Data Performativity in Sexual and Reproductive Health: A critical reflection on the constructions and uses of surveys

Authors: Joe Strong, Nii Lante Samuel Lamptey, Nii Kwartelai Quartey, Nii Kwartei Richard Owoo

Introduction

Quantitative global health data have been an essential component of international policies and global accountability for decades. They are used as the basis for measuring global plans of action - e.g., the Sustainable Development Goals - and to track progress particularly in reducing the prevalence of disease and mortality [1]. These data are, however, undermined by real and perceived limitations and questions over their ability to capture diverse and complex realities. This paper aims to explore these complexities with a focus on data on sexual and reproductive health, in order to contribute to growing bodies of work that question the nature and commodity chain under which data are presented as apolitical and acontextual.

Critical studies of global health data reveal the significance of the research commodity chain on data outcomes. The hypercompetitive direction of global health funding during the 20th Century, dominated by major funding bodies, has led to a renewed need for regularly collected, routine data that fulfil the monitoring and evaluation expectations of funding bodies [2]. This has been coupled with an increase in expectations of financial efficiency and cost effectiveness, which has resulted in a streamlining of surveys to collect harmonised data [2, 3].

The result has been the prioritisation of data collection that corresponds to the global measures and indicators that align to funding priorities. Within global health, evidence highlights that data are increasingly approximated to fit these needs, with healthcare data (re)shaped in the process of reaching global institutions who then use the data to (re)produce interventions and policies in a context within which the data have become untethered. As Erikson (2012) emphasises in a comparative case study of data production and use in Sierra Leone, "knowing people is not necessary" (p.372), as data are analysed and used with only the point of data collection where contact is made between the research commodity chain and the public.

In addition to the inherently political nature of data, survey methodologies are situated within theoretical assumptions that are frequently unacknowledged. These assumptions have significant implications on what data do and do not show and intersect across all aspects of the survey design: from assumptions in sampling, to the types of questions, placement of questions, and survey modalities.

Categorical survey methods rely on extensive development work that tests the relevance and exhaustiveness of categories, and the ability for respondents to comprehend and identify themselves within those categories. Whilst beneficial in streamlining data processing, categorical questions frequently flatten realities, create confusion, and provide

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weaker understandings of complex social phenomenon such as race, gender, and sexualities [1, 2, 4].

Assumptions in qualitative data occur across the design and implementation process. Within the sampling frame, questions over what constitutes a 'household' reveal that complexities and variations across contexts that are flattened and lost in harmonised data[3, 5]. Deciding which questions to ask, for example in the recent debates around sex and gender in the English census, reveal the deeply political and theoretical underpinnings of different researchers [6-8]. Categorical questions rely on pre-designed choices that might fail to capture the realities and interconnected nature of people's lives [9]. The decision of where to place questions in a survey can (re)produce stigmas and social constructions of 'risky' sexualities and sex [10, 11], whilst the mode of asking can have a significant impact on the types and willingness to answer [12, 13].

Data performativity, aims, and objectives

Data performativity describes "the relationship between scientific theories and the world they attempt to represent" (p.437) [1]; they are both an outcome and also a component of the construction of realities. Understanding data performativity in quantitative surveys requires evaluating what data are and are not produced, how these are produced, and their place in the context of the research commodity chain.

This paper aims to explore data performativity within quantitative sexual and reproductive health data through a triangulated evaluation of the research commodity chain, existing data, and a critical analysis of novel modes of data collection. It does so through the following three objectives:

1. Explore and collate global and regional sexual and reproductive health and rights (SRHR) indicators and policy commitments;
2. Conduct a mapping of major datasets used to measure SRHR to examine the data performativity within these quantitative data collection technologies;
3. Critically reflect on the construction of the project survey using Queer and Feminist theories to collect data on SRHR (see project protocol [14]).

Sexual and Reproductive Health and Rights in Global Discourse

Globally, SRHR has frequently been conceptualised through the lens of physical health, with a focus on morbidity and mortality related to fertility and sexually transmitted infections (STIs). This developed towards a broader understanding of the need to see SRHR as linked to wellbeing, pleasure, and power [15, 16]. The World Health Organization (WHO) defines sexual health as:

> "…a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be

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attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled." [17]

The definition of 'sexual health' from the WHO exemplifies this progression beyond "disease, infirmity, or dysfunction". The focus on "all persons" is echoed in other global SRHR commitments. Within ICPD 1994 was the need to consider and acknowledge the role of men and boys in advancing their own SRHR as well as shaping the conditions that define the ability for other people to access and exercise their healthcare and rights [18, 19].

Yet in global development, the factors considered relevant to SRHR and the indicators considered relevant are more basic. The Millennium Development Goals made no reference to sexual health at all, nor reproductive health until an amendment in 2007 (Target 5B), which stated:

"Achieve, by 2015, universal access to reproductive health"[20]

The Sustainable Development Goals produced more widescale indicators and measures that related to SRHR. This included indicators that referred to coercion and violence, as well as towards contraceptive use and age-related fertility rates. However, noticeable across these goals is the focus on women aged 15-49. There is no consideration of other people and their SRHR, such as men, non-binary and trans people. Nor are there considerations of the SRHR of older and young people, despite evidence of this importance of this.

Mapping global health surveys

The measurement of these indicators relies on a selection of global, national, and regional surveys. A selection of these were chosen for the purposes of this mapping, however, this is non-exhaustive and further work on this research intends to increase the included surveys.

The selected datasets are among the most frequently cited as producing data for SRHR indicators within global health measures [21], and have the widest geographic spread. They are not time-bound and include surveys that are no longer in use. This allows for a mapping of questions and concepts adapting and evolving over time, as surveys are iterated, reformed, and redesigned. The initial surveys that are mapped in this paper are: Demographic and Health Surveys (DHS) [22-24], Multiple Indicator Cluster Surveys (MICS), Performance Monitoring for Action 2020 surveys (PMA2020)[25], World Health Surveys (WHS) [26], and World Fertility Surveys (WFS)[27].

The raw survey was selected (without specific country-level questions added) from these. Within each document (or documents, where the household, men's, and women's questionnaires were separate) questions on sexual and reproductive health were identified. Following the methodology applied by Westbrook et al. [10], key terms were searched to ensure that no questions were missed in the surveys. A thematic analysis of the content was conducted to produce key themes emerging across the questionnaires.

Geography and sample

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The surveys mapped covered a range of geographies and temporalities. The World Fertility Survey operated between 1977 and 1985 [27], with the World Health Survey conducted over two years between 2002 and 2004. The DHS and MICS are currently in operation with PMA2020 the most recent survey to be collected [22-24]. With the exception of the World Health Survey, these surveys were predominantly collected in Global South or low- and middle-income countries. The surveys predominantly focused on people of reproductive ages: the World Fertility Survey is perhaps the most limited in scope, focused on women of reproductive age (under 50 years) who were ever-married. PMA2020 similarly only surveyed women aged 15-49[25], while DHS (women aged 15-49 and men aged 15-49, 15-54, or 15-59) [22-24], MICS (women and men aged 15-49)[28, 29], and the World Health Survey (men and women aged over 18)[26] also surveyed men of reproductive age, though frequently a small sample than the sample of women.

Relationships

The majority of surveys were focused on privileging the marital unit as the main relationship of interest. Within the World Fertility Survey, this was justified through two main arguments: that in a "large number of countries" child-bearing takes place within martial units ("formal or consensual", and that in those countries there is less cost-benefit to interviewing a broader sample of women, though "the survey universe would *ideally* include all women exposed to the risk of child-bearing" (p. 12) [27].

All the surveys sought marital information in one form of another, with most asking if a woman was ever married and if she was currently married or living with a partner, divorced, separated, widowed, or never married / living with a partner. Surveys connected marriage and partners through the notion of cohabiting, as a proxy for an equivalent style of relationship, placing together living with a partner and marriage. This includes categorising those respondents who said they were never married as "never in union" within the PMA2020 questionnaire, although there was a later question on whether a woman "had ever had a partner / boyfriend" [25].

The World Health Survey provided more nuanced categories in relation to sexual partners, categorised by frequency: "regular", "occasional" or "no" sexual partner, while providing the following categories in response to the relationship with the last sexual partner: "spouse/cohabiting partner", "boyfriend/girlfriend/fiancé(e)", "other friend", "casual acquaintance", "relative", "commercial sex worker", and "other" [26]. These categories were also provided to the same question in MICS [28, 29]. Within MICS, however, questions on last relationship with last sexual partner for men and women asked respondents who answered "boyfriend" or "girlfriend" to clarify whether they were living together "as if married".

Thus, most relationship types were framed against the notion of marriage, and the concept 'union' was used interchangeable, without acknowledgement that a union need not be a marriage or involve cohabitation (particularly when household structures and living arrangements are not aligned to nuclear family assumptions). Whilst surveys asked respondents to report on whether they (for men's questionnaires) or their partner (for women's questionnaires) had more than one wife / partner – to measure polygyny – no

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surveys accounted for the potentially different fertility desires or reproductive behaviours depending on this. For example, the Demographic Health Survey asks men: “After the (child/children) you and your (wives/partners) are expecting now, would you like to have another child, or would you prefer not to have any more children?”, though does not consider differences based on the relationship or which wife [24]. Surveys are able to accommodate relational questions – within the World Fertility Survey, questions on contraceptive methods are asked in relation to the contraceptive a respondent indicated they used [27].

Sex and Reproduction

Most of the surveys are focused primarily on fertility. As demographic surveys, they provide essential data for understanding population dynamics and measuring population trends. As outlined in the World Fertility Survey, a household survey “provides the researcher with the denominators necessary for calculating certain demographic statistics” (p. 7) [27]. All surveys are comprehensive and comparable in their collecting of contraceptive knowledge and behaviours. Most provide a list of contraceptives as well as a description of contraceptives to capture ever use and current use.

Through this lens, questionnaires framed contraceptives through the lens of avoiding or delaying pregnancies, for example, MICS asks “are you currently doing something or using any method to delay or avoid getting pregnant”, though it only asks this from the point of view of “couples”, potentially side-lining non-couple based sexual encounters [28, 29]. Similarly, the World Fertility Survey asked “Are you or your husband currently using a method to keep you from getting pregnant” [27]. Such a question supposes that a singular method is used, that the sexual encounter be within marriage, and that the main reason for using a contraceptive is to avoid or delay pregnancy.

Many of the surveys had separate questions for condom use – MICS and the DHS ask men and women whether they used a condom in their last sexual encounter. Within the DHS, an additional question on condom use was asked to men and women: “If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in asking that they use a condom when they have sex?” [23, 24]. The placement of this question within a section on HIV/AIDs and the focus on condoms as a specific contraceptive suggest that these questionnaires situate condom use within health risks, as well as risk of pregnancies.

Power, pleasure, and wellbeing

Despite the centrality of power in gendered dynamics, and the importance of pleasure and wellbeing as a mainstay of sex, sexualities, and sexual health, these were largely underexamined in surveys. The Demographic Health Survey asks on ability to ask about contraceptive use during sex and refusal of sex only from the woman’s perspective if her partner either has a disease or is having sex with other women [23, 24]. Moreover, later questions on being able to say no to sex are only asked to those currently married or living with a man. Both the DHS and MICS include questions on justifications of violence within

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married couples, including if a “wife” refuses sex, though no further questions [23, 24, 28, 29].

Very few surveys explored sexualities nor sexual pleasure and wellbeing. The exception is PMA2020, which has an extensive series of questions that explore both physical and non-physical expressions of power within sex and relationships[25]. This includes decision making around first sexual encounter and experiences of physical and non-physical sexual coercion. It is the only questionnaire with an explicit section on “women and girls empowerment”.

Case study

In order to generate data that could provide both depth and breadth, a multi-method, concurrent research project was designed, utilising a respondent driven sample survey and nested in-depth interviews. Details of the research design and methodologies were outlined in the project protocol [14].

Participants were originally intended to be recruited specifically from James Town, an urban area of Accra (for study site selection, see [14]). However, the method change from a household survey to a mobile phone survey, in response to COVID-19, meant that maintaining strict geographic boundaries was no feasible. Men’s social networks frequently extended to neighbourhoods within the broader Ga Mashie area within which James Town is located, and the multi-sited nature of men’s living and working arrangements further undermined the use of distinct geographic boundaries. Therefore, men were included in the study if they had a connection to James Town via social networks or work or lived within the Ga Mashie area.

Data collection

Three researchers (NLL, NKO, NKQ) recruited ‘seeds’ from men they knew in the community, using the assigned age and ethnicity matrix (see [14]). Despite a desired sample size of 789, which used a design effect of 10 to account for the RDS model [14], the final sample size was only able to capture 305 responses. This smaller sample size reduces the ability for the sample to account for the RDS design, and the flexible geographic boundaries further destabilise the original sample size calculations, based on Ghana Statistical Service enumeration area data. This reduces the capacity for the sample to be representative of the broader population in James Town, nor representative.

Qualitative interviews were conducted with a nested, purposively sampled group of respondents who had taken part in the survey. Men were selected to gather a range in age, ethnicity, and sexual and reproductive health experienced, as indicated in their survey responses. Men aged over 40 were oversampled, as they were harder to reach due to the survey method changes.

A total of 37 men were interviewed by NKQ and NLL in a language of the respondent’s choosing. Interview recordings were translated and transcribed by an external service, with transcriptions in English returned to the team. These were then double checked by NKQ to

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ensure the translations captured full meanings and, where they didn't, the original language was kept, and a longer translation explanation was written in parentheses.

Designing the survey

The smaller sample size and the specific focus on the context of the study site allowed for the design of a more complex and qualitative survey. Drawing on the fundamental tenants of collaborative and accessible research, this questionnaire was designed through conversations with the entire team and the community [30]. Questions were tested for relevance and were first conceptualised in Ga, the predominant language of the area, and then translated into Twi and English. This aimed to disrupt English being the base language and, therefore, the language against which translations were based. This allowed for a discussion of concepts that had no equivalence, for example 'emergency contraception', and how to account for this.

Moreover, cognitive interviewing and testing with community members allowed for understanding comprehension. For example, the question on relationships within the original survey was preceded by questions about religion, and some respondents assumed that this was asking their relationship to their church or God. Thus, the question order was altered. Participants were also encouraged to give feedback and offer questions they would like to see asked, which led to the inclusion of the question "do you have any difficulties having sexual intercourse" in the Abridged Washington Group Question section. This was at the request of respondents who felt this was an important component of their health and wellbeing.

The survey also accommodated greater space for respondent answers through open ended questions and, where possible, the avoidance of categorical answers that might flatten or reshape responses given. The use of mobile-phones as the mean of communication while the research team recorded answers on documents on their laptops also facilitated the recording of additional information.

Results

Feedback Loops and Open-Ended Questions

Responses from men that were captured indicated that often the binary approach to particular questions did not correspond to the complexities of men's lived experiences. In response to the question of whether a respondent would be happy if his partner got pregnant, men would respond with answers suggesting that they felt both. For example, one respondent indicated he would be happy "but it will be difficult", with another suggesting "I'll not be happy but I'll take like that". Men's responses illustrated the need to consider options beyond binaries of 'yes' and 'no' where attitudes and behaviours are not clear.

Moreover, feedback loops were encouraged. Men were given space to ask questions at the end of the survey, and the research team had space to record their own notes and commentaries. These resulted in the collection of rich data, which allowed for the capturing

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of the emotions and experiences of asking survey questions themselves. For example one note reported:

> "It was very interesting when we started. He took time to think through before answering. But when we got to 5.9, he started showing less attention. Sometimes I have to say ''hello'' back again before he responded. At the end, I enjoyed listening to a whole lot of stories and picking up my answers that best suited the given options"

Another note from the research team stated:

> "Quite a long but good survey. He had interest in the "is it important for a man to have sex with other men" question. He wanted to find out why I asked him. I explained and was satisfied with the response"

These notes provided a chance to understand what questions men understood, what they found difficult, but also how respondents felt during the survey. It provides valuable information for future iterations and where questions might need expansion or elaboration.

Sampling and geography

The survey had three inclusion criteria for respondents: they are men, aged over 18, and live in the James Town area. The use of mobile-phone technology and respondent driven sampling made clear that maintaining geographic enumeration zones did not reflect the way of life for many men. Indeed, 139 of 296 men reporting having multiple places that they considered to be their home, in response to the question "do you sleep anywhere else?".

Asking men to confirm their gender was an interesting and illuminative exercise. Many respondents found the question unnecessary, laughing at the suggestion that they might present as any other gender. However, for some men, this response provided the space for them to discuss their sexuality and identity in a way that was unexpected. For example, men responded that they "behaved like a woman" or that they were *kojo besia* (gay men). Men who expressed queerness also reported having sex and relationships with women that were relevant to questions on pregnancy and abortion, with one man responding in answer to his gender "I am gay – kojo besia - yes, I have had sex with women before". Allowing space provided a means to capture queer realities and complex sexuality and sexual environments. It reflects previous research in Ghana that [research on sexuality and how men still operate under heterosexual norms despite being queer].

Despite the open age bracket, the majority of respondents were aged between 18 and 30, with only 9 men aged over 49 (oldest 62 years). This might reflect the methodological choices of using mobile phones, in response to COVID-19. However, responses from men aged over 49 indicate the important roles they continue to have in sexual and reproductive health. All nine men were in active relationships. These men referenced their ages when asked about contraceptive behaviours, with one respondent telling the survey team: "We are old enough to know our bodies" in answer to why he never uses contraception, another

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saying “I am very old now, I am in a trusting relationship” as to his non-use, though some older men indicated their partners sometimes used contraception.

Relationship types and multiple relationships

In order to try and capture the pluralities and realities of different relationships, the survey asked an open-ended question: “Can you describe that relationship to me?” to men who indicated that they were in a relationship. We sought to avoid linking relationships specifically to sexual partnerships, as being sexually active was not a criteria for inclusion.

Men described a number of different types of relationships, ranging from ‘marriages’ (and equivalent structures), ‘courting’, ‘fiancés’, ‘girlfriends’, ‘baby mamas’, ‘side chicks’, and more. Within this, men also described in more detailed how they understood these categories and why they were different, for example, one note elaborating:

> Child's mother: starts explaining about wife and girlfriend. Feels there's a difference between wife and child's mother. A wife is one whom you have married whereas a child's mother is the one who is not living with you but has a child with you.

These categories are somewhat comparable to the categories that were utilised in the World Healthy Survey to categorise the relationship with the last person the respondent had sex with. They are, however, far more expansive than notions of marriage and non-marriage.

Not all men were married, and sexual activity was not predicated on being married. 56 / 296 men reported being married, while 162 reporting being sexually active. Of 200 men in relationships, 89 were cohabiting. Of these, 46 were married men or men who reported be in a relationship “like marriage”.

41 men reported multiple relationships. Of these, 5 were described as second wives, while 36 were either girlfriends, side chicks, or other intimate / sexual partners. Of these, the majority (n=34) were sexually active. Only two men reporting cohabiting with additional partners.

Sex, reproduction, and relationality

In order to explore the relationship between attitudes, behaviours, and different relations, questions were responsive to the type of relationships that men described. Researchers used the language that men had given to describe their relationships throughout the remainder of the survey, for example:

> Would you be happy if [insert relationship] becomes pregnant now?

Moreover, these questions were repeated if the respondent indicated that they had multiple partners. Of these men, 11 had consistent views across their multiple partners, while 23 indicated that their views towards pregnancy were different depending on the partner. Seven men did not answer with regards to an additional partner, which highlights

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the potential noise that can be created through this methodology. It could be fatigue or inconsistencies in the repeat asking of particular questions in relation to different partners, or the nature of men's attitudes as being uninterested towards non-primary partners.

Many men linked their contraceptive practices to the desire to avoid a pregnancy or to prevent the STIs. However, many men also operationalised concepts of trust, mutual faithfulness, and perceptions of their partners attitudes towards contraception. Men also framed contraceptive use with regards to pleasure:

> R: We don't eat banana with the peels
> R: I love to feel the skin
> R: I just hate it. I just like it raw because I feel it well

The responses are an important reminder of the complexities of contraceptive decision-making that are framed with more than assumed fertility preferences and avoidance of disease in mind.

More questions were asked on abortion, due to the focus on the broader research question. Men were asked whether they would ever support their current partner obtain an abortion. The majority of men (n=245) reported that they would not or that their support would be conditional, elaborating on their answers:

> R: I hate it so I won't be happy. My house we don't do abortion
> R: yes with my permission, no if done without my permission
> R: no - I will end the relationship as soon as she does that

The extent of the role of relationality in these responses is exemplified by men's answers to previous support and future support of abortions. Within the survey, 49 men reported that they had ever supported someone obtain an abortion. This support largely involved providing money, knowledge and contact details of providers, and accompaniment. Men reported supporting both people seeking abortions, and friends whose partners were seeking abortions. Of these men, five said that they would support a current partner obtain an abortion, while 8 said it depends and the remainder replied that they would not support a current partner. That only 49 men reported ever supporting an abortion would suggest that there was significant underreporting in the survey, as evidence elsewhere indicates that support of or involvement in abortion care among men is higher.

During the survey design, a matrix was created which had 11 different categories of relations that men had with women – both familial, sexual and work-based. These were decided as exhaustive of the major types of relationships men had. Men were asked whether they would support these different relations obtain an abortion. Descriptive statistics highlight the variation in men's answers (data not shown). Whilst 56% of men responded that they would not support anyone obtain an abortion, the remaining 44% either indicated that they would support a person (answering 'yes') or that they would consider supporting a person (answering 'it depends'). 15% of respondents indicated that they would support at least one person, 29% indicated that they would support more than one person (data not shown).

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Discussion

The initial mapping of global health surveys used in the gathering of data to monitor sexual and reproductive health goals reveal the consistent assumptions made across time. In particular, following from the World Fertility Survey, the primary sample of interest has been women and girls between 15 and 49. Despite increasing engaging with men within some surveys, this has persisted, and continues to replicate assumptions that sexual and reproductive health is significant only for women, or for men in their partnership to specific women. They create a closed commodity chain that provides answers to global goals, reaffirming the performance of SRHR assumptions.

Marriage remains privileged, with other relationship statuses being posed in relation to this. Yet marriage is assumed to be understood consistently across contexts, as well as the main space within which sex and reproduction occurs. This extends to assumptions around cohabiting. Creating an expansive space for a sexual and reproductive health survey with a sample of men, which allowed them to describe their relationship, complicates these assumptions. Men were sexually active and were supportive of reproduction and parenting without necessarily being married, nor living with their current sexual partner. Moreover, where large-scale questionnaires focused on additional partners only if married or equivalent, men reported having various types of meaningful additional relationships.

Moreover, the focus on fertility and sexual health behaviours in relation to risk of disease or pregnancy are not aligned to the complex factors underlying attitudes and behaviours. Missing from current datasets is the role of pleasure, desire, perceived partner reaction, and protecting of partners feelings. Men repeatedly emphasised that pleasure shaped their sexuality and sex lives. Capturing these realities not only allows for improved policies and programmes to engage people on their SRHR but also aligns with current understandings of universal SRHR – more than simply disease or fertility.

Offering space for men to discuss their answers and to capture qualitative data also provided insight into the gendered power dynamics operationalised by men. It illustrated that men based their sexual and reproductive attitudes and behaviours on the relation of the person they were considering, and that these were not consistent. The assumptions that these are static attitudes in global datasets, and that men's behaviours and attitudes can be considered the same regardless of the wife or sexual partner being referred to (for example in the case of polygyny), is potentially problematic.

Conclusion

Ultimately, the need for harmonised, cost-effective, and comparable datasets will remain. The provision of quantitative sexual and reproductive health data is an integral component of policy and programming, providing the means to monitor progress and understand national and international trends. The exploratory survey produced a large volume of data, which required more time to clean and understand where there were complex answers. This would be too challenging for a nationally representative survey with thousands of respondents. However, implementing relational questions, allowing small feedback loops

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for both respondents and the survey team themselves, provide critical insights into lived realities. Breaking assumptions around age and marriage allows for a more detailed understanding of the context, conditions, and realities of sexual and reproductive health. Where data perform the assumptions of global health goals and previous survey iterations, such changes create a new potential to shape our understanding of the world.

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