Commentary

Contraceptive Security: Incomplete Without Long-Acting and Permanent Methods of Family Planning

Jane Wickstrom and Roy Jacobstein

Since the 1970s and the inception of donor-supported family planning programs in developing countries, broad consensus has been reached that countries should provide a wide choice of family planning methods and services in their reproductive health programs. This agreement was affirmed by the 1994 International Conference on Population and Development (UN 1995) and subsequently reaffirmed numerous times, most notably in the UN Millennium Development Goals (UN 2000, 2005; Ross, Weissman, and Stover 2009; Speidel et al. 2009).

Various financing, supply, and distribution efforts have been implemented by the international community to ensure reliable access to contraceptive methods. As the most populous cohorts in history entered and moved through their reproductive years, and as other public health concerns competed for scarce resources, family planning program managers recognized that finance and service delivery challenges to meeting the need for contraception were growing.[1] With wider recognition in the past decade of the need to revitalize family planning programs (Advance Africa 2002; IPPF 2008), especially in "fragile" sub-Saharan African programs (Jacobstein et al. 2009), strategic efforts have been initiated and formally organized under the rubric of "contraceptive security" (Hare et al. 2004), which is defined as individuals' ability to choose, obtain, and use high-quality contraceptives and condoms whenever they want them for family planning and HIV/AIDS/STI prevention (USAID 2010).

Most contraceptive security efforts have focused on forecasting, procurement, distribution, and advertising for "resupply" methods of family planning—condoms, pills, and injectables. Clinical methods—hormonal implants, IUDs, female sterilization, and vasectomy—collectively known as "long-acting and permanent methods,"[2] or LA/PMs, have been given shorter shrift. In this commentary we review the importance of LA/PMs and consider why they are neglected in many national contraceptive security strategies and family planning programs. We propose recommendations for broadening method choice to include LA/PMs more fully, thereby increasing the ability of women and men to achieve their reproductive intentions.

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Methods

We analyzed the contraceptive security strategies and reports of 13 countries and 2 regions: Albania, Burkina Faso, Cameroon, Egypt, Ghana, Kenya, Liberia, Madagascar, Malawi, Nepal, Nigeria, Togo, Ukraine, and the West Africa and Latin America regions. These countries and regions were selected because recent contraceptive security strategies were written and publicly available in each. We also reviewed materials from organizations that work on contraceptive security, and conducted secondary data analysis of the most recent Demographic and Health Surveys of 23 countries on topics such as unmet need, met need, demand for spacing and limiting births, and method mix among spacers and limiters.[3]

Why Provision of LA/PMs Is Important

The analysis, which focused primarily on women who were married or in union, makes clear that LA/PMs are underutilized in family planning programs. The analysis also reveals that although worthwhile initiatives to improve logistics and supplies for some contraceptive methods are underway, insufficient attention is generally given to LA/PMs. A number of characteristics of LA/PMs suggest the importance of these methods within contraceptive security efforts and in family planning programs overall.

Effectiveness and Convenience

For many women and men, effectiveness and convenience are among the principal reasons for choosing a family planning method, and thus methods offering longer duration of effective action are often strongly favored (Snow et al. 1997; Steiner et al. 2006). LA/PMs are the most effective family planning methods, as seen in Table 1, with less than 1 in 100 women becoming pregnant in the first year of use. The added convenience of needing only one or two client-provider interactions to obtain several years (or more) of effective contraception is also desirable for many people.[4]

Unmet Need for Contraception

Total demand and unmet need for contraception are substantial in many countries, for both birth spacers and limiters, as can be seen from our secondary analyses of the most recent Demographic and Health Surveys from 12 sub-Saharan African countries for which full datasets were available (Figures 1 and 2). One of every five to two of every five married women in these countries has demand to delay or space a birth by at least two years. Yet in almost all the countries, the majority of married women of reproductive age who have demand to space or delay a birth are not using any method, and their use of IUDs and implants is minimal. Although more limiters than spacers are using some form of contraception in most of the countries, and their use of LA/PMs is higher than spacers and delayers, relatively few women who want to limit are using any of the four LA/PMs.

Reproductive Intentions and Equity

Beyond unmet need, in many countries of the global South, women's reproductive intentions and their use of particular contraceptive methods often do not align well. That is, many women report that they want to space, delay, or limit births, but in contrast to women in industrialized countries, they either are not practicing contraception at all, are using withdrawal, or are using short-acting resupply methods.[5]

Kenya provides an example of how reproductive intent, contraceptive choice, and method use can reflect limited access to a wide range of methods including LA/PMs, or limited contraceptive security.[6] Thirty percent of married Kenyan women of reproductive age (15–49 years) have demand to space or delay a birth for two or more years, and 18 percent practice contraception. Thus, almost 6 out of 10 married women (58 percent) who have demand to space or delay births are practicing contraception. Figure 3 shows that among the 18 percent of married women who are using a method, only 8 percent use implants or IUDs, compared with 13 percent who use traditional methods.

More married Kenyan women have demand to limit births than to space them; slightly more than four out of ten married Kenyan women (41 percent) have demand to limit births.[7] Reproductive intent and contraceptive use among these women aligns somewhat better than it does among spacers and delayers; 28 percent of married Kenyan women are practicing contraception to limit births. Thus, almost 7 out of 10 married women (69 percent) who have demand to limit births are practicing contraception. Among the 28 percent of married women using a method to limit births, only one-fourth use any of the highly effective LA/PMs (see Figure 4). An analysis by Kenya's Ministry of Health identified several potential reasons for the low use of LA/PMs, including lack of access to methods in medical facilities, provider bias, inadequate knowledge of the benefits of LA/PMs, myths and misunderstandings, and inadequate partnerships between the public and private sectors (MOH [Kenya], MPHS, and DRH 2008).

Table 1 Effectiveness of family planning methods in pregnancy prevention

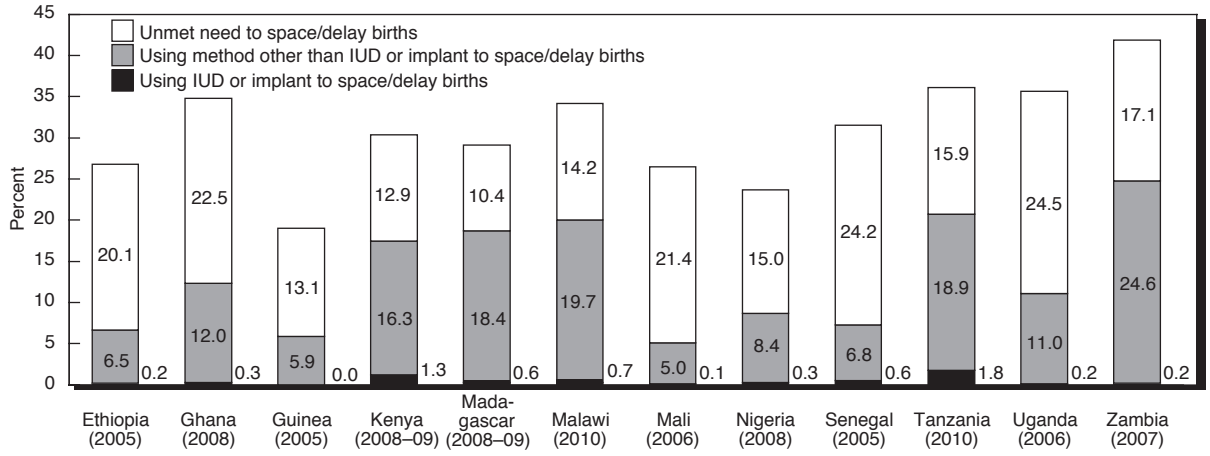
Method	Number of unintended pregnancies within first year of typical use among 1,000 women
No method	850
Withdrawal	270
Female condom	210
Male condom	150
Pill	80
Injectable	30
IUD (CU-T 380)	**8**
IUD (LNG-IUS)	**2**
Female sterilization	**5**
Vasectomy	**1.5**
Implant (Implanon)	**0.5**

Note: Methods in boldface are LA/PMs.
Source: Adapted from Trussell (2007).

Wide Use When Available and Accessible

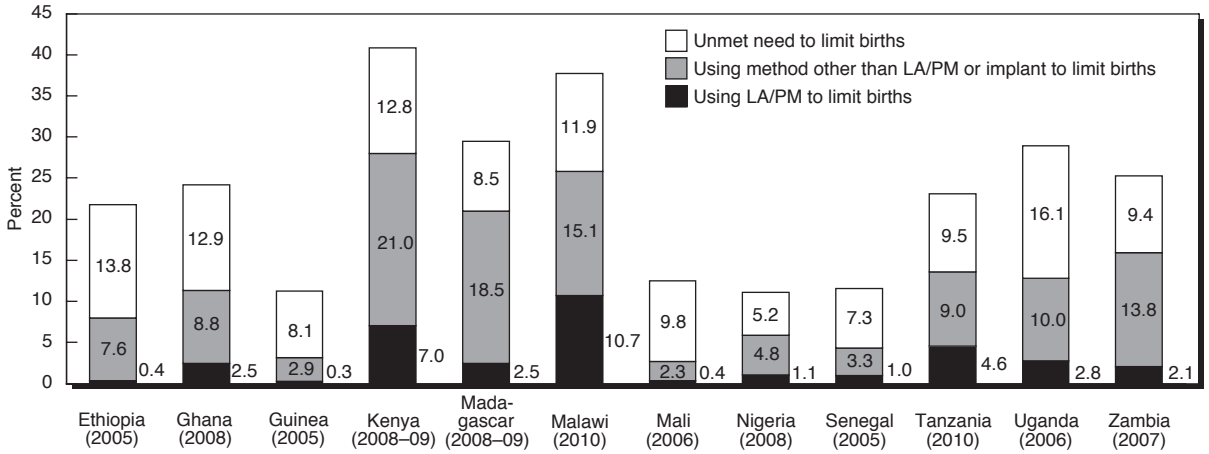
Thirty-nine percent of married women worldwide rely on LA/PMs for their contraceptive protection, and LA/PM use is high—in absolute terms and as a proportion of modern method use—in all regions of the world except sub-Saharan Africa (PRB 2008).[8] Female sterilization is the most widely used of all modern methods, and the IUD is second (PRB 2008). In our experience, family planning managers, providers, planners, and donors often do not fully appreciate that many clients will choose LA/PMs when they are made more widely available and accessible, even in sub-Saharan Africa. An excellent example is found in Malawi, where despite widespread and deep

Figure 1 Total demand, contraceptive use, and unmet need for spacing or delaying births among married women in 12 sub-Saharan African countries, 2005–10



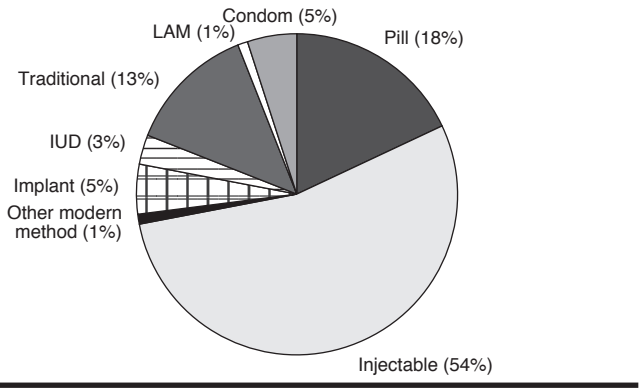
Sources: Demographic and Health Surveys.

Figure 2 Total demand, contraceptive use, and unmet need for limiting births among married women in 12 sub-Saharan African countries, 2005–10



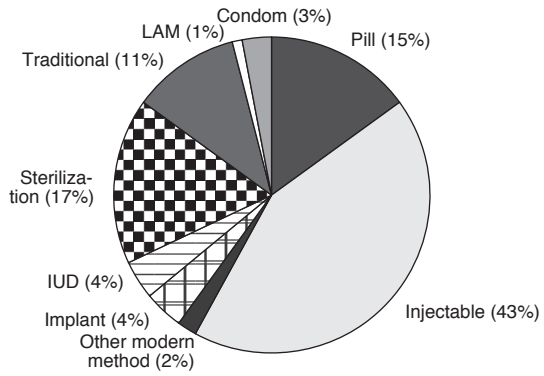
Sources: Demographic and Health Surveys.
Note: LA/PM (long-acting and permanent method) refers here to IUD, implant, sterilization, and vasectomy.

Figure 3 Method mix among the 30 percent of married women aged 15–49 in Kenya practicing family planning to space or delay births, 2008



Note: Long-acting reversible methods are indicated by a pattern fill.
Source: KNBS and ICF Macro (2010).

Figure 4 Method mix among the 41 percent of married women aged 15–49 in Kenya practicing family planning to limit births, 2008



Note: Long-acting and permanent methods are indicated by a pattern fill.
Source: KNBS and ICF Macro (2010).

poverty, nearly 10 percent of all Malawian women—almost one in four modern method users—choose female sterilization to limit births, with fairly equitable access and use across all socioeconomic strata (NSO and ORC Macro 2011). Several African countries in addition to Malawi are in the vanguard with respect to female sterilization use, including Namibia (10 percent per DHS 2006–08) and, to a lesser extent, Kenya (5 percent per DHS 2008–09).

Cost-Effectiveness

Although unit costs of LA/PMs are typically higher than for resupply methods (Ross, Weissman, and Stover 2009), LA/PMs are cost-effective in terms of cost per couple-year of protection (CYP) (see Table 2). A recent analysis of commodity costs and service-delivery costs, such as provider time, equipment, expendable supplies, and other related expenses, revealed that the IUD is the least expensive method, at approximately US$1.75 per CYP. Vasectomy and female sterilization also have low service costs per CYP, at slightly more than US$2 per CYP and slightly less than US$4 per CYP, respectively. Also, whereas hormonal implants have historically been the most expensive method, the average cost of Sino-implant II® is comparable to that of female sterilization, approximately US$4 (Tumlinson et al. 2011).[9]

Saving Lives and Improving Health

Perhaps the most compelling rationale for greater attention to LA/PMs within contraceptive security efforts and family planning programs is the health benefit that would accrue to women if LA/PMs were more widely and fully available. According to a modeling study (Hubacher, Mavranezouli, and McGinn 2008), if only 20 percent of the 18 million sub-Saharan African women using the pill and injectables who desired long-acting methods switched to hormonal implants, 1.8 million unintended pregnancies, 567,000 abortions (many of them unsafe), 300,000 cases of serious maternal morbidity, and 10,000 maternal deaths would be averted. Similar or greater benefits would accrue to women switching from other short-acting methods or traditional methods to any of the LA/PMs.

Table 2 Costs of contraceptive methods

Contraceptive method	Unit cost (US$)	Cost per CYP[a] (US$)
Male condom	0.025	na
Pill (COC)	0.21	7.80
IUD	**0.37**	**1.75**
Female condom	0.77	na
Injectable	0.87	7.90
Vasectomy	**4.95**	**2.25**
Sino-implant II®	**8.00**	**4.00**
Female sterilization	**9.09**	**4.00**
Implant (Jadelle®)	**24.09**	**8.15**
Implant (Implanon®)	**24.09**	**12.25**

CYP = Couple-year of protection. COC = Combined oral contraceptive. na = Not available.
[a]Average direct service delivery cost per CYP across 13 USAID priority countries.
Note: Methods in boldface are LA/PMs.
Sources: For unit costs, see Ross, Weissman, and Stover (2009); for CYP, see Tumlinson et al. (2011).

Reasons for Neglect of LA/PMs

In our view, six explanations exist for why contraceptive security strategies, plans, and activities (and the larger family planning programs that they support) have tended to neglect LA/PMs. These six, discussed briefly below, are: inadequate planning tools, delivery challenges, high up-front costs, problems of terminology, focus on supplies rather than on services, and lack of specific indicators.

Inadequate Planning Tools

Tools that would lead national and international planners to invest in LA/PMs wisely and address LA/PM requirements in programs are lacking.[10] For example, commonly used resources do not include such planning tools as guides for LA/PM programs; method-specific lists of needed medical equipment, instruments, and expendable supplies; how-to guides; cost and cost-savings analyses; or projective tools for forecasting LA/PM needs.[11] If contraceptive security tools do not fully consider LA/PMs, then managers and logisticians at central, regional, and district levels (the decisionmakers within the supply chain) may not adequately prioritize or plan for LA/PM service needs.

More Challenging to Deliver

LA/PMs are technically and programmatically more challenging to provide (and to discontinue when removal is needed) than are resupply methods, because they require more advanced facilities, more highly trained staff, and specialized medical instruments. Consequently, many programs, especially those facing human resource and financial constraints, may take the easier course of providing mainly short-acting resupply methods.

Relatively High Up-Front Costs

Although average service-delivery costs per couple-year of protection (CYP) for LA/PMs are less than those

of short-acting methods (Tumlinson et al. 2011), unit costs of LA/PMs are higher (see Table 2) (Ross, Weissman, and Stover 2009). In our experience, the high initial costs of LA/PMs, along with the need to maintain a clinical service system to provide them, often discourage policymakers, program planners, and donors from investing in these methods. When financial and human resources tighten, countries lean toward the use of resupply methods, which are less expensive and easier to provide. Clients can often assume some of the costs of resupply methods, whereas the costs of LA/PMs are more difficult to "amortize" and then pass on to clients. Additionally, private insurance plans in many countries either do not cover family planning or are too expensive for many people to purchase.

Problematic Language Defining Contraceptive Security

Language influences the way health care personnel think, plan, and manage programs. The majority of the definitions of contraceptive security reviewed for this commentary focused on the supply of contraceptives and other reproductive health commodities.[12] The terminology is often ambiguous (for example, using the terms "supplies" and "commodities" interchangeably) and not specific with respect to LA/PMs. Bias against LA/PMs may have been introduced when contraceptive security strategies and plans referred to "contraceptives" or to "products" rather than to "contraceptive methods." To some individuals, both terms connote tangible things (like condoms and pills) that can be ordered, bought, counted, and dispensed. Is female sterilization a "commodity" or a "contraceptive"? Is vasectomy a "product"?[13] Likewise, IUD and implant use requires much more than the provision of a product.

Focus on Contraceptive Supplies Rather than on Services

In addition to medical instruments, equipment, and expendable supplies, services are needed to attain contraceptive security for LA/PMs. Services that ensure full and informed choice and quality of care for each of the four LA/PMs (hormonal implants, IUDs, female sterilization, and vasectomy) depend on supportive supply-side subsystems such as training, facilitative supervision, and management (of facilities and of the organization and delivery of services). Client-related activities, such as provision of information and counseling, and management of side effects or complications are also needed (Jacobstein and Pile 2005, 2007; RESPOND Project 2010a). Increased service access and quality are also dependent upon demand-side activities that inform and engage communities and promote a positive image of family planning (including LA/PMs). LA/PMs require skilled, committed, and authorized providers; knowledgeable, empowered clients; and supportive communities.

Lack of Use of Specific Indicators

"What gets measured gets done" is a useful truism in family planning programs.[14] Few indicators for LA/PMs within contraceptive security strategies and plans exist. One that does exist is "Availability of a Range of Contraceptive Methods" (DELIVER Project 2010), but the methods are not specified and are not categorized as "short-acting," "long-acting reversible," or "permanent."

Recommendations

We offer the following recommendations for achieving greater contraceptive security through greater provision of LA/PMs in family planning programs.

1. *Advocate for LA/PMs*. National and international family planning proponents should advocate for LA/PMs when communicating with donors, finance ministers, politicians, program leaders, and other key stakeholders. The advocacy should be informed by the rationales advanced in this commentary, underscoring the importance of expanding the method mix, meeting reproductive intentions, and ensuring informed choice.
2. *Secure Financing*. Financing for contraceptive security within family planning programs should specifically address the medical equipment, instruments, and expendable supplies needed to provide LA/PMs and the other health-system components needed for quality service delivery.[15]
3. *Include LA/PM Requirements on Essential Drug and Equipment Lists*. National lists developed by ministries of health should include the medical equipment, instruments, and expendable supplies needed for LA/PM services. Programs can adapt international or national lists (RESPOND Project 2010b) and can estimate costs based on local prices and availability.
4. *Expand and Update Contraceptive Security Tools*. Contraceptive security tools should be broadened and updated to routinely, explicitly, and fully address the needs of LA/PMs. Contraceptive security strategies, planning processes, and compendia should include such helpful aids as: service program guides; projective tools for forecasting LA/PM needs; cost and cost-

savings analyses; and method-specific lists of medical equipment, instruments, and expendable supplies.

5. *Refine Logistics Training to Include LA/PMs*. Logistics managers, supervisors, and service providers should be trained in forecasting, procurement, and distribution for LA/PMs (including the necessary medical equipment, instruments, and expendable supplies). Programs should revise curricula accordingly and realistically plan for increases in LA/PM use once supply systems are secure and demand for LA/PMs rises. (Experience has shown that demand will rise when access is expanded.)
6. *Focus on Services, Not Just on Supplies*. Family planning programs should invest in building program capacity to provide LA/PMs. This entails the support and maintenance of service systems and subsystems required for LA/PMs to be provided widely, safely, and with high quality. Demand-side activities such as use of mass media, client information materials, and community outreach that inform and engage individuals, couples, and communities in family planning and LA/PMs are also needed.
7. *Use Precise, Consistent, Unambiguous Language.* The language in contraceptive security definitions, strategies, plans, and program planning should be precise, consistent, and specific in regard to LA/PMs, and should not use the terms "contraceptives," "commodities," or "supplies" as synonyms for "contraceptive methods."
8. *Use More—and Specific—Indicators*. Specific indicators that fully reflect both LA/PM availability and service provision should be used in contraceptive security strategies, plans, and activities. Some indicators could include presence of key medical equipment and instruments needed to provide LA/PMs; presence of qualified medical and counseling staff providing each LA/PM; and presence or absence of restrictive medical policies and practices that have a negative influence on LA/PM service delivery.
9. *Adopt a Clearer Definition of Contraceptive Security*. The international reproductive health community should adopt a clearer definition of contraceptive security that encompasses all contraceptive methods, including LA/PMs, recognizes the centrality of service delivery, and focuses on meeting clients' needs and desires. In furtherance of this recommendation, we propose the following definition: "Contraceptive security exists when all people are able to choose, obtain, and use the contraceptive methods and services they desire, from the full range of potential methods, in order to achieve their reproductive intentions."

Conclusion

Contraceptive security is a critically important aspect of family planning programs. Worldwide experience indicates that a great many women and men want, like, and use long-acting and permanent methods of contraception. Yet contraceptive security efforts (and the family planning programs of which they are a part) often have not addressed the requirements for LA/PM service provision. Greater attention to LA/PMs is needed to ensure complete contraceptive security, so that many more women and men will have access to the full range of contraceptive method options from which to choose how best to achieve their reproductive intentions.

Notes

1 If donor funding were to remain at or near current levels, the shortfall would be almost US$200 million annually, with a cumulative shortfall of about US$1.4 billion from 2008 to 2020 (Ross, Weissman, and Stover 2009).

2 The term "long-acting" is preferable to "long-term" because it focuses attention on the method's intrinsic characteristics and not on the length of time a client uses the method. "Long-term" may erroneously suggest that a client should be denied access to a given method if she does not want to use it for the full span of its approved length of use.

3 The 23 countries are: Bangladesh, Benin, Cambodia, Cameroon, Ghana, India (UP), Indonesia, Kenya, Lesotho, Madagascar, Malawi, Namibia, Nepal, Pakistan, Philippines, Rwanda, Senegal, Swaziland, Tanzania, Uganda, Vietnam, Zambia, and Zimbabwe.

4 In contrast to LA/PMs, resupply methods require frequent, consistent, and correct actions over time, and consequently have much higher failure rates. For example, in typical use, a hormonal implant is 60 times more effective than an injectable; an IUD, depending on type, is 10–40 times more effective than the pill; and a vasectomy is 100 times more effective than a male condom.

5 We are advocating greater LA/PM availability and access, to afford greater method choice. Of paramount importance is that choice of method reside with the client, and that such choice be informed and free of coercion. This is especially important in light of the history of, and potential for, coerced or involuntary use of these provider-dependent methods. Coerced sterilization for demographic reasons occurred most notoriously in India in the 1970s (Freedman 1993) and is alleged in Uzbekistan (Tynan 2010). Coercion for health reasons, for example as a condition for receiving treatment for HIV/AIDS, has been alleged to be occurring in Namibia (ICW 2009).

6 This poor fit with reproductive intent is even more pronounced in most other sub-Saharan African countries; Kenya has a relatively strong program, with higher levels of LA/PM use.

7 Demand to limit births exceeds demand to space in much of the world except in most countries in sub-Saharan African. However, some sub-Saharan African countries (Kenya, Lesotho, Madagascar, Malawi, Namibia, and South Africa) already have greater total demand to limit than to space (see Westoff 2006, the 2010 Kenya DHS, and the 2011 Malawi DHS). In light of rising contraceptive use and falling fertility, we are confident that more sub-Saharan African coun-

tries will follow this pattern in the future. That is, as elsewhere, sub-Saharan African women will spend more of their reproductive lives as "limiters" (or long-term "spacers"), who are more likely to choose an LA/PM. Thus, the demand for LA/PM services and the need for contraceptive security are likely to increase in the next few decades.

8 From a regional standpoint, LA/PM use and modern method (MM) use among married women is: 27 percent LA/PMs and 61 percent MMs in Asia; 35 percent LA/PMs and 69 percent MMs in North America; and 38 percent LA/PMs and 66 percent MMs in South America. In all these regions, the predominant method used is female sterilization. In North Africa, where MM use is 54 percent, LA/PM use is 24 percent (with IUD use at 22 percent) (PRB 2008).

9 In comparison, the service costs of combined oral contraceptives, the three-month injectable (Depo-Provera®), and the two-rod implant approved for up to five years of use (Jadelle®) are approximately two times as high, at around US$7–$8 per CYP. The cost of Implanon® (one-rod method approved for up to three years of use) is higher still, at slightly more than US$12 per CYP.

10 Two examples of otherwise excellent tools that have not fully addressed LA/PMs are: *SPARHCS (Strategic Pathway to Reproductive Health Commodity Security): A Tool for Assessment, Planning, and Implementation* (Hare et al. 2004) and *Leading Voices in Securing Reproductive Health Supplies* (RHSC 2009).

11 A number of these tools are now under development by those working on reproductive health supplies issues.

12 This Albanian definition of "contraceptive security" is fairly typical: A guaranteed long-term supply of quality contraceptives for every Albanian who wants them (MOH [Albania] 2003).

13 The term "product," commonly used in the logistics, pharmaceutical, and social marketing domains, is not often used in the clinical domains of the hospital, health center, and health post, where LA/PMs are usually provided.

14 Its converse, "What doesn't get measured doesn't get done," is also often true, if less frequently stated.

15 Financing for family planning programs in developing countries typically comes from a wide range of sources, including multilateral loans and grants, bilateral funds, and local government budgets. All of these sources offer potential funding for LA/PMs.

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