Avoiding controversy in international provision of subdermal contraceptive implants

1. Introduction

International agencies work with host country governments to estimate contraceptive needs and to procure commodities at affordable public-sector prices. Depending on the agency and the registration status of the commodity in the given country, three subdermal contraceptive implants are options for purchase: Jadelle® is a two-rod levonorgestrel implant approved for 5 years of continuous use (Bayer HealthCare, Berlin, Germany), Implanon® (Merck & Co., Inc., Whitehouse Station, NJ, USA) is a one-rod etonogestrel implant (approved for 3 years) and Sino-implant (II) (Shanghai Dahua Pharmaceutical Co., Ltd., China) is another two-rod levonorgestrel implant (approved for 4 years).

2. Implant procurement

Between 2005 and 2009, international agency procurement of implants for sub-Saharan Africa increased 15-fold (Fig. 1). Today, over 30 countries in the region are beneficiaries of the approximately 1.5 million units that arrive each year [1]. This level of implant shipment (5.8 million units over the past 7 years) brings tremendous reproductive health benefit. In terms of protection from just unintended pregnancy, over 20 million years of contraception are generated to prevent approximately 6 million unintended pregnancies, given the average length of use for each insertion. For sub-Saharan Africa, an estimated 1 million abortions and 22,000 maternal deaths are averted due to the contraceptive effects of this highly efficacious technology [2].

3. Country-specific information

Ten countries in sub-Saharan Africa received at least 100,000 implants in the 4-year period from 2007 to 2010 (Table 1). Depending on the country, this volume of implant procurement represents between 4% and 21% of the estimated national populations of married women of reproductive age [3]. In recent years, the government of Ethiopia, for example, has worked with numerous international agencies to make implants widely available. Uptake has been brisk at the national level. In 2005, the Ethiopian Demographic and Health Survey registered 0% prevalence of implant use; the latest survey of 2011 shows that 3.4% of married women of reproductive age are using implants. Similarly, in Rwanda, implant use jumped from 0% in 2005 to 6.3% in 2010. More modest but measurable increases were observed in Kenya and Uganda [4].

4. Future demand for removal services

With increased procurement, demand and uptake of subdermal implants, programs in sub-Saharan Africa will need to provide an ever-increasing volume of removal services. International studies show that approximately 20% of implant users have their product removed in the first year. Each country’s service requirement will vary, depending on the wave/timing of insertions, the level of user satisfaction with the products and the length of contraceptive effectiveness (3–5 years) of the specific product. In Ethiopia, an estimated 500,000 women are currently using implants, and the dominant product (Implanon®) lasts 3 years. Perhaps, 200,000 women will seek implant removal in 2012. As insertion volume continues to increase and national prevalence rises, it is conceivable that agencies may need to provide 400,000 removal services per year in Ethiopia. Indeed, the annual volume of procurement (450,000 units per year in the 4-year period shown in Table 1) would corroborate

Fig. 1. Quantity of subdermal implants procured by international agencies for sub-Saharan Africa, 2005–2011. *Incomplete information for year 2011.
this projection, if a steady state of insertions/removals is achieved. Although other countries in the region do not have as large an implant program as Ethiopia, removal services will become increasingly important in the coming years.

5. Ways to avoid controversy

Some implant users will have difficulty getting the product removed when they wish. As disturbing as this may sound, it is inevitable because the obstacles to removal can be numerous. To minimize the number of problems, programs need to prepare for the increased demand for removal in the following ways:

- Continue to train providers in safe, aseptic removal services.
- Give providers adequate time to render services given their other duties.
- Ensure adequate supplies of forceps, scalpels, lidocaine, syringes and bandages.
- Establish centers of excellence that guarantee same-day removal for users who present for services.
- Provide advance notification and cyclic mobile services for hard-to-reach communities.
- Train outreach workers to facilitate referrals and to collect anecdotal reports of possible problems.
- Conduct independent evaluations and monitor removal services statistics for selected regions and health facilities.
- Conduct independent surveys of implant users to identify possible problems with access to removal.

6. Protecting the reputation and future availability of subdermal implants

The development and refinement of today’s implants have been a 30-year journey. Great effort and resources have created these contraceptive options that are now the preferred product for millions of women. Manufacturers play their role to protect the technology and continue to produce high-quality and safe products for worldwide distribution.

At this juncture in the history of implant provision, service delivery programs have the most difficult task: satisfying high demand and making services safe and respectful. If problems arise and continue unabated, then the reputation of the contraceptive technology can be unfairly tarnished. This could result in decreased demand and eventual abandonment in programs. Thus, right now, adequate resources need to be mobilized to avoid problems and protect the reputation of the technology for the future needs of millions.

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References


Table 1
Top 10 countries in sub-Saharan Africa receiving the highest number of subdermal implants through international agency procurement, 2007–2010

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of implants receiveda</th>
<th>Estimated population of married women of reproductive ageb</th>
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<tbody>
<tr>
<td>Ethiopia</td>
<td>1,861,200</td>
<td>10,851,000</td>
</tr>
<tr>
<td>Uganda</td>
<td>271,676</td>
<td>3,834,000</td>
</tr>
<tr>
<td>Rwanda</td>
<td>249,300</td>
<td>1,194,000</td>
</tr>
<tr>
<td>Tanzania</td>
<td>232,200</td>
<td>6,827,000</td>
</tr>
<tr>
<td>Zambia</td>
<td>196,618</td>
<td>1,662,000</td>
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<tr>
<td>Kenya</td>
<td>174,750</td>
<td>5,745,000</td>
</tr>
<tr>
<td>Madagascar</td>
<td>167,528</td>
<td>2,914,000</td>
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<tr>
<td>Burkina Faso</td>
<td>154,308</td>
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<tr>
<td>Malawi</td>
<td>128,600</td>
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<tr>
<td>Zimbabwe</td>
<td>112,130</td>
<td>1,775,000</td>
</tr>
</tbody>
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a Reproductive Health Supplies Coalition RHInterchange [1].
b United Nations Department of Economic and Social Affairs.