

# **MAKING MEDICAL INJECTIONS SAFER PROJECT - MOZAMBIQUE**



## **BEHAVIOR CHANGE AND COMMUNICATION STRATEGY**

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**Regina F. Duarte  
BCC Advisor, The Manoff Group  
MMIS-Mozambique**

**Michael Favin  
The Manoff Group**

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**Debate and awareness through exercises**



**Presenting to colleagues**



**Technical Group examining AD syringes**

# **1. INTRODUCTION**

## **1.1 Country Background**

Concern with infection prevention and injection safety has been growing in Mozambique, in part due to the AIDS epidemic and the shortcomings of the current health system. Various activities now address Infection Prevention and Control (IPC), including injection safety, application of universal precautions and hospital waste management and elimination. There has been a parallel development of initiatives in the MOH and the international movement to deal with these issues. In fact the issue of injection safety has become one of the priorities of WHO and UNICEF (Abidjan meeting, 1994). Within these initiatives WHO has developed a tool to assess injection safety in developing countries. In Mozambique this assessment was carried out by UNICEF, in collaboration with the MOH, in March 2004.

One of a number of national injection safety projects funded by USAID and implemented by John Snow Inc. (JSI), supported by PATH, the Academy for Educational Development, and The Manoff Group, the Making Medical Injections Safe (MMIS) project in Mozambique started its activities in April 2004. The project used the findings of the national injection-safety assessment as a basis for developing its first activities and work plans. The questionnaire used in the national assessment was adapted for a baseline assessment in the first four cities where the project started off. The initial implementation sites were in the following provinces: Gaza (Xai-Xai City), Zambézia (Quelimane City), Nampula (Nampula City), and Maputo (Mavalane health district). A total of 43 health units are included in these areas: 19 health posts, 15 health centers, 4 outpatient HIV/AIDS services and 5 hospitals. The initial 1.5 years of the project focused on the 39 lower level facilities.

## **1.2 Approach to Strategy Formulation**

In implementing its BCC component, MMIS/Mozambique has followed The Manoff Group's Behavior-Centered Programming™ (BCP) approach. In BCP, the project and its partners consult with members of the groups expected to be most involved in implementation. This in-depth formative research -- which consisted of FGDs with users of health services in Mavalane and Xai Xai; IDIs with health staff (prescribers, injectors, cleaners) in Mavalane, Xai Xai, and Nampula; and trials of improved practices (TIPs) in Mavalane and Xai Xai – took place in 2004. The findings from this research – along with findings from existing information such as the March 2004 national injection safety assessment and the MMIS baseline assessment – were then used to design behavior-change strategies for each of the main “participant groups,” the groups most involved in program implementation. These strategies, which will be described in detail below, define key behaviors for each group, analyze supports and barriers based on research findings, and then lay out a comprehensive behavior-change strategy for *promoting* and *motivating* the desirable behaviors and for *facilitating* them – making them easier for people to carry out. Two important points:

- These are BC, not BCC, strategies, but strategic communication is one important component.
- This is not the only way to lay out a project strategy, but it is one effective way that makes clearly visible how all project components should be contributing in a complementary way to reaching project objectives – defined in terms of behaviors.

The Mozambique BC strategies were initially drafted by the BCC Advisor in the spring of 2005. She incorporated suggestions from MMIS HQ staff and the Manoff Group backstop. The strategies were further revised in July 2005. At that time the team met with and received input from the Injection Safety Technical Group that includes MOH and training institute staff. Since June 2005, several attempts were made to organize a workshop to obtain more input from the MOH and other partners, but because of continuous changes within the MOH and restrictions on travel of health staff this has not been possible.

With input from other MMIS staff, the BCC team began to develop the BCC component of the strategies in April. In July they laid out the initial materials strategy, developed detailed creative briefs for a number of materials, and planned pre-testing.

Annex A of this document provides the matrices for each participant group's with the BC strategy.

## **2. INJECTION SAFETY IN MOZAMBIQUE – Situation analysis**

### **2.1 National Survey**

From the National Injection Safety Assessment by UNICEF/MOH it became clear that the practice of injection safety (IS) and waste management (WM) in Mozambique is far from adequate and that in comparison with therapeutic injections, EPI was doing relatively well. The significant differences found are mostly attributed to the fact that EPI uses almost exclusively auto-disable (AD) syringes (97%) and has safety containers (87%) for safe disposal of syringes and needles. In contrast, the services providing therapeutic injections still use sterilizable equipment in 81% of the cases; in 19% of the cases, the steam sterilizer had a leak, and only 6% had spare parts for their sterilizer. Time Steam Temperature (TST) spot indicator registers were observed in only 68% of the visits, and only half were checked after the sterilization process. There is currently no policy for autoclave maintenance, making sterilization itself a great problem that needs to be addressed.

Overall, in 70% of the vaccinations and 75% of the therapeutic injections observed, reconstitution was conducted with sterile equipment. After applying the injection, sharps were collected in safety boxes for 89% of the vaccination services but in only 11% of the therapeutic injections observed (the boxes used by therapeutic injection providers were borrowed from EPI). In 46% of cases of therapeutic injections (versus 11% for EPI), contaminated sharps were thrown in an open container, exposing providers to accidental needle stick injuries.

The unsafe practice of two-handed recapping of needles after injection was observed in some health facilities (20% for EPI and 34% for therapeutic injections), indicating a very common way of exposure to needle stick injuries. A total of 39% and 43% (EPI and TI, respectively) of the providers interviewed reported at least one needle stick injury in the last year. Of those experiencing a needle-stick injury in the last year, none had been offered post-exposure prophylaxis for HIV infection, nor has any of the injection providers received hepatitis B vaccination.

In only 6% of health facilities (all of which were hospitals), the methods of waste elimination included burning in incinerators. Most facilities (60%) burn the waste in a hole or pit. Furthermore in 69% of the health facilities visited, sharps and other wastes were observed on facility grounds or in other unsupervised areas, exposing the community to potential injury. The survey revealed some weak areas of injection safety practices. The significant difference in the results of EPI and therapeutic injections, indicates that standardization of procedures and materials is necessary to bridge the current disparity. This means that the MOH will need to be prepared to move from glass syringes to AD syringes in the near future.

There is also a need to reinforce and apply existing MOH policies and guidelines on best practices for Infection Prevention and Control (IPC) and increase awareness among injection providers and their clients about the importance of injection safety and best practices.

## 2.2 Baseline Assessment

The baseline assessment in 38 facilities in the first four cities where the project started was able to confirm most of the results obtained in the national survey just a few months earlier. However, the assessment also suggested a more “subtle” difference between injection practices in EPI and therapeutic injections. Although the EPI services still scored better in IS, the results from this assessment also indicate that in some cases glass syringes were still used for vaccination (3.3%) and some units reported not having AD syringes for vaccination (6.7%). This is rather remarkable as overall it is assumed all EPI services throughout the country use exclusively AD syringes.

There were other indicators showing that EPI was not doing so well, considering the fact that AD syringes and a huge stock of safety boxes are available:

- Only 50 % had a clean, organized table to prepare the vaccines.
- None of the health workers washed their hands.
- Only 43% of the dilutions were made with new (unused) syringes.
- Only 40% used the right diluent.
- In 13% of the cases facilities did not have a safety box in the vaccine unit.
- Another 10% had their safety boxes too full and overflowing.
- In 7% of the cases the health worker recapped the needle with both hands and therefore did not immediately put the syringe and needle in the safety box.

Although the percentages of the last three “do nots” are not very high in the EPI services, and in that sense one could call it a success, they indicate that good practices do not depend exclusively on providing the materials. It shows that other practices like 1) inadequate requisitioning and delivery of materials; and 2) habits like recapping, lack of hygiene, and overfilling the safety box may constitute difficult changes.

The findings in the other services, where therapeutic injections are given, indicate much worse IS practices:

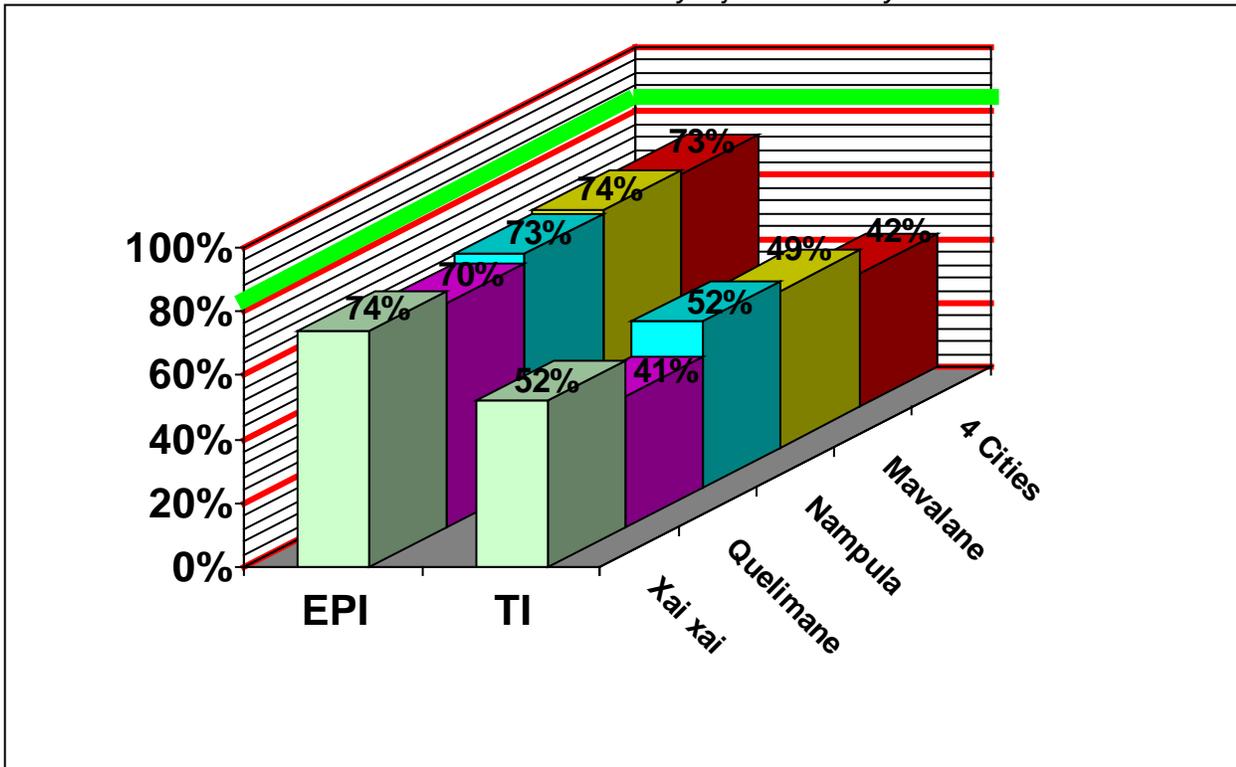
- Only 55% had a clean, organized table to prepare the injections.
- Only 5% of the health workers washed their hands.
- Only 47% of the dilutions were made with new (unused) syringes.
- Only 55% used the right diluent (8% were seen using liquid from an IV bottle).
- In 42% of cases, facilities did not have a safety box in the vaccine unit; the ones *with* safety boxes “borrowed” them from the EPI program.
- In up to 40 % of the cases the health worker did not immediately put the syringe and needle in the safety box, but rather recapped the needle with both hands.
- In 18% of cases the health worker left the needle in the vial (either for subsequent use or to discard it later *with* the needle sticking in).

These results show that practices *unrelated* to having appropriate and safe materials, are very similar (dirty table or environment, washing hands). They also show that therapeutic injection services need a lot of input to at least get to the same level of the EPI services.

Waste management showed very poor results in most facilities. Waste was segregated in only 27% of the facilities. In 17% of the 38 facilities visited, sharps were found lying unprotected inside the facility, while up to **55%** had sharps and other health waste around (outside) the facility, exposing cleaning staff and clients/ communities to risk of injury. Almost none of the cleaners handling waste had any type of protective equipment (97%). Additionally, most facilities (71%) do not have adequate waste containers, and very few have any kind of norm or rules related to health waste segregation.

Other disturbing figures related to health workers reporting having had finger pricking accidents in the last year (34% and 53%, in respectively EPI and therapeutic injection [TI]).

*Classification of Facilities by Injection Safety Criteria*



From the 146 indicators from the baseline assessment, 36 were identified as most directly related to injection safety: 18 for EPI and 18 for therapeutic injections. Each of the variables was then given a weight, using criteria of importance and feasibility. A health facility could be considered to apply safe injections if it achieved between 85 and 100 points.

## 2.3 Formative Research

After an initial desk review of existing national and provincial-level literature on injection-related beliefs and behaviors, BCC formative research was conducted using an adaptation of Tool A from the SIGN toolbox. The formative research in Mozambique included:

- Trials of Improved Practices (TIPS) with health workers and cleaning staff
- In-Depth Interviews (IDIs) with health workers
- Focus Group Discussions (FGDs) with community members

TIPS is an action research method used for effective behavior change strategies, in Mozambique they consisted of 1) observations immediately followed by an interview and an agreement on precise trials (practices) that the HW agreed to try to on follow for a specific period, 2) another interview 1-2 weeks later to follow up on the agreement (were the practices feasible, did the HW do them, what was difficult etc.).

The qualitative data obtained through formative research shed light on current practices of health workers and the community's perspective and preferences on services and injection practices. These findings were essential in drafting the BCC strategy. Some of the observations done during the TIPS were a repetition of the observations in the baseline assessment, that were further investigated as to the "why" of these behaviors and how the health worker thinks he/she can change a specific practice.

These insights and the “list” of practices to be improved were later used in the development of the training materials and the reminder/communication materials.

Overall, the results of the formative research show us that barriers to compliance with improved practices vary. They include:

- limited resources,
- lack of specific knowledge in relation to a given practice,
- unclear national norms, and
- chronic undervaluing of dialog between patients and health care workers.

Most barriers can be eliminated if adequate human and financial resources are made available. Steps to success include:

- clearly identifying problem areas in relation to *specific practices*,
- developing solutions through discussion with health care workers,
- providing adequate resources,
- strengthening supervision and management structures to allow monitoring of solution implementation and ongoing education and health worker support.

For a complete summary and details on research findings, please refer to the final report on formative research.

### 2.3.1 TIPS and IDIs with health workers

There was a certain consistency in the (“bad”) practices, as most were repeated in all facilities where formative research was carried out. The main practices identified and used in the TIPS are addressed in the BC strategy and the training materials:

- **Recapping.** Many health workers still recap, with both hands. Lack of information and former trainings seem to influence this practice. An uncapped needle, even in a sharps box, was considered to be dangerous by some health workers (HWs). Clarity on national norms from the central level and uniform information given in trainings should rectify this behavior.
- **Leaving needles in vials** (and using same the needle for multiple doses). Apparently HWs find leaving the needle in the vial, to be practical and say it works quicker than changing the needle and/or taking it out before throwing away the vial. Increased education on the hazards of leaving needles in the vials, increased supervision and the use of AD syringes with fixed needles should probably help HWs to use and continue with the good practice of changing the needle for each dilution and discarding the needle immediately after use.
- **Lack of interaction and information** to client. Overall interaction between HWs and clients is minimal and many HW tend to be rude to their clients. The client is not given much information on neither the diagnosis nor medication prescribed, nor do HW communicate with the clients when applying an injection. During the TIPS and later in the trainings, and specifically the interpersonal communication trainings, the HWs were encouraged to open the new syringe in front of the client and provide information on the importance of using a new syringe and needle for each person and each injection.
- **Lack of hand washing.** All HWs interviewed and trained seem aware that hand washing (before and after every “action”) is a national norm and report knowing the importance in reducing risk of infection transmission. In most facilities hand written and printed sheets are found on walls related to hand washing and other norms. However, few health workers comply. This shows that the general poor conditions in the facilities are the main barrier to this practice, not the lack of knowledge. Most do not have running water (even in the cities) and

using buckets with water or leaving the room to wash hands are a real barrier considering the work load of the HW.

- **No waste segregation per category.** In almost all facilities visited the HWs did not segregate different types of waste and, in most cases, once outside the facility the waste was thrown into the same shallow pit. Sometimes it would be partially burned or (partially) buried. In other cases the waste would lie accumulated on the ground, turning the shallow hole into a heap. Information/education is only one factor contributing to addressing this problem. Lack of clear norms; lack of implementation follow up and supervision; lack of recognizable, adequate waste bins for waste segregation; lack of space around the facility for proper elimination; and lack of fuel to burn infectious waste are but a few barriers reported by HWs.

### 2.3.2 *Focus group discussions with community members*

FGDs were conducted in the same cities and in communities near the same facilities, where the TIPS were conducted. In total, 68 community members participated in discussion. The issues discussed were exclusively related to:

- 1) perceptions and beliefs related to injections and oral medication
- 2) perception and appreciation of health services received by community members.

The results of these FGDs were used in the development of the BC strategy, both the part relating to clients/community and the part related to providers, mainly where communication and interaction between HWs and clients was involved. Additionally, the training, especially the interpersonal communication session used some of the insights from the FGDs to make HWs aware of the need to improve communication and interaction with the public in general and provide essential (IS) information specifically.

The results of the FGDs show us that in general public knowledge concerning injections and risk is correct, although most people still prefer injections to oral drugs (even when aware of potential risk). Perceived risks mentioned by the participants are related to infection danger (dirty syringe), possible (temporary) paralysis (bad technique/ inexperienced nurse), and risks related to cultural beliefs (bad magic). Overall, most participants believe that injections to work quicker, are more efficient and easier than swallowing pills.

The interaction between participants and HWs was commented on negatively. People report feeling that they have absolutely no right to contribute to decisions on the treatment they receive. The question of whether it would be possible for them to request pills rather than injections from the health worker met with general amusement. Some health workers were reported to not accept contribution from clients, even, for instance, a syringe brought by client. Most participants also felt that risk reduction is entirely the responsibility of the health worker.

Reports on medical waste lying around or near the community depended on the site, although at two locations serious concern was raised. In general, though, little concern was voiced about needle pricks, contamination and children playing in or with health waste. This was not lack of knowledge as there were numerous accounts of medical discards being used by community members, in some cases motivated by profit (sale).

The results show us what the focus may be in the activities to be developed by the project in relation to clients and community. The main issues taken into consideration when drafting the BC strategy could be summarized as follows:

- No significant gender difference was noted. This means that the strategy does not reflect a gender-related approach.

- Some age and social status related differences were noted, although this would need to be substantiated further before including it in the general BC strategy. It is not reflected in the current BC strategy.
- Knowledge about injections and possible risks is generally accurate, so no specific educational activities have been identified in the strategy.
- Regardless of knowledge the public does not feel they can influence prescriptions, nor injection safety practices. And reports clearly indicate that HWs do very little patient education and undervalue dialogue with patients. This is reflected in the BC strategy through several identified behaviors and strategies aiming at making health workers more open to dialogue with clients (interpersonal communication), and others have the objective of motivating and enabling clients to ask questions and discuss medical issues in a respectful manner.
- Worry and reports on medical waste putting the community (members and children) in danger may need to be further encouraged. This is clearly one of the behaviors identified in the BC strategy.

For additional information and detail please refer to the formative research report.

### **3. BEHAVIOR CHANGE STRATEGY**

#### **3.1 The Mozambique BC Strategies**

To define a country's priorities, strategy, and appropriate project activities, there is a need to combine: 1) the knowledge obtained through research, e.g. in Mozambique, the National IS Survey, the MMIS baseline assessment and the qualitative research, discussed above); 2) current national policies and approaches; 3) current international objectives and approaches to IS; and 4) the MMIS objectives as defined in the contract with the funding agency, USAID. This mix will invariably yield different outcomes in each country.

For example, reducing the number of injections could be well said to be the main objective both at international (WHO) and MMIS level. It is an obvious step towards increasing IS: simply reduce the number of injections. Reducing the number of injections does not depend only on changes of behavior of providers and clients. It also depends on the availability of oral drugs and the existing **national** treatment protocols. Oral drugs tend to be more expensive, meaning that the GOM needs to agree to increase the budget and the MOH needs to negotiate that increased budget. Changing the drugs available in a country is a long-term affair: changing the essential drug list, purchasing the new drugs, receiving them in the country, getting them through customs into the warehouses and finally distributing them to the health facilities is obviously a question of medium term planning.

In a country where the STI protocol recommends oral drugs (almost) exclusively where they are already available, but where some providers and/or clients still prefer injections, MMIS would surely define the reduction of injections as the number one priority. In a country such as Mozambique, where the STI treatment guidelines still include two injectable drugs and where the oral substitutions are not readily available (and may not even be on the essential drug list), MMIS must develop medium and long-term activities, but at the same time look at other areas through which the project can obtain positive results more rapidly. In a country such as Mozambique, where injectable drugs are used more than oral drugs, where the current STI treatment algorithm has been reviewed only recently, and where most of the therapeutic injections are still given using glass syringes, the priorities and type of intervention will be different. Therefore, the MMIS project first developed activities to create an enabling environment: activities directed at the providers to increase their knowledge and awareness of IS and to support the health sector make a transition from glass syringes/metal needles to

disposable, preferably AD syringes. Parallel to those activities, the question of the reduction of injections has also been addressed.

The current injection and waste handling practices described by the initial project baseline, the TIPS, and the FGDs indicated that the BCC work should focus on health worker behavior, which was shown to be much more important than client behavior for reaching the project objectives. However, the project must address several other groups important for IS, including the community, as should become clear in the ideal behaviors discussed below.

The findings also indicated that the situation with therapeutic injections is much more critical than with vaccinations in the EPI units; therefore the training materials and other activities should include both sectors but prioritize therapeutic injections.

Among the different professional groups working in health facilities, those applying the injections and the cleaners/waste handlers are the key groups whose behavior changes could most improve IS. Therefore, the most elaborate matrices relate to these two specific “sub” target groups with which the project will be working.

The MMIS project has always followed the WHO definition of a safe injection, which proposes three groups of “beneficiaries”: the providers, the client and the community. These three groups are paramount in the BC strategy, although for practical reasons the providers have been split up following the professional task divisions in a facility, and additional groups were identified as being important in addressing some of the barriers.

The ideal behaviors are equally based on this WHO definition and the operational definition of both IS and WM that was subsequently developed by the team:

- What should or can a provider do to reduce the risk of needle stick injuries?
- What procedures should be followed to minimize the chance of infection transmission for the client?
- How should health waste be handled to reduce risk of injury to the workers and make sure it does not become dangerous to the community?

In Mozambique separate BC strategies have been defined as the following major participant groups:

- Health providers who prescribe
- Health providers who give injections (in the injection/treatment ward, maternity ward, tuberculosis and leprosy unit, first aid unit, and wards in hospitals)
- Cleaning staff
- Health facility managers (administrative and medical directors)
- District and provincial supervisors (including members of the Injection Safety Technical Groups)
- Decision-makers at the political level (national, provincial, district)
- Clients, family members, and the community in general

Please note that the facility managers and the supervisors have been covered in the same strategy matrix.

### **3.2 Analysis of the Matrices**

The strategy matrix (one for each participant group) is constructed as follows. The left side is the behavioral analysis, and the right side is the comprehensive behavior-change strategy – the main things that the project (or others) need to do to both promote and motivate the desired behaviors and to facilitate them (to make them easier for people to carry them out). The strategy activities should

address/resolve the main barriers and should take advantage of the existing motivations and other supports to the desired behaviors. The behavioral analysis side is based on the formative research results – it reflects the current situation – and the strategy side reflects planned activities to move each participant group from their current behaviors to the desired (more health-promoting) ones.

The columns in the behavioral analysis side of the matrix are:

- The **ideal behaviors**. These reflect internationally accepted recommendations.
- The **current behaviors** of the group vis a vis the ideal, as learned in the formative research.
- The **feasible behaviors** in the specific (Mozambique) context. These may be the same as the ideal, or they may be improvements over the current but not as good as the ideal; e.g. where no running water is available in the room, wash hands properly every 10 minutes, rather than before and after every patient. The main source of this information is the TIPS, in which the acceptability and feasibility of possible behaviors were tested among a small number of people. The also indicates in a general way how probable it is that many people will to reach the ideal behaviors.
- The **barriers** or resistances to change. These may be both internal/ psychological, such as attitudes, fears, and perceptions, or external/practical such as lack of money or other resources. Annex A suggests the range of such barriers.
- **Motivations** and other supports, already existing, that may be “used” or called upon to reinforce implementation of activities.

In almost every project, BC requires communication and training activities, but the other types of activities may vary. Again, the purpose of these activities is to motivate and facilitate people moving from the ideal to the best feasible behaviors. The strategy components for injection safety in Mozambique are the following.

- **Communication** activities (BCC) – messages, materials, interpersonal communication, and their purposes
- **Training** activities
- **Service improvement** activities (logistics, supervision, etc.)
- **Technologies and tools** (including AD syringes, improved stock records, supervision forms, treatment registry books)
- **Advocacy** for supportive policies, collaboration, and funding

Once the BC strategies are complete, plans for implementing each component can be prepared. In many cases individual activities in several strategies will be the same or can be combined with those in other strategies.

A BC (or BCC) Strategy is not a static document, but one that needs to be revised and adapted throughout the project life, based on follow up and evaluation of activities. At this point the Mozambique BC strategy has mainly been used to work out the activities of the different areas, as it awaits the opportunity to be analyzed and discussed by a larger group of partners.

### 3.2.1 Providers who apply injections (“injectors”)

At the lower-level health facilities, various categories of nurses do most of the injections. They work in the “treatment” room, where there is a space specifically identified and organized to give injections to the clients on a outpatient basis. This is where most intra-muscular injections are given. Most facilities also have a specific space exclusively for EPI vaccinations, and one for MCH, mostly for vaccination and FP injectables. The bigger facilities may have a maternity, a first aid unit, a TB & leprosy unit, and sometimes a laboratory mostly for basic tests (without the use of “diagnostic injections”). In hospitals, injections are given almost exclusively in the wards, except for the diagnostic ones in laboratory and blood bank units.

### 3.2.1.1 *Ideal versus current behaviors of injectors*

It was clearly established that the current practices regarding injections and the way waste is handled do not correspond with the ideal behaviors that would satisfy the WHO definition and the operational definitions of IS and WM.

Therefore the first ideal behavior is related to the techniques of administering injections: “prepare and apply safe injections,” which then is sub-divided into eight main practical steps that need to be followed for an injection to be considered safe. Most of the steps are part of hygiene measures and universal precautions, and one is specific for Mozambique, relating to the wish to dispose of needles (sharps) separately:

- Always use one disposable or AD syringe per person and per injection, taken from a sealed pack.
- Always prepare an injection in a clean environment (tray, table etc.).
- Wash hands before every injection.
- After every injection, dispose of syringe and needle in safe way (in Mozambique MMIS sites by using a needle cutter).
- Use new syringe and needle (from sealed pack) for each dilution.
- Never leave a needle in a vial.
- Replace safety boxes when  $\frac{3}{4}$  full.

The other ideal behaviors are related to areas linked to administering an injection: the client, waste, non-formal services, registration of injections and reporting of injuries:

- Show new, sealed syringe to client and provide information on IS (first step towards reaching the community).
- Dispose of waste in safe way that separates infectious, sharps, anatomical and common waste.
- Treat clients only in formal setting and avoid illegal charges.
- Record injections in register book (that is used for an informed needs assessment).
- Report needle stick injuries.

Clearly, if these behaviors are the ideal ones, they are quite different from current practices observed. In some cases the current practice is the opposite (NOT washing hands as opposed to washing hands) and in other cases the practice will “only” need to be improved further to reach the ideal (e.g. although staff use safety boxes—which is a good point—they fill them too high). By defining the current behavior, we are defining how far off the provider is from the ideal behavior, a gap that will influence the likeliness of reaching the ideal behavior, as well as the content of the training materials. If providers already talk to clients when providing health services, you “only” need to provide them with IS information; if they treat the clients in a rude way, almost without any conversation, then you will need to provide training on interpersonal communication skills, as well as IS!

### 3.2.1.2 *Barriers and motivations of injectors*

An important general finding obtained from the TIPS research, and further confirmed during the first trainings provided, is that the theoretic knowledge of providers is reasonably good: when asked most will give you a long list of do’s and don’ts when applying an injection. Apart from specific technical knowledge on handling waste and even awareness of the risk and problem of health waste in Mozambique, the knowledge gap is small. The difficulty is in getting the providers to do what they know they are supposed to do! Why do people not implement what they have been taught? The answer is usually a combination of high barriers and low motivation. Barriers can be factors in the context or environment (such as non-supportive health policies, procurement and logistics, poor management and supervision) and internal ones such as non-supportive perceptions, lack of awareness or confidence, or fear of consequences of carrying out the ideal behaviors. (See the table

of internal and external barriers in the Annex A.) And what factors may help to motivate them to change their behavior towards the ideal one?

### *3.2.1.3 Strategy and activities for injectors*

Once you have analyzed the particular barriers and motivations affecting a specific behavior, you can move to defining what type of actions may be developed to move to or towards the ideal behavior. As outlined above, the strategy can have several approaches, touching on different areas (communication, training, service improvement, tools and advocacy). Normally, to address a behavior, one needs a mix of these actions/areas to address the barriers from different angles.

For the providers applying injections, there are three main issues: 1) lack of awareness; 2) lack of information/skills; 3) lack of appropriate materials. Therefore, the main activities that were defined and have started to be implemented are:

1. **Provide training**, to cover the information/knowledge and skills gap that was identified, but also to create more awareness on IS and WM issues and their consequences. For reasons of sustainability, the training institutions will also be involved in these trainings, so they can include these topics in their future pre-service training.
2. **Supply AD syringes**, to support the health system in making the transition from glass syringes to disposable and/or AD syringes.
3. **Develop and introduce injection register books**, to provide better information on the number of injections given and the number and type of syringes needed to obtain a consumer-based needs assessment.

Some of the needed strategic actions are beyond the ability of the MMIS project to address by itself. Although these are included in the behavior-change strategies, the project itself can only raise awareness and advocate among partners for action. A good example would be the water needed for washing hands: many facilities have no running water at all (in the facility or at least not in the “injection room”). The lack of water is an obvious and serious barrier for infection prevention in general, but the best the project can do in this case is to identify acceptable alternatives to obtain better results. These could be disinfecting hands with glycerin-based alcohol or washing hands every five or 10 patients or bringing a bucket of water, an empty bucket to catch used water, and a scoop.

For each of the behaviors, there is a need to advocate, mainly with the MOH at the different levels, for support to develop the strategy or the activities identified. The lack of awareness of the serious situation and its consequences, and the lack of knowledge on specific IS issues are also felt at the level of the MOH; therefore the project needs to put these issues on the agenda in the first place and try to motivate MOH officials to support specific activities. To implement its activities, the MMIS project requested for an “Injection Safety Technical Group (ISTG)” to be appointed and trained on IS. Consequently, key staff at the provincial level were assigned to work specifically on IS and/or infection prevention; however, these groups still needs to be officially recognized as such.

### 3.2.2 Support staff and waste handlers

The support staff (cleaners) in health facilities are the people who handle the waste. In bigger facilities and hospitals, there is normally one older cleaner who is in charge of burning or otherwise eliminating the waste, although in some cases this final disposal is done by the (night) guards. For the past few years, some elementary-level schooling (i.e. literacy) has been required for becoming a cleaner in a health facility. This was not the case before. Most of the cleaners have low literacy (some do not read and write at all; most may be described as minimally literate). This, of course, has consequences for the type and content of trainings and communication materials that are appropriate for this group.

The other important information from the research, which was confirmed during the first trainings for this group, is that support staff never received any training on cleaning, hygiene, waste management

or any other topic that would be useful for their work. In the best of cases, they have had on-the-job explanations from the nurse on how to perform a specific task.

What was clear from the research and visits to the facilities and is an acknowledged fact (or should we say a public secret?) in Mozambique, is that, although barely literate and without training, the cleaners often help the nurses with medical work. In small posts and very rural areas, they even substitute for the nurse when he/she is sick or when there is no nurse appointed to the post. The tasks most commonly done by cleaners (also in facilities with nursing staff) are:

- Cleaning wounds and bandaging
- Disinfecting/cleaning material to be sterilized, preparing material for sterilization, and often doing the sterilization
- Assisting mothers during delivery

Although less obvious than the tasks mentioned above, it is assumed that in some cases support staff do give injections, although this is considered off limits altogether (as opposed to the other tasks, which are “accepted” due to lack of staff). It is not in the scope of the project to review or address the overall responsibilities of staff within the facilities, so consequently MMIS provided the support staff with training on waste management but not on IS. However, within the trainings of both technical and support staff, there was a certain emphasis on the fact that the support staff is an integral part of the health teams and that they need to be included in coordination and supportive supervision activities. Overall, it will require a long-term process for the current group of cleaners (in Mozambique called “serventes”) to grow from servants to support-staff status. The MOH is aware of the lack of attention to this group, and several initiatives to train support staff were launched last year (mostly linked to cleaning or waste management, but also on care of patients, such as how to wash a patient).

#### *3.2.2.1 Ideal versus current behaviors of support staff*

The behaviors targeted for improvement in this group relate to waste management and are linked to organizational changes. These behaviors are intended to limit the risk of infection transmission in this group and the public.

Basically the support staff needs to:

- Keep the waste separated (after the technical staff does an initial separation) while collecting it from the sector.
- Then, keep it separated at the elimination site, where it should be eliminated according to specific techniques for each type of waste.
- Handle waste in such a way as to reduce the risk to themselves and be motivated to report on injuries.
- Use protective clothing.

Because the behavior is linked to a reorganization of their work, it can only take place after that reorganization, and therefore this behavior is related to the matrix of the facility managers. Currently, each unit or ward (in larger facilities) has a “cleaner” who is also supposed to collect the waste, bring it to the elimination site, and possibly burn or bury it. The safety boxes in the EPI unit are the responsibility of the EPI nurse and/or cleaner and are collected and eliminated by them. Overall there are many variations in the above procedures, and the only common feature is that it is never very clear who is responsible for the waste management and that most of the technical staff in facilities have no idea whatsoever what happens to the waste after it leaves their unit and who is supposed to make sure it is handled correctly. Evidence from the TIPS with this group and the first batch of trainings suggests that each facility should appoint a person responsible for the waste management (this person should have the authority to point out shortcomings to all staff) and appoint one of the support staff to take care of elimination. This is to avoid the current situation in which it is extremely difficult to pinpoint who is not carry out their duties.

### 3.2.2.2 *Barriers and motivations of support staff*

The main barriers in this group are linked to the fact that: 1) there has been no training for this group, which leads to a lack of knowledge AND awareness of the risks involved with waste handling (or of not handling, in which case the main consequences may be for the communities living near the facility); 2) that there is a lack of appropriate material to assist segregating waste and keep it segregated, as well as a lack of products to disinfect and clean the waste containers.

In some of the facilities, there is also a problem of space for the elimination of the waste (and for keeping it segregated!), so in these cases there is a need to find alternatives to the elimination of waste (in urban zones, transport to a larger facility may be a possibility, although there are many barriers to safe transport).

### 3.2.2.3 *Strategy and activities for support staff*

The strategy mix devised for this group reflects the need to give the support staff more information on how best to deal with waste and why this is important. Interactive trainings with minimum use of written documents and maximum input and experience-sharing from the participants have therefore focused on:

- Knowing the different main waste categories (infectious, sharps, common, anatomical)
- Understanding why keeping them segregated is best (volume reduction of infectious waste, risk reduction for health staff, appropriate elimination)
- Disinfecting and washing the waste containers (after emptying).

The servants can only keep their part of the bargain but cannot be responsible if the technical staff does indeed segregate the waste at the point of generation. The behavior-change strategy must include providing the facilities with color-coded waste containers, safety boxes and needle removers for the service delivery points where therapeutic injections are given.

### 3.2.3 *Providers who prescribe (“prescribers”)*

In Mozambique the providers applying the injections are not the ones prescribing. Therefore the “prescribers” form a specific target group in our strategy. In most cases the persons prescribing are either experienced (high-level) nurses, “medical technicians” or doctors. Lower-level facilities rarely have doctors, so in those places prescriptions are mainly provided by the first two categories of professionals.

From the in-depth interviews (and observations) during the qualitative research, it became clear that many providers still believe that injectable medication is (always) better than oral medication. Among the reasons cited to justify this perception were: 1) quicker results, because it goes directly in the blood/body; 2) less stomach problems for clients; 3) being sure the client gets the right dose and the full dose (as opposed to pills where the prescriber does not control if they are taken or not). It also became clear that it would quite difficult to do the complete TIPS procedure with them, because of the lack of supportive treatment guidelines and limited availability of oral medications. To propose an alternative practice (prescribing oral drugs instead of an injection) the following would be needed:

- Know the diagnosis.
- Identify an alternative oral treatment for the illness.
- Make sure that particular oral treatment is available (either in facility or private pharmacy)
- Make sure the proposed alternative oral treatment does not go against the prevailing national treatment protocol

As most of these requirements could not be easily fulfilled, it was therefore agreed that there would be an additional rapid assessment related to these issues in a later phase of the project (in the first quarter of 2006).

### 3.2.3.1 *Ideal versus current behaviors of prescribers*

Because of the limitations mentioned above, the current strategy matrix for “prescribers” has only identified two major behaviors that need to be addressed. One is linked to the number one objective of the project, the reduction of prescriptions for injections. The second ideal prescriber behavior MMIS is promoting in Mozambique is giving information on oral medication and how it can be as effective as injections. Another behavior that would be helpful in this context, but is completely beyond the projects scope, is improving the diagnosis procedures used. It is widely believed that diagnostic skills are low. There is very little interaction with the client, questions are hardly asked, and there is little if any physical examination.

### 3.2.3.2 *Barriers and motivations of prescribers*

The barriers to these behaviors are mainly linked to a lack of information on IS, the risks of injections, and the equivalent oral drugs that could be used (although most are not available in the country). In addition there are important cultural and behavioral factors involved, such as beliefs that:

- Injections are better than oral medication.
- Clients prefer injections.
- Clients know nothing and can not be involved in decision making related to medication.

It is interesting to see the somewhat contradicting points observed and mentioned: on one hand, prescribers find the idea of having clients involved in the choice of treatment rather ridiculous, yet at the same time many providers mention that they prescribe injections because the client wishes and expects an injection.

Additional major barriers are the existing treatment protocols, the current essential drug list, and the composition of the medicine kits delivered from the central level to the facilities. Reducing these barriers will surely be an objective of advocacy activities, and MMIS should support the MOH and other partners in this. One area requiring priority is supporting the MOH in a rapid implementation of the new protocol for STI treatment.

Some existing supports to improved practices include: the “rational medication campaign” already ongoing within the MOH and the fact that the MOH has finalized the review of the STI protocol, in which two widely-used injectables will be substituted by orals. One of them is the kanamicine, which will be taken out of production altogether (at world level).

The project has identified the health providers as the primary “entry point” to link up with the community (through the clients and their families). It would be desirable for prescribers to provide information on oral medication and work on addressing the clients’ current perception that “injection is best”; the “injectors” need to explain why one syringe per person and per injection is essential and how this practice protects the person receiving the injection. To do this, providers need to: 1) believe the message themselves and 2) improve their communication skills and how they interact with the clients. This last aspect has already been included in the Interpersonal Communications and Counseling part of the trainings.

### 3.2.3.3 *Strategy and activities for prescribers*

For the prescribers, many activities have already been defined in the area of 1) communications, 2) training and 3) advocacy. The advocacy activities will be in part be directed at the “prescribers” themselves, but most of the advocacy is needed at higher levels, as shown in the BC matrices. Some of the interventions have already been implemented, such as developing training materials and providing whole facility trainings.

**Communications.** The upcoming additional rapid assessment of the prescription practices and prescribers will certainly help to better define the content of messages needed for this group. However, from the information now available, it appears that:

- There is a need to develop positive messages on oral drugs, rather than negative ones on injections to help the providers and clients in the transition from injectable to oral.
- There is a need to be extremely careful not to harm the EPI and the (overall positive, but not stable) perception of the population regarding vaccinations.
- Linked with the former point, there may be a need to emphasize what are considered to be “necessary” injections.
- There may be a need to provide prescribers with “checklists” of messages and justifications for them to communicate the right information to the clients, in the right way (during role plays performed during training the nurse injecting often says things like: “I am giving you a safe injection so that you will not get AIDS”...(!))

**Training.** Apart from the trainings already developed (intended to provide basic knowledge and awareness of IS/WM and communication skills), there is a need to include information in future trainings regarding changes in the treatment protocols and/or on the existing rational prescription campaign, which seems to be little known at facility level. Alternatively, the project may be able to support MOH staff training in these areas, rather than including all these topics in the IS trainings.

#### 3.2.4 Supervisors and health facility managers

This is a mixed group that includes the following professionals: 1) facility managers, who should have a supervisory responsibility as the head of a health facility; 2) existing supervisors from provincial, city and district level and 3) ISTG members, who also have supervision tasks relating the IS/MMIS activities and in some, but not all, cases 4) the provincial or district supervisors. Needless to say, the responsibilities and the capacity of hospital directors or administrators are very different from those of head of lower-level facilities. Although their power and influence differ significantly, they all need to improve on some of the same behaviors. In a small lower-level facility, the director or head is also the person who does the diagnosis and prescribes (“triagem”), and, in effect, is his/her own supervisor. In the smallest of health posts, one person is in charge of everything.

Hospital directors and administrators are, in fact, a group that in some cases could also fit in the matrix for “health key staff/officials.” There is also some variation in power and responsibilities depending on the level of the hospital; for instance, a provincial hospital gets its budget from the provincial level (which in turn applies for its own budget from central level). This is the case for Gaza (Xai-Xai) and Zambezia (Quelimane), while a “central” hospital, such as in Nampula, is more independent, does not depend on the provincial government (not even for supervision!!), and obtains its budget directly from central level.

##### *3.2.4.1 Ideal versus current behaviors of managers/supervisors*

There was no research or TIPS done with this group of professionals. The information and data used in this strategy is derived from the research in the other groups. For example, if the nurse tells you she does not have enough injection material because there are frequent stock-outs, there is a first responsibility with the nurse herself (especially if she is also head of the unit or ward, like the injection room). However, the final responsibility lies with the person who actually places the orders from the facility to the district or provincial stores. In the lower-level facilities, this is most commonly the facility manager, or in the case of the bigger facilities and hospitals, the head nurse, who is in charge of the requisitions.

The behaviors identified are linked with 1) some of the barriers identified in other groups (lack of material, stock outs); 2) the lack of budget or budget lines specific for IS and WM activities and, last but not least, 3) the lack of supervision, especially, supportive, regular supervision.

##### *3.2.4.2 Barriers and motivations of managers/supervisors*

The barriers in this group are linked most closely to lack of specific knowledge and awareness on IS (apart from IS as part of the IPC); the fact that IS is not yet recognized as an important issue in itself

(which is one of the barriers that needs to be noted in the matrix for key health officials and decision makers); and the culture of information retention, lack of planning and budgeting capacities.

On the motivation side, the project will need to take advantage of the increasing pressure from central level to improve IPC in general and cleanliness and waste management specifically. Most managers and supervisors perceive the need for additional information and knowledge in this area. This will hopefully make them receptive to a project such as MMIS. Apart from this, the fact that the existing supply and distribution system has major problems, so that stock-outs are still common, also provides a motivation to review and change current practices and behaviors.

#### *3.2.4.3 Strategy and activities for managers/supervisors*

Apart from including this group as much as possible in the existing ISTG, training them and, when possible, using them as facilitators for the facility-level trainings, the emphasis of the intervention lays on:

- advocating for IS and
- for the ISTG to be officially acknowledged.

Apart from these main areas, there are some activities identified in the area of developing referral materials and preparing some fact sheets on IS. The project should provide technical assistance in the supportive supervision, through training and workshops, and also provide tools for supervisors to use in their supervision visits and follow-up.

#### *3.2.5 Key health officials and decision makers (political level)*

The professionals included in this group are at different levels but have in common that they hold positions with decision making power and/or key positions in health. They are the counterparts at the MOH central level, such as the secretary of the IPC taskforce, heads of department and national directors or their deputies. And ideally they should even include the minister of health. At provincial and district (city) level, they are the provincial and district health officials (directors), the provincial level being the most influential in terms of decision making. As mentioned before, directors and administrators of big and influential hospitals may even be included. This group would also include WM officials, who do not (yet) exist in Mozambique as such. Through the MMIS project this idea has been introduced in the phase-one facilities in 2004, but on a higher level there is still no “director” of waste. One of the advocacy activities needed is for introduction of this position.

##### *3.2.5.1 Ideal versus current behaviors of decision makers*

No formal research has been conducted with this group. The information on which this part of the strategy was based is derived from the research related to other groups and interaction during meetings. As with the supervisors, the behaviors needing improvement are linked to procedures or systems that do not perform well and need change. This change can only take place if the decision makers are aware and convinced of the importance of these issues.

Basically, the behaviors identified are linked to the need for increased awareness and knowledge on IS and WM (mostly IS, as there is already more awareness concerning WM, while IS is still seen as “only” part of the IPC). Ideally, this would lead to the promotion of integrated activities and addressing specific injection safety issues.

##### *3.2.5.2 Barriers and motivations*

Lack of knowledge and awareness, along with heavy workloads, are crucial barriers. In addition, in a country such as Mozambique, the difficulties and priorities are so many that IS (and WM) seem merely to be “yet another” priority.

At the same time there are some “motivating factors” that the project may count on and use to its advantage. One is that IPC is one of the highest priorities, if not the highest, of the current health

minister. In that sense IS and WM can count on being promoted along with the other areas within IPC. As a consequence the national directors, heads of departments, and health officials at provincial level are keen to follow that lead and need to improve their results in IPC. Using the existing activities of the MMIS project may be a useful way of doing so, considering that the operational definition of IS links up with hygiene aspects and universal precautions (hand washing, clean environment, one syringe per person per injection, etc.).

### *3.2.5.3 Strategy and activities for decision makers*

One of the project's major challenges to get IS in the top ten priorities of the MOH so that it is also budgeted for and activities related to IS are included in the routine work plans and supervisions.

The main activities identified resemble the ones identified for the supervisors: create and develop communication materials to transmit the on the importance IS and WM and the poor current situation in those areas. Fact sheets and other information material will be needed for this group and, maybe even more importantly, materials they can use to inform and "convince" colleagues. For example, in a ministerial meeting on budgets, it may be appropriate for a head of department to be able to cite some figures on how much IS currently costs the government.

This group will be hard but not impossible to reach through training. For instance, the TOTs that took place end of 2005 were all either opened or closed officially by the Provincial Health Directors or their deputies. Although these officials only stay for a short while, it is possible to keep them through the first presentation in which the "why" of injection safety and the objectives of the project are outlined. Sometimes, the officials get a glimpse of an activity or of the test results at the end of the IS training. These moments will contribute to an increased awareness, which hopefully will lead to the will to know more.

Obviously, for this group the emphasis lies in advocacy.

### *3.2.6 Clients and community*

Given the IS situation in Mozambique and the current conditions at public (and private) facilities, it was decided that the focus in at least the first two years of the project would be on the providers and the health system itself. In other words, focusing on creating an enabling environment. In this sense, it was felt that the first approach towards the community would be through reaching persons from the community going to the health facilities (in Mozambique it is estimated that only 40% of the population has access to conventional public health facilities). Therefore, this part of the BC strategy needs to be revised and updated in line with the developments in the facilities; e.g. it does not make sense to tell the community at large to demand AD syringes, if they are not generally available. That would harm public opinion regarding the health services they receive (which is already not very good). Additionally, great care should be taken not to use negative messages about injections, to avoid affecting the vaccination program.

To obtain a preliminary idea of how the population views public health services and their opinion on the use of injections and injectable medication, six FGD were conducted in the cities of Maputo and Xai-Xai, Gaza province. The information available from the focus groups discussions (FGD) with this group was supplemented with information from a study done in Zambézia province on the perception of the public regarding injectable medication.

#### *3.2.6.1 Ideal versus current behaviors of clients*

Most of the ideal behaviors identified for this group are related to:

- Accepting oral drugs instead of injectables
- Positive and interactive contact and communication with the providers
- Awareness of the dangers of health waste and preventing their children playing with it.

At present a large part of the population still seems to believe that injectable medication is always better than oral. Many people think they have not been treated if they walk away from the facility without receiving an injection. Another seemingly widely spread idea is that if it does not hurt it, will not cure you either. There are differences between younger and older people: the younger ones seem more aware of potential dangers of injections and are more willing to believe oral drugs work well too.

Another interesting aspect is that people say health staff is in general rude to them and no real communication or exchange takes place when they are treated. The suggestion that they might indicate a preference about getting injectable or oral drugs met with general amusement.

In contrast, most people suggested that the health staff providing services at their home (after their regular work in the facilities) tend to be treat their clients in a much nicer way and provide better services.

Health waste is perceived as hazardous and the health services are criticized for this, but people do not know where to go to report dangerous situations of unprotected health waste polluting their immediate living environment. Also, it seems that people are reluctant to report these cases to the local facility for fear of not being treated well next time they seek services there. It is not clear whether parent talk to their children about this; most suggest that they can not control what their children do when they are not around and thus seem not to think it essential to discuss the issue with them. Culturally, children are not much included in “adult” conversation, they are mostly told what to do and what not to do. Waste in general and health waste in particular may not be included in the “do nots” parents tend to impose on their kids.

#### *3.2.6.2 Barriers and motivations of clients*

The barriers identified to change these behaviors are the apparently well established belief that injections cure better than oral drugs; low awareness of the potential dangers or negative aspects of injections; better and more comfortable health services in the informal sector; and fear of providers’ reactions to clients’ suggestions or objections regarding injections, dangerous health waste or any other subject.

Some existing support (motivation) may come from the fact that young people are more open to new information, that most people seem aware of possible risks attached to injections, and that younger people will probably be able to make the link to avoiding injections and taking oral drugs instead.

#### *3.2.6.3 Strategy and activities for clients*

The primary need is to provide more information and positive messages to the public on oral medication (rather than emphasizing the possible risks of injection, which might affect the vaccination rates); specific materials need to be developed to communicate the information and messages, possibly some posters address both the prescribers or providers in general *and* the clients.

Another important part of the strategy is to train the providers on interpersonal communication and counseling, enhance their communication skills, and possibly make them aware of the need to change their attitudes towards clients.

There will also be a need for some advocacy, mostly to make decision makers aware that the health services need to become more client-friendly and open to dialogue. It will probably also be helpful to the public if more actions and materials are addressed to the public, so that they feel supported in addressing the health workers on some issues.

## 4. IMPLEMENTATION OF THE BC STRATEGY TO DATE

### 4.1 Coordination and Initial Implementation

The BC strategy includes numerous activities, only some of which the MMIS project will implement throughout the project's 5-year life. Other activities will (hopefully) be carried out by MMIS partners in the country. These partners include the different levels and departments of the MOH, the Ministry of Environment for Waste Management-related issues, other USAID projects, JHPIEGO, WHO, UNICEF, CDC, and other organizations active in the same areas.

During the development, drafting and finalization of this BC strategy, MMIS already started to implement a number of activities; a number are ongoing and will probably continue throughout the project period. This should include expansion of activities to new geographic areas *and hopefully* increased follow-up/supportive supervision in the sites where they were first developed. Other partners may also have started implementing activities and may be ready to move into new geographic areas, so that continuous coordination is much needed.

Please note that shortly after MMIS began, some activities were identified based on the results and knowledge obtained through the formative research, the baseline assessment and the close cooperation with MOH or National Health System staff at the provincial and district levels. In some cases, early implementation of activities was considered essential and started before the full drafting of the BC strategy. In turn, the work with key MOH provincial staff and with health workers at the facility level also provided information and details that were useful in finalizing the strategy.

In the first two years of the project, the MMIS team focused on improving the safety of injections and on learning about “barriers” and “motivations and supports” (existing positive factors) in this area. Some of the activities developed, which being implemented already and which have been incorporated into the BC strategy, are:

1. **Provide training:** Because creating a safe and clean facility requires team work, and all workers have to understand the same basic information and need help in developing motivation/awareness on IS and WM issues, a “whole facility” approach was adopted. Section 4.2 below provides additional information on this training.
2. **Create a register book:** There was a clear need to develop regular and credible information on the number of injections given and the type and number of injection materials used. Currently MMIS has an updated database on injections provided in four districts (the four capital cities of the first four provinces) at lower-level facilities, with detailed information on how much of various medications are used; how many syringes in each size are used; injections by professional categories; and information on gender and age of the clients.
3. **Supply of safe injection materials:** Mozambique is a country where glass syringes are still widely, mainly due to the stock-outs of single-use syringes and the lack of safety boxes in the therapeutic injection services. Facilitating the supply of safer, single-use AD (auto disable) syringes is one of the priorities of the project. The strategy here was to set an example (a rather large pilot test) of how IS could be enhanced by use of AD syringes, just as the EPI uses AD syringes almost exclusively. Over time a sustainable plan should be developed with the MOH to support the MOH in switching from glass to AD syringes in the therapeutic sector, assuming of course that the MOH makes the policy decision to use AD syringes exclusively.
4. **Supply of waste segregation materials:** In view of the lack of any waste segregation and the generally hazardous waste elimination practices in facilities, the MMIS team considers waste management an urgent matter. However, it is also a very difficult one that MMIS will surely not

be able to handle by itself. This is definitively a component where cooperation and coordination with all the partners is urgently needed. As a starting point, it was considered essential that health workers understand the need to segregate waste as a way to reduce risk to themselves and fellow workers, to the clients, and the community in general. Therefore, a first distribution of color-coded waste containers and personal protection equipment for waste handlers (for use at waste elimination sites) was carried out. The intention was that parallel to this specific activity, support would be provided at facility and provincial/district levels to develop a waste management plan in each facility. Each plan would include the identification, planning and budgeting of WM materials, such as cleaning products and utensils, and the replacement and addition of more (color-coded) buckets and protective equipment.

5. **Classification of facilities:** A start was made to classify the facilities based on the first baseline assessment. A model was developed to classify the facilities, by type of specialized services offered (e.g. injection room, vaccination, emergency room). The initial idea was to be able to label a facility as “applying safe injections,” to motivate the staff to strive to or to continue using safe practices. In practice this has turned out to be difficult to apply, as it means there would have to be a system for regular assessments (every 6 months, every year?) executed by MOH. This would imply that the measures and classification used is generally accepted, and achieving this may well require a long and bureaucratic process. Additionally, labeling one facility as “injection safe” implies that the others are not, which could have serious consequences on their use by the public. Who wants to go to a “not safe injection” facility, if a “safe injection” facility is a bit further away? This of course would be important mainly in cities, as most rural areas have very few facilities, and those accessing them do not have much choice nor the possibility to compare.
6. **Development of communication materials:** At the same time that the complete BC strategy matrices were finalized in July/August 2005, creative briefs were prepared for the main reminder/communication materials that were in the BC strategy. The first materials, described in the communication briefs, that were developed were: 1) a poster for medical staff, particularly those applying injections, reminding them of key IS practices; 2) a poster for medical and cleaning staff on waste management, again reminding them of key practices; and 3) color-coded arrows and flags to include the proper place for different types of waste both inside the facility and in the waste elimination site outside. The two posters include elements designed to encourage people to look at them frequently, a working clock and a calendar respectively. Additional materials will support advocacy objectives, and still additional ones may well be needed to promote reducing unnecessary injections. For more information on the materials development and testing, please refer to the report on pre-testing reminder materials. For an overview of the BCC materials identified in Mozambique and the creative briefs, please see Annex D.

## 4.2 Training

From the formative research, it was clear that most health workers had a reasonable understanding of good injection practices and hygiene practices in general. However, this knowledge is not always applied in their daily work. There seems to be an “invisible wall” between theory and practice. One particularly weak area of practice identified was communication with clients (current practices include minimal interaction, using intimidating words and conversation tone; showing a lack of respect for clients; and giving little information). The knowledge on how to manage waste is in general less complete, and most health workers reported feeling a need to know more about waste management, as this topic was addressed minimally if at all during their pre-service training.

Therefore, the training needs identified by the MMIS team (and found in the BC strategy) was a mix of 1) updating knowledge on IS and WM related topics and practices; 2) revising some IS practices that

had been taught differently before (e.g. recapping needle); and 3) making health workers and cleaners *aware* of the current situation in their facilities and the risks attached to these practices. Keeping this mix in mind, MMIS and the ISTG (see below) then defined the curriculum and the sessions and came up with a two-day training on IS and WM practices and another two-day training on interpersonal communication (and counseling), as a direct follow-up to the first part. Only participants who had completed the first training, were accepted for the second one.

The main objective of the training materials developed by MMIS-Mozambique, in close cooperation with the Mozambican Injection Safety Technical Group (ISTG), is to provide a “platform” to create *awareness* on IS and WM practices and risks. This means that the training materials designed needed foremost to promote an open debate among the health workers themselves (an exchange and sharing of experiences) and among health workers and facilitators, as well as providing the opportunity to identify solutions for existing barriers related to current injection safety and health waste management practices. One of the main ideas in behavior-centered programming is to “accept” that some behaviors may not easily be directly converted into the “ideal behavior,” so sometimes there is a need to support “in-between steps.” For example, it may not be possible to switch from “no hand washing” to “hand washing before and after each injection,” but it may be more realistic to allow health workers to use an alcohol-based hand rub and/or to wash hands every 10 clients, or every hour.

The participatory and interactive training approach chosen by MMIS and the ISTG was based on adult education principles (see table below). The training kit developed includes pictures of recognizable situations within the health facilities that create debate among the participants and facilitators and raise many questions. By confronting people with pictures of their everyday work environment, it was sometimes possible to glance over the “invisible wall” between theory and practice. It showed participants that most facilities share the same problems, which helps health workers to “accept the ugly reality.” This is a first step to enable people to recognize practices that need to be improved, allowing health workers to be open to the information provided to them and to discuss possible solutions among themselves.

One of the challenges with these training methods is to get both the facilitators and participants to accept that nobody has an answer to everything and that they need to seek workable solutions that move them closer to the ideal situation. Although this is not the current education (nor management) style, the trainings were very well received and perceived in the first phase of the implementation.

*Adult Education Principles and Implications for Training*

Adult Education Principle	Implications for the training plan
Adults learn best when they perceive learning as relevant to their needs.	<ul style="list-style-type: none"> <li>• Provide "real life" situations and emphasize the application of learning to real problems.</li> <li>• Identify learners' needs and what is important to them.</li> </ul>
Adults learn by doing and by being actively involved in the learning process.	<ul style="list-style-type: none"> <li>• Provide activities which require active participation of learners.</li> <li>• Provide activities which involve the learners as whole people: their ideas, attitudes, feelings, physical being.</li> </ul>
Participants bring relevant and important knowledge and experiences to the workshop.	<ul style="list-style-type: none"> <li>• Provide opportunities for sharing information.</li> <li>• Discuss and analyze participants' experiences.</li> <li>• Use participants as a resource and encourage them to participate and share their experiences.</li> </ul>

In conclusion, it may be stated that MMIS's participatory and interactive training is designed not only to build the skills of individual participants but also to lead the entire group of participants – as a group that works together and cooperates every day – to:

- (1) Understand the technical background of problems related to injection safety and waste management,
- (2) Become more aware of specific IS/WM situation and related risks in their own facility, and
- (3) Learn how to “problem-solve” situations that need to be improved.

During follow up visits and supportive supervision in “trained” facilities, it became clear that the trainings had, in some cases, encouraged providers to implement improved practices in their facilities (using the safer injection materials and waste bins, but in some cases also adding to the solutions with easily-available, local materials). It has also become clear that despite safe AD syringes, safety boxes and other waste containers, some practices are still difficult to improve and old practices persist. Training, however well designed and interactive, is but a one important component of the comprehensive set of activities needed to support behavior change and health workers (as laid out in the BC strategies for different groups).

### **4.3 Implementation Approach**

To be able to implement its activities, and at the same time promote IS and WM topics to become integrated in the “routine” work of national health staff, the MMIS team works in close cooperation and through the Injection Safety Technical Group (ISTG), composed of staff from the National Health System at central, provincial and district level who trained staff at facility level.

This technical group which initially consisted of 20 members but has grown to approximately 40 MOH key staff, was set up to focus on injection safety issues within a larger Task Force for Infection Control and Prevention.

The activities of this project are taking place within the framework of the infection prevention and control program in Mozambique, led by the MOH. Standardization and definition of norms is being conducted by JHPIEGO together with the MOH, and the MMIS-Mozambique team has contributed appropriate injection safety elements to the curriculum.

In coordination with MOH (central level), JPHIEGO and CDC/USAID, it was decided to first implement MMIS activities at lower-level facilities. One of the near-future challenges is to adapt materials and training content and the other “items” developed by MMIS (e.g. the register book, integrating AD syringes into MOH purchases) to implement at the hospital level and to decentralize implementation by providing technical and financial support to the ISTG to expand activities to other districts and higher-level facilities.

The process of interactive and participatory training will be replicated at the facility level in each new city/district of expansion areas by the ISTG, with support from MMIS team, using the pool of facilitators that has already been trained (approximately 80 new facilitators as of end of 2005). This is one of the ways MMIS has worked to build sustainability into the (training) process.

## **ANNEXES:**

**A. Matrices with Behavioral Analysis and Strategy per Each Participant (Target) Group**

**B. Types of Barriers to Behavior Change**

**C. Persons and Staff contributing to the Development and Review of BC & C Strategy of MMIS-Mozambique**

**D. Communication Plans, Creative Briefs, Draft Materials**



**Proofs of posters for health workers**



**Practical exercises**



**Explaining group work on waste categories**



**Pre-testing the communication materials**

## Annex A. Matrices with Behavioral Analysis and Strategy per Each Participant (Target) Group

### Making Medical Injections Safer: Prevention of Medical Transmission of HIV -Mozambique Behavior Change Strategy-

Target Group: Injectors

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery developm't	New technologies	Advocacy
<p>*Prepare and administer safe injections:</p> <p>* Always use a single-use or AD needle and syringe for each person or injection, taken directly from its packaging</p> <p>* Always prepare injections on a clean surface</p> <p>* Wash hands with soap before each injection and dry them or use an – glycerine solution (as recommended in infection prevention protocols)</p> <p>* After each injection, separate the needle from the syringe without touching it with your hands and place the syringe directly in a safety box; the needle remains in its own container</p> <p>* Use a new needle to extract additional doses from the same vial/and a new needle for dilution</p> <p>* Never leave a needle in the vial</p>	<p>*Providers do not prepare and give safe injections.</p> <p>* Most use glass syringes to inject</p> <p>* Some providers reuse syringes and disposable needles and/or accept material of doubtful safety brought by clients</p> <p>* Most give injections of 10ml in two jabs, using the same syringe and needle</p> <p>* Injections are frequently prepared in a dirty environment</p> <p>* Almost no provider washes hands before giving each injection</p> <p>* Most don't have or use safety boxes for therapeutic injections</p> <p>* Some providers leave sharp objects such as needles in an open bucket, many times mixed with out biomedical waste</p> <p>* Some take subsequent doses from the same vial, using the same needle</p> <p>* Many leave the needle in the vial before putting it in the trash</p> <p>* Many providers fill the safety boxes more than ¾ full</p>	<p>* Most of the ideal sub-behaviors are possible in the long run, with a good orientation and sufficient supplies</p> <p>* Widespread hand washing before each injection is not possible in the short term because of the lack of running water. It is more feasible in facilities for more sinks and running water.</p>	<p>* Inadequate knowledge of dangers of injections and therefore lack of awareness of these dangers</p> <p>* Inadequate knowledge or confusion regarding service norms (e.g. resealing caps on vials)</p> <p>* Lack of time for cleaning because of shortages of staff or excess work</p> <p>* Lack of habit of washing hands</p> <p>* Lack of water in many health units and rooms where injections are given</p> <p>* Inadequate stock of single-use and AD syringes and safety boxes: stock outs not unusual</p> <p>* It is an accepted practice to gie two doses of the same injection from the same syringe and needle</p> <p>* In some cases injection material is</p>	<p>* Providers want to avoid risk to themselves (needle sticks, having to transport open boxes)</p> <p>* Providers want to avoid harm to their patients</p> <p>* Providers want to follow the norms and technical recommendations (universal precautions), especially is their practices are monitored</p> <p>* Providers like the idea of new, modern injection equipment</p> <p>* Providers are happy to avoid having to sterilize injection material, which requires more work and risks (more needle sticks while cleaning)</p>	<p>* Provide IEC materials, perhaps a poster, flip chart, or calendar with eh operational definitions of IS/WM.</p> <p>* Produce technical materials for providers: a pamphlet on transmission of HIV and other infections via injections, etc.</p> <p>* Develop and furnish reminder materials on IS and WM for use in the health facilities</p> <p>* Remind providers about the rules of IS and the need for each health facility to achieve certification.</p> <p>*Organize national workshops and information on infection prevention and elimination of medical waste</p>	<p>* Provide an operational definition of IS and WM for providers</p> <p>* Develop educational materials appropriate for adult education, using participatory methods and focusing on practices</p> <p>* TOT on IS/WM for national counterparts at all levels</p> <p>* Give training on IS and WM for staff of health posts and centers, using the operational definitions of the 12 steps.</p> <p>*Give training and inservice in health facilities</p> <p>* Include instructors from the training institutions in</p>	<p>* Ensure availability of sufficient AD syringes, safety boxes and other IS materials</p> <p>* Provide technical assistance to the IS Technical Group in each location for supportive supervision on IS/WM in each health facility</p> <p>* Motivate providers, giving certificates of quality (by the sector or health facility)</p> <p>* Develop checklists for supervision and self-supervision</p>	<p>* Provide sufficient single use or AD syringes for all therapeutic injections</p>	<p>* Advocate with the MOH to hold national workshops and information on infection prevention and elimination of biomedical waste</p> <p>* Advocate with members of the IS Technical Group to participate in a national seminar for nurses to introduce IS/WM topics</p> <p>* Advocate with associates and unions of nurses to reinforce improved attention to IS</p> <p>* Advocate for the introduction of official IS/WM sessions in the nursing curriculum</p>

<p>* Replace safety boxes when they are ¾ full.</p> <p>*Use a new needle and syringe for each dilution</p>	<p>* Providers leave the needle in the vial and then use it to take various doeses and to inject. Only the needle is changed to apply injection, syringe is same</p>		<p>reused</p>			<p>the IS Technical Group and train them on IS/WM</p>			
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Target Group: Injectors

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
<p>* Show the new single-use needles/syringes: explain the importance of using a single-use or AD syringe for each person (sterile, therefore packaged)</p> <p>Providers can do this to individual patients or to groups of patients in the waiting area</p>	<p>* Most do not talk to clients except to call them, ask brief questions, and give instructions</p> <p>* All prepare injections away from the patients, who are generally lying down on their stomachs in a corner (with their eyes closed in anticipation of the pain!)</p>	<p>* With good IPC training and supervision, it is possible to achieve the ideal practice (although supervision currently ignores how provides talk to patients)</p>	<p>* Most do not have single-use needles and syringes</p> <p>* Social and educational distance make it difficult to improve provider-client interaction</p> <p>* Providers feel "superior" to clients and therefore do not want to initiate a dialogue with them</p> <p>* Clients are not accustomed to question, much less contradict, health workers (seen as "authorities")</p> <p>* Heavy work load; discussing with clients consumes time and energy</p>	<p>* Providers like the idea of new, modern injection equipment</p>	<p>Observation: The behavior itself involves using oral and non-verbal communication</p> <p>*Promote good communication between providers and clients</p> <p>*Try to motivate the public to talk more with providers</p>	<p>* Give IPC trainings on IS in health centers and posts</p> <p>* Give inservice training in health facilities</p> <p>* Include instructors from the training institutions in the IS Technical Group and train them on IPC for IS/WM</p>	<p>* Use daily observation to ensure that IPC is well done in facilities</p> <p>* Provide technical assistance to the IS Technical Group in each location for supportive supervision on IPC on IS/WM in each health facility</p> <p>*Make this behavior a criterion for certification of the sector or health facility as reaching IS standards.</p>	<p>* Sufficient AD syringes in the right sizes available for all curative injections</p>	<p>*Encourage MOH to give IPCV training in all provinces</p>

Target Group: Injectors

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
<p>* Eliminate all injection material in a safe manner: place all biomedical waste in appropriate containers for each category of waste</p>	<p>* Many leave contaminated sharps waste accessible to colleagues and clients</p> <p>* They mix types of waste or separate them only partially</p>	<p>* The ideal behavior is feasible with training, supervision, and availability of need supplies for separating waste</p>	<p>* Lack of time for proper waste disposal</p> <p>* Lack of awareness of risks of contamination</p> <p>* Insufficient safety boxes available</p> <p>* Staff lack training in WM, specifically in separation of waste by category</p>	<p>* Growing awareness among providers of incorrect disposal of biomedical waste, specifically of sharps waste</p>	<p>* Distribute technical information on IS and WM in health facilities and to managers</p> <p>* Provide information on follow-up to accidental needle pricks: official policies re: who, what, where, when</p> <p>* Provide reminder materials on correct separation of biomedical waste</p> <p>* Remind providers about WM and the requirements for qualifying for certification</p>	<p>* Organize training on IS and WM</p> <p>* Establish an operational definition of elimination of biomedical waste</p>	<p>* Improve supervision on IS and WM practices by IS Technical Groups and regular supervisors in each facility</p> <p>* Guaranty sufficient safety boxes and needle cutters in areas where injections are given, as well as promote their correct use</p> <p>* Introduce the designation of a person in charge of WM in each facility</p>	<p>* Introduce the use of color-coded buckets, with plastic liners for separation of biomedical waste</p>	<p>* Encourage the MOH to provide sufficient human and material resources and training to improve WM</p>

Target Group: Injectors

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
<p>*Providers treat clients only in health facilities, never in homes</p> <p>* Never make illegal charges or bribes to clients in return for injections</p>	<p>* It is said that some providers use or sell material from the health facilities for giving private services</p> <p>* It is said that some providers make illegal charge in exchange for services</p>	<p>* With orientation and supervision by the MOH, and the application of sanctions if needed, it is possible to reach the ideal, although only slowly over time</p>	<p>* The ideal behavior may mean a reduction of (extra) income</p> <p>*Alguns utentes podem preferir ou pedir serviços fora da US</p>	<p>*Fear punishment if break the rules</p>	<p>* Disseminate messages to providers</p> <p>* Disseminate messages to the public to avoid injections outside of health facilities</p>	<p>* Discuss these problems in inservice education courses</p> <p>* Training on logistics and stock management for IS Technical Group members and health facility directors</p>	<p>* Supportive supervision at all levels</p> <p>* Improve the procurement and distribution system of supplies</p> <p>*Apply sanctions to providers who take supplies away from the facility</p> <p>* Improve supply forecasting, procurement, and distribution for IS materials</p>	<p>* Ensure regular supply of IS material as well as its safe and proper storage</p>	<p>*Advocate with MOH and nursing associations to reflect on and take preventive steps to stop illegal charges and diversion of supplies</p> <p>*Encourage MOH to improve the supply and distribution of medical material</p> <p>*Encourage the MOH to improve the coordination of supplies shipped together, e.g. injectables with diluent, syringes and needles</p>

Target Group: Injectors

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Technologies	Advocacy
*Register every injection in register book to ensure adequate consumption data	*In all facilities the injections (and other services) are noted down on scraps of paper  *Registration is often not complete and no further information on type of injection is required	*The ideal behavior is feasible	*Staff may feel the register book will give them additional work  *Used to scraps of paper as an approximate data collection  * Adds to heavy workload  * Staff may not be convinced that the data will actually be used and therefore worth their time to collect	*Improved supply (with improved data)  *Health workers are happy to provide (good) data when requested  * Use of the register book is not seen as excessively time consuming once people are used to it. *They feel involved in making their work better when they get feedback	*Encourage appropriate use of register book during supportive supervision visits	*Train health staff on use of register book	*Use register books for injection information in all health facilities for improved needs assessment  *Give health workers feedback on analysis of data to show its value  *Carry out supportive supervision on the correct use of the register books	*Register books	*Advocate with MOH central and provincial level to introduce register books officially and in all facilities throughout country
*Report needle stick injuries and other work accidents	*Most providers do not talk about accidents at work and in general it seems needle stick and other work related accidents are considered "normal"	* Behavior may be feasible with advocacy and awareness creating, both with health workers and supervisors and with proper PEP procedures in place	* Lack of register system for recording work related accidents  * Shame of workers to recognize having an accident: "it was my own fault"  * Fear of accident being indicator of lack of capacity I  * Lack of (knowledge on)PEP kit and procedures		Encourage providers to report work related accidents to their superiors	*Create awareness during trainings and communication messages about risk of needle stick injuries and protection  *Information on PEP integrated in trainings	* Promote official information on risks of work related accidents  *Promote the availability of PEP and its use		* Advocate with MOH to promote its policy of PEP (apparently it exists but few know about it)  * Advocate with MOH to provide and implement PEP kits and procedures and to "advertise" them

**Making Medical Injections Safer: Prevention of Medical Transmission of HIV  
-Mozambique Behavior Change Strategy-**

*Target Group: Cleaning staff in health facilities (waste handlers)*

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Technologies	Advocacy
<p>*Keep waste segregated according to the categories when collecting from the facility sectors</p> <p>*Keep waste in the appropriate buckets or plastic bags in each sector</p>	<p>*Most janitors put all waste in same bucket to make collection easier and quicker</p> <p>*Some transfer the trash from the buckets in the sectors to a single large container where all types of waste are mixed</p>	<p>*With good information and guidance (supervision), ideal behavior can be achieved</p>	<p>*These practices will increase an already heavy workload</p> <p>*Inadequate or no knowledge on dangers of medical waste (for themselves and others)</p> <p>*Inadequate or no knowledge on waste categories, their dangers and proper ways of elimination</p> <p>*Lack of buckets or other containers for each type of waste</p>	<p>*Reduce risk of injury and infection for themselves</p> <p>*Reduce risk of injury and infection for the community around (where often they live themselves with their families)</p>	<p>*Simple messages and reminders on WM (use of pictures mostly)</p> <p>*Use of symbols throughout the facility to indicate different types of waste</p> <p>*Transmit the procedures and responsibilities of the WM plan of each facility, in a comprehensive/practical way through regular staff meetings in facilities and support supervision</p> <p>*Make sure all janitors know who the WM officer is</p>	<p>*Train janitors on WM, esp. how to manage different types of waste separately</p> <p>(*In training for facility directors, focus on janitors as important part of facility WM team)</p>	<p>*Develop and implement a WM plan in each facility</p> <p>*Identify a WM officer in each facility</p> <p>*Identify a WM officer in each health facility</p> <p>*Support supervision and follow-up within the facility, by facility WM officer</p> <p>*Maintain an active registration book on injuries related to WM in each facility</p>	<p>*Introduce color-coded buckets for different wastes (one-time contribution from the project)</p>	<p>*Advocate at all levels (facility, district/city, provincial and central) to introduce use and replenish supply of color-coded material for better segregation and include it in their budget/plan</p> <p>*Advocate at all levels to promote and recognize the WM officer at facility level</p>

Target Group: Cleaning staff in health facilities (waste handlers)

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Technologies	Advocacy
<p>*Maintain waste segregated in the final elimination site so different wastes can be disposed of appropriately</p>	<p>*Usually only one hole behind the facility where all waste gets thrown together</p> <p>*In facilities with placenta pit, this pit is often over-full and/or used for other waste as well</p> <p>*None of the facilities has its elimination site fenced off</p> <p>*Most holes are not deep enough and/or too full</p> <p>*In most facilities waste is not regularly burned and/or lies around the compound</p> <p>*Most facilities have sharp;s waste lying around or inside the facility</p>	<p>*With good information and guidance (supervision), ideal behavior can be achieved</p>	<p>*Heavy workload</p> <p>*Inadequate or no knowledge on dangers of medical waste (for themselves and others)</p> <p>*Inadequate or no knowledge on waste categories, their dangers and proper ways of elimination</p> <p>*Little or no knowledge of adequate waste elimination techniques (type of holes, burning, burying)</p> <p>*No space available to keep waste segregated</p> <p>*Often no fuel available for burning</p>	<p>*Reduce risk of injury and infection for themselves and the community</p> <p>*If it is in the WM plan, they will want to comply</p>	<p>*Simple messages and reminders on WM (use of pictures mostly)</p> <p>*Use of symbols at elimination site to indicate different types of waste</p> <p>*If needed, meet with community volunteers and leaders to obtain help in digging proper, new holes</p>	<p>*Train janitors on WM, esp., how to manage different types of waste separately</p> <p>*Include technical information in trainings on waste elimination options and equipment maintenance</p>	<p>*Develop and implement a WM plan in each facility</p> <p>*Identify a WM officer in each facility</p> <p>*Support supervision and follow-up within the facility, by facility WM officer</p> <p>*Create and encourage use of complaint box/book for community use to report on health care waste disposed of within community / within reach of children and/or related accidents</p>	<p>*Fence off the elimination sites</p> <p>*Construct a needle pit at each site (maybe one-time demonstration by project)</p> <p>*Make or improve placenta pit</p> <p>*Provide drum for burning of infectious waste</p>	<p>*Advocate at all levels to include budget and plans on fencing, needle pits, tools, etc.</p> <p>*Advocate at all levels to promote and recognize the WM officer at facility level</p>

Target Group: Cleaning staff in health facilities (waste handlers)

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Technologies	Advocacy
*Avoid personal contact with waste to reduce contamination risk	<p>*In most cases they use surgical gloves throughout the day and do everything with them (often including other -more medical care- tasks)</p> <p>*In some case people use the same shoes at work and at home</p> <p>*In most cases shoes are not appropriate for working with waste elimination and on walk on elimination site (sandals with which it is easy to stick yourself in needles laying around)</p>	*Can be achieved with proper guidance, and protection material	<p>*Inadequate knowledge on dangers of medical waste for themselves</p> <p>*Inadequate or no knowledge on waste categories and their dangers</p> <p>*No protection material/equipment available</p> <p>*Some protection materials not comfortable to wear</p> <p>*Some materials can be used in other sectors and not by the janitor in charge of WM (e.g. masks)</p>	*Reduce risk of injury and infection for themselves	<p>*Simple messages and reminders on use of protective gear (use of pictures mostly)</p> <p>*Make sure all janitors know who is the WM officer</p>	Train janitors on WM, including how to manage different types of waste separately	<p>*Develop and implement a WM plan in each facility</p> <p>*Identify a WM officer in each facility</p> <p>*Support supervision and follow up within the facility, <b>by facility WM officer</b></p> <p>*Create and encourage use of complaint box/book for community use</p> <p>*Injury treatment plan and/or PEP available for janitors at facility level</p>	<p>*Provide protective equipment for the janitors who manage the elimination site</p> <p>*Introduce plastic lining for common and infectious waste (one -time contribution by the project)</p>	<p>*Advocate at all levels to include budget for purchase and replacement of protective gear and plastic lining</p> <p>*Advocate at all levels to promote and recognize the WM officer at facility level</p>

Target Group: Cleaning staff in health facilities (waste handlers)

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Tech.	Advocacy
*One janitor collects waste from all sectors and is in charge of waste disposal	*All janitors collect waste from his or her specific sector and throw/burn waste in bits  *May leave waste unattended or burn only partially (without fuel)	*Can be achieved with the creation of a new "post": in charge of waste elimination	*Except in hospitals with incinerators, none of the janitors feels responsible for final elimination of waste *Everybody is used to current "system" (where there is a janitor per sector who takes care of the waste up to and including disposal)  *No clear guidance about collection time need to be installed and followed  *More workload for person in-charge of waste elimination	*For most janitors it will be reduction of tasks  *Reduction of other tasks of janitor in charge of disposal, to allow for proper WM (if accepted)	*Easy messages and reminders on collection times and elimination place and time (use of pictures mostly)  *Use of symbols at elimination/deposit site to indicate different types of waste *Make sure everybody in facility knows who is in charge of elimination	*Training for janitors on waste management, including how to manage different types of waste separately  *Possibly continued or reinforcement of training on elimination techniques	* A WM plan in each facility to implement  *The existence of a WM officer in each facility  *The existence of an appointed person in each facility in charge of waste elimination		*Advocate for recognition of person in charge of waste elimination (establish new position)
*Disinfect and clean buckets before returning them to sector/wards	*Buckets are rarely cleaned, if at all  *Most buckets never leave their sectors, only the trash bag (when there is one) or its contents are transferred to a "collector" bucket	*Can be achieved with proper guidance and supplies	*Most people do not see why you need to clean something that you use for waste  *Inadequate knowledge of infection risk  *No easily accessible water around facility  *Cleaning products lacking *Takes time/ heavy work load	*Reduction of risks to self and other staff	*Easy messages and reminders on need to clean, through pictures (on job aids, small posters on walls) at facility and elimination site	*Train janitors on WM, including how to manage different types of waste separately	*Develop and implement a WM plan in each facility *Identify a WM officer in each facility  *Identify a person in charge of waste elimination  *Adjust facility budgets to be able to provide sufficient cleaning materials and fuel		*Advocate at all levels for inclusion of cleaning materials in budget/plan

Target Group: Cleaning staff in health facilities (waste handlers)

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New tech.	Advocacy
*Store the filled safety boxes correctly: closed and sealed in a dry place with no public access	* Some cleaning staff empty out and reuse safety boxes  *Some do not keep the boxes in a safe place, but rather leave them in the waste elimination area	*With good information the behavior is possible	*The cleaning staff that take care of the boxes have no instructions or supervision	*Reduce the risk of harm and infections to themselves, their colleagues, and the community near by	*Simple messages and reminders on the management of biomedical waste (emphasizing images and drawings)  *Use symbols in the waste elimination area to indicate where different types of trash should go	*Training of cleaning staff in management of biomedical waste, including categories of trash  *Include in this training information on temporary storage of trash in each facility	* WM plan prepared and being implemented in each facility  *Presence of a staff member responsible for WM in each facility  *Presence of a staff member designated as in charge of elimination of waste in each facility		* Raise awareness of people at all levels (facility, district, city, province, central) of the need to maintain waste well stored in a fenced area (when necessary)

**Making Medical Injections Safer: Prevention of Medical Transmission of HIV  
-Mozambique Behavior Change Strategy-**

Target Group: Prescribers

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service del./improvement	New Technologies	Advocacy
<p>*Only prescribe injections that are truly needed for medical reasons, based on correct assessment/diagnosis</p>	<p>*From the baseline assessment there are indications that after correct assessment providers often prescribe injections when oral medication would also be an option</p> <p>*There are also indications that In many cases little time is spent on questions and physical examination of the patient before establishing a diagnosis. Consequently errors may be made</p> <p>*Although some providers do mention the idea of "rational drug prescription" this notion does not seem to be very clear and it does not seem it is translated into changed practices</p>	<p>*The ideal behavior may be feasible among public and private health providers because they are eager to provide the best care to the patients and follow official guidelines</p> <p>*Given more information and drug kits with more oral medicine, it may be possible to reach ideal behavior</p>	<p>* Inadequate knowledge on dangers of injections</p> <p>* Injections may be used to earn more money</p> <p>*Many providers believe that injections are better than oral medicine</p> <p>*Lack of knowledge on national policy and what the definition of "rational prescription" is.</p> <p>* Fear of losing favors and credibility of clients (in private/informal care)</p> <p>*Current protocols include injectables, e.g. for treatment STDs</p> <p>*Current drug supply from central level to health facilities (standard kits) includes injectables for several</p>	<p>*Providers want to avoid harming their patients</p> <p>*Providers want to follow technical norms and guidelines, especially if their practice will be reviewed (supervisors)</p> <p>*Existing MOH campaign on rational drug prescription</p> <p>*MOH has just approved a new STI treatment protocol that eliminates commonly injected drugs</p>	<p>*IEC to health providers through: print/mass media, and interpersonal communication of clear messages on injection safety</p> <p>* Wall chart /poster on medically necessary injections</p> <p>*Provide list of "reasons/justification" on why oral medicine is good option for providers to use to "convince" clients</p> <p>*Prepare and provide a list of reasons/justifications for which oral medicine is the best option, which can be used by providers to convince clients</p> <p>*Poster/leaflets with revised protocols for most common diagnoses for which injections are given unnecessarily</p> <p>*Insist on messages and reinforce information on rational prescription</p>	<p>*Conduct training on prescribing habits and injection safety: link up with MOH campaign on rational drug prescription</p> <p>*Include an exercise to identify reasons/justifications for which oral medicine is the best option</p> <p>*Training in WM, emphasizing reduction in waste volume</p> <p>*Training in interpersonal communication skills (IPC training)</p> <p>*Include new protocols in trainings</p> <p>*Train ISTG to supervise prescribers on rational prescribing and reduction of injections</p> <p>*Include</p>	<p>* Ensure availability of drugs in oral formulations</p> <p>*Remind providers during supportive supervision</p> <p>*Provide new protocols substituting injectables with oral medicine</p> <p>*Improved availability of oral drugs for many conditions</p> <p>*Use register book to monitor prescribing practices and give periodic feedback to prescribers</p> <p>*WSM plan implemented in facilities,</p>		<p>*Advocate with MOH to review protocols, specifically for STDs (others to be identified in later research)</p> <p>*Advocate with MOH to review and possibly adapt content of standard drug kits</p> <p>*Advocate with MOH to review and possibly adapt current essential drug list, including more oral medicine before next purchase is launched</p> <p>*Advocate with MOH to include IS issues in current rational drug prescription campaign and widely disseminate this information</p>

			diseases, including STDs  *Lack of alternative orals available (kit, essential drug list)		through supportive supervision  *Provide messages and reminders on the reduction of the volume of waste in facilities	rational drug campaign information in future trainings and/or refresher courses	including activities to reduce volume of waste		*Advocate at all levels to supervise and monitor the use of injectables to reduce injections
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*Target Group: Prescribers*

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
*Provide information to the patient on IS and oral medicines	*Little or no interaction with patients  *No providers think patients should be involved in the choice between injection and oral medicine	*Giving information about IS and oral medicine is feasible over time  *Involving patients in choices may take generations	*Authoritarian relation with clients  *Feeling that clients do not know anything about health (and are not supposed to)  *Fear for losing clients (in private care)	*If clients understand better the reasons for IS and oral medicine, over time they will learn to appreciate the given services better. In the end providers will prefer this	*Provide messages and reminders on injectables versus oral medicine for providers and clients (e.g. posters addressing both public and providers?)  *Provide list of "reasons/ justification" on why oral medicine is good option for providers to use to "convince" clients	*IPC training  *Include rational drug campaign information in future trainings and/or refresher courses	*Supervisors/managers to insist on allowing time for and encourage informing clients		*Advocate at facility, city/district and provincial level to promote more and improved communication between providers and clients  *Advocate at facility, city/district and provincial level to supervise and monitor the use of injectables

**Making Medical Injections Safer: Prevention of Medical Transmission of HIV  
-Mozambique Behavior Change Strategy-**

*Target Group: Supervisors (including ISTG members) and health facility managers*

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
*Supervisors carry out regular supportive supervision in health facilities	*Little or no supervision is carried out  *The supervision that is carried out is often carried out in a non-constructive style and thus not supportive and educational	*May be difficult to change in general, as this is a common problem in public health  *Movement towards the ideal is possible with good guidance (ISTG)	*Low motivation of supervisors to actually carry out their work  *High workload of supervisors (who have other tasks as well)  *No follow up/pressure on supervisors to do their job  *Lack of per diem/transport to go to facilities on regular basis	*Want to develop as professionals  *Want to know the real situation in health facilities to be able to support and improve services	*Provide clear messages on need for follow-up and supportive supervision  *Provide tools to use for follow up, evaluation, support supervision and monitoring  *Provide tools to facilitate and standardize supportive supervision in health facilities	*Include topic of supervision in all trainings, especially those trainings and workshops involving heads of facilities and GTIS members  *Train ISTG members to use supervision tools	*Instruments to support evaluation, supportive supervision, and monitoring  *Appropriate plan of follow up, monitoring, supportive supervision and in-service refresher courses  *Integrate key staff at city/district and provincial level in IS project, specifically the Technical Group (ISTG)  *Integrate supervision and IS into work plans and/or TORs to motivate supervisors  *Professional stimulation from IS project		* Advocate for needed follow up and supportive supervision in meetings and seminars at all levels  *Advocate for inclusion of IS indicators in national Health Information System  *Integrate key staff of MOH, with supervisory tasks in MMIS  *Advocate with MOH and other donors to fund computers and Internet for DPS and DCS offices

Target Group: Supervisors (including ISTG members) and health facility managers

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
*Facility managers and WM officers plan and carry out meetings with staff to inform on new issues and discuss difficulties	*Almost none of the managers seem to spend much time talking to their staff and are thus not updated on current situations and difficulties  *Almost none of the managers or other staff visiting workshops or meetings where decisions are taken on future action, take the time to inform their staff and plan changes	*Will be difficult and long-term behavior change, as this is very common (keeping information apparently often stands for "power").  *Some, but not major, movement towards the ideal is possible	*Keeping information apparently often stands for "power"  *Most people seem to be afraid of implementing something they have learned right away: most will want to wait and see if others are doing it  *It may not always be clear to people that what is proposed in MMIS project is also MOH policy and will wait for official "green light" in some form	*There is some awareness that health services can only improve with better coordination and management	*Propose IEC/ leaflets/reminders or even a copy of the activity plan they have made in a training to the managers, to use in their meetings	*Train facility managers and WM officers on how to plan and facilitate an effective meeting	*Activity plans in each facility		*Advocate for GTIS members to plan more time to provide supportive supervision  *Sensitize staff at all levels on the need for regular supportive supervision and follow-up (clear recommendations that should be followed)
*Facility managers share responsibilities and tasks within facilities	*Almost all managers centralize their tasks and information, and delegate very little	*Some movement towards the ideal is possible with guidance and advocacy	*Sharing power / responsibilities/ information is not common within health sector/culture  *Most people resist taking on responsibilities (and thus will not easily accept because they earn so little)	*Reduced workload after delegating tasks to others  *Little by little health service managers are realizing they need to delegate more tasks and responsibilities so the team can function in their absence	*Make sure everybody in facility knows who is responsible for what, through meetings/official announcement letters	*Train managers in planning and division of responsibilities in the health facility	*WM officer, responsible for all WM activities in each facility  *Person in-charge of waste elimination in each facility  *WM plan in each facility		*Advocate at all levels for approval of appointment of WM officer and person in-charge of elimination (create official posts and/or inform per official letter)

Target Group: Supervisors (including ISTG members) and health facility managers

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
*Facility managers appoint one of the support staff to take care of waste disposal and elimination	*Almost no manager has named a person responsible for waste elimination, so all cleaning staff collects waste from their sector and are supposed to bury or burn it; although what usually happens is that each one leaves their part of the trash in a hole or even on the ground or a trash pile. At the end of the day someone (it's not clear who) supposedly burns or buries this waste.	*Can be achieved with proper guidance	*Everybody is used to current method (each janitor doing his/her bit)  *Lack of rules about collection time  *Higher workload for person in - charge of waste elimination, meaning some of his/her tasks need to be taken over by others  *Cleaning staff are not considered a real part of the health team	*It's easier to supervise one person than many  *It's clear to all that the current system (or lack of one) is not working, so there should be interest in trying alternatives	*Simple messages and reminders on collection times and elimination times and places (use mostly pictures/wall chart times)  *Make sure everybody in facility knows who is in-charge, through meetings/official announcement letters	*In training for facility directors, focus on cleaning staff as important part of facility WM team  *Train managers in planning and division of responsibilities within health facilities	*A WM plan to be implemented in each facility		*Advocate at all levels for approval of appointment WM officer and in-charge of elimination (create official posts and/or inform per official letter)
*Facility managers ensure continued training and in-service refresher training	*These training sessions are often planned, but not always carried out or not carried out well. They do not seem to be the priority	*Movement towards the ideal is possible for the ISTG members, with good guidance*	* High workload  *Low motivation	*Providers and other staff are interested in increasing their knowledge, and in the case of IS, learning how to reduce risks to themselves	*Provide tools for self -evaluation and exit interviews on topics related to IS  *Provide reminder sheets and other material that can be used during these activities	*Integrate the planning of activities in facilities in trainings, studying the models to be used	*Activity plans in each facility  *Integrate key staff at city/district and provincial level in IS project, specifically the Technical Group (ISTG)  *Provide guides and other material that can be used during these activities		*Advocate for needed follow up and supportive supervision in meetings and seminars at all levels, including facilities  *Advocate for GTIS members to plan more time to provide supportive supervision

Target Group: Supervisors (including ISTG members) and health facility managers

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Technologies	Advocacy
<p>*Facility managers ensure adequate information for needs assessment to improve supply of material</p> <p>AND</p> <p>*Facility managers order material in accordance with needs in facilities</p>	<p>*Most facility managers only wait for what they will receive from provincial/central level</p> <p>*Most of the times material is ordered on basis of approximate estimates and as supply is deficient, they tend to request for higher quantities than needed (in the hope they will get approximately what they <i>think</i> they need!)</p>	<p>*Feasible with good guidance and tools</p>	<p>*Low motivation to spend more time on data improvement</p> <p>*High workload</p> <p>*Little confidence in supply chain and changes</p> <p>*Central level doesn't send the quantities requested</p>	<p>*Improved supply according to needs of facility</p> <p>*Managers will want to comply with data collection, especially if monitored and if they begin to see improvements stemming from their efforts</p>		<p>*Messages on use and usefulness of register book during trainings (might not need to be specific material, but working group sessions in trainings)</p> <p>*Train managed on the use of monthly summary sheet of register book</p> <p>*Use and introduction of stock cards (follow up supply sheet) in facilities</p>	<p>* Facility managers have data collection system that allows them to actively identify their real needs and request for material based on the use of the register book and stock cards</p> <p>*Good follow-up of stock within the facility</p>	<p>*Register book as tool for adequate data collection</p>	<p>*All levels introduce and convince managers and policy makers on usefulness of register book</p> <p>*All levels on need to improve needs assessment, before adequate supply can become reality</p> <p>*Advocate for the central level to coordinate drug supply system with material supply system</p>

Target Group: Supervisors (including ISTG members) and health facility managers

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Technologies	Advocacy
<p>*Hospital (general) directors and administrators are aware of IS and WM issues and plan related expenses in their budgets</p>	<p>*Most directors and administrators are only remotely aware of IPC and IS and have not “translated” these issues into budget lines.</p> <p>*Often, administrators confronted with requests for WM material (e.g. colored buckets, protection equipment), have been known to refuse funds for such items. Also they do not seem to understand the need for these items</p>	<p>*Feasible with right information and improved planning</p>	<p>*In general budgets fall short of supplying for all the needs, so it is difficult to get “ordinary products” needed for waste management on the list of priorities</p> <p>* The term IS is relatively new and not yet integrated in planning and minds of decision makers</p> <p>*Lack of planning and budgeting capacity</p>	<p>*The need at the central level to achieve results in IP and related areas</p>	<p>*Give messages on why IS/WM are important during meetings at hospital level</p> <p>*Provide IS and WM discussion papers for stakeholders</p> <p>*Provide advocacy material to ISTG for them to lobby locally</p> <p>*Talk about the importance of IS in meetings of hospital staff</p>	<p>* Integrate managers (including administrators) in TOT and workshops of ISTG</p> <p>*Design specific sessions linking objectives of MMIS to planning and budget needs</p>	<p>*Plans and budgets in accordance with needs of IS and WM activities</p>	<p>*Model plans and budgets to facilitate planning (or use existing models from the MOH, if possible)</p>	<p>*Sensitize hospital staff on the need for more involvement of managers and the IPC committee in IS/WM</p> <p>*Advocate for the specific integration of ISWM (and ISTG members) in the IPC committees in hospitals</p> <p>*Carry out baseline surveys and evaluations and present findings directly to hospital management to demonstrate the importance of planning and budgeting according to needs</p>

Target Group: Supervisors (including ISTG members) and health facility managers

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Technologies	Advocacy
*Hospital directors and administrators use allocated funds for WM and IS according to planned budget	*It seems that though budgets are planned and proposed to obtain funds, use of funds is not necessarily by budget line  *In some cases it seems that though there is a lack of necessary products and materials for WM specific budget lines for this are left unspent	*Difficult because it has to do with more than IS; it is a general lack of managerial skills and budget follow up	*Managers/ administrators may not be interested in changing their way of working (in general not much appreciated)	*Existing government and donor projects and activities in administration and management			*Provide instruments to improve planning for IS/WM supplies; model plan of activities, lists of essential supplies, etc.		*At all levels for health managers and administrators to be (more?) included in management workshops/trainings proposed by the GOM and their partners.  *With other donors/agencies to provide more management trainings in health settings
*Supervisors promote the integration of IS/WM in their existing activities and work plans (in the first place of the ISTG members)	*Not done now	*Possible with the creation of ISTGs (that include supervisors from the various levels)	*Heavy work load and no particular IS responsibility  *Too many competing priorities  *Little knowledge on IS/WM  *No formal recognition of ISTGs and of IS as an issues separate from IPC	*People are motivated to be part of a specific group (ISTG)  *Interest in learning about IS  *As part of IPC, IS is considered a real and important problem that deserves attention	*Reinforce the importance of IS  *Provide clear TORs and a good definition of the responsibilities of ISTG in workshops  *Provide instruments to facilitate supervision, M&E of activities  *Provide instruments to facilitate evaluating and classifying health facilities	*Continuing education and additional courses for the development of the ISTGs			*Advocate for IS to be recognized as an issue of sufficient importance to be addressed on its own and not merely as part if IPC  *Advocate at all levels that the ISTGs be invited as such, or for individual members to present their activities, their successes and challenges, in meetings

Target Group: Supervisors (including ISTG members) and health facility managers

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
*Each year hospital directors and administrators approve more funds for the supply of essential IS/WM materials	*They approve budgets that do not cover essential IS/WM needs	*Possible with advocacy and good support from donors	*Inadequate funds for too many competing priorities at the same time  *Little knowledge of IS/WM  *Lack of formal recognition of IS independent of IPC  *MMIS will furnish many supplies in the next 4 years	*IS should be an issue of national interest  *MOH is interested in improving service quality  *IS, as part of IPC, is considered as a real and important problem that deserves attention	*Prepare and use print material (and possibly video) on IS/WM problems  *Individual and group meetings on the topic  *Communicate achievements in IS/WM effectively				*Advocate at all levels for IS to be recognized as an important national responsibility  *Support formal recognition of ISTGs

**Making Medical Injections Safer: Prevention of Medical Transmission of HIV  
-Mozambique Behavior Change Strategy-**

*Target Group: WM officials, health managers and policy makers*

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Technologies	Advocacy
*Health officials at central, provincial and district level integrate IS issues in current work plans	*Although IS is part of IPC, which is an MOH priority, there are no specific IS activities included in work plans	*Quite feasible with appropriate training and guidance	*Most health official know little about IS and even less about how to address the problem  *High workload  *Full agenda/ work plans already  *Too many priorities at the same time  *Little real decentralization/ division of tasks  *Little knowledge on IS and WM	*Existence of MOH taskforce on infection control and prevention  *General concern on IS and WM issues  * Eagerness to know more on IS/WM, as for some time the central level has been talking about PCI (infection prevention) and health staff hear they need to do something about it; but most do not have knowledge on how to tackle these issues.	*Give messages on why IS/WM are important during meetings at MOH and provincial level  *Carry out baseline assessment and present results in official meetings (Taskforce, coordination committees)  *Provide IS and WM discussion papers for stakeholders  *Show importance of subject by creating an official core group for technical matters in IS/WM with MOH officials from central and provincial level: ISTGs and on their subcommittees  *Provide advocacy materials to ISTG for them to lobby at the local level	*Train ISTG members on IS/WM  *Train ISTG on participatory training methods and baseline and evaluation surveys  *Train ISTG members in data collection, analysis, and presentation of results to their superiors at the provincial and central levels  *Train ISTG on IPC issues	*Integrated supportive supervision is carried out, including IS and WM topics		*Advocate at central and province levels, with emphasis on central level in first phase to put IS/WM higher on agenda  *At central level to include MMIS project in taskforce  *Inform people at all levels about the creation of the ISTGs (to complement IPC committees)  *At the provincial level, encourage authorities (via the ISTGs) to integrate IS/WM activities and budget line items

Target Group: WM officials, health managers and policy makers

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New Technologies	Advocacy
*Aware of IS and WM issues, Provincial Health Directors make sure related expenses are planned and budgeted	*They are aware of and have approved the MMIS project. They all have committed to support the project/activities, but seem not to have translated this into plans and budgets.	*Feasible with time: when the project started the planning, exercise for 2005 was already finished	*There are many (health) problems, and many priorities, IS may not always be seen as the first priority	*To excel in IPC in "their" health facilities	<p>*Pass on message of why IS/WM are important during meetings at MOH and provincial level</p> <p>*Carry out baseline and follow up surveys and present results in official meetings ( coordination committees)</p> <p>*Provide IS and WM discussion papers for stakeholders</p> <p>*Provide advocacy materials to ISTG for them to lobby at the local level</p>				<p>*Advocate with provincial officials to give higher priority to IS/WM</p> <p>*Advocate for DPSs to create ISTGs to complement the IPC committees</p>

Target Group: WM officials, health managers and policy makers

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
*ISTG and other health officials promote IS/WM actions as much as possible and promote the integration of IS into existing activities and work plans (in the first place of the ISTG members)	*Despite a lot of talk favorable to integration of plans, the specific IS activities continue outside of their routine program	*This is possible with the creation of ISTGs and integration of planning at all levels	*Heavy work loads and no explicit responsibility for IS  *The members are not used to getting new responsibilities or to using their influence as IPC members  *Plans and agenda already overloaded  *Too many competing priorities  *Little knowledge of IS/WM  *No formal recognition of ISTG	*People are motivated to be part of a specific group (ISTG)  *Interest in addressing IS  *IS is considered a real and important problem that deserves attention	*Reinforce the importance of IS	*Additional continuing education courses to develop the ISTGs  *Provide clear TORs and definition of ISTG responsibilities in workshops	*Provide instruments to help the ISTG monitor and evaluate activities  *Provide evaluation and classification instruments for the health facilities		Advocate at all levels for ISTGs to be invited, as such, or for individual members to present their activities, successes and challenges in meetings  *Support the formal recognition of ISTGs
Health managers and decision makers approve increasing amounts of national funds each year for IS/WM materials and supplies	*They include minimal amount in current budgets for the activities needed for IPC and WM; and no specific funds for IS	*Possible with good advocacy and support from donors	**Too many competing priorities  *Little knowledge of IS/WM  *No formal recognition of ISTG  *Free IS materials from MMIS in the next 4 years could be a disincentive	*IS really should be a challenge of national interest  *MOH wants to improve service quality  *IS is considered to be a real and important problem that deserves attention (even though a sub-issue of IPC)	*Prepare and use print materials (and possibly video) on IS/WM problems  *Individual and group meetings on the topic  *Communicate achievements of IS/WM effectively				*Advocate at all levels for to consider IS issues as an important national responsibility  *Support the formal recognition of ISTGs

**Making Medical Injections Safer: Prevention of Medical Transmission of HIV  
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*Target Group: Clients/community*

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery developm't	New technologies	Advocacy
*Clients express no preference for injections and "accept" oral medicine	*Although most clients are too shy to ask for an injection, they may subtly express their preference for one because most believe and that injections are more efficient and oral medicine is not as good	*Possible with more information/ awareness	*Strong belief that injections are better  *Little knowledge of the risks of unsafe injections  *Many clients believe that have not been treated unless they receive an injection	*Some existing awareness on dangers of injections with needles and syringes used over and over  *Believe providers know best and do not question what they do (even if they think material may not be sterile/new)	*Providers give information on oral medicine during consultations (oral is just as good for many conditions, new syringes even safer than sterilized ones re-used)  *Provide IEC material (posters, pamphlets, brochures in facilities) on oral drugs (emphasizing benefits of oral drugs rather than negative points about injections)  *Provide information on IS and oral drugs through traditional leaders, formal leaders and CHWs  *Hold interactive group discussions of providers and clients	*Train providers in counseling (IPC)	*Supervision to ensure that providers are counseling as trained	*Sufficient oral meds available to substitute for injections (new composition of medicine kits and changes in the essential drug list)	*Advocate for training of all health professionals throughout the country in IPC on IS  *Advocate for wide distribution of materials with information (directed at public/clients) on oral drugs: link up with rational prescription campaign and include these points
Clients ask providers for information they desire about treatments	*Few clients do this now	*This is possible if IPC training makes providers more welcoming of questions	*Strong preference for injections *Social distance/ authoritative treatment of clients  *Fear of speaking or contradicting providers  *Low knowledge on IS  *People prefer injections  *People think providers know everything and don't have to explain	*Risk reduction  *Some existing awareness on dangers of injections with needles and syringes used over and over	*Give information on IS in consultations, supported by IEC material (poster?)  *Providers give information on oral medicine during consultations (oral is just as good for many conditions, new syringes even safer than sterilized ones re-used)  *Hold interactive group discussions to discuss importance of communicating with providers and use of oral medicines	*Train providers in counseling (IPC)	*Supervision to ensure that providers are counseling as trained  *Monitor good counseling routinely	*Checklist to monitor good IPC  *Include IPC in providers' self-evaluation forms	*Advocate for health authorities to encourage more open provider/ client communication

Target Group: Clients/community

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
*Accept injection only from qualified health worker and in official/legal facility	*Often look for services at homes of cleaners or nurses	*With appropriate information, ideal will be possible over time	*Cost, time, lines must be endured in going to facility  *Convenience, friendliness and comfort with local non-formal providers	*Risk reduction  *Some existing awareness on dangers of injections with needles and syringes used over and over	*Provide IEC material (leaflets, discussion guides) on IS for community meetings  *Provide material (posters?) motivating people to seek services in facilities only	*Train health staff on the use of IEC material with the community	*Monitor trained providers on IPC, aiming to continually improve their performance		*Advocate for training of all health professionals throughout the country in IPC on IS
*Report problems of medical waste in accessible areas to health authorities	*Current doesn't happen	*May be feasible with more information and guidance	*May be afraid of "complaining" about waste to facility *May be afraid (of bad service) if "complain" about waste to facility  *Do not know where to go with information on health waste within community  *No complaint system exists  *Lack of awareness concerning health waste and related risks	*Risk reduction  *Some existing fear of dangers of disease transmission from contacting biomedical waste	*Promote idea of responsibility within community to monitor and report on problems regarding health waste, during meetings (poster/banners??)		*Provide focal point within health system, with complaint/incident register  *Health services give feedback to the community on advances in disposing waste or keeping it away from community members	*Each facility should implement its WM plan, including the fencing off of the waste elimination area	Encourage health providers to talk about this in the community

Target Group: Clients/community

Behavior Analysis					Strategy				
Ideal behavior	Current behavior	Feasible behavior	Major resistance and barriers	Major motivations and supports	Communication	Training	Service delivery development	New technologies	Advocacy
*Families warn children to stay away from and never play with medical waste	*Some children play with trash, including needles, syringes, empty vials *Only some parents discourage this	*Behavior possible with more information	*Lack of knowledge/ awareness on risks  *Objects in medical waste can be used for various purposes and are "free"	*Risk reduction for children and the community in general	*Messages/material to encourage families to warn children to stay away from and never play with medical waste  *Use community drama to teach important concepts and motivate action  *Encourage providers to promote discussions on this in the community				

## ANNEX B:

### Types of Barriers to Behavior Change (generic, not specific to injection safety):

<b>EXTERNAL DETERMINANTS</b>	
Socioeconomic status	<ul style="list-style-type: none"> <li>• Money to buy essential products, pay for services, pay for transportation</li> <li>• Literacy and education</li> </ul>
Environmental constraints	<ul style="list-style-type: none"> <li>• Time to do new behavior</li> <li>• Access to essential technology (e.g., soap, bed net, vitamin A capsules, iron pills, contraceptives, etc.) or other essential resources</li> <li>• Quality of some technologies (e.g., condoms that break, latrines that fill up with water)</li> <li>• Providers' manner of treatment (extent to which it is caring, kind and competent)</li> <li>• System problems such as lack of interest and encouragement of client orientation, funding or appropriate technical norms, which may limit providers' ability to change practices or procedures</li> </ul>
Epidemiology	<ul style="list-style-type: none"> <li>• Extent to which the local epidemiology of the problem allows program to address it effectively without extraordinary funding and/or complex new behaviors at multiple levels</li> </ul>
Access to services and technologies	<ul style="list-style-type: none"> <li>• Availability of water, latrines, soap, and other essential and appropriate hygiene products and technologies</li> <li>• Physical access, including distance to services, availability of public transportation to reach services, and condition of roads to reach services throughout the year</li> <li>• Days and hours of services</li> <li>• Availability of health personnel, drugs/vaccines, blood, medical supplies or equipment</li> <li>• Quality of service when compared to best practices</li> <li>• Degree to which service norms and provider behavior accommodate local cultural beliefs and perceptions, and/or client preferences</li> <li>• How providers treat clients, ranging from kindness and concern to public humiliation and abuse</li> </ul>
Policy	<ul style="list-style-type: none"> <li>• Current policies (e.g., taxation, charges for services, which providers may perform specific services)</li> </ul>
Cultural norms	<ul style="list-style-type: none"> <li>• Cultural norms regarding independence/dependence of person who needs to carry out the new behavior</li> <li>• How well the new behavior fits with firmly-held cultural beliefs or values</li> </ul>
Skills	<ul style="list-style-type: none"> <li>• Skills and confidence of the person who needs to do the new behaviors</li> <li>• Difficulty of doing the new behavior (i.e., skill level and/or degree of other environmental and cultural barriers)</li> <li>• Ease/difficulty for people to remember what to do and how (e.g., date for the next vaccination, maternal or child health danger signs, when to wash hands)</li> </ul>
<b>INTERNAL DETERMINANTS</b>	
Intention	<ul style="list-style-type: none"> <li>• Awareness of the problem and/or of feasibility of doing something about it</li> </ul>

Emotion	<ul style="list-style-type: none"> <li>• Perception of whether one should try to do something (including fatalism resulting from belief in destiny, God's will, curses, etc.)</li> </ul>
Practical knowledge	<ul style="list-style-type: none"> <li>• Knowledge of what to do and/or knowledge and skills of how to do new behavior</li> </ul>
Perceived risks	<ul style="list-style-type: none"> <li>• Fear of bad consequences/perception that the new behavior may lead to physical or psychological harm (e.g., fear of criticism or punishment, or belief that a vaccine or medicine will have serious side effects, including sterilization)</li> </ul>
Perceived consequences	<ul style="list-style-type: none"> <li>• Motivation to undertake the new behavior related to belief in its benefits</li> </ul>
Perceived norms	<ul style="list-style-type: none"> <li>• Perception of extent to which new behavior is the group norm</li> </ul>
Self-efficacy	<ul style="list-style-type: none"> <li>• Level of confidence in one's ability to do the behavior</li> </ul>

## ANNEX C

### Persons and Staff contributing to the Development and Review of BC & C Strategy of MMIS-Mozambique

The MMIS project has worked with and *through* many MOH staff members at different levels to implement its activities. The persons listed below in particular made many contributions to the BC&C strategy. In some cases the contributions were formal, such as in the first consultative meeting in July 2005 (during Mr. Favin's second visit to Mozambique), when several MOH and training institute staff were invited to comment on the first complete draft of the strategy matrices.

Additional and very valuable information was obtained during implementation of activities (e.g. the first baseline assessment and later supportive supervision). As these activities were always implemented through the newly-established Injection Safety Technical Group (ISTG), the MMIS BCC advisor obtained many of her insights from working closely with this group and from the behaviors and attitudes *observed* among both health workers in facilities and the Technical Group members themselves (!).

Another very rich source was the actual trainings. Because of the interactive structure of these trainings and the discussions and experience-sharing among health workers and between health workers and facilitators (most of whom were also ISTG members), training sessions revealed many insights on actual barriers and motivations, particularly ones linked to structure and system. Most of the development of training materials, documents, and facilitators took place in the first implementation year; therefore the names in the table below belong mostly to the very first ISTG members (and their positions at that time) rather than the current members.

#### Members of the ISTG and central level MOH staff involved:

level	Name	Position
Central - MOH	Mr. Luís Comissário	Nursing department
	Ms. Prafula Jaiantilal	RESP (BCC department of sorts in MOH)
	Mr. J. Matimula	Environmental health department
Provincial level (four initial provinces)	Dr. Carla Palege	DPS <sup>1</sup> Gaza province
	Mr. Bucuane	DPS Gaza province
	Dr. Virgílio Seia	DPS Zambézia province
	Dr. João Carlos Henriques	Nampula Central Hospital (NCH)
	Mr. Savela	Nursing supervisor at NCH
	Sra. Ester Mahanjane	Coordinator in-service training
	District-level	Dr. Fernando Chenene

In addition, the initial MMIS team made significant contributions to the development of the strategy. These team members were:

- Mr. Arturo Sanabria, the first country director
- Mr. Manuel Matosse, the logistics officer
- Ms. Regina Duarte, the BCC advisor

<sup>1</sup> DPS means Direcção Provincial de Saúde: the provincial health directorate

<sup>2</sup> DSC means Direcção de Saúde da Cidade: City/district health directorate

**ANNEX D.**  
**Communication Plans and Creative Briefs**

**Summary of Proposed Communication Materials**  
**MMIS Project in Mozambique**

<b>Audience</b>	<b>Material/Channel</b>	<b>How Used</b>	<b>Specific Purposes</b>
Doctors, nurses, medical technicians (staff who inject)	Desktop material that reminds them of the 12 steps	Given out and explained during training or supportive supervision, then staff place them on their desks and (hopefully) read them occasionally	Remind and motivate health workers about their key practices for injection safety
Cleaning staff	Poster on 12 steps for good waste management	Ideally given out during training or supportive supervision and put on wall in kitchen or other area that cleaning staff visit daily	Remind and motivate cleaning staff about their key practices for waste management
Cleaning staff	Color-coded flags	Ideally given out after training, during supportive supervision, then placed on sticks in the waste disposal area	Remind and motivate staff which waste is disposed in which areas and how to keep different waste segregated
Staff who inject plus cleaning staff	Color-coded arrow stickers naming types of waste and some examples of each	Fixed to wall above appropriate trash bin (of same color)	Remind and motivate staff of importance of segregating waste and assisting decisions by showing examples.
Health facility managers, district health team members	1 or 2 factsheets covering IS and WM	Ideally given out and discussed during orientations/training Meetings or presentations made to these counterparts	Inform audience about importance of IS, key IS issues, and types of specific actions they can take to support improved IS in their facility or district
National and provincial health decision makers	1 or 2 factsheets covering IS and WM	Given out and discussed during individual or group meetings, or other events such as inaugurations	Inform audience about importance of IS, key IS issues, and types of specific actions they can take to support improved IS in their province or in Mozambique
Prescribers	Material(s) will be designed following some additional in-depth research		
Community	To be determined: communication on unnecessary injections given in the health facilities /promoting oral medicine and on waste contact/reuse, given in the community		

Other media and materials to consider later:

- radio,
- community dramas/discussions,

- IS factsheet for CHWs, community leaders, and community organizations

## ***CREATIVE BRIEF – MOZAMBIQUE***

### **REMINDER MATERIAL FOR HEALTH PROVIDERS WHO APPLY INJECTIONS**

<b>Target Audience</b>	<p><i>Health Providers/ injectors at health facility level</i></p> <ul style="list-style-type: none"><li>• Specifically nurses, medical technicians, midwives, sometimes doctors, who apply injections at facility level</li><li>• Most medical staff is not used to read a lot or follow complicated written instructions; some older staff may have eye problems and may not be used to use written material as back-up for their work</li></ul>
<b>Background/why</b>	Follow up activities after training staff at facility level on IPC and Injection Safety
<b>Objectives</b>	<ol style="list-style-type: none"><li>1. Remind health providers about the (12) basic steps to be taken to increase injections safety</li><li>2. Provide quick referral material for health providers to (discretely) glance at to improve the application of injections</li></ol>
<b>What</b>	Could be: <ul style="list-style-type: none"><li>• wall chart with calendar or other “attracting” feature, medium to large;</li><li>• desktop material with 3 sides, where provider can keep pens or other small items</li></ul>
<b>where</b>	If chart/calendar, it should be above place where injections are prepared. If desktop material, it should be next to the register book, near the injection preparation place
<b>and when (used)</b>	The provider would use the material whenever preparing an injection
<b>Actions called for</b>	Follow the 12 steps, see attached
<b>Obstacles</b>	<ol style="list-style-type: none"><li>1. Inadequate knowledge/lack of awareness of dangers and risks related to injections</li><li>2. Possible confusion about norms (changes in norms between this training and former trainings)</li><li>3. Lack of time to carry out every recommended step</li><li>4. No or little water available in the sector</li><li>5. Possible stock ruptures of disposable or AD syringes</li><li>6. Inadequate stock of safety boxes</li></ol>
<b>Support statement/ Key Benefits</b>	Following these steps will reduce the risks to yourself and the patients and will improve the reputation of the health facility. <ul style="list-style-type: none"><li>• Protect self from needle stick injuries and possible infection</li><li>• Reduce infections and transmission of diseases through injections</li><li>• Better performance during reviews and supervision visits</li><li>• Less time spent on cleaning and sterilizing injection material</li><li>• Benefit of using convenient, modern material</li></ul>

<b>Tone</b>	<ul style="list-style-type: none"> <li>• Improve health service (indirect for providers)</li> <li>• Improve reputation of facility/public health services (indirect for providers)</li> <li>• Positive, reinforcing work of provider.</li> <li>• Emotional: appealing to their sense of awareness and will to protect themselves (and the patients). Probably need to put the self-protection in first place, as this will be largest and most immediate benefit for themselves.</li> </ul>
<b>Format</b>	<ul style="list-style-type: none"> <li>• Print material</li> <li>• Few words, some evocative pictures or symbols</li> <li>• Wall chart with calendar or other “attracting” feature. Medium to large (A3-A1)</li> <li>• Desktop material with 3 sides, where provider can keep pens or other small items. Probably, A4 format folded in 3 parts</li> </ul>
<b>Creative Considerations</b>	<ul style="list-style-type: none"> <li>• Bright attractive colors, maybe limit to 2 color for cost reasons</li> <li>• Appealing and attention getting</li> <li>• Few words, some evocative pictures or symbols</li> <li>• Link back to terms, visuals and symbolism used in trainings</li> <li>• If desktop material: strong and tough enough to be used every day</li> <li>• If chart/calendar: catchy title to engage the provider in these safe practices. Example: “I care about injection safety, I follow the 12 steps”</li> <li>• If chart/calendar: idea of straight road to Injection safety, with 12 steps next to road and clock at end of road, maybe sun or star</li> </ul>
<b>Additional ideas</b>	<ul style="list-style-type: none"> <li>• Make sure IS is included in the general IPC idea and as an integral part</li> <li>• Use the first letters of a word to define steps or a slogan, example:  S.....  E.....  G.....  U.....  R.....  A.....</li> </ul>
<b>When to distribute</b>	<p>After training, preferably during the first supervision. Discuss with facility managers and staff where to put it and why. (also included in pre-testing guide)</p>

## **OS DOZE PASSOS PARA UMA INJECCÃO SEGURA**

- 1. Evite injeccões desnecessárias**
- 2. Local de injeccões com mesa e tabuleiros ou outra superfície de preparação limpos.**
- 3. Lavar as mãos com água corrente e sabão antes de administrar uma injeccão. Se não tem torneira (ou agua corrente) usar baldes com torneira ou balde com "caneca"**
- 4. Uso de seringas AD ou descartáveis para administração de injeccões**
- 5. Uso de seringa e agulha nova para cada pessoa por injeccão**
- 6. No caso de precisar diluição: uso do diluente adequado e o volume correcto de diluente, com uma agulha e seringa novas**
- 7. Nunca deixar agulhas espetadas nos frascos**
- 8. Separar a agulha da seringa e colocá-la no recipiente apropriado, sem mexer na agulha com as mãos.**
- 9. Nunca recolocar a agulha na sua tampa**
- 10. Meter as seringas usadas logo depois da aplicação da injeccão, na caixa incineradora**
- 11. Uso correcto de caixas incineradoras e/ou recipientes para agulhas para depositar e armazenar transitoriamente as seringas e agulhas usadas.**
- 12. Gestão do lixo de injeccões correcto: separação da agulha da seringa e eliminação correcta e supervisada.**

## ***CREATIVE BRIEF – MOZAMBIQUE***

### **REMINDER MATERIAL FOR HEALTH PROVIDERS AND SUPPORT STAFF (CLEANERS)**

<b>Target Audience</b>	<b><i>Health Providers and Support staff</i></b> <ul style="list-style-type: none"><li>• Medical/technical staff and the janitors/waste handlers</li><li>• Most staff is not used to read or follow complicated written instructions; and in the category of janitors some older staff may even be (partial) illiterate</li></ul>
<b>Background/why</b>	Follow up activities after training staff at facility level on Health Waste Management
<b>Objectives</b>	<ol style="list-style-type: none"><li>3. Remind staff about the waste categories and color codes of each</li><li>4. Provide quick referral material for staff to glance at about the use of color coded buckets/trash bins</li></ol>
<b>What</b>	<ul style="list-style-type: none"><li>• Arrows of the same color as waste bins (specifically for medical staff in facility)</li><li>• Flags (small) of the same color as waste bins and arrows (specifically for cleaners)</li></ul>
<b>Where</b>	<p><u>If arrow</u>: near the waste recipients in the unit</p> <p><u>If flag</u>: showing the place at disposal site where each category is supposed to be place/eliminated</p>
<b>and when</b>	<p>Arrows: whenever disposing of waste after an activity</p> <p>Flags: Whenever bringing waste to disposal site and when elimination process starts (or transporting)</p>
<b>Actions called for</b>	<ol style="list-style-type: none"><li>1. Separate types of categories of waste in different recipients</li><li>2. Follow the (national) defined color coding: red for anatomic, yellow for infectious, black for common waste</li><li>3. Sharps are infectious, but should be separated from “soft” infectious material (yellow, but different recipient)</li><li>4. Glass should be segregated, adopting an additional color code: green (??)</li></ol>
<b>Obstacles</b>	<p>All these steps are part of the 12 steps.</p> <ol style="list-style-type: none"><li>7. Inadequate knowledge/lack of awareness of waste categories</li><li>8. Inadequate knowledge on color codes for waste and matching waste bins</li><li>9. Lack of waste bins/buckets or they are not used</li><li>10. No clear plan and rules about use of (color coded) waste bins at facility level</li><li>11. Lack of space around the facility to properly organize waste disposal by category</li></ol>
<b>Support statement/Key</b>	Following these steps will reduce the volume of dangerous health

<b>Benefit</b>	waste and help you segregate the waste categories according to the color codes. <ul style="list-style-type: none"> <li>• Better performance during reviews and supervision visits, assuming that waste segregation will become standard (national) requirement</li> <li>• Reduce infections and transmission of diseases through health waste (in and around facility, as well as near/in community)</li> <li>• Improve reputation of facility/public health services</li> <li>• Improved services (indirect for staff)</li> </ul>
<b>Tone</b>	<ul style="list-style-type: none"> <li>• Positive/neutral</li> <li>• Formal</li> </ul>
<b>Format</b>	<ul style="list-style-type: none"> <li>• Color coded <b>arrows</b> indicating matching waste bins, with some examples of each waste category written on arrow</li> <li>• Color coded <b>flags</b> indicating matching space at disposal site, with some examples of each waste category written on flag (??)</li> </ul>
<b>Creative Considerations</b>	<ul style="list-style-type: none"> <li>• Red, yellow, black, (green), matching with the existing waste bins</li> </ul>
<b>Additional ideas</b>	????
<b>When to distribute</b>	After training and after units have received or purchased the color coded bins

## ***CREATIVE BRIEF – MOZAMBIQUE***

### **REMINDER MATERIAL FOR SUPPORT STAFF (CLEANERS)**

<b>Target Audience</b>	<i>Health Support staff/ cleaners and waste handlers (and although this material specifically addresses cleaners, the health providers will be able to use it too)</i> <ul style="list-style-type: none"><li>• The support staff is not used to read or follow complicated written instructions; some older staff may even be (partial) illiterate</li></ul>
<b>Background/why</b>	Follow up activities after training staff at facility level on Health Waste Management
<b>Objectives</b>	<ol style="list-style-type: none"><li>5. Remind staff about the (12) basic steps to be taken to improve the management of health waste in and around the facility</li><li>6. Provide quick referral material for staff to glance at, to improve the health waste management</li></ol>
<b>What</b>	Could be: <ul style="list-style-type: none"><li>• Wall chart with calendar or other “attracting” feature (mirror? clock?), medium to large</li></ul>
<b>where</b>	If chart/calendar: it should be at the place where janitors come by often or keep their working gear, although it would be good if other staff can also see it. The kitchen may be an appropriate place for both groups.
<b>and when</b>	The staff would be able to look at it throughout the day (kitchen/corridor), or at the start and end of the day (“locker”?)
<b>Actions called for</b>	Follow the 12 steps, see attached
<b>Obstacles</b>	<ol style="list-style-type: none"><li>12. Inadequate knowledge/lack of awareness of dangers and risks related to health waste</li><li>13. Inadequate knowledge on types of waste and ways of (correctly) eliminating each type</li><li>14. Lack of time/heavy workload to do every required step</li><li>15. No or little water available in the elimination site</li><li>16. Protective equipment for waste handlers is not used or is not complete/existing</li><li>17. No clear plan and rules about waste management at facility level</li><li>18. Lack of cleaning material and products</li><li>19. Lack of space around the facility to properly organize waste disposal and elimination</li></ol>
<b>Support statement/ Key Benefit</b>	Following these steps will reduce the risks to yourself and the community and will improve the reputation of the health facility.

	<ul style="list-style-type: none"> <li>• Lower risk of needle stick injuries and other risks of infection related to contact with contaminated waste</li> <li>• Reduce infections and transmission of diseases through health waste (in and around facility, as well as near/in community)</li> <li>• Use of protective gear</li> <li>• Improved services (indirect for staff)</li> <li>• Improve reputation of facility/public health services</li> <li>• Better performance during reviews and supervision visits</li> <li>• Reduced transmission risk to community (indirect for staff)</li> </ul>
<b>Tone</b>	<ul style="list-style-type: none"> <li>• Positive, reinforcing and appreciating work of janitor.</li> <li>• Promote janitor as important member of the health team</li> <li>• Emotional: appealing to their sense of awareness and will to protect themselves (and others). Probably need for putting the self-protection in first place as this will be largest and most immediate benefit for themselves.</li> </ul>
<b>Format</b>	<ul style="list-style-type: none"> <li>• Print material</li> <li>• Few words-big print, mostly evocative pictures or symbols</li> <li>• Could be: wall chart with calendar or other “attracting” feature (mirror? clock?), medium to large</li> </ul>
<b>Creative Considerations</b>	<ul style="list-style-type: none"> <li>• Bright attractive colors, reduce to 2 if more cost effective</li> <li>• Appealing and attention getting</li> <li>• Mostly pictures or symbols</li> <li>• Link back to terms, visuals and symbolism used in trainings</li> <li>• If chart/calendar: “attention catching” feature to engage the provider in these safe practices</li> <li>• Alternative idea: use symbol of straight road to Injection Safety, with 12 steps next to road and clock at end of road, maybe sun or star shape</li> </ul>
<b>Additional ideas</b>	??
<b>When to distribute</b>	After training, preferably during the first supervision. Discuss with facility managers and staff where to put it and why (included in pré-testing tools)

## **OS DOZE PASSOS PARA UMA INJECCÃO SEGURA**

13. **Evite injeções desnecessárias**
14. **Local de injeções com mesa e tabuleiros ou outra superfície de preparação limpos.**
15. **Lavar as mãos com água corrente e sabão antes de administrar uma injeção. Se não tem torneira (ou água corrente) usar baldes com torneira ou balde com "caneca"**
16. **Uso de seringas AD ou descartáveis para administração de injeções**
17. **Uso de seringa e agulha nova para cada pessoa por injeção**
18. **No caso de precisar diluição: uso do diluente adequado e o volume correcto de diluente, com uma agulha e seringa novas**
19. **Nunca deixar agulhas espetadas nos frascos**
20. **Separar a agulha da seringa e colocá-la no recipiente apropriado, sem mexer na agulha com as mãos.**
21. **Nunca recolocar a agulha na sua tampa**
22. **Meter as seringas usadas logo depois da aplicação da injeção, na caixa incineradora**
23. **Uso correcto de caixas incineradoras e/ou recipientes para agulhas para depositar e armazenar transitoriamente as seringas e agulhas usadas.**
24. **Gestão do lixo de injeções correcto: separação da agulha da seringa e eliminação correcta e supervisada.**

## ***CREATIVE BRIEF – MOZAMBIQUE***

### **FACT SHEETS FOR FACILITY MANAGERS AND MEMBERS OF ISTG**

<b>Target Audience</b>	Facility managers and members of the ISTG at district and province level
<b>Background/why</b>	To follow up on the trainings and seminars on IPC/IS and WM held for and with this audience
<b>Objectives</b>	<ol style="list-style-type: none"><li>7. Provide a quick referral material for decision makers to have handy when working on or discussing IPC/IS/WM issues: it will include some important data indicating the risks and the high priority the topic merits.</li><li>8. Provide them with ideas on what they can do/need to do in their position and how they can help to make IPC/IS/WM a reality: e.g. give them ideas and motives to change a certain protocol or make changes to the essential drug list.</li></ol>
<b>What</b>	<ul style="list-style-type: none"><li>• Fact sheet(s)</li></ul>
<b>Where and when</b>	For individuals to have with them/handy: <ul style="list-style-type: none"><li>➤ During meetings</li><li>➤ When making work plans and budgets</li></ul>
<b>Actions called for</b>	<ul style="list-style-type: none"><li>• Make supportive policy changes</li><li>• Ensure funds are allocated in budgets for commodities related to IS and HWM</li><li>• Integrate IS/WM in Provincial and District Plans, facility level plans and work plans of staff involved</li></ul>
<b>Obstacles</b>	<ol style="list-style-type: none"><li>20. Lack of time/interest to read the fact sheets (some may think they already know enough about IS or that it is another fancy trend)</li><li>21. Too many priority issues to be taken care off (agenda full, IS is just another issue trying to get attention)</li></ol>
<b>Support statement/ Key Benefits</b>	<p>The material (fact sheets) provides updated information about IS and help you to define how you could contribute to safe injection practices in your country/province/city...</p> <ul style="list-style-type: none"><li>• Have a few facts on IPC/IS/WM handy to use in documents or discussions</li><li>• Make meaningful contributions to discussions and plans related to IPC/IS/WM</li><li>• Have justifications for policy changes or actions you would want to promote, thus contributing to the implementation of IPC/IS/WM in your facility/department/province/city</li><li>• Be aware of ongoing international discussion and actions concerning IPC, including IS and WM</li></ul>
<b>Tone</b>	<ul style="list-style-type: none"><li>• Neutral/formal</li><li>• Emotional: appealing to their sense of (political) responsibility and will to be aware of issues that are considered important at</li></ul>

- international and national level.
- Format**
- Print material
  - Fact sheet with clear information and several boxes with “step-wise” titles: e.g. “what is IS?”, “why is it important?”, “what can I do as a ....?”
  - Probably A4 format, double sided or maybe a double A4 “leaflet”
  - If affordable it should be glossy and have a few colors for the titles or boxes used
  - If affordable it should be in the form of a small “file” to put some additional papers in (like hotels give for conferences or guest information)
- Creative Considerations**
- Logical set-up of the information, easy to get back to (referral material type) when looking for something specific
  - As attractive as possible
  - If possible thick or with plastic coating, so it does not get lost between other papers
  - Should have a “serious”/“intellectual” look
  - If a good slogan is developed in other material this should be used in the fact sheet too!
- Additional ideas**
- Maybe the suggestions on the fact-sheet about what actions we would like the decision makers to consider, should come in the form of a scheme with steps and consequences (much like the protocol charts for symptomatic
- When to distribute**
- Face to face meetings with decision makers
  - Distribute in Taskforce and other official meetings related to this issue
  - Distribute when making project presentation for decision makers

## ***CREATIVE BRIEF – MOZAMBIQUE***

### **FACT SHEETS FOR POLICY AND DECISION MAKERS**

<b>Target Audience</b>	<p><i>National and Provincial decision makers</i></p> <ul style="list-style-type: none"><li>• Specifically staff working in MOH nursing, environmental health, training, pharmacy and Medical Assistance departments; staff from training institutes; staff at Provincial health departments (DPS); and City Health departments (DSC)</li></ul>
<b>Background/why</b>	<p>In order to improve IPC and IS/WM in Mozambique supportive actions need to be taken at political level. The fact sheets hopefully support those actions.</p>
<b>Objectives</b>	<ol style="list-style-type: none"><li>9. Provide a quick referral material for decision makers to have handy when working on or discussing IPC and IS/WM issues: it will include some important data indicating the risk and high priority it the topic merits.</li><li>10. Provide them with ideas on what they can do/need to do in their position and how they can help to make IPC and IS/WM a reality: e.g. give them ideas and motives to change a certain protocol or make changes to the essential drug list.</li></ol>
<b>What</b>	<ul style="list-style-type: none"><li>• Fact sheet(s)</li></ul>
<b>Where and when</b>	<p>For key persons in Health to bring with them/have it handy:</p> <ul style="list-style-type: none"><li>➤ During meetings</li><li>➤ When making work plans and budgets</li></ul>
<b>Actions called for</b>	<ul style="list-style-type: none"><li>• Make supportive policy changes</li><li>• Ensure funds are allocated in budgets for commodities needed in health facilities related to IPC, including IS and HWM</li><li>• Integrate PCI, including IS/WM in National and Provincial Plans and work plans/budgets</li></ul>
<b>Obstacles</b>	<ol style="list-style-type: none"><li>22. Lack of time/interest to read the fact sheets (some may think they already know enough about IS or that it is another fancy trend)</li><li>23. Too many priority issues to be taken care off (agenda full, IS is just another issue trying to get attention)</li></ol>
<b>Support statement/ Key Benefits</b>	<p>The material (fact sheets) provides updated information about IS and help you to define how you could contribute to safe injection practices in your country/province/city...</p> <ul style="list-style-type: none"><li>• Have a few facts on IPC/IS/WM handy to use in documents or discussions</li><li>• Make meaningful contributions to discussions and plans related to IPC/IS/WM</li><li>• Have justifications for policy changes or actions you would want to promote, thus contributing to the implementation of IPC/IS/WM in your country/province/city</li><li>• Be aware of ongoing international discussion and actions</li></ul>

<b>Tone</b>	<p>concerning IPC/IS/WM</p> <ul style="list-style-type: none"> <li>• Neutral/formal</li> <li>• Emotional: appealing to their sense of (political) responsibility and will to be aware of issues that are considered important at international and national level.</li> </ul>
<b>Format</b>	<ul style="list-style-type: none"> <li>• Print material</li> <li>• Fact sheet with clear information and several boxes with “step-wise” titles: e.g. “what is IS?”, “why is it important?”, “what can I do as a ....?”</li> <li>• Possibly with a catchy title (what I always wanted to know about...???)</li> <li>• Probably A4 format, double sided or maybe a double A4 “leaflet”</li> <li>• If affordable it should be glossy and have a few colors for the titles or boxes used</li> <li>• If affordable it should be in the form of a small “file” to put some additional papers in (like hotels give for conferences or guest information)</li> </ul>
<b>Creative Considerations</b>	<ul style="list-style-type: none"> <li>• Logical set-up of the information, easy to get back to (referral material type) when looking for something specific</li> <li>• As attractive as possible</li> <li>• If possible thick or with plastic coating, so it does not get lost between other papers</li> <li>• Should have a “serious”/“intellectual” look</li> <li>• If a good slogan is developed in other material this should be used in the fact sheet too!</li> </ul>
<b>Additional ideas</b>	<p>Maybe the suggestions on the fact-sheet about what actions we would like the decision makers to consider, should come in the form of a scheme with steps and consequences (much like the protocol charts for symptomatic</p>
<b>When to distribute</b>	<ul style="list-style-type: none"> <li>• Face to face meetings with decision makers</li> <li>• Distribute in Taskforce and other official meetings related to this issue</li> <li>• Distribute when making project presentation for decision makers</li> </ul>