



Unpacking the complex issue
of equipment and consumable
supplies availability in
contraceptive service provision



Reproductive Health
SUPPLIES COALITION



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Published: February 2020

Recommended citation: Webb, S., & Christofield, M. (2020). Unpacking the complex issue of equipment and consumable supplies availability in contraceptive service provision [White paper]. From Jhpiego and the Reproductive Health Supplies Coalition: https://www.rhsupplies.org/uploads/tx_rhscpublications/Unpacking_the_complex_issue_of_equipment_and_consumable_supplies.pdf

Photos: Jhpiego

Acknowledgments

This white paper was developed by Jhpiego with the support of an Innovation Fund (IF) award from the Reproductive Health Supplies Coalition (RHSC). Our purpose was to investigate the complex issue of equipment and consumable availability in contraceptive service provision. After observing the challenges associated with the unavailability of equipment and consumables for family planning services and the corresponding impact on clients, Jhpiego was eager to generate material on this issue that would create greater opportunity for action on this topic by a variety of stakeholders. We thank RHSC and its donors for its generous support in making this project possible. A special thank you to the Systems Strengthening Working Group (SSWG) of RHSC for sponsoring this IF and their many inputs during biannual gatherings that helped to shape this paper.

To support the white paper development and provide critical insights into the global supply chain, Jhpiego convened the Technical Advisory Committee (TAC), which included membership across multiple organizations. A special thank you to Devon Cain of the Clinton Health Access Initiative (CHAI), Laila Akhlaghi of John Snow, Inc., and Ellen Tompsett of the USAID Global Health Supply Chain Program—Procurement and Supply Management (and SSWG chair) for their active participation in the TAC.

Without the support of many global health supply chain experts, the development of this paper would not have been possible. This includes those from the RHSC and its members, the International Association of Public Health Logisticians, Palladium, and many others consulted throughout the process.

And most of all, thank you to the many stakeholders in Uganda, Nepal, and Ghana for their active engagement and insightful contributions during country consultation meetings held to solicit rich, on-the-ground perspectives on this topic.

A special thank you to Jhpiego team members Shannon Egan, Lindsay Breithaupt, Elaine Charurat, Michelle Willcox, Naomi Bouchard-Gordon, and Genevieve Kelly for their invaluable roles in shaping the white paper and supporting its development.

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Abbreviations

A&AWG	Advocacy and Accountability Working Group
AFP	Advance Family Planning
CHAI	Clinton Health Access Initiative
CIP	Costed Implementation Plan
DHS	Demographic and Health Surveys Program
FP2020	Family Planning 2020
GHSC-PSM	Global Health Supply Chain Program–Procurement and Supply Management
HCWM	health care waste management
IAPHL	International Association of Public Health Logisticians
IUD	intrauterine device
JSI	John Snow, Inc.
LARC	long-acting reversible contraception
MoH	Ministry of Health
NACME	National Advisory Committee on Medical Equipment
NEMA	National Environmental Management Authority
NMS	National Medical Store
PMA2020	Performance Monitoring and Accountability 2020
RHSC	Reproductive Health Supplies Coalition
SDP	service delivery point
SPA	Service Provision Assessment
SSWG	Systems Strengthening Working Group
TAC	Technical Advisory Committee
UNFPA	United Nations Population Fund
USFDA	U.S. Food and Drug Administration

Executive Summary

The family planning community has celebrated significant strides in securing a stronger supply chain for family planning and addressing critical barriers to service delivery, resulting in improved access to family planning for individuals around the world. However, supply chain improvements to date have largely focused on the commodities themselves—intrauterine devices (IUDs), implants, injectables, and so on—often failing to incorporate the corresponding consumable supplies and equipment needed to administer these contraceptives. This begs the question: What happens when a clinic has the commodity—an implant or IUD, for example—and the skilled health care provider, but lacks the materials—like gloves or forceps—needed to safely insert or remove it? The timely and safe delivery of quality family planning services could be compromised or disrupted and the client’s right to safe and quality contraceptive choice and services is put at risk.

This white paper therefore seeks to explore **the extent and ways in which consumable and equipment unavailability affect the achievement of national and global family planning goals**. To date, evidence, knowledge, and perspectives on this topic have been fragmented, poorly documented, and are challenging to quantify. By characterizing and documenting this issue, this white paper aims to reveal gaps in the global family planning supply chain for equipment and consumables, in turn **creating a sense of urgency and opportunity for strategic action**.

The development of this white paper involved a multistep, iterative process aimed at codifying the existing literature on consumable and equipment unavailability, and utilized qualitative methods to shed light where existing literature

fell short. The methods included a literature review; the assembly and regular insight of a Technical Advisory Committee (TAC) of global supply chain experts; country consultation workshops held in Uganda, Nepal, and Ghana; a survey of IAPHL and RHSC members; and a review of country data on family planning services (including costed implementation plans [CIPs], supply plans, UNFPA procurement data, and data available in the PMA family planning briefs and DHS SPAs).

Findings revealed a series of gaps among supply chain actors for equipment and consumables: Donors don’t systematically articulate expectations around equipment and consumables nor regularly fund these items. Globally-available planning tools for procurement and budgeting fail to prompt users about requisite equipment and consumables for the contraceptives being procured. Costed implementation plans are woefully inconsistent in their inclusion of equipment and consumables, ranging from fully costed into the plan to no consideration at all. Standard lists of materials required, and even consumable kits for implants, are available but largely unknown and lacking in contextual specificity desired by country stakeholders. There is no known method for quantifying family planning equipment and consumable, hindering national and facility decision making. Few policies, regulations or guidelines govern the standards of medical equipment and consumables procured and used. And as nations devolve supply chain management, consumables and equipment are often an afterthought – leaving them vulnerable and overlooked. The complex issue of consumables and equipment is, indeed, complex. Furthermore, these issues may manifest in more profound ways in settings that are (1) introducing or scaling consumable and equipment-dependent methods like LARCs, (2) witnessing method shifts towards LARCs, (3) increasing distribution points through task-shifting or task-sharing, (4) undergoing supply chain devolution, or (5) increasing financial autonomy at subnational and/or facility levels.

In light of these findings, we make the following global recommendations:



WE NEED EVIDENCE THAT CAPTURES IMPACT

To fully document, quantify, and understand the extent to which the lack of equipment and consumables impacts the delivery of safe, timely family planning services, significantly more research is required.



WE NEED A BETTER UNDERSTANDING OF WHAT HAPPENS WITHIN FACILITIES

Additional investigation is needed to explore the different ways in which facility-level procurement occurs, and how the ideal solutions might look. In particular, we need to explore consumables and equipment as integrated materials, used across services (and the implications of this).



WE NEED TO DEVELOP METHODS TO QUANTIFY EQUIPMENT AND CONSUMABLE NEEDS

This is a first step towards getting the practical data needed to enhance visibility of this problem and could help resolve some data-driven challenges.



ROLES, FUNDING LINES, AND ACCOUNTABILITY ON EQUIPMENT AND CONSUMABLES NEED TO BE MADE EXPLICIT

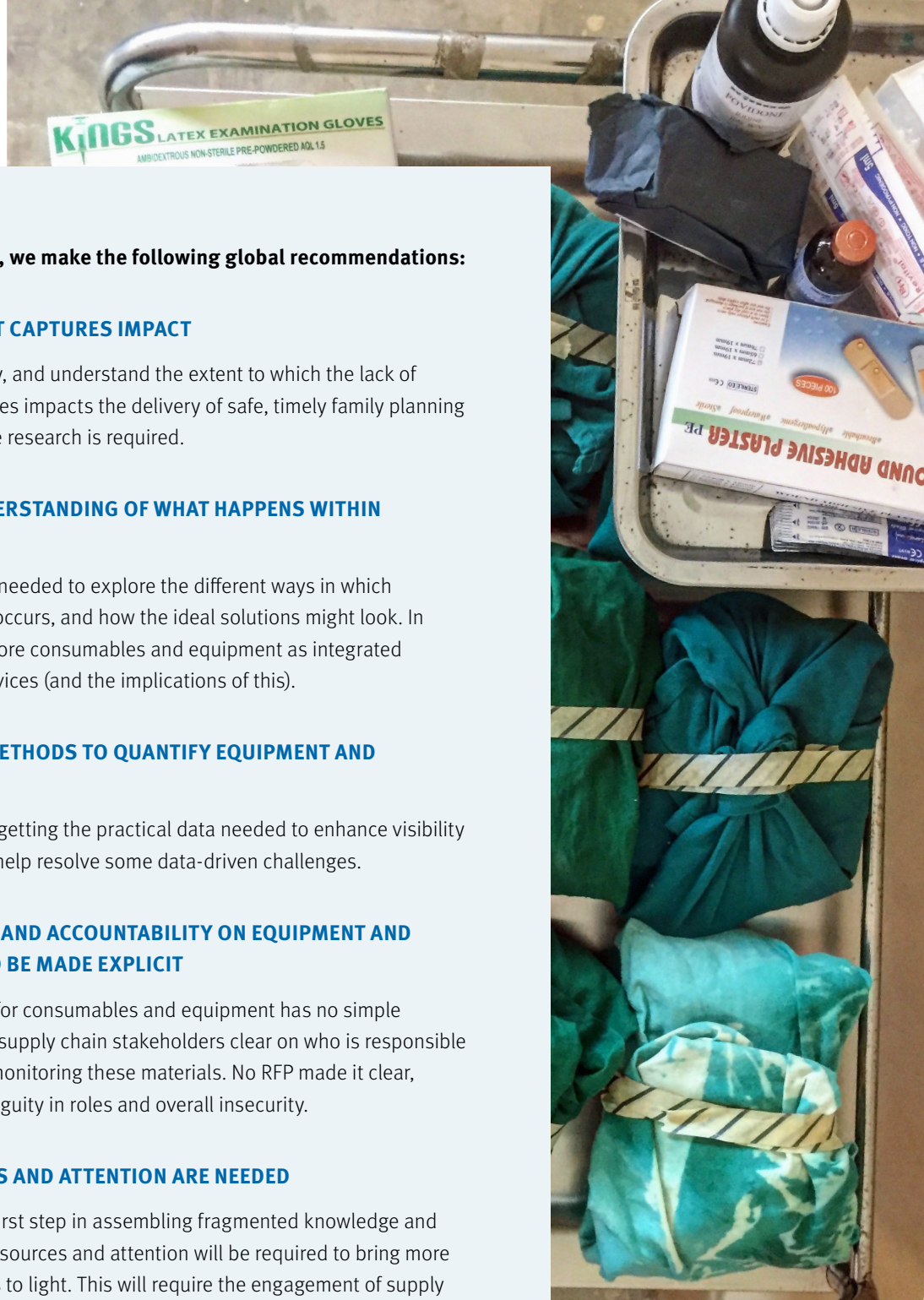
The question of who pays for consumables and equipment has no simple answer. In no setting were supply chain stakeholders clear on who is responsible for funding, procuring, or monitoring these materials. No RFP made it clear, either. This has led to ambiguity in roles and overall insecurity.



ADDITIONAL RESOURCES AND ATTENTION ARE NEEDED

This white paper is only a first step in assembling fragmented knowledge and perspectives. Additional resources and attention will be required to bring more perspectives and solutions to light. This will require the engagement of supply chain and costing experts as well as personnel who can carry forward the advocacy messages and actionable outcomes.

A failure to address the supply chain gap of equipment and consumables threatens to undermine the incredible global progress that the family planning community has seen in improving access to family planning. By creating a sense of urgency to address these obstacles, providing a series of global, national, and subnational recommendations and a set of advocacy resources, we are hopeful that key stakeholders will view this as an opportunity to improve the quality of family planning service delivery and meet the needs of even more family planning users around the world.



Introduction

This white paper seeks to explore the extent and ways in which consumable and equipment unavailability affect the achievement of national and global family planning goals. Although there is some existing global understanding on the challenges posed by consumable and equipment unavailability, knowledge to date has remained fragmented, poorly documented, and is challenging to quantify. Without characterizing these gaps in the consumable and equipment family planning supply chain, as well as their causes and their implications, it is difficult to acknowledge and act on them. By characterizing and documenting this issue, this white paper aims to reveal gaps in the global family planning supply chain, in turn creating a sense of urgency and opportunity for strategic action.

Intended Audience

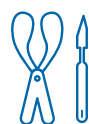
Several audiences would benefit from the findings of this white paper, including global health experts, donor organizations, family planning providers, family planning advocates, implementing organizations, supply chain experts, and government representatives. Of note, because this paper is intended to shed light on an underrepresented issue, it includes key advocacy messages to galvanize action to address family planning supply chain gaps. Users can adapt these advocacy messages to demand action that will close the consumable and equipment gaps highlighted within.

Defining Essential Supplies

To explore the supply chain gaps in achieving reproductive health commodity security, it is important to understand the equipment, instruments, supplies, and consumables required for contraceptive service provision. For the purpose of this paper, we will primarily discuss these items in two major categories:



Consumables: expendable materials for one-time use. Examples include gloves, gauze, anesthetic, and iodine.



Equipment: instruments and other reusable materials, generally used more than once with some type of processing for infection prevention and control between uses. Examples include a towel, forceps, scalpel handle, and kidney dish.

Although items such as autoclaves could also be considered equipment, we generally focused more so on items needed at the immediate time of service and less on items needed upstream. The parameters of this paper include a focus on reproductive health, and upstream equipment is rarely isolated by service area.

Essential supplies are necessary for a series of reproductive health and family planning methods and procedures, including hormonal implants, IUDs, male and female sterilization, and in some cases injectable contraception (wherein syringes are separate from the DMPA or NET-EN), though this white paper will mostly focus on materials required for the provision of IUDs and hormonal implants given current trends in LARC adoption worldwide and subsequent urgency to resolve gaps in their provision. A full list of the equipment and consumables required for insertion and removal of LARCs, including specifications and quality guidelines, adapted from EngenderHealth, is available in Annex A.

Rationale

Globally, the family planning community has celebrated significant strides in securing a stronger supply chain for family planning and addressing critical barriers to service delivery. Through improvements to commodity security, countries have reduced the frequency of contraceptive stockouts.¹ Advancements in the health workforce have also accelerated global access to family planning through training of health professionals, quality improvement measures, and expanding the number of health workers who can deliver a range of contraceptive options, including long-acting reversible contraceptives (LARCs).^{2,3} There are certainly still gaps—reaching rural communities, addressing procurement obstacles, addressing barriers for vulnerable populations, broadening access through task-sharing and other channels—but overall, the movement toward universal access to family planning is headed in the right direction.

Given the criticality of the family planning supply chain, numerous efforts have been carried out to avoid contraceptive stockouts. For example, the global community has dedicated resources to improving the supply chain of global family planning commodities through efforts such as the Coordinated Supply Planning group, which supports the

United Nations Population Fund (UNFPA) and USAID to coordinate supply procurement of family planning products.⁴ The Reproductive Health Supplies Coalition (RHSC) Coordinated Assistance for Reproductive Health Supplies (CARhs) is another example of global family planning supply chain improvement, focused on country ownership of supply chains and contraceptive supplies.⁵ Within countries, advances abound and there are too many to list.

However, supply chain improvements to date have largely focused on the supply chain logistics for commodities themselves—intrauterine devices (IUDs), implants, injectables, and so on—often failing to incorporate the corresponding consumables and equipment needed to administer the contraceptive services. Family planning commodities are not typically packaged with the requisite materials to administer them. Consumables and equipment for family planning services include items such as cotton wool, iodine, autoclaves, forceps of various types, gloves, scalpel blades and handles, and other materials beyond the actual contraceptive commodity that are needed to provide safe, quality family planning services.

This begs the question: What happens when a clinic has the commodity—an implant, for example—and the skilled health care provider, but lacks the materials needed to safely insert or remove it? The timely and safe delivery of quality family planning services to clients could be compromised or disrupted. At the time and point of service, the availability of gloves is equally critical to the availability of the implant and the competent provider. Without gloves, the effort to have all other elements of safe contraceptive provision in place is

1 Karim A, Bieze B, Chimnani J. 2008. Measuring family planning logistics system performance in developing countries. Working paper, USAID DELIVER Project, Arlington, VA. http://pdf.usaid.gov/pdf_docs/PA00MH21.pdf

2 Jacobstein R. 2018. Liftoff: the blossoming of contraceptive implant use in Africa. *Glob Health Sci Pract* 6(1):17–39.

3 Family Planning 2020. 2018. Implant access program: expanding family planning options for women. Factsheet. http://www.familyplanning2020.org/sites/default/files/Our-Work/ppfp/2018%20IAP%202%20pager_VF.pdf

4 UNFPA. UNFPA supplies: Strengthening supply chains. https://www.unfpa.org/sites/default/files/resource-pdf/Supply_Chain_brief.pdf

5 Reproductive Health Supplies Coalition (RHSC). 2020. Coordinated assistance for reproductive health supplies. RHSC website. <https://www.rhsupplies.org/activities-resources/groups/systems-strengthening-working-group/workstreams/coordinated-assistance-for-reproductive-health-supplies/>

undermined. And, most importantly, the client's right to safe and quality contraceptive choice and services is put at risk.

Although the criticality of these materials is inherent, little is known about the extent to which consumable and equipment shortages prevent the provision of safe, high-quality family planning services. Service delivery point assessment surveys, such as those conducted by Performance Monitoring for Action (PMA) and the Demographic Health Survey (DHS) Program's Service Provision Assessment (SPA) surveys, are the broadest data sets available on equipment and consumable availability at the point of family planning service. They are, however, insufficient for determining the extent to which material unavailability prevents the fulfillment of a client's contraceptive choice. Despite this limitation, these surveys offer important visibility into availability of these critical materials, from which the impact on broader service availability and choice can be extrapolated.

The PMA family planning briefs, which report data on various family planning indicators across 11 countries primarily in sub-Saharan Africa, include indicators on consumable and equipment availability at service delivery points that provide implant and IUD services.^{6,7} An analysis of the most recent family planning briefs available for each country (or subnational-level region, where PMA conducts surveys at that level), an average of 85% of facilities that provide implants had the necessary consumables and equipment for an implant insertion and removal on the day of the survey.⁸ This number varies by region, with as little as

58% of facilities stocked with the needed equipment and consumables for implant insertion and removal in Niamey, Niger, and as many as 92% in Côte D'Ivoire and the Democratic Republic of the Congo (DRC). Similarly, PMA family planning briefs reveal that for IUD insertion and removal, an average of 88% of the facilities that provide IUD services had the necessary consumables and equipment. Again, there is variance based on region, with as little as 53% of facilities stocked with the needed materials in Niamey, Niger, and as many as 93% in Côte D'Ivoire.^{9,10,11}

The SPA surveys administered by the DHS Program are intended to evaluate a country's health service delivery, exploring indicators on health service availability, facility readiness to deliver services, standard of care, and client satisfaction.¹² One of the key services evaluated by the SPA surveys is family planning service delivery, and in the SPA questionnaire, facilities are assessed on the availability of essential consumables and equipment for family planning, including the availability of specific consumables and equipment, and on the relevant processing, maintenance, and storage.^{13,14} For IUD insertion and removal, 11%–58% of the facilities surveyed had all materials needed for an insertion and removal (including the IUD). Similarly, for implant insertion and removal, 54%–92% of the facilities surveyed reported having all required materials for both insertion and removal (including the implant). Excluding the contraceptive, the basic items for IUD insertion and removal were available at 10%–77% of service delivery points.¹⁵ Tables 1 and 2 summarize the findings from the SPA reports,

6 Performance Monitoring for Action (PMA). About. PMA website. <https://www.pma2020.org/about> [Updated 2020].

7 PMA has published family planning briefs for Burkina Faso, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, India, Indonesia, Niger, Nigeria, and Uganda.

8 The publication year for the PMA data varies based on the most recent year available per country. The range is from 2017–2019, and the data collection round ranges from Round 2 in some countries to Round 7 in others. Also, note that the data published for Nigeria, India, and Niger included subnational-level briefs rather than country-level briefs. All family planning briefs can be accessed via PMA: <https://www.pma2020.org/fp-briefs>.

9 Percentages were calculated by summing the total number of facilities (both public and private) for which there was data, and then taking the percentage of facilities that did not have the necessary consumables and equipment

10 For all of the PMA family planning service delivery surveys, the questions on supply availability are specific to the date of the survey. PMA notes, "Read out all supplies and select all that apply. Supplies do not need to be observed, but must be available on the day of the interview." For reference, please see the PMA service delivery point questionnaire at <https://www.pma2020.org/sites/default/files/SQ-English-2017-12-12.pdf>.

11 Data for Côte D'Ivoire is an average across public and private facilities. For both IUDs and implants, Côte D'Ivoire reported 100% availability of equipment and consumables.

12 See Tables 1 and 2 for specific findings related to consumable and equipment availability for IUD and implant insertion/removal.

13 Demographic Health Surveys (DHS) Program. SPA Overview. DHS website. <https://dhsprogram.com/What-We-Do/Survey-Types/SPA.cfm> [Updated 2020].

14 DHS Program. 2012. SPA Inventory Questionnaire. DHS website. https://dhsprogram.com/pubs/pdf/SPAQ1/INVENTORY_o6o12o12.pdf.

15 All SPA data is pulled from the final report for each country. The date of publication varies based on the date of assessment. See Annex B for a full list of SPA reports and citations. Please note that the SPA surveys indicate one specific point in time (date of survey) and not a period of time. Percentages and weights were reported as they were in the final report for each survey.

TABLE 1. AVAILABILITY OF ESSENTIAL INSTRUMENTS AND SUPPLIES FOR IUD INSERTION AND REMOVAL

COUNTRY SURVEY (YEAR) NUMBER	CLEAN OR STERILE LATEX GLOVES	ANTISEPTIC SOLUTION	SPONGE HOLDING FORCEPS	SPECULUM	TENACULA	UTERINE SOUND	ALL BASIC ITEMS	IUD METHOD AVAILABLE	ALL ITEMS INCLUDING METHOD
Egypt (2004) n=625	42%	89%	53%	94%	93%	93%	23%	98%	11%
Ghana (2002) n=201	92%	68%	91%	92%	16%	15%	63%	76%	50%
Namibia (2009) n=20	100%	90%	65%	70%	25%	35%	10%	25%	—
Kenya (2010) n=220	98%	94%	86%	89%	80%	79%	67%	90%	58%
Rwanda (2007) n=57	95%	77%	61%	74%	65%	51%	42%	58%	25%
Uganda (2007) n=18	96%	79%	74%	78%	62%	74%	51%	70%	35%

Notes: In Ghana, “all items” was defined as “clean or sterile gloves, antiseptic solution, sponge holding forceps, speculum, tenacula, uterine sound, or IUD kit with tenacula, uterine sound, and IUD.” Seventy-four percent of facilities reported having an IUD kit with tenacula and uterine sound. “—” indicates that the item was not on the list for that country.

Data source: SPA final reports. Note: There are SPA surveys for 17 countries; however, only six are represented here. Missing countries either did not include specific instrument and supplies data for IUD insertion and removal in the final report, only did the HIV SPA survey, or do not yet have published data. Percentages and numbers are weighted and are reported as they appear in the SPA final report for each country.

TABLE 2. AVAILABILITY OF ESSENTIAL INSTRUMENTS AND SUPPLIES FOR IMPLANT INSERTION AND REMOVAL

COUNTRY SURVEY (YEAR) NUMBER	CLEAN OR STERILE LATEX GLOVES	ANTISEPTIC SOLUTION	SPONGE HOLDING FORCEPS	SPECULUM	TENACULA	UTERINE SOUND	ALL BASIC ITEMS	IUD METHOD AVAILABLE	ALL ITEMS INCLUDING METHOD
Egypt (2004) n=81	35%	97%	63%	75%	79%	37%	77%	51%	8%
Ghana (2002) n=72	84%	75%	—	84%	89%	6%	9%	72%	46%
Kenya (2010) n=189	83%	95%	84%	94%	99%	75%	73%	83%	45%
Rwanda (2007) n=184	87%	73%	40%	65%	76%	60%	66%	65%	27%
Uganda (2007) n=23	88%	68%	62%	67%	72%	59%	62%	53%	45%

Notes: In Ghana, the list includes forceps for grasping, but also includes “minor surgical kit with scalpel and grasping forceps.” Seventy-four percent of facilities responded yes to having the kit. “—” indicates that the item was not on the list for that country.

Data source: SPA final reports. Note: There are SPA surveys for 17 countries; however, only five are represented here. Missing countries either did not include instrument and supplies data for implant insertion and removal in the final report, only did the HIV SPA survey, or do not yet

including the year of the survey and number of facilities included. The subset of facilities surveyed on the availability of essential consumables and equipment are those that offered implants and/or IUDs at the time of the survey.

Both surveys have limitations. In both survey programs, the list of materials assessed was not exhaustive nor completely consistent across countries.¹⁶ They are also cross-sectional, and in the case of SPA, they are outdated—all SPA surveys included were conducted between 2002 and 2010. The data collection also misses capturing the adequacy of product volumes or quantities. Finally, this method of data collection misses capturing shared use of materials across units—a practice about which we have little insight. For example, do providers only pull consumables and equipment from the unit in which the service is offered, or might they, for example, grab gloves from an adjacent unit when a client presents for a service that requires glove use?

Turning to the literature, the most recent peer-reviewed analysis of supplies for family planning delivery in multiple countries was conducted in 1998. It revealed that less than 25% of the service delivery points studied had all five required items for providing pelvic exams.¹⁷ In a Population Council study evaluating the USAID Acquire Project, findings suggested that a lack of essential supplies, particularly recurring expendables and sterilization consumables, were cause for concern in the provision of postabortion care services. The study notes, “Concerns emerged during the second round of data collection that there were shortages of some essential supplies at the pilot sites, specifically recurrent expendables and sterilization consumables.”¹⁸ Both of these studies reveal a gap in the supply chain to ensure consistent access to reproductive health supplies and equipment, though neither is specific to contraceptive service delivery.

The literature also revealed that discussions surrounding supplies are often embedded in conversation about other structural challenges or broad categories within the commodity supply chain, rarely isolated product by product. For example, one report states that “[a] health facility’s structural factors such as staffing levels, management, availability of materials and equipment were found to be associated with the quality of care in family planning services.”¹⁹ Another defines reproductive health supplies as “encompassing any material or consumable needed to provide reproductive and sexual health services—including but not limited to contraceptives, drugs, medical equipment, instruments, and expendable supplies for family planning, for prevention and treatment of sexually transmitted infections including HIV and AIDS, and for maternal health and ensuring safe delivery and postpartum care.”²⁰ Budgeting often follows a similar trend, noting “reproductive health supplies” as a singular category, but not providing separate line items, such as iodine and forceps, or breaking down the list of essential supplies for service delivery.²¹

No literature specifically examines the extent to which consumables or equipment availability affect a person’s ability to enact their contraceptive choice.

Unique project data can also offer insight into the status of equipment and consumable availability. Through a series of projects focused on quality implant removal service availability, Jhpiego is exploring the availability of equipment and consumables for contraceptive implant insertion and removal. A total of 216 facility assessments across six countries (Burkina Faso, DRC, Nigeria, Tanzania, Kenya, and Uganda) between 2016 and 2019 revealed that only 11% of facilities actively providing implant insertion and removal services had all of the necessary equipment and consumables to do so.²²

16 Currently, all SDP briefs list the necessary supplies for implant insertion/removal as clean gloves, antiseptic, sterile gauze pad or cotton wool, local anesthetic, sealed implant pack, and surgical blade. In most briefs, the supplies for IUD insertion/removal include sponge-holding forceps, speculums (large and medium), and tenaculum. A handful also include a uterine sound. The list is currently being updated (update via correspondence with PMA, April 2019).

17 Miller K, Miller R, Askew I, Horn MC, Ndhlovu L. 1998. Clinic-Based Family Planning and Reproductive Health Services in Africa: Findings from Situation Analysis Studies. Population Council, New York, NY.

18 Wanjiru M, Askew I, Munguti N, RamaRao S, Homan R, Kahando R, Pile JM. 2007. Assessing the Feasibility, Acceptability and Cost of Introducing Postabortion Care in Health Centres and Dispensaries in Rural Tanzania. EngenderHealth and Population Council, New York, NY.

19 Countdown 2030 Europe. 2018. Contraceptive Supplies Financing: What Role for Donors? <https://www.countdown2030europe.org/resources/contraceptive-supplies-financing-what-role-donors>

20 Hoehn K, Compennolle L, Koenig S. 2015. Post-2015 Financing for Reproductive Health Supplies. Reproductive Health Supplies Coalition, Brussels, Belgium.

21 Hoehn K, Compennolle L, Koenig S. 2015. Post-2015 Financing for Reproductive Health Supplies. Reproductive Health Supplies Coalition, Brussels, Belgium.

22 Data not yet published.

Anecdotally, stories abound of medical procedures modified and/or compromised to adjust for lack of appropriate equipment, storerooms filled with materials of incorrect specification (and budgets drained as a result), clients

turned away for lack of materials, and more. With global trends illustrating an increasing adoption of LARCs, the need for necessary equipment and consumables for family planning provision becomes more sizable.

Mapping the Potential Impact of Consumable and Equipment Insecurity

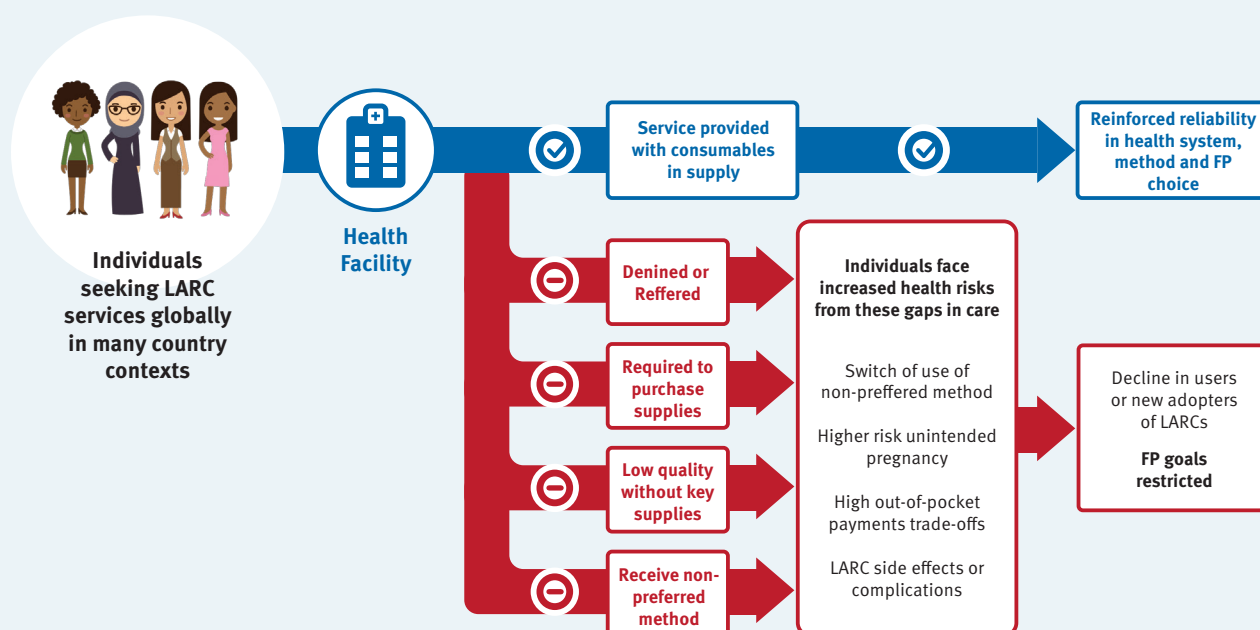
Viewing what equipment and consumable insecurity can mean from a user perspective reveals startling potential impact. A client can experience a number of outcomes when seeking family planning services, depending on whether the consumables and equipment for the client's method of choice are available in the facility. The five scenarios described below purposefully explore outcomes related to consumables and equipment in isolation, though the variables impacting a client's FP experience are of course far more numerous.

In an ideal scenario, the necessary consumables and equipment are available, and the client leaves having received the service corresponding to her method of choice, which contributes to continued reliability in the health system, a family planning method that works for her and her family, and no medical complications caused by the unavailability of consumables and equipment.

However, the unavailability of consumables and equipment can stand in the way of this outcome, resulting in four other, non-ideal, scenarios:

- The client is denied the family planning service altogether or is referred to a different facility.
- The client is asked to purchase the supplies for the procedure (cotton, iodine, forceps, etc.).
- The client receives a low-quality and potentially unsafe service, compromised by a lack of the necessary supplies.
- The client receives a different family planning method than she wanted, one that is less consumable or equipment-dependent.

FIGURE 1. INDIVIDUAL EXPERIENCE WITH SYSTEM GAPS HAS GLOBAL IMPACT



When any of these four non-ideal outcomes occur, the client could face increased health risks, including unintended pregnancy from her inability to receive a method when desired, side effects of a method she did not prefer, or complications due to improper infection prevention practices. These health risks can also incur high individual costs to the patient, whether she is asked to pay for materials, requires advanced care to manage complications, faces unintended pregnancy, or must make multiple visits to fulfill her contraceptive choice. The unavailability of consumables and equipment for family planning also compromises provider safety, for example, forgoing gloves exposes the provider to health risks. Altogether, these non-ideal scenarios can make it appear that LARCs and permanent methods are difficult-to-administer, unreliable, or even unsafe methods. This then inhibits efforts to expand method mix and choice, favoring instead short-acting methods, given the disproportionate reliance on equipment and consumables for LARCs and permanent methods—and without method choice, our family planning goals cannot be met at any level.

This client experience diagram in Figure 1 will serve as a foundation for exploring the obstacles and gaps within the consumable and equipment supply chain, in addition to contextualizing the outcomes that these gaps produce.

Summary of Methods

The development of this white paper included a multistep, iterative process aimed at codifying the existing literature on consumable and equipment unavailability, and utilized qualitative methods to shed light where existing literature fell short. The methods included a literature review; the assembly and regular insight of a Technical Advisory Committee (TAC) of global supply chain experts; country consultation workshops held in Uganda, Nepal, and Ghana; a survey of IAPHL and RHSC members; and a review of country data on family planning services (including costed implementation plans [CIPs], supply plans, UNFPA procurement data, and data available in the PMA family planning briefs and DHS SPAs).

The primary questions explored included:

- › How do donor organizations define roles and set expectations for family planning equipment and consumables in their requests for proposals, requests for quotes, and line item budgeting for family planning programs?
- › How do the global family planning community and globally active institutions (such as FP2020, UNFPA, or non-governmental supply chain experts) address essential equipment and consumables for family planning service delivery?
- › How do national, subnational, and regional governments forecast, supply plan, budget, and procure the essential equipment and consumables for family planning service delivery? How are consumables and equipment captured in governments' plans?
- › What role do facilities play in obtaining and managing essential equipment and consumables for family planning within their facility?

Annex C provides further detail about the methods used to develop this white paper.

Findings

Findings below are organized by supply chain actor. The actors included are those that emerged through the iterative process undertaken for this white paper, and thus may not fully replicate the common definitions of supply chain actors (for example, manufacturers and distributors are not included). This presentation of findings is intended to guide the conversation about potential supply chain gaps and opportunities for addressing the unavailability of consumables and equipment for family planning service delivery. Notably, many findings are actually linked across actors.

Donor Organizations

At the donor level, donor organizations shape global agendas related to family planning by driving attention to the specifics that they include in requests for proposals (RFPs), as well as by setting expectations for programmatic design. How, then, are donor organizations addressing the need for equipment and consumables in family planning service delivery?

Key Findings:



- › Specific equipment and consumables are generally **not mentioned** in donor organization RFPs, annual reports, or program descriptions for contraceptive programming.
- › Donor organizations often **focus on commodity availability** in the supply chain, without addressing equipment and consumable availability.
- › Few donors **systematically fund** the medical equipment, consumables, and instruments associated with the commodities procured in their programming, and few **have policies or processes to verify that recipient institutions have adequate equipment and consumables** to deliver the donor-funded contraceptives.

DETAILED FINDINGS FROM DOCUMENT REVIEWS

To further understand and document the equipment and consumable challenges at the donor level, the Jhpiego team explored five RFPs, request for applications (RFAs), and request for quotes (RFQs), as well as select program reports (all publicly available) that cover donor-funded programs that addressed reproductive health service delivery, supply chain strengthening, or both. The goal was to explore the extent to which donor organizations included (or excluded) consumables and equipment within RFPs, particularly those related to family planning (a few other health programs were included as a reference group).

Although the details varied between the different RFPs, RFAs, and RFQs, a few common themes emerged from this analysis. First, most of the RFPs, RFAs, and RFQs considered mentioned consumables, equipment, and supplies, though the references were usually generic and did not provide line item references (for example, to iodine or specula). Often, references to supplies or equipment concerned the legal guidelines and processes the contractor needed to adhere to when procuring equipment and supplies more generally (for example, legal code surrounding the inspection and procurement of materials related to funded programs), but

did not include a required list of supplies or equipment that should be budgeted or procured for family planning service delivery. Consistently, these RFPs, RFAs, and RFQs included a supplies and equipment category, but did not include line item references to each essential health supply. This framing seemingly leaves the interpretation of essential health supplies to the program implementer.²³

Both the USAID RFA for DELIVER and the USAID RFP for Global Health Supply Chain Program—Procurement and Supply Management (GHSC-PSM) were analyzed given their eventual awards' position as primary mechanisms for global family planning procurement. The USAID DELIVER RFA, issued in 2006, notes that the “purpose of this contract is to increase the availability of essential health supplies (including contraceptives) for USAID beneficiaries.”²⁴ One important reference included in the DELIVER RFA defines “commodity” as “any material, article, supply, goods, or equipment.” The RFA also encourages applicants to include direct costs in proposal budgets that include equipment and supplies (though it does not list the specific items). The DELIVER RFA also required that the award recipient “provide technical support for inclusion of essential commodities, including contraceptives, on essential drug lists and standard treatment guidelines.” There is also reference to the Central Contraceptive Procurement mechanism (CCP) of USAID, which centralizes the financial aspects of USAID-funded contraceptive procurement. The RFA seeks inputs from its eventual awardee on improving the CCP and more seamlessly integrating the procurement of both contraceptives and associated commodities into local supply chains.

In the USAID RFP for GHSC-PSM, issued in 2014, the stated purpose of the contract is to “serve as the primary vehicle through which USAID will procure and provide health commodities for all USAID health programs, including but not limited to, HIV/AIDS, Malaria, Family Planning, and Maternal & Child Health ... [and] to provide systems strengthening technical assistance to improve supply chain management and commodity security in partner countries,” functioning as a follow-on grant to DELIVER.²⁵ The GHSC-PSM RFP also includes separate task orders for family planning, HIV/AIDS, and malaria. Most references to

consumables, equipment, and supplies in the GHSC-PSM RFP are in terms of legal requirements for procuring program materials, or broad references to “health supplies.” However, the RFP emphasizes commodity security as a primary objective of the award, as well as the critical roles of advocacy and strengthened supply chain management for the provision of family planning commodities. The family planning-specific task order also specifies that the award recipient will be tasked with procuring all commodities, including equipment and supplies.²⁶ Similar to DELIVER, the GHSC-PSM RFP generally groups medical supplies and equipment as direct costs and procurement responsibilities of the award recipient, and also defines commodities as including supplies and equipment. Although references to direct costs (including medical supplies and equipment) are included throughout the GHSC-PSM RFP, they are not mentioned explicitly in the RFP’s budget guidance, nor does the RFP break out line item materials to include.

The HIV/AIDS and malaria components of both the DELIVER RFP and the GHSC-PSM RFP included more equipment-specific guidelines and requirements than the family planning components. For example, in the DELIVER RFA, the details note that there will be up to one contract for IUD procurement. In the same section, the RFA notes several components to the malaria procurement contracts, including insecticide-treated nets, net retreatment supplies, rapid diagnostic kits and other lab equipment/supplies, artemisinin-based combination therapy, antimalarial drugs, etc. Although HIV/AIDS and malaria service delivery differ from family planning in many ways, the language surrounding supply chain planning shows greater detail than that used in family planning supply chain planning.

The final RFA included for analysis was the RFA for Systems for Improved Access to Pharmaceuticals and Services (SIAPS). The SIAPS RFA states the program goal as “to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes.” Its focus is pharmaceutical systems strengthening. The RFA does not include specific reference to family planning equipment and supplies, but it does reference the importance of including medical supplies, broadly, as a component of health systems strengthening.²⁷

23 See Annex C: Detailed Paper Methods for a full list of RFPs, RFAs, and RFQs analyzed.

24 USAID DELIVER Request for Proposals. Solicitation Number M/OAA/GH/POP-06-944. Issued May 8, 2006.

25 USAID GHSC-PSM, Request for Proposal (RFP). Solicitation number SOL-OAA-12-000128. Issued January 6, 2014.

26 USAID, GHSC-PSM, RFP, Family Planning Task Order, issued under GHSC-PSM RFP.

27 USAID Systems for Improved Access to Pharmaceuticals and Services (SIAPS), RFA. Issued May 2011.

Global donor reports also helped to highlight the extent to which consumables and equipment fit into the actual implementation and subsequent reporting on these family planning procurement mechanisms. The 2018 annual report of the USAID GHSC-PSM Project (the most current project report at the time of this paper's development) references consumables in the context of the contraceptive implant consumable kits provided through the project, with activities slated to improve strategic sourcing of these kits in collaboration with UNFPA.²⁸ The report also includes a budget line item for "other non-pharmaceutical products," which it lists as including "syringes, medical equipment and/or other supplies to support health facility operations as requested by the country."²⁹ Finally, the 2018 GHSC-PSM annual report provides line item data for supply stock-out

percentages, including both commodities and consumables; however, this data is only available for HIV and malaria programming, and not for family planning. Interestingly, this highlights that granular attention to specific levels of the supply chain (commodities, equipment, and consumables) is possible, yet currently is not being replicated in the family planning space.

The analysis of donor-issued RFPs, RFAs, and RFQs illustrates that consumables for family planning are rarely called out with specificity, with the exception of when they are listed as a singular category (i.e., family planning consumables or commodities). Program references and RFPs for HIV or malaria programming, however, see increased granularity when it comes to equipment and consumables.

DETAILED FINDINGS FROM SURVEYS

To assess how donors perceive the unavailability of equipment and consumables and the corresponding effect on the safe and timely delivery of family planning services, Jhpiego engaged supply chain experts from both RHSC and IAPHL (see text box). The supply chain workforce surveys revealed several interesting trends in policies, processes, and procedures regarding equipment and consumables for family planning service provision by donor organizations. For example, of the IAPHL and RHSC respondents who work for donor organizations (n=13), 46% noted that their organizations fund contraceptive procurement, but only 31% of donors who fund contraceptive procurement answered that their organization always funds the medical equipment, instruments, and consumables needed for the provision of contraceptives. Similarly, of the same donor organizations that fund contraceptives (n=13), 50% responded that their organization does not have policies or processes to ensure that local governments have adequately supplied recipient facilities with the medical equipment, instruments, and consumables that would be necessary to deliver the donor-funded contraceptives. In addition, 67% do not have policies or processes for verifying that recipient facilities are adequately supplied with medical equipment and consumables needed to deliver the services.³⁰

Supply Chain Survey Methods



The Consumables & Equipment Global Supply Chain Survey was sent out to the listservs of both the Reproductive Health Supplies Coalition (RHSC) and the International Association of Public Health Logisticians (IAPHL). A total of 252 responses were collected from national and sub-national government employees, donor organizations, public and private healthcare facilities, medical suppliers and manufacturers, national and sub-national medical stores, implementing partners, and academic institutions. A full list of survey questions can be found in Annex D.

28 USAID Global Health Supply Chain Program: Procurement and Supply Management (GHSC-PSM). Fiscal Year 2018 Annual Report. 2019. https://www.ghsupplychain.org/sites/default/files/2019-07/GHSC-PSM_Qtrly_Report_FY18_Q4_FINAL.pdf

29 USAID Global Health Supply Chain Program: Procurement and Supply Management (GHSC-PSM). Fiscal Year 2018 Annual Report. 2019. https://www.ghsupplychain.org/sites/default/files/2019-07/GHSC-PSM_Qtrly_Report_FY18_Q4_FINAL.pdf

30 Survey questions are included in Annex D: Supply Chain Survey Questions for IAPHL and RHSC Listservs.

Multilateral, Civil Society Organizations

Global family planning community institutions (including multilateral organizations like UNFPA and FP2020) are in a strong position to shape global dialogue surrounding family planning supply. These organizations often support supply chain procurement for family planning, create supply chain planning resources for family planning programs, and offer technical assistance to organizations and governments as they navigate the scaling up of family planning programs. How do the global family planning community and globally active institutions address essential equipment and consumables for family planning service delivery?



Key Findings:

- › Tools like the CIP costing tool **do not specify the consumables and supplies** required for service provision.
- › Although procurement of contraceptive commodities (such as IUDs or implants) is tracked through a centralized mechanism such as UNFPA, these data **do not regularly include** procurement details for the associated **consumables and supplies**.
- › **UNFPA offers an implant consumables kit for procurement**, with current procurement levels that meet a small fraction of annual implant procurement volumes.
- › **A standardized equipment and consumable list exists** for all LARCs and permanent methods, though it may not be widely utilized.
- › **No standardized forecasting formula or guidance exist** for consumables and equipment.
- › Although there are some global standards on the essential equipment and consumables required for LARC methods, there is **no guidance on adapting global standards to country contexts**.

DETAILED FINDINGS FROM THE LITERATURE

Although specific supply chain planning, quantification, and budgeting generally happens at the national level (through CIPs, supply plans, procurement plans, etc.), global family planning experts and multilateral organizations often play a role in providing technical assistance to develop these plans. The family planning CIP costing tool, for example, supports country-level decision-makers in planning for family planning implementation, including the associated costs for family planning program scale-up.³¹ The tool advises users to input the costs associated with each family

planning method, including the commodity, associated consumables, procurement fees, freight costs, and additional fees that may stem from clearing, testing and oversight, or insurance.³² Although the tool does encourage decision-makers to input the costs associated with “implant consumables” and “IUD consumables,” it does not include a detailed breakdown of the consumables required, nor does it advise on specific quantities for each method choice. How much iodine or cotton wool, for example, is required for one implant insertion?

31 Health Policy Plus. 2017. Family Planning CIP Costing Tool: User Guide. Health Policy Plus, Washington, DC. http://www.healthpolicyplus.com/ns/pubs/2101-3171_CIPCostingandGapToolCombinedUserGuidev.pdf

32 Health Policy Plus. 2017. Family Planning CIP Costing Tool. http://www.healthpolicyplus.com/ns/pubs/2101-3212_FamilyPlanningCIPCostingTool.xlsx

The lack of specificity in the CIP costing tool sheds light on a common gap: How does one quantify the required consumables per IUD or implant procedure? Through conversations with global family planning supply chain experts, the issue of quantification arises as a regular barrier to effectively procuring the consumables and equipment needed for LARC insertion and removal. There is a recognition that these consumables and equipment are a necessary component of family planning service delivery, but there is a knowledge gap regarding the quantities needed for a single procedure, which could then be extrapolated to consumable and equipment needs for the population. These family planning experts and multilateral organizations are often the ones shaping CIPs or country-level planning.

UNFPA is a common mechanism for obtaining contraceptive commodities for countries around the globe, although consumable and equipment procurement for family planning is not often conducted through UNFPA's mechanism. UNFPA offers two methods that countries and other procurers can use to obtain LARC consumables and/or equipment. First, an implant consumables kit was developed and entered into UNFPA's catalog around 2015 in an effort coordinated by the Clinton Health Access Initiative (CHAI) under the Implants Access Program. The kit contains consumables to cover 25 implant procedures (20 insertions and five removals). The kit appears to work for certain settings such as Ethiopia, Liberia, and Madagascar, who collectively dominate procurement of these kits. However, this is a small fraction of the consumable needs for implants. For example, 68,232

kits were procured from UNFPA in 2018, whereas over that same period, more than 11.5 million implants were procured.^{33,34} A second method for procuring consumables and equipment for family planning provision from UNFPA comes from an unlikely source: the Inter-Agency Reproductive Health Kits for Crisis Situations. These kits include prepackaged medicines, devices, and commodities necessary to provide basic, minimum, lifesaving services at the early phase of a humanitarian emergency. They are meant to support basic lifesaving interventions, including family planning, and are not built to be context specific or reflect the nuanced method mix and availability of any given setting (instead their contents are calculated based on global assumptions around method mix, for example). Because the kits favor needs for immediate distribution over the contextual needs of a particular setting, they are inherently wasteful and expensive. Use beyond their intended purpose for the early phase of a humanitarian emergency response is not recommended, and yet transitioning countries off of the kits and back to sustainable supply lines has proved challenging.³⁵ Additionally, countries have attempted to procure the kits during stable times, seemingly due to the perceived ease with which their equipment and consumable needs could be met from a single procurement. Use of the emergency reproductive health kits for routine service delivery is discouraged, though the demand for them signals breaks in the consumable and equipment supply chain that leave procurers with limited options to meet service delivery needs.

DETAILED FINDINGS FROM CONSULTATIONS

The country consultations also revealed supply chain gaps associated with a lack of guidance on standard equipment lists for family planning service delivery.³⁶ In both Uganda and Nepal, stakeholders cited a lack of standardization of the necessary equipment and consumables as a critical barrier to successful equipment and consumable access

throughout each country: If local procurement staff do not know exactly what they need, they are unlikely to get the correct items in the right quantities. For example in Uganda, the stakeholders cited barriers to uniformity, quality, training, logistics management, and product maintenance due to lack of a standard equipment, specifically regarding

33 Email correspondence with members of UNFPA's Commodity Security Branch.

34 RH Interchange public data on implant procurement, accessed December 2019.

35 Email correspondence with members of UNFPA's SRH in Emergencies team.

36 Detailed information about the country consultative workshops can be found in Annex C: Detailed Paper Methods. Case studies on the three country contexts (Uganda, Nepal, and Ghana) can be found in Annex E: Supply Chain Case Studies.

brand and model. The stakeholders in Uganda also noted that previous guidance surrounding standardized equipment and consumables lists is dated and needs to be updated for current requirements and best practices. In Nepal, the conversation regarding the lack of standardization focused more on a lack of standards and specifications within procurement processes.

The stakeholders in Ghana, however, noted that there are occasions in which global health experts provide local guidance regarding equipment and consumables standards. For example, IPAS currently supports facilities in forecasting equipment and consumable needs. The stakeholders also commented that whereas some standardized lists are available locally, they would prefer customized lists that consider local context and nuances of local family planning implementation.

Although there was variation in the feedback from supply chain stakeholders regarding the role that the global community plays in country-level forecasting and procurement, one consistent message was that additional guidance on essential health supplies, acceptable brands, and recommendations for adaptation to country contexts would be helpful.

Country Consultation Methods



Country consultations were conducted in Nepal, Uganda, and Ghana to engage supply chain experts in settings with very different family planning landscapes and supply chains. These consultations engaged more than 30 experts each across government, district health, public and private procurement bodies, implementing partners, and direct clinical providers. The following activities were included:

- › Characterizing the supply chain for equipment and consumables for family planning
- › SWOT (strengths, weaknesses, opportunities, and threats) analysis of the existing supply chain
- › Discussion of strategic opportunities

DETAILED FINDINGS FROM SURVEYS

The global supply chain professional workforce survey also revealed interesting insights into the ways in which implementing partners account for consumables and equipment within their programs. In total, 88 responses were collected from respondents whose primary affiliation was as an implementing partner. Seventy-five of those respondents noted that their organizations procured or supplied family planning commodities within their programs. Of those organizations, **only 28%** responded that their organization **always** supplied medical equipment, instruments, and consumables within its programs. And only 38% of respondents noted that their organizations had policies, processes, or practices to ensure that partner governments have adequately supplied program-site health care facilities with the medical equipment and consumables that will be necessary to deliver program services.

Although procurement and supply chain planning generally occurs locally, these observations suggest that multilateral organizations, implementing partners, and global family planning experts do not consistently account for equipment and consumables within global resources or technical assistance.

National and Subnational Governments

For most family planning programs, planning and procurement occurs at the national and subnational level, and occasionally regionally. Each country has a unique set of supply chain challenges, procurement processes, and different standards and regulations that surround medical equipment and materials. Procurement of consumables is almost exclusively locally driven and managed in-country.



Key Findings:

- › Analysis of country **CIPs finds them inconsistent in their inclusion of equipment and consumables** for planning and costing, ranging from no mention of equipment and consumables, to full costing per family planning user, inclusive of these materials.
- › Among those working for national or subnational governments, about half noted that there are **policies, regulations, or guidelines that mandate the standards of quality** for reusable medical equipment and instruments and about half noted there were policies in place for the regulation of the standard of quality for medical consumables.
- › Country consultations revealed that **mechanisms for procuring equipment and consumables in devolved health systems had not yet been explored or systematized** (e.g., pooled procurement).

DETAILED FINDINGS FROM LITERATURE

To further investigate gaps within national government planning, a targeted analysis of CIPs was conducted. It is important to note that the CIPs are not necessarily intended to guide procurement and purchasing, but rather to provide cost estimates for family planning program implementation; however, a review of CIPs can still highlight potential gaps in accounting for equipment and consumables in the context of family planning program design. CIPs from four countries—Uganda, Ghana, Nepal, and Indonesia—were evaluated for the inclusion of essential equipment and consumables in family planning CIPs to better understand the extent to which this arises as a national planning issue.

In the four CIPs analyzed for this white paper, the inclusion of equipment and consumables ranged from a reference to the need to account for these materials to full costing information and funding allocations. In Uganda, for example, the CIP specifically notes family planning consumables within the forecasting and stocking activities and the need to have designated funding alongside commodity funding. The Uganda CIP also notes current challenges in budgeting for equipment and supplies, but does not provide much specificity about the particular equipment, supplies, or consumables required.³⁷ The Ghana CIP regularly references consumables as a key direct cost for family planning service delivery and implementation, and calculates cost per family planning user to include direct consumables. Ghana's CIP

37 Ministry of Health, Uganda. 2014. Uganda Family Planning Costed Implementation Plan, 2015–2020. Ministry of Health, Uganda. https://www.healthpolicyproject.com/ns/docs/CIP_Uganda.pdf

also makes regular references to funding and replacing equipment and notes the necessity to include supplies in budgeting activities.³⁸ The Indonesia CIP also notes the importance of including consumables in costing and calculates programmatic costs and costs per user to include consumables. Although equipment is not referenced in the Indonesia CIP, supplies are regularly mentioned and are included in total cost calculations.³⁹ The Nepal CIP, however, does not mention consumables or equipment. The CIP notes the importance of supplies and acknowledges current country-level challenges in budgeting for supplies in the delivery of family planning programs.⁴⁰ Although these findings suggest that national governments are, at the very least, considering consumables and equipment as CIPs are developed, the inclusion of consumables and equipment in specific budgets, forecasting models, and total costs is inconsistent.

The review of these four CIPs indicated that CIP planning and development varies substantially from country to country, which is likely due to a variety of factors: whether the CIP costing tool is utilized, the supporting organization leading the CIP development, the availability of local expertise on costing and forecasting, and the availability of accurate pricing information for family planning service commodities, equipment, and consumables. To further investigate the planning and quantification process at the national level, country-level supply plans for Tanzania and Liberia were also evaluated.⁴¹ Neither plan specifically includes consumables or equipment for LARC methods, though both emphasize challenges with family planning quantification more generally. The forecasting and supply plans detailed in both quantification reports are restricted to commodities, suggesting that country-level supply planning for family planning services is not inclusive of consumables or equipment in either context.

DETAILED FINDINGS FROM CONSULTATIONS

The country consultative workshops highlighted several national- and subnational-level challenges that each country faces in creating access to the needed equipment and consumables for family planning service delivery. In Nepal, forecasting challenges were cited as a barrier due to the lack of locally available technical expertise within the government units where they are most necessary. For both Uganda and Nepal, the challenge in forecasting equipment and consumables was underscored by a lack of understanding of how equipment and consumables are consumed—the formula is often not as simple as for commodities. An instrument (e.g., forceps) has a lifetime that could serve hundreds of clients, and consumables are often not 1-to-1 either.

Stemming from a gap in global guidance on essential health supplies for family planning service delivery, the stakeholders in Uganda also pointed to a national-level gap on standardization of consumables and equipment that could be used. Stakeholders voiced that brand variety resulted in confusion about standards, and they wanted verification from national-level leaders on acceptable brands for family planning service delivery. During the country consultative workshop, Ugandan stakeholders commented that they were in the process of developing a new standardized list, but acknowledged that current resources were out of date and likely did not fit current requirements. Further, stakeholders pointed to a lack of national policy on equipment and consumables, noting that a national-level policy, informed by data, was crucial to standardizing equipment and consumables nationwide.

38 Ministry of Health, Ghana. 2015. Ghana Family Planning Costed Implementation Plan. Ghana Family Planning Costed Implementation Plan, 2016–2020. Government of Ghana, Ministry of Health. http://www.healthpolicyproject.com/ns/docs/Ghana_FP_CIP_9_28.pdf

39 UNFPA Indonesia. 2017. A rights-based strategy for accelerating access to integrated family planning and reproductive health service to achieve Indonesia's development goals: Costed Implementation Plan, 2017–2019. <https://indonesia.unfpa.org/en/publications/costed-implementation-plan-2017-2019-rights-based-family-planning-strategy>

40 Ministry of Health and Population, Nepal. 2015. National Family Planning Costed Implementation Plan, 2015–2020. Government of Nepal, Ministry of Health and Population. <https://nepal.unfpa.org/en/publications/national-family-planning-costed-implementation-plan-2015-2020>

41 These supply plans are not published or publicly available, but were made accessible by partner organizations in the consultative process.

In both Uganda and Nepal, stakeholders also voiced supply chain considerations and concerns that surface **after** procurement. For example, medical equipment and consumable disposal was a key challenge within the supply chain in both countries, with Uganda stakeholders noting poor management and a lack of funding, while Nepal stakeholders noted that guidance had been developed, but not disseminated to local authorities and therefore lacked enforcement. Similarly, the stakeholder workshop in Nepal also revealed challenges with local-level storage infrastructure. In Uganda, stakeholders also noted that there was a lack of guidance about correct disposal and recycling of materials from the national level. In both Nepal and Uganda, stakeholders noted that strategies for inventory and logistics management had been trialed in limited scope through pilot testing, but had not been effectively picked up for expansion and scale. Similarly, they noted that addressing family planning supply chain logistics in isolation may prove to be ineffective, largely due to general health supplies challenges within local supply chains.

In addition to national-level forecasting and supply management challenges, stakeholders in Nepal also pointed to supply chain challenges associated with human resource management. The stakeholders in Nepal voiced challenges with the recent health system decentralization, and therefore a lack of clear understanding of roles,

responsibilities, and processes within health care as a whole. The devolution of supply chain management was named as a risk to consumable and equipment security in Uganda as well.

Notably, participants in the Ghana consultation shared additional experience having fully costed the family planning equipment and consumables in their CIP as referenced above. They recommended other countries include these materials in their CIP budgets for a few key reasons. First, it de-risks their investment in their family planning program by comprehensively capturing all inputs required to deliver on their family planning goals. Second, the costing exercise lays a critical foundation for the national health insurance scheme, articulating costs in a manner consistent with the costing exercises undertaken to balance the scheme's budget. Third, the costing gives family planning stakeholders data that can be used to solicit funding/financing. These participants did note, however, that inclusion in the CIP was just a first step, and that full implementation requires financing and prioritization during the subsequent steps. Participants also clarified that costing out of consumables and equipment in the CIP is a valuable exercise, but in practice it is quite complicated due to the inability to isolate consumables (gloves, for example) for family planning alone, since in reality, they are used by other units.

DETAILED FINDINGS FROM SURVEYS

The global supply chain survey also indicated potential government-level gaps in the supply chain. In the survey, 29 respondents represented national and subnational governments, and the majority (62%) noted that there are policies, regulations, and guidelines that define what equipment and consumables must be available for family planning service provision. However, only 45% of the respondents noted that there are policies, regulations, or guidelines that mandate the standards of quality for **reusable medical equipment and instruments** (with 27.5% being unsure, and 27.5% noting that there are not policies to this effect). Similarly, only 48% noted that policies are in place for regulating the standard of quality for medical consumables. Although the gaps in procurement of equipment and consumables cannot necessarily be isolated to a lack of policies or regulations, fewer than 50% of the respondents were aware of such policies in their countries.

| 45%

Only 45% of the respondents noted that there are policies, regulations, or guidelines that mandate the standards of quality for reusable medical equipment and instruments.

Healthcare Facilities

Although many of the national and subnational experiences are also felt at facility-level—limited skillsets for forecasting and procurement of consumables and equipment, lack of standardized lists or policies for consumable and equipment requirements, and lack of line item budgets—there are also challenges unique to the facility level, due to different procurement processes and supply chain flows. As noted above, several facilities face outages of equipment and consumables, resulting in a need to either decline offering family planning services, refer clients to another facility, offer a substitute method, request that clients procure the needed equipment and consumables, or perform the family planning service with compromised quality and safety.



Key Findings:

- › In several contexts, **determining order quantities and procurement were noted as the primary facility-level challenges** in the reliable availability of equipment and consumables for family planning service delivery.
- › We have **little understanding of how these materials are managed once within the facility**, for example, sharing items across units, tracking consumption of consumables, and the regular processing and replacement of reusable equipment.
- › Among those working in facilities, many cite **consistent and reliable availability of consumables and equipment for family planning as a rarity**.
- › In some settings, the **devolution of health funds** has left the **responsibility for procurement to individual facilities**.
- › **Facilities that have recently expanded their services are at unique risk** for consumable and equipment insecurity, given the newness of the service and its required inputs, and a lag in recognition of the facilities increased needs from subnational health offices or other suppliers of these materials.

DETAILED FINDINGS FROM CONSULTATIONS

Earlier, challenges associated with determining order quantities of equipment and consumables per LARC insertion/removal were explored, and these same challenges are faced at the facility level, where tools for utilizing unit- or facility-level consumption of consumables do not exist. Forecasting equipment needs is particularly challenging, given that the lifetime use of an instrument is not available, and the number of instruments needed is subject to the pace at which instruments are processed at that facility. For example, consider a Kelly forceps used for postpartum IUD insertion: How many procedures and

processings until it is no longer fit for service? And how many forceps are needed if the facility inserts ~10 IUDs/day? How does that number change if the autoclave only runs twice a week (due to a facility-imposed schedule, or the time it takes to reach a critical mass of instruments needing processing, or merely on the whims of an inconsistent power supply)? How does it differ if the instrument processing area is accessible, on-demand, and allows the clinical staff to undertake the 20-minute high-level disinfection immediately post-procedure?

Another challenge to determining quantities required for these materials is that they are rarely isolated to a single service or unit. So although we could potentially calculate the number of gloves needed for those hypothetical 10 IUD insertions/day, the reality is that the gloves will likely be used by providers for other services, rendering the consumable quantification for family planning a futile exercise for forecasting. Supply chain experts in both the TAC and in the country consultative workshops also noted that quantification exercises would be most valuable for **all consumable consumption** needs at a facility, rather than by individual units, highlighting that forecasting for family planning would be better served as an integrated component of other forecasting activities at the facility.

Facility-level challenges related to determining order quantities also affect upstream procurement, as national procurement often relies on numbers from individual facilities. The Uganda stakeholders contextualized forecasting difficulties in relation to a lack of facility-level understanding of their needs. For example, in Uganda, national-level stakeholders noted that annual planning for reproductive health commodities and supplies is done using inputs submitted by the facilities. Therefore, when a facility lacks internal skills to accurately determine order quantities, a facility's needs for consumables and equipment is not accurately reflected in annual plans. The Uganda stakeholders also noted challenges related to partner-procured equipment and consumables.

Apart from the challenges in quantification of consumables and equipment, facilities may increasingly face challenges in **financing** these items. In some settings, facilities are expected to fund the purchase of their own equipment and consumables, whether through devolved health funds or by using their internally generated funds. The devolution of this responsibility risks that facilities deprioritize these items in pursuit of facility needs perceived to be more critical or urgent. It also jeopardizes the consistency of standard practice from facility to facility, introducing ambiguity around routine competencies such as infection prevention. In Uganda, we also learned that although facilities do have increasing financial decision-making power, this is achieved through credit lines availed by district health offices. If the district health office perceives a facility is spending too much on consumables and equipment, it can reflect poorly on the facility management and ultimately disincentivize them from purchasing the volumes required to sustain a consistent consumables supply.

In Ghana, country stakeholders also highlighted that facility-level financing of equipment and consumables is often the barrier. Stakeholders noted that family planning, particularly at private facilities, is often not a core business and is de-prioritized by facility heads in favor of bigger-item services. In addition, stakeholders noted that family planning is often siloed from the rest of the facility, making it more complicated to access equipment and consumables that may be used facility-wide. The Ghana country consultative workshop also highlighted financing challenges associated with the national health insurance mechanism in which facilities will often prioritize the supplies and equipment needed for procedures that have a bigger reimbursement value or revenue gain.

Not only does the devolution of financial decision threaten procurement of a consistent supply of materials, but devolution itself could pose a risk. In one setting, we heard about a subnational team that had recently taken over equipment procurement for their geography (it had previously been centralized as a national function). The subnational team depleted its budget by mistakenly ordering the incorrect forceps. A national catalog of equipment, with correct specifications, was available at the central level, but it was not fully disseminated to subnational health teams expected to now make the requisitions. The mistaken forceps now sit unused on the storeroom shelves while the necessary equipment remains unavailable.

Stakeholders also highlighted the unique risk on consumable and equipment availability for facilities that have only recently expanded their services, for example offering implants when they had not done so before. When these facilities are supplied by a local health office, supplier, etc., there are often lags in the information flow that signal these facilities' need for materials not previously required.

In all three consultative workshops, stakeholders noted human resource challenges at the facility level. In Nepal, these challenges stemmed from a lack of clarity at the national level regarding the recent decentralization. In Ghana and Uganda, these challenges were more facility specific. For example, in Ghana, stakeholders noted that primary care staff are often already overburdened, making it difficult to prioritize the monitoring and ordering of equipment and consumables when supply is running low. Stakeholders in Ghana also voiced challenges with coordination and clear roles and responsibilities for equipment and consumables. In Uganda, stakeholders

noted challenges with medical personnel not being included in facility-level quantification. Stakeholders also noted that within teaching hospitals, doctors and nurses in training are expected to provide their own gloves, but at times use the gloves available at the facility level, which impacts facility-wide ordering and can result in shortages.

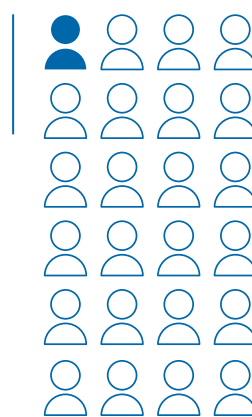
Finally, the country consultative workshops also highlighted challenges with storage and facility infrastructure. In Ghana,

stakeholders noted that sometimes the materials needed are at the facility, but are stuck inside the storeroom, or inaccessible to the staff who need them. Stakeholders in Nepal voiced infrastructure challenges related to the current devolution taking place, which leaves some regions with improved storage facilities and others waiting for the same. This impacts the efficiency with which health facilities access stored equipment and consumables.

DETAILED FINDINGS FROM SURVEY

Respondents to the global supply chain survey indicated that there are several facility-level challenges associated with a lack of necessary equipment and consumables. When asked how often facilities similar to theirs had the necessary equipment or consumables to deliver the family planning services offered, only 4% (one respondent) of the 24 respondents representing facilities responded “always.”

Of the 24 survey respondents who represented facilities (either public or private), 46% noted that in facilities similar to theirs, patients at least occasionally needed a referral to another facility due to a lack of the necessary equipment or supplies for the requested service, and 67% noted that the facility at least occasionally recommends an alternative method to a client due to a lack of the necessary equipment or supplies. Finally, 25% suggested that in facilities similar to theirs, family planning services were delivered with quality-compromised packages of materials at least occasionally due to a lack of equipment or supplies.



Only 1 out of 24 respondents responded “always” when asked how often facilities similar to theirs had the necessary equipment or consumables to deliver the family planning services offered.

Supply Chain Linkages and Integration

Although the supply chain gaps are presented by actor, in reality, they are deeply linked to one another. Take, for example, challenges stemming from quantification (forecasting and supply planning), which affect multiple segments of the supply chain. From a global perspective, there is a general lack of guidance regarding the exact amount of consumable materials required per IUD or implant insertion/removal. Similarly, there is a lack of consensus regarding the burn rate or lifetime use of equipment. This challenge is further complicated if other departments in a health facility are using the same equipment for other procedures, and lifetime use can be impacted by the type of cleaning and disinfection process used for these materials. Thus, it is challenging to effectively budget for equipment and consumables in family planning service delivery. In turn, this impacts the donor level of the supply chain and the extent to which donors are willing to fund these materials, or the extent to which donors can effectively budget for equipment and consumables when they are willing to fund them.

Quantification challenges also impact national and subnational governments' abilities to accurately forecast volumes of equipment and consumables needed as family planning programs and interventions are scaled up, impacting the success and results of these programs. In turn, facilities are impacted by upstream challenges with forecasting and supply planning, affecting their ability to accurately capture volumes of equipment and consumables needed for facility-level procurement. Therefore, addressing facility-level supply planning and procurement alone may fall short of addressing supply challenges for equipment and consumables, requiring a more holistic approach across actors of the supply chain.

The country consultative workshops also validated the importance of linkages across supply chain areas and the importance of considering more integrative supply chains. In Uganda, for example, stakeholders noted a need to connect the dots from infrastructure to procurement to service delivery as a mechanism for closing gaps between siloed supply chains. Similarly, stakeholders in Ghana noted that equipment and consumable challenges are improving as health services become more integrated.

Highlighted Risk Scenarios for Equipment and Consumable Insecurity

In developing this white paper, we identified a few key conditions in which equipment and consumable insecurity is introduced:

- › When a new method is introduced that requires equipment and/or consumables. Mechanisms to scale up stocks of relevant equipment and consumables may not yet be in place.
- › During a period of method mix shift. As the method mix shifts, the supply chain may face greater strain, particularly when the shift is toward methods with greater equipment and consumables needs (for example, LARC methods). As global efforts to introduce and create access to LARC methods grow, this risk scenario is likely to expand.
- › When services are newly task-shifted or task-shared. As the number of distribution points increases, minimum consumable and equipment volumes needs must be met.
- › During a period of supply chain management devolution. As responsibility for supply chain management shifts from national to subnational levels, ordering processes may lack clarity, and economies of scale may become more difficult to achieve.
- › When health facilities or subnational health offices grow their financial autonomy over the supply chain, particularly if financial autonomy shifts to the facility level. Consumables may receive less urgent attention in favor of higher priority demands or other materials that are perceived to have greater urgency.

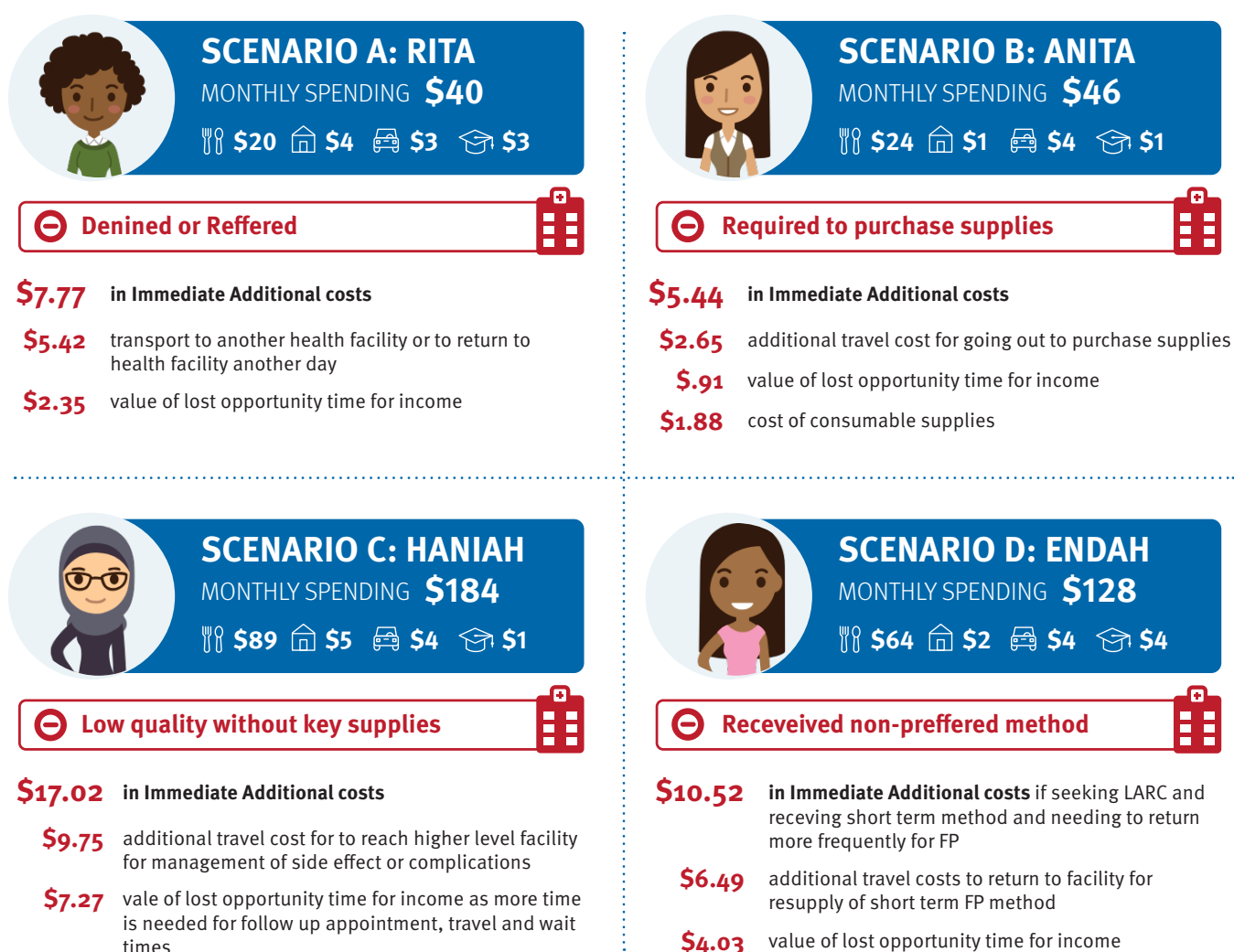
These risk scenarios not only capture current gaps and challenges associated with equipment and consumable availability for family planning service delivery, but also serve as a means of anticipating future equipment and consumable trends. For example, if a health system is anticipating a period of method shift, perhaps away from oral contraceptive pills toward LARC methods, increased attention should be paid to strengthening and fine-tuning procurement mechanisms for ensuring availability of the relevant equipment and consumables. It is also important to note that these risk scenarios are not mutually exclusive. For example, a health system could see supply chain management devolution simultaneous to a period of method shift, requiring multiple levels of planning to avoid barriers to effective supply chain management for family planning service delivery.

Placing the Client at the Center of the Conversation

In a discussion of supply chain gaps, particularly at the level of granularity of consumables such as cotton wool, iodine, or gloves, it is easy to lose sight of the individual impact. The intricacies of the global family planning supply chain come down to one important outcome: the delivery of a quality family planning service of choice to a client who is seeking to postpone, delay, or avoid pregnancy. Ultimately, the failure to address supply chain gaps—whether equipment, consumables, or family planning commodities—has the strongest impact at the individual level. Clients who are denied a family planning method of choice or are referred to another clinic experience increased short-term and long-term medical costs, increased health risks, and a

decreased likelihood of receiving the method of choice if the choice is a LARC method. Client who are required to purchase the supplies needed for the procedure of choice could be put in a position of increased financial hardship (see Figure 2). And clients who receive a compromised medical procedure due to a lack of equipment and consumables at the facility are exposed to medical complications, which incur financial and physical costs or damages. A compromised family planning supply chain and lack of commodity security has real medical and financial consequences, both of which are most directly absorbed by the client.

FIGURE 2. INDIVIDUAL COSTS AND CONSEQUENCES FROM SYSTEMS GAPS



 Food
  Housing
  Transport
  Education

Figure 2 lends a full understanding to specific costs of each scenario as it may apply across low and middle income countries to specific cases of individuals experiencing the results of the gaps in consumable supplies. Using average expenditure and spending data in addition to costs of supplies, transport, and value of time to clearly show that although the costs of consumables may seem insignificant, they still represent a significant cost to an individual. These individual costs are exemplary only to provide a tangible example of what may be contained in the immediate costs of these outcomes and does not include the costs of increased health risks or unintended pregnancy due to gap in contraceptive method.

In Scenario A, Rita travels to the health facility for her preferred family planning method of implant, but she is denied the service or referred to another health facility because there are not supplies required for insertion. She must travel to another facility with a cost of additional transport and time. This total immediate cost of \$7.77 is nearly twice what Rita may spend on average for housing for the month.

In Scenario B, Anita travels to facility for an IUD, but is required to purchase her own supplies. This expectation often has higher cost for supplies than if the health facility had managed them, as the items don't come packaged per procedure. Although Anita received the service, she had to pay out of pocket to do so and ensure her safety with appropriate consumables being used in the procedure. This \$5.44 amounts to more than Anita may spend typically per month on housing and transport together.

In Scenario C, Endah went to a facility for her preferred family planning method of implant. While she was able to get the implant inserted, the provider did not have the required health supplies to prevent infection and Endah soon had to seek care at a higher level health facility for treatment of complications which was farther away and had longer wait times. This cost an additional \$17 which is nearly 20% of what Endah may pay per month for food.

In Scenario D, Haniah went to her local health facility planning to get an IUD as she wasn't planning to have children for five years. The supplies were not available so she couldn't receive the service, but she was offered a short acting reproductive contraceptive method. Although not experiencing undue health risks from this experience, Haniah has to return frequently to the health facility to continue the short acting method. These additional visits were not part of her original plan and cost an additional \$10.52 before the health facility is prepared to provide the LARC method with all supplies necessary in stock. This continued cost would vary based on how many additional visits Haniah would need before she was able to receive the method, and this costs assumes only two additional visits.

These scenarios were developed using example middle and low income country data on per capita household expenditure data and per capita household expenditure, by category (as a share of total) as data were available from the World Bank. Cost estimates were compiled using data sources of average income to calculate an assumption of value for person time, specific country average taxi costs for an estimate of travel based on 5 kilometer distances, and procurement product pricing to calculate an estimated average of consumable costs.⁴²

42 Costing calculations designed for each client centered scenario of individual costs referenced several data sources in addition to the key circumstance assumptions explained in the scenario narrative. As noted above, per capita expenditure data was sourced from the World Bank's DataBank; accessed at <https://databank.worldbank.org/>. Per capita income as used to calculate estimate of value for person time was sourced from the World Bank data at <https://data.worldbank.org/country>. Average cost of taxi and other validation of estimated cost of living sourced from Numbeo, online database of user contributed cost of living data worldwide <https://www.numbeo.com/cost-of-living/>. Consumable supplies costs were estimated by review of products and pricing of reproductive health kits for LARCs available from UNFPA, such as <https://www.unfpaprocedure.org/products?id=RH%20KIT%207>

Recommendations and Advocacy Messaging

Securing a global supply chain that achieves commodity security—in all its parts—for family planning is a complicated, multifaceted process. The good news is that significant strides and successes have been celebrated in strengthening the procurement of family planning commodities themselves (oral contraceptive pills, IUDs, implants, condoms, etc.). In ensuring commodity security for the corresponding consumables and equipment, there is quite a bit of work to be done.

First and foremost, **additional research is needed**, particularly **evidence that captures impact**. The findings explored in this paper were gleaned from talking to global health and supply chain experts, exploring CIPs, quantification reports, and supply plans, and through targeted surveys and country-level consultations. To fully document, quantify, and understand the extent to which the lack of equipment and consumables impacts the delivery of safe, timely family planning services, significantly more research is required. The inability to conduct research as a condition of this grant's terms were a limitation to our ability to offer fully representative findings.

Second, a **deeper exploration of facility-level barriers is needed**. This paper provides insights from country-level supply chain experts in just **three** countries, but does not include a thorough investigation at the facility level. Additional investigation is needed to explore the different ways in which facility-level procurement occurs, particularly **to explore consumables and equipment as integrated materials**, used across services (and the implications of this). The implications of devolution, especially financial autonomy of facilities, should be explored to understand how material standards and volumes can best be upheld. We might also look more deeply into the discordance between MoH and facility-level perceptions of these consumable and equipment challenges.

Third, **methods to quantify equipment and consumables are needed**. This is a first step towards getting the practical data needed to enhance visibility of this problem and could help resolve some data-driven challenges. If paired with **more granular data collection in standard surveys** or even **including consumables consumption in logistics management information systems** (LMISs), the data together could provide the inputs needed to truly enhance supply planning for consumables and equipment.

Fourth, **roles, funding lines, and accountability on equipment and consumables need to be made explicit**. The question of who pays for consumables and equipment has no simple answer. In no setting were supply chain stakeholders clear on who is responsible for funding, procuring, or monitoring these materials. No RFP made it clear, either. This has led to ambiguity in roles and overall insecurity. Clear articulation of these roles in all fora is paramount to improving equipment and consumable security.

Finally, **additional resources and attention are needed**. This white paper is only a first step, assembling fragmented knowledge and perspectives in a central document. However, additional resources and attention will be required to bring more perspectives and solutions to light. This will require the engagement of supply chain and costing experts as well as personnel who can carry forward the advocacy messages and actionable outcomes.

A number of additional recommendations, more discrete, are offered below:

In both Uganda and Nepal, stakeholders recommended **developing a streamlined list of family planning equipment and consumables**. The Uganda stakeholders suggested the development and dissemination of a national list of equipment and consumables, along with an enforcement mechanism for implementation. In both Ghana and Nepal, stakeholders noted that **a national shortlist of preferred suppliers for quality-assured equipment and consumables** would help with standardization and procurement.

All three countries also noted an opportunity for **skill development and capacity-building at both the national and facility levels**. In Uganda, stakeholders commented on **building district- and facility-level capacity for determining accurate order quantities** (forecasting and planning) of equipment and consumables. In Nepal, stakeholders noted an opportunity to **standardize skillset competencies for store management**. In Ghana, stakeholders recommended **developing the capacity of staff at service delivery points** to appropriately determine the necessary quantities of equipment and consumables based on consumption. This could occur in the form of trainings or workshops, or through regional convenings with global family planning experts.

Better **integration of supply chain planning and financial planning** was another recommendation in both Uganda and Ghana. In Uganda, the stakeholders suggested **evaluating and aligning budgets to accommodate lifetime costs of equipment and consumables**, including operation, maintenance, processing, sanitization, and disposal. In Ghana, stakeholders recommended **adherence to the supply plans** developed for family planning service delivery as well as facility-level prioritization of family planning services. Stakeholders in Ghana also recommended **increased funding from the government for the procurement of equipment and consumables**. Alignment of family planning supply plans and CIPs with annual budgets would help to reduce gaps in service delivery planning and budgetary realities. This would require collaboration between the Ministries of Health and Finance to ensure a smoother budgeting process for family planning activities.

All three countries also prioritized the **need to reduce procurement inefficiencies**. In Nepal, stakeholders recommended **exploring procurement inefficiencies for high-cost and high-volume equipment** as a means to **streamline and reduce overall costs**. Stakeholders also suggested that local procurement could be improved by implementing opportunities to introduce facility committees to funding available outside of Nepal. The Nepal stakeholders noted a need for health care waste management (HCWM) capacity-building for facilities as well as local-level government units. In Ghana, stakeholders suggested **reevaluating the procurement process at the national level**, which felt too long and included bureaucratic bottlenecks.

In both Uganda and Ghana, stakeholders also suggested a more **integrative approach to supply chains**. In Uganda, stakeholders noted the need to connect infrastructure to procurement to service delivery, closing the gaps between those three components of the supply chain. In Ghana, stakeholders noted that using integration across supply chains helped to close gaps and limit duplication of processes. Integration could be further explored as an option for minimizing duplication and inefficiencies in procurement.

Globally, there is a need to **better align the priorities of implementation partners and donors with the realities of in-country needs**. Uganda stakeholders suggested exploring **requirements for implementation partners to follow national equipment and consumable guidance**, furthering the standardization potential. Ghana stakeholders shared that implementation partners and donors sometimes procure equipment and consumables, but also noted a need for **local adaptability of global standards**.

The approach to closing the gap on equipment and consumable availability for family planning service delivery will require collaboration and technical expertise from a multitude of stakeholders across the global supply chain, family planning community, and among country-level decision-makers. Effective supply chain strengthening will require technical guidance, nuanced to individual country contexts, and improved understanding of equipment and consumable needs for different family planning methods. Although there is no “one size fits all” solution to this global challenge, there are several tangible steps that will improve family planning service delivery outcomes. Table 3 explores some of these interventions, as well as the relevant stakeholders who should be included. Finally, it is important to note the need for improved joint accountability across the global family planning community, supply chain experts, and national management mechanisms for health programs to address this issue.

TABLE 3. AVAILABILITY OF ESSENTIAL INSTRUMENTS AND SUPPLIES FOR IUD INSERTION AND REMOVAL

RECOMMENDATION	ACTION ITEMS	RELEVANT STAKEHOLDERS
Undertake additional research on the impacts of equipment and consumable unavailability and the extent to which it affects family planning service delivery.	Conduct research on the impact of equipment and consumable unavailability for family planning service delivery for the end user (i.e., financial costs, medical complications, switch to a new method).	Ministries of Health, implementing partners
	Collect data on how frequently this issue limits quality family planning service delivery.	Providers, hospital management, Ministries of Health, implementing partners
	Collect data on which materials are most likely to be out of stock for use in family planning service delivery.	Providers, hospital management, Ministries of Health, implementing partners
Explore facility-level barriers that impact equipment and consumable availability.	Explore facility-level procurement processes.	Providers, hospital management, Ministries of Health, global supply chain experts
	Evaluate whether procurement for the facility as a whole or on a unit-by-unit basis impacts equipment and consumable availability.	Providers, hospital management, Ministries of Health, global supply chain experts
	Explore comparisons between centralized procurement and decentralized procurement.	Providers, hospital management, Ministries of Health, global supply chain experts
Develop practical data that enhances visibility of this challenge, while resolving data-driven challenges in equipment and consumable quantification.	Develop quantification tools or algorithms to predict equipment and consumable needs (based on demand for different methods, equipment cleaning, lifetime of equipment used, etc.) for associated family planning services.	Global family planning experts, global supply chain experts
Streamline a list of family planning equipment and consumables.	Develop global guidance on the essential equipment and consumables required for family planning service delivery, by method.	Ministries of Health, global family planning experts
	Develop national standards on preferred suppliers and brands for equipment and consumables.	Ministries of Health, global family planning experts, global supply chain experts (particularly on quality-assured products)
Build skills and capacity for forecasting, quantification, and supply planning.	Develop global guidance on skills needed for accurate quantification, forecasting, and supply planning, including relevant guides and quantification equations.	Global family planning experts, global supply chain experts
	Develop national, subnational, and facility-level skills in forecasting and determining accurate order quantities.	Ministries of Health, hospital management, global stakeholders for training
	Create national guidance on roles and responsibilities for equipment and consumable ordering at national, subnational, and facility levels.	Ministries of Health, hospital management

RECOMMENDATION	ACTION ITEMS	RELEVANT STAKEHOLDERS
Create alignment between supply chain plans and financial planning.	Develop processes to align budgets with costed implementation plans (CIPs) and supply plans for family planning.	Ministries of Health, Ministries of Finance, relevant subnational stakeholders, global FP experts (particularly on policy and planning, CIPs)
Reduce procurement duplication and inefficiencies.	Map local supply chains and procurement processes to understand potential gaps and inefficiencies.	Ministries of Health, relevant subnational stakeholders
Consider supply chain integration.	Explore ways to integrate supply chains across health systems to ensure access to equipment and consumables facility-wide.	Ministries of Health, hospital management
Align donor priorities with country- and subnational-level priorities for family planning.	Create clear divisions of roles/responsibilities for equipment and consumable procurement in settings where family planning procurement is donor funded.	Global donors, global family planning experts, implementing partners, Ministries of Health, hospital management
	Explore options for ensuring requisite supply availability of equipment and consumables in settings where family planning procurement is donor funded.	Global donors, Ministries of Health

Opportunities for Advocacy and Prioritization of Interventions

Ultimately, addressing the issue of equipment and consumable availability for family planning service delivery is a complex process that will require collaboration and a variety of stakeholders and technical experts. Although individual interventions will need to be tailored to country-specific considerations (procurement processes, level of decentralization, existing supply chain mechanisms), the following prioritization tools will direct advocates in considering potential interventions and next steps.

1

Map out the supply chain. To start, map out the existing supply chain for family planning equipment and consumables specific to the country context that you are working in. Aim to include supply chain stakeholders across the supply chain continuum. Ideally, there would be representation from the MoH, national supply chain planning agencies or committees, subnational- or district-level health officers, facility-level managers, administrative officers, providers, community health workers, and associated agencies, such as the Ministry of Finance. The goal is to include a variety of stakeholders who interact with different levels of the supply chain and procurement process, and therefore bring different perspectives to the table.

To map out the supply chain, consider all of the processes and relevant stakeholders that are required to get a consumable (for example, a medical glove) from the point of production to the hand of the provider. Who is involved in the ordering process? How are quantities determined? Are there processes specific to the family planning unit? What role do national-level decision-makers play? Are standards, policies, or guidelines in place that ensure quality of consumables?

2

Identify duplicative processes or gaps. Once the supply chain has been mapped out, consider areas where the process is duplicative or inefficient. Are multiple agencies or entities tasked with the same responsibility? Are roles and responsibilities clear? How does procurement fit into the country's CIP or supply plan? Identify ways to make the process more efficient, or potential gaps within the supply chain map.

These duplications and gaps will help make the case for improvements to the procurement and supply chain planning process.

3

Identify risks. Consider the risk scenarios identified earlier: introduction of a new method, method shift (for example, away from oral contraceptives to a LARC method), task-shifting or task-sharing, devolution of supply chain management, or devolution of financial autonomy. Are any of these scenarios unfolding in the particular country context? Are they likely to? Addressing these risk scenarios will help address immediate equipment and consumable gaps, and support planning ahead for potential gaps if any of the risk scenarios are anticipated.

4

Identify the advocacy sequence and potential quick wins. For advocacy to be effective, it is important to determine the overarching goal, the objectives to achieve that goal, and the quick wins that will help advance the goal.⁴³ Utilize the Advance Family Planning (AFP) SMART (Specific, Measurable, Attainable, Relevant, and Time-bound) methodology to help guide this process. Consider the quick wins that are most relevant to the objectives for a specific country context: does the end goal require funding, policy changes, or increased visibility? Consider the best sequencing of these quick wins to advance individual objectives that are critical to achieving the end goal. Visit the AFP SMART Guide to Quick Wins for more information on advocacy strategies.

⁴³ Advance Family Planning. 2017. AFP SMART: A Guide to Quick Wins (PowerPoint). <https://www.advancefamilyplanning.org/afp-smart-guide-quick-wins-powerpoint-enfr>

Concluding Remarks

Although additional research and data are needed to fully understand the extent to which equipment and consumable unavailability impacts family planning service delivery, this challenge clearly results in tangible impacts on the delivery of quality family planning services. A failure to address this supply chain gap threatens to undermine the incredible global progress that the family planning community has seen in reducing contraceptive stockouts and strengthening the health workforce. By creating a sense of urgency to address these obstacles, providing a series of global, national, and subnational recommendations and a set of advocacy resources, we are hopeful that key stakeholders will view this as an opportunity to improve the quality of family planning service delivery and expand the number individuals seeking family planning who receive their method of choice.



Annex A: Essential Supplies for the Insertion/Removal of LARC Methods⁴⁴

	HORMONAL IMPLANT	INTRAUTERINE DEVICE (IUD)
Instruments	Insertion: <ul style="list-style-type: none"> › Cup/bowl/gallipot › Forceps—sponge holding, straight, 5.5 inches for cleaning* Removal: <ul style="list-style-type: none"> › Cup/bowl/gallipot › Scalpel with corresponding handle or disposable scalpel with handle › Forceps—mosquito, straight, 5 inches › Forceps—mosquito, curved, 5 inches › Kidney dish ** › Standard artery forceps 5.5 inches ** › Modified vasectomy straight blunt 12.5 cm forceps (also called “U clamp,” NSV ringed clamp, or “Norgrasp” with diameter of 2.2 mm)** 	Interval insertion: <ul style="list-style-type: none"> › Cup/bowl/gallipot › Forceps—Schroeder-Braun uterine tenaculum, 9.75 inches › Forceps—sponge, Foerster, straight, 9.5 inches › Sound—uterine, Sims, 13 inches › Scissors—suture, Mayo-Clinic OR Littauer, curved, 6.75 inches › Speculum—vaginal, Graves, medium (1.38 inches by 4 inches) › Postpartum insertion: <ul style="list-style-type: none"> › Forceps—ringed, 9.5 inches › Forceps—Kelly placental, 12 inches › Speculum—Sims or any vaginal retractor TransCesarian insertion: <ul style="list-style-type: none"> › Forceps—ringed, 9.5 inches
	Removal: <ul style="list-style-type: none"> › Cup/bowl/gallipot › Forceps—sponge, Foerster, straight, 9.5 inches › Speculum—vaginal, Graves, medium (1.38 inches by 4 inches) › Forceps—Bozeman uterine dressing, straight, 10.5 inches IUD removal forceps—alligator jaw, 8 inches › IUD string retriever 	
Expendable supplies	<ul style="list-style-type: none"> › The implant (Jadelle, Levoplant, Implanon NXT) › Alcohol-based handrub AND soap and water or antiseptic soap and water (for hand hygiene) › Small towel (for hand drying if soap and water are used) › Sterile gloves (powder free) <ul style="list-style-type: none"> › Only exam gloves are required for Implanon NXT › Povidone iodine (preferred as an antiseptic) › Sterile gauze sponges › Local anesthetic such as lidocaine (without epinephrine, 1% or 2%) › Distilled water to dilute lidocaine (if 2% lidocaine is used) › 5 ml syringe with 1.5 inch and 21 gauge needle › Scalpel blade #11 with handle or disposable scalpel #11 with handle › Adhesive tape › Arm bandage (to apply pressure to the incision) › Sterile small drape (to rest client’s arm on) (24 inches square) › Sterile fenestrated drape (24 inches square) › Material for packing instruments (drapes or disposable material) › Safety box 	<ul style="list-style-type: none"> › The IUD (TCu 380A or Multiload or LNG-IUS) › Alcohol-based handrub AND soap and water or antiseptic soap and water (for hand hygiene) › Small towel (for hand drying if soap and water are used) › Exam gloves › Povidone iodine (preferred as an antiseptic) › Sterile gauze sponges › Drapes (to cover client’s thighs, pubic area, and to put underneath her buttocks) › Drapes (for packing instruments) › Sanitary pad

*Optional **Required for difficult removals

44 Adapted from EngenderHealth. 2017. Basic furniture, equipment, instruments, and expendable supplies needed to provide long-acting reversible and permanent methods of contraception. <https://toolkits.knowledgesuccess.org/toolkits/implants/basic-furniture-equipment-instruments-and-expendable-supplies-needed-provide-long-acting-reversible>

Annex B: Service Provision Assessment (SPA) Data Sources

To compile Tables 1 and 2, data were collected from the final reports of the DHS SPAs. Although there were SPAs listed for 17 countries, data from only six countries is included in the analysis in the white paper. Countries that were excluded from the analysis were excluded either because they did not include the specific instrument and supplies data for IUD insertion/removal and implant insertion/removal in their SPA final report, only did the HIV SPA survey (and not the Family Planning Survey), or have not yet published data from the SPA survey. Percentages and numbers included in the paper are weighted according to the methods in the final report for each country and are reported as they appear from the SPA final report.

- › [Kenya, 2010, SPA Final Report](#)
- › [Ghana, 2002, SPA Final Report](#)
- › [Namibia, 2009, SPA Final Report](#)
(data only available for IUD)
- › [Rwanda, 2007, SPA Final Report](#)
- › [Uganda, 2007, SPA Final Report](#)
- › [Egypt, 2004, SPA Final Report](#)

Annex C: Detailed Paper Methods

Here we describe in detail the multistep, iterative process followed in the development of this white paper.

Literature Review and Review of Existing Country Data

In February 2019, a comprehensive literature review was conducted to determine the extent to which unavailability of family planning consumables and equipment had been documented globally. The literature review explored the following five search term combinations:

- › Family planning AND consumables
- › Family planning AND equipment AND availability
- › Family planning AND supplies AND availability
- › Contraceptive supplies
- › Family planning AND gloves

The searches were conducted via PubMed and included only peer-reviewed literature written in English and published since 2008, with the keywords in the title and/or abstract. In total, 26 articles were deemed relevant and published within the given timeframe. The literature review was expanded to include grey literature of unpublished research (program reports, organizational presentations, etc.) and outdated publications, adding another 21 articles to the literature review. The expansion to include grey literature was intended to further document and codify the informal, fragmented global understanding of unavailability of equipment and consumables for family planning service delivery since literature is lacking in a more traditional peer-reviewed literature base.

Following the traditional literature review, there was a secondary review of global RFPs, RFAs, RFQs, global grant reports, CIPs of the Family Planning 2020 (FP2020) target goals, PMA country briefs on family planning, and the DHS SPAs on family planning service delivery. The latter sources were included to give us a sense of if, how, and to what extent opportunities to capture equipment and consumable needs had been documented in the resources that are used more programmatically in our field. Although these resources do not comprise a formal literature base, they do influence the mobilization of domestic resources for family planning, shape family planning programs, and determine access that certain populations have to family planning services.

To determine how donors were looking at the inclusion of consumables, equipment, and supplies, we analyzed five RFPs, RFAs, and RFQs as well as two program reports. The goal of this analysis was to determine the extent to which consumables and equipment were included in program planning and budgeting, and ways in which this may impact the inclusion of these materials in program delivery. The RFPs, RFAs, and RFQs considered looked at service delivery (both family planning specific and more generally, in order to provide comparison between different types of service delivery) as well as supply chain-specific programs.

The following RFPs, RFAs, and RFQs were analyzed:

[GHSC-PSM, Global Proposal for Viral Load Testing](#) [EXCLUDED]

USAID GHSC, Levonorgestrel Intra-Uterine System Request for Quote

DELIVER RFA, USAID: Solicitation Number M/OAA/GH/POP-06-944

SIAPS RFA, Health Systems Division of the Office of Health, Infectious Diseases, and Nutrition (HIDN)

USAID GHSC-PSM RFP, Number SOL-OAA-12-000128

RFP #2017-045, Global Family Planning Visibility and Analytics Network (Reproductive Health Supplies Coalition) [EXCLUDED]

The following program reports were analyzed:

[GHSC-PSM 2018 Final Report](#)

DELIVER Final Project Report, 2007

Technical Advisory Committee (TAC)

In January 2019, Jhpiego established a TAC to provide technical expertise, guidance, and feedback in support of development of the white paper. The TAC convenes supply chain experts across multiple organizations to serve a consultative role, grounding the project within the interests of the broader supply chain community. TAC members include representatives from the RHSC Systems Strengthening Working Group (SSWG) and the RHSC Advocacy and Accountability Working Group (A&AWG), comprised of representatives from John Snow Inc. (JSI), GHSC-PSM, PATH, and CHAI. The establishment of the TAC not only served a consultative purpose, but also as recognition that whereas Jhpiego's expertise sheds light on the health outcomes associated with this challenge, it falls short in providing a deeper insight into supply chain expertise. The partners included in the TAC have deep, long-standing expertise in the supply chain and commodity security fields, and their experiences contributed innovative, forward-thinking ideas for addressing the critical supply chain barriers that underlie the challenges of consumable and equipment unavailability.

Country Consultative Workshops: Uganda, Nepal, and Ghana

To better understand the supply chains at national, subnational, and facility levels, and the extent to which they accommodated equipment and consumables, two in-country consultative stakeholder workshops were conducted in Uganda and Nepal in March 2019. These consultative workshops aimed to create a deeper understanding of the existing supply chains, supply chain gaps, and areas of potential exploration in two different supply chain contexts. A follow-up session was conducted in Uganda in December 2019 and an additional consultative stakeholder workshop was conducted in Ghana in December 2019.

The country consultative workshops were conducted in Nepal, Uganda, and Ghana to engage supply chain experts in settings with very different family planning landscapes and supply chains. These consultations engaged more than 30 experts each, across government, district health, public and private procurement bodies, implementing partners, and direct clinical providers. The following activities were included:

- › Characterization of the supply chain for equipment and consumables
- › SWOT analysis of the existing supply chain
- › Discussion of strategic opportunities

Uganda and Nepal were selected due to their uniquely different supply chains, varied method mix representing intensive equipment and consumable needs, ministerial interest, and our ability to convene high-level meetings with key stakeholders. Due to Nepal's high-prevalence permanent method use, which requires high levels of consumable and equipment access, the

hypothesis was that the supply chain in Nepal may shed light on solutions for equipment and consumables. Uganda was selected due to the high level of interest from the MoH, as well as the rapid adoption of LARC methods, which are also consumable and equipment intensive. During these meetings, the thematic areas explored included quantification, procurement, distribution, acquisition, and monitoring of the family planning supply chain through various technical presentations, human-centered design activities, and systems-mapping exercises. Using a human-centered design approach, each country consultation workshop convened supply chain stakeholders who collaborated to identify strengths, weaknesses, and opportunities within the existing equipment and consumable supply chain for family planning services. These sessions created the opportunity to interrogate family planning equipment and consumable availability challenges in two unique supply chain settings, in addition to providing additional insights and directions into areas of further research. Immediately following the country workshop in Nepal, Jhpiego had the opportunity to present the initial findings from the global literature review as well as from the two workshops to the SSWG meeting and at the RHSC Annual General Membership Meeting (GMM), which convened in Kathmandu. A third consultative workshop was conducted in Ghana to pressure-test ideas that were generated during the literature review and Ghana country data review, which created a new country context and unique supply chain to explore. The consultative workshop in Ghana included the same components as the earlier workshops in Uganda and Nepal, but also included an opportunity for key recommendations and advocacy messaging to address supply chain obstacles.

Global Supply Chain Expert Surveys

Following the advice of key stakeholders in Uganda, Nepal, and at the RHSC GMM, additional analysis of global supply chain networks was conducted through surveys of the IAPHL and RHSC networks. The survey aimed to identify critical policies that shape availability and quality of equipment, instruments, and consumables within family planning service provision, collect perspectives on the extent to which unavailability of equipment and consumables affect service delivery, and identify potential research or publications that would better contribute to the global understanding of commodity security in this context.

Annex D: Supply Chain Survey Questions for IAPHL and RHSC Listservs

Below are the Supply Chain Survey Questions that were distributed to the RHSC and IAPHL Listservs. The survey utilizes a skip pattern tied to the primary organization affiliation of the respondent. 205 responses were collected from the IAPHL Listserv and 47 responses were collected by the RHSC Listserv.

Introductory Questions

What is your primary professional title? _____

With which type of organization is your primary affiliation?

- ☐ National Government
- ☐ Sub-National Government
- ☐ Donor Organization
- ☐ Public Healthcare Facility
- ☐ Private Healthcare Facility
- ☐ Medical Supplier
- ☐ Medical Manufacturer
- ☐ National Medical Store
- ☐ Sub-National Medical Store
- ☐ Implementing Partner (NGO/INGO)
- ☐ Academic Institution
- ☐ Other

In which country do you primarily work? If you work in several different countries, please include a list or a region of focus. If you do not have a primary country or region affiliation, please write N/A. _____ or (N/A)

Follow-Up Questions for National and Sub-National Government Employees:

In your experience and to your best knowledge, does the unavailability of working equipment and instruments (including but not limited to autoclaves, forceps, etc.) limit the safe and timely delivery of quality family planning services in your country?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

In your experience and to your best knowledge, does the unavailability of essential consumables (including but not limited to gloves, syringes, cotton, antiseptic) limit the safe and timely delivery of quality family planning services in your country?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

What policies, regulations, or guidelines define the list of equipment, instruments and consumables that must be available at healthcare facilities?

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What policies, regulations, or guidelines define what equipment and consumables must be available for family planning service provision? Please note in your response if this is at a sub-national, national, or global level.

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What policies, regulations, or guidelines mandate the standards of quality for reusable medical equipment or instruments?

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What policies, regulations, or guidelines mandate the standards of quality for medical consumables?

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What processes or practices (both formal and informal) determine the quantity of medical consumables that are supplied to healthcare facilities?

I don't know the answer to this question.

There are no current processes that serve this purpose.

The processes/practices that currently serve this purpose include:

What processes/practices are used to support budget development/allocation for the purchase of medical equipment and instruments? Please note who drives this process (i.e. is it at the government level, facility level, etc.).

I don't know the answer to this question.

There are no current processes that serve this purpose.

The processes/practices that currently serve this purpose are as follows (and those who drive the process):

What processes/practices are used to support budget development/allocation for the purchase of medical consumables?

I don't know the answer to this question.

There are no current processes that serve this purpose.

The processes that currently serve this purpose are as follows:

Do you have any other insights into policies, processes, or practices that guide the purchasing of medical equipment, instruments, and consumables in the areas in which you work?

Follow-Up Questions for Donor Organizations:

In your experience and to your best knowledge, does the unavailability of working equipment or instruments (including but not limited to autoclaves, forceps, etc.) limit the safe and timely delivery of quality family planning services in the countries your organization serves?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

In your experience and to your best knowledge, does the unavailability of essential consumables (including but not limited to gloves, syringes, cotton, antiseptic) limit the safe and timely delivery of quality family planning services in the countries your organization serves?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

Does your organization supply, or fund, contraceptive procurement?

Yes

No

I don't know the answer to this question.

Does your organization supply, or fund, medical equipment, instruments, and consumables necessary for provision of contraceptives?

Yes, always

Yes, under certain scenarios

No

I don't know the answer to this question

My organization does not supply or fund these items.

Does your organization have any policies or processes for ensuring local governments have adequately supplied recipient-facilities with the medical equipment, instruments, and consumables that will be necessary to deliver the donor-funded contraceptives?

I don't know the answer to this question.

My organization does not supply or fund contraceptives.

There are no current policies or processes that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

Does your organization have any policies or processes for verifying that recipient-facilities are adequately supplied with the medical equipment and consumables that will be necessary to deliver the donor-funded contraceptives?

I don't know the answer to this question.

My organization does not supply or fund contraceptives.

There are no current policies or processes that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

If your organization funds health commodities (family planning or otherwise), do your RFPs, RFQs, or other calls for grant-making include budget line items for associated equipment and consumables? If yes, please explain how.

Follow-Up Questions for Healthcare Providers:

Does your facility provide access to family planning methods?

Yes

No

If yes, please check all methods that are offered at your facility:

- ☐ Oral contraception pills
- ☐ Implants
- ☐ Injectables
- ☐ IUD
- ☐ Male condoms

- ☐ Female condoms
- ☐ Male sterilization
- ☐ Female sterilization
- ☐ Emergency contraception
- ☐ Other

In your experience and to your best knowledge, does the unavailability of working equipment and instruments (including but not limited to autoclaves, forceps, etc) limit the safe and timely delivery of quality family planning services in facilities similar to yours?

Never Rarely Occasionally Frequently Very Frequently

In your experience and to your best knowledge, does the unavailability of essential consumables (including but not limited to gloves, syringes, cotton, antiseptic) limit the safe and timely delivery of quality family planning services in facilities similar to yours?

Never Rarely Occasionally Frequently Very Frequently

At what type of facility do you provide medical care?

Do you participate in family planning service provision?

Never Rarely Occasionally Frequently Very Frequently

At facilities similar to yours do patients ever need a referral to another facility when seeking family planning because the facility does not have the necessary equipment or supplies to deliver the requested service?

Never Rarely Occasionally Frequently Very Frequently

This question does not apply to me.

I don't know the answer to this question.

At facilities similar to yours, does the facility ever recommend an alternative family planning method to a patient because the facility does not have the necessary equipment or supplies to deliver the requested service?

Never Rarely Occasionally Frequently Very Frequently

This question does not apply to me.

I don't know the answer to this question.

In facilities similar to yours, do facilities ever have to deliver family planning services with a quality-compromised package of medical equipment and consumables (for example, without gloves or with the wrong size scalpel)?

Never Rarely Occasionally Frequently Very Frequently

This question does not apply to me.

I don't know the answer to this question.

In facilities similar to yours, do facilities ever have to turn away a client seeking family planning services because the facility does not have the necessary equipment or supplies to deliver the request service?

Never Rarely Occasionally Frequently Very Frequently

This question does not apply to me.

I don't know the answer to this question.

In facilities similar to yours, do facilities ever have to ask a client to procure medical equipment or consumables and bring them with to their appointment for family planning services?

Never Rarely Occasionally Frequently Very Frequently

This question does not apply to me.

I don't know the answer to this question.

In facilities similar to yours, do facilities ever have to purchase medical equipment or consumables from a local pharmacy or supplier because they were unavailable in the facility?

Never Rarely Occasionally Frequently Very Frequently

This question does not apply to me.

How often do facilities similar to yours have the necessary equipment or consumables to deliver the family planning services offered?

Never Rarely Occasionally Frequently Very Frequently Always

This question does not apply to me.

In facilities similar to yours, if a department does not have the necessary equipment or consumables to deliver the family planning services offered, are they able to be acquired from a different department?

Never Rarely Occasionally Frequently Very Frequently

This question does not apply to me.

In facilities similar to yours, if the facility runs out of necessary medical consumables, is the facility able to procure more from the medical store in a timely manner?

Never Rarely Occasionally Frequently Very Frequently

This question does not apply to me.

When necessary, are facilities similar to yours able to support inter-facility sharing of equipment and/or consumables?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

Follow-Up Questions for Medical Manufacturers and Suppliers:

In your experience and to your best knowledge, does the unavailability of working equipment and instruments (including but not limited to autoclaves, forceps, etc.) limit the safe and timely delivery of quality family planning services in the countries your organization serves?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

In your experience and to your best knowledge, does the unavailability of essential consumables (including but not limited to gloves, syringes, cotton, antiseptic) limit the safe and timely delivery of quality family planning services in the countries your organization serves?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

Does your organization supply (through sales or donations) contraceptives (either directly to in-country facilities or governments, or indirectly through a partner entity)?

No Yes

I don't know the answer to this question.

Does your organization supply (through sales or donations) medical equipment and consumables (either directly to in-country facilities or governments, or indirectly through a partner entity)?

No Yes

I don't know the answer to this question.

Does your organization have any policies or processes for ensuring procuring governments, partners, donors, or other organizational entities have adequately supplied recipient-facilities with the medical equipment and consumables that will be necessary to deliver the supplied contraceptives?

I don't know the answer to this question.

This question does not apply to my organization.

There are no current policies or processes that serve this purpose.

Please briefly describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

Does your organization have any policies or processes for verifying that recipient-facilities are adequately supplied with the medical equipment and consumables that will be necessary to deliver the supplied contraceptives?

I don't know the answer to this question.

This answer does not apply to my organization.

There are no current policies or processes that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

Follow-Up Questions for Medical Store Employees:

In your experience and to your best knowledge, does the unavailability of working equipment and instruments (including but not limited to autoclaves, forceps, etc.) limit the safe and timely delivery of quality family planning services in your country?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

In your experience and to your best knowledge, does the unavailability of essential consumables (including but not limited to gloves, syringes, cotton, antiseptic) limit the safe and timely delivery of quality family planning services in your country?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

What policies, regulations, or guidelines define what equipment and consumables must be available at healthcare facilities?

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What policies, regulations, or guidelines define what equipment and consumables must be available for family planning service provision?

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What policies, regulations, or guidelines oversee the quality of medical equipment?

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What policies, regulations, or guidelines oversee the quality of medical consumables?

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What policies, regulations, or guidelines oversee the distribution of medical equipment and consumables?

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What policies, regulations, or guidelines oversee the disposal of medical equipment and consumables?

I don't know the answer to this question.

There are no current policies, regulations, or guidelines that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What processes determine the quantity of medical consumables that are supplied to healthcare facilities?

I don't know the answer to this question.

There are no current processes that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What processes are used to support budget development/allocation for the purchase of medical equipment? Who pays for the purchase of medical equipment (i.e. government, private facilities, organizations, etc.) and how are those budgets determined?

I don't know the answer to this question.

There are no current processes that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

What processes are used to support budget development/allocation for the purchase of medical consumables? Who pays for medical consumables (i.e. government, private facilities, organizations, etc.) and how are those budgets determined?

I don't know the answer to this question.

There are no current processes that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

Follow-Up Questions for Implementing Partners:

In your experience and to your best knowledge, does the unavailability of working equipment and instruments (including but not limited to autoclaves, forceps etc.) limit the safe and timely delivery of quality family planning services in the countries your organization serves?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

In your experience and to your best knowledge, does the unavailability of essential consumables (including but not limited to gloves, syringes, cotton, antiseptic) limit the safe and timely delivery of quality family planning services in the countries your organization serves?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

Does your organization implement healthcare service provision programs?

Never Rarely Occasionally Frequently Very Frequently Always

I don't know the answer to this question.

Does your organization procure or supply family planning commodities within its programs?

Never Rarely Occasionally Frequently Very Frequently Always

This does not apply to my organization.

I don't know the answer to this question.

Does your organization supply medical equipment, instruments, and consumables within its programs?

Never Rarely Occasionally Frequently Very Frequently Always

This does not apply to my organization.

I don't know the answer to this question.

Does your organization have any policies, processes, or standard practices for ensuring partner governments have adequately supplied program-site healthcare facilities with the medical equipment and consumables that will be necessary to deliver program services?

I don't know the answer to this question.

This does not apply to my organization.

There are no current policies or processes that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

Does your organization have any policies or processes for verifying that program-site healthcare facilities are adequately supplied with the medical equipment and consumables that will be necessary to deliver program services?

I don't know the answer to this question.

This does not apply to my organization.

There are no current policies or processes that serve this purpose.

Please describe any policies, processes, or procedures described above (and if possible, where to find them/who regulates them) :

Follow-Up Questions for Researchers:

In your experience and to your best knowledge, does the unavailability of working equipment or instruments (including but not limited to autoclaves, forceps, etc) limit the safe and timely delivery of quality family planning services in the country/countries where you work?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

In your experience and to your best knowledge, does the unavailability of essential consumables (including but not limited to gloves, syringes, cotton, antiseptic) limit the safe and timely delivery of quality family planning services in the country/countries where you work?

Never Rarely Occasionally Frequently Very Frequently

I don't know the answer to this question.

Are you aware of any studies or data collection efforts that have explored equipment and/or consumable security?

Yes No

Can you provide any relevant links or citations to these studies?

Yes No

Please share the names of any technical experts you would recommend we reach out to for further information:

Final Follow-Up Questions:

Are there other commodity supply chains (i.e. HIV services, vaccinations, etc.) that have successfully navigated challenges in the provision of medical equipment, instruments, and consumables in the supply chain? If yes, please describe below:

Do you have any other recommendations or ideas for Jhpiego as we continue to research supply chain challenges related to medical equipment, instruments, and consumables related to the provision of family planning services?

Write response here:

Are you willing to be contacted for follow-up questions?

If yes, please provide your name, organization, and email here:

Name:

Organization:

Email:

Annex E: Supply Chain Case Studies

To further explore supply chain gaps and how they manifest in different country contexts, supply chain experts participated in a supply chain mapping exercise at each country consultation. Below, the findings from these supply chain mapping exercises are compiled as individual country case studies in Uganda, Nepal, and Ghana. Beyond providing additional insight into the supply chain complexities and linkages that affect equipment and consumable unavailability for family planning service delivery, these case studies provide three very different country contexts that face a similar challenge.



UGANDA CASE STUDY



In Uganda, several different bodies and entities are involved in the equipment and consumables sourcing and procurement processes. Equipment and consumables are sourced through the National Medical Store (NMS), Joint Medical Store, Medical Access Uganda Limited, Industrial Promotion Services, or projects through the Procurement and Disposal Unit. The National Advisory Committee on Medical Equipment (NACME) creates standard lists that are used to determine what equipment is essential (though stakeholders voiced an urgent need for this list to be updated and to include preferred suppliers and brands). These lists are based on the needs of the health care facility. Consumable needs are specified by the Pharmacy Department as well as the Health Infrastructure Division Regional Equipment Workshops. Quality assurance and control in Uganda begins with the preparation of technical specifications, including performance requirements and material quality and safety standards. By legal mandate, quality is regulated and enforced by the National Drug Authority in Uganda, and standards by the Uganda National Bureau of Standards. At the MoH level, inspections of medical equipment are carried out by NACME as well as the MoH biomedical engineers/technicians to ensure conformity to contract specifications.

CASE STUDY HIGHLIGHTS

According to 2018 PMA data, 19% and 27% of public facilities surveyed in Uganda lacked the instruments and supplies for IUD and implant insertion/removal, respectively.

According to 2007 DHS SPA data, only 35% of facilities in Uganda surveyed had all items for IUD insertion/removal (including the IUD). And, only 45% of facilities in Uganda surveyed had all items for implant insertion/removal.

Consumables are explicitly mentioned in the CIP and have designated funding alongside the contraceptive commodity. Equipment and supplies are mentioned in the CIP, but do not include financing mechanisms.

Uganda's electronic management system shows potential for increasing management of the supply chain for equipment and consumables.

National guidance on quality standards for equipment and consumables is lacking.



In mapping the family planning equipment and consumable supply chain in Uganda, one of the gaps involves transportation and distribution. The consultative workshop did not reveal any equipment- and consumable-specific information. The operation and maintenance of equipment and consumables within the Uganda supply chain are primarily managed by the Regional Medical Equipment Maintenance Workshops, which are based at regional referral hospitals. In Uganda, HCWM is the responsibility of the National Environmental Management Authority (NEMA), which oversees environmental protection and conservation. Although there was clear understanding that NEMA manages the recycling and disposal of health care waste, there was a lack of awareness across stakeholders regarding the existing policies, in addition to limited technical capacity, ineffective implementation of policy, limited budgets, and coordination challenges.

Uganda also utilizes an electronic management emergency system, and has recently designed a new alternative distribution mechanism to direct commodities to where they are most needed (though many stakeholders noted that the distribution mechanism was not yet optimized). The electronic management system shows promise for enhanced procurement and supply chain management, but stakeholders have noted technical barriers that limit optimization.

Although Uganda has several national-level mechanisms and procurement plans in place to support equipment and consumable procurement, Ugandan stakeholders noted challenges in putting together the annual plans for reproductive health supplies. Information for the annual plans is collected by NMS from facilities throughout Uganda, and then the district health office puts together the plans. All nationwide procurement is tied to the annual plans, so if information flowing into the annual plans is inaccurate about the needs of the facilities, there will be gaps in the consumables and equipment procured.

Stakeholders also cited a need to ensure that available funds are used in a way that allows for equipment and consumable availability alongside contraceptive commodities. They highlighted a need to focus on usable data, financing for materials, and maintenance/proper care of equipment.

Specific to the availability of equipment and consumables for family planning service delivery, stakeholders in Uganda commented on several supply chain barriers. A representative from the MoH noted that in 2014, 26% of health workers could not offer family planning services due to the lack of equipment. Other stakeholders echoed this challenge, voicing that material lists were inadequate in capturing consumable and equipment standards. Stakeholders also agreed that one of the critical barriers to reaching the FP2020 targets set in Uganda were stockouts, including supply stockouts. Uganda provides important context for the ways in which national-level planning and procurement mechanisms may be in place, but fall short of optimal supply planning.



In Nepal, the health system recently underwent decentralization, with increased responsibility and decision-making pushed to the subnational and district levels. As a result, the health system as a whole has lacked clarity over roles and responsibilities, including in the procurement of equipment and consumables.

Sourcing and procurement in Nepal includes both the local and international market for equipment and consumables. The program division is tasked with preparing the specification and cost estimation for equipment and consumables, as well as support and involvement from the Technical Specification Bank. Sourcing and procurement goes through a bidding process, per the Public Procurement Act and Regulation. In Nepal, quality assurance and control also begins with preparation of technical specifications, including performance requirements, material quality, and safety standards for conformity. However, there are no national standards set for equipment or consumables. Generally, quality assurance and control of family planning programs follow guidelines from the International Organization for Standardization, CE certification marking, and the U.S. Food and Drug Administration (USDA). Despite guidance from these international organizations, there is no clear regulatory body for quality assurance of equipment and consumables in Nepal. This is further emphasized in the lack of reference to equipment and consumables with the CIP for Nepal.

Similarly to Uganda, there is a gap in knowledge about the transportation and distribution of equipment and consumables for the supply chain in Nepal. In Nepal, operation and maintenance is also decentralized. The operation and use of the equipment is managed by the service providers, who require training on use, operation, and management of the materials. When required, equipment maintenance is carried out by outsourcing maintenance services or a biomedical engineer.

CASE STUDY HIGHLIGHTS

Nepal data is not available from PMA or the DHS SPA surveys.

The Nepal CIP does not mention consumables or equipment. Supplies are mentioned as a current barrier to family planning service delivery.

Nepal's decentralization of the health system has resulted in challenges associated with roles and responsibilities, including obstacles in supply chain management.

National guidance on quality standards is lacking.

In Nepal, stakeholders also noted several challenges in recycling and disposal of equipment and consumables. It was noted that appropriate disposal methods were needed for safe disposal of medical equipment and consumables; however, stakeholders observed that planners did not often plan or budget for the costs of disposal. The responsibility for medical disposal in Nepal lies with the Health Institutions and Health Facility Operations and Management Committee as well as the Hospital Development Committee. They noted that guidelines had been established, but were not widely known.

Nepal provides important context for challenges associated with health system decentralization and infrastructure challenges, and the ways in which these barriers impact supply chain management. Nepal also provides important context for the need to increase data related to this challenge in family planning service delivery, as little data has been collected to date.



Ghana has a national health insurance program, which shapes how family planning services are prioritized, planned, and budgeted for. Many stakeholders noted that, despite clear mentions of equipment and consumable costing within the CIP and supply plans for Ghana, there has been difficulty in securing the necessary materials at the last mile. Although stakeholders noted that they would recommend similar costing for CIPs in other countries, they believed inclusion in the CIP alone was insufficient. Several stakeholders commented that since family planning is not a core business, or particularly profitable within the national health insurance program, many facility heads choose to focus more on procuring supplies and materials for procedures that generate a higher return on investment. Many stakeholders also pointed to challenges with workload for the staff tasked with reordering consumables, often balancing ordering with caseloads in the facility. Other stakeholders noted that facilities often lack staff capacity in determining the appropriate quantities for ordering. Stakeholders also highlighted increased challenges in rural or hard-to-reach communities.

In Ghana, the obstacles associated with equipment and consumable unavailability for family planning service delivery were characterized as being most common when a new method is being introduced to a facility and the right materials are not already in place. Stakeholders also noted that medical store suppliers fall short in providing guidance to providers about the materials required for methods. They also commented on other service delivery barriers, such as workforce readiness and contraceptive commodity availability.

Ghana is also one of the countries where integrated supply chains have been piloted. Initial findings suggest that supply chain integration could be a promising solution to supply chain challenges and may improve how consumables and equipment are considered in procurement plans (across departments). This sentiment was echoed by stakeholders in Ghana, who noted that integration across the supply chain allowed the

CASE STUDY HIGHLIGHTS

According to 2018 PMA data, 12% and 9% of public facilities surveyed in Ghana lacked the instruments and supplies for IUD and implant insertion/removal, respectively.

According to 2002 DHS SPA data, only 50% of facilities in Ghana surveyed had all items for IUD insertion/removal (including the IUD). And, only 46% of facilities in Ghana surveyed had all items for the implant insertion/removal.

Consumables and equipment are explicitly mentioned and costed in the CIP and have designated funding alongside the contraceptive commodity.

Ghana has a national health insurance program, which shapes the ways in which FP service delivery, including availability of equipment and consumables, is prioritized.

Ghana has seen challenges in translating its planning from CIP and supply plans to the implementation level.

country to avoid duplicative processes and address supply chain and procurement inefficiencies.

Several stakeholders in Ghana also highlighted the need for improved country-level data. They were eager to see procurement plans, policies, and guidelines that were country-specific and evidence-informed. Unlike other supply chain contexts explored in Uganda and Nepal, stakeholders in Ghana were more interested in standardization processes for equipment and consumables that allowed for local adaptability and country-level context. Ghana provides important context for improved supply planning, costing, and supply chain integration, but highlights challenges in realizing supply chain improvements at the facility level.



The Reproductive Health Supplies Coalition

The Coalition is a global partnership of public, private, and non-governmental organizations dedicated to ensuring that everyone in low- and middle-income countries can access and use affordable, high-quality supplies for their better reproductive health. It brings together agencies and groups with critical roles in providing contraceptives and other reproductive health supplies. These include multilateral and bilateral organizations, private foundations, governments, civil society, and private sector representatives.



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