

## **DMPA-SC LAN Virtual Discussion: Waste management challenges of DMPA-SC self-injection**

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The ability to self-administer distinguishes DMPA-SC from other injectables and some other contraceptives and offers promise for reaching new populations with contraception and making it easier for women to contracept if they choose to. In countries considering capitalizing on this promise and introducing DMPA-SC for self-injection, one among many operational considerations for SI program design and planning is disposal of used DMPA-SC devices. During this Virtual Exchange, discussants and participants shared experiences related to waste management for DMPA-SC self-injectors from their countries; discussed waste management options and feasibility at the household level in various country settings; and shared guidance and resources for decision-making around incorporating waste management options into DMPA-SC introduction plans and program guidance.

This Virtual Discussion is supported by the [DMPA-SC Access Collaborative](#) jointly implemented by PATH and JSI. We work to expand access to DMPA-SC and self-injection because we believe that all women, no matter where they live, should have access to a range of safe and effective contraceptive options and innovations that allow them to make an informed choice.

### **Presentations:**

**Moderator: Jane Feinberg, Senior Technical Advisor for Supply Chain Management for the DMPA-SC Access Collaborative, JSI Center for Health Logistics.**

**Dr. Victoria Masembe, healthcare waste management expert, Uganda,** presented on healthcare waste management systems. Key points included:

- Advocacy is needed to gain political commitment for the waste management policies that should guide decision-making and design of waste management systems for all levels, including the household level
- The WHO offers several global principles (in slides) to guide waste management systems, and there are some international agreements that pertain to medical waste disposal. These seek to minimize risk to patients, healthcare workers, and the community; minimize environmental harms; and define who holds responsibility for healthcare waste management.
- Policies related to management of healthcare waste management can address several needs and concerns, including what data should be collected, budgeting, and regulating waste management practices for various types of waste, among others (full list in slides).
- Even when supportive policies are in place, remaining challenges include lack of compliance with the policies, lack of resources allocated to support good waste management practices, and the need for new technologies for environmentally safe waste disposal.
- For self-injection, the line between health-worker and client is blurred, and clients must be educated and responsible for appropriate waste disposal.
- Q&A: *What options do you recommend for household-level waste for DMPA-SC?* Where possible, the best possible option is to turn used devices over to a healthcare provider who can dispose of them properly with other medical waste. Options may vary between urban and rural settings, but whichever feasible option is safest for clients, others, and the environment is the best option in any given setting.

**Dr. Laila Akhlaghi, pharmacist and supply chain management expert, JSI Center for Health Logistics**, presented on the context of self-injection waste and the comparative magnitude of medical waste generated by DMPA-SC self-injection. Key points included:

- Putting DMPA-SC waste into perspective:
  - Household/home treatment is a minor source of medical waste, according to the WHO.
  - DMPA-SC produces a very small fraction (estimated 0.25% in Uganda) of medical waste, compared to other self-injected medicines, such as insulin.
  - DMPA-SC in the Uniject device produces less waste by volume than DMPA-IM or other injectables, does not include the challenge of disposing of glass vials, and the plastic reservoir can be incinerated.
- Q&A: *How can the discussion of DMPA-SC waste disposal also contribute to the larger discussion of household waste for other home injected medicines?* The review of DMPA-SC self-injection waste management within the context of other home-injected medicines shows that greater advocacy and education are needed for all of these products. While there are similarities between DMPA-SC and other self-injected treatments, there are also differences. For example, diabetics taking insulin shots have a higher volume of medical waste to dispose of, but they also have more frequent contact with the health system to refill their supply and drop off used units.
- Q&A: *Can the residual content of used DMPA-SC units leach into the environment?* Research from 2011 found that because the units can be incinerated, burning reduces the risk of active ingredients leaking into the environment.

**Dr. Leonora Okubasu, Pharmacist and Regional Advisor with the DMPA-SC Access Collaborative, JSI, Kenya**, presented on household disposal options for DMPA-SC self-injectors. Key points included:

- JSI surveyed diabetes and pharmaceutical associations in Burkina Faso, Kenya, Madagascar, Senegal, and Uganda about any existing household-level guidance for waste management for self-injected sharps. Their survey found no existing household-level guidelines or policies in these countries.
- Providers give a variety of options to their patients, including burning, burying, disposing in a pit latrine, disposing (within a container) along with other household waste, or storing in a container and returning to a health facility. We do not know what clients do in practice.
- Each method of waste disposal comes with pros, cons, and costs that ministries of health and programs will have to consider: acceptable methods will come with financial costs, such as providing women with a safe, puncture-proof container for storage, and establishing safe disposal and collection points; while unacceptable methods will come with health, environmental, social, and economic costs. Feasibility and acceptability of disposal methods may vary between rural and urban settings, and from country to country and where relevant policies already exist.
- Q&A: *When clients store the used units in a puncture-proof container and return them to a health facility, how is it disposed of?* In Uganda the units are emptied into a medical sharps' container, and women keep their small storage container for future use. So, the container itself does not become part of the disposed-of waste. In other settings it is possible that the small container may be disposed of with the units, but this creates more waste, more environmental damage. Facilities should make sure the sharps disposal box that is used is the appropriate size for the needles being disposed of.
- Q&A: *How long can used units be stored, and where in the home can clients store it for safety and discretion/privacy?* Women can store multiple units in the small container – until they go for a refill or have another opportunity to return them to a health facility. They can store the small container wherever they can keep it out of sight and away from children – often in their personal bag/purse or a suitcase. When women were asked about this they told interviewers “We know how to keep our valuables away from unauthorized persons!” (including their husbands).

**Dr. Bagrey Ngwira, Clinical Epidemiologist, Site Investigator for the DMPA-SC self-injection study conducted in Malawi, University of Malawi,** presented on the experience of self-injection waste disposal from the FHI360 study in Malawi. Key points included:

- A 12-month RCT for self-injection of DMPA-SC was conducted in Mangochi District, Malawi.
- All providers who were interviewed during a qualitative follow-up reported that they instructed clients that they could dispose of used units in the pit latrine; almost half gave the option of burning used units; and some gave the option of storing in a puncture-proof container and returned to a health care worker/facility for disposal.
- All clients who were interviewed reported disposing of the used units in the pit latrine, though some reported that they first stored it in the puncture proof container and then disposed of the container and units together in the pit latrine.
- Existing waste disposal policy in Malawi does not include self-injected medicines but requires that used sharps be disposed in an appropriate sharps disposal box immediately after administering the injection.
- The rollout effort is now underway in Malawi, and women are being provided a small puncture proof container and instructed to store the used devices in the container and return them to a health facility at their convenience. FHI360 will study how these new procedures are implemented, including interviewing self-injection clients to find out how used units are disposed of.
- Q&A: *What concerns were discussed when Malawi was deciding how to manage waste for this study?* The use of pit latrines was a concern, but it was an important option for this study and a special waiver was granted to allow it for this trial. Now that the trial is over, and rollout has begun, the decision was changed to only instruct women to safely store and return the units.

### General Q&A and Discussion

- Dela Nai (Population Council): in Ghana the study team was asked to remove the option of disposal in a pit latrine once the study protocol had already received IRB approval, so in practice providers only advised clients to store the used units and return them to a health facility
- Clarifying the term “disposal”: Putting units in a personal puncture-proof container is *storage* or *containment*, not disposal. The term *disposal* includes putting the units in a medically-approved sharps container, incinerated, or otherwise fully disposed of per medical waste disposal guidance.
- *Are women following the procedure of storing the used units in a puncture-proof container and returning it to the facility?* The study team in Uganda is still collecting this data and will share results early next year
- *Can insulin injections and/or DMPA-IM needles also be recapped?* Recapping of any needle is not advised for health workers because of risk of stick injury by someone else’s needle, but there is not the same HIV-acquisition risk for self-injectors to recap their own needles. The standing guidance was made for health workers and has not been changed for self-injection users. Updates for self-injection users may be needed, but a “best practice” has not yet been determined.
- Some efforts are underway to engineer a new personal medical waste disposal container that the needle can’t be removed from. For solutions like this, we will need to consider the cost of the storage container, the additional waste it may create, and downstream implications of where that container goes and what will really happen to it. For example, if it goes to the landfill is crushed there, people sorting through the trash could meet the needle. Would a household sharps box be discrete enough for women who wish to keep their contraception private?
- Sharps disposal for self-injection is an important component of the national strategy and needs to cover both public and private sector adherence to the guidance.
- *Question for LAN members: Does lack of clarity around waste disposal of DMPA-SC self-injection stand in the way of rollout of DMPA-SC self-injection?* In Uganda, Malawi, and Ghana it is not

hindering rollout, but lack of clarity about waste management could cause confusion and problems during rollout, so it is important that we provide clear and consistent guidance at all levels and to clients.

**Key Takeaways:**

- Disposal needs to be included in national plans and guidelines
- More research is needed to ensure self-injectors have appropriate, applicable disposal guidance (that doesn't confuse providers or clients)
- Best practiced need to minimize risk to clients and other, consider client acceptability and compliance, and consider the programmatic, environmental, and social costs

**LAN Updates & Next Steps**

- You can now join the conversation on the LAN's online platform! The forum was launched on Nov 1, and an invite email with instructions for accessing and registering an account on the forum has been sent to LAN members. We look forward to chatting with you on the site soon!
- Look for us at ICFP! The DMPA-SC Access Collaborative will be active at ICFP – participating in panels and poster presentations, hosting the PATH booth (#27-28), and hosting a side event (Wed, Nov 14, 7-9pm, at MH 2: “The A, B, C, and DMPA-SC of Expanding Contraceptive Options”). We look forward to seeing many of you in person in Kigali!
- As always, please don't hesitate to email [gmusoke@path.org](mailto:gmusoke@path.org) with any feedback, suggestions for LAN topics and events, or with any resources you would like to share with the Network.