Injection Safety and Health Care Waste Management in Kenya

Achievements by the Making Medical Injections Safer Project and Identified Areas for Continued Effort

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Over the past six years (2004-2010), the Making Medical Injections Safer Project (MMIS) implemented interventions within Kenya to create an environment where all injections provided are safe, necessary, and disposed of in a safe and appropriate manner. MMIS implemented an expanded World Health Organization/Safe Injection Global Network (WHO/SIGN) strategy which focused on policy environment, commodity management and procurement, capacity building and training, behavior change and advocacy, and health care waste management. The MMIS strategic approach relies on partnerships inside and outside the Government of Kenya at the national, state, and local levels to ensure that policy and action plans are developed collaboratively and are coherent and sustainable.

MMIS worked with all stakeholders along the technical areas in 44 districts out of the 68 targeted districts. These target districts are found in the following 8 provinces; Nyanza, Western, Central, Coast, Eastern, Rift Valley, Nairobi, and Northeastern. In the Rift Valley and Nairobi provinces, only the Provincial general hospitals and the National referral hospital have been covered. Overall, MMIS trained over 24,000 health workers in Kenya which enabled improved injection safety and health care waste management (HCWM) to be provided to an estimated 19 million people receiving treatment (an estimated 58% of the population of Kenya).

MMIS conducted health facility assessments throughout the project for strategic programmatic planning and evaluation of project impact. This document outlines key achievements as measured through the health facility assessment and areas still to be addressed in injection safety, healthcare worker safety, and healthcare waste management. Observations were made at 58 health care facilities in Kenya where interventions were conducted by the Making Medical Injections Safer (MMIS) project. A baseline study was done in 2006 before the interventions, and a follow-up study was done in 2008, when interventions were ongoing.

Infection Prevention and Control[1]

MMIS Achievements:

- The single most important measure of injection safety is the use of a new, sterile needle and syringe from a sealed package for each injection. This practice was already almost universal at baseline (99% of observed injections), and this high rate was maintained at follow-up.
- Results for general hygiene showed that the percentage of observed injections prepared in a clean space increased from 69% at baseline to 89% at follow-up.
- Syringes should never be reused. The percentage of facilities observed to reprocess and reuse syringes decreased from 3% at baseline to 0% at follow-up.

[1] 209 injection providers interviewed at baseline and 204 at follow-up; 58 facilities observed at both baseline and follow-up; 747 injections observed at baseline and 767 at follow-up.

Areas for Continued Effort:

- Even after MMIS interventions, only 25% of injection providers were observed to wash their hands before administering an injection. Much work must still be done to ensure that hand hygiene is a universal infection prevention practice.
- The percentage of patients who prefer injectable medication over the oral form remained at 49%, even after MMIS interventions.[2]
- Used needles should never be recapped after curative injections. This practice needs to be eliminated completely to protect injection providers from harmful needle stick injuries.

Capacity Building and Training

MMIS Achievements:[3]

MMIS implemented cascade-style training to teach injection providers and waste handlers key techniques and strategies for ensuring injection safety.

- The percentage of injection providers who reported being trained in injection safety and health care waste management increased from only 28% at baseline to 63% after MMIS interventions.[4]
- The percentage of waste handlers who reported being trained in sharps waste management increased from only 17% at baseline to 64% after MMIS interventions.

Areas for Continued Effort:

- Even after MMIS interventions, 37% of injection providers and 46% of waste handlers had not been trained. Given the high turnover in the health care worker field, sustainable training strategies should be developed so that all injection providers and waste handlers are trained.

Policy Environment

MMIS Achievements:[5]

One of the foundational principles of ensuring injection safety and health care waste management is establishing and providing reference documents and guidelines to all stakeholders, particularly supervisors.

- The percentage of supervisors who reported having a copy of injection safety guidelines increased from only 12% at baseline to 60% at follow-up.
- The percentage of supervisors who had health care waste management guidelines increased from only 13% at baseline to 56% after MMIS interventions.
- MMIS supported the Ministry of Health of Kenya in developing a National Injection Safety and Health Care Waste Management Policy and accompanying guidelines. More than 1000 copies were distributed to clinics.

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[2] 487 patients interviewed at baseline and 457 at follow-up.
[3] 58 waste handlers interviewed about training at both baseline and follow-up; 209 injection providers interviewed about training at baseline and 204 at follow-up.
[4] Staff relocation and turnover are likely reasons 100% coverage was not achieved in facilities where training workshops took place.
[5] 165 supervisors interviewed at baseline and 136 at follow-up.

Areas for Continued Effort:

- Even after MMIS interventions, about 40% of supervisors did not have copies of injection safety or health care waste management guidelines. All supervisors should have access to both injection safety and health care waste management reference documents. A new national injection safety policy was implemented in 2009; all facilities should own a copy of the policy and share it with their staff.

Logistics

MMIS Achievements:

- Almost all facilities (97%) had safety boxes available in all injection areas at follow-up, compared with only 36% of facilities before MMIS interventions.[6]
- After MMIS interventions, 81% of supervisors reported having adequate supplies of safety boxes, as opposed to only 33% at baseline.
- The percentage of injection providers reporting stockouts of safety boxes decreased from 28% at baseline to only 2% at follow-up.
- After MMIS interventions, 68% of supervisors[7] reported having adequate supplies of needles and syringes for curative services, as opposed to only 47% at baseline.

Health Care Waste Management[8]

MMIS Achievements:

- MMIS supported the Ministry of Health of Kenya in developing the first National Health Care Waste Management Plan (5-year plan for 2008–2013).
- At follow-up, 100% of sharps waste from vaccinations and curative and family planning injections was disposed of immediately after use, an improvement from 92% at baseline.[9]
- Disposal of used sharps improved significantly, from 10% of facilities at baseline to 69% of facilities at follow-up practicing satisfactory disposal of sharps in and around the facility.
- Significant improvements were achieved in the segregation of waste into sharps, infectious, and non-infectious categories.[10] At baseline, only 19% of facilities were segregating their waste, whereas at follow-up 69% of facilities were doing so. This is an important step to ensure the proper final disposal of waste and the safety of waste handlers.
- MMIS rehabilitated 50 small-scale double incinerators and 2 large diesel-fired incinerators.

Areas for Continued Effort:[11]

- At follow-up, 5% of facilities still had either open, pierced, or overflowing safety boxes or sharps lying around inside or outside the facility.

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[6] 58 facilities observed at both baseline and follow-up.
[7] 165 supervisors interviewed at baseline and 136 at follow-up.
[8] Satisfactory sharps disposal is defined as: no open, pierced, or overflowing safety boxes; no used sharps lying around inside; and no used sharps lying around outside.
[9] 553 injections observed at baseline and 541 at follow-up.
[10] 58 facilities observed at both baseline and follow-up.
[11] 53 facilities observed at follow-up.

Health Care Worker Safety[12,13]

MMIS Achievements:

- Waste handlers who reported having any injuries decreased from 26% at baseline to 17% at follow-up.
- Injection providers who reported having any injuries showed a statistically significant decrease, from 15% at baseline to 8% at follow-up.
- At follow-up, 90% of injection providers reported knowing that post-exposure prophylaxis was available at their facility to prevent transmission of HIV after a needle stick injury.

Areas for Continued Effort:

- Only 3% of injection providers and 5% of waste handlers were fully protected from hepatitis B at follow-up. [14]
- At follow-up, only 55% of waste handlers had the minimum required personal protective equipment,[15], this was an improvement from 33% at baseline.

[12] 58 waste handlers interviewed at baseline and 49 at follow-up.
[13] 209 injection providers interviewed at baseline and 76 at follow-up.
[14] Full protection from hepatitis B requires three doses of the vaccine. Vaccination was not part of the MMIS/Kenya intervention.
[15] Includes heavy gloves and boots.