

# Strengthening implant provision and acceptance in South Africa with the ‘Any woman, any place, any time’ approach: An essential step towards reducing unintended pregnancies

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Progress in reducing unintended pregnancies in South Africa is slow. The implant, introduced in 2014, expanded the range of available long-acting reversible contraceptives (LARCs) and held much promise. Uptake, however, has declined precipitously, in spite of its ‘unmatched effectiveness’ and high levels of satisfaction for most users. We propose policy and provider interventions to raise implant use, underscored by a ‘LARC-first’ approach. Contraceptive counselling should focus on the particular benefits of LARCs and methods be presented in order of effectiveness. Moreover, implants hold particular advantages for certain groups, especially adolescents and young women, in whom it is considered first-line contraception. Provision of immediate postpartum and post-abortion implants is safe and highly acceptable, yet remains under-utilised. Implant services at HIV and tuberculosis clinics are a key priority, as is inclusion of LARC provision within school health services. Implants could also be delivered by existing mobile outreach services, for example in sex worker programmes. Services could be built around nurses dedicated solely to providing implants, with other health workers receiving brief refresher training. Women who experience side-effects, especially abnormal bleeding, require timely interventions, following a standardised protocol, including use of medications. Encouraging return for side-effects, follow-up phone calls and home visits would raise continuation rates. Removal services require doctor support or designated nurses at specific centres. Limited access to removal services, health workers’ resistance or botched procedures will further undermine implant provision. Rapid implant demonstration projects in postpartum wards, schools, outreach services and by dedicated providers may rapidly advance the field. Together, the actions outlined here will ensure that the implant fulfils its potential and reinvigorates family planning services.

*S Afr Med J* 2017;107(11):939-944. DOI:10.7196/SAMJ.2017.v107i11.12903

Despite the launch of a new national contraceptive policy in 2012 and the introduction of the implant contraceptive in 2014,<sup>[1]</sup> South Africa (SA) is making slow progress in reducing levels of unintended pregnancies, including among teenagers.<sup>[2]</sup> Implants and the intrauterine device (IUD), both referred to as long-acting reversible contraceptives (LARCs), have much greater effectiveness than short-acting alternatives.<sup>[3,4]</sup> Oral contraceptives, for example, have contraceptive failure rates as high as 20/100 woman-years<sup>[5]</sup> compared with a failure rate of 0.05% for the implant and 0.8% for the copper IUD.<sup>[4]</sup> Given the ‘unmatched effectiveness’<sup>[6]</sup> of implants and continuation rates of ~80% at 1 year in multiple assessments globally,<sup>[4,7,8]</sup> some proponents consider implants – alongside IUDs – to be ‘first-line’ contraceptives, and other methods as ‘second-tier’.<sup>[9]</sup> Indeed, professional bodies in the USA recommend that providers must emphasise that LARCs are ‘the best reversible methods for preventing unintended pregnancy, rapid repeat pregnancy, and abortion in young women’<sup>[10,11]</sup> In SA, Implanon is currently used to provide pregnancy protection for 3 years, but increasingly evidence suggests that protection may extend to 5 years, even in women with a high body mass index.<sup>[12,13]</sup> Prolonged effectiveness would further improve Implanon’s convenience for women, and reduce removal procedures and costs of implant replacements.

Despite the effectiveness and programmatic advantages of the implant, its promise has not been realised in SA. The number of implants inserted in the public sector has fallen from ~175 000 in

2014/2015 to only 50 000 in 2016/2017,<sup>[14]</sup> with declines noted in all provinces of the country (Fig. 1). Levels of uptake have been especially low in Mpumalanga, the Northern Cape and North West Province since the introduction of the implant. Similar concerns prevail around the copper IUD, which accounts for only 2% of all contraceptive use,

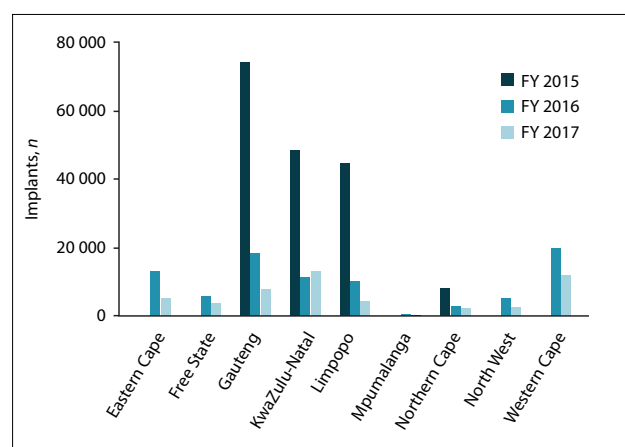


Fig. 1. Total numbers of implant insertions for each province in South Africa from April 2014 to March 2017<sup>[14]</sup> (no data are available for the Eastern Cape, the Free State, North West, or the Western Cape for financial year 2015). (FY = financial year.)

**Table 1. 'Any woman, any place, any time' approach: Addressing the patient, system and provider barriers to implant initiation and continuation**

Target population groups	Settings for implant provision	Health workers
Women attending family planning clinic, including first-time users, women unsure about method, and women seeking renewal of short-acting method	Family planning clinics and primary healthcare clinics	Primary care nurses, dedicated LARC providers, and doctors (removals)
Adolescents and young women	Schools, youth-friendly services, campus clinics and technical colleges	School health nurses, dedicated LARC providers
Postpartum women	Labour wards (demand generated in antenatal clinics)	Midwives (labour wards and antenatal clinics)
Post-abortion women	Termination-of-pregnancy wards	Nurses
Special target populations, such as HIV-infected women, TB patients, sex workers	Mobile outreaches HIV and TB clinics	Dedicated LARC providers, CHWs, and HIV lay counsellors
Communities	Community settings, households	CHWs, and HIV lay counsellors

LARC = long-acting reversible contraceptive; CHW = community health worker; TB = tuberculosis.

mainly because of limited nurse training in insertion and suboptimal access in family planning clinics.<sup>[15]</sup> In addition, the longstanding question of whether depot medroxyprogesterone acetate (DMPA) increases women's risk for HIV acquisition will soon be answered by the Evidence for Contraceptive Options and HIV Outcomes (ECHO) study.<sup>[16]</sup> If a significant association is demonstrated, there may be a compelling reason to restrict the provision of injectables for women at high risk of HIV infection.

Against this background, SA needs to redouble its efforts to improve contraceptive access for all women, especially to LARCs. This commentary therefore proposes a new approach for SA, described by Hathaway *et al.*,<sup>[17]</sup> centring on the concept of 'Any woman, any place, any time', which holds that women should have access to LARCs in a range of complementary settings. We outline the policy, systems and provider interventions required to support this approach (Table 1).<sup>[18]</sup>

## Building the workforce for implant provision

**A range of health worker cadres are required, including staff dedicated solely to LARC provision.** In Zambia, retired midwives were placed at high-volume, public-sector facilities solely to provide LARCs. Only 18 of these facilities were able to insert >22 000 implants in 14 months, which is nearly half of the number inserted in all of SA in 2016/2017.<sup>[19]</sup> As dedicated providers have the necessary time and skills – and a mandate – they were able to generate demand, provide quality services and guide the work of other family planning staff.<sup>[19]</sup> Dedicated providers cannot function in isolation and require tightly ring-fenced time, sufficient clients, supplies and supervision to allow them to maintain competency, confidence and productivity.<sup>[20]</sup> In many parts of sub-Saharan Africa, dedicated providers also deliver implant services through mobile outreaches, which can rapidly increase implant uptake.<sup>[8,21]</sup> Existing outreach services in SA, for example to schools and among groups such as female sex workers,<sup>[22]</sup> provide a solid platform for such services. Projects piloting provision of implants in outreach services and through dedicated providers are needed.

While implant provision is built around nurses, doctors need to play a larger role, especially regarding removal procedures. Furthermore, in several settings in Africa and Asia, LARC services rely heavily on community health workers (CHWs).<sup>[23-25]</sup> They lead community-based distribution of the implant, visit users' homes

and provide support for women experiencing side-effects. A study in rural Northern Nigeria, where CHWs were tasked with inserting implants, showed the importance of frequent supervisory visits for CHWs.<sup>[24]</sup> In the absence of such support, CHWs reverted to dispensing shorter-acting methods.<sup>[26]</sup> CHWs in SA, especially at 'primary healthcare re-engineering' sites,<sup>[27]</sup> and HIV lay counsellors – already adept at 'task shifting' – could play an important role in implant services through demand creation, conducting pre-insertion counselling around LARCs and providing follow-up support.

**Brief, carefully designed training can raise uptake and continuation of the implant.** A cluster-randomised trial involving 40 clinics in the USA demonstrated the effectiveness of a half-day training intervention of healthcare workers. Following the training, twice as many women chose a LARC method and subsequent rates of unintended pregnancy were cut by 50% compared with controls.<sup>[28]</sup> Training in this and other instances have included orientation to tools such as procedural checklists, contraceptive effectiveness charts, clinical case discussions, practical training with anatomical models and audiovisual materials.<sup>[29]</sup> To be effective, however, training does need to be carefully planned and accompanied by other interventions to strengthen service delivery. In a study in Bangladesh, for example, training was largely ineffective, as health system weaknesses constrained the potential for service improvements.<sup>[30]</sup> SA data also indicate that training that is too short and does not include management of side-effects and removals, may be inadequate to support implant provision.<sup>[31,32]</sup>

## Pre-insertion counselling and ongoing support

**Adopt a 'LARC first' structured approach to contraceptive counselling.** The content of contraceptive counselling heavily influences method selection, especially among younger women.<sup>[33-35]</sup> While it is important to avoid coercion and ensure patient-centred, shared decision-making, we contend that it is time for a more directive approach, one in which women are explicitly informed that LARCs constitute first-line contraception. In this approach, counselling is standardised and methods are presented in order from most to least effective.<sup>[36]</sup> Currently, it appears that during family planning counselling in SA, little attention is given to the relative effectiveness of different contraceptives, even though these can vary by as much as 100-fold.<sup>[4,32]</sup> Existing social media platforms, especially MomConnect and NurseConnect, have a key role to play in propagating messaging

around ‘LARCs first’ and generating demand for these methods. Strategies targeting men are also required.

**‘Anticipatory guidance’ before implant insertion can prepare women for side-effects.**<sup>[18]</sup> The key topic to discuss before implant insertion is potential bleeding changes and the acceptability to the client within her sociocultural and relationship context. This is important, as changes in uterine bleeding patterns, while generally not harmful, are to be expected with implant use. Even though rates vary across studies, generally, of 100 women who use Implanon, ~30 will have no bleeding at all or no change to their normal bleeding patterns, 30 will have lighter, less frequent bleeding than usual, 15 - 20 will report prolonged, heavy nuisance bleeding, and 5 - 15 will experience intolerable bleeding resulting in implant removal (Fig. 2).<sup>[37-39]</sup> Jadelle and a similar device, the Sino-implant, have fewer bleeding side-effects than Implanon.<sup>[13,37,40,41]</sup> Continuation rates were also better with Jadelle than Implanon in several studies,<sup>[37,41]</sup> but not in a multi-country randomised trial.<sup>[40]</sup>

Women should be given written information, providing further explanation of changes in bleeding patterns that could be anticipated and the possibilities of treatment for these.<sup>[42]</sup> While anticipatory guidance is likely to be useful, it is clearly difficult to fully prepare women for the reality of heavy or prolonged bleeding. Such bleeding patterns have substantial deleterious effects on a woman’s comfort, on costs of sanitary protection and on sexual relations. In a study of SA women, considerably more married or cohabiting women removed the implant owing to bleeding side-effects than those who were single or in casual relationships, suggesting that implants may be especially suited to the latter groups.<sup>[32]</sup> It is important, however, to consider the effects of the implant on overall sexual health, as

most women do not experience increased bleeding and the certainty of highly effective contraception may, in fact, increase sexual pleasure. A study in the USA showed that 35% of implant users reported an improved sex life, 48% reported no change and 17% reported a worsened sex life.<sup>[4,3]</sup>

**Actively follow-up implant users and strongly encourage them to return to the clinic for advice, reassurance, treatment of side-effects or implant removal, if desired.** Women seldom return to the clinic to discuss problems encountered with the implant; instead, they rely on friends, the internet and social media to help them to decide whether to remove the implant.<sup>[44]</sup> Social media contain many useful, accurate resources, presenting the implant from a patient’s perspective, although admittedly alongside much misinformation.<sup>[45]</sup> In a trial in India, actively following up implant users through phone calls or home visits was able to raise continuation rates.<sup>[46]</sup> Calls, lasting 4 minutes on average, might be feasible in SA, given that women’s contact details are routinely collected at each clinic visit, although these details are often incomplete and subject to frequent changes.<sup>[47]</sup> Other studies examining active follow up had less promising findings, even though these were mostly in high-income countries and had weaker study designs.<sup>[48-50]</sup>

**Intervene as soon as possible when bleeding is presented as a problem.** Often, when women do return to the clinic for advice about side-effects, they are simply told to ‘persevere’ or ‘wait and see’;<sup>[44,51]</sup> yet, these encounters are critical, as they may be the final chance for supporting continuation of the method. The large majority of patients who present with problems subsequently remove the device. Supportive interventions at such visits appear to be especially effective at raising continuation among adolescents and young women.<sup>[52]</sup> Health workers require a protocol for managing abnormal

bleeding, which encompasses the routine use of appropriate medications, including long-term therapies. Medications can include non-steroidal anti-inflammatory drugs, such as ibuprofen and mefenamic acid, and hormonal drugs, such as combined oral contraceptives or ethinyl oestradiol.<sup>[53]</sup> Although health workers in SA commonly prescribe treatment for bleeding and headaches related to the implant, medication regimens vary considerably and a standardised approach is needed.<sup>[31,32]</sup>

**Health workers’ resistance to removals, or other failures in accessing removal services, will rapidly tarnish the implant’s image and potentially undermine the entire family planning programme.** Service delivery capacity for removals is a problem in many places<sup>[54]</sup> and women often resort to private sector providers.<sup>[32]</sup> Opportunities for nurses to become skilled in implant removals were limited in the early years after implant introduction when demand for removals was low. In SA, this resulted in a number of botched removals or repeated unsuccessful attempts at removal, fuelling negative media and community coverage for the implant.<sup>[55]</sup> Selected family planning nurses and doctors must be trained to perform removals and be counselled that they only encounter women with side-effects, which may give them a falsely negative impression of the method. The majority of women find the method highly satisfactory and therefore don’t interface with the system until time of removal. In cases of difficult removals, either anticipated or after a single failed attempt at removal, nurses must immediately refer for expert support, rather than persisting in their efforts.

### Targeting of population groups

Although suitable for ‘any woman’, the implant has been most successfully targeted at specific populations, most especially youth, first-time contraceptive users, and postpartum and post-abortion women. Making implants and other LARCS accessible for these groups must be considered a *major* priority for family planning in SA, signalling a step change for the national programme. Conducting a few rapid demonstration projects may provide the impetus needed for widespread implementation.

**LARCS should be first-line contraceptive options for adolescents and young women.** Counselling focused on the particular efficacy and benefits of LARCS is able to lower the rates of pregnancy and abortion in adolescents and young women.<sup>[56]</sup> In one large study, two-thirds of youth were still using a LARC after 2 years, compared with

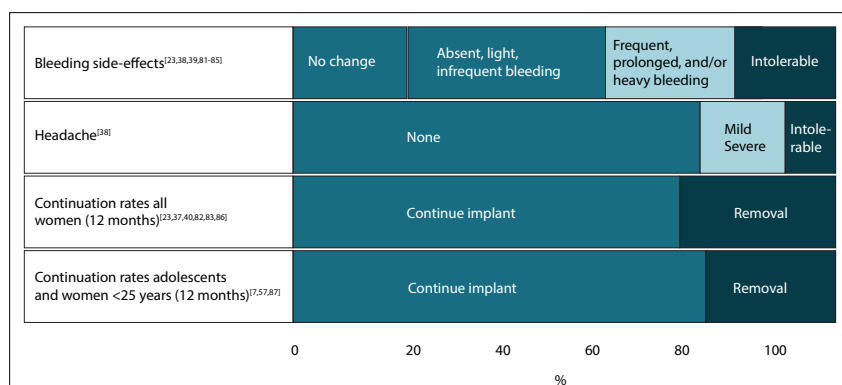


Fig. 2. Approximate continuation rates and likelihood of bleeding and headache side-effects. Rates of side-effects and of continuation vary between studies; the figures provided are indicative.

only one-third of those who had selected a non-LARC method. In most studies, rates of implant continuation in young women were higher than in older women (Fig. 2).<sup>[7,57]</sup>

In Kenya, when implants were made available to young women seeking family planning, a quarter selected the method.<sup>[58]</sup> In SA, such advances may be hampered by healthcare providers' opinions, which are often divergent from laws governing contraceptive access among adolescents.<sup>[59]</sup> Value judgements about sexual activity among youth may even lead to girls being denied contraceptives. The ongoing refusal to provide contraceptives in schools in the face of rising pregnancy rates among learners, can no longer be justified from a public health and gender equity perspective, and is at odds with World Health Organization guidance on safeguarding human rights in the provision of contraceptive services for young women.<sup>[60]</sup> A national policy recommending LARCs as first-line contraception and in-school provision of these services, either through provision by visiting nurses or mobile clinics, would go a long way to overcoming these access barriers.

**Postpartum and post-abortion family planning services represent a critical pregnancy prevention tool that remains surprisingly under-utilised.** Short inter-pregnancy intervals are associated with negative maternal and infant health outcomes, and an interval of at least 2 years between pregnancies is recommended.<sup>[61]</sup> More than 10 trials, including one in sub-Saharan Africa,<sup>[62]</sup> have examined the safety, uptake and continuation rates of implant provision in the immediate postpartum period.<sup>[63]</sup> Implants inserted within 48 hours postpartum appear not to affect lactation, growth, and neonatal and infant development.<sup>[64-66]</sup> In a trial in the USA,<sup>[66]</sup> as many as 90% of adolescents took up the offer of an implant after delivery, and uptake rates were also high in Uganda<sup>[62]</sup> and Kenya.<sup>[67]</sup>

For postpartum LARC services to be successful, however, robust linkages are required between providers working in family planning, antenatal and labour wards. Counselling about postpartum LARC placement needs to begin during antenatal care. Attention is required to ensure that linkages between family planning providers and labour wards are robust enough to avoid undue delays in implant insertion, noting that many women are discharged within 24 hours of childbirth. If services are not streamlined, women may be instructed to return for implant insertion at their 6-week postpartum visit, which for many may mean that insertion will not occur.<sup>[63]</sup>

Most patients who have had an abortion wish to avoid a subsequent pregnancy and strongly desire a post-abortion contraceptive method.<sup>[68]</sup> LARC use among these women appears more effective than short-acting contraception in reducing repeat pregnancies and abortions.<sup>[69,70]</sup> In a multi-country trial, insertion of the implant immediately post-abortion led to higher LARC use and reduced repeat pregnancies compared with insertion at a planned follow-up visit.<sup>[71]</sup> Also, in a study in Ethiopia, implant insertion immediately post-abortion resulted in >80% of women leaving the facility with a contraceptive method compared with 58% before the services began.<sup>[72]</sup> LARC use rose from 2% to 55%.

**Provision of the implant at HIV and tuberculosis clinics, including for women taking efavirenz, is a key priority.** Current approaches to family planning service provision in HIV treatment programmes have had limited success in reducing unintended pregnancies among HIV-infected women. Women receiving antiretroviral treatment have frequent contact with health services, providing several opportunities for contraceptive provision. Reducing unintended pregnancies in these women would offer them considerable benefits, but also assist in reducing the number of HIV-infected children. In one study, however, in rural Mpumalanga, only a quarter of HIV-infected women had discussed family planning with their providers.<sup>[73]</sup>

There are substantial drug interactions between efavirenz and Implanon, considerably reducing drug levels of etonogestrel, the active drug in Implanon.<sup>[74-76]</sup> Interactions between efavirenz and Jadelle appear even more pronounced than with Implanon.<sup>[77,78]</sup> Women using an implant, who are also taking efavirenz, have higher pregnancy rates than those taking other antiretrovirals. The higher adherence to the implant, however, when compared with short-acting methods including injectable progestins,<sup>[79,80]</sup> means that despite this drug interaction, the implant remains highly effective in these women – more so than short-acting alternatives. *Available data therefore do not support limiting access to the implant in women taking efavirenz.*<sup>[75]</sup> Moreover, the use of efavirenz is likely to be phased out over time, alleviating many of these concerns.

## Conclusions

The long-standing approach of prioritising contraceptive provision through family planning clinics may well account for the slow progress made in reducing unintended pregnancies in SA, including among adolescent girls. Making LARCs available in postpartum and post-abortion wards, schools, and HIV and tuberculosis clinics, may help make considerable headway. At each contact with the health system, women of reproductive age should be asked about their fertility intentions and linked with LARC and other contraceptive services, as required. LARCs should be considered as first-line contraception for adolescents, young women and first-time contraceptive users; these groups should be actively targeted in schools and other services. The method may also be especially suitable for women in casual relationships or those who are single. Also, we recommend that demonstration projects be established, where nurses are recruited to work solely to provide LARCs and support implant provision more generally, especially in clinical outreach services. With additional training, existing lay healthcare workers could serve as advocates for LARCs and support their ongoing use once selected. Given the varying side-effects profile of implant devices, alternatives to Implanon might be considered, such as the Sino-implant.

The clinical management of implant users needs to be improved and women should be actively followed up and encouraged to return, should bleeding patterns or other side-effects become a problem. When a woman does seek advice, the opportunity must be capitalised upon to allow early medical management and/or implant removal, hence ensuring her ongoing confidence in services and in the use of the implant. Women who have difficulties accessing removal services or encounter health worker resistance to removal may understandably become resentful, stoking rumours and distrust in the method and in family planning services more generally.<sup>[54]</sup> Responsive, quality removal services are required, performed by the appropriate level of health worker, with supportive expert referral when required. Even though the contraceptive efficacy of the implant is reduced in women taking efavirenz, the implant may still be more effective than alternative methods, and access to implants should not be restricted for women taking efavirenz, provided adequate counselling is offered. Together, the set of concerted actions outlined in this article could ensure that the implant fulfils its potential contribution to reducing unintended pregnancies in SA.

**Acknowledgements.** Candy Day, Health Systems Trust, for providing updated District Health Information System (DHIS) data.

**Author contributions.** HR and MFC wrote the initial draft. YP and SM provided critical inputs on subsequent iterations. All authors cleared the final article for submission.

**Funding.** None.

**Conflicts of interest.** None.

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Accepted 3 October 2017.