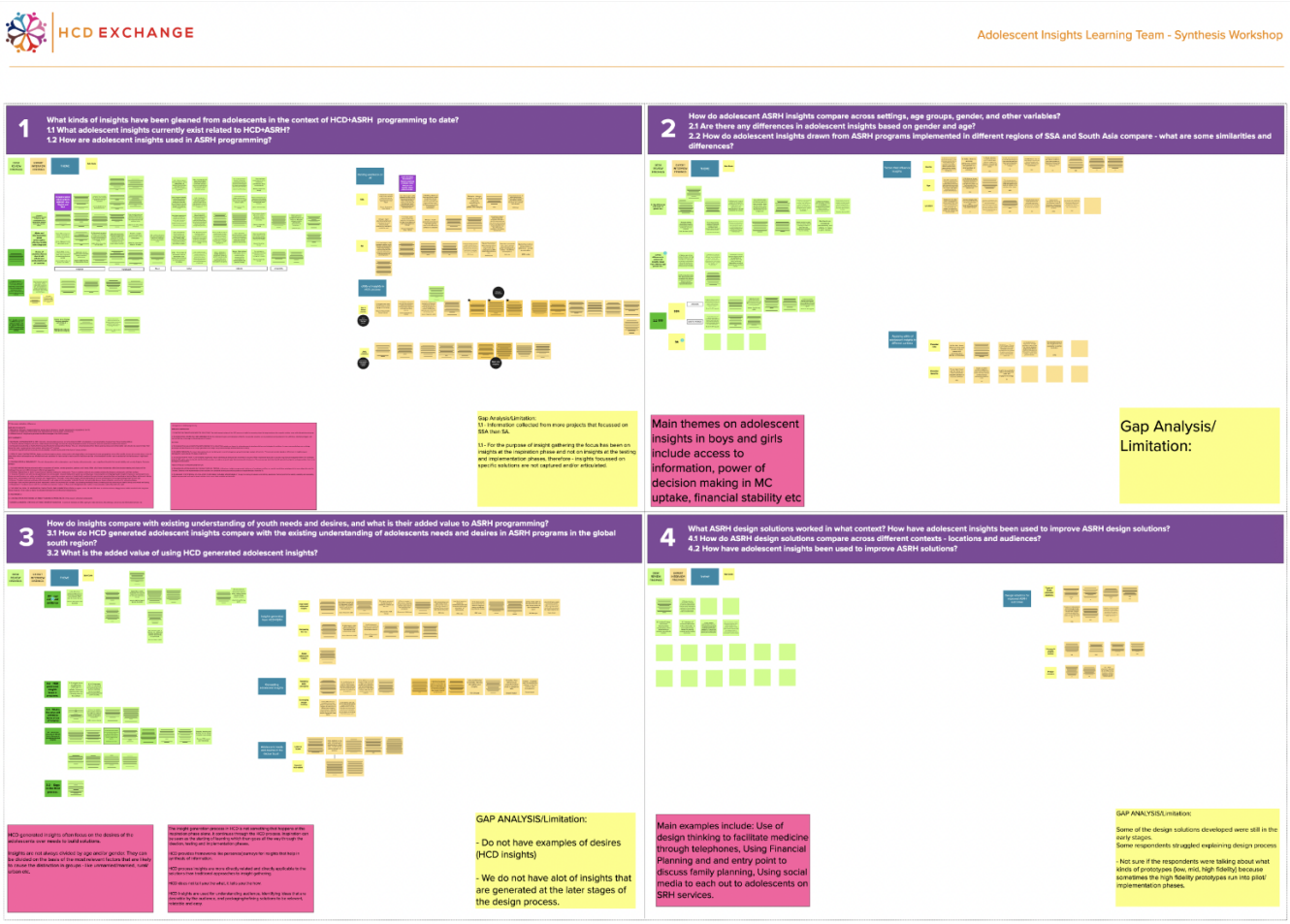
Data across the two sources (literature reviews and interviews) were triangulated noting frequencies of emerging themes, commonalities and differences in experience, as well as information gaps. Interviews helped augment reflections on learning and address information gaps identified during the literature review. The research team used the online Mural platform to synthesize the data across both sources (Figure 5).

Key learnings were extracted from the data that had been filtered by each learning question and placed onto the Mural board to allow the research team to gain a holistic view of the data.

Over the course of two synthesis workshops, the research team identified common themes, key takeaways and limitations related to each learning question.

5 The HCDExchange maintains a database of Community of Practice members and key stakeholders. To identify potential experts, we reviewed key pieces of information from members and stakeholders to better understand who can best contribute to and validate this report.

Figure 5: Data analysis frame



Limitations and mitigation

During the rapid review, we found there was limited and often incomplete documentation of HCD+ASRH programming. Written documentation on the learning related to the generation and use of adolescent insights in HCD+ASRH programming was also very limited. We attribute this limited availability of written documentation to the nascent stage of HCD+ASRH programming as well as the lack of consistent and agreed terminology to describe and study the practice of insights generation in HCD+ASRH.

We also observed some institutional hesitancy to share details around the methods and results of design research and adolescent insights generation, and the contribution of insight generation to ASRH interventions and outcomes. As noted previously, there were few written documents reflecting program experience in francophone Africa. In addition, the team could not fully address learning question four as written sources on insights did not consistently reflect variations with respect to geography, age, marital status and gender.

1. Common themes

This section presents a range of HCD-generated adolescent insights that emerged from 10 HCD+ASRH programs and experiences in sub-Saharan Africa and South Asia. These programs span nine countries including: Kenya, Nigeria, Ethiopia, Tanzania, Uganda, South Africa, India, Pakistan and Burkina Faso. It is important to note that these insights have been curated from a selection of HCD+ASRH programs in specific countries and communities and their experience is not necessarily representative of all HCD+ASRH programs.

In this section we highlight common themes together with important distinctions among insights gathered from these programs. Common themes have been categorized into adolescent needs and mindsets, desires and preferences.

Adolescent **needs and mindsets** are insights that provide a deeper understanding of the life and context of an adolescent, and are often generated at the inspiration phase of the HCD process.

Adolescent **desires** are insights that are at the center of HCD research and engagement with end users. Understanding adolescent aspirations and desires enable design and ASRH practitioners to view adolescent SRH decisions and considerations in context to reflect on their vision for their future.

Adolescent **preferences** are insights that are solution-specific, often generated when practitioners wish to test concepts and actual solutions or interventions (e.g., products and services). These insights are often generated at the prototyping and testing phases of the HCD process.

1.1 Needs and Mindsets

Programs that employed HCD gathered information on adolescent attitudes, needs and mindsets related to SRH, along with information that relates to other areas of adolescent life (e.g. ranging from the channels that they use to get information to understanding their future goals and aspirations). Several programs noted that HCD helped identify and frame both intrinsic and extrinsic motivation for seeking care as well as individual perceptions of self-efficacy that influence adolescent SRH choices (Karp et al., 2020). For instance, literature reviewed suggests that key drivers such as poor health, education levels and socio-economic status in low and middle incomes countries (LMIC) inform adolescent behaviors or define individual and collective needs (Denny et al., 2012). In addition, adolescent needs, desires and aspirations may profoundly influence outcomes related to SRH and general well-being (World Health Organization, 2010).

Financial security in relation to marriage, relationships and sex

A common theme that emerged from the curation of HCD+ASRH insights generation is the influence of economic pressures on an adolescent's decision to marry, have sex or enter into relationships (World Health Organization, 2010). In Nigeria and Ethiopia, adolescent girls viewed marriage as a means for gaining financial security due to the lack of other economic opportunities available to them. In Tanzania, young women living in poverty considered sex to be a way to make money. In this context, sex was a powerful and readily available asset for a woman to generate resources for "survival (food and shelter) or for satisfaction (clothes and technology), neither of which is considered as sex work" (PSI and IDEO.org, 2015, p. 15).

Sub-theme: The better pathway to financial stability - employment or marriage?

In Northern Nigeria, insights revealed that girls and their influencers shared a desire for girls to be educated. However opportunities for girls' education were limited because there are few avenues for girls to secure employment and gain financial security post-schooling. Therefore marriage was considered an appealing way to secure a girl's future (Malakoff, Cutherell and Coppola, 2021). Similarly, in Southern Nigeria and Ethiopia, girls felt uncertain about their future. In Southern Nigeria this uncertainty was compounded by external pressure for girls to be financially independent, despite

the lack of opportunity for higher education or employment. Economic pressure can influence girls to engage in transactional sex, or increase the risk of being subjected to coercive sex or rape (Cole, Cutherell and Phillips, 2020). In Ethiopia, marriage followed by early and frequent childbearing was no longer considered to be a reliable strategy for achieving financial security because of the worsening economic landscape. Yet, girls expressed limited confidence in identifying alternative pathways for securing income stability (Cutherell and Cole, 2019). Insights from adolescents in Ethiopia highlighted that marriage and being parents was still an aspiration. While it was percieved as something that brought them joy, it did not necessarily bring them economic prosperity. Insights also indicated an urgency among adolescents to learn how to generate and manage money independently, or to become small business owners (Cutherell and Cole, 2019).

Sub-theme: Relationships as a source of income

In India, Kenya and Tanzania, HCD-generated insights reflected perceptions among adolescents that marriage, relationships, and sex are viable sources of income (Choi, Pizatella-Haswell and Hope, 2017; Cole and Mehta, 2018). In India, women expected to receive financial support in their relationships, reflecting social norms that assume a man's offer of financial support implies devotion and financial stability in the short- and long-term (Choi, Pizatella-Haswell and Hope, 2017). A similar dynamic was identified among young men and older women, with some youth seeking financial support and upkeep in exchange for sexual favors. These relationships discouraged boys from seeking education and securing vocational work or professional careers (Choi, Pizatella-Haswell and Hope, 2017). In Tanzania, when a girl gets her first period, socio-cultural norms dictate that she has reached a stage where she can provide for herself. However, with limited earning experience and opportunities, girls viewed sex with men as a quick way to make money. In some cases, engaging in sex for survival (or material gain) was not viewed as commercial sex work (PSI and IDEO.org, 2015).

Respondents concurred with written reports about adolescent insights on needs, desires and mindsets. Respondents working on programs in Niger and Bangladesh observed that girls desired healthy and happy homes, and also wanted to be able to generate income. One respondent working in an HCD+ASRH program in Ethiopia affirmed that whilst girls desired education, it was not always seen as a secure pathway to financial stability. For many girls, motherhood often became their main strategy to ensure economic security. Respondents noted that adolescent needs and aspirations are connected to what they hope to achieve in the future, and that financial or economic security is a key consideration. However respondents offered two different perspectives: that economic security is an intrinsic motivator for adolescents and that the influence of socio-economic norms and other external pressures are key drivers of behavior.

Conflicting goals: Marriage and childbearing versus educational attainment and employment

Several programs reported that adolescent girls see marriage as an economic opportunity. However, the idea of marriage may sometimes conflict with their desire for education, employment and financial independence (Malakoff et al., 2021; Cole et al., 2020).

Sub-theme: Conflict between education and marriage

The juxtaposition of cultural norms and "modern visions" for adolescent girls influences decisions about whether they marry or pursue education (Choi, Pizatella-Haswell and Hope, 2017). In some contexts an educated girl may be perceived as too old, accomplished or progressive, which may reduce her suitability for marriage (Malakoff et al., 2021; Cutherell and Cole, 2019). In Ethiopia, influencers thought that it was pointless for adolescent girls to pursue higher education because there were no pathways to greater opportunity available (Cutherell and Cole, 2019). Other deterrents to pursuing education included the cost and time commitment. In Northern Nigeria, insights from parents revealed that they often shared their daughters' educational aspirations. However, a lack of work opportunities post-education, together with perceptions that marriage preserves morality (i.e. reduces the risk of social stigma associated with premarital sex or pregnancy outside of wedlock), encouraged girls to marry early rather than seek education (Malakoff et al., 2021).

Sub-theme: Conflict between employment and marriage

An HCD+ASRH study in India found a range of insights related to men's perceptions of women's employment. Some young men reported that even though they wanted wives who were educated and career-oriented, they also wanted their wives to possess domestic skills. The same report stated that young men also associated working outside the home with promiscuity and unfaithfulness (Choi, Pizatella-Haswell and Hope, 2017). In several countries, norms around women's employment and marriage as well as opportunities to secure employment that can be undertaken alongside familial responsibility both influenced decision-making related to women's employment.

Ecosystems and decision-making

Several HCD+ASRH projects learned how an adolescent's social context influences SRH perceptions and choices (Cole et al., 2020; Malakoff et al., 2021). Family members, partners, members of the community and service providers directly influence adolescents alongside people within the service-delivery systems managed by government and non-governmental entities. For example, programs revealed the critical role of spousal support for decisions related to family planning and childbearing (Malakoff et al., 2021). Adolescent relationships influenced perceptions of individual autonomy and self-efficacy, as well as overall confidence in making decisions about SRH (Karp et al., 2020). Family members and service providers also served as gatekeepers of SRH information and services (Denny et al., 2012). Service provider biases related to the SRH of unmarried adolescents often reflected or reinforced wider societal biases about ensuring access to SRH care (Cole et al., 2020).

Sub-theme: Influence of partners on decision-making

Across several geographies, HCD research confirmed that men wield considerable influence in SRH decision-making, particularly among married adolescents (Quicksand and FHI 360, 2018; Cutherell and Cole, 2019; and Malakoff et al., 2021). Trust between spouses and their ability to negotiate was also found to influence SRH decision-making (Quicksand and FHI 360, 2018). In Kenya and Ethiopia, HCD research indicated that men were reluctant to relinquish decision-making power, restricting opportunities for collaborative decision-making within couples. These kinds of power imbalances were common to couples in both sub-Saharan Africa and South Asia. Designers and implementers identified adolescent perceptions of gender roles as the root cause of persistent power differentials that favor men. We present three examples of HCD-generated insights related to partner decision-making below.

KENYA

Male sexual partners were found to be the primary decision-makers on contraception usage in relationships outside of marriage. Young men classified their relationships into three categories: one-night relationships; casual girlfriend relationships; and marriage-material relationships (Choi, Pizatella-Haswell and Hope, 2017). It was found that the use of condoms depended on the nature of the relationship. In a one-night relationship the decision to use a condom was straightforward, and there was no discussion. In the other two relationship categories, the report noted a more collaborative decision-making process where the young woman was consulted, but the final say still rested with the young man (Choi, Pizatella-Haswell and Hope, 2017). In the case of 'marriage-material' girls, young men wanted a future that included children, and believed that long-acting contraception could threaten a woman's fertility. Hence, using long-acting contraception came to be associated with a girl's loyalty and commitment to her partner, leaving her with diminished agency to make independent SRH decisions (Choi, Pizatella-Haswell and Hope, 2017).

NORTHERN NIGERIA

An A360 report states that married girls required spousal/partner support for using modern contraception, which restricted women's access and choice (Malakoff et al., 2021). Male sexual partners, including husbands, expressed a preference for traditional contraceptive methods due to religious beliefs and a general lack of knowledge about the benefits of modern contraceptive methods.

Sub-theme: Influence of family and friends on decision-making

Family members act as gatekeepers of information and access to SRH services. They reinforce societal expectations related to adolescents' behavior and exert power in their role as economic providers (Cole and Mehta, 2018; USAID et al., n.d.). Insights on the influence of family members regarding SRH decisions can be found below:

SOUTH AFRICA

HCD research discovered that women have few trusted advisors for exploring their questions and seeking advice and support when facing risky sexual situations. These trusted advisors and confidants may be a mix of friends, family, or local role models, and are usually other women. They provide knowledge and support by sharing secondhand information and lessons learned through personal experience, (USAID et al., n.d.).

INDIA

In India, women received SRH information and knowledge from peers or other female family members who either have personal experiences or have learned about other women's experiences (Quicksand and FHI360, 2018). However, it was also found that information and knowledge on SRH offered by adolescents' peers was not always accurate, due to commonly held myths and misconceptions (Quicksand and FHI360, 2018).

SOUTH AFRICA AND UGANDA

A USAID-funded program supporting the rollout of the Dapivirine Ring in Uganda and South Africa noted that while girls would like to discuss SRH issues with their parents, they found it distressing because they feared being judged. Having conversations about SRH-related topics seemed daunting and risky. Perceived health risks from the Dapivirine ring as an HIV prevention method discouraged girls from using it or in some cases resulted in discontinuation (USAID et al., n.d.).

NORTHERN NIGERIA

A360 found that the relationship between adolescent girls and their mothers was complex and included both elements of trust and mistrust (Malakoff et al., 2021). The girls trusted their mothers above all others relationships in their lives, but fear of reprisal prevented them from seeking support from their mothers on SRH matters. This in turn left the girls feeling alone, anxious and unsupported on matters related to ASRH.

Sub-theme: Influence of service providers on decision-making

Service providers are critical actors that influence adolescents' access to health services, including SRH products and care. In some cases, provider bias related to the delivery of services to adolescents can reinforce societal norms, myths and misconceptions around contraceptive methods, resulting in negative outcomes for adolescents (Sigma, Bajracharya, Reichenbach, and Gilles, 2017).

TANZANIA

The A360 program in Tanzania, Kuwa Mjanja, reported that service provider behavior discouraged adolescents from accessing services, resulting in low contraceptive uptake. In their work, providers reflected societal biases related to pre-marital sex, and held misconceptions about the effect of hormonal contraceptives on long-term fertility. Instead of providing access to information and services on available methods of contraception, providers tended to "focus on advising abstinence and describing the negative effects of hormonal contraception" (PSI and IDEO.org, 2015, p. 16).

PAKISTAN, TANZANIA, AND BURKINA FASO

The experience of the Beyond Bias program in three countries suggests that providers generally view themselves as "protectors of youth" and that "their empathy can be a powerful driver of bias" (Pathfinder International, BERI, Camber Collective, and Ylabs, n.d., p. 34). However, they also protect community norms which can affect youth agency and access to services negatively. Program insights also noted that because providers have "one foot in the community and one foot in the clinic their values can conflict with their training" (Pathfinder International, BERI, Camber Collective, and Ylabs, n.d., p. 35). Not only do they share the community's mindset about contraceptive services and youth, they are also concerned about the backlash they might face from the community if they provide services to unmarried youth.

KENYA

Marie Stopes reported that service provider bias in Kenya has inadvertently affected access to and uptake of contraception among adolescents. For example, providers discouraged methods used prior to sexual intercourse as they believed this would encourage adolescents to have sex. They found it more acceptable to provide the e-pill method of contraception because it was used to avoid a pregnancy after an adolescent has already engaged in sexual intercourse (Marie Stopes Kenya, n.d.).

SOUTHERN NIGERIA

Reports from the A360 program suggest that health providers are keen to help adolescents. However, cultural beliefs contribute to behaviors such as reprimanding girls or withholding information that intimidated adolescents and discouraged contraceptive use (Cole et al., 2020).

ETHIOPIA

Interviews in the Smart Start program highlighted that service providers did not provide contraception to married adolescent girls due to cultural beliefs that once married a girl should have her first child immediately to prove her fertility. Providers did not often consider married adolescents to be clients as they assumed they would want or need to have children (Cutherell and Cole, 2019).

Barriers to Contraception Uptake among Adolescents

HCD insights reported in project documentation and interviews revealed several barriers to contraceptive uptake amongst adolescents. This included perceived risk to girls' or young women's health and fertility, perceived threats to her social standing in society and the availability of unsafe abortion. (Quicksand and FHI360, 2018). The Future of CT project[6] reports that adolescent girls are concerned about how contraception might influence their future fertility (Quicksand and FHI360, 2018). Some adolescent girls also perceived that using contraception would change their reputation within the community. For example, contraceptive use was linked to promiscuity and the loss of virginity, which could affect marriage prospects (Cutherell and Cole, 2019; Cole et al, 2020; Malakoff et al, 2021). It was noted that an unintended pregnancy followed by an abortion was perceived to be lower risk than the reputational hazard and health risks associated with using contraceptives. In addition, girls reliance on easily available and unsafe abortion also dettered them from seeking contraception (PSI and IDEO.org, 2015).

1.2 Desires

HCD-generated insights focus more on adolescent desires than needs (Itad, 2017). Reflections on the process of insights generation in the literature and by respondents indicate that traditional qualitative research approaches and HCD yield similar findings. However, many sources indicated that the iterative nature of the HCD research process enables program implementers and designers to generate additional and possibly a more detailed understanding of adolescent desires. In addition, use of an HCD approach with a focus on adolescent desires helped to keep adolescents at the forefront of the design process (Itad, 2017).

> ***"Our formative research identified that husbands were really the controllers and decision makers in Bangladesh. HCD helped figure out how we were going to actually engage the husbands. HCD processes were able to discover that there were existing men's social clubs in villages called Fadas. Ultimately, instead of setting up new "husbands' groups", we leveraged the Fadas. Through discussions with men, the HCD insight generation processes revealed that while young men were interested in reproductive health information, they desired to build their debate skills, so they could engage in discussions with more senior older men and their communities on issues that affect the community. So we incorporated debate skills into the curriculum, ... we made these very simple [using] nuanced tweaks to the design or components of the design, [and] we observed really high husband turnout in our Fada groups in the IMAGINE project. Our donor program officer noted that in a lot of their other programs, they don't see high male engagement. Part of the reason we're observing higher male engagement is because of the insights that the human-centered design process brought to our intervention."***
>
> - SRHR Project Director, Headquarters

Insights related to needs and desires are often centered around similar themes in the life of an adolescent. Framing insights generated to highlight adolescent desires enables a practitioner to focus solution development on a specific need or desire. In the following section we present some common themes related to insights on adolescent desires generated through HCD+ASRH programs.

6 http://futureofct.org/, Accessed on March 2, 2022

AT A GLANCE - COMMON ADOLESCENT DESIRES

Adolescents aspire for a better future with financial security	In Ethiopia's agrarian regions, adolescents desire to become small business owners, participate in income-generation and manage their own money (Cutherell and Cole, 2019). In Northern and Southern Nigeria, girls aspire to complete their education as this is seen as a pathway to stable employment and income (Cole et al., 2020; Malakoff et al., 2021). In Kenya, girls expressed their wish for a better future, and plan accordingly (Marie Stopes Kenya, n.d.).
Young girls aspire to marry and become mothers	Marriage and motherhood exemplify socially-defined gendered expectations related to women and adolescents (UNFPA, 2013). They also mark progression from childhood to adulthood. In Ethiopia and Southern Nigeria, motherhood is a central and enduring aspiration among adolescent girls that aligns with expectations for a socially and financially secure future (Cutherell and Cole, 2019; Cole et al., 2020).
Young couples and adolescents desire collaborative decision- making with their sexual partners	In spite of cultural forces that promote male dominance in a couple's decisions about SRH, in Ethiopia, HCD revealed young couples' desire to make joint decisions around health, family and well-being. The Smart Start program in Ethiopia reported that married adolescents are often faced with a sudden sense of isolation due to 'severed contact with old friends' and 'supervised social interactions' that are required after marriage. Girls and their partners expressed a desire to counteract this isolation by building meaningful ways to engage with each other and make joint decisions around health, family, and overall well-being (Cutherell and Cole, 2019). In Kenya, some young men involved in romantic relationships acknowledged the need to make decisions collaboratively, particularly those whose female partners had high levels of education. Men also expressed a desire for wives who are financially independent. According to these men, the trend towards desiring an independent woman has led to more collaboration in relationships (Choi, Pizatella-Haswell and Hope, 2017).
Adolescents desire safe spaces where they can gather and information and discuss sex openly	Adolescents are curious to learn about SRH and would like to have conversations about sex in a safe environment. In South Africa, adolescents expressed a strong desire for safe spaces to learn about sexual and reproductive health. Access to these kinds of spaces are deemed to be critically important but currently limited (USAID et al., n.d.).
Adolescents want contraceptive methods that fit their lifestyles	Adolescents desire contraception that mirrors the frequency and spontaneity of how they have sex. They reported that most commonly available contraceptives often require longer-term planning. In India and Kenya, procedure-intensive methods were perceived to be more relevant for 'serious' married groups than for youth (Quicksand and FHI360, 2018). The Future Fab program in Kenya reported that young people often perceived contraception as taboo, a source of fear and only for adults who are planning a family rather than an intervention that can help them achieve their dreams. (Marie Stopes Kenya , n.d.).

1.3 Preferences

Designers and implementers often gather adolescent preferences at the prototyping and testing phases of the HCD process using specific probes and targeted questions (Cole and Mehta, 2018). Below, we present examples of adolescent preferences related to SRH products and services that emerged from testing concepts or prototypes. These insights were integrated into programs to improve uptake and satisfaction among clients.

Preference for discretion in receiving SRH information

The Future Fab program in Kenya utilized learnings that emerged from testing messaging through different outreach channels. The findings indicated that local leaders were more acceptable sources of information to reach girls. Community outposts like beauty salons were viewed to have limited privacy, and perceived as places where people are likely to gossip (Marie Stopes Kenya, n.d.). Design-led solutions in A360 programs across Tanzania, Southern Nigeria and Northern Nigeria focused on providing girls with information about SRH and contraception, alongside life skills and health and relationships at pop up events. Through solution testing in these three countries, implementers learned that adolescents preferred clinical services that were discrete and private. Nigerian adolescents expressed the need for anonymity and privacy because they felt that health providers would not maintain privacy and confidentiality during visits to health centers. Based on insights from prototyping, the programs that offered opt-out, confidential, one-to-one contraceptive counseling sessions and private spaces for service delivery allowed girls to feel safe asking questions (A360, 2020).

Preference related to counseling

In some settings, adolescent girls and young women struggled to hold conversations about SRH with their parents. As discovered by the Grassroot Soccer project in Zambia and Zimbabwe:

> ***"I think one thing that comes to mind is that adolescents in a number of GRS (Grassroot Soccer) geographies (Zambia and Zimbabwe) when asked about who they want to talk to about SRH, and where they want to get their information ... they often say that they want to speak to their parents about it. But then it doesn't always work that well, because either parents might say, oh, you're too young to be thinking about that... or the parents themselves don't feel that they're knowledgeable or comfortable in speaking about SRH with their children."***
>
> - Research and Evaluation Lead, South Africa

In other settings, girls and young women prefered to have their sexual partners present when receiving SRH information or counseling. In Ethiopia, insights generated from Smart Start indicated that married adolescent girls prefered to make collaborative decisions with their partners:

> ***"So for instance, Smart Start was designed to be a program for the couple, for the husband and the wife together, because another insight was that couples wanted to talk together about their future, but they have no models of how to do that. They also didn't have the skills to do it on their own."***
>
> - Technical Advisor, Ethiopia

Preference to receive targeted information from a health authority

Program reports and respondents noted that they learned that some young women prefer to receive SRH information from a recognized health authority. They expressed preferences for friendly and knowledgeable providers who can give them accurate information and clear answers to address their immediate concerns (USAID et al, n.d.). In Uganda, while women found comfort in seeing their peers adopt the Dapivirine (DPV) ring they prefered to receive guidance on this HIV prevention method from a nurse who they perceived to be a credible source of information (USAID et al, n.d.).

Preference for natural methods of family planning

In South Africa and Uganda, program implementers learned that some adolescent girls preferred to learn about natural and fertility-based awareness contraceptive methods alongside medical options (USAID et al, n.d.). In both Kenya and India, some married adolescent girls expressed a strong preference for using natural contraceptive methods including herbal and ayurvedic

medicines, particularly those whose branding emphasized what made them natural (Quicksand and FHI360, 2018).

2. Variation of adolescent insights in HCD+ASRH

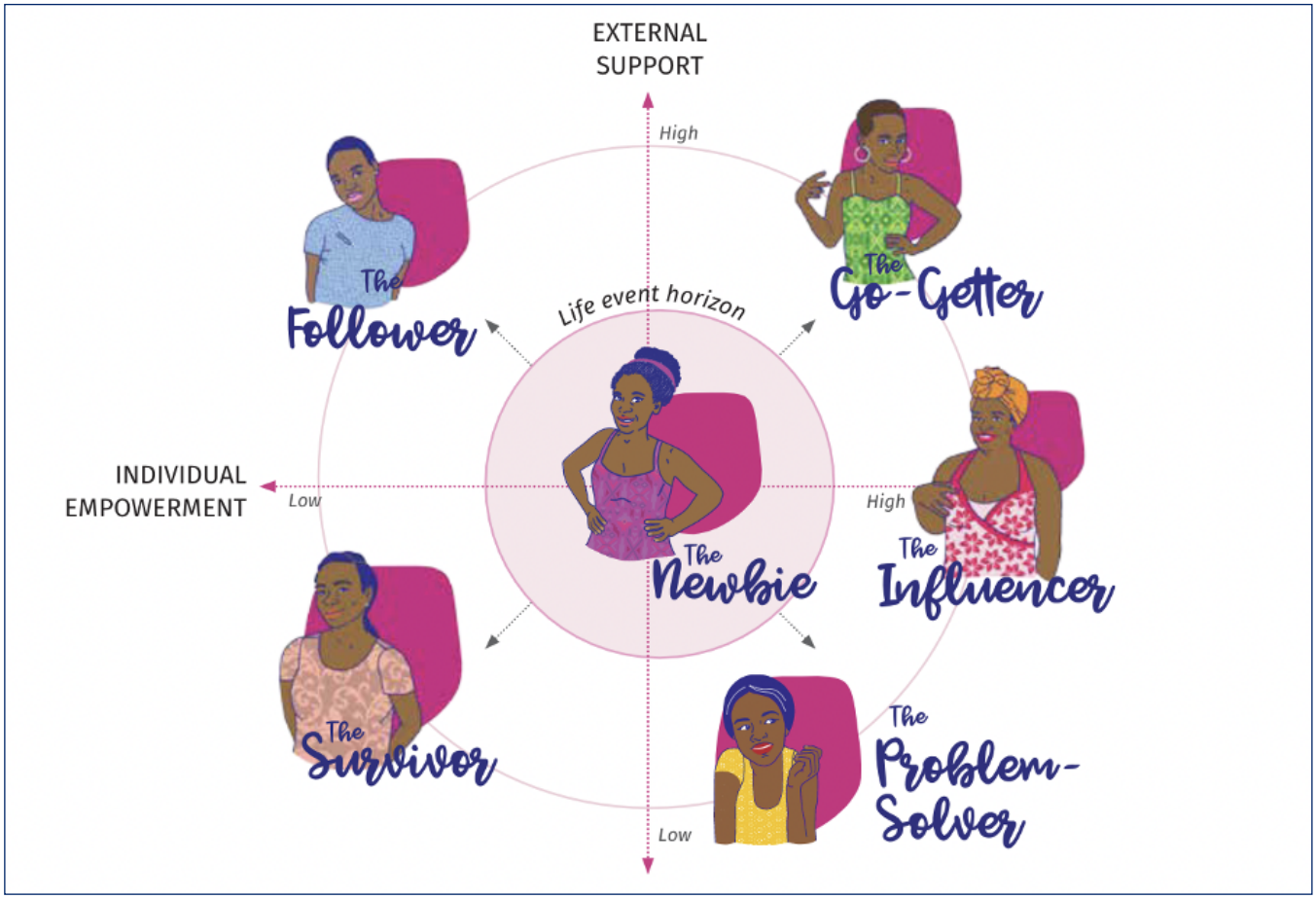
ASRH practitioners often segment target groups to generate and compare insights across gender, age and geography. This landscape analysis found that HCD does not approach segmentation in the same way, through large-scale surveys to compare user groups. HCD insights generation approaches segmentation through research and engagement with small groups of users grouped by characteristics that might influence user needs, desires and experience. To support comparison of different user groups designers often construct personas (semi-fictional characters) to represent different user types who will engage with the intervention or solution. These personas emerge from HCD-generated insights. Designers then used personas to test specific solutions for and with particular sub-groups depending on program objectives. In the programs reviewed, persona groups were often defined on the basis of adolescent needs, desires or SRH decisions. For example, Beyond Bias developed personas to highlight diverse needs of adolescents, SRH experiences, pain points and barriers when accessing SRH information and services (Figure 6) (Pathfinder International, BERI, Camber Collective, and Ylabs, n.d., p. 100). Personas for the Dapivirine ring guide (Figure 7) were developed to "illustrate the diverse range of responses to SRH experiences across the health journey" (USAID et al., n.d., p. 40). They capture the different levels of individual empowerment, external support and life events that shape adolescent responses to SRH.

We found limited documentation of how HCD used adolescent insights for segmentation. For illustrative purposes, we present examples of segmentation by geographic location, gender and marital status.

Figure 6: Personas from the Beyond Bias program in Tanzania

Source: Pathfinder International, BERI, Camber Collective, and Ylabs, n.d.

Figure 7: Personas from the Dapivirine Ring Guide in South Africa and Uganda



Source: USAID et al., n.d.

Segmentation and insight variation

Adolescent insights were often disaggregated by urban and rural populations. They confirmed many of the challenges faced by young people in rural areas related to accessing SRH services and information and that youth living in urban areas have access to better quality healthcare, skilled healthcare workers and contraceptives. Grouping adolescents by gender highlighted differences in SRH decision-making power. Decision-making power among boys and girls varied across locations, scenarios and socio-cultural contexts. For example, in Kenya boys who are sexually active collaborate with their sexual partners in determining contraceptive use, mostly when they are in committed relationships. Other reports suggested that in Kenya and India young husbands play a role in deciding whether their wives use contraception (Choi, Pizatella-Haswell and Hope, 2017). In contrast, in Pakistan girls and young women were found to take the lead on decisions related to contraceptive use because boys tend to be reluctant to speak openly on the topic.

> ***Boys are more hesitant to share and talk about contraception and reproductive health than girls - SRH is deemed a women's issue in Pakistan"***
>
> - Senior Community Engagement Advisor, Pakistan

Lessons from the A360 program revealed country and region-specific differences among married and unmarried adolescents, suggesting unique strategies for reaching each group.

> ***In Tanzania and Nigeria, the A360 programs include explicit things like small trade, training like making and bead making and things like that. And I think that is largely because they are targeting unmarried girls, who, like I said, they can't as easily admit to sexual activity, and so they need more of a cover to engage and participate."***
>
> - Technical Advisor, Ethiopia

Conclusions

Documenting insights throughout the HCD process

Many of the insights identified through the landscape analysis did not contribute remarkably new understanding of adolescent needs and desires compared to adolescent insights that have been gleaned through more traditional forms of research. In addition, most of the insights that were documented emerged at the inspiration phase of the HCD process. It was more difficult to identify and synthesize insights generated at the ideation, prototyping and implementation phases because of limited documentation. Yet, as noted in Report 1, insights that are generated at the early phases of the HCD process evolve and transform as the solution takes shape and is adapted to the adolescents' context. Using HCD approaches to increase understanding of adolescents is highly effective for shaping and refining solutions with adolescents based on the detailed and valuable contextual and experiential information that HCD produces. Better documentation of the insights generated at the ideation, prototyping and implementation phases is required to highlight the unique contribution of an HCD approach and its role in generating desirable, feasible and viable ASRH solutions. Aligning documented insights with the prototypes and solutions they inform would increase understanding of the role of insights in advancing ASRH.

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Annex 1 Glossary of terms[1]

Adolescents: any person between ages 10 to 19.

Youth: any person between ages 15 to 24.

Young people: any person aged 10 to 24.

Co-design: Co-designing is a process of creating solutions along with the users you are trying to affect. Activities can be used to define a complete solution or just to gather input and feedback on small features of products or services. *(Related terms: co-creation; participatory design)*

Design: Design is the process of developing informed, sensitive, inclusive, purposeful and innovative solutions that embody functional and aesthetic demands based on the needs of the intended users and their ecosystem. Design is applied in the development of goods, services, processes, messages, and environments. *(Related term: Human-centered design)*

Design thinking: Design thinking is an approach to innovation that draws from the designer's toolkit to integrate the needs of people; the possibilities of technology; and the requirements for business success. Design thinking, skills, and practices should be thought of as being appropriate to all disciplines including design.

Insights: Ideas or anecdotes expressed as succinct statements that serve to interpret patterns in research findings. Insights offer a new perspective, even if they are not new discoveries. They are inspiring and relevant to the design challenge. *(Related terms: sensemaking; synthesis)*

Human-centered design: Human-centered design (HCD) is the process of integrating human perspectives in all steps of the problem-solving process. The aim is to better understand an issue from the human perspective and focus on how it looks and feels to users and stakeholders within their environment and context.

Persona: A representative identity that reflects one of the user groups. It is a representation of a user segment with shared needs and characteristics.

Prototype: A model or artifact built to test a concept with users to learn from them and use insights to improve development of the prototype. Prototype development process helps designers reflect on key aspects that determine how well a solution will work in real life conditions rather than theoretical conditions.

1 Sources: http://www.designkit.org/methods/33, Accessed on February 5, 2022; DesignforHealth: Glossary of Terms - Glossary+of+Design+Terms.pdf

Annex 2: Inclusion Criteria

Inclusion Criteria for Written Resources	
Population, or participants and conditions of interest	This includes academic institutions, youth organizations, designers, ASRH/ HCD+ASRH practitioners/ projects, government agencies.
Interventions	ASRH projects and solutions implemented or developed through HCD or related approaches such as design thinking and behavioral economics; includes prototype development (all stages).
Outcomes of interest	Increased uptake of youth-centric ASRH products and solutions; increased adoption of HCD in practice, specifically as it pertains to addressing youth needs and/or ASRH (project design, interventions, etc.); robust Monitoring Evaluation and Learning system with indicators/metrics to support HCD+ASRH.
Geographic setting (context)	This includes geographic regions of the Global South (LMICs); include Global North resources that can be adapted for use in LMICs.

HCD EXCHANGE

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