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Joint WHO/ILO policy guidelines on improving health worker access to prevention, treatment and care services for HIV and TB

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Joint WHO/ILO policy guidelines on improving health worker access to prevention, treatment and care services for HIV and TB.

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*All participants have completed conflict of interest declarations; no conflicts of interest were noted.

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Summary of declaration of interests of the members of the guideline group, representatives of partner agencies, consultants and other contributors.

All members of the guideline group, consultants, representative of partner agencies and other contributors, including participants to the international consultation meeting were asked to complete the WHO declaration of interest form . Dr. Shahieda Adams (member of the Guideline Group) declared her involvement in a research on latent TB infection among health care workers. Following consultations with the GRC Secretariat and WHO Legal team Dr. Adam's declaration was cleared and she was allowed to participate. Prof. Annalee Yassi (Consultant for systematic evidence review) acknowledged involvement of her department in a grant application with a related topic, going to the Canadian Institutes of Health Research . However, Professor Yassi declared having no personal financial interest and no conflict of interest.

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Abbreviations, Acronyms and Selected Definitions

AIDS- Acquired immunodeficiency syndrome

ART- Antiretroviral therapy

CD4- Cluster of differentiation 4

CI- Confidence Interval

GG-Guideline Group

GHWA- Global Health Workforce Alliance

HW – Health worker

HCW- Healthcare worker

HIV- Human immunodeficiency virus

H&S- Health and Safety

ICN- International Council of Nurses

ILO- International Labour Organization

IOM-International Organization for Migration

IPT- Isoniazid preventative therapy

LMIC- Low and middle income countries

LTBI- Latent tuberculosis infection

OHS- Occupational Health and Safety

PPE-Post Exposure Prophylaxis

PPE-Positive Practice Environment Campaign

PSI- Public Service International

TB- Tuberculosis

UNDHR- Universal Declaration of Human Rights

VCT- Voluntary counselling and testing

WHO- World Health Organization

WHP- Workplace Health Promotion

Selected Definitions and Explanation of Key Terms as Used in these Guidelines:

- Providing **"priority access"** is defined in these guidelines as providing infrastructure as well as policies and programmes that enable health workers to obtain prevention, treatment and care services ahead of the general public who are not health workers. Priority access implies access **by policy** not simply practice. This access does not necessarily imply priority access ahead of other groups who have already been designated for priority access (e.g. pregnant women), but does imply that health workers should have access that does not require them to wait in the queue with the population at large, and is convenient, accessible, free, confidential, gender-sensitive and non-stigmatizing.
- There is no widely accepted definition of "**family".** These guidelines consider " family" as consisting of "dependents and/or partners". The. ILO code of practice on HIV and the World of Work states: *'in light of the nature of the epidemic, employee assistance programmes may need to be established or extended appropriately to include a range of services for workers as members of families, and to support their family members. This should be done in consultation with workers and their representatives, and can be done in collaboration with government and other relevant stakeholders in accordance with resources and needs.*' (section 9.8.) Definitions of "dependents" and "partners" are presented in these Guidelines, but Implementation plans on a regional or country level will be expected to be more explicit with respect to provision of services to families, taking local culture and context into consideration.
- With respect to the definition of **"health workers"**, the Guideline Group (GG) cites the WHO Fact Sheet #302. April 2006. "*Health workers are all people whose main activities are aimed at enhancing health. They include the people who provide health services -- such as doctors, nurses, pharmacists, laboratory technicians -- and management and support workers such as financial officers, cooks, drivers and cleaners. Worldwide, there are 59.8 million health workers. About two-thirds of them (39.5 million) provide health services; the other one-third (19.8 million) are management and support workers. Without them, prevention and treatment of disease and advances in health care cannot reach those in need."* Subsectors of health workers include not only those who work in acute care facilities, but also long-term care, community-based care and home-care. Health workers also include informal caregivers. All recommendations in these guidelines apply to all subsectors of health workers. It is noted that special attention is needed in implementation planning to ensure that health workers in the community and in home settings are included.
- These guidelines urge the integration of primary, secondary and tertiary prevention. **"Primary prevention"** refers to measures taken to prevent exposure (both occupational and non-occupational, including a wide range of measures related to sexual and reproductive health, safety-engineered devices to prevent blood-borne exposure, personal protective equipment, natural ventilation to prevent airborne infectious disease transmission, etc.) as well as prevent disease development through measures such as vaccination (e.g. Hepatitis B vaccine). "**Secondary prevention"** aims at preventing disease from occurring once an exposure has taken place (e.g. latent TB infection testing and treatment, post-exposure prophylaxis, etc.). **"Tertiary prevention"** is treatment and accommodation to prevent disability (e.g. Antiretroviral Therapy [ART], and job accommodation to reduce risk of exposures that may result in co-morbidity.)

Executive Summary

Background and Objective:

The health sector has a vital role to play in delivering prevention, diagnosis, treatment as well as care to the population it serves, and in combating stigma and discrimination. To do so, health workers' own health, rights and working conditions must be protected. The World Health Organization, International Labour Office and the International Organization for Migration note that "*although health workers are at the frontline of national HIV programmes, they often do not have adequate access to HIV services themselves*". The increased risk to health workers of developing tuberculosis (TB) has also been well-established and is a growing concern. These guidelines were designed to focus on reinforcing and accelerating the implementation of best health practices for health workers who are living with, or have been affected by HIV or TB, or with risk to be exposed to HIV and TB in the workplace. The ultimate goal is to contribute to the improved health of health workers and to retain them in the workforce.

This document presents an evidence-informed policy for the provision of improved access to HIV and TB prevention, treatment, care and support for health workers. This policy guideline complements and synthesizes other WHO guidelines, especially related to TB infection control, HIV control in the workplace, health-systems strengthening, clinical diagnoses and treatment for HIV and TB, as well as reproductive health and occupational health. Indeed the primary purpose of these guidelines is to draw together previously developed clinical and policy guidelines, along with recent evidence, into a coherent set of recommendations that aim to provide improved access of health workers to HIV and TB services.

Target Audience and Scope:

The main target audience for these policy guidelines consists of policy makers in member states as well as all employers of health workers. The recommended policy guidelines are expected to be useful for health and labour departments, regional policy-makers, health facility managers, and all front-line health workers – including informal health givers of which the large majority are women. It is expected that these guidelines will also be useful to representatives of health workers, including unions and health professional associations, as well as occupational health and infection control practitioners.

The guidelines were scoped to provide guidance for the target audience on how to implement interventions to promote policies and programmes where change is desired in order to address the identified need to integrate existing guidelines relevant to HIV and/or TB in health workers into one comprehensive source that taken together will improve access of health workers to needed evidence-based services.

Protocol for Guideline Formulation:

The evidence base for this policy guideline was established through a systematic evidence review that contained several components. An in-depth study of five African countries was commissioned to help with guideline development; a review of existing guidelines was conducted complemented by a preliminary literature review of the evidence; a 17-country survey from across all WHO regions was conducted to provide input to these guidelines; a Cochrane-style systematic evidence review focusing on questions not

previously reviewed in depth for other recent guidelines was also conducted, supplemented by a systematic realist-style narrative review to ascertain determinants of success. This multi-component systematic evidence review is consistent with the growing trend, supported by the WHO, to supplement the traditional Cochrane-style approach with other methods.

The evidence review highlighted some areas where evidence supports interventions, and highlights important determinants of successful outcome, as well as areas in need of more research. The recommendations that were developed were informed by the evidence from the systematic evidence review, but were also explicitly based on additional factors, notably potential benefits versus potential harms; principles and value preferences; feasibility; and anticipated cost.

Following the initial work in preparing draft recommendations, with assistance and preliminary approval from the Guideline Review Committee, two large consultation meetings were held –in July and September 2009 – supplemented by telephone and email interactions with multiple stakeholders and experts.

Working groups were formed during the consultations, focusing on the wording and evidence related to specific recommendations. The final grading of the evidence and decisions regarding the recommendations were conducted with extensive input of the entire multi-stakeholder, multi-disciplinary expert group assembled as the Guideline Group (GG) and partners (listed above).

Values and Principles:

The values and principles underlying the recommendations are explicitly set out in this document. These values include respect for human rights; gender equity and adopting gender-sensitive policies and programmes; involvement of people living with HIV and TB; involvement of front-line health workers and their representatives, employers; worker rights; hierarchy of controls and the primacy of prevention; and the valuing of promoting effectiveness and efficiency through transcending traditional boundaries.

Quality of Evidence:

This document presents each recommendation, along with a brief review of the evidence and discussion of key points, followed by important references and existing WHO guidelines that support the recommendation. A table is presented for each recommendation outlining the rating of the quality of the evidence, advantages and disadvantages, principles and values, cost and feasibility considerations, and the overall conclusion regarding the strength of the recommendation. Details of the Cochrane-style systematic evidence review process are described in Yassi A, O'Hara LM. LoChang J, Lockhart K, Spiegel JM (2009).

While the quality of evidence was generally only moderate at best, often due to poor reporting on the part of the investigators as is often the case with respect to policy interventions, especially in workplace settings, the evidence was generally highly consistent, and, in taking into account the other factors influencing decisions on recommendations, all recommendations advanced in these guidelines are either strongly supported or very strongly supported.

The area where the evidence and arguments were least clear related to the inclusion of families (other than for TB case finding, where the evidence was clearly supportive). This is largely because the only

programme published that provides comprehensive access of a workforce including families is the one in Swaziland that , while widely heralded as a success, has never been the subject of rigorous evaluation. In a qualitative study of the Swaziland HIV centers for health workers, about half the respondents supported including family members for priority access to ART, while half felt that including family members would anger patients on waiting lists. However, as noted, both by these authors and those studying programmes in other sectors as well as in the health sector itself, there is a strong need for guidelines in this area as evidence strongly indicates that informal mechanisms are currently problematic and hinder the goal of improved access for health workers to HIV and TB prevention, treatment, care and support.

The main arguments in favour of providing priority access can be summarized as follows: First, the global deficit of health workers means that health workers are a particularly valuable resource. This deficit is a critical bottleneck in the provision of care for the still enormous numbers who need HIV/TB services. (WHO World Health Report, 2006) Therefore, the wider population will suffer if the lives and working capacity of health workers are not protected. This argument has stronger application to professionally trained health workers than to general service workers in labour surplus economies. Secondly, health workers are exposed to occupational risk, particularly for TB, in addition to the risks incurred by the general population. Health workers who are HIV positive are at particularly increased risk of opportunistic infections through work-related exposure. It is the duty of employers to minimize the risks of occupational exposure, and to provide appropriate remedies (including facilitated access to treatment and care) in the event of an occupationally acquired illness or where there is a reasonable presumption that the illness may have been occupationally acquired. Even in the case of non-occupational exposure it is good employment practice to provide facilitated access to treatment and care in the interests of preserving workforce productivity and good workforce morale. Thirdly, health workers have access to diagnostic kits, drugs and the professional opinion of colleagues and there is evidence that health workers self diagnose and treat (or diagnose and treat in collusion with colleagues) through informal channels anyway. Giving health worker formal preferential access legitimizes what is largely happening anyway and gives some protection from undesirable practices, for example self-prescribing dangerous drug combinations.

With respect to family members the following is noted: First, the illness or premature death of persons who are not themselves health workers can have a profound impact on the size and productivity of health human resources, if the related health worker withdraws in whole or part from employment to care for family members, or if family illness affect the motivation or concentration of health workers at work. Secondly, the practice of health workers' sharing medications with infected family members is widely known, although the exact prevalence of this practice is undefined. However, by definition, while family members may be exposed to elevated risk by association with related infected health workers, most obviously for TB but also for HIV, non-health workers are not exposed to occupational risk. Additionally, while the duty of employers to provide services for families of employees, although applied in practice in some sectors and supported by ILO conventions, is less well defined and adds considerable cost.

In view of the evidence as well as principles and values underlying this policy, the GG has chosen to recommend that household immediate family members of health workers should be included for priority access to diagnosis, counseling and support (e.g. Voluntary Counseling and Testing [VCT]) and case

finding for TB; and that all household immediate family members of HIV-infected health workers should be offered priority access to ART, as clinically appropriate. (Note that priority access to HIV and TB services for immediate family members living in the same household as the infected health worker is recommended, but not priority access to all services to all family member of a health worker in all circumstances)

The other area where considerable discussion occurred related to the site for providing priority access for health workers. The general consensus in the literature is that staff clinics in the workplace are the preferred site (provided that confidentiality can be maintained, and a holistic programme offered) particularly due to the logistical simplicity, and the potential to improve the normalization of services for these diseases in conjunction with staff health concerns generally. There is also general consensus that providing access through a comprehensive occupational health programme is desirable from a cost and integration perspective. Offering annual testing (including VCT and TB screening) in staff clinics as part of existing annual check-up of general health is recommended by international organizations as good practice, and supported by evidence as a preferred approach. For example, a cluster randomized trial of on-site versus off-site VCT services provided by employer-funded HIV programmes found that there was a significantly greater uptake of services when provided on-site. Nonetheless, other models, most notably the Swaziland model, provides advantages as well. While the staff clinic model of service delivery for health workers provides a host of advantages, the option for health workers to be tested and treated if preferred at another facility could also be offered.

Recommendations

After careful consideration, 14 recommendations were developed:

1. Introduce new, or refine existing, national policies that ensure priority access for health workers and their families to services for the prevention, treatment and care for HIV and TB. *(STRONG RECOMMENDATION for Health Workers for priority access to full services; STRONG RECOMMENDATION for TB case finding in families; MODERATE for families with respect to ART based on moderate quality of evidence, moderate benefits of desired effects, very strong values and preferences, moderate costs and strong feasibility.)*

2. Introduce new, or reinforce existing, policies that prevent discrimination against health workers with HIV or TB, and adopt interventions aimed at stigma reduction among colleagues and supervisors. *(STRONG RECOMMENDATION based on moderate quality of evidence, very strong benefits of desired effects, very strong values and preferences, strong costs and strong feasibility.)*

3. Develop or strengthen existing occupational health services for the entire health workforce so that access to HIV and TB prevention, treatment and care can be realized. *(STRONG RECOMMENDATION based on moderate quality of evidence, very strong benefits of desired effects, very strong values and preferences, strong costs and moderate-strong feasibility.)*

4. Develop or strengthen existing infection control programmes, especially with respect to TB infection control, and ensure integration with other workplace health and safety programmes.

(STRONG RECOMMENDATION based on moderate quality of evidence, very strong benefits of desired effects, very strong values and preferences, very strong costs and very strong feasibility.)

5. In conjunction with health workers' representatives, develop and implement programmes for regular, free, voluntary, and confidential counselling and testing for HIV and TB, including addressing sexual and reproductive health issues, as well as intensified case finding in the families of health workers with TB. *(STRONG RECOMMENDATION based on moderate quality of evidence, strong benefits of desired effects, moderate values and preferences, moderate-high costs and strong feasibility.)*

6. Develop and implement training programmes for pre-service, in-service and continuing education on TB and HIV prevention, treatment and care services, integrating with existing programmes and including managers and worker representatives as well as health workers. *(STRONG RECOMMENDATION based on weak quality of evidence, very strong benefits of desired effects, very strong values and preferences, conditional to country setting costs and conditional to country setting feasibility.)*

7. Disseminate policies in the form of guidelines and codes of practices for application at the level of health facilities, and ensure provision of budgets for the training and material inputs to make them operational. *(STRONG RECOMMENDATION based on moderate quality of evidence, strong benefits of desired effects, strong values and preferences, conditional to country setting costs and conditional to country setting feasibility.)*

8. Adapt and implement good practices in occupational health and the management of HIV and TB in the workplace from all sectors. *(STRONG RECOMMENDATION based on weak quality of evidence, strong benefits of desired effects, very strong values and preferences, weak costs and moderate feasibility.)*

9. Establish and provide adequate financial resources for prevention, treatment, care and support programmes to prevent the occupational or non- occupational transmission of HIV and TB among health workers. *(STRONG RECOMMENDATION based on very weak evidence, strong benefits of desired effects, very strong values and preferences, low costs and conditional to country setting feasibility.)*

10. Provide universal availability of free and timely PEP to all health care providers, for both occupational and non-occupational exposures, with appropriate training of counsellors and information on the benefits and risks provided to all staff. *(STRONG RECOMMENDATION based on moderate evidence, strong benefits of desired effects, very strong values and preferences, strong costs and moderate feasibility.)*

11. Provide free HIV and TB treatment for health workers in need facilitating the delivery of these services in a non-stigmatizing, gender-sensitive, confidential, and convenient setting when there is no staff clinic and/or their own facility does not offer ART, or where health workers prefer services off-site. *(STRONG RECOMMENDATION based on weak evidence, strong benefits of desired effects, very strong values and preferences, strong costs and moderate feasibility.)*

12. In the context of preventing co-morbidity, provide universal availability of a comprehensive package of prevention and care for all HIV positive health workers, including IPT and CTX prophylaxis, with appropriate information on the benefits and risks. *(STRONG RECOMMENDATION based on moderate quality of evidence, strong benefits of desired effects, moderate values and preferences, strong costs and conditional to country setting feasibility.)*

13. Establish schemes for reasonable accommodation and compensation, including, as appropriate, paid leave, early retirement benefits and death benefits in the event of occupationally-acquired disease. *(STRONG RECOMMENDATION based on weak quality of evidence, strong benefits of desired effects, very strong values and preferences, conditional to country settings costs and conditional to country setting feasibility.)*

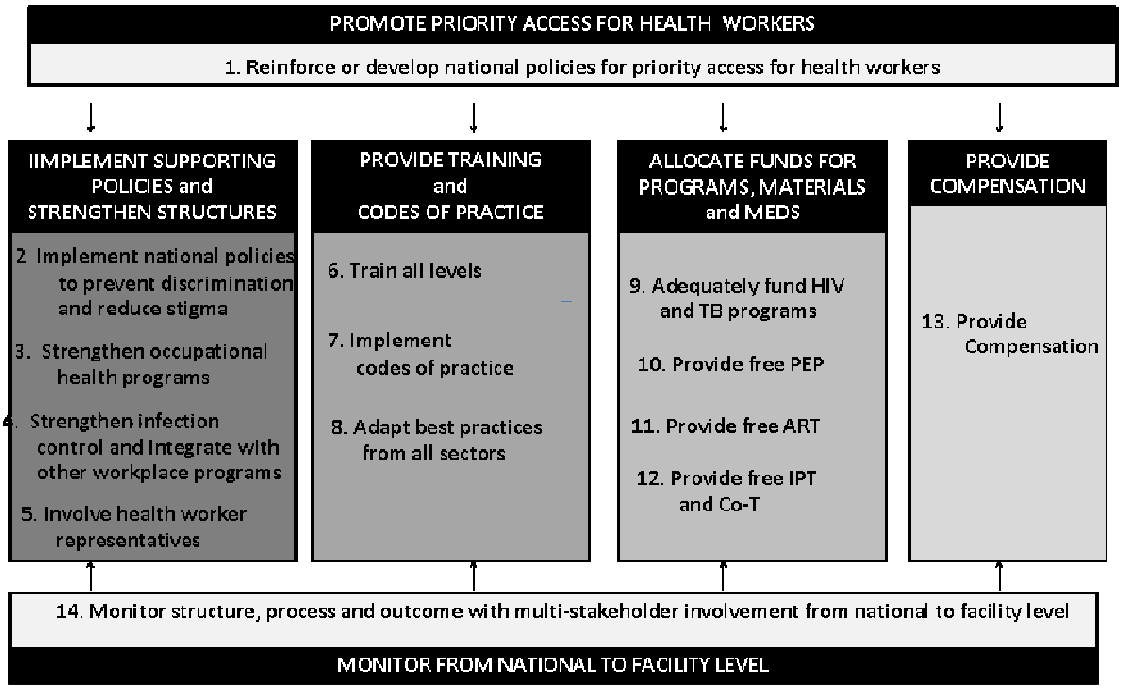
14. Develop and implement mechanisms for monitoring the availability of these TREAT policy guidelines at the national level, as well as the dissemination of these policies and their application in the healthcare setting. *(STRONG RECOMMENDATION based on moderate quality of evidence, very strong benefits of desired effects, very strong values and preferences, moderate costs and moderate feasibility.)*

Integrating Framework:

These 14 statements are grouped into 6 categories as shown below, that together provide guidance to member countries. While the framework itself is not the focus of the policy, it is presented to assist member countries and the various target audiences within the countries, to appreciate the synergistic nature of the multiple components.

The recommendations are grouped into one over-arching policy recommendation to implement national policies to provide priority access to HIV and TB services for health workers (statement 1); supporting policies and needed infrastructure (statements 2-5); training and codes of practice to guide policy implementation (statements 6-8); recommendations related to funding of programme elements and medications (statements 9-12); compensation (statement 13); and finally monitoring (statement 14).

Overview of Recommendations to Improve Health Worker Access to Prevention, Treatment, Care and Support for HIV and TB



Implementation Plan

A monitoring and evaluation group should be established within ILO/WHO, which would oversee the development of a detailed implementation plan, followed by a series of dissemination meetings at the country level. The implementation details should be developed at the regional level. Virtual meetings and other innovative suggestions must be employed with the aim of prioritizing funds for implementation and adaptation at country level.

Existing technical working groups should be utilized as a first point for implementation of guidelines and roles and responsibilities must be adopted by country officers to initiate stakeholder discussion and empower key players to adapt and translate guidelines. Implementation of the recommendations into national programmes should be considered in conjunction with an action plan for implementation at the facility level. Successes and challenges of this complex package of recommendations must be measured. A work plan linked to targets with measurable results and the coordination of distribution policies is essential.

Implementation must use an adaptation approach to promote the formulation and implementation of the new guidelines. Shared ownership by partners, civil society, unions and health professional associations is essential. Relationship building and shared principles are required to ensure success and to ensure that cultural and economic differences of individual countries are considered.

Bearing in mind the crucial importance of these policy guidelines, simplified advocacy materials will be developed to assist the users . This is in line with the proposal on implementation strategy as put forward by the partners and stakeholders during international consultations in September 2009 (refer Annex 2 pp 121-123).

Following its publication and launching by WHO and ILO, the guideline will be reviewed after 2-5 years to ensure consistency with possible new developments related to the subjects covered.

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1.0 Introduction

1.1 Rationale and Objectives

It is now recognized that loss of health workers due to HIV and TB requires urgent attention (Ncayiyana 2004, Menzies 2007). Hitting hardest in countries that are already severely affected by the global health human resource crisis, this situation is negatively affecting the goal of universal access to HIV services (Schneider 2006). It has been identified that together HIV and TB account for an extremely high proportion of the mortality and morbidity experienced by health workers in high burden countries (Harries 2002, Tawfik 2003).

The World Health Report (WHO 2006a) identified that healthcare systems worldwide are plagued by difficulties in recruitment and retention. One reason for this situation is that healthcare workers face increasingly difficult working conditions. It is now widely established that health workers globally have witnessed massive changes in their day-to-day practices and workloads (Smit 2005). Occupational health concerns include musculoskeletal injuries, violence, stress, biological, chemical and physical hazards. Infectious diseases, and particularly HIV and TB, put an enormous strain on the health workforce. The epidemic has increased occupational stress and burn-out, demand for services, and risks of occupational exposure. This is especially true in low and middle income countries (LMICs) where health workers are subject to extensive out-migration. According to the International Labour Office's report, *HIV/AIDS and Work: Global Estimates, Impact and Response*, (ILO 2004) in the absence of increased access to treatment, an estimated 74 million workers will be lost to the workforce due to HIV by the year 2015.

The health service sector has a vital role to play in delivering prevention, diagnosis, treatment as well as care to the population it serves, and in combating stigma and discrimination. To do so, health workers' own health, rights and working conditions must be protected. The ILO, International Organization for Migration (IOM) and WHO note that, "although health workers are at the frontline of national HIV programmes, they often do not have adequate access to HIV services themselves" (WHO 2006b). These guidelines were designed to focus on reinforcing and accelerating the implementation of best health practices for health workers living with HIV or TB, or those who risk being exposed to HIV or TB in the workplace.. The ultimate goal is to contribute to the improved health of health workers and to retain them in the workforce.

1.1.1 Target Audience and Scope:

The main target audience for these policy guidelines consists of policy makers in member states as well as all employers of health workers. The recommended policy guidelines are expected to be useful for health and labour departments, regional policy-makers, health facility managers, and all front-line health workers – including informal health givers. It is expected that these guidelines will also be useful to representatives of health workers, including unions and health professional associations, as well as occupational health and infection control practitioners.

The guidelines were scoped to provide guidance for the target audience on how to implement interventions to promote policies and programmes where change is desired. It is important to stress that.

these guidelines will *not prescribe new clinical practices,* but rather will refer to recently published guidelines on such clinical topics as post exposure prophylaxis (PPE) to prevent HIV infection (ILO/WHO 2008), health services and HIV (ILO/WHO2005), TB infection control in healthcare facilities, congregate settings, and households (WHO 2009), and others (see Annex 1) for listing of some of the relevant WHO and other international Guidelines referenced). These guidelines were developed to address the identified need to integrate existing guidelines relevant to health workers who are living with, or have been affected by HIV and/or TB, or who are at increased risk from HIV and TB as a result of occupational exposures, into one comprehensive source that taken together will improve access of health workers to prevention, treatment, care and support services for HIV and TB.

As such, the guidelines are "*implementation" guidelines* -- developed to provide the target audience with policy and programme guidance in how to effectively synthesize all the relevant existing clinical practice and related guidelines in the area, to lead to the desired outcome. Attention to the refinement of implementation strategies in this area is analogous to the increased research focus on "implementation research". As there is a growing body of scientific study of methods to promote the uptake of clinical research findings into routine practice (Eccles 2009), so too has there been a growing body of knowledge on how to implement the complex multi-level interventions (Medical Research Council 2006), necessary for the uptake of health service and population health measures to achieve the outcomes of interest.

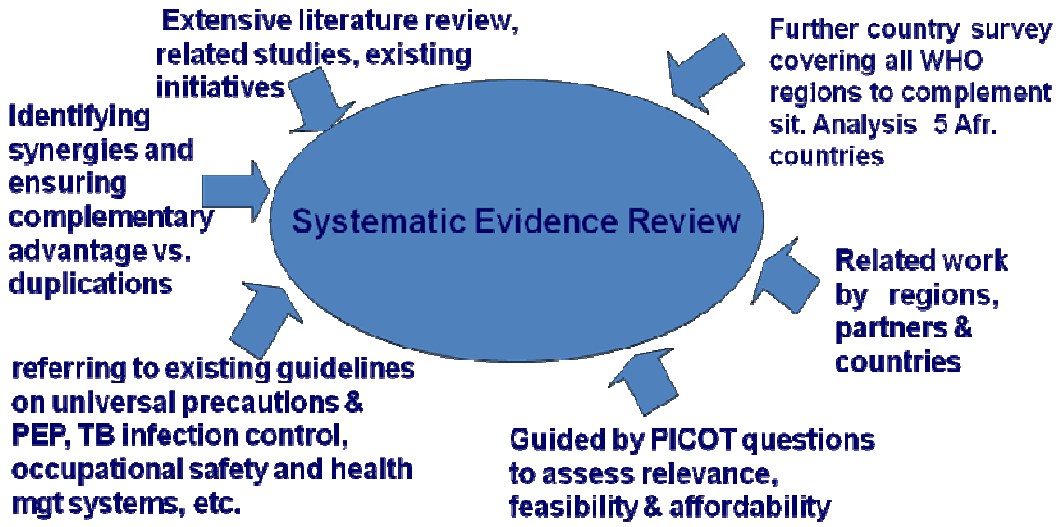
The process used to develop these guidelines reflects the state-of-the-art thinking on how to synthesize information for decision-making regarding complex multi-component public health interventions, (Shepperd 2009, Eccles 2009, Cochrane Public Health Review Group http://www.ph.cochrane.org/en/index.html, Cochrane Health Equity Field- http://equity.cochrane.org/en/index.html), as discussed below. It thus represents an attempt to synthesize a complex body of knowledge currently scattered across numerous different documents.

Following the process articulated in the *WHO Handbook on Guideline Development (2010),* a multidisciplinary group was formed consisting of the key stakeholder departments and organizations that have expertise and interest in achieving the desired outcome. This Guideline Group (GG) led the guideline development process, as outlined in the next section.

Methodology

The systematic review of evidence conducted for developing these guidelines had multiple components, as shown in Figure 1.

Figure 1: Components of the Systematic Evidence Review



As noted by Shepperd et al. (2009) complex health interventions are difficult to evaluate using the traditional Cochrane approach, particularly when the interventions include elements of a more conceptual nature, such as "trust", or in this case "reducing stigma" and preventing "discrimination". The authors note that policy documents can be particularly informative, consistent with the approach of the Guideline Group's commissioning of a policy review across all regions of the world, as described below. One component follows the Cochrane review style of systematic reviews. As the GG recognized the limitations of the traditional more clinically-oriented Cochrane approach for this complex task of largely synthesizing existing guidelines, putting these into context of current needs and realities, the systematic evidence review for development of this guidelines consisted of multiple components, as outlined below.

1.2 Policy Formulation Process

1.2.1 Preliminary Review and Methodological Decisions

The first step was to conduct a review of existing guidelines. This was especially important given that the purpose of these Guidelines is to provide guidance on how to accelerate the implementation of policies and programmes to deliver evidence-based measures and services related to HIV and TB to the health workforce. The identification of relevant guidelines was conducted by the consultant team reviewing lists of WHO and ILO guidelines in consultation with the Guideline Group.

The Guideline Group commissioned a study by Elizabeth Corbett of five African countries, to inform guideline development. The methods used in the Corbett study (Corbett 2007a) are discussed in the next subsection. The GG also commissioned a preliminary literature review, which was conducted by Mark Wheeler (Wheeler 2009). In addition, the Guideline Group conducted a study of countries worldwide to ascertain information about existing national policies and programmes (Petit-Mshana et al. 2009). The methods for this survey are described in subsection 3.

For each of the draft policy statements, the list of references provided by Corbett (115 references),, Wheeler (197 references) and Yassi (152 references) were reviewed and assessed for relevancy to the questions. The evidence from this preliminary literature review (of almost 500 articles) was then further supplemented by an additional search conducted in June 2009 to ensure completeness. This added 32 articles after duplicates were removed. This supplemental search was also conducted specifically with reference to each of the statements.

The information from the preliminary literature review, along with a review of the Corbett 5-Country Study results and the multi-country national survey results to-date were presented to the Guideline Group on July 2, 2009 to further guide decisions regarding evidence gathering for the draft statements. At this meeting, the draft statements in the Concept Paper were reviewed, and the 13 preliminary statements for the draft guidelines were reduced to 12 statements, with the preliminary view that one of the statements was redundant to what was already included in the other 12. In addition, a discussion was held of the evidence supporting each of the statements, as well as each of the seven questions formulated in the Draft Guidelines, to ascertain what, if anything, introduced elements that were not already recently reviewed for existing guidelines. This discussion led to the formulation of three questions the subject of a Cochrane-style Systematic Review, and related methodological approaches.

Methods for the Systematic Review are summarized in Section 1.2.4. The results from the initial Systematic Review were incorporated into the results presented to the GG in this Synthesis Report (Yassi et al. 2009a). The GG discussed the Systematic Review and the Synthesis Report, exchanging comments between August 15th and September 14th, 2009. The presentations are available on request. Through the process of small groups focusing on wording and key points, as well as plenary discussion, the statements were revised into fourteen.

1.2.2 Methods for the Corbett Study

The Five Country Study by Corbett (2007a) provides high quality evidence relevant to developing guidelines. The methodology included interviews with 938 health workers from 50 facilities across five African countries (Ethiopia, Kenya, Malawi, Mozambique, and Zimbabwe), 30 of which were selected through random cluster sampling, with the others selected through purposive selection seeking facilities with best practices. Within each country, 6 health facilities were randomly selected using a 2 to 4-stage weighted selection method with population, staff, and establishment size used for weighting. Results from the individual questionnaires were supplemented by results from facility assessment checklist (for which the respondents were facility managers), as well as by the results of a policy questionnaire completed by Ministry of Health and other government officials. The study also included 12 focus groups.

1.2.3 Methods for National Survey Conducted by the Guideline Group

The Guideline Group aimed to gather evidence on the policies and legislation that exist in 34 countries, with 4 of 6 WHO regions responding prior to the drafting of the Synthesis report (Yassi et al., 2009). The purpose was to identify gaps in policy and barriers to implementing related policies related to improving healthcare worker access to HIV and TB services. Overall HIV and TB prevalence determined the number of countries to be surveyed for each region. Within each country, the WHO HIV officer liaised with their respective Ministry of Health to facilitate collection of data. The survey consisted of a semi-structured questionnaire; multiple choice questions with dichotomous responses for single and multiple answers, and a few open-ended questions. The survey was designed to gather facts as well as opinions and insights.

Results from 17 countries (Burkina Faso, Cambodia, Cameroon, Cote d'Ivoire, Ghana, Papua New Guinea, South Sudan, Romania, Tajikistan, Zimbabwe, Cuba, Thailand, Rwanda, Columbia, El Salvador, Trinidad and Tobago and Ukraine) were compiled. Quantitative data were coded and entered manually in an MS Excel spreadsheet; qualitative data were coded and analyzed thematically. The study, with the aim of identifying gaps, barriers and potential solutions to enhancing health workers' access to HIV and TB services, explored the following key areas: i) Policy, legislation and provision of services concerned with the occupational safety and welfare of health workers; ii) Prevention of HIV within and outside the workplace; ii) Access to HIV counseling and testing services for health workers; and iv) Infection control for TB within the workplace

1.2.4 Methods for the Cochrane-Style Systematic Review

The Guideline Group, after a preliminary review of existing guidelines, as well as the results of the Five Country Study, the multi-country survey, and the preliminary literature review, identified three questions for a Cochrane-style systematic review, as noted above. Evidence regarding the extent of the problem of HIV and TB in healthcare workers, various aspects of determinants of these diseases and the morbidity and mortality that ensues, efficacy of clinical treatment regimens, effectiveness of specific workplace prevention measures, and other matters that have already been the subject of international guidelines were not included in this component of the Systematic Review. The questions formulated are listed in Table 1 below, using the framework in the *WHO Handbook for Development of Guidelines*, namely the Population, Intervention, Comparison, and Outcome (PICO framework). This Cochrane-Style Systematic Review focused on evaluating the evidence for the *effectiveness* of workplace *interventions*

A comprehensive search methodology was employed based on the guidelines of the *WHO Handbook for Guideline Development*. The general challenges encountered in conducting systematic reviews of health promotion and public health intervention have been well documented (Shepperd 2009, Eccles 2009, Lavis 2009, Jackson 2005). Search strategies were conducted to maximize the inclusion of as many relevant studies as possible, while still observing appropriate and reproducible search strategies. Electronic searches of PubMed, Google Scholar, Cochrane Collaboration Library, and relevant websites of trade unions and other organizations were conducted, as well as searches of references from articles found in this search strategy, and articles provided by GG members that met the selection criteria.

The objective of this component of the Systematic Review was to evaluate the evidence regarding interventions to provide priority access to HIV and/or TB diagnostic and/or treatment services to health workers as well as to other workforces, as well as programmes to reduce stigma within the health workforce and/or discrimination against health workers. Outcomes of interest included incidence of infection, absenteeism, worker retention, uptake of VCT, uptake of appropriate treatment, morbidity, mortality, and improved working conditions (perceived or documented), as well as discrimination or stigma (perceived or documented), job loss (fear of, or documented), services to the community and cost. The GG decided NOT to prioritize the outcome measures but to consider ANY outcome measures found in studies, given that different parties amongst the target audience for whom these guidelines are being developed have different priority outcomes of interest. To be included in this component of the Systematic Review, outcome measures had to include at least one of the outcome measures. Positive as well as negative outcomes were sought, including whether the intervention led to increased stigma and/or, discrimination (perceived or documented); increased job loss (perceived or documented); decreased services to the community; or high cost. Studies assessing any of these outcomes relating to a workforce intervention, conducted since 1984, and available electronically by August 1, 2009, were included. Given that HIV was only discovered around this time, and given that knowledge regarding TB and TB control programmes has changed considerably since the re-emergence of TB, and the emergence of multiple resistant strains, information obtained in studies preceding 1984 did not seem warranted. (Items published since August 1, 2009 were excluded from the Systematic Review, to maintain strict adherence with *a priori* protocol. However items provided to the consultants after that date, were included in the realist review, as discussed below.)

A minimum of two reviewers independently extracted data and assessed inclusion criteria; studies were also profiled and quality assessed by a minimum of two reviewers including the senior reviewer on the team. No new statistical analyses were conducted for this review. As shown in Table 1 below, studies in which the target population for the intervention were health workers from any country were included in the search with respect to questions on *priority access* to diagnosis and treatment, however findings from workplace intervention studies in any sector were included for the question evaluating the effectiveness of *workplace* interventions for HIV and TB.

For workplace interventions, studies with the most comprehensive reporting of the nature of the intervention and details of the methodology and results, are not necessarily the most informative for ascertaining determinants of success of interventions. (Egan 2009). As such, *qualitative* aspects of the 11 studies were also reviewed, adding one additional review article published after the cut-off date, related to stigma and discrimination (Nyblade 2009), in view of the absence of studies that were identified using the standard Cochrane-type approach.

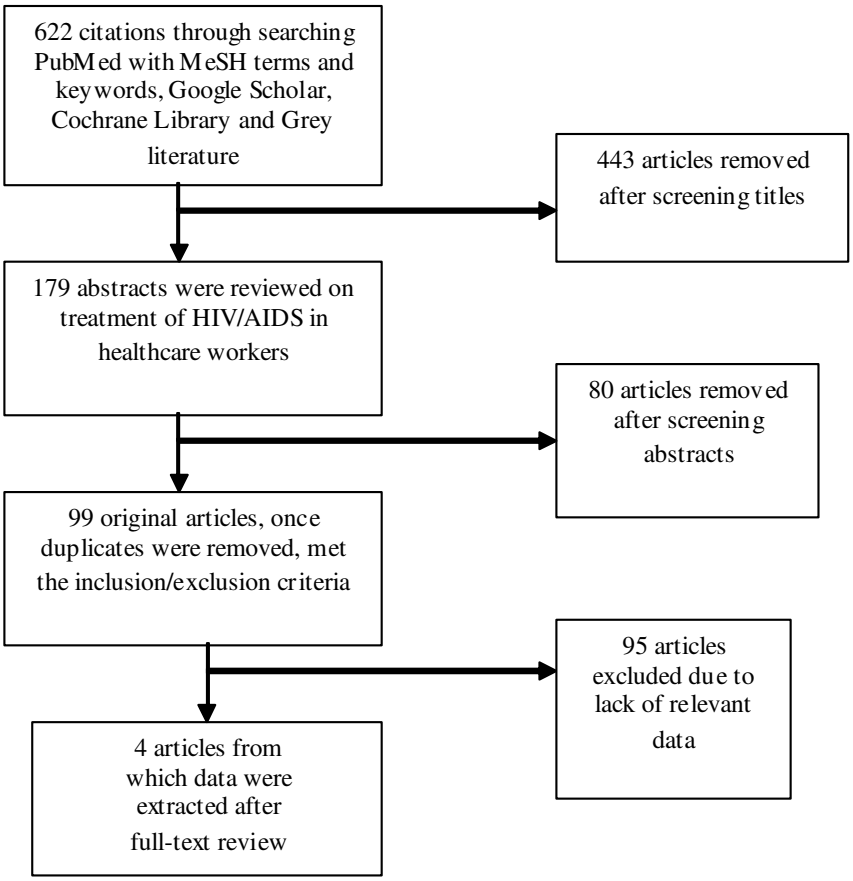
Table 1: PICO selection criteria for questions designated for systematic evidence review

	Population	Intervention	Comparison	Outcome
1. Should priority access for HIV and/or TB diagnostic and/or treatment services be provided for all health care workers?	Healthcare workers (all countries)	Intervention to provide priority access to HIV and/or TB diagnosis and/or treatment services for health care workers	Self-comparison (e.g. pre versus post intervention), as well as comparison with any suitable external comparison groups	- incidence of infection - absenteeism - worker retention -uptake of VCT - uptake of appropriate treatment - morbidity (perceived or documented) - mortality - working conditions (perceived or documented) - cost (or cost-benefit) - discrimination or stigma (perceived or documented) - job loss (perceived or documented) - services to the community
2. Should programmes reducing stigma and/or discrimination be provided for all health care workers?	As above	Workplace programme to decrease HIV- and/or TB-related stigma and/or discrimination	As above	- discrimination or stigma (perceived or documented) - job loss (fear of, or documented) - absenteeism - uptake of VCT - awareness and knowledge - reporting (reported willingness or documented) - worker retention - working conditions (perceived or documented) - cost
3. Should programmes for workplace-based and/or workplace-organized diagnosis, treatment, care and support for HIV and/or TB be provided for all heath care workers?	Employees (any country; any sector – private and public)	Workplace programme to diagnose and/or manage HIV and/or TB	As above	Any of the outcomes for either of the above questions.

*Exclusion criteria: failure to meet the selection criteria. For example, studies that were baseline assessments to document the need for or prepare interventions were excluded, as were commentaries and editorials, as were patient intervention studies (rather than interventions that targeted the workforce).

The results of the review are included in the systematic review.

Figure 2: Search strategy for PICO #1



Similar search strategies were used for PICO 2 (196 citations, in the end 0 articles remaining from which data were extracted) and PICO 3 (368 citations, in the end 7 articles used from which data were extracted).

1.2.5 Evidence Grading and Formulation of Recommendations

Coordinated action is often enhanced by the provision of a framework that facilitates the implementation of multi-component guidelines. Although recommendations are placed into a framework, no level of evidence is given for use of this framework. Those implementing these guidelines could decide for themselves whether this framework is useful.

While assessment of the quality of evidence is given for *all* recommendations, this level, as detailed in the explanations in each recommendation table, is derived from evidence assessments found in other guidelines as well as results of the various components of the evidence-gathering process described. For the provision of isoniazid preventive therapy (IPT) for example, systematic reviews were available that determined the efficacy of this measure in preventing TB. The impact of antiretroviral therapy on

reduction of TB incidence in HIV positive patients had also already been documented. As provision of these medications should be considered as part of a package of prevention, treatment, care and support for health workers, these are included in these guidelines.

All recommendations are graded 'strong', in accordance with the grading recommendations of the WHO Handbook for Guideline Development (2010), that only recognizes two categories; strong and weak, whereby the strength of a recommendation reflects the degree that the desirable effects of a strong adherence to the recommendation outweigh the undesirable effects.

Note that the strength of the recommendations took into consideration not only the quality of evidence as rated in traditional Cochrane-style systematic reviews, but also whether advantages outweighed disadvantages and the strength of the values on which the recommendations were based, as well as cost and feasibility considerations. Values, preferences, and ethical considerations were informed by input from healthcare workers, citizens, clinicians and individuals living with HIV. A 'strong' recommendation is one in which there was a very strong consensus among guideline group members that this recommendation is essential to the achieving of the desired outcomes. The procedure for grading of evidence from the Cochrane-Style Systematic Review is provided elsewhere.

1.3 Values

As shown in the list of the members of the Guideline Group (GG) as well as the list of other organizations consulted, the development of these guidelines has been a collaborative process involving not only all regions of the WHO, several WHO departments, the ILO, UNAIDS (The Joint United Nations Programme on HIV), IOM, Global Health Workforce Alliance (GHWA), Public Services International (PSI), International Council of Nurses (ICN) and other international organizations, but also involved people living with HIV and AIDS.

Despite the varied backgrounds and perspectives of different partners in the guideline development, there was strong agreement on the values that underlie this process, and would be weighted heavily in formulating recommendations. These included the following:

1. Human rights figure prominently in any discussion of TB and HIV. There is the right of all people to health – the Universal Declaration of Human Rights (UDHR) is a non-binding declaration adopted by the United Nations General Assembly in 1948. According to the WHO, every country in the world is now party to at least one human rights treaty that addresses health-related rights. This includes the right to health as well as other rights that relate to conditions necessary for health for all people.

2. Gender equity and adopting gender-sensitive policies and programmes. The vast majority of health workers are women, and women bare particular concerns. The United Nations Development Fund for Women (UNIFEM) states that "*Gender inequality and violations of women's rights make women and girls particularly susceptible, leaving them with less control than men over their bodies and their lives. Women and girls often have less information about HIV and fewer resources to take preventive measures. They face barriers to the negotiation of safer sex, including economic dependency and unequal power relations. Sexual violence, a widespread and brutal violation of women's rights, exacerbates the risk of transmission. In many cases, HIV-positive women face stigma and exclusion, aggravated by their lack of rights*." UN Secretary-General Ban Ki Moon says: "*Stigma remains the single most important barrier to public action. It is a main reason why too many people are afraid to see a doctor to determine whether they have the disease, or to seek treatment if so. It helps make AIDS the silent killer, because people fear the social disgrace of speaking about it, or taking easily available precautions. Stigma is a chief reason why the AIDS epidemic continues to devastate societies around the world*" These guidelines will be particularly sensitive to these concerns.

3. **Involvement of people living with HIV and TB,** both as a concrete manifestation of promoting human rights, as well as because existing evidence supports the effectiveness of greater involvement of people living with AIDS in implementing the guidelines proposed, this principle is embraced as a value underlying the recommendations as well. Ideally, all clinics would benefit from openly positive staff. Greater involvement of people living with HIV and TB provides human insight into all facets of these recommendations, particularly the unique sexual and reproductive health concerns of people living with HIV and how these issues can be adequately addressed in workplace based programmes for health workers.

4. Worker rights also figure prominently in formulating these guidelines. As noted by the ILO and WHO in previous guidelines, all workers should have the right to a healthy and safe workplace. Adopted in 1998, the ILO *Declaration on Fundamental Principles and Rights at Work* is an expression of commitment by governments, employers' and workers' organizations to uphold basic human values.

5. Following from the above, that reduction of health worker exposure to HIV and TB involve not only address non-occupational factors, but also occupational risks, and that, as embraced by existing WHO and ILO guidelines, Implementation of controls as a combination of measures reduces transmission of TB in health-care facilities. Administrative controls are needed to ensure that people with TB symptoms can be rapidly identified and, if infectious, can be separated into an appropriate environment and treated The administrative controls should be complemented by environmental controls and personal protective equipment, because evidence shows that these measures all contribute to reduction of transmission of TB

6. A strong consensus exists that **primary prevention is most important**. While two of the three questions that were the focus of the Cochrane-style Systematic Review were oriented towards evaluating the effectiveness of programmes to diagnosis and treat HIV and/or TB, this was not a reflection of the greater importance placed on the secondary and tertiary prevention , but rather that guidelines supporting prevention measures are already well-researched and subject of other recent guidelines, which obviated the need for the Guideline Group to re-assess the effectiveness of these prevention measures at this time. The Guideline Group urges that there must be a coordinated effort between primary, secondary, and tertiary prevention.

7. **Efficiency and effectiveness requires transcending traditional boundaries:** Finally, all parties need to work together to address this complex, multi-stakeholder, multi-disciplinary problem. Too often "turf" issues get in the way of organizing and implementing a coherent efficient and effective programme. As a principle underlying these recommendations, the GG urges strong coordination between the different departments of ministries of health, and amongst ministry of health, ministry of labour, and other institutions or ministries with responsibilities in this multi-component area.

2.0 Statements and Recommendations

2.1 Statement #1

2.1.1 Introduce new, or refine existing, national policies that ensure priority access for health workers and their families to services for the prevention, treatment and care for HIV and TB.

There are currently no existing guidelines that specifically address the issue of priority access for health workers to services for the prevention, treatment and care of HIV and TB, which, of course, is why the current Guidelines are needed. However, WHO documents do designate health workers as a high risk group (WHO, 2008) As noted in the Rationale for this Guideline, there is an abundance of evidence that HIV-infected health workers are at increased risk as a result of exposures they may confront in the course of their work. (e.g. Buve et al. 1994; Chanda at al. 2006; Corbett at al. 2007; Ekwueme et al. 2002; Harries et al. 2002 ;Joshi et al. 2006; Kassim et al. 2000; Kayanja et al. 2005; Pruss-Ustun et al. 2005; Sepkowitz 1994, and others.)

As also noted above, there is a crisis in health human resources wherein the recruitment and retention into health professions is not keeping pace with the need (Narasimhan 2004, Chen 2004) and there is a growing literature on the loss from the healthcare workforce due to HIV/TB.

Based on the evidence that health workers are at increased risk, as well as the evidence that there is serious need to ensure that health workers are not lost to the health workforce as a result of HIV and TB, some countries have indeed introduced national policies aimed to provide health workers with services that prevent occupational exposures to blood-borne and airborne diseases, and some have begun to introduce programmes to ensure not only prevention but priority access to diagnosis, treatment and care.

One example is the *Employee Health and Wellness Strategic Framework for the Public Service (*South Africa, 2008), which was developed in response to the *WHO Global Plan of Action on Workers Health 2008-2017* and the *ILO Decent Work Agenda in Africa 2007-2015.* The document aims to integrate the quality of working life, well-being, and health and safety in order to build and maintain a healthy workforce for increased productivity and enhanced service delivery.

The Swaziland Comprehensive Wellness Centre Model established in 2006 by the Swaziland Nursing Association to address the issue of HIV among health workers is noteworthy. This programme, as described by Galvin and De Vries (2008), offers health and wellness services exclusively to health workers and their immediate families and highlights the fact that services for health workers must be comprehensive and accessible. A qualitative key informant study outlined potential barriers to HIV care among health workers, although no formal rigorous evaluation has yet been conducted.

In an attempt to delineate the most cost-effective manner of service provision for this target population, the study by Moodley and Bachmann (2002) found that the hospitals surveyed in South Africa that did in fact provide primary health care and the management of chronic illness as part of their occupational health services did not experience logistical or financial problems as a result. As discussed with respect to Statement #3, given the array of services that should be provided as part of an occupational health service, in which occupational health professionals provide primary, secondary and tertiary prevention of blood-borne and airborne diseases generally (e.g. hepatitis B and influenza.), the inclusion of HIV and TB prevention, treatment, care and support, should not provide a particular financial burden. As such the development of national policies to ensure priority access of health workers to services for the prevention, treatment and care of HIV and TB should be well-supported.

Findings from Corbett's 5-Country Study also support this statement namely that health facilities that observed better practices (the so-called "best practice" sites) reported lower death rates and more staff on ART than randomly selected sites. The study found that 95% of health workers welcomed annual testing for TB with a similar high proportion for HIV, and strongly supported doing so at their own facilities but often only when combined with priority access to ART for health workers. The study indeed also documented that health workers are deterred from accessing HIV services if they are forced to queue with the general population.

The 17-country survey found that health workers' access to HIV/TB free services is available in the same manner as the general population plus those specific to the workplace. However, currently priority access is mostly provided as a courtesy rather than provided as policy.

The issue of inclusion of immediate families was a main area of examination within these guidelines, as other than with respect to including case finding for TB, this area has not been addressed clearly in previous guidelines, and has not been rigorously studied. Galvin and De Vries (2008) noted:

> " Most [participants] said that health workers had unstated arrangements of preferentially treating their colleagues' family members. It was not clear if this informal arrangement was seen as a burden or a benefit to providers. Sometimes this informal preference was limited if it was thought to be harmful to other patients—if there were already too many patients in line, or if helping the family member would anger the waiting patients."

This sentiment, and the existence of this informal "solution", was reiterated in other studies – suggesting the need for guidelines in the area. Moreover, with respect to best practices in the private sector (see Statement #8), the authors of evaluations of workforce programmes noted that reaching more spouses would improve overall utilization of the health benefits provided to employees and increase access to treatment. They suggested that treatment for a positive spouse is likely to help the support and adherence of the employee, and promote HIV prevention interventions.

Stenson and colleagues (2005) reporting on a workplace programme that did not provide coverage for families, (also described with respect to Recommendation #8) noted that:

> Several health care providers and patients commented on the difficulties in this workplace programme associated with the lack of provision of ART to HIV-infected partners and children. This is a very real problem which may affect adherence, in addition to causing emotional and

financial hardship. Availability of treatment for dependents is an important issue for all ART programmes. "*Imagine, you ask a man to tell his wife that he is HIV positive, then when she also tests positive he must tell her that she cannot get any ART herself." (Senior Nurse)*

The programme in Swaziland which provides comprehensive care to health workers off-site does provide comprehensive family coverage (Baleta 2008). No studies of this programme which met the inclusion criteria for the Cochrane-style review were found, hence, to follow the *a priori* protocol established for the Systematic Review were not included in this component of the evidence review. However, the recent *Lancet* commentary about this programme (Baleta 2008), an earlier article describing the programme (Galvin & De Vries 2008), and the evidence provided to the GG from the members of the GG who know the Swaziland programme well, were taken into consideration, and also included in the realist (narrative) review.

It is noteworthy that the ILO Code of Practice on HIV and the World of Work applies to workers and their families and the code states that: *'in light of the nature of the epidemic employee assistance programmes may need to be established or extended appropriately to include a range of services for workers as members of families, and to support their family members. This should be done in consultation with workers and their representatives, and can be done in collaboration with government and other relevant stakeholders in accordance with resources and needs*' (section 9.8.)

As noted above, there is no universally accepted definition of "family". For purposes of these guidelines, **"family" consists of depends and/or partners,** and as noted above, **these guidelines are meant to apply to immediate family members living in the household with the health workers**. Dependent is defined as: a person married at law to the staff member; a person living as the partner of the staff member and not married at law to any other person; natural or adopted child—under 18 years of age or, if in full-time attendance at a school or university, under the age of 21 years—for whom the staff member certifies that he or she provides the main and continuing support; and/or a father, mother, brother or sister (not more than one such dependent may be claimed, and provided that the staff member is not married at law or living with a partner).In addition no distinction is to be drawn between adult and child dependents. Furthermore, **partner** means a relationship between two people, who are living with each other in a "community of life". In deciding whether a person is a "partner", the primary factor to be taken into consideration is the self-identification concerning the nature of the relationship. Additional factors which may be taken into consideration include: the length of the relationship; whether the people are residing together; whether there is, or has been, a sexual relationship between them; the degree of financial dependence or interdependence, and any arrangements for financial support between them; the ownership, use and acquisition of their property; the degree of mutual commitment by them to a shared life; whether they care for and support children; and public aspects of the relationship between them. As noted by the ILO Convention, the designation of inclusion criteria should be established at the regional or local level, in consultation with workers and their representatives, and in collaboration with government and other relevant stakeholders in accordance with resources and needs.

Thus, there is strong evidence that health workers are at additional risk due to their occupation. There is strong evidence that there is a world crisis in health human resources and that many healthcare workers are lost to the workforce as a result of HIV and TB. There is evidence that providing priority HIV and TB

prevention, treatment and care for health workers can be readily accomplished without prohibitive cost, if provided within staff health services within healthcare facilities, assuming issues addressed in other statements (e.g. preventing discrimination and addressing stigma) are incorporated into national policy, and that the programmes are adequately supported by all stakeholders. Several countries have indeed introduced or strengthened national policies to ensure priority access for health workers to services for the prevention, diagnosis, treatment and care of HIV and TB. There are some national policies that are indeed exemplary, and finally some interventions providing priority access to health workers have been conducted, and the results were positive.

As such, the GG concludes that:

- Priority access must be a policy, and not simply a courtesy measure.
- The policy can be supported on the basis that there is overwhelming evidence that here is a crisis in health human resources creating an urgent need to recruit and retain health workers, combined with the overwhelming evidence that health workers are at greater risk of exposure, morbidity and mortality from HIV and TB compared to non-health workers.
- Priority access for health workers is hypothesized to reduce stigma overall, which can have a benefit to the population as a whole.
- Some interventions providing priority access to health workers have been conducted, and the results were positive.
- There is some evidence that providing priority HIV and TB prevention, treatment and care for health workers can be readily accomplished without prohibitive cost, if provided within workplace health services within healthcare facilities, assuming issues addressed in other statements (e.g. preventing discrimination and addressing stigma) are incorporated into national policy ; evidence suggest that to be successful the programmes must be adequately supported by all stakeholders (e.g. including union, professional organizations and senior management), and involve committees of front-line (or peer) health workers in various aspects of the programme.
- Immediate household families of health workers should also be offered priority access to diagnosis (including VCT), HIV and case finding for TB; services. While this adds cost, and immediate family living in there is some debate regarding whether this will be perceived as unfair to families of non-healthcare workers, the same household as infected health workers should also be offered priority access to treatment.
- The inclusion of immediate families of health workers in line with the ILO code of practice on HIV and the world of work (section 9.8.)
- A representative of the national health department should be responsible for developing and implementing the national plan.

Table 2: Results of PICO #1

SOURCE	SETTING	DESIGN	INTERVENTION	FINDINGS	STRENGTHS[a]	WEAKNESSES
Kiragu K, Nyumbu M, Ngulube T, Njobvu P, Mwaba C, Kalimbwe A, Bradford S. Caring for the Caregivers: An HIV Workplace Intervention for Hospital Staff in Zambia. Evaluation Results. July 2008. Horizans Programme, PATH.	All healthcare workers and their families at two hospitals in Zambia compared to three comparison hospitals (N=3000), powered to detect a 10% difference between baseline and follow-up of the outcome of interest. Jan 2004-Feb2006	Quasi-experimental design, using both qualitative and quantitative methods	HIV risk-reduction workplace programme for hospital staff prevention, treatment and care interventions	-improved knowledge and attitudes about HIV among staff -increased adoption of HIV-preventive behaviours such as condom use -increased uptake of HIV testing -increased coping, care and support for staff - about a quarter of the hospital staff said they had participated in the intervention, and virtually all who took part said it should be continued. - over 80 percent reported taking specific action, for example discussing with family members about HIV, using condoms, and getting tested - nearly 30 percent took other direct action including reducing the number of partners, or abstaining - the intervention was associated with a 70% increase in the likelihood of being tested for HIV , But -resource intensive	study uses a pre-versus-post design with concurrent comparison groups which makes this one of the stronger studies that exist in this field.	pre-versus-post results were not longitudinal, but comparing of a cross-sectional baseline survey with a follow-up cross-sectional survey of the same cohort; outcome were all self-reported (questionnaire, interviews or focus groups, with no objectively obtained outcome measures)

[a] A quality assessment was conducted of all the studies. As indicated by the WHO Handbook for Guideline Development, the decision as to whether the evidence is very strong, strong, etc. was discussed by the Guideline Group, as was the grading in this report. See Annex 4 for further details.

SOURCE	SETTING	DESIGN	INTERVENTION	FINDINGS	STRENGTHS[a]	WEAKNESSES
Tavitiam SM, Spalek VH, Bailey RP. A pharmacist-managed clinic for treatment of latent tuberculosis infection in health care workers. Am J Health Syst Pharm. 2003 Sep 15;60(18):1856-61.	All 8000 employees were eligible at Cedars-Sinai Medical Centre, United States of America	Programme Evaluation based on number of employees who completed LTBI therapy vs. Number of employees monitored -Cumulative data are collected retrospectively for June 1993-June 1997 -Annual data were collected from July 1997-Dec 2001	Creation and implementation of a pharmacist-managed clinic with enhanced follow-up measures such as phone contact for hospital employees with LTBI	-improved treatment outcomes -improved adherence to LTBI treatment (94% of all HWs whose LTBI treatment was monitored by the clinic completed their therapy) -no active TB cases reported to date since inception of clinic -decreased adverse drug effects (6% of HWs seen at clinic vs. 23% reported in literature) - **However**, only 21% of the ambulatory care patients were obtaining their refills on time (as a result of this finding, the LTBI clinic was offered to ambulatory care clinic patients)	This is a weak study, with poor documentation of those who took up the intervention, and many other key design features – see next column.	The comparison is over time (trends) had no comparison group, weakening the conclusions.
Uebel K, Friedland G, Pawinski R, at al. HAART for hospital health care workers-an innovative programme. *S. Afr Med J*. 2004;**96**:128-33.	HIV positive healthcare workers in KwaZulu-Natal, South Africa	Pre versus-post intervention study, (with no external comparison group, and comparing cross-sectional data at baseline to these data post-intervention)	-workplace based programme at one site (staff of 500) that provides priority access to ART and follow-up for healthcare workers	Increased uptake of VCT among staff (3-fold increase from 3 years pre-intervention) - The cost for the first calendar year of providing ARVs and monitoring bloods (i.e. CD4 and viral loads) was approx R40 210 -increased uptake of appropriate treatment (10 staff were on ARTs, 4 also on TB therapy) -decreased mortality	-sample size of 500	The design of this study is not particularly sophisticated, so while its findings are valid, it is of limited value with respect to generalizability

SOURCE	SETTING	DESIGN	INTERVENTION	FINDINGS	STRENGTHS[a]	WEAKNESSES
				-better management -decreased "hopelessness" -decreased stigma**;** **but:** - increased reported fear of discrimination -side effects with first step drugs; & -labour intensive programme		
Uebel KE, Nash J, Avalos A. Caring for the Caregivers: Models of HIV Care and Treatment Provision for Health Care Workers in Southern Africa. *The Journal of Infectious Diseases*. 2007;**196**:S500 –S504	South Africa and Botswana All healthcare workers at: McCord Hospital-clinic established in 2001 Mseleni Hospital-clinic established in 2005 Tshedisa Hospital-clinic established in 2006	Descriptive study of interventio n programme,	Workplace based programme that provides VCT and ART to staff and families	-increasing numbers of health workers accessing VCT every year (from 6-11 pre-intervention to 118 post-intervention at McCord Hospital) -high numbers of health workers accessing ART (35 of 450 total workers at Mseleni Hospital) -great improvement in health worker morale observed by programme staff, attributing this to health workers showing clinical improvements not dying -more health workers disclosed their status throughout the programme suggesting decreased stigma or fear of discrimination - programme staff also reported that there was decreased stigma, **but** there was -internal stigma and -fear of disclosure reported by staff	-the programme was conducted at three different hospital sites in two countries	-the study design was weak as there were no comparison hospitals to assess true impact of intervention, and details of ascertaining outcome were not well described.

2.1.2 Key References and Supporting WHO Guidelines

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Supported by Existing Guidelines:

ILO/WHO PEP guidelines, 2008:

- Workers should be able to access at least the first doses of PEP within 4 hours of the exposure (and no later than 72 hours), 24 hours a day, 7 days a week.

- In settings with very low HIV prevalence, where health care workers and occasionally workers in other occupations (including, but not limited to, law enforcement personnel, emergency and rescue workers, fire fighters, prison guards, social service staff who work with injection drug users, waste-disposal personnel and sex workers) may be more likely exposed to HIV-infected blood and body fluids, the priorities set for providing PEP based on exposure circumstances should be rationalized.

ILO code of practice on HIV/AIDS and the World of Work, 2001

- ILO code of practice on HIV/AIDS and the World of Work applies to workers and their families and the code states that: 'in light of the nature of the epidemic employee assistance programmes may need to be established or extended appropriately to include a range of services for workers as members of families, and to support their family members. This should be done in consultation with workers and their representatives, and can be done in collaboration with government and other relevant stakeholders in accordance with resources and needs' (section 9.8.)

2.1.3 Table 3: Recommendation for Statement 1

Recommendation: Introduce new, or refine existing, national policies that ensure priority access for health workers and their families to services for the prevention, treatment and care for HIV and TB.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Moderate	• There are few published studies that examine offering PRIORITY access to health workers for HIV and TB services. • However, there is strong evidence that health workers are at additional risk due to their occupation. • There is strong evidence that there is a world crisis in health human resources and that many health workers are lost to the workforce as a result of HIV and TB. • There are not likely to ever be studies more rigorous than observational studies with respect to national policies, with at best "natural experiment" design.
Benefits of Desired Effects Disadvantages of Undesired Effects	Moderate (benefits outweigh disadvantages)	• Health workers would not have to queue with the general public, and thus • Would access counselling and testing, resulting in more health workers receiving appropriate ARV treatment. • While there is general agreement that case finding in families in cases of TB is essential, there is some concern that including families with respect to ART may annoy other people in the queue. • Confidentiality concerns associated with testing for HIV in the workplace, could be a serious disadvantage, but could be mitigated by strong involvement of the unions, health and safety committee, and front-line workers including people living with HIV, to monitor for confidentiality, privacy, discrimination, and stigma.
Values and Preferences	Very Strong	Very strong for HW: Health workers are at greater risk as a result of their occupation, and therefore should receive priority access to primary, secondary and tertiary prevention for HIV and TB. Very strong for families – with respect to TB; Moderate with respect to HIV (due to the predominantly non-occupational causation of this disease).
Costs	Moderate (Conditional to country setting)	• ARTs and testing are free in most regions, however, there may be other costs associated with treatment – unless provided within an existing workplace programme, offered free of charge to all employees. • IPT and LTBI testing is not currently widely available. • Evidence suggests that proving priority access through workplace programmes in not particularly costly.
Feasibility	Strong	Some countries have already introduced priority access policies, therefore it certainly is feasible.
Overall Ranking: STRONG RECOMMENDATION for Health Workers for priority access to full services; STRONG RECOMMENDATION for TB case finding in families; MODERATE for families with respect to ART.		
Research Gap	Comprehensive well-designed studies assessing the benefits and costs of providing priority access for health workers and families, at the workplace or workforce level, would be helpful.	

2.2 Statement #2

2.2.1 Introduce new, or reinforce existing, policies that prevent discrimination against health workers with HIV or TB, and adopt interventions aimed at stigma reduction among colleagues and supervisors.

There are several existing international guidelines relevant to this issue, although most existing guidelines do not explicitly address discrimination against health workers with HIV or TB. Some relevant WHO and ILO documents cited in Section 2.2.2.

A review of the history of policy development in this area was provided by Wheeler (2009), noting that this topic is not well addressed in the literature. Other than information found in questionnaires of knowledge, attitudes and practices in general few studies explicitly addressed the issue from the perspective of protecting the job security and prospects of HIV-infected health workers. As was described by Wheeler, the dominant concern documented in the literature is discriminating behaviour by health workers towards HIV positive patients, and the extent to which a duty-to-care can be imposed on health professionals.

The Medical Expertise Retention Programme (MERP) of the American Association of Physicians for Human Rights released a survey of HIV-positive and "high risk" untested healthcare workers. Almost two hundred (196) physicians, nurses and dentists responded to the MERP survey, two thirds of whom had tested positive for HIV. The results indicated that a full 73% of those health workers who are living with HIV were afraid of losing their jobs; 67% have avoided seeking treatment or submitting HIV- related insurance claims; and 50% believed that most of their patients would change doctors if they were told that their current provider had HIV.

Numerous studies have examined the knowledge, attitudes, and practices of health workers in relation to HIV, and TB. Some of these will be discussed with respect to other statements to which they are also relevant. The study conducted by Taegtmeyer and colleagues (2008) for example, noted that the under-reporting of occupational blood and body fluid exposure is attributed in many settings to concern about stigma. Similarly, Dahab et al. (2008) found that cost was not a barrier to ARV treatment in their study, as treatment was free. However, they did note that long waiting times for clinic services were reported as an important barrier to a patient's ability to return to the clinic for service and to pick up medication, and concern was raised as to whether this might be especially stigmatizing in this working population as spending additional time in the clinic may require additional time off work.

A study by Mahendra et al. (2006) evaluated the impact of a stigma-reduction intervention in three large hospitals in New Delhi, India. These findings informed the development and evaluation of a culturally appropriate index to measure stigma in this setting. The study findings highlight issues particular to the health care sector in limited-resource settings. Although the intervention only assessed stigma by health workers towards patients and not stigmatization of health workers themselves, the authors did conclude that to be successful, stigma-reduction interventions, and the measures used to assess changes, need to take into account the socio-cultural and economic context within which stigma occurs.

Connelly and Rosen (2006) conducted a telephone interview and structured questionnaires with 52 private sector companies, comprising over 6,000 employees from small and medium enterprises in Africa. Respondents cited stigma as a constraint in introducing programmes. Of the 15 companies that had considered implementing services but had not done so, seven cited employees' fear of stigma as the reason. Among the companies that were offering services, the main limitation in implementation reported by managers was not cost but the stigma associated with HIV among workers. Stigma may also be dampening demand for claims for benefits already offered to employees. Managers reported that many employees leave the workplace without claiming benefits; in the surveyed companies, very few employees had claimed disability benefits in the previous two years.

Public Services International has several resources available to the public online regarding HIV, stigma and the workplace. The new Public Sector Unions Fighting against AIDS (PSUFASA) website, part of the PSI/UNISON project to address HIV and AIDS in the workplace, provides useful information, tools and links to assist unions in their response to HIV and AIDS and is an opportunity for sharing good practices, experiences and lessons learned. The need for better promotion and dissemination of policies, codes of practice and training materials in this area is discussed later.

Corbett's five-country study found that 70% of health workers feared promotion and training opportunities would be curtailed as a result of testing positive for HIV. The study also noted that there was weak knowledge of anti-discrimination policies. Similarly, the 17-country national surveys found that while strong worded policies against stigma and discrimination exist in most countries, no strategy/action plans/guidelines were in place. The surveys also found that no operational practices/code of practice against stigma and discrimination were reported. The surveys concluded that policy on stigma and discrimination must be seen to be addressed in workplaces, and that a code of practice or other means must be available at facility level with implementation monitored.

Few studies exist that describe or evaluate the adoption of interventions aimed at stigma reduction among healthcare workers, and indeed the Systematic Review conducted to assess evidence related to interventions in this regard found that no high quality intervention studies have been published. There are however, several studies that examine the knowledge, attitudes, and practices of healthcare workers related to HIV, TB and stigma and documented discrimination and stigma as a major problem.

Nyblade and colleagues (2009) recently published a review to ascertain what works in combating stigma specifically in healthcare settings. They found that, although stigma is a pervasive and daunting problem in the health care setting, much can be done to address its causes and consequences. They state that interventions must focus on the individual, environmental and policy levels (Nyblade et al. 2009). At the individual level, the authors insist efforts must focus on addressing health workers' fears and misconceptions about HIV transmission. They found that fear of acquiring HIV through everyday contact leads people to take unnecessary, often stigmatising actions. Thus programmes need to provide health workers with complete information about how HIV is and is not transmitted and how practicing universal precautions can allay their fears. In addition, health workers must be able to understand the occupational risk of HIV infection relative to other infectious diseases that are more highly transmissible and commonly found in heath care settings. At the environmental level, Nyblade and colleagues focus on the necessity of programmes to ensure that health workers have the information, supplies and equipment necessary to

practice universal precautions and prevent occupational transmission. At the policy level, Nyblade et al. found that the lack of specific policies or clear guidance related to the care of patients with HIV reinforces discriminatory behaviour among health workers. They state that health facilities need to enact policies that protect the safety and health of patients, as well as health workers, to prevent discrimination against people living with HIV. Such policies are most successful when developed in a participatory manner, clearly communicated to staff, and routinely monitored after implementation Stigma reduction in health facilities, as argued by Nyblade et al., has important implications for improving patient-provider interactions and quality of care.

Thus there is strong evidence that fear of discrimination and stigma is widespread; that healthcare workers are worried about losing their jobs or opportunities for promotion if they disclose their HIV status; that they refrain from reporting occupational blood and body fluid exposures due to fear of discrimination and stigma; and that lengthy time off work to obtain treatment adds to this problem. There is strong evidence from studies conducted within the last year alone that this problem continues to be quite prevalent. While strong worded policies against stigma and discrimination exist in most countries, strategies/action plans/guidelines to supplement these policies were not in place. No operational practices/code of practice against stigma and discrimination were reported in the national surveys, and Corbett's 5-Country Study revealed that while policies preventing discrimination exist to some extent, health workers are often unaware of these policies. There is very limited evidence as to what stigma reduction strategies are most effective. Intervention studies in the healthcare workplace aimed at stigma reduction would be useful.

The GG concluded that:

- Policies must be in place at the national level to prevent stigma and discrimination.
- Existing ILO/WHO guidelines already call for "the implementation of workplace policies which expressly prohibit discrimination in employment". However, they do not elaborate the discriminatory actions from which HIV positive health workers should be protected, and therefore this should be explicitly addressed.
- There should be no difference between the treatment of a health worker with HIV and a health worker with any other chronic condition.
- HIV status should not to be a factor in selection for employment, which implies that there should be no pre-employment testing. Indeed, current knowledge and existing guidelines, as well as accepted occupational health practice, indicates that no pre-employment health screening is justified for any condition.
- Refusal to register/license a practitioner, or suspension of registration or licence to practice, on grounds of HIV infection is unacceptable.
- No student should be refused admission, or be dismissed from training, on grounds of HIV infection.
- Education and legislation must be synergized to promote social inclusion and measures should promote positive reinforcement rather than just focusing on discrimination/stigma reduction.
- Employer-initiated task reassignment is only justified (a) in the interests of the HIV infected health worker---to which s/he voluntarily consents, or (b) in those rare circumstances, as verified by the

relevant professional body, where there is a scientifically established elevated risk of transmission from an HIV positive health worker to patients or colleagues.

- Contract agreements should include clauses to assist in addressing discrimination cases, such that trade unions and professional organizations are held accountable for enforcement.
- An ombudsman should be appointed at the facility or district level to whom aggrieved health workers could appeal to initiate remedial action.
- There must be enforcement of such programmes in the workplace involving trade unions and professional associations in enforcement of the legal provisions.
- The stigma index should be used for monitoring.
- Best practices from other stigmatized medical conditions (i.e. mental health) should be considered and applied.
- HIV and TB stigma reduction programmes must empower infected health workers.
- "Positive Champions" should be identified and provided with leadership roles. Visible positive health workers have the potential to reduce stigma among other health workers, resulting in not only a more supportive work environment but also improved patient care.

2.2.2 Key References and Supporting WHO Guidelines

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Supported by Existing Guidelines:

ILO/WHO guidelines on health services and HIV/AIDS, 2005-

- **Glossary p. XI 21, 25:** Discrimination: In these guidelines, defined in accordance with the ILO Discrimination (Employment and Occupation) Convention, 1958 (No. 111), and includes HIV status. It also includes discrimination on the basis of a worker's perceived HIV status, including discrimination on the ground of sexual orientation.
- 21: The scale of occupational risk in the health sector is unclear, in part because of the stigma and blame attached to the reporting of sharps injuries and the lack of available post-exposure prophylaxis.
- 25: Stigma and discrimination – by health-care workers towards other health-care workers, towards patients, or by employers towards health-care workers – are a serious issue in many health-care settings, undermining the provision of care as well as programmes for prevention. They take a variety of forms and can result in treatment being delayed, inappropriate or withheld, and in breaches of confidentiality, inappropriate and unethical behaviour and the use of excessive precautions.

ILO/WHO PEP guidelines, 2008- Sections 2.2.1, 2.2.2, 2.2.3:

- 2.2.1 Non-discrimination A non-discriminatory approach to service accessibility, information provision and education is critical and must underpin any policy or operational guidelines on HIV PEP. The ILO code of practice on HIV and the world of work and several other international human rights instruments provide detailed guidance regarding consent, confidentiality and access to information and health care services on a non- discriminatory basis. The policy for eligibility for PEP should always be founded on the principle of equity. Decisions about whether or not to offer post-exposure prophylaxis should be based purely on clinical considerations of risk and should not be tied in any way to a person's decision to file a police report or to pursue legal action. Individuals should be assessed for PEP regardless of their involvement in any activities considered to be illegal by national legislation, such as injecting drug use, sex work or men having sex with men. Nor should there be any barriers to access for financial or administrative reasons. Non-citizens (such as refugees, asylum-seekers and stateless people) should have equal access to health care, including PEP, in the country in which they are currently residing or staying.

UNAIDS International guidelines on HIV and Human Rights:

- 30. States should also ensure that their laws, policies, programmes and practices do not exclude, stigmatize or discriminate against people living with HIV or their families, either on the basis of their HIV status or on other grounds contrary to international or domestic human rights norms, with respect to their entitlement or access to health-care goods, services and information
- 61. States should take measures to reduce the vulnerability, stigmatization and discrimination that surround HIV and promote a supportive and enabling environment by addressing underlying prejudices and inequalities within societies and a social environment conducive to positive behaviour change. An essential part of this enabling environment involves the empowerment of women, youth and other vulnerable groups to deal with HIV by taking measures to improve UNAIDS OHCHR 56 their social and legal status, involving them in the design and implementation of programmes and assisting them to mobilize their communities. The vulnerability of some

groups is due to their limited access to resources, information, education and lack of autonomy. Special programmes and measures should be designed to increase access. In many countries, community-based organizations and NGOs have already begun the process of creating a supportive and enabling environment in their response to the HIV epidemic. Governments must recognize these efforts and lend moral, legal, financial and political support to strengthen them.

- 62: States should promote the wide and ongoing distribution of creative education, training and media programmes explicitly designed to change attitudes of discrimination and stigmatization associated with HIV to understanding and acceptance.

2.2.3 Table 4: Recommendation for Statement 2

Recommendation: Introduce new, or reinforce existing, policies that prevent discrimination against health workers with HIV or TB, and adopt interventions aimed at stigma reduction among colleagues and supervisors.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Moderate	• There is strong evidence to support the need for anti-stigma and discrimination programmes in the workplace, however little has been examined specific to the health care setting. • There are qualitative reports of the value of such initiatives- and some programmes conducted are said to have been effective in some materials (i.e. trade union materials and reports), but no rigorously conducted evaluations.
Benefits of Desired Effects Disadvantages of Undesired Effects	Very Strong (benefits outweigh disadvantages)	• Decreased fear of job loss • Increased uptake of testing in the workplace and appropriate treatment (health workers would no longer feel the need to hide medications and appointments) • Some evidence suggests that decreased stigmatization (both internal and external) will benefit not only the healthcare workforce but patient care as well
Values and Preferences	Very strong	• Health workers will appreciate these measures that make them feel more comfortable in the workplace • Health workers will benefit from peer support networks created • The community will appreciate health workers who are strong role models in the fight against stigma and discrimination • The community will feel more comfortable accessing services provided by supportive and informed health workers
Costs	Strong	• Extent and implementation plan for staff training, and educational and promotional materials (i.e. poster campaigns, invited speaker sessions, etc.) will determine cost BUT • Benefits and cost-reduction of early treatment, and of keeping healthcare workers in the workforce likely outweigh costs considerably
Feasibility	Strong	• Feasible in high, low and middle income countries • Programmes are only feasible with support and commitment of all stakeholders (i.e. management as well as front line workers) • Behaviour and attitude change is a slow process
Overall Ranking	**STRONG RECOMMENDATION**	
Research Gap	Cluster-randomized trials, using some of the recently designed indices of stigma for evaluation, would be helpful.	

2.3 Statement #3

2.3.1 Develop or strengthen existing occupational health services for the entire health workforce so that access to HIV and TB prevention, treatment and care can be realized.

The evidence suggests that providing access of health workers to HIV and TB prevention, diagnosis, treatment, care and support can best be done on-site at the workplace, provided that the other aspects of concern, particularly confidentially, can be strictly maintained. In an evaluation of the 70 ART delivery sites reported by Charalambous and colleagues (2007b), different sites were used for the services provided – including hospital clinics (8), occupational health centres (29), primary health care clinics (2) and General Practitioner offices (31). While these authors did not compare results by site, other authors did. Specifically, the cluster-randomized controlled trial by Corbett and colleagues (2006), did indeed show that uptake of on-site rapid testing was significantly and substantially higher than that achieved through standard-of- care provision of free vouchers for off-site. The healthcare workplace also is an ideal environment in which to provide basic primary health care services to staff in addition to occupational health services. (Uebel, 2007)

There are numerous international guidelines related to occupational health services, issued by both the WHO and ILO, including the *WHO Global Strategy on Occupational Health for All*. 1994; the WHO *Guidelines on Quality Management in Multidisciplinary Occupational Health Services*. 1999; the WHO *Occupational Health: A Manual for Primary Health Care Workers*. 2001; the WHO *Declaration on Workers Health.* 2006; and the WHO*. Basic Occupational Health Services: Strategy, Structures, Activities, Resource*s, 2005, amongst others. These build on the ILO Convention definition of Occupational Health Services (OHS) as "services entrusted with essentially preventive functions and responsible for advising the employer, the workers and their representatives in the undertaking on- (i) the requirements for establishing and maintaining a safe and healthy working environment which will facilitate optimal physical and mental health in relation to work; and(ii) the adaptation of work to the capabilities of workers in the light of their state of physical and mental health…"

Additionally, a discussion of what should constitute Basic Occupational Health Services (BOHS) is found in the evidence supporting the model BOHS framework, published jointly by the WHO, ILO, International Commission for Occupational Health (ICOH), and the Finnish Institute of Occupational Health (FIOH) (2005). This framework provides guidance on the principles, content, models, and resources needed for a BOHS. The ultimate objective of the BOHS initiative is to provide occupational health services for all working people in the world, regardless of the sector of economy, mode of employment, size of the workplace, or geographic location (ie. according to the principle of universal services provision).

Many countries indeed have developed legislation, policies or guidelines, some of which directly applies to the healthcare sector. Many of these were discussed in the Synthesis Report (Yassi et al. 2009a). The Swaziland Ministry of Health and Social Welfare's *Monitoring & Evaluation Framework for the Health Sector Response to HIV/AIDS 2006-2008* constitutes one such example.

There is widespread agreement in the literature that occupational health services should be provided by a multidisciplinary team and that health and safety committees are important. As other statements in these guidelines address the role of the various parties, including health and safety committees, no further elaboration is needed here, and instead attention is turned to financial implications of improving occupational health services.

According to ILO Convention No 161 on occupational health services, the financial responsibility for providing such services rests with the employer. In Finland, the costs of occupational health services provided by municipal health centers were USD 25 for preventive activities and USD 49.2 for curative activities per covered worker per year (i.e., a total of 74.2 USD per covered worker per year in 2001). Most of the costs consisted of salaries of the occupational health personnel. As salary levels in most low and middle income countries are substantially lower than in Finland, the costs per covered worker in those countries may be on the order of 20 USD per year, and for preventive activities alone about USD 5 per year.

In February 2007, the Community Guide Task Force released the findings of a systematic literature review focused on the health and economic impacts of workplace health promotion (WHP). Using established rigorous guidelines for their review, the Task Force examined the literature for work site programmes that include an assessment of health risks with feedback, delivered verbally or in writing, followed by health education or other health-improvement interventions. Additional health-promotion interventions included counselling and coaching of at-risk employees, invitations to group health education classes, and support sessions aimed at encouraging or assisting employees in their efforts to adopt healthy behaviours. Intervention included enhancing access to physical activity programmes (exercise facilities or time off for exercise), providing healthy food choices in cafeterias, and enacting policies that support a healthier work site environment (such as a smoke-free workplace). In most cases, unfortunately, WHP interventions did not include measures to improve the safety of the work environment. Health and productivity outcomes from these interventions were reported from 50 studies qualifying for inclusion in the review. The outcomes included a range of health behaviours, physiologic measurements, and productivity indicators linked to changes in health status. Although many of the changes in these outcomes were small when measured at an individual level, such changes at the population level were considered substantial. More specifically, the Task Force found strong evidence of WHP programme effectiveness in reducing tobacco use among participants, fat consumption as measured by self-report, high blood pressure, total serum cholesterol levels , the number of days absent from work because of illness or disability, and improvements in other general measures of worker productivity.

Moodley and Bachmann (2002) found that when free primary health care was withdrawn from the occupational health clinic in one hospital in South Africa, absenteeism in the facility increased. This finding suggests that comprehensive occupational health programmes have the potential to increase overall health system capacity by better enabling health workers to continue providing care to those in need. Another study by Falagas and colleagues from 2006 in Greece assessed the utilization of services of a hospital-based employee health clinic. The study demonstrated that occupational health services are indeed frequently used by hospital employees, especially nurses, suggesting that these services have the potential to provide high uptake rates among hospital staff for HIV and TB treatment services.

While there is considerable research focused on the need for primary prevention of occupational exposures in healthcare, and indeed evidence on the effectiveness of primary prevention measures (e.g. safe needle technology, respiratory protection, etc.) which have constituted the basis for existing WHO Guidelines (see Annex 1), there is considerable evidence that these measures are not being widely implemented (Rebman et al. 2008). Additionally, while there is considerable evidence for the need for secondary and tertiary prevention occupational health services, other than those aimed as early return-to-work post disability which are well-researched, secondary prevention services (e.g. post-exposure assessment and prophylaxis) are sparse (Rebman et al. 2008). Moreover, there are few studies evaluating the effectiveness of such measures, and only a small handful, as discussed below, that evaluate specific policies and practices aimed at effectively treating health workers who are HIV infected and/or at risk of becoming infected with TB within their workplace. Workplace-based treatment of HIV and TB therefore constituted the subject of one of the questions for the Systematic Review, as noted above.

As shown in Table 2, Uebel, Nash, and Avalos (2007) described staff care programmes at McCord Hospital in Durban, South Africa; Mseleni Hospital in northern KwaZulu-Natal, South Africa; and the Tshedisa Institute in Gaborone, Botswana. The interventions are described in this study as providing convenient, confidential, and holistic care for HIV-infected health workers and health workers affected by caring for HIV-infected patients. All three programmes noted an increasing acceptance of counselling, testing, and treatment among healthcare workers. The authors' urged the development of HIV care and treatment programmes for health workers that remove barriers to access, provide confidentiality in testing, are conveniently located, and are integrated with TB programmes and other treatment services.

A study by Leslie London (1998) explored the possible role of occupational health services in prevention and control of AIDS. London and colleagues conducted a telephone survey of a random sample of large manufacturing employers (N=52). London then conducted a second survey through a mailed, self-administered questionnaire that was sent to the entire membership of the local occupational health nurses association working in industry in the Cape Town region (N=98). He found that if occupational health services are to have a role, attention must be given to integrating AIDS prevention in the planning, management, and implementation of activities using appropriate teaching methods. The authors concluded that the emphasis must be on effective education programmes, developed with a critical understanding of the behavioural issues relevant to AIDS prevention. Occupational health services must also put the empowerment of women in the workplace on their agendas.

Corbett's 5-Country Study also substantiated the need to remove barriers to access, provide confidentiality in testing, and provide services which are conveniently located, and are integrated with TB programmes and other treatment services. It was particularly noteworthy that 80% of the health workers who participated in that large study were comfortable with confiding their HIV status to the doctor of nurse responsible for occupational health. The study found that while stigma associated with HIV was strong, health workers did not feel the need to be secretive about being tested or treated for TB, and the great majority indicated that they would choose to be tested at their own facility. Moreover 95% of respondents reported a high interest in annual TB screening and a similar high response to HIV, but often when combined with priority access to ART as part of the annual health assessment. (This will be discussed further in relation to the next Statement.)

With respect to this particularly statement, Corbett's finding that over half the randomly selected facilities had no one (neither a named individual nor committee) responsible for health worker safety, as was the case in 25% of the 'best practice' facilities, and only 10% of the randomly selected, and 20% of the best practice facilities had a dedicated staff clinic.

The need and likely acceptability of this recommendation regarding strengthening OHS services for health workers is highlighted as well by the findings from the 17-country Surveys, namely that currently the implementation of policies and programmes related to this area is very weak.

In response to this need to improve working conditions, the GHWA initiated the Positive Practice Environments (PPE) Campaign, a worldwide campaign to generate public awareness and political will to introduce and maintain improved working conditions and environments within health systems. This is a country and facility-centred initiative focusing on all health care settings. The campaign aims to improve the quality of health services by raising awareness, identifying good practice, and developing tools for managers and health professionals in the field. Working collaboratively, the campaign has been initiated by the International Council of Nurses, the International Pharmaceutical Federation, the World Dental Federation, the World Medical Association, the International Hospital Federation and the World Confederation for Physical Therapy, with the support of the GHWA.

It is noteworthy that the findings from the literature, including the Systematic Review, are consistent with the findings of the Five Country Study of Corbett and the 17-Country Survey. For example, it was noted that uptake of on-site rapid testing was significantly and substantially higher than that achieved through standard-of- care provision of free vouchers for off-site.

Thus , in considering that i) guidelines have been developed by WHO, ILO, ICOH and other international agencies regarding occupational health services, and many countries have developed policies in this regard; ii) the evidence indicates that OHS services are currently not being widely implemented for health workers globally; iii) OH professionals or even trained individuals responsible for OH are often lacking, as are health and safety committees; iv) studies support the cost-benefit of OH services; and there is considerable evidence of the cost-benefit of health promotion activities in the workplace.; v) several studies have been conducted of programmes in which HIV and TB service have been offered in the workplace; the evidence indicated that the uptake of such services at the workplace is high, that comprehensive occupational health programmes have the potential to increase overall health system capacity; and vi) evidence supports the desirability of the healthcare workplace as a preferred site in which to provide HIV and TB prevention, diagnosis, treatment, care and support to health workers.

In reviewing the evidence, the GG also recommended the following:

- The term "health workforce" should include traditional health professionals as well as healthcare support staff (cleaners, laundry, foodservice, maintenance, etc.) as well as volunteers, lay health workers and others who comprise the entire health workforce.
- Infection control is an essential component of occupational health, as control of biological hazards, along with physical, chemical, biomechanical and psychological hazards are all integral to an occupational health service.
- Adequate numbers of occupational health professionals and health and safety committees must be trained.

- Access to sexual and reproductive health services must be included as part of a comprehensive employee health programme.
- Campaigns such as *Positive Practice Environments: Quality Workplaces for Quality Care* should be supported and implemented in the workplace.

2.3.2 Key References and Supporting WHO Guidelines

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Supported by Existing Guidelines:

ILO/WHO guidelines on health services and HIV/AIDS, 2005-

- **Section 7:** The purpose of these guidelines is to promote the sound management of HIV in health services, including the prevention of occupational exposure. Furthermore, the purpose is to ensure that health-care workers have decent, safe and healthy working conditions, while ensuring effective care that respects the needs and rights of patients especially those living with HIV. These guidelines rest on the basic principle that the process of policy development and implementation should be the result of consultation and collaboration between all concerned parties, based on social dialogue and including, to the extent possible, persons and workers living with HIV. They take a rights-based approach to HIV, as promoted by the Declaration of Commitment and the international community at large, expanding on ILO and WHO HIV and occupational safety and health instruments.

  Secton 15b: In the particular context of the health sector, government is, therefore, at the same time, a regulator, an enforcer of regulations, and an employer. It should ensure that these functions are kept separate in order to minimize conflicts of interest and protect the rights of workers adequately, especially where workers' organizations are not recognized. Governments, in collaboration with employers, workers and their representatives, and others with responsibilities for health services, should provide the relevant regulatory framework and, where necessary, revise labour laws and other legislation to include provisions that: (b) promote the implementation of a national system for occupational safety and health management in health

services, including workplace regulations and guidelines aimed at achieving decent working conditions and a safe working environment that treats an HIV occupational exposure incident in a manner consistent with other occupational injuries.

Section 21: Prevention and control of occupational risks related to infectious diseases – including HIV, hepatitis and TB – are more likely to be achieved if considered together with other workplace hazards and risks in health services.

Global Plan of Action on workers' health, 2008-2017-

- **Objective 1.9:** Measures need to be taken to minimize the gaps between different groups of workers in terms of levels of risk and health status. Particular attention should be paid to high-risk sectors of economic activity, and to the underserved and vulnerable working populations, such as younger and older workers, persons with disabilities and migrant workers, taking account of gender aspects. Specific programmes should be established for the occupational health and safety of health-care workers.

2.3.3 Table 5: Recommendation for Statement 3

Recommendation: Develop or strengthen existing occupational health services for the entire health workforce so that access to HIV and TB prevention, treatment, and care can be realized.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Moderate	• Very strong evidence for the first phrase of this statement – specifically there is a large abundance of evidence on the need to strengthen occupational health and safety for healthcare workers –indicating both that OHS are warranted and that they currently are not strong worldwide; numerous WHO and ILO policies, guidelines and statements have been adopted in this regard. • There is very strong evidence on the importance of OHS for TB prevention, diagnosis, treatment, care and support. • There is very strong evidence on the importance of OHS services to reduce blood and body fluid exposure at work; • There is much less evidence regarding strengthening OHS services for the explicit purpose of providing (non-occupationally acquired) HIV services.
Benefits of Desired Effects Disadvantages of Undesired Effects	Very Strong (benefits outweigh disadvantages)	• Reduction of exposures among health workers at work is good for health workers, their families, their communities and the population at large • Early diagnosis and initiation of proper treatment is beneficial for all. • Small increased workload for occupational health staff, unless more resources are provided.
Values and Preferences	Very Strong	• Health workers will appreciate safer and healthier working conditions, and more likely stay in the healthcare workforce
Costs	Strong (may range from minimal to significant investment)	• There will be some costs, but the costs for OHS services are already called for by other WHO and ILO guidelines, such that this recommendation does not require considerable additional cost. • Some evidence suggests that strengthening OHS programmes would be the least costly way to provide priority access for HIV and TB services to healthcare workers • Extent of costs for staff training will depend on implementation strategy (e.g. train-the-trainer; use of peers and in-house personnel) • Costs will be decreased by reduced absenteeism, for which there is some evidence
Feasibility	Moderate-Strong	• Lack of OHS human resources in LIC countries should be considered, but • Many regions already have established occupational health services to be built upon
Overall Ranking	**STRONG RECOMMENDATION**	
Research Gap	See above	

2.4 Statement #4

2.4.1 Develop or strengthen existing infection control programmes, especially with respect to TB infection control, and ensure integration with other workplace health and safety programmes.

The evidence for this statement was reviewed in-depth for the recent *WHO Policy on TB Infection Control in Health-Care Facilities, Congregate Settings and Households* and on infection control generally. and therefore will not be elaborated upon extensively here. These WHO infection control guidelines must be observed in their own right as well as being an essential component of improving health worker access to prevention, treatment, care and support for HIV and TB.

.AS noted in the recent guidelines, the literature review suggests that implementation of controls as a combination of measures reduces transmission of TB in health-care facilities. Administrative controls should be implemented as the first priority because they have been shown to reduce transmission of TB in health-care facilities. Administrative controls are needed to ensure that people with TB symptoms can be rapidly identified and, if infectious, can be separated into an appropriate environment and treated The administrative controls should be complemented by the environmental controls and personal protective equipment, because evidence shows that these measures also contribute to a further reduction of transmission of TB

The environmental controls implemented will depend on building design, construction, renovation and use, which in turn must be tailored to local climatic and socioeconomic conditions. However, installation of ventilation systems should be a priority, because ventilation reduces the number of infectious particles in the air. Natural ventilation, mixed-mode and mechanical ventilation systems can be used, supplemented with ultraviolet germicidal irradiation (UVGI) in areas where adequate ventilation is difficult to achieve. Personal protective equipment (particulate respirators) should be used with administrative and environmental controls in situations where there is an increased risk of transmission.

2.4.2 Key References and Supporting WHO Guidelines

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Supported by Existing Guidelines:

WHO policy on TB infection control in health-care facilities, congregate settings and households, 2009

Section 2.21: Implementation of some controls will require less investment in human resources than others. However, in general, lack of a workforce competent in TB infection control is one of the major barriers to developing and implementing sound policy and practice. Coordinated planning by representatives from programmes in TB, HIV, correctional services, general infection prevention and control and occupational health is required to identify gaps and develop a national human resource plan that will increase capacity within the health system.

WHO. Core components for infection prevention and control programmes, 2008.

IPC programmes are closely related to many activities of occupational health programmes and must work in coordination. Links between public health services and the facilities for events of mandatory reporting. Permanent coordination with activities related to waste management and sanitation , biosafety, antimicrobial pharmacy, occupational health, patients and consumers and quality of health care.

2.4.3 Table 6: Recommendation for Statement 4

Recommendation: Develop or strengthen existing infection control programmes, especially with respect to TB infection control, and ensure integration with other workplace-based health and safety programmes.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Moderate	Strengthening comprehensive occupational health policy is addressed in Statement 3 and supported by existing guidelines, as is the desirability of linking infection control with other workplace health and safety programmes. The need to strengthen TB infection control and the evidence was recently reviewed in-depth for recent WHO Policy. The reason for designating the quality of evidence as moderate as opposed to very strong is because there are no evaluation trials comparing integrated programmes to non-integrated programmes.
Benefits of Desired Effects Disadvantages of Undesired Effects	Very Strong	The benefits of integration and coordination need little explanation, and there are no real disadvantages from a population health perspective.
Values and Preferences	Very Strong	As above.
Costs	Very Strong	Integration should be cost-saving rather than adding cost, as it should help avoid duplication and redundant efforts
Feasibility	Very Strong	In some jurisdictions this integration and coordination is already occurring.
Overall Ranking **STRONG RECOMMENDATION**		
Research Gap	Evaluation using methodology appropriate to assessing complex public health policy interventions would be useful.	

2.5 Statement #5

2.5.1 In conjunction with health workers' representatives, develop and implement programmes for regular, free, voluntary, and confidential counselling and testing for HIV and TB, including addressing sexual and reproductive health issues, as well as intensified case finding in the families of health workers with TB.

This statement has several components. The focus of the discussion below will begin with the issue of involving health workers' representatives. The issues of addressing reproductive health issues and intensified case findings in the families of health workers with TB will be addressed afterwards. It should be noted, however, that both phrases in this statement are supported by existing guidelines, as well as evidence from the literature.

Vaas (2008) used a qualitative study model to examine the role of HIV committees in effective workplace governance of HIV in small and medium sized companies in South Africa. In-depth qualitative case studies were conducted in five South African small and medium-sized enterprises that were actively implementing HIV policies and programmes. Companies commonly implemented HIV policies and programmes through a workplace committee dedicated to HIV or a generic committee dealing with issues beyond HIV. Vaas found that management, through the human resources department and the occupational health practitioner, often drove initial policy formulation, and had virtually sole control of the AIDS budget. These non-statutory committees appeared to co-exist with other statutory committees, facilitating sharing of information and feedback on HIV activities. Vaas noted that committees were seen to be valuable in determining the needs of a workplace VCT programme and can play an essential role in bridging communication between front-line staff and management. Advancing strong conclusions regarding committees, Vaas stated: "The single most effective intervention for meaningful HIV governance would be the support and empowerment of employee representatives and shop stewards at the workplace."

As noted in the discussion of Statement #3, Morris and Cheevers (2001) found that the issues that were important in the formation of a workplace committee to oversee an occupational-based HIV package, included confidentiality, trust, and the traditional roles of the stakeholder relationships. When these points were addressed through the focus on a common goal, the committee was able to fulfill its role as a coordinating body. The authors concluded that central to success was the inclusion of all stakeholders in the process, including those with traditionally opposing interests. The experience they describe in this sugar mill demonstrated the benefit of a workplace committee dedicated to addressing HIV issues.

Yassi et al. (2009b) recently published the results of a baseline study conducted at Pelonomi Hospital in Free State, and also noted the importance of health and safety committees in addressing occupational health and infection control generally, as well as prevention, treatment and case for HIV and TB specifically. This study built on earlier work evaluating the value of labour-

management health and safety committees in healthcare (Yassi et al. 2005) and highlighted the importance of committee member training.

In an international workshop of the International Commission of Occupational Health, attended by approximately 50 participants from 12 countries (Rebman 2008), it was concluded that health and safety committees have an important role to play worldwide, and where occupational health services are not well-developed or fully-resourced, occupational health committees provide a way to draw attention to workplace health and safety issues and support workplace exposure prevention activities. In many parts of the world, these committees have facilitated workers' active participation in detecting workforce health concerns, raising awareness of problems to management, finding solutions, and making decisions about programmes and services. These committees should include representatives elected by the workforce, rather than appointed by management, and management representatives.

As noted, for example, by PAHO (2006), in collaboration with occupational health professionals, health and safety committees can coordinate four important spheres of activities: monitoring the work environment; employee health surveillance; education and training; and occupational health services (e.g. first aid, vaccinations) (Rebman et al., 2008). Examples were provided from various low and middle-income countries in which health and safety committees were responsible for the implementation of hospital-based micro projects and delivered training sessions on occupational health and infection control to health care workers, including training on the prevention of needlestick injuries as well as on universal precaution principles. Committees also advocated on behalf of the workforce to hospital managers for the accessibility and availability of equipment and training to improve the safety of the hospital environment. (Lavoie et al., 2010)

The study by Kiragu and colleagues conducted in Zambia in 2008 (profiled in Table 2) is also particularly relevant to this statement. The objective of the study was to develop and test an HIV risk reduction workplace programme for hospital staff. This intervention included a peer education programme. Two hospitals were selected where the intervention would be implemented, and three other hospitals served as comparison sites. The workplace based programmes in the intervention hospitals reported higher HIV knowledge, lower stigma, and greater awareness of PEP. It was also noted that not all hospital staff are heterogeneous, with both clinical and non-clinical staff having varying levels of understanding regarding HIV and TB transmission, and that these different needs must be considered when designing and implementing a programme. Yassi et al (2009b) also found that knowledge, and more importantly, health workers' confidence in their own knowledge, differed by occupation, and concluded as well that the different levels of knowledge and confidence amongst members of health and safety committees, must be addressed in building capacity of health and safety committees to address occupational health and infection control issues generally.

The systematic review and key informant interview study conducted by Mahajan and colleagues (2007), while not addressing the issue of health worker committees, did indeed find that trade union involvement was important for success. However they noted that in a study of 302 union shop stewards from firms representing 10 different sectors, only 15% reported that their union discussed HIV issues with the employer, 52% reported an existing HIV workplace policy and only

15% reported that they had received a copy of the policy. As noted by Vaas (2008), union officials have many issues to address, and may not have the capacity needed within their existing resources to fully address this issue; health and safety committees would therefore take on particular importance in this regard.

A study conducted by the Industrial Health Research Group and the South African Municipal Workers Union (2005) to explore attitudes, experience, culture and practices of occupational health and safety for health care workers characterized the situation they found at that time as a culture of reactivity and minimal compliance, in which management did not actively engage with workers and ask for their input in developing health and safety practices in clinics. Corbett's 5-country study lent support to involving health and safety representatives in noting that there is currently poor communication to staff.

Tarwireyi et al. published a study in 2003 that aimed to determine the proportion of health workers who had undergone VCT for HIV in three rural districts in Zambia while also exploring reasons for non-participation in those who had not been tested. The authors concluded that programmes should have a strong counselling component and should focus on self-efficacy so that health workers will be able to cope with HIV results and have the courage to participate in VCT. The authors also state the counselling, testing, and treatment programmes to date have been directed at the general population and have neglected the high-risk health workforce. Therefore, effective programmes should be created with direct input from unions, front-line workers, and management to ensure that the specific needs of this population are being met.

The Systematic Review conducted to support the Guideline development process identified few intervention studies in which model programmes were properly evaluated, and none specifically evaluated the importance of health and safety committees. In the realist review, the support of unions, and involvement of front-line health workers, especially those living with HIV, were highlighted by investigators in determinants of successful programmes.

To turn now to the issue of case finding within families of health workers with TB, it should be noted that WHO guidelines address this issue - -and there seems to be little controversy that this should indeed be implemented. All ten countries surveyed in the WHO led study of country policies reported free treatment of TB for family members of health workers.

The 5-country study conducted by Corbett did indeed note that provisions for families was important and that considerable strengthening is needed around access to HIV testing and care for family members of healthcare workers. Corbett found that only one of the five countries studied (Zimbabwe) had a budget or training schedule to provide ART for families of health workers. Treatment of TB in family members of health workers is currently provided only in two of the five countries (Mozambique and Zimbabwe). Thirteen percent of randomly selected facilities surveyed and fifty percent of best practice facilities had written guidelines accessible for priority access to ART for family members of staff. The WHO Multi-Country Survey found that family members of healthcare workers accessed ART services through general services as did the rest of the population or at special service at the employee's 'own' facility if available.

In a qualitative study, reported by Galvin and De Vries (2008) based at the Swaziland HIV centers for health workers, about half the respondents supported including family members for priority access to ART, while half felt that including family members would anger patients on waiting lists. It is thus noteworthy that the statement above focuses on TB case finding, NOT including families for priority access to ARV.

Our search of website sources revealed that not only have there been few solid intervention evaluations, there are few model programmes available for the implementation of free VCT services for health workers. The Treatment Action Campaign (TAC) states that there needs to be better access for health workers to HIV treatment for themselves and their families before they can continue to roll out ARV initiatives to the general public. However, this website offers little information about HOW this should be done.

A brief report was found on a website linked to UNAIDS entitled; "Botswana Trade Unions Put HIV High on the Agenda." (http://www.ilo.org/public/english/protection/trav/aids/events/wad08/stories/botswana.pdf) This document reports that with support from the ILO's Strategic HIV Responses in Enterprises (SHARE) programme, the trade unions have developed a five-year HIV strategy, which focuses on improving access to prevention, voluntary counselling and testing, treatment and support services for its members and their families. These are rolled out at workplace level by a team of peer educators. This programme has been extended and recently carried out a survey to measure the impact of the project. The results indicated that implementation of workplace services and policies coupled with awareness-raising work had resulted in a significant reduction in workers' fears that they could be dismissed or be denied promotion because of their HIV status.

In reviewing the evidence, the GG concluded that involvement of front-line health workers and those they elect to represent them, including the unions representing the healthcare workforce, and people living with HIV and/or TB, can play a major positive role, along with promoting self-efficacy and peer-education. The involvement of health and safety committees or worker representatives is vital to the successful uptake of newly developed HIV and TB workplace programmes. Policies should be in place to ensure appropriate management, union and worker representation. Issues of confidentiality and stigma should be carefully considered, and champions to advocate for testing should be identified and empowered.

2.5.2 Key References and Supporting WHO Guidelines

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Supported by Existing Guidelines:

ILO/WHO guidelines on health services and HIV/AIDS, 2005- Section on VCT:

- Voluntary disclosure by an individual of his or her HIV status has many consequences and can be only a personal decision. Confidentiality at the workplace means that persons with HIV have full control over decisions about whether and how their colleagues are informed. Health-care workers should understand they have a right to confidentiality and have no obligation to respond if asked about their sero-status by patients or their families. Healthcare workers may decide against disclosing their HIV status at work for fear of dismissal or stigmatisation by the employer or fellow workers. In a safe and decent workplace, where health-care workers are educated about HIV and where discrimination is prohibited and absent, people living with HIV are more likely to be open about their status, seek counselling and treatment, and attend prevention programmes. This in turn enhances the potential for the practice of preventive behaviours and appropriate placement.
- 68. The confidentiality of all records of health-care workers who have been exposed to blood or body fluids should be maintained. Summary information regarding all incidents of exposure in a particular health-care institution may be made available to all workers and their representatives in a form that has been agreed through consultation between the employer and the workers' representatives. Procedures should be established to manage and minimize breaches of confidentiality in the workplace, in accordance with national laws and regulations.

ILO/WHO PEP guidelines, 2008

- 2.2.2 Confidentiality Personal information relating to PEP, such as the reasons for seeking it, having it provided and for HIV testing, needs to be confidential. Privacy and confidentiality considerations are the same as those for HIV testing.
- 2.2.3 Informed consent Informed consent for HIV PEP needs to be obtained in the same way as for any other health care procedure. Consent to any HIV testing in the context of PEP must also be obtained, in accordance with standard guidelines for HIV testing and counselling. HIV testing and counselling is often referred to as voluntary counselling and testing, when initiated by the beneficiary, or provider-initiated testing and counselling, when proposed by the services provider.

2.5.3 Table 7: Recommendation for Statement 5

Recommendation: In conjunction with health workers' representatives, develop and implement programmes for regular, free, voluntary, and confidential counselling and testing for HIV and TB, including addressing sexual and reproductive health issues, as well as intensified case finding in the families of health workers with TB.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Moderate	• There is a fair amount of literature supporting the benefits of worker representatives in workplace health promotion and disease prevention programmes, as well as in HIV programmes specifically. • There are many commentaries, resources and best practices available on trade union websites to support this recommendation.
Benefits of Desired Effects Disadvantages of Undesired Effects	Strong (benefits outweigh disadvantages)	• Direct input from all stakeholders would result in improved "buy-in" from all. • Worker representatives would help ensure that testing is indeed voluntary and confidential. • Stigma associated with testing in the workplace must be appropriately addressed and considered as an undesired effect of programme implementation; again, worker representative involvement should be able to help in this regard. • TB case finding in families is necessary to decrease TB transmission within the household.
Values and Preferences	Moderate	• Health workers would appreciate the involvement of their representatives. • Health workers would appreciate the extension of TB care to their families. • Health workers will also appreciate the convenience of reproductive health issues being addressed in the workplace.
Costs	Moderate-High	Increased by: • Recruitment and training of dedicated counsellors • Costs associated with reaching families of HCWs Decreased by: • Less time spent away from work due to illness or caring for ill family members
Feasibility	Strong	Social dialogue is vital to ensuring employers and workers alike have some sense of ownership of the programme.
Overall Ranking	STRONG RECOMMENDATION	
Research Gap	See above -Statements #1 and #2	

2.6 Statement #6

2.6.1 Develop and implement training programmes for pre-service, in-service and continuing education on TB and HIV prevention, treatment and care services, integrating with existing programmes and including managers and worker representatives as well as health workers.

This statement has several components which underline the importance of training programmes and include ongoing education concerning prevention, treatment and care.

As noted recently in the *Lancet* (Baleta 2008), while in-service training provides an immediate response to an acute need for rapid HIV prevention, care, and treatment scale-up, training needs evolve over time. The increased requirements for more robust training place additional pressures on in-service training delivery and require an adaptation of training initiatives. HIV medicine is a rapidly evolving science with a short half-life of current knowledge. More mechanisms need to be built into training programmes in resource-limited settings to provide staff with regular updates on HIV knowledge. A practical solution to this dilemma is strengthening pre-service education accompanied by continuing professional or health worker education programmes.

Several organizations are offering training materials, including trade unions and associations of health professionals, such as PSI's "Focus on Health" periodicals. (http://www.world-psi.org/TemplateEn.cfm?Section=PSI_publications&CONTENTID=19238&TEMPLATE=/ContentManagement/ContentDisplay.cfm), and many NGOs.

Training and education on "care" explicitly must include sexual and reproductive health as well as occupational health issues. The WHO document: "*Integrating gender into HIV/AIDS programmes in the health sector: Tool to improve responsiveness to women's needs*" (WHO 2009) provides details on how to effectively train programme managers and service providers to incorporate gender-responsive actions into their daily work and how to integrate gender into pre-service and/or in-service basic HIV training curricula.

Although in-service training courses are needed as a short-term response to disseminate new knowledge in HIV and TB prevention, care, and treatment, the proper education of all health professionals and health workers generally is essential, along with the timely integration of adequate and regularly updated comprehensive HIV and TB training into pre-service curricula of all cadres of health workers. Continuing collaboration between WHO, partners, and ministries to rapidly produce and continuously update strong HIV and TB content for pre-service education and continuing health professional and health worker education is needed. Key HIV and TB training (including education and training on infection control at the workplace; VCT; antiretroviral therapy; sexual and reproductive health services including preconception planning; maternal and child health; prevention and management of gender based violence; and sexually transmitted infection management) should be integrated with other HIV and TB services.

It is also noteworthy that the programmes identified in the Systematic Evidence Review highlighted training as essential. For example, recommendations from the 70-site RSA workplace programme

included the need for continuing education about HIV/ART, being respectful, and addressing the issues of infected partners and stigma (Charalambous et al. 2007a). Additional training needs identified by the providers included counselling of family and friends, family planning, sexually transmitted infections and running support groups. As shown in Table 10, other authors echoed this conclusion.

The Guideline Group stresses the following:

- Specific training is necessary for workplace managers, workers' representatives, health and safety committee members, and any front-line workers who may be exposed to blood or other body fluids.
- Education and training should include a basic level of information about how HIV and TB are transmitted in addition to how risks of transmission (both occupational and non-occupational) can be minimized.
- Stand alone training curriculum and/or tool kits should be developed. A comprehensive tool kit that would allow for trainers to pick and choose training sessions/exercises based on the needs of their target audiences.
- As stated in the Joint ILO/WHO guidelines on health services and HIV "appropriate training is necessary of personnel at all levels of responsibility in order to increase understanding of HIV and to help reduce negative and discriminatory attitudes towards colleagues and patients living with the disease."
- This training should provide health workers with:
    - **information** on the modes of transmission of HIV , TB, and other infectious diseases (both occupational and non-occupational risks), the level of occupational risk, to address the fear of physical contact with patients and provide a platform for continuous learning;
    - **inter-personal skills** to help health workers understand the impact of HIV, TB and the burden of stigma, and provide them with the tools to communicate with patients, colleagues and others in a respectful and non-discriminatory manner;
    - **techniques to manage stress and avoid burnout**, such as through the provision of appropriate staffing levels; more opportunities for front-line worker involvement; determining shift patterns; work rotation; promotion and personal development; early recognition of stress; development of communication skills for supervision; staff support groups; and time away from the workplace;
    - **awareness of existing legislation and regulations** that protect the rights of health-care workers and patients regardless of their HIV status.
- Training must go well beyond the provision of information. While misinformation about modes of transmission and the magnitude of occupational risk, may well underlie stigmatizing attitudes, there is more required than simply the provision of correct information to shift stigmatizing attitudes.

2.6.2 Key References and Supporting WHO Guidelines

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World Health Organization. (2009). Integrating gender into HIV/AIDS programmes in the health sector: Tool to improve responsiveness to women's needs.

Supported by Existing Guidelines:

ILO/WHO guidelines on health services and HIV/AIDS, 2005- training 78,79

- 78. Education and training should be designed to meet the needs and situations of the different groups being educated or trained. Employers should consult the relevant authorities for further information on training and collaborate with workers and their representatives, and professional associations, in the development of education programmes and training materials. To the extent possible, larger hospitals, particularly teaching hospitals, and other specialized health services should cooperate in developing knowledge-exchange mechanisms designed to provide education, training and information to smaller health services, including occupational health services, and to community services and home caregivers. Private hospitals and clinics should be encouraged to help to

facilitate the effective flow of knowledge and skills in the national health-care system. They should seek up-to-date scientific knowledge from national, and international, academic and research institutions, including professional associations.

- 79. The employer should ensure that health-care workers at all levels are provided with the information and training they need to maintain, update and improve their skills and knowledge as required. Information and training programmes for health-care workers should enable them to:

(a) increase awareness of the risks of exposure to blood-borne pathogens;

(b) understand the modes of transmission of blood-borne pathogens, with particular emphasis on HIV, hepatitis B and hepatitis C;

(c) identify and anticipate situations where they may be exposed to blood-borne pathogens;

(d) apply the hierarchy of controls to prevent exposure;

(e) follow standard precautions and other workplace practices for safety and health;

(f) use and handle equipment and personal protective equipment and clothing;

(g) be aware of their legal obligations regarding OSH;

(h) report promptly and accurately to the designated person in the workplace any exposure to blood or body fluids;

(i) initiate post-exposure follow-up and prophylaxis as appropriate according to assessed transmission risk level;

(j) apply social dialogue processes to improve workplace practice;

(k) support or take part in an OSH committee.

2.6.3 Table 8: Recommendation for Statement 6

Recommendation: Develop and implement training programmes for pre-service, in-service and continuing education on TB and HIV prevention, treatment and care services, integrating with existing programmes and including managers and worker representatives as well as health workers.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Weak	There is evidence of the need for training to support programme implementation in general; there is evidence for the need for training pre-service (e.g. in educational institutions) as well as during active duties. The nature, components and length of the training have not been well-established.
Benefits of Desired Effects Disadvantages of Undesired Effects	Very Strong	Training, and increased knowledge can only be an advantage. There are no disadvantages to improving the level of knowledge, skills and attitudes.
Values and Preferences	Very Strong	The GG very strongly believes in the benefits of improved knowledge, acquired through training and education at all levels. Providing training and education not only to health workers and those who care for health workers, but also managers and worker representatives is essential
Costs	Conditional to country setting	Cost depends on the nature and extent of training deemed appropriate, and the extent to which training programmes are already in existence, such that the HIV and TB components can be integrated.
Feasibility	Conditional to country setting	Some jurisdictions are already providing aspects of this training.
Overall Ranking	**STRONG RECOMMENDATION**	
Research Gap	The most effective nature, manner, content, length and frequency of training can benefit from more research	

2.7 Statement #7

2.7.1 Disseminate policies in the form of guidelines and codes of practices for application at the level of health facilities, and ensure provision of budgets for the training and material inputs to make them operational.

Even when there is a strong consensus on policies and codes of practices related to HIV and TB in health workers, actual Guidelines and Codes of Practice in this regard are not widely available or accessible, nor are training materials in this area, and are not being widely implemented.

Budgets for training and material inputs are generally lacking, and require attention.

Guidelines and codes of practice related to health workers, HIV and TB must be widely available and accessible. Training materials in this area must also be widely implemented and available for all front-line workers, management and other key stakeholders. Dissemination should be systematic (for distribution, orientation, training, monitoring and feedback) and policy distribution must be undertaken across all sectors.

Political "territorism" of sectoral ministries should be considered and avoided by ensuring that codes of practice clearly specify roles and responsibilities for all parties (from the various units within Health and Labour ministries and departments, to hospital-based personnel including experts in human resources, infection control, HIV, TB, public health and occupational health, and others as appropriate, such as reproductive health for specific functions)

While clinical guidelines regarding the diagnosis and treatment of HIV and TB exist in abundance, there is a lack of internationally accepted guidelines and codes of practice for implementation for healthcare workers at the level of health facilities.

Whelan and colleagues (2008) analyzed 14 recognised codes and guidelines to gain an understanding of the theoretical consensus regarding the key components of best-practice workplace HIV interventions. Nine key components of best practice were drawn from the analysis; interviews aimed to verify these components by determining the extent to which HIV practitioners in South Africa share a similar understanding of best practice. There was a high level of agreement between the practitioners who were interviewed and the codes and guidelines that were analysed concerning what best practice entails. However, reported usage of the recognised codes and guidelines to inform workplace HIV interventions was low.

Mahajan and colleagues (2007) had also noted that although the legal apparatus establishes the groundwork for employers to develop workplace policies, further guidance on operationalizing the legal provisions and developing comprehensive programmes are needed. The South African Code of Good Practice on HIV and Key Aspects of Employment (1998) was developed by the South African Department of Labour in consultation with national trade unions, and Technical Assistance Guidelines were produced that offer a step-by-step tool for managers and unions to cooperatively develop local policies and programmes. Although available evidence demonstrates uneven awareness and adoption of the provisions, no research has been conducted to ascertain the reasons

for this. Likely the insight provided by Corbett's 5-Country Study provides some answers in this regard, as noted below.

Some materials have been produced by trade unions, and their international organization, Public Service International, as discussed above. Trade unions and health and safety committees have an important role to play in this area, as will be discussed further with respect to Statement 8.

The WHO Survey presented the following conclusions relevant to the dissemination of policies in the form of guidelines and codes of practice: Overall, there was no wide dissemination of policies; a scheduling plan is not comprehensive and not consolidated; costing has been undertaken in some of the countries, but is still lacking; and overall management of dissemination and implementation of policies needs attention

The 5-country study by Liz Corbett also identified substantial gaps in the implementation of current policies, especially in regards to health workers' entitlements, rights, and access to HIV/TB prevention, testing and care due to lack of information or resources, and unclear or absent allocation of responsibility. The study noted that even when good policies exist at the national level, they often do not filter down to the facility as a consequence of lack of training, inadequate information and insufficient documentation providing guidance on how to implement the policies.

2.7.2 Key References and Supporting WHO Guidelines

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Supported by Existing Guidelines:

ILO/WHO guidelines on health services and HIV/AIDS, 2005- 19f, 41 f(3); training 77,78,79

- 19f: Health policy needs to cover and promote collaboration among all relevant institutions including teaching, district and private hospitals and clinics, occupational health services, community health services, dispensaries and home-based care associations, and faith-based and other national and international NGOs. Governments should therefore: prioritize, and make adequate budgetary provisions for, human resources, infrastructure, equipment and materials for effective service delivery to patients and protection of health-care workers.
- 41 f(3); The goal of risk control is to follow the hierarchy of controls, selecting the most effective control measures in order of priority for their effectiveness in minimizing health-care workers' exposure to blood or body fluids, or preventing injury or illness resulting from exposure.
- (f) Personal protective equipment (PPE): The use of PPE is a control measure that places barriers and filters between the worker and the hazard. Employers should make available equipment to protect workers from exposure to blood or body fluids. They should ensure that workers have access to these items free of charge;

2.7.3 Table 9: Recommendation for Statement 7

Recommendation: Disseminate policies in the form of guidelines and codes of practices and provide budgets for training and materials.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Moderate	It is well-established that appropriate budgets and resources should be allocated for dissemination and training to fully operationalize guidelines, policies and procedures – regardless of the area; specific evaluation of interventions in this specific area were not sought by the GG, as the information was deemed transferable from other settings (i.e. "indirect" – hence grading of evidence is deemed "moderate" not strong or very strong.)
Benefits of Desired Effects (Disadvantages of Undesired Effects)	Strong	Fully implemented up-to-date and relevant evidence-based policies and guidelines are beneficial. No undesired effects unless codes of practice are written in a manner that fails to take context into account.
Values and Preferences	Strong	• Health authorities will feel supported in adopting policies and procedures • Less likely to be confusion as to who is responsible for what, and less likely that important programme elements will fall through the cracks. • It is thought that a major reason why policies are not implemented is the lack of understanding how to implement them and lack of budget to train staff and implement the policy. This recommendation addresses this.
Costs	Conditional to country setting	• Dependent upon existing infrastructure and capacities
Feasibility	Conditional to country setting	• Requires collaboration across sectors • Strong commitments are needed to ensure sustainability
Overall Ranking	**STRONG RECOMMENDATION**	
Research Gap As for other recommendations, rigorous implementation evaluation trials are desirable.		

2.8 Statement #8

2.8.1 Adapt and implement good practices in occupational health and the management of HIV and TB in the workplace from all sectors.

In 1999, Michael K conducted a survey of 14 large companies in South Africa in an effort to document the best practices of managing HIV in the workplace. The results indicated that companies conceptualize HIV as either a health or poverty issue and that the effects of AIDS on the workplace environment takes second priority to economic downturns, labour action or inflation. However, a study by Campbell et al. also published in 1999, using case studies and key informant interviews to assess novel approaches to HIV prevention programmes in a South African mining company, found that interventions must be holistic and include trade union representatives as well as a wide range of other stakeholders. Campbell also stresses that the broader contextual factors such as socioeconomic factors that lead to HIV transmission must be considered as opposed to simply biomedical indicators. This is a model concept occurring in private industry that should also be adopted for healthcare worker occupational health programme that deal with management of HIV and TB.

Morris and Cheevers (2001) focused on the dire situation in KwaZulu-Natal, South Africa, employing the occupational health setting to provide an intervention with prevention, education and treatment components. A multidisciplinary committee composed of stakeholders in the occupational health environment including unions, management, medical researchers, and medical personnel was organized to coordinate a combined prevention-care initiative. They calculated that the programme averted 11 HIV infections in a single year of the programme in this sugar mill with 386 workers (a calculated 91.7% decrease in HIV infection), and concluded that providing a package of care for HIV provided through occupational health clinics is well supported.

A noteworthy study by Rosen and colleagues (2004) conducted in South Africa and Botswana aimed to estimate the costs of HIV to the private sector in an effort to demonstrate the value of prevention and treatment options to businesses. Detailed human resource, financial, medical data, and anonymous HIV seroprevalence surveys were analyzed. Results indicated that HIV amongst employees added 0.4-5.9% to the companies' annual salary and wage bills and that the "present value" cost of an incident HIV infection ranged from 0.5 to 3.6 times the annual salary of the affected worker, highlighting the great potential benefit of prevention in purely economic terms. The authors concluded that additional focus and research on the effectiveness of workplace AIDS interventions are urgently needed. This study is particularly relevant to this document as it concretely reveals that solutions currently being implemented in private industry could also have positive cost saving results in healthcare settings. These findings are also relevant to the next Statement which urges the provision of adequate financial resources for programmes to prevent the occupational or non-occupational transmission of HIV and TB.

A subsequent study by Connelly and Rosen (2006) also conducted in South Africa aimed to determine the proportion of employees at private-sector companies in South Africa who have access to HIV care and treatment, including antiretroviral therapy; the number of employees

enrolled in disease management programmes; the number receiving ART; and which approach to the financing and delivery of care is proving most successful at reaching eligible employees. The study included a telephone interview with structured questionnaires and included 52 private sector companies with over 6,000 employees. The authors found that in-house and independent disease management programmes had higher uptake of services than medical aid schemes. While this study was not an evaluation of an intervention, and therefore was excluded from the Systematic Review, the findings do provide strong evidence to support the design and implementation of workplace treatment programmes in the healthcare setting.

An additional study by Feely et al. (2007) reviews existing data from the African region. This study found that workplace clinics report impressive results in patient recruitment. The authors also determined that health insurers are removing AIDS exclusions and expanding AIDS coverage, in some cases with targeted lower cost policies.

Mahajan et al. (2007) conducted an overview of HIV workplace policies and programmes in Southern Africa. They noted that in May 2006, the Global Business Coalition on HIV documented the programmatic activity of 75 "best practice" members, and concluded that African companies and multinationals operating in Africa are leading the way in implementing workplace programmes. As little is known about the operational challenges of workplace programmes, they conducted a systematic review of articles available by databases until April 2006, and supplemented this with papers and reports from conferences, and the grey literature, as well as conducting key informant interviews. They concluded that successful workplace testing campaigns were those that had consulted all the major stakeholders, including union leaders and peer educators, distributed communications packets and conducted briefing sessions prior to implementing the programme. They noted one comprehensive study conducted by Dickinson (2006) of five large South African companies representing more than 120,000 employees, highlighting the important role of peer-educators. Unfortunately, as consistent with our own efforts, Mahajan and colleagues (2007) was only able to find one analysis of peer-educator programmes targeting HIV prevention in the workplace (Sloan and Myers, 2005). These authors found that exposure to the programme did not significantly improve knowledge, attitudes and practice compared to a company that did not have this programme. As noted by Mahajan and colleagues (2007), the quality of training of peer educators, sufficient time allotment for educational sessions, and adequate buy-in from local unions and line managers are important factors that may explain this finding. The authors themselves, however, had very interesting conclusions regarding their findings which are noteworthy for this Guideline development process. The authors interpret the findings that the peer-education programme was ineffective as it "only gestures at action", in contrast to more comprehensive and potentially effective HIV care programmes that include ARVs. They note that findings from this study resulted in the continuation of the peer-education programme with significant adaptation to obtain more substantial buy-in from senior management, and making ART accessible free to the entire workforce. (We note that the Sloan study was not included in the Systematic Review because of its cross-sectional design with no comparison group, and also because the intervention studied, peer-education, was not sufficient for inclusion as a workplace intervention targeting the diagnosis and treatment of HIV and/or TB.)

As described above, in addition to the preliminary literature search, a Systematic Review was conducted by our team to properly assess the evidence from interventions in the private sector as well as public sector, for all sectors, not just healthcare. As shown in Table 10, which profiles the studies identified in PICO #3, and reported upon above, Corbett's cluster-randomized trial in Zimbabwe provided strong evidence that occupational health clinics at the workplace can provide convenient, accessible and acceptable venues for dramatically increasing VCT uptake. In this study randomly assigning workplaces to either on-site rapid HIV testing or vouchers for off-site VCT at a chain of freestanding centers, the mean uptake of VCT was over 51% for the workplace site arm compared to only 19% for the off-site arm.

Four publications were included in the Systematic Review from private sector HIV programmes conducted by the same group, namely Charalambous, Fielding, Stenson, Brick, Grant, Day et al. from the workplace ART-programme in South Africa led by the Aurum Institute of Health Research, in conjunction with university colleagues from South Africa, the UK and the US, and with the support of the Anglo-American group. Strong objective information (e.g. decreased viral loads, increased VCT uptake) was presented, and factors that hinder the success of the programme were identified. Combined with the study of Feeley and colleagues in Rwanda, and the excellent cluster-randomized study by Corbett and colleagues in Zimbabwe, considerable evidence exists to support workplace-based programmes for HIV.

As shown in Table 10, Feeley et al. for example, concluded that the Heineken Rwanda VCT programme is an encouraging example of the role that employer-based programmes can play in helping HIV-positive employees and dependents gain access to care while reducing the negative impact of AIDS in the workforce. They recommended that HAART be offered as part of a comprehensive employer AIDS programme, couple testing should be encouraged. They also noted the need for strong support from local management, involvement of people living with HIV in worker education programmes from the very beginning, and carefully securing confidentiality. Uebel and colleagues in discussing the in-house programmes offered at three health care facilities in southern Africa, notes that the programme led to positive reinforcement and improved morale, as staff observe clinical improvement in their colleagues and become aware of where to access treatment. They noted that successful treatment of staff also contributed to a decrease in stigma and a greater willingness to discuss HIV infection status and treatment. Further, they noted that critical to programmatic success is the involvement of well- respected and trusted staff members as counsellors, clinicians, and advocates of the programme. Providing holistic, comprehensive care and tackling burnout among health workers. In addition, these authors note that incorporating HIV services for health workers into comprehensive workplace health services instead of within specialized ART clinics normalizes this disease and reduces stigma.

The findings of Corbett's 5-Country Study also strongly support the use of the healthcare workplace as a venue in which to provide HIV and TB prevention, diagnosis, treatment and care for healthcare workers. Considerable evidence, as noted above, was produced to substantiate the acceptability, and indeed desirability, of this option, provided that appropriate confidentiality and anti-discrimination policies are in place, and that adequate training and resources are provided.

Thus, while adopting good practices in occupational health and the management of HIV and TB should be highly promoted on a rights basis, there is also evidence to indicate that it is also good business, and as there is no reason why good practices in one setting should not be adopted and adapted to other settings. Some noteworthy findings from private industry include the need to actively involve trade unions if programmes are to be acceptable and effective. Private industry programmes that seem to have worked well are those that are most holistic in their approach. Providing in-house HIV and TB services are well-received and preferred to a system of providing health workers with vouchers to seek care where they wished. Concerns regarding confidentiality and stigma reduction must, however be addressed. This is an important finding and is highly relevant to the public health care system. While more research on the cost-benefit of services is needed, what evidence does exist is sufficient to promote the adoption of policies for the healthcare sector that seemed to have worked well in the private sector.

In considering all the evidence presented and in discussions which ensued, the GG decided to stress the following:

- The term "all sectors" must include government, private industry, non-governmental organizations, and civil society.
- The involvement of trade unions and health professional organizations must also be stressed if programmes are to be acceptable and effective.
- A mechanism must be established to learn about best practices in all sectors.
- Information about best practices should be centralized., and mechanisms for quality evaluation of best practices should be used.
- Programmes should take a holistic approach.

Table 10: Results for PICO #3

SOURCE	SETTING	DESIGN	INTERVENTION	FINDINGS	STRENGTHS	WEAKNESSES
Charalambous S, Grant AD, Day JH, et al. Establishing a workplace antiretroviral therapy programme in South Africa. *AIDS Care.* 2007 Jan;19(1):34-41.	70 ARV sites of a multinational company with 140,000 employees in South Africa	Longitudinal study of HIV workplace programmes; monthly reports generated.	Workplace HIV programme delivered via workplace health services, and managed by a health systems and research unit (see below); patients are enrolled when HIV+; ART, INH, cotrimoxozole are provided as per WHO guidelines.	- Good retention in the programme and good viral response. (see below) - The authors reported that early face-to-face practical training of health practitioners running the programme was important, with intensive support for the first few weeks, and on-going training. They reported that in companies where HIV facilities already existed, implementation was easier and uptake faster. They also found that workers feared loss of earnings from taking time off work to be treated and note that systematic follow-up was needed, as was employing a fulltime counsellor, as stigma and discrimination remained a major obstacle - During the study period, 2456 patients began ART. - Of those on treatment for at least three months, 1728 (78%) were retained on the programme and only 38 (1.7%) patients failed the first-line ART regimen	This was a large study with a well-described HIV care programme, which offered useful observations. (also see below)	The uptake rate was not provided, only the numbers, and it is not clear what methods were used to derive the conclusions, so this may be subject to bias in favour of promoting the programme
Charalambous S, Innes C, Muirhead D, Kumaranayak	Across South Africa (see #1 above)	Programme evaluation of viral load, CD4 count	Standardized, centrally managed, nurse-based ART	- CD4 counts increased, viral load decreased and cost per patient (worker)	Large study using comprehensive database	The comparison is over time (trends) with

SOURCE	SETTING	DESIGN	INTERVENTION	FINDINGS	STRENGTHS	WEAKNESSES
e L, Fielding K, Pemba L, et al. Evaluation of a workplace HIV treatment programme in South Africa. *AIDS* 2007;21 Suppl 3:S73-8.		and cost trends over time (6, 12 and 24 months)	programme providing free treatment to all employees of the company.	decreased over time. - Authors reported that retention and treatment adherence were key concerns in the programme, which were addressed by emphasis on counselling of patients, and ensuring adequate staffing levels, with sufficient training and support. High programme loss rate (death, loss of employment and defaulting treatment) were reasons for loss - The viral load was suppressed below 400 copies/ml in 75, 72 and 72% of patients at 6, 12 and 24 months, respectively, at an average cost of US$1654, 3567 and 7883 per patient virally suppressed, respectively. -Treatment outcomes in sequential cohorts of patients were consistent over time. - A total of 93.6% of patients at 14 752 clinic visits reported missing no tablets over the previous 3 days. Almost half the patients (46.8%) experienced one or more adverse events, although most were mild (78.7%). - by end of the study, 30% of patients were no longer on ART, mostly because of defaulted or stopped	to monitor clinical and cost outcome over time.	no comparison group, weakening the conclusions. Also, there are several possible biases in the study, and details of methodology are not provided to evaluate the extent of these potential concerns.

SOURCE	SETTING	DESIGN	INTERVENTION	FINDINGS	STRENGTHS	WEAKNESSES
				treatment (12.8%), termination of employment (8.2%), or death (4.9%)		
Corbett EL, Dauya E, Matambo R, et al. Uptake of workplace HIV counselling and testing: a cluster-randomised trial in Zimbabwe. *PLoS Med.* 2006 Jul;3(7):e238.	Zimbabwe (small and medium-sized businesses)	Cluster-randomized trial, of two VCT strategies (12 businesses in each arm, with 3950 employees randomized)	Workplace HIV counselling, testing and treatment programme-offered either within the occupational health clinic of the business or off-site.	- Uptake of VCT with on-site rapid testing was significantly and substantially higher than voucher uptake (51% compared to 19.2%), with the true adjusted risk ratio for on-site compared to off-site VCT being as high as 12.5%(95% CI 8.2-16.8).	An important study, well-designed and appropriately analysed.	Conclusions can only be extrapolated to programmes that provide comprehensive care – i.e. counselling and follow-up.
Dahab M, Charalambous S, Hamilton R, Fielding K, Kielmann K, Churchyard GJ, et al. "That is why I stopped the ART": patients' & providers' perspectives on barriers to and enablers of HIV treatment adherence in a South African workplace programme. *BMC Pub Hlth* 2008;8: 63.	Across South Africa (see #1 above)	Key informant interviews with providers and participants in a workplace ART programme	See above.	- Found long waiting times to be a key concern linked to **stigmatization** of waiting (having to take time off work) - Role of traditional medicine was explored and found to be a determinant of success, there is a need to find effective ways to support adherence to ART even in individuals who do not accept biomedical concepts of HIV disease and/or decide to use traditional medicine	Excellent feedback was obtained from long interviews. Good reporting of barriers and facilitators from those involved in the programme as well as those responsible for the programme.	Small study – only 12 interviews were held, but supplements other reports from same programme.
Feeley FG, Collier AC, Van der Borght SF, et al. A successful workplace programme for VCT and treatment of HIV/AIDS at Heineken, Rwanda. *Int J*	Heineken Breweries, Rwanda	Qualitative and quantitative evaluation, including HIV sero-survey baseline to calculate expected rate; and monitoring of VCT uptake,	Company contracted PharAccess to jointly launch VCT and access to HAART. Employees may choose to be tested off-site but must report result to the occupational	- High uptake of VCT: 87% of expected number of HIV positive workers. - Qualitative findings indicated need to: 1. Offer HAART as part of a comprehensive employer AIDS programme; 2. Encourage couple	Both quantitative outcome (well defended, with limitations discussed) and qualitative findings are strength of	Article lacked some methodological details. Also, there was no comparison group.

SOURCE	SETTING	DESIGN	INTERVENTION	FINDINGS	STRENGTHS	WEAKNESSES
Occup Environ Health. 2007 Jan-Mar;13(1):99-106.		HIV status, CD4 count over time.	clinic to be included in treatment programme.	testing (with targeted outreach to spouses); 3. Ensure strong support from local management (empower champion); 4. Use people living with HIV in worker education programmes from the beginning; 5. Decouple milestones from staff layoffs (to avoid misperceptions of a link); & 6. Assure confidentiality and perception of confidentiality.	this study Inclusion of spouses both in the programme itself and study.	
Morris C, Cheevers E. A package of care for HIV in the occupational setting in Africa: Results of a pilot intervention. *AIDS Patient Care and STDs*. 2001;**15**(12):633-640.	All 386 employees of a sugar mill in South Africa	Qualitative & quantitative evaluation, incl HIV sero-survey & KAB survey pre and post; monitoring of VCT and treatment uptake, & (calculating infections averted) .	Package coordinated by multi-stakeholder committee: incl prevention (condoms), education (mass plus volunteer peer counsellors), VCT, and therapeutics (including IPT/co-T for HIV+), LTBI testing, and tx.	- Of 27.2% of employees (in anonymous sero-survey), 82.8% accepted VCT, of whom 35.4% received co-T, and 10.4% INH. - Condom distribution increased 400% -STD rate declined by 88%.	Intervention used multi-stakeholders in an occupational setting; est. infection transmission reduction; included KABP info.	Lack of a control group, and lack of hard biological outcome associated with the intervention.
Stenson AL, Charalambous S, Dwadwa T, et al. Evaluation of antiretroviral therapy (ART)-related counselling in a workplace-based ART implementation programme,	Across South Africa - (see #1 above).	Descriptive study of questionnaire results	Implementation of a ART workplace based programme described in #1)	- Findings included the importance of addressing infected partners and stigma - Among 40 patients (median time on ART 83 days), over 90% answered 6/7 HIV/ART knowledge questions correctly. - 95% thought counselling sessions were good.	Adds support to other studies on this topic.	The design of this study is not particularly sophisticated, so while its findings are valid, it is of limited value with respect to generalizability .

SOURCE	SETTING	DESIGN	INTERVENTION	FINDINGS	STRENGTHS	WEAKNESSES
South Africa. *AIDS Care.* 2005 Nov;17(8):949-57.				- 93% thought ongoing counselling was important.		

Table 11: Summary of programmes evaluated, by target group, characteristics of intervention, outcomes measured, study methodology (comparison group, data handling and analysis) and observations regarding study rigour and determinants of success

PROGRAMMES:	A	B	C	D	E	F	G
TARGET GROUP							
Health workers?	YES (health workers at 2 hospitals in RSA and 1 in Botswana)	YES (health workers and their families at 2 hospitals in Zambia)	No (multinational company; 70 sites in RSA; stage 4 eligible for ART only.)	No (Heineken Breweries, Rwanda)	No (24 private businesses in Zimbabwe)	No (386 sugar mill workers)	Yes (Swaziland)
INTERVENTION							
1. Included family members?	No	YES (but info and support only provided to families)	No	YES (VCT only)	No	No	YES
2. Education/Training (incl. stigma reduction)	No	YES- Peer education training and activities, workshops, PEP ed sessions.	No	YES- (initiative coinciding with increased VCT uptake)	YES	YES	YES
3. Adequate staffing	YES	YES, but difficulty retaining peer educators due to budget constraints	YES, dedicated HIV programme manager and counselors	Not discussed	YES, existing occ health clinics	YES	YES
4. Well-trained programme providers	YES, and advocates	YES, including peer educators	YES, required intensive training	YES, including "lay" counselors	YES, trained on-site nurses	YES	YES
5. Stigma reduction/ antidiscrimination programming	NO focused programme, but attempts to "normalize" testing, treatment encouraging disclosure	YES, Peer support groups, media involvement, organized HIV focused events, brochures, videos, group discussions	YES, VCT campaigns to promote testing and to encourage disclosure	YES, involvement of people living with HIVs, personal testimony, stigma reduction programmes, non-discrimination commitment by employer	NO	YES, with a special component addressing self-stigmatization	YES

6. Confidentiality	YES,(from the public) separate from general ART facility	YES, secured private room for counseling, HWs fear being recognized by patients in public facilities	YES, databases are password protected and pts are only identified by unique clinic #	NO, many employees didn't feel comfortable being tested by fellow employees	YES, anonymised HIV testing with only a lab number, deleted personal identifiers	YES, anonymous screening	YES, stand alone centre for health workers only
7. Adequate resources	YES, free ART as incentive	NO, financial challenges limited implementation	YES, conducted economic evaluation	YES	YES	YES	YES
8. Support of Management and Unions	YES	YES, strong support and participation by hospital CEOs	Not discussed	YES, Chief Med Officer and Director HR seen as "AIDS champions"	Not discussed	YES (strong feature of the programme)	NO, separate facility from place of employment
9. Considered holistic, comprehensive care	YES	YES, strong risk reduction, nutrition, sexual and reproductive health services	YES, education and counseling only	NO	YES, post-test counseling, health education, IPT, Co-T	YES, combined prevention, education and therapeutic interventions	YES, focus on working with other providers to identify service gaps
10. Workplace safety	NO	YES- review of universal precautions	No	No	No	No	No
11`Monitoring system	No	No	YES	YES	No	No	No
12. H&S cttee or worker representative involvement	No	No	No	No	No	YES	No
13. VCT offered free	YES	YES	YES	YES	YES (focus)	YES	YES
14. ART offered free and as part of the programme	YES	No	YES (focus)	YES (employees and dependents)	YES	YES	YES
OUTCOMES							
Knowledge, attitudes, behaviours, practices (KABP) (qualitative)	None	YES- focus groups and in-depth interviews	Only from 12 key informant interviews	YES-focus groups and interviews with employees and spouses	No- demographic Questionnaire only	NO	YES
KABP (quantitative)	None	Yes-baseline data and follow-up	None	YES	None	YES (at start only)	YES
Uptake of VCT	YES	YES	numbers only, rate not provided	YES	YES	YES	NO (barriers discussed, but no measures)
Uptake of ART	YES	No	YES	YES	No	YES	NO (barriers

							discussed but no measures)
CD4/viral load	No	No	YES	No	No	YES	NO
COMPARISON							
Controlled design?	No external comparison; only trends over time monitored	Compared to 3 other hospitals in Zambia	No external comparison; only trends over time monitored	No external comparison- but baseline sero-survey; monitored trends over time	Cluster-randomized trial of two VCT strategies	No	NO
DATA HANDLING							
Reliable instruments?	Not described	YES	YES	YES- database, 3 HIV tests	YES	YES	YES
Validated measures?	NO	YES	YES	YES	YES	NO	NO
Matching of individual scores?	YES	No. (cross sectional surveys pre and post)	YES	YES	No	NO	NO
COMMENTS and DETERMINANTS OF SUCCESS							
COMMENTS on Study	Intervention limited; Trend analysis only, with no comparison group.	Intervention limited; Pre-vs-post design with concurrent comparison group but no monitoring	Intervention limited Trend analysis only, with no comparison group.	Intervention limited Trend analysis only, with no comparison group.	Intervention limited Cluster-randomized trial but no comprehensive monitoring	Intervention more comprehensive, but no control group	Intervention limited with no comparison group, no description provided of evaluation or monitoring
Conclusions re determinants of success	-confidentiality -accessibility -removing barriers -integration of services (TB, etc)	-peer support groups -management support -comprehensive clinics separate from the public -programme monitoring -adequate resources	-continuity of care - dedicated programme manager and HIV coordinator -adequate staffing -ongoing staff training - integration of clinical and pharmacy services	-stigma reduction programme -anti-discrimination policies -availability of treatment -offering treatment to spouses -lay counselors -confidentiality (e.g. off-site)	-accessibility (e.g. onsite testing) -confidentiality -removing cost barriers	-offering attractive therapeutic packages -peer educators -linking treatment, education and prevention -established infrastructure	-stigma reduction - a range of comprehensive services -peer support groups -quality data collection, monitoring -confidentiality

a. Uebel, Nash et al.2007, plus other articles on same intervention (Health workers, SA and Botswana);

b. Kiragu et al. (Health workers, Zambia), 2008

c. Charlambous et al. 2007 plus the other articles on same programme, eg. Feely–private sector 70 ART clinics for employees, SA);

d. Feeley et al. (Brewery workers, Rwanda), 2007;

e. Corbett et al.,, (24 small and medium size companies in Zimbabwe) 2006.

f. Morris and Cheevers (sugar mill workers, South Africa) 2001.

g. Galvin and deVries (Swaziland) 2008. (Not included in the Cochrane-style review, but added for completion)

2.8.2 Key References and Supporting WHO Guidelines

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Sloan NM & Myers JE. (2005). Evaluation of an HIV/AIDS peer education programme in a South African workplace. *South African Medical Journal*, 95(4).

Supported by Existing Guidelines:

ILO/WHO guidelines on health services and HIV/AIDS, 2005- Peer education, health and safety committees:

- 81. Training materials should be based on validated information and methodologies that are accepted at the national level by regulators and specialists. Health-care workers with proven skills and experience are often the best trainers, and peer education is therefore recommended at all levels, together with a participatory methodology. A list of the key elements to be included in information, education and training programmes for health-care workers is provided in Fact Sheet No. 11. Other specific areas for training are also identified in paragraphs 20(d) (Role of employers' and workers' organizations), 24 (Recognition of HIV as a workplace issue), 26(c) (Stigma and discrimination in the health sector), 28 (Gender: Issues for women and men), 31 (Social dialogue), 38 (Risk management), 39 (Hazard identification), 41(f) (Risk control), 57 (Exposure response system).

2.8.3 Table 12: Recommendation for Statement 8

Recommendation: Adapt and implement good practices in occupational health and the management of HIV and TB in the workplace from all sectors.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Weak	• Good quality literature from other sectors, such as mining, breweries, large transnational employers as well as small and medium-sized business does exist illustrating the effectiveness of workplace HIV/TB testing and treatment programmes. • Best practices from other sectors may be missed, as reporting may be lacking – hence a specific recommendation seems to be warranted. • No specific evidence on success of adaptation of practices from one sector to another.
Benefits of Desired Effects versus Disadvantages of Undesired Effects	Strong	• Adapting and implementing best practices from any sector is desirable • Health workers face a unique set of challenges that may not be adequately addressed in good practices from other settings.
Values and Preferences	Very Strong	• Healthcare workers should have the benefit of best practices offered to other workforces.
Costs	Weak	• Private industry and the private health sector have more funds available than the public health sector. • Budgets for adapted best practices may be needed.
Feasibility	Moderate	As there is little reliable cost information (see above) it is difficult to know the feasibility, however Tables 12 and 13 suggest feasibility.
Overall Ranking	**STRONG RECOMMENDATION**	
Research Gap	More research on the costs of various services offered in other sectors is desirable.	

2.9 Statement #9

2.9.1 Establish and provide adequate financial resources for treatment, care and support programmes to prevent the occupational or non- occupational transmission of HIV and TB among health workers.

As discussed above, it is now well established that the health workforce is at higher risk than the general population of exposure to infectious diseases generally. While there is no dispute as to the importance of occupational transmission of TB, as discussed as well by Wheeler (2009), there is less consensus regarding the importance of occupational HIV, albeit at least 4-5% of HIV is thought to have been acquired at work. Nonetheless there are few studies that explore the allocation of resources and programmes in this regard. A relevant study by Kiragu and colleagues conducted in Zambia in 2008, (also included in the Systematic Review), focused on the development and testing of an HIV risk reduction workplace programme for hospital staff. This intervention included a peer education programme. Two hospitals were selected where the intervention would be implemented, and three other hospitals served as comparison sites. The intervention was implemented by 79 local staff. This study found that financial challenges limited the intensity with which the project could be implemented and that more concerted efforts could yield higher results. For example, the authors found that participation in the intervention was associated with a nearly six-fold increase in PEP awareness and nearly triple the proportion of respondents reporting high HIV knowledge. Sustained and supportive supervision of programme staff was deemed essential to success.

Similarly, the realist review of the other articles in Tables 2 (PICO 1 results) and 10 (PICO 3 results), also noted that it essential that programmes are provided with adequate financial resources. The study by Kiragu and colleagues (2008) revealed that a major issue of concern in many hospitals is a lack of discrete access to condoms. In many facilities in this region, condoms are stored in designated locations with restricted access. As a result, many nonclinical personnel cannot access condoms at their workplace, and are forced to buy them, seek free ones elsewhere or do without. The programme described by Kiragu made condoms easily available to employees. This strategy was highly successful and removed the social and cost barriers associated with condom access at work.

The evidence, as noted above, suggests that provision of resources specifically for sexual and reproductive health initiatives for health workers is essential to prevent the spread of infection. The importance of linking sexual and reproductive health and HIV is widely recognized (IPPF, UCSF, UNAIDS, UNFPA, WHO 2008). A comprehensive review produced by International Planned Parenthood Federation (IPPF), University of California San Francisco Global Health Sciences (UCSF), UNAIDS, United Nations Population Fund (UNFPA), and the WHO suggest that linking occupational health services with sexual and reproductive health programmes will result in a decreased duplication of efforts and competition for resources, and therefore should be included in the programmes developed in applying these guidelines.

WHO Guidelines indicate that every healthcare setting should have a TB infection control plan as part of an overall infection control programme. As noted by many experts, including, for example, Jensen et al. (2005) in discussion of the US CDC guidelines in this area, the specific details of the TB infection control programme will differ, depending on whether patients with suspected or confirmed TB disease might be encountered in the setting or whether patients with suspected or confirmed TB disease will be transferred to another health-care setting. US guidelines, as consistent with WHO guidelines, also recommends that all healthcare workers should receive baseline TB screening, even in settings considered to be low risk, and the new TB Guidelines confirm this recommendation. Infection control plans might need to be customized to balance the assessed risks and the efficacy of the plan based on consideration of various logistical factors. Although these are all high quality recommendations, the document does not adequately address issues of HOW to implement such initiatives and what types of resources are required to do so.

As mentioned above, there are few well-established HIV and/or TB treatment programmes geared toward health workers, making the estimated costs and financial structures of such initiatives uncertain. One study by Deghaye et al. (2006) published the financial cost of establishing a comprehensive treatment programme for healthcare workers in South Africa. The authors found that the estimated cost would be between R6000 (US $838) and R9000 (US $1256) per person per year. Another South African study, by Badri et al. (2006), converting costs in South African Rand into US dollars, estimated cost per patient year for those on Highly Active ART (HAART) at USD $1342 using South African public sector prices for WHO first line regimens and USD $793 if anticipated local drug prices were assumed.

More importantly, not only is the cost of the medication itself somewhat independent of the mode of service provision, and is generally provided free of charge anyhow, it is more relevant to focus on adequate financing of service delivery. As noted in the discussion of Statement 3, in an attempt to delineate the most cost-effective manner of service provision for this target population Moodley and Bachmann (2002) found that the hospitals surveyed in South Africa that did in fact provide primary health care and the management of chronic illness as part of their occupational health services none experienced logistical or financial problems as a result. As noted, given the array of services that *should* be provided as part of an occupational health service (based on other WHO and ILO guidelines, and world consensus), including primary, secondary and tertiary prevention of bloodborne and airborne diseases generally (hepatitis, influenza, etc.), the inclusion of HIV and TB prevention, treatment, care and support, should not provide a particular financial burden. As such the issue is the need for proper financing of occupational health services and health and safety committee functioning, including training.

There are numerous studies addressing various aspects of the cost-benefit of specific workplace primary and secondary prevention measures, including studies by Yassi and colleagues, with respect to primary prevention, for example with respect to preventing needlestick injuries (e.g. (Yassi et al.1995a) and back injuries (e.g. Spiegel et al., 2002) as well as secondary prevention of musculoskeletal injuries (e.g. Yassi et al. 1995b). The cost-benefit of providing a comprehensive

occupational health services compared to no service, or compared to a partial service, has never been explicitly evaluated .

The bigger question here is the issue of inclusion of families. As noted for recommendation #1, this area has not been the subject of previous guidelines, albeit there is a good argument to be made, supported by evidence (see Table 11). For example, well-resources staff clinics in large multinational companies, found that if families are not included, the success of the programme can be seriously undermined. Although the vast majority of employers do not provide such comprehensive services to families of employees, some do, as discussed above. The findings from the realist review of the articles identified through the Cochrane-style Systematic Review as shown in Table 11, plus the Swaziland programme's reported experience, indicate that inclusion of families is important.

The other noteworthy finding in the realist review is the importance placed on adequate resources as a determinant of success. The programme described in Table 11 in three hospitals in Zambia noted that the financial challenges experienced hampered crucial activities such as retraining of peer educators, and the ability to provide them with sustained and supportive supervision. It also limited available educational materials, making it difficult to respond adequately to emerging issues and topics. Although hospitals offered some support, the financial challenges limited the intensity with which the project could be implemented. These authors stress the importance of providing adequate funding to achieve success.

Thus, while there is ample evidence that programmes to prevent occupational and non-occupational transmission of HIV and TB among health workers are needed, and that the exact details of the costs remain vague and context-specific, adequate financial resources are certainly needed for such programmes. Financial resource cost estimations must also consider human resources implications and programme specific materials, not just the cost of medications and related costs

- The GG concludes that it is well established that the healthcare workforce is at higher risk than the general population of exposure to infectious diseases generally. The GG also concludes that there is good rationale to include sexual and reproductive health issues in comprehensive occupational health programmes to prevent, diagnosis, treat, care and support health workers with respect to HIV and TB. Thus the GG stresses the following:
- Resources to enhance the adoption of prevention, treatment, care and support services should be identified and developed when the programme is introduced;
- Services should be costed to guide resource allocation;
- Allocation of resources for items such as safety engineered syringes and respirators should be strongly considered to protect health workers in higher risk settings; and
- Resources should also be allocated for sexual and reproductive health components of programmes for health workers.

2.9.2 Key References and Supporting WHO Guidelines

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Supported by Existing Guidelines:

ILO/WHO guidelines on health services and HIV/AIDS, 2005- 19f:

> 19. Health policy needs to cover and promote collaboration among all relevant institutions including teaching, district and private hospitals and clinics, occupational health services, community health services, dispensaries and home-based care associations, and faith-based and other national and international NGOs. Governments should therefore: (f) prioritize, and make adequate budgetary provisions for, human resources, infrastructure, equipment and materials for effective service delivery to patients and protection of health-care workers.

ILO/WHO PEP guidelines, 2008

TB infection control, 2009- Comprehensive budgeting 2.2.1 activity 1b:

- 2.2.1 Activity 1 – Identify and strengthen a coordinating body for infection control, and develop a comprehensive budgeted plan that includes human resource requirements for implementation of TB infection control at all levels

- Activity 1b – Conduct comprehensive planning and budgeting Implementation of a TB infection control plan requires comprehensive planning and integration with other national infection control efforts at all levels. Resources required for each element of TB infection control should be accurately costed, and necessary resources identified. Planning and financing the design, construction, renovation and optimal use of buildings, and evaluation of the choice of environmental controls to be implemented, is essential. These activities should be based on infection control assessment of the facilities and informed by socioeconomic considerations. The roles and responsibilities of each stakeholder in implementing and monitoring each element of TB infection control must be clearly defined.

2.9.3 Table 13: Recommendation for Statement 9

Recommendation: Establish and provide adequate financial resources for treatment, care and support programmes to prevent the occupational or non- occupational transmission of HIV and TB among health workers.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Very weak	The cost of providing a comprehensive and effective programme for TB and HIV prevention, diagnosis, treatment, care and support occupational health services compared to no service, has never been explicitly evaluated; indeed even well-designed effectiveness studies are few, thus it is not known what "adequate financial resources" means in different settings.
Benefits of Desired Effects Disadvantages of Undesired Effects	Strong	• Appropriately resourced programmes will be able to provide higher quality services • Long term sustainability of programmes is often largely dependent on funding. • The only disadvantage of providing adequate resources would be if the resources funded are not well-founded, which is contrary to the view of the GG.
Values and Preferences	Very Strong	The GG believes that that these recommendations are essential, and therefore the funds needed to ensure success should be provided. The GG believes that healthcare can not afford NOT to provide such as programme.
Costs	Low	Cost-effectiveness of such occupational interventions is suggested by related literature, but specifics are unclear
Feasibility	Conditional to country setting	Feasibility is dependent upon existing infrastructure, resources, and local capacity, but as above, GG believes that this is not only feasible but necessary if the policies are indeed adopted, or success will not result.
Overall Ranking	**STRONG RECOMMENDATION**	
Research Gap	While there is ample evidence that programmes to prevent occupational and non-occupational transmission of HIV and TB among health workers are needed, and that adequate financial resources are needed for such programmes, the exact details of the costs remain vague.	

2.10 Statement #10

2.10.1 Provide universal availability of free and timely PEP to all health care providers, for both occupational and non-occupational exposures, with appropriate training of counsellors and information on the benefits and risks provided to all staff.

The rationale for post-exposure prophylaxis is set out in detail in the WHO guideline on PEP based on the pathogenesis of HIV infection, the biological plausibility that using antiretroviral drugs can prevent transmission and the risk and benefits of post-exposure prophylaxis to exposed healthcare workers.

The knowledge about primary HIV infection indicates that systemic infection does not occur immediately, leaving a brief "window of opportunity" during which post-exposure antiretroviral intervention may modify viral entry into cell and replication. Data from animal studies have been difficult to interpret due to a lack of a comparable animal model and the need to have a higher inoculum than that expected after exposure to needlestick injuries (CDC, 1998). However animal studies have demonstrated that early initiation of post-exposure prophylaxis and small inoculum size correlates with successful post-exposure prophylaxis.

No randomized clinical trials have evaluated the efficacy of post-exposure prophylaxis in humans. In a retrospective case control study among healthcare workers, the risk for HIV infection in those who used zidovudine as post-exposure prophylaxis was reduced by 81%.

Herida et al. (2006) concluded that, in France, for the efficient use of public health resources, PEP use should target high-risk exposure events. To achieve this goal, national guidelines should provide more precise treatment indications, taking into account the type of exposure and the sero-status of the source. They noted that this would relieve the pressure from clinicians to prescribe PEP to individuals with a very low risk of HIV infection, however, correctly, stressed that to avoid apparent contradiction with current HIV prevention messages, PEP guidelines must be revised by consensus with the health authorities, physicians and patients' organizations involved in HIV prevention.

Young et al. (2007) undertook a systematic review of the literature to evaluate the effects of antiretroviral PEP post-occupational exposure to HIV. They concluded that the use of occupational PEP is based on limited direct evidence of effect. However, it is highly unlikely that a definitive placebo-controlled trial will ever be conducted, and, therefore, on the basis of results from a single case-control study, a four-week regimen of PEP should be initiated as soon as possible after exposure, depending on the risk of seroconversion. There is no direct evidence to support the use of multi-drug antiretroviral regimens following occupational exposure to HIV. However, due to the success of combination therapies in treating HIV-infected individuals, a combination of antiretroviral drugs should be used for PEP. Healthcare workers should be counselled about expected adverse events and the strategies for managing these. They should also be advised that PEP is not 100% effective in preventing HIV seroconversion.

As noted above, a randomized controlled clinical trial is neither ethical nor practical. Due to the low risk of HIV seroconversion, a very large sample size would be required to have enough power to show an effect. More rigorous evaluation of adverse events, especially in the developing world, is required.

Van Oosterhout et al. (2007) set up a PEP programme in Malawi for healthcare workers exposed to BBF at work. After the first year of their programme as well as interviews with programme participants they made the following recommendations for the introduction of HIV PEP in resource poor settings: (a) an intensive and continuous publicity campaign is required; a PEP management team in which all the potential benefiting groups are represented should be established, as this is likely to improve ownership and uptake of the programme. (b) Emphasis needs to be given to the value of reporting post–PEP-HIV test results back to the clinician, to advise clients in case of HIV transmission and to properly evaluate the effectiveness of the PEP strategy. (c) Where the incidence of occupational injuries is high, injury-prevention measures need to be reviewed. (d) In many developing countries, hepatitis B prevalence among hospital patients is very high and, since the infectivity of hepatitis B is far higher than that of HIV, routine hepatitis B vaccination should be available for all nursing and clinical staff., and (e) A PEP programme can be used as a tool to focus attention on other aspects of HIV infection to staff members of healthcare institutions, such as voluntary counselling and testing.

PEP is not without side-effects such as nausea and vomiting, fatigue, influenza-like illness, rash, unpleasant taste in the mouth, headache, reflux, and dysuria, thus education, training and follow-up is required to ensure all workers are aware of the risks and benefits of treatment.

The study conducted by Taegtmeyer and colleagues in Kenya (2008) explored the knowledge, attitudes, and practice of post-exposure prophylaxis among healthcare workers. This 5-year study revealed that uptake of PEP was low at only 4% of those who had needlestick injuries in the study population. In-depth interviews revealed this was due to healthcare workers fear of HIV testing and their perception of needlestick injuries as low risk. The authors concluded post-exposure prophylaxis can be made readily available in most Kenyan districts. However, where HIV testing remains stigmatized uptake will be limited- particularly in the initial phases of a programme.

O'Malley et al. (2007) undertook a convenience sample of four healthcare facilities to determine the cost of management of occupational exposures to blood and body fluids. They collected detailed information on time spent reporting, managing, and following up the exposures; salaries (including benefits) for representative staff who sustained and who managed exposures; and costs (not charges) for laboratory testing of exposure sources and exposed healthcare personnel, as well as any post-exposure prophylaxis taken by the exposed personnel. They analyzed data for 31 exposure scenarios and found that the overall range of costs to manage reported exposures was $71-$4,838. Mean total costs varied greatly by the infection status of the source patient. The overall mean cost for exposures to human immunodeficiency virus (HIV)–infected source patients (including those co-infected with hepatitis B or C virus) was $2,456 (range, $907-$4,838), whereas

the overall mean cost for exposures to source patients with unknown or negative infection status was $376 (range, $71-$860).

The 5-country study by Corbett confirmed that PEP use was not well-understood and there are gaps in implementation.

One study examined in the review by IPPF, UCSF, UNAIDS, UNFPA, WHO 2008 found that when the clinic progressively integrated a variety of sexual and reproductive and primary health care services, including TB services, nutritional support for families affected by HIV, prenatal services for pregnant women living with HIV, post-rape services (including counselling and PEP for health care-workers), the number of clients being tested for HIV increased dramatically.

- The various documents reviewed seem to increasingly mention the importance of including sexual and reproductive health issues in programmes aimed at offering health worker access to HIV/TB prevention and care services. As noted in the existing guidelines, (ILO/WHO PEP guidelines, 2008) when providing ART PEP for occupational exposure, it is necessary to also counsel the worker on the practice of safer sex until follow up tests return negative. These guidelines also note that inclusion of sexual and reproductive health issues in PEP programmes also enables HIV positive health workers to effectively manage their illness, opportunistic infections, family planning and their families' risk of transmission.

Thus world consensus remains that PEP should be made available to all health workers, and the appropriate use of PEP needs to be strengthened, including ensuring that workers understand the benefits and risks.

The GG emphasizes that there needs to be:

- Improved advocacy and policy dissemination for PEP.
- Improve awareness and training amongst health workers by providing ongoing education and evaluation.
- Protocols organized for risk evaluation and PEP procedures.
- A trained focal person at each facility.
- Assurance that PEP is available during and after normal working hours.
- Strengthened reporting by ensuring all staff understand the importance of monitoring and potential benefits.
- Confidentiality in providing PEP
- Components of sexual and reproductive health within PEP counselling.

2.10.2 Key References and Supporting WHO Guidelines

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Supported by Existing Guidelines:

- **ILO/WHO guidelines on health services and HIV/AIDS, 2005.**
- **ILO/WHO PEP guidelines, 2008**

2.10.3 Table 14: Recommendation for Statement 10

Recommendation: Provide universal availability of free and timely PEP to all health care providers, for both occupational and non-occupational exposures, with appropriate training of counsellors and information on the benefits and risks provided to all staff.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Moderate	• Randomized studies do not exist due to ethical considerations. • Rationale for post-exposure prophylaxis is set out in detail in the WHO guideline on PEP.
Benefits of Desired Effects Disadvantages of Undesired Effects	Strong	• PEP is currently the only way to reduce the risk of developing HIV infection in an individual who has been exposed to the virus. • PEP can preserve life and health. • Since PEP is not 100% effective, primary and risk prevention should not be forgotten.
Values and Preferences	Very Strong	• There are strong ethical arguments supporting the use of PEP, especially for health workers who are particularly vulnerable. • Health workers will feel better protected in the event of an occupational exposure. • Health workers will feel more confident in reporting exposures and accessing PEP if they are well informed.
Costs	Strong	Increased by: • Cost of drugs • Staff salaries • Counselling and testing costs • Educational materials Decreased by: • Fewer days off work • Fewer infections requiring treatment • Fewer complications associated with infection
Feasibility	Moderate (Conditional to country setting)	• PEP is indeed easier to provide in a setting that already has an established occupational health programme. • PEP is routinely provided through occupational health programmes in most jurisdictions in high income countries. • WHO guidelines strongly support this.
Overall Ranking	**STRONG RECOMMENDATION**	
Research Gap - The area that could be better studied relates to decision-making regarding seeking PEP and more research tracking side-effects of medication. Also, the gender dimensions of decision-making regarding seeking PEP should be further examined.		

2.11 Statement #11

2.11.1 Provide free HIV and TB treatment for health workers in need, facilitating the delivery of these services in a non-stigmatizing, gender-sensitive, confidential, and convenient setting even where there is no staff clinic, and/or the health worker's own facility does not offer ART.

Makombe and colleagues (2007), visited all 95 ART facilities in the public sector and all 28 ART facilities in the private sector in Malawi, in 2006, constituting the first study from sub-Saharan Africa examining the important interaction between ART scale-up for health workers at a national level. Of the 1024 health workers studied, TB was a common stage-defining condition in 192 (18.8%) health workers, and was significantly more common in ward support staff (23.3%) compared with all other cadres. Of particular importance, was the finding that of health workers started on ART, more nurses (24.0%) and clinicians (16.4%) had accessed therapy at the time when this treatment had to be paid for compared with other cadres (7.5%), and had therefore a longer average exposure to ART. Health workers in stages 3 and 4 of the disease experienced a 70% reduction in mortality at 12 months. The 250 health workers who survived due to ART would account for a gain of 1000 health-care worker days per week at the national level. This balances favourably against the approximately 1000 health worker days per week that are required for ART service provision at the national level. These findings provide good evidence that providing free access to HIV treatment services for health workers is cost effective for the public health system as a whole.

Another study by Bezanson and colleagues presented at the International AIDS Conference in 2006 examined health worker initiation of ARV therapy and the outcomes of treatment for this population. This study revealed that health workers had an HIV associated mortality rate of 22.2% while the others in the study population had a mortality rate of 15.2%; 89% of health workers lived in close proximity to the ARV treatment centre that they accessed.

The authors conclude that timely initiation of ARV treatment for HIV positive health workers could help overcome the health human resource obstacle to increasing delivery of ARV treatment in resource poor settings. The study also revealed that health workers may be less likely than the general population to initiate ARV at an earlier stage of HIV infection and that their mortality rate may therefore be higher.

The WHO recently released a document entitled: "*Integrating gender into HIV/AIDS programmes in the health sector: Tool to improve responsiveness to women's needs*" (WHO 2009). The tool was field-tested in five countries: Belize, Honduras, Nicaragua, the Sudan and the United Republic of Tanzania. The tool was adapted and translated into Kiswahili and used to train HIV programme managers and service providers in two regions in Tanzania. It also provides guidance on how to sensitize senior programme managers and policy-makers to gender and HIV issues and remind programme managers and service providers of key gender-responsive HIV strategies. Issues surrounding gender-sensitivity, including those unique to male health workers, must also be

considered when providing HIV and TB programmes and services. This document presents unique solutions to integrate gender into HIV programmes in the health sector and also advocates for gender-responsive health policies for female health workers.

Noteworthy from the 5-Country Study is the finding, as noted above, that while there was a strong willingness of health workers to obtain testing, this was often only if they were able to obtain priority access to ART in a non-stigmatizing and confidential setting. While the cost of the medication is not an issue, as also noted in the 17-country Surveys, time lost from work to obtain diagnosis and treatment was a serious barrier.

It is also noteworthy that the 17-country surveys conducted by the Steering Group found that health workers and families in all the countries were entitled to free HIV and TB services by policy, as was the case for the rest of the population. The study however also found that not all HIV essential package services were available in all the countries; for example some countries did not provide free condoms; some failed to provide free training of healthcare workers on HIV prevention, or free counselling and testing for families and some countries did not provide sufficient essential materials for prevention precautions; and free IPT was also not routinely provided.

Thus, there is strong evidence that providing free access to HIV and TB treatment services for health workers is cost effective for the public health system as a whole. While many countries already provide ART without charge, free convenient access to diagnostic and treatment services must still be addressed.

In reviewing the evidence, the GG highlighted the following aspects as particularly important for implementing this recommendation

- Free access includes ensuring drug availability, provision and delivery.
- Delivery should be carried out in a convenient and timeline manner.
- Free treatment should be provided at the point of service delivery.
- Despite substantial price reductions, it should be realized that there are still many ART related costs that remain in several regions.
- There should be no imposed user fees or institute co-payment mechanisms, particularly at the district or local level.
- Collaboration between HIV and TB services is essential.
- Adequate human resources should be established to allow for delivery of ARV drugs in all health facilities.
- Staff clinics must ensure provision of services in a non-stigmatizing, gender-sensitive and confidential setting.

2.11.2 Key References and Supporting WHO Guidelines

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World Health Organization. (2009). Integrating gender into HIV/AIDS programmes in the health sector: Tool to improve responsiveness to women's needs.

<u>Supported by Existing Guidelines:</u>

- ILO/WHO PEP guidelines, 2008- Free of user charges 2.4.5:

Free of user charges:

- 2.4.5 Post-exposure prophylaxis services, including drug supply, should be offered free of user charges. Adequate resources to fund the entire package of PEP services (section 2.5.2) should be identified at the outset; budgets must be sufficient to cover the cost of medicine and staff salaries as well as the costs associated with testing, counselling, developing and supplying educational materials, staff training and case reporting. There are also costs associated with disseminating information to generate awareness among frontline service providers, health care workers and the community. Quality assurance and controls should also be fully funded. Budgeting decisions are usually made in relation to the availability of antiretroviral therapy for people living with HIV. Some of the training costs could be shared by, or absorbed into, existing budgets for antiretroviral therapy and HIV prevention, which would help to mobilize resources for PEP as an integral part of these other services.

2.11.3 Table 15: Recommendation for Statement 11

Recommendation: Provide free HIV and TB treatment for health workers in need, facilitating the delivery of these services in a non-stigmatizing, gender-sensitive, confidential, and convenient setting even where there is no staff clinic, and/or the health worker's own facility does not offer ART.

Factor	Decision	Explanation
Quality of Evidence	Weak	Although the Corbett report explicitly examines the provision of FREE ART to health workers, there is little high quality scientific evidence examining this issue.
Benefits of Desired Effects Disadvantages of Undesired Effects	Strong	• One study found that charging for services is associated with worse outcome of ART, probably because end user fees reduce long-term adherence and make it more likely that people will drop-out of programmes. • Free drugs results in increased uptake of testing, and hence is a strong benefit to all. • Stigma must be addressed, as noted in other recommendations, or else this could be a disadvantage.
Values and Preferences	Very strong	• Health workers who are dealing with the physical, emotional and social aspects of HIV and/or TB will appreciate not being burdened with financial issues. • Heath workers will appreciate a gender-sensitive approach • Costs deter access to needed treatment, and hence perpetuate the HIV epidemic. • This is a very importance aspect of "priority access".
Costs	Strong	Increased by: • Cost of drugs that would otherwise not be provided (as in most jurisdictions now, the meds are fee anyhow) • Staff salaries in the event that dissemination of treatment can not be integrated into the existing duties of occupational health practitioners. Decreased by: • Fewer opportunistic infections requiring treatment • Reduced DALYs • More retention of healthcare workers
Feasibility	Moderate	• Balancing the competing priorities of sustainability and equitable access remains a major challenge for national programmes. • Even if funding is provided for free drugs, fair distribution remains a challenge.
Overall Ranking	**STRONG RECOMMENDATION**	
Research Gap	The effectiveness and indication for ART is the subject of clinical guidelines; a research gap with respect to this recommendation would relate to studying barriers and facilitators to operationalizing this recommendation	

2.12 Statement #12

2.12.1 In the context of preventing co-morbidity, provide universal availability of a comprehensive package of prevention and care for all HIV positive health workers, including IPT and CTX prophylaxis, with appropriate information on the benefits and risks

Much of the discussion related to the above statements emphasized the importance of a comprehensive approach. Elaboration on the costs of a comprehensive package are presented below.

It addition to the studies described with respect to Statement 8, another noteworthy study was that conducted by Marseille et al. (2006) undertaking cost-benefit analysis of three interventions to treat HIV-infected employees in Kampala, Uganda. The costs and benefits of each intervention were compared with no intervention and with each other: cotrimoxazole prophylaxis (CTX) starting at WHO stage 2; highly active antiretroviral therapy (HAART) plus CTX starting at WHO stage 2; and a 'hybrid' strategy that begins with CTX at WHO stage 2 and later includes HAART. The 5-year health and economic outcomes were calculated using a Markov model. Inputs for disease progression rates and effects of HIV on company costs were derived from published and unpublished data and a survey administered to company officers. The analysis showed that the 'hybrid' intervention is the most cost-effective. For 100 skilled employees it would save the company 38,939 US dollars and 73 disability adjusted life-years. For unskilled workers 'CTX' is the most cost effective and would save $16,417 US dollars and 60 disability adjusted life-years. 'Hybrid' has an incremental cost-effectiveness ratio of $45 US dollars per disability adjusted life-years for unskilled workers whereas HAART is far less economical at an incremental cost per disability adjusted life-years of $4118 US dollars. For 'CTX', net savings are preserved across the full range of input values. Governments and other donors may find opportunities to share costs with the private sector as part of their phase-in strategy for antiretroviral therapy.

Badri et al. (2001) studied the effect of prophylactic low dose co-trimoxazole (480 mg per day or 960 mg three times per week) on survival and morbidity in patients in Cape Town, South Africa, stratified by WHO clinical stage, CD4 T-lymphocyte count or TLC. Patients receiving antiretroviral therapy were excluded from this study. They found that co-trimoxazole reduced mortality [adjusted hazard ratio (AHR), 0.56; 95% confidence interval (CI), 0.33-0.85;P > 0.001] and the incidence of severe HIV-related illnesses (AHR, 0.52; 95% CI, 0.38-0.68;P < 0.001) in patients with evidence of advanced immune suppression on clinical (WHO stages 3 and 4) or laboratory assessment (TLC < 1250 × 106/l or CD4 count < 200 × 106/l). No significant evidence of efficacy was found in patients with WHO stage 2 or CD4 count 200-500 × 106/l/TLC 1250-2000 × 106/l. The authors also concluded that had they applied the WHO/UNAIDS recommendations, 88.3% of their patients would have received co-trimoxazole prophylaxis at their initial clinic visit.

There is also considerable evidence to support the provision of IPT to HIV positive healthcare workers. (eg. Bucher et al. 1999, Bell et al. 1999, Hawken et al. 1999) The meta-analysis of randomized controlled trials conducted by Bucher, Griffith, Guyatt, and colleagues in 1999 examined the effectiveness of isoniazid prophylaxis for TB in HIV infection. The results compiled showed by pooling all seven trials, that a risk ratio was found for persons treated with isoniazid for developing TB of 0.58 [95% confidence interval (CI), 0.43-0.80] and 0.94 (95% CI, 0.83-1.07) for death. In groups of tuberculin skin test-positive and negative persons, the risk ratio of TB was 0.40 (95% CI, 0.24-0.65) and 0.84 (95% CI, 0.54-1.30), respectively, and the difference in the effectiveness of isoniazid versus placebo between these groups was statistically significant (P = 0.03, for the difference of summary estimates). The authors concluded that prophylaxis with isoniazid reduces the risk of TB in persons with HIV infection.

The literature shows the effectiveness as well as benefit and indeed cost-benefit of providing co-trimoxazole, and there seems to be consensus that the correct regimen should be based on balancing the side-effects of over-treating with the benefits in terms of decreased morbidity and mortality of the drug regime adopted, on a case-by-case basis.

According to the WHO and UNAIDS, Co-trimoxazole preventive therapy should be promoted for the prevention of several secondary bacterial and parasitic infections. TB patients are eligible for this therapy. Evidence from randomized controlled trials of co-trimoxazole preventive therapy has shown reduced mortality among HIV-positive smear-positive TB patients (Wiktor et al.,, 1999) and reduced hospitalization and morbidity among people living with HIV/AIDS (Alglaret et al.,, 1999). Other non-randomized and operational studies showed that co-trimoxazole preventive therapy is feasible (Zachariah et al.,, 2001 & 2002), safe (Zachariah 2002) and reduces mortality rates in TB patients (Zachariah et al.,, 2001, 2002 & 2003). It should be noted that one randomized control trial showed no beneficial effect of this therapy (Maynart 2001). This lack of effect was attributed to the inadequate power of the study (Godfrey-Faussett 2003). The resistance rates to co-trimoxazole among common pathogens may also be high in some settings and this may compromise the efficacy of co-trimoxazole preventive therapy (Godfrey-Faussett 2003).

The GG stressed the following points in implementing this recommendation:

- Evidence-based advocacy is required for IPT. In other words, the evidence of the effectiveness of IPT should be made widely known
- Capacity must be improved for TB screening and exclusion of active TB (i.e. new symptom screening algorithms).
- Policies specific to IPT should be established at the regional level.
- Adequate resources must be allocated to ensure availability of CTX and IP.
- The balance in choosing the correct regimen should be based on balancing the side-effects of over-treating with the benefits in terms of decreased morbidity and mortality of the drug regime adopted.
- TB and HIV programmes should establish a system to provide co-trimoxazole preventive therapy to eligible people living with HIV who have active TB.

2.12.2 Key References and Supporting WHO Guidelines

Anglaret X et al. (1999) Early chemoprophylaxis with trimethoprim-sulphamethoxazole for HIV-1 infected adults in Abidjan, Cote d' Ivoire: a randomised trial. Cotrimo-CI study group. *Lancet.* 353:1463–1468.

Badri, M., Ehrlich, R., Wood, R., & Maartens, G. (2001). Initiating co-trimoxazole prophylaxis in HIV-infected patients in africa: An evaluation of the provisional WHO/UNAIDS recommendations. *AIDS (London, England), 15*(9), 1143-1148.

Bell, J. C., Rose, D. N., & Sacks, H. S. (1999). Tuberculosis preventive therapy for HIV-infected people in Sub-Saharan Africa is cost-effective. *AIDS (London, England), 13*(12), 1549-1556.

Bucher, H. C., Griffith, L. E., Guyatt, G. H., Sudre, P., Naef, M., Sendi, P., et al. (1999). Isoniazid prophylaxis for tuberculosis in HIV infection: A meta-analysis of randomized controlled trials. *AIDS (London, England), 13*(4), 501-507.

Godfrey-Faussett P. (2003) District-randomised phased implementation: strengthening the evidence base for cotrimoxazole for HIV positive tuberculosis patients. *AIDS.* 17:1079–1081.

Hawken, M. P., & Muhindi, D. W. (1999). Tuberculosis preventive therapy in HIV-infected persons: Feasibility issues in developing countries. *The International Journal of Tuberculosis and Lung Disease : The Official Journal of the International Union Against Tuberculosis and Lung Disease, 3*(8), 646-650.

Marseille, E., Saba, J., Muyingo, S., & Kahn, J. G. (2006). The costs and benefits of private sector provision of treatment to HIV-infected employees in Kampala, Uganda. *AIDS (London, England), 20*(6), 907-914.

Maynart M et al. (2001) Primary prevention with cotrimoxazole for HIV-1 infected adults: results of the pilot study in Dakar, Senegal. *Journal of Acquired Immunodeficiency Syndrome.* 26:130–136.

Smart, T. (2009) Continuous isoniazid preventive therapy (IPT) better at preventing TB than short course-but only in those with a positive tuberculin skin test. *HIV & AIDS Treatment in Practice*. 151.

Wiktor SZ et al. (1999) Efficacy of trimethoprim-sulphamethoxazole prophylaxis to decrease the morbidity and mortality in HIV-1 infected patients with tuberculosis in Abidjan, Cote d'Ivoire: a randomised controlled trial. *Lancet.* 353:1469–1475.

Zachariah R et al. (2001) Compliance with cotrimoxazole prophylaxis for the prevention of opportunistic infections in HIV-positive tuberculosis patients in Thyolo district, Malawi. *International Journal of Tuberculosis and Lung Disease.* 5:843–846.

Zachariah R et al. (2002) Cotrimoxazole prophylaxis in HIV infected individuals after completing antituberculosis treatment in Thyolo, Malawi. *International Journal of Tuberculosis and Lung Disease.* 6:1046–1050.

Zachariah R et al. (2003)Voluntary counselling, HIV testing and adjunctive cotrimoxazole reduces mortality in tuberculosis patients in Thyolo, Malawi. *AIDS.* 17:1053–1061.

Supported by Existing Guidelines:

- **TB infection control, 2009- Section 3.3.2**
  - *Intensified case finding* 3.3.2 Control 9 – Provide a package of prevention and care interventions for health workers including HIV prevention, antiretroviral therapy a isoniazid preventive therapy for HIV positive health workers All health workers should be given appropriate information and encouraged to undergo TB diagnostic investigation if they have signs and symptoms suggestive of TB (19). Similarly, all health workers should be given appropriate information and encouraged to undergoHIV testing and counselling. If diagnosed with HIV, they should be offered a package of prevention treatment and care that includes regular screening for active TB and access to antiretroviral therapy. Based on the evaluation, health workers should be put on either isoniazid preventive therapy (IPT) or a full regimen of anti-TB treatment, should they be diagnosed with active TB. HIV-positive health workers should not be working with patients with known or suspected TB (in particular, they should not be working with patients with MDR-TB and XDR-TB), and they should be relocated from positions where exposure to untreated TB is high to a lower risk area.
    Remarks: IPT is effective in people living with HIV because it reduces the risk of developing active TB. Incidence of TB also decreases in HIV-positive cohorts on antiretroviral therapy. Health workers are more exposed to TB than the general population; thus, HIV-positive health workers are a priority group for IPT.

- **WHO, Stop TB Partnership and Department of HIV/AIDS, 2003- Section C3**
  - *Co-trimoxazole preventive therapy is promoted by WHO and UNAIDS for the prevention of several secondary bacterial and parasitic infections in eligible adults and children living with HIV in Africa. Tuberculosis patients are eligible for this therapy. This interim policy builds on the provisional WHO/UNAIDS secretariat recommendations on the use of co-trimoxazole prophylaxis in adults and children living with HIV in Africa.*

2.12.3 Table 16: Recommendation for Statement 12

Recommendation: In the context of preventing co-morbidity, provide universal availability of a comprehensive package of prevention and care for all HIV positive HW, including IPT and CTX prophylaxis, with appropriate information on the benefits and risks provided to all health workers offered this protection.

Factor	Decision	Explanation
Quality of Evidence	Moderate	• There is considerable evidence including randomized control trials to support the provision of IPT to HIV infected health workers. • There is also growing evidence with respect to the value of Co-T for the prevention of several secondary bacterial and parasitic infections in eligible adults and children living with HIV.
Benefits of Desired Effects Disadvantages of Undesired Effects	Strong	Benefits • Fewer cases of active TB is a powerful benefit • Decreased time away from work relates to the above • Well tolerated • Drug regimens must be strictly adhered to • Trials have not shown evidence for selection of resistance Disadvantages • No survival benefit in adults • Unclear timing and methodology for screening of health workers • IPT uptake and completion is generally low-medium • Resistance to Co-T may be high in some settings
Values and Preferences	Moderate	• HIV-infected health workers will feel less at risk while at work, but the disadvantages relate to: • Implications for disclosure of HIV status • Reluctance by health providers due to inability to rule out active TB.
Costs	Strong	• Modelling studies show the effectiveness as well as benefit and indeed cost-benefit of providing HIV infected HCWs with IPT. • Costs include: Cost of drugs and staff salaries for administration; • Costs are decreased by health workers needing less time away from work
Feasibility	Conditional to country setting	Less feasible in countries in which a very large proportion of HIV infected individuals with active TB are still not receiving essential meds. However, consistent with the national policy of priority access, this should not pose a barrier to implementing this recommendation.
Overall Ranking	**STRONG RECOMMENDATION**	

2.13 Statement #13

2.13.1 Establish schemes for reasonable accommodation and compensation, including, as appropriate, paid leave, early retirement benefits and death benefits in the event of occupationally-acquired disease.

The 17 survey confirmed what had often been noted in qualitative studies consisting of interviews and focus group with worker representatives and unions, namely that compensation systems for workers with HIV and TB have been problematic. Although laws are generally in existence that apply to all workers including health workers, they have been difficult to interpret and implement. Most policies have lacked specific reference and guidance to compensation of health workers with HIV sero-conversion/AIDS and/or TB infection from health care settings. The lack of wide dissemination means that health workers are generally not aware of their rights. Such shortcomings have been noted by Tereskerz and Jagger (1997) with reference to health workers in the United States, but this matter has not itself been the subject of much explicit scholarly review.

A noted consequence of such shortcomings is that associated costs are directly borne by (externalized to) health systems and not attributed to the workplace where their inclusion would contribute to a more balanced consideration of the benefits of prevention. The principle that the employer should finance compensation costs of illnesses caused or aggravated by workplace exposures is well-accepted as illustrated in *The ILO Technical and Ethical Guidelines for Workers Health Surveillance (1998)*, thus proper functioning of such systems can provide a powerful incentive for healthcare employers to invest in the health of the healthcare workforce. The process of appropriately documenting such work-related incidents would also ensure that under-reporting is avoided. From the point of view of the affected worker, furthermore, failure to acknowledge the work-relatedness of the acquired disease could lead to a loss of potentially more attractive compensating benefits for affected workers. However, the difficulty in defining what is and is not occupational in origin remains a potential obstacle. Also, the issue of secondary transmission poses a challenge (i.e. a spouse who becomes infected by a partner who acquired his/her infection from workplace exposures).

Sagoe-Moses et al. (2001) discussed the costs of keeping healthcare workers in developing countries safe from bloodborne pathogens at work. They examined the particular difficulties in circumstances where resources are scare and necessary tools such as gowns and gloves are not available for workers. Whilst there would be a large amount of investment required to ramp up low and middle income countries to use safe needle technology, train healthcare workers and provide the necessary tools for uptake of universal precautions, Sagoe-Moses and colleagues argue that these expenditures should not be viewed as an increase in the cost of health care but, rather as insurance to protect each country's investment in its health care work force. The authors state that the inevitable consequence of continued inattention will be a mounting toll of disease and death among productive healthcare workers in places where their loss can least be afforded.

It can be concluded that while there is rationale that comprehensive workers compensation provisions provide a more stable and economically attractive way to deal with the problems of work-related disease, the inclusion of coverage for occupationally acquired HIV and TB for health workers is largely a rights-based issue. There is, however, evidence that the schemes that do exist require elaboration, clarification and widespread dissemination to the healthcare workforce. The potential for further stigmatizing of health workers who are deemed to have acquired their infection from non-occupational transmission should be considered when developing compensation packages.

The GG stressed that:

- Employers are required to provide compensation for income when it is lost due to time off work as the result of an occupationally-acquired disease.
- Employers are also required to provide psychological services when such incidents occur.
- It must be acknowledged that resources vary from country to country, however, a no fault system should be considered as a key principle.
- Legislation should include expedited adjudication for occupationally acquired disease, where it does not currently exist
- Mechanisms must be consistent with national occupational health and safety regulations.
- It seems unwarranted to require proof of occupational causation in individuals who sustain occupational exposures; a presumption of occupational causation may be appropriate in certain situations (e.g. exposure to TB at work).

- The following are recommended components of compensation package of an occupationally acquired HIV and/or TB:
    -Immediate PEP
    -ART
    -Treatment for disease, specifically in the initial period
    -Paid leave for periods of sickness and absence (i.e. employers are required to provide compensation when salary is lost due to the disease.)
    -Early retirement benefits connected to early resignation or doctor recommendation to stop working.
    -Death benefits paid by the employer to survivors who have lost a breadwinner.

2.13.2 Key References and Supporting WHO Guidelines

International Labour Office. (1998). *Technical and ethical guidelines for workers' health surveillance (OSH n72)*. Geneva, Switzerland: ILO.

Sagoe-Moses, C., Pearson, R. D., Perry, J., & Jagger, J. (2001). Risks to health care workers in developing countries. *The New England Journal of Medicine, 345*(7), 538-541.

Tereskerz PM, Jagger J. (1997) Occupationally acquired HIV: the vulnerability of health care workers under workers' compensation laws. *Am J Public Health,* 87:1558-1562

Supported by Existing Guidelines:

ILO/WHO guidelines on health services and HIV/AIDS, 2005- 71 "in accordance with national law and practice:"

- 71. In accordance with national law and practice, health-care workers employed by both the public and the private sectors should be covered by sick pay, an insurance, and social security and/or workers' compensation scheme providing coverage at least equivalent to that enjoyed by workers in other sectors. Health-care workers living with HIV/AIDS should not be discriminated against in terms of access to welfare and other statutory benefits. At the same time, adjustments may be needed to respond to the way the disease develops, for example by extending sick leave and, if necessary, coverage for other benefits. If existing provisions or schemes need adjustment to take into account the special requirements of HIV-related illness, this should be the subject of negotiation between management and the union or the workers' representatives.

ILO/WHO PEP guidelines, 2008:

- Social security systems and occupational health schemes should provide benefits for workers who have contracted HIV infection at work similar to those received by workers for other industrial injuries, diseases, or illnesses. The same principles should apply to managing compensation for occupational exposure to blood and body fluids or tissues as to any industrial accident.
- In the absence of national compensation guidelines, individual employers may be able to develop their own compensation package using ILO's Convention 121 as a basis. However, employers should bear in mind that the mechanism for providing worker compensation needs to be consistent with national occupational health and safety regulations. Governments, employers and workers' organizations are responsible for ensuring that all the necessary steps are taken to make compensation available for workers who contract HIV in the workplace.

2.13.3 Table 17: Recommendation for Statement 13

Recommendation: Establish schemes for reasonable accommodation and compensation, including, as appropriate, paid leave, early retirement benefits and death benefits in the event of occupationally acquired disease.		
Factor	**Decision**	**Explanation**
Quality of Evidence	Weak	There have been few formal studies that compare indicators in a situation with compensation schemes compared to a situation without, but further evidence is unlikely to increase confidence in the recommendation, as this is primarily a rights-based issue, and is a legal requirement in most jurisdictions.
Benefits of Desired Effects Disadvantages of Undesired Effects	Strong	• Compensation is an incentive for reporting exposures and accessing early diagnosis and treatment, thereby reducing morbidity and loss to the workforce • Compensation is a right guaranteed for illness or disability related to occupational exposures • There are few disadvantages from an overall societal perspective, albeit there might be some disadvantages from the point of view of specific employers, depending on how funding for these benefits is provided. • The main disadvantage would be the potential further stigmatizing of health workers who are deemed to have acquired their infection from non-occupational transmission.
Values and Preferences	Very Strong	Health workers will feel supported, both emotionally and financially, in the unfortunate event of an incident; and will take comfort knowing that their legal rights are being protected.
Costs	Conditional to country setting	In some jurisdictions, this is already provided.
Feasibility	Conditional to country setting	The main obstacles include difficulty in defining what is and is not occupational in origin. Also, the issue of secondary transmission poses a challenge (i.e. a spouse who becomes infected by a partner who acquired his/her infection from workplace exposures). Implementation guidance is very much needed.
Overall Ranking	**STRONG RECOMMENDATION**	
Research Gap	Cost of providing compensation could be better studied, but this is primarily a rights-based issue.	

2.14 Statement #14

2.14.1 Develop and implement mechanisms for monitoring the availability of these TREAT policy guidelines at the national level, as well as the dissemination of these policies and their application in the healthcare setting.

Existing guidelines regarding monitoring and evaluation, such as the following, do not specifically address HIV programmes for healthcare workers, nor even the workplace setting generally however WHO does provide some guidance on monitoring and evaluation generally (e.g. WHO's *Monitoring and Evaluation Toolkit HIV/AIDS, Tuberculosis and Malaria* 2004; FHI/Impact/UNAID. *Evaluating Programmes for HIV/AIDS Prevention and Care in Developing Countries, A Handbook for Programme Managers and Decision Makers.* 2006.)

The desirability of monitoring the development, dissemination and impact (or structure, process and outcome measures, as are more usually evaluated) of any policy or programme, is well-established and needs little elaboration.

The need for surveillance of work-related disease and injury on a national basis to detect trends and emerging threats which may not be perceived at the individual facility level has also been discussed. This point was also highlighted by Wheeler, citing the work of Dement et al. (2004), and Hood and Larranaga (2007), with respect to the value of surveillance systems, and expanding on the findings of Yassi (1998) who reported on surveillance systems established at the Winnipeg Health Sciences Centre in Canada, where data on 6000 employees were collected which helped to prioritize, monitor and improve occupational health services. As noted by Wheeler, this article noted how using the databases permitted the targeting of groups requiring immunization, thereby increasing coverage; a return-to-work post injury programme was found to be particularly cost-beneficial; and over the five years following the implementation of occupational health programmes, savings in workers' compensation assessments were more than half a million dollars annually.

The study by Dement and colleagues (2004) discussed the creation of an occupational surveillance system for health workers at Duke University in the United States. The system was designed to study consequences of work-related stress, hearing conservation programme evaluation, risk factors for back pain and inflammation, and exposures to blood and body fluids. This study re-iterates the need to focus resources on this high risk population. The authors also demonstrate that high quality data is necessary to effectively create and evaluate intervention programmes.

As described by Yassi and colleagues, the experience of piloting the Occupational Health And Safety Information System at Pelonomi Hospital in Free State, South Africa, has drawn attention to the need to build capacity of health and safety committees as well as occupational health personnel if monitoring is to be effective (Yassi et al., 2009b). Recently Yassi and colleagues noted that having worldwide standards for monitoring workplace and workforce health in the healthcare sector

would be well-warranted, to allow comparison across jurisdictions and sharing of resources (Yassi et al., 2009c)

In the systematic review of the literature on HIV workplace policies and programmes in southern Africa, Mahajan and colleagues (2007) noted that challenges of implementing the needed policies and programmes included the lack of monitoring and evaluation methodologies for workplace HIV prevention programmes, and called for more research, facilitated by the development and implementation of monitoring and evaluation strategies, is urgently needed.

Wheeler also highlights the fact that some higher level of oversight is required because there may be undue pressure brought to bear on occupational health service personnel by their employer in order to escape the costs of compliance with safety or disease prevention measures. Wheeler notes that the existence of an external body with powers to set standards and enforce them reinforces the authority of the occupational health staff and protects the workforce from employer negligence. He further noted that to guarantee the professional autonomy of the external body, it is desirable that it is removed from the direct control of service providers (such as the Ministry of Health).

This statement was only partially addressed in the WHO multi-country survey, however, several respondents did reveal that the management and enforcement process was lacking. It is noteworthy, though, that in many jurisdictions such independent enforcement bodies do exist (often in Ministries of Labour), although there is a dearth of literature on the effectiveness of such oversight regulatory bodies. (Robson, 2007)

As discussed at length previously, trade unions and health professional associations have an important role to play in this regard and there are good arguments that involvement of representatives of the health workforce, independent experts, public and private sector employers, and regulatory bodies on such oversight committees should be encouraged.

Thus it can be concluded that there is value in monitoring the development, dissemination and application as well as impact of programmes and policies in general; there have been some studies attesting to the value of monitoring and surveillance systems for occupational health, and in healthcare specifically; the need for capacity-building in order to implement effective monitoring is noteworthy; **a**chieving international consensus on the elements to be monitored and how these are to be evaluated is likely an important step before calling for widespread implementation of a monitoring programme; and finally **o**versight is needed to ensure that policies are implemented, and this oversight needs involvement of all the key stakeholders.

The GG stressed that:

- Oversight is needed to ensure that policies are implemented, and this oversight needs involvement of all the key stakeholders.
- Mechanisms for monitoring should involve representatives of the health workforce, independent experts, public and private sector employers, and regulatory bodies.
- There should be involvement of people living with HIV in the monitoring process.

- A set of key monitoring indicators specific to health workers should be developed, and targets set.
- Data collection and analysis should be organized both locally and as part of a national database.
- Confidentiality of data collected must be ensured; and
- Capacity-building should be provided in order to implement effective monitoring.
- Monitoring should be disaggregated (e.g. gender, age, staff level)

2.14.2 Key References and Supporting ILO and WHO Guidelines

Dement, J. M., Pompeii, L. A., Ostbye, T., Epling, C., Lipscomb, H. J., James, T., et al. (2004). An integrated comprehensive occupational surveillance system for health care workers. *American Journal of Industrial Medicine, 45*(6), 528-538.

Hood, J., & Larranaga, M. (2007). Employee health surveillance in the health care industry. *AAOHN Journal : Official Journal of the American Association of Occupational Health Nurses, 55*(10), 423-431.

Mahajan, A. P., Colvin, M., Rudatsikira, J. B., & Ettl, D. (2007). An overview of HIV/AIDS workplace policies and programmes in southern Africa. *AIDS (London, England), 21 Suppl 3*, S31-9.

Robson LS, Clarke JA, Cullen K, Bielecky A, Severin C, Bigelow PL, Irvin E, Culyer A,Mahood Q. (2007) The effectiveness of occupational health and safety management system interventions: A systematic review. *Safety Science,* 45: 329-353.

Yassi, A. (1998). Utilizing data systems to develop and monitor occupational health programmes in a large Canadian hospital. *Methods of Information in Medicine, 37*(2): 125-129.

Yassi, A., Nophale, L., Dybka, L., Bryce, E., Kruger, W., & Spiegel, J. (2009b) Building capacity to secure healthier and safer working conditions for healthcare workers: A South African-Canadian collaboration. *International Journal of Occupational and Environmental Health,* 15:360–369.

Yassi A, Bryce EA, Spiegel JM. (2009c) Assuming our global responsibility: Improving working conditions for healthcare workers globally. *Open Medicine*. 3 (3): 174-177.

Wheeler M. (2009). *Development of policy guidelines for health worker access to prevention, treatment, care and support for HIV/TB (TREAT): A preliminary review of the published literature.* Unpublished manuscript.

WHO-HIV, UNFPA, IPPF-HIV, UNDAIDS, UCSF. Linkages: Evidence review and recommendations Sexual and reproductive health and HIV. 2008.

WHO. *Monitoring and Evaluation Toolkit HIV/AIDS, Tuberculosis and Malaria*. 2004.

FHI/Impact/UNAID. *Evaluating Programmes for HIV/AIDS Prevention and Care in Developing Countries, A Handbook for Programme Managers and Decision Makers.* 2006.

Supported by Existing Guidelines:

- **ILO/WHO guidelines on health services and HIV/AIDS, 2005- 52,53, 77:**
- 52. Workers' health surveillance 33 is aimed at the protection of workers and the early detection and prompt treatment of occupational diseases. Whilst compensation should be expedited this may reflect a failure of the occupational health and safety system. Surveillance should take into account the nature of occupational risks in the workplace, the health requirements, the health status of the workforce, including HIV status, the resources available and workers' and employers' awareness of the functions and purposes of such surveillance, as well as the relevant laws and regulations. The collective results of surveillance should be available to workers and their representatives.
- 53. Employers should regularly monitor and evaluate work practices and ensure that action is taken to modify them when indicated. A person or a group of people should be identified in the workplace to carry out monitoring and evaluation. The person or group thus identified should be made known to all health-care workers and should represent all categories of staff, including those in charge of health-care waste. Elements that should be considered are:

  (a) the effectiveness of workplace policies and procedures;
  (b) the effectiveness of information and training programmes;
  (c) the level of compliance with standard precautions;
  (d) the accurate recording and analysis of incidents;
  (e) the causes of exposure to blood or body fluids;
  (f) the evaluation of incident debriefing;
  (g) the effectiveness of action taken and follow-up.

- 77. The capacity to generate, process and disseminate knowledge is essential in developing effective OSH strategies and monitoring their benefits. Core components of the knowledge base must include international labour standards, national legislation, technical standards, statistics and risk-assessment data, good practices, and education and training tools. Employers should make sure that the appropriate tools to collect, analyse and organize the information needed to maintain a safe and healthy working environment are made available and used in the workplace. Workers and their representatives should be involved in this process so that the knowledge and expertise of workers can be considered.

TB infection control, 2009- 2.2.5:

- Establishing the system for monitoring and evaluation, including supervision activities of the set of TB infection control measures should involve collaboration and sharing of indicators between programmes (e.g. programmes related to TB, HIV, occupational health, quality control and quality assurance and IPC) and the general health system.

2.14.3 Table 18: Recommendation for Statement 14

Recommendation: Develop and implement mechanisms for monitoring the availability of these TREAT policy guidelines at the national level, as well as the dissemination of these policies and their application in the healthcare setting		
Factor	**Decision**	**Explanation**
Quality of Evidence	Moderate	The value of monitoring for compliance with guidelines has been well studied and very-well documented, with some evidence even from monitoring within the healthcare workforce itself. (Thus this designation is stronger than merely "indirect evidence" would be, albeit there are no well-designed studies that evaluate the effectiveness of monitoring in precisely this context).
Benefits of Desired Effects Disadvantages of Undesired Effects	Very Strong	• The benefits of monitoring are that it will help ensure that policy guidance is appropriately being put into practice. • Monitoring should increase accountability • An additional benefit of having all parties involved in the decisions regarding important indicators, and targets is that this will help ensure the active involvement of all parties in ensuring success of the efforts overall . • There are no known undesired effects of monitoring, unless conducted inappropriately with inappropriate blaming for failure to meet targets.
Values and Preferences	Very Strong	Health workers will appreciate knowing that there is a mechanism to ensure adherence to relevant polices.
Costs	Moderate (depends on extent of current infrastructure)	While the cost of monitoring need not be large, some personnel will have to be trained; the costs will depend on extent of existing infrastructures.
Feasibility	Moderate	Requires coordination between national, regional ministries and the facility level, and involvement of multiple stakeholders.
Overall Ranking **STRONG RECOMMENDATION**		
Research Gap - Applied research on best set of indicators to monitor and how to conduct the monitoring would be useful.		

3.0 Integrating framework and implementation plan

3.1 Integrating Framework

These Policy Guidelines are aimed at accelerating the provision of priority access to prevention, diagnosis, treatment, care and support to healthcare workers with respect to HIV and TB. As is the case with most complex public health interventions, the various elements are mutually synergistic, and failure to implement one of the recommendations can have deleterious effects on proper implementation of others. Thus it is essential that the various statements be seen as a "package", not simply as a series of recommendations that can be individually considered.

Each statement was discussed at length by the GG, and indeed the order of the statements was re-organized from its initial order as a result of extensive discussion and consensus that a logical framework was necessary to underline the inextricable links among the statements. This is shown in the diagram below.

The **over-riding recommendation is to establish national policies in which health healthcare workers are provided with priority access** (statement 1).

The statements that address this issue are, first, **implementing occupational health services** in healthcare workplaces (S3), **strengthening supporting policies and structures (**S2-S5), ensuring **integration of infection control and integrating these efforts with other workplace occupational health and safety efforts** at all levels, from national departments to health facility level (S4), supporting the implementation with **national policies against discrimination and promoting anti-stigma programmes** (S2-S5), and **ensuring the involvement of health care worker representatives** throughout the multi-component programme (S5).

The next set of recommendations relates to providing **training** and code of practice (S6-S8), training at the trainee stage as well as thereafter (S6), provides guidance through **codes of practices** (S7), and **adopting best practices** from the private sector (S8).

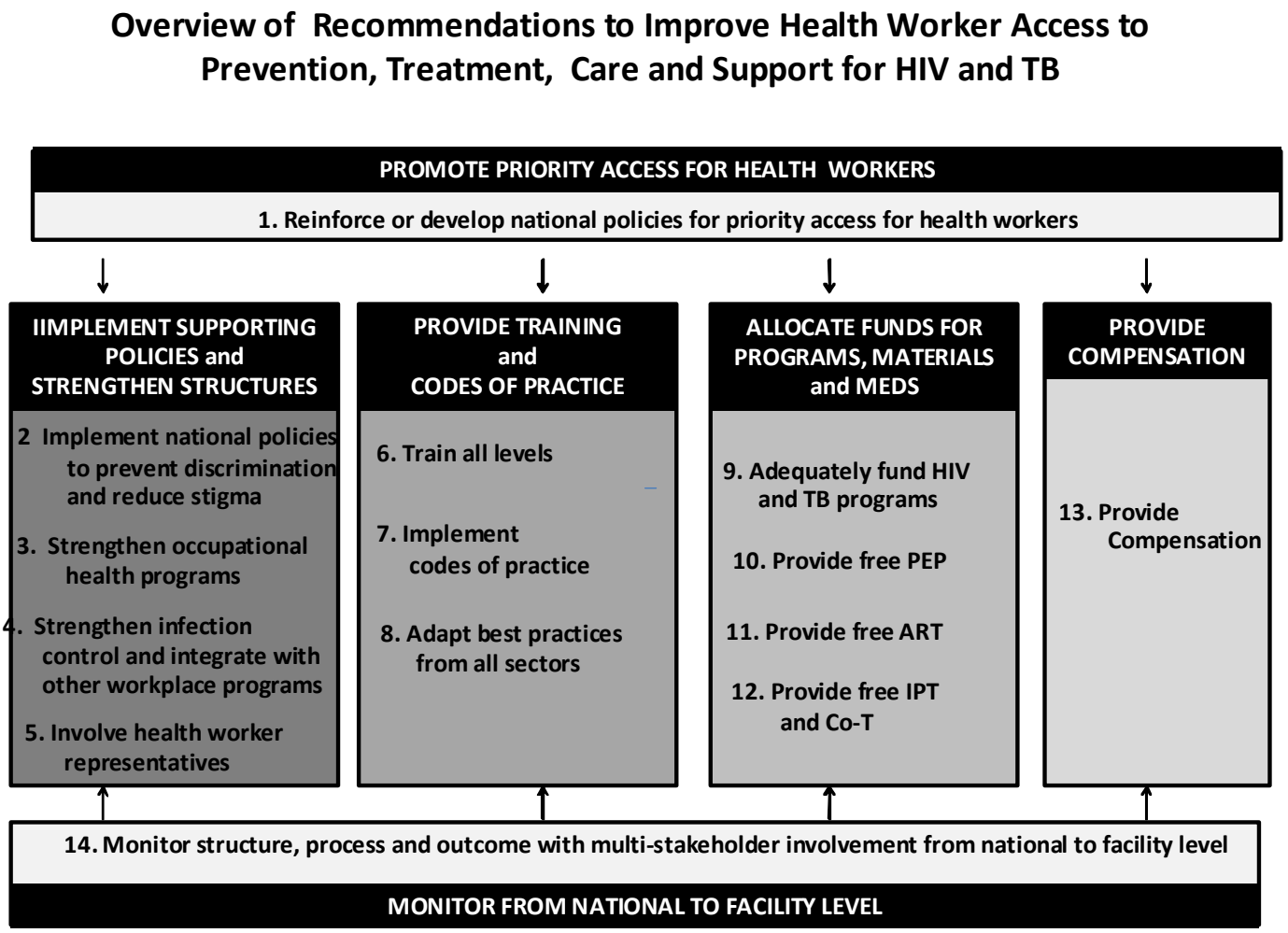
This is followed by explicit recommendations regarding **funding** requirements (S9-S12), specifying that adequate financial allocations are needed (S9), and explicitly, funds for provision of post-exposure prophylaxis (S10), ARTs (S11), IPT and CO-T (S12).

The full package must include provisions for **compensation** (S13), and finally, all aspects of the programme must be **monitored** (s14)

A framework integrating the various recommendations is shown below, consisting of the 14 recommendations organized into 6 "boxes" which group these statements into a coherent whole. As with any complex public health intervention, the various components, as noted above, should be seen as inter-dependent, such that a weak link in any aspect of the policy will negatively impact the success of the other elements.

The implementation plan for these recommendations is, therefore, a built-in aspect of the guidelines, such that attention to national policies for priority access are supported by appropriate infrastructure, supporting policies (e.g. addressing stigma and discrimination), involvement of the appropriate parties including health workers themselves, assisted with training, codes of practice, and best practices, with financial resources for medications and resources needed as recommended by other WHO guidelines, compensation programmes, and finally, monitoring and evaluation.

Figure 3: Overview of Recommendations to Improve Health Worker Access to Prevention, Diagnosis, Treatment and Care Services for HIV and TB



3.2 Implementation, Adaptation, Advocacy and Dissemination

The consultation process specifically addressed implementation. The group suggested that implementation should begin with consultation with the regions regarding how best to promote implementation.

It was decided that regional offices must assume responsibility to develop relevant adapted implementation plans. Country ownership is necessary for governments to commit funds to provide essential services. Ministries of health, labour, and finance; national professional bodies, civil society and unions must be involved in the formulation of implementation strategies. Specifically, it was recommended that a regional advocacy meeting with WHO, ministries of health, finance and labour should occur, as well as national advocacy meetings, with involvement of all parties.

It was recommended that the regional consultations, as well as the national advocacy occur by December 2010.

It was also recommended that a monitoring and evaluation group should be established within ILO/WHO, which would oversee the development of a detailed implementation plan, followed by a series of dissemination meetings at the country level. Concrete time frames for implementation and dissemination should be set at the regional level. This group would, of course, have to consider funding and timing issues when planning these meetings.

Virtual meetings and other innovative suggestions were advanced, with the aim of prioritizing funds for implementation and adaptation at country level. WHO and ILO must build capacity to provide support at the country level to allow for implementation and specific funding should be allocated for the task of rolling out implementation as allocation of existing funds has already been set for current country priorities.

While there are different parties involved it was decided that one document would be best, with a focal point/leadership presenting guidance, and a committee established at the country level.

Existing technical working groups should be utilized as a first point for implementation of guidelines and roles and responsibilities must be adopted by country officers to initiate stakeholder discussion and empower key players to adopt and translate guidelines. Implementation of the recommendations into national programmes should be considered in conjunction with an action plan for implementation at the facility level.

The discussion stressed that an adaptation approach was needed to promote the formulation of the new policy needed. It was stressed as well as “buy-in” and ownership by partners and unions is essential. Relationship building and shared principles are required to ensure success and to ensure that cultural and economic differences of individual countries are considered.

There should be a political campaign to encourage and motivate adoption of recommendations. Political mobilization is necessary, provided the allocation of resources, given the complex political dimension of issues such as stigma and discrimination.

Advocacy work with donors is recommended to ensure health workers are a priority and that adequate funds are secured for implementation.

Successes and challenges of this a complex package of recommendations must be measured. A work plan linked to targets with measurable results and the coordination of distribution policies must be considered.

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Annex 2: Follow-up and implementation; an Extract from the Report: International consultation policy guidelines on improving health workers' access to prevention, treatment and care services for HIV and TB 14-16 September 2009, WHO/Geneva (pp 41-46)

General Results of Guideline Group discussions and agreements

There is consensus among members of the Guideline Group that there is a need for a policy guideline from WHO/ILO

In the end, participants reached consensus, accepting 14 statements as a policy guideline. Countries can take statements and create advocacy material or collaborate with existing strategies already in place to increase access for Health Care Workers (HCWs).

Proposal on implementation strategy from group work by partners and stakeholders

i) Issues and challenges related to policies and guidelines for health worker access to HIV and TB

- Consultations
- Advocacy and Adaptation on the use of the policy guideline
- Dissemination and Implementation
- Mobilization and Allocation of resources
- Monitoring and evaluation
- Modality/processes

ii) Consultations

By June 2010: HQ/Regional consultation

- Regional Level
- a regional advocacy meeting with WHO, ILO, ministries of health, finance and labour should occur
- Country Level
- with WHO, ILO, ministries of health, finance and labour should occur also with trade unions, professional associations, civil society and health workers Living with HIV/TB

iii) Advocacy and Adaptation

By December 2010: National Advocacy

- With ministries of health, finance and labour should occur also with trade unions, professional associations, civil society and health workers Living with HIV/TB
- Development of an implementation plan at the country level
- focal point/leadership present existing guidance a realistic dissemination plan must be developed including training and orientation for health workers
- guidance on how to use and how to involve health care worker committees
- Utilization of existing mechanisms (e.g. Country Coordination Mechanisms (CCMs))
- invite parties not previously involved (such as occupational health)

iv) Dissemination and Implementation

- virtual meetings and other innovative methods to prioritize funds for implementation (e.g. SharePoint, websites, etc.)

v) Mobilization and Allocation of resources

- advocacy work with donors is necessary to make health workers a priority to establish the funds necessary for implementation
- country ownership: governments themselves must also commit funds to provide these necessary services

a. Assisting countries to integrate TREAT policy guidelines with HRH policies and strategic plans , linkages with existing national financial mechanisms (MTEF & LTEF, SWAp, etc).

- Other existing funding mechanism should be explored (Global Fund, PEPFAR...)

(e.g. a concrete proposal should be submitted to the Global Fund to ensure that health workers are a priority)

- Global Fund: the activities of these proposed guidelines could fit within HIV and TB opportunities, best if integrated

vi) Monitoring and Evaluation

- monitoring and evaluation group should be established within WHO/ILO specific to this initiative
- work plan needs to be linked to target with measurable results of successes
- Performance based implementation
- Link to UNAIDS Programme Coordinating Board (PCB) 9 priority outcomes
- Link to data gathering process of the national composite index on the UNGASS declaration

vii) Modality/processes

- "pouch" or political mobilization
- the political dimension is crucial (Issues of stigma, discrimination)

Consultation/Planning→ Implementation→ Evaluation

Joint WHO/ILO responsibility

- e.g. advocate through existing global and regional forums: World Health Assembly (WHA), Regional Programme Meeting (RPM), International Conference on AIDS and STIs in Africa (ICASA), ILO international conferences etc.

Joint WHO/ILO policy guidelines on improving health worker access to prevention, treatment and care services for HIV and TB

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