

**HIV and TB services and Surveillance in Correctional
Facilities in Eastern and Southern Africa: Assessment of
Policies, Practices, and Performance**

**CONSOLIDATED REPORT FOR MALAWI, LESOTHO, NAMIBIA,
SWAZILAND, AND ZAMBIA**

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ART	AntiRetroviral Therapy
Aurum	The Aurum Institute
CIDRZ	Centre for Infectious Diseases Research of Zambia
CPT	Cotrimoxazole Preventive Therapy
DHMT	District Health Management Team
DHO	District Health Office
DR	Drug-Resistant (TB cases)
DS	Drug-Susceptible (TB cases)
EHPSA	Evidence for HIV Prevention Southern Africa
HCT	HIV Counselling and Testing
HIV	Human Immune Deficiency Virus
HMCS	His Majesty's Correctional Service (Swaziland)
IEC	Information, Education and Communication
IPT	Isoniazid Prophylaxis Therapy
LCS	Lesotho Correctional Service
M&E	Monitoring & Evaluation
MGIT Culture	Mycobacteria Growth Indicator Tube Culture
MOH	Ministry of Health
MPS	Malawi Prison Services
MSF	Médecins sans Frontières
NCS	Namibia Correctional Service
NTP	National TB Programme
PEP	Post-Exposure Prophylaxis
PrEP	Pre-Exposure Prophylaxis
PMTCT	Prevention of Mother-to-Child Transmission
RH	Reproductive Health
RPR	Rapid Plasma Reagin - blood test used to screen for syphilis
STIs	Sexual Transmitted Infections
TB	Tuberculosis
TPHA	Treponema Pallidum Hemagglutination Assay (indirect hemagglutination assay for the detection and titration of antibodies against the causative agent of syphilis)
UNODC	United Nations Office on Drugs and Crime
UTT	Universal Test & Treat (programme)
Xpert MTB/Rif Assay	Test that simultaneously detects Mycobacterium Tuberculosis Complex (MTBC) and resistance to Rifampin (Rif) in less than 2 hours
ZCS	Zambia Correctional Services

1 EXECUTIVE SUMMARY

Correctional facilities are high-risk settings for the transmission of human immunodeficiency virus (HIV) and Tuberculosis (TB). To achieve HIV and TB epidemic control, ambitious international targets for HIV and TB calls for countries to scale-up HIV and TB prevention, testing and treatment for vulnerable groups such as detainees (2, 3). While incarceration necessarily restricts liberty, detainees have a right to a minimum standard of health care at least equivalent to that in the community (4) including effective services along the entire continuum of HIV and TB prevention, treatment and care. With funding from the Evidence for HIV Prevention in Southern Africa (EHPSA), we conducted a Critical Review to assess the policies and practices related to HIV and TB data collection and surveillance in correctional facilities of selected countries. We employed a combination of literature and policy review, direct system observations, data analyses and key informant interviews the address the following questions:

- Review of TB and HIV prevention and treatment services in correctional facilities: what services are available, what is the gap between national policies and provision of services and what are the good practise examples of facility-based services
- Review of the routine HIV and TB data collection and management: what routine data are currently collected, is there a comprehensive data management strategy.

The countries included in this review were: Malawi, Namibia, Lesotho, Swaziland, and Zambia. The review took place between November 2017 and April 2018. In total, we visited 24 health facilities, and conducted 94 interviews. Approval to visit and conduct the study was authorised by each respective authority responsible for correctional activities in each country. In addition, approval was obtained from the ethics committees of the University of the Witwatersrand, South Africa and the University of Zambia, Zambia.

The literature review of documents obtained during and prior to the country visits revealed further evidence of the following:

- Evidence of the frequent sexual encounters among male inmates
- High burden of TB in correctional facilities
- Challenges of implementing antiretroviral treatment programmes in these environments.

Main findings:

In most countries, education materials were available only through the national department and were mainly available as prompts to health care workers, rather than given directly to inmates. Most information and education was provided by peer educators who seemed generally committed and motivated to provide a good service to inmates. HIV treatment services were generally done very well, with particular attention to adherence and retention in care post-release. Provision of same-day ART was evident, particularly in Swaziland and Malawi. Appropriate referral and follow-up of patients, post-release, was particularly good in Namibia and Swaziland. An interesting practice of allowing inmates to continue follow-up at the correctional facility, once released, was identified in Lusaka Central, Zambia.

TB screening services were generally available and well-implemented. TB infection control measures varied, with very good implementation witnessed in Swaziland. Most challenges with regards to TB infection control were with regards to infrastructure, particularly in patient cells.

In most countries, measures for HIV prevention were lacking. In all the countries visited, except Lesotho, condom provision to inmates was prohibited, due to the criminalisation of men having sex with men. There were some instances, where condoms were being provided at health facilities for use at exit and not regulated but, in many facilities, the use of condoms was prohibited and not supported by health workers or managers. In general, we found weak education around sexual violence, programmes to prevent sexual violence and provision of post-exposure prophylaxis (PEP). Due to a relatively low prevalence of IV drug use, drug dependence treatment was not available and knowledge regarding IV drug use was poor.

With regards to the M&E systems, many problems were identified in terms of the links between the Ministry of Health and correctional systems in all the countries. Monitoring and evaluation was generally controlled by a department that monitored all correctional activities including transfer of inmates, rehabilitation etc. As the health directorates within Correctional Services did not have specific M&E personnel, the responsibility for health-related M&E systems was unclear. Together with M&E requirements of the health departments and those of correctional facilities, we experienced duplication of systems, lack of standardised tools for reporting indicators specific to prison populations, very little analysis and trend reporting, and no mechanisms for feedback to facility clinics. On reviewing indicators from all countries, we were able to determine coverage of HIV or TB services at specific time points with no cohort analyses and no systems to avoid duplication of inmates on transfer or release from facilities.

Potential Interventions to Improve the Current Scenario

- A focus on **HIV prevention** needs to be introduced throughout the region with specific emphasis on transmission of HIV and high risk practices such as coercive and forced sex, sharing of needles and razors, tattoos etc. Additionally, a programme to sensitise officials and inmates about sexual violence and encourage reporting of events, as well as provision of condoms and lubricants need to be introduced. This is particularly important in these countries due to the criminalisation of same-sex acts and the cultural challenges that prohibit these activities. Experience and evidence from countries that provide condoms, such as Lesotho and South Africa, would be important to encourage use of condoms in other countries.
- **TB prevention** services are generally better implemented than HIV prevention services, but were reported to be weak in some settings, particularly the use of preventive therapy and infection control in facilities where inmates are housed.
- Generally, the **monitoring and evaluation (M&E) systems** for correctional health require urgent capacity building and development, along with a framework for health M&E in correctional facilities which is aligned to the Ministry of Health tools. This framework needs to take account of indicators and tools already in place and ensure that data specific to correctional facilities is included in the Ministry of Health tools to allow for easier documentation.
- Health providers and managers need to actively advocate for better **living conditions** for inmates. Reforms of the judicial system to reduce incarceration of juveniles and awaiting trial detainees, will also improve the implementation and outcomes of inmate health programmes throughout the region.

2 BACKGROUND

Correctional facilities are high-risk settings for the transmission of human immunodeficiency virus (HIV) and tuberculosis (TB). Features of a facility's physical and social environment, often coupled with socioeconomic deprivation, can result in conditions that favour the spread of both diseases, especially in low- and middle-income countries. Incarceration and release can interrupt diagnostic and treatment processes and facilitate transmission of infection, a cyclical process among repeat offenders. HIV prevalence among detainees from literature has been estimated around 15.6% (95% confidence interval [CI] 11.8–19.8%) in East and Southern Africa, suggesting a higher prevalence among prison populations than in non-incarcerated populations(1). TB disease prevalence was also extremely high, estimated at 5.3% (95%CI 2.1–10.0%) in East and Southern Africa (1). It is thus critical for inmates as well as the external community that high-quality HIV and TB control programs are established and maintained within the correctional system. To achieve HIV and TB epidemic control, ambitious international targets for HIV and TB calls for countries to scale-up HIV and TB prevention, testing and treatment for vulnerable groups such as detainees (2, 3). While incarceration necessarily restricts liberty, detainees have a right to a minimum standard of health care at least equivalent to that in the community (4), including effective services along the entire continuum of HIV and TB prevention, treatment and care.

A review of literature on HIV and TB (HIV/TB) in sub-Saharan African prisons, published between 2011-2015, identified data from less than half (24/49) the countries in the region found that, where data were available, they were frequently of poor quality and rarely nationally representative. Barriers to prevention, treatment and care services in the literature included severe financial and human resource limitations and fragmented referral systems that prevent continuity of care when detainees cycle into and out of correctional facilities and move between facilities. These challenges are set against the backdrop of weak criminal justice systems, high rates of pre-trial detention and overcrowding. A few examples of promising practices exist, including routine HIV/TB entry screening in South African and the largest Zambian prisons, reforms to pre-trial detention in South Africa, integrating mental health services into a health package in selected Malawian prisons and task sharing to include detainees in care provision through peer educator programmes in Rwanda, Zimbabwe, Zambia and South Africa. It was suggested in this review that significant additional investments are required to develop country-level policy guidance, build human resource capacity and strengthen prison health systems to ensure universal access to HIV/TB prevention, treatment and care of a standard that meets international goals and human rights obligations.

As a response to the work done above, the Evidence for HIV Prevention in Southern Africa (EHPSA) programme identified the need to further understand policies and practices with regard to two topics. The first was around the topic of HIV prevention, sexual health services and treatment in correctional facilities, with the idea of determining what actual services are available for HIV prevention and sexual health, the gap between national policies and provision of services, and good practice examples of facility-based services especially with regards to linkage post release (from incarceration). The second topic area was around routine data collection and surveillance in correctional settings, to determine what routine data relating to TB and HIV are currently collected and whether there is a comprehensive surveillance strategy and programming framework for HIV prevention programming in the region. The work

conducted was meant to cover 4-5 African countries, which would include South Africa, Zambia, Malawi, Mozambique, Malawi, Lesotho, Kenya, Zimbabwe and Swaziland. The study was conducted as a series of case studies, and employed a combination of literature and policy review, direct system observations, data analysis and key informant interviews.

The Aurum Institute is a South African, not-for-profit public benefit organisation. Our mission is to improve the health of people and communities through innovation in global health research, systems, and delivery. Aurum is specifically focussed on implementation and research to combat the dual pandemics of HIV and TB. The Aurum Institute has a long-standing history of working with correctional services in South Africa, including research activities and strong collaborations with government departments involved in care for inmates. Together with the Centre for Infectious Disease Research in Zambia (CIDRZ) and TB/HIV Care Association, Aurum is conducting a project (known as TasP) in four correctional facilities, (one in Zambia and three in South Africa), to implement and evaluate Treatment as Prevention (otherwise known as Universal Test and Treat [UTT]). The aim of the study is to characterise the continuum of HIV/TB care under UTT; to identify health-system, socio-cultural and, individual-inmate barriers to, and facilitators of, UTT; and to characterise the resources needed to achieve a functioning UTT programme within the correctional environment. As the study is limited to only a few facilities and only two countries in the region, it was thought to be important to understand the context in the other countries in order to make meaningful recommendations from this study. This review would therefore compliment the work being done through the TasP project.

3 SUPPLEMENTARY WORK

LITERATURE REVIEW FOCUSED ON HIV PREVENTION PRACTICES IN THE REGION:

As part of this project, a literature review was conducted and made available to EHPSA in November 2016, which included review of the peer-reviewed literature, grey literature, and policy documentation, as well as a series of country-wide assessments conducted in conjunction with the United Nations Office on Drugs and Crime (UNODC). From literature reviewed, prevalence of both HIV and TB was high in this study's focus countries, and burden was almost consistently higher among detainees in comparison to the general population. While published data regarding the availability of HIV and TB services within correctional facilities in East and Southern Africa were scarce, available evidence describes correctional systems sorely lacking essential preventive interventions. Some focus countries' policies contained many of the recommended elements for robust HIV and TB prevention programmes but, for the most part, these ambitious pledges were not reflected in on-the-ground services. Further, availability and accessibility of almost all available services were variable; even in settings where a relatively comprehensive suite of services had been implemented, inmates were often unable to access them.

Preliminary report on M&E systems in South Africa (submitted July 2016): We conducted a review of available M&E services in the South African Department of Correctional Services (DCS) for HIV and TB. The review found that the system is mostly paper-based and relies on cumulative figures, which is inadequate for proper surveillance of HIV and TB within correctional facilities. The following were identified as limitations of the South African DCS TB and HIV monitoring system:

- Inability to review individual data: This is the key limitation as it does not allow for good longitudinal follow-up of patients or accurate measurements of retention in care, cohort analyses and double-counting (e.g. HIV testing, TB screening) unless using Department of Health data systems (ETR and Tier.net);
- The cumulative nature of the reporting system makes it difficult to adjust indicators and to look at indicators in different ways;
- Indicators and systems were not aligned to the Department of Health system (as shown in Table 1), leading to duplication of the system, differences in reporting of indicators at the various levels of the system and poor use of data for overall programmatic purposes;
- An extremely limited number of indicators for TB and HIV programmatic monitoring;
- Delays in obtaining information with TB data typically lagging by approximately 3 months due to the paper-based system and the need for information to travel up each level;
- While services from non-governmental organisations included in data, these could not be validated separately within the DCS system; and
- No single identifier allowed for prospective management of patients and ability to link patients between facilities.

4 CORRECTIONAL SERVICE PROFILE IN TARGET COUNTRIES

Table 1 outlines the Correctional Service characteristics of the countries included in the review from the prison studies website which is updated regularly. All the figures quoted are from different reports and one always needs to keep in mind that these populations are continuously changing and so this should be seen only as an approximate of the situation.

Of the five countries where the review has been done, Zambia has the largest population with 18,000 detainees and 87 facilities. In comparison, Namibia, Swaziland and Lesotho have much smaller populations of around 3,000 inmates and 12-13 facilities each. Incarceration rates varied with a relatively low 70 per 100 000 in Malawi to a relatively high 282 per 100,000 in Swaziland, which is similar to that reported for South Africa (293 per 100 000). All of these systems have relatively high numbers of pre-trial detainees, estimated at approximately 20% of all incarcerated persons, except for Namibia (6,6%) and Lesotho where this has been significantly reduced to 1,57% in recent years. Female inmates make up a small proportion of inmates in all countries (range 1% - 3.6%). Juveniles also make up a small proportion with the highest in Swaziland (6.0%) and Malawi (7.7%). Zambia and Malawi seem to have the highest occupancy with figures of over 150%, while rates for Lesotho, Namibia and Swaziland are at acceptable levels, compared to reported capacity.

Table 1: Overview of the prison population by country in sub-Saharan Africa

Country	Ministry Responsible	Prison Administration	Prison Population Total	Prison Population Rate (per 100,000 of national population)	Pre-Trial Detainees (% of prison population)	Female Inmates (% of prison population)	Juveniles (% of prison population)	Foreign Inmates (% of prison population)	# of Establishments	Official Capacity of Prison System	Occupancy Level (based on official capacity)	Prison Population Trend		
South Africa	Ministry of Correctional Services	Department of Correctional Services	161 054 (Mar 17)	286 (Mar 17)	27.2% (Mar 17)	2.6% (Mar 17)	0.2% (Mar 14)	6.3% (Mar 17)	243	120 000 (Mar 15)	132.7% (Mar 15)	2000: 171,462		
												2002: 178,998		
												2004: 187,640		
												2006: 150,302		
												2008: 150,302		
												2010: 163,312		
												2012: 158,165		
2014: 154,648														
Zimbabwe	Ministry of Justice, Legal and Parliamentary Affairs	Zimbabwe Prison and Correctional Services	19 521 at 1.5.2017 (Ministry of Justice)	120 (May 17)	17.1% (9.1.2015)	2.2% (May 17)	0.5% (May 17)	1.9% (May 17)	46	17 000 (Mar 15)	110.9% (Jan 15)	2000: 20,567		
												2002: 21,000		
												2004: 19,608		
												2006: 18,081		
												2008: 14,029		
												2010: 13,361		
												2012: 16,900		
2014: 17,484														
Malawi	Ministry of Home Affairs & Internal Security	Malawi Prison Service	12,129 (Oct 2015)	70 (Oct 2015)	16.1% (Oct 2015)	1.1% (Jul 2014)	7.7% (Jul 2014)	-	30 (2014)	7,000 (Jul 2014)	173.7% (Jul 2014)	2000: 7,728		
			+/- 14,000 (Nov 2016)			1.42% (Nov 2016)						30 (Nov 2016)	Maule male capacity 800 vs 2840 population (Dec 2017)	2002: 8,784
						2004: 9,220								
						2006: 11,000								
						2008: 11,000								
						2010: 11,672								
						2012: 12,236								
2016: 14,000														
Lesotho	Ministry of Justice,								12 (2012)			2000: 2,908		
												2002: 3,521		

	Human Rights and Correctional Service	Lesotho Correctional Service	2,073 (Aug 2014)	92 (Aug 2014)	19,5% (Aug 2014)	3.6% (Aug 2014)	2.4% (Aug 2014) ¹	0.9% (Dec 2009)	12 (Jun 2017)	2,936 (Aug 2014)	70.6% (Aug 2014)	2004: 3,173
			2,350 (Jun 2017)		1,57% (Jun 2017)	3.19% (Jun 2017)	1.61% (Mar 2016)				80% (2017)	2006: 2,508 2010: 2,498 2017: 2,350
Namibia	Ministry of Safety & Security	Namibia Correctional Service	3,560 (Aug 2015) ²	144 (Apr 2015)	6.6% (Apr 2015)	2.6% (Jan 2015)	1.1% (Jun 2013) ³	5.5% (Dec 2001)	13 (2015)	4,475 (2012)	96.4% (2012)	2000: 4,883 2001: 4,727 2004: 4,442 2007: 4,064
			3,971 (Mar 2017)								13 (2017)	75% (2015)
Swaziland	Ministry of Justice	His Majesty's Correctional Services	3610 (Mar 2015)	282 (Mar 2018)	18.1 % (Mar 2012)	2,9% (Mar 2014)	0.7%	6.0%	12	2838	127.7%	2000: 2745 2002: 3245 2004:2719 2006:2648 2008:2546 2011: 3764 2013:3280
Zambia	Ministry of Home Affairs	Zambia Correctional Services	18 560 (Apr 2015)	125 (Apr 2015)	23.2% (Sep 2017)	1.0%	2.5%	2.1% (2005)	87 (Nov 2016)	8100	229% (2015)	2000: 11 999 2002: 13 173 2005: 14 207 2008: 15 000 2010: 16 666 2012: 17 000 2014: 17 038 2016: 18 000

[://www.prisonstudies.org/sites/default/files/resources/downloads/world_prison_population_list_11th_edition.pdf](http://www.prisonstudies.org/sites/default/files/resources/downloads/world_prison_population_list_11th_edition.pdf)

¹Under 18 years

² Excludes 3,500 in police holding cells (Oct 2013)

³ Under 19 years

5 REVIEW OF BACKGROUND LITERATURE

A summation of the relevant research papers has been included under *Annexure 2*, as follows: Conclusions that can be drawn from the literature review from these countries mainly highlighted three issues of importance to the Critical review. These were as follows:

- The very real and prevalent issue of sexual transmission of HIV among male inmates
- The challenges faced by inmates in maintaining adherence to HIV treatment
- The high burden of TB among inmates

Sexual encounters among male inmates:

In the study titled, *Prevalence and Risk Factors for HIV, Sexually-Transmitted-Infections and Tuberculosis in Malawian Prisons*ⁱ, homosexual practice was cited as one of the reasons for inmates' perceived risk of HIV and STIs. Most male inmates reported knowledge of other detainees engaged in consensual sexual intercourse. In the Central prisons, 66% of participants cited knowledge of homosexual practices. Linked with a very high HIV prevalence found in these facilities, this raises the alarm for improved HIV prevention mechanisms. Apart from sexual intercourse, other commonly reported risky practices that could promote HIV transmission included sharing of shaving razor blades and toothbrushes, tattooing and ear piercing. Other interesting accounts from the qualitative studies from Malawi that lend further weight to interventions of increased resources are:

1. Inadequate and poor quality food which resulted in inmates exchanging food for sex. Inequality in financial resources was reported to place poor inmates at risk of being enticed to homosexual practice, in exchange for better quality food.
2. Prison congestion which resulted in some exchanging sex for sleeping space. Similarly, the tight sleeping arrangement was reported to facilitate homosexuality. These problems were reported more commonly in central prisons.
3. Mixing of convicts serving long sentences and remandees and young and old people in central prisons. Convicts on long - or life - sentences were reported to crave sex and enticed younger desperate inmates to engage in the act.

*Struggle to Survive: A Report on HIV/AIDS and Prisoners' Rights in Namibia*ⁱⁱ

The report highlights that sex takes place in correctional facilities in three forms: consensual sex (which occurs due to boredom or sexual attraction), coercive sex (that includes instances with wardens or kitchen chefs and often involves trading of food or other items for sex) and some specific gangs (Category 28) are known for sexual assaults.

*HIV, TB, Syphilis, Hepatitis B, Hepatitis C Prevalence and Risk Behaviour in Correctional Centers in Swaziland, UNODC, March 2011).*ⁱⁱⁱ

With regards to sexual practices, 41% of respondents reported sexual violence in centres, with 5.1% and 2% having been forced or forced someone to have sex with them.

Masculinity, Sex and Survival in Zambian Prisons^{iv}

During the period January 2011 to May 2013, the researcher interviewed — with a team of trained research assistants — 82 inmates in urban and semi-urban prisons in Zambia, and 18 ex-inmates from all over the country. The interviewing methodology used was narrative life story, combined with interviewing techniques used for torture survivors. The study concluded that, in Zambian culture (as many other places), sex is socially constructed to take place between a man and a woman. However, in the absence of women, under extreme conditions and deprivation and in an environment where male identity comes under threat, a way out is constructed: the young inexperienced or weaker inmates are turned into ‘women’ with the pain, privileges and consequences that follow. The men, the ones who penetrate in the sexual act, regain a sense of power associated with masculine identity through sex.

Challenges of implementing ART programmes were highlighted by a number of papers.

Report on Assessment of the Legal Environment for HIV and AIDS in Lesotho^v

Inmates and staff respondents identified various challenges despite current policies, including the fact that the requirements for effective ART, including adherence and proper nutrition, were not fully provided within facilities. Procedures used by staff, including searches and lock-up, disrupted ART regimens. Nutritional requirements were rarely, if ever, addressed. They also identified ongoing behaviour within facilities that place people at risk of HIV exposure, including sex between men, overcrowding in cells, poor and inadequate washing and sanitation facilities and the exchange of sharp objects e.g. razors used for shaving and haircuts, and needles used for tattooing and some traditional healing rituals. The paper called for a strengthening of the legal and policy environment in the context of HIV requiring greater government action and commitment to enhance a supportive and protective environment for people living with HIV, and other populations, vulnerable to - and at higher risk of - HIV exposure. Strengthening HIV-related law and policy, as well as promoting and protecting human rights in access to justice and law enforcement, such as by the police, the judiciary and health service providers, have been noted as critical challenges for Lesotho.

The Lesotho Correctional Service Assessment of the Situation of ART and TB Treatment Defaulters among Ex-Inmates^{vi}

Lesotho Correctional staff administered a survey questionnaire to ex-inmates in semi-structured interviews in three districts. The questionnaire addressed a range of issues including socio-demographics, recidivism, substance abuse, mental health, and ex-inmates ART and TB treatment profiles. Study outcomes indicate that the proportion of defaulting ex-inmates was low suggesting that, of those enrolled in the study, there was a high rate of conformance to the ART and TB treatment plan. However, given that some ex-inmates could not be interviewed because they were found to be mentally ill, it is possible that mental health disorders could affect ART and TB treatment compliance.

Exploring the drivers of health and healthcare access in Zambian prisons: a health systems approach^{vii}

In-depth interviews were conducted with a clustered random sample of 79 male inmates across four facilities, as well as 34 officials, policy makers and health care workers. A largely inductive thematic analysis was guided by the concepts of dynamic interaction and emergent behaviour, drawn from the theory of complex adaptive systems. The results showed that, due to differential wealth of inmates and their support networks on entering facilities, and in part to the accumulation of authority and material wealth within facilities, the researchers found enormous inequity in the standard of living among inmates at each site. In the context of such inequities, failure of the Zambian correctional

system to provide basic necessities (including adequate and appropriate forms of nutrition, or access to quality health care) contributed to high rates of inmate-led and officer-led coercion with direct implications for health and access to healthcare.

Poor continuity of care for TB diagnosis and treatment in Zambian Prisons: a situation analysis ^{viii}:

Weak health care within the Zambian correctional service undermined continuity of care, despite intensive TB screening and case finding interventions. The researchers concluded that, in order to prevent TB transmission and the development of drug resistance, sufficient numbers of competent health care staff, reliable health information systems including electronic record keeping for facilities, and standard operating procedures to guide surveillance, case-finding and timely treatment initiation and completion were required.

The high TB burden in correctional facilities was highlighted by a number of papers.

Prevalence of smear-positive pulmonary tuberculosis among prisoners in Malawi: a national survey ^{ix}:

This survey of 18 prisons in Malawi showed a prevalence rate of smear-positive PTB of 0.7%, which, while high compared with that of the general population, is lower than prevalence rates from other earlier prison surveys in Africa.

Surveillance of Tuberculosis in Malawian Prisons^x: The survey indicated that the TB case notifications in Malawian prisons were higher than in the general population although, given the demographic of prisoners (adult males), this is not surprising. Treatment outcomes were less favourable than in the general population due to higher transfer-out rates. These rates were also comparable to a previous prison survey conducted in 2005.

The High Burden of Tuberculosis (TB) and Human Immunodeficiency Virus (HIV) in a Large Zambian Prison: A Public Health Alert ^{xi} :

TB was diagnosed in 176 (7.6%) individuals with 52 people already on TB treatment at the time of screening. TB was bacteriologically confirmed in 88 cases (3.8%) and clinically diagnosed in 88 cases (3.8%). Confirmed TB at entry and exit interventions were 4.6% and 5.3% respectively. The researchers found rates of TB and HIV in Lusaka Central were substantially higher than the Zambian average, with a trend towards concentration and potential transmission of both diseases within the facility and to the general population.

6 METHODS USED FOR THE CRITICAL REVIEW STUDY

2.1 Study design

This study employed a mixed-methods, multi-country case study design and comprised a literature and policy review, direct health system observations and evaluation, key informant interviews, and analysis of HIV and TB data, where we were able to access such data. Because some countries have “*Prison Services*” and others have “*Correctional Services*” with corresponding terminology for staff and inmates, we have elected to use the terms, “*Correctional Services*”, “*facilities*”, “*inmates*” and “*officers*” in this report. The term, “*inmates*”, represents people awaiting trial (on-remand detainees) and those who have been sentenced. Site Visits were conducted between November 2016 and March 2018.

2.2 Study sites

Countries were selected for inclusion and invited to participate following introductory meetings with the Correctional Services Ministry (or equivalent body) personnel and other applicable stakeholders in each prospective participant country. We sought guidance from Correctional Services as to which correctional facilities we would visit, and endeavoured to ensure that at least one selected facility housed female offenders; and that chosen facilities reflected a range of sizes and geographic regions. Visit dates were scheduled according to the availability of the Commissioner and other head office personnel, and only after the visit had been authorised by the authorities. However, in most cases, due to budget constraints and the high cost of travel, sites were restricted to those closest to, or within, the capital of each country. All facilities visited as part of this Critical Review are shown in Table 2.

For Malawi, we consulted MSF who introduced us to Malawian Prison Services (MPS), and ensured that they were fully informed. Permission to visit and conduct the study was sought, and received, from the MPS Acting Commissioner-General’s office. On our second visit, we were able to liaise with the MPS National HIV Programmes Officer, who facilitated and escorted us to all our site visits.

For Lesotho, we consulted the EHPA team who were willing to introduce us to the Lesotho Correctional Services (LCS), and ensured that they were fully informed.

For Namibia, we consulted the UNODC In-Country Representative who was willing to introduce us to the Namibian Correctional Services (NCS), and ensured that they were fully informed. Unfortunately, we were unable to obtain permission to visit three facilities, nor were we able to ensure that at least one selected facility housed female offenders; nor that facilities reflected a range of sizes and geographic regions.

For Swaziland, we consulted with His Majesty’s Correctional Services (HMCS) who escorted us to the various facilities.

For Zambia, we worked through the Aurum in-country partner, CIDRZ, and the UNODC in-country office, and took guidance from CIDRZ and the Deputy-Commissioner General of Zambian Correctional Services (ZCS).

Table 2. HIV & TB Profile of Correctional Facilities Visited

Facility	Total Pop	Total Male	Total Female	# Known HIV+	# Pre-ART	# ART	# TB Treatment	# HIV/TB Co-Infected	# HIV+ on INH*	# HIV+ on CPT**	#HIV+ with Crypto	# STIs Diagnosed
Malawi												
Zomba	2383	2362	21	483	0	483	51	Unknown	Unknown	483	2	Not sure
Chichiri	1834	1790	44	446	0	446	36	-	-	430	9	11
Bvumbwe	300	300			0	18	1	1	-	3	-	-
Maula	2870	2840	30	430	10	420	19	8	Unknown	418	2	Not sure
Byazi	118	118		0	0	0	0	0	0	0	0	0
Dedza	366	350	14 (2 children)	51	4	47	2	2	-	47	2	-
Lesotho												
Maseru Central	791	791	0	211	0	211	10	4	12	29	0	9
Maseru Female	56	0	56	26	0	26	0	0	26	5	0	-
Mohale's Hoek	459			113	2 (refused)	111	1	1	17	39	0	-
Namibia												
Windhoek Central	1266	1200	60	86	32	54	7	1	6	1	-	-
Evaristus Shikongo	390	390	0	58	-	57	1	0	2-3	-	Not in place	-
Swaziland												
Pigg's Peak	348	260	88	66	1	65	0	0	10	64	1	Not known
Matshapha	678	678	0	152	2	150	4	2	19	150	0	Not known
Bhalekane	289	289	0	61	2	59	1	0	11	59	0	Not known
Mawelawela	73	0	73	64	0	64	1	1	Not known (+/- 60%)	64	0	Not known
Zambia												
Lusaka Central												
Mukobeko Max Male												
Mukobeko Medium (includes Mukobeko Female)	900	895 (16 juvenile)	100 (3 juvenile)	188	0	188	4	4	50	2	0	4

*IPT=isoniazid preventive therapy **CPT= cotrimoxazole preventive therapy

2.3 Study population

Noting that specific indicators depend on each country's data management practices, we analysed trends in key HIV and TB indicators to assess reliability, arriving at a list of proposed indicators that would be included in this evaluation. The population that these data describe includes all incarcerated offenders in each participant facility about whom any information related to HIV and/or TB (including negative status, negative test result(s), etc.) was documented during the analysis period.

Key informant interviews were conducted with correctional facility health care providers (e.g. medical officers, nurse managers, professional nurses, patient assistants). Interviews and system evaluations were conducted both in cell blocks holding sentenced offenders and those holding remand detainees awaiting trial. In facilities where both male and female offenders are incarcerated, blocks housing each sex were included in the evaluation.

2.4 Recruitment

Participants were purposively selected. A point person involved with health services was engaged at each participating facility, and this individual assisted with identifying all facility staff from each cadre of interest (when there was more than one person performing that role). We attempted to recruit all individuals in roles filled by one person per facility or department (e.g. medical officer), and at least three people per facility from all other cadres at each facility (e.g. nurses).

2.5 Study components

2.5.1 Literature and policy review

Building upon a recent systematic review, entitled "*HIV and Tuberculosis in prisons in sub-Saharan Africa*", a review of peer-reviewed literature, grey literature and policy documentation from the region was undertaken to obtain:

- Policies and guidelines pertaining to HIV and TB services and data management in prisons^{xii};
- General descriptions of correctional facilities' health systems;
- Details about HIV and TB services offered and data management conducted in correctional facilities, and the performance of these programmes, including promising practices.

2.5.2 Direct system observations

Site visits were carried out at multiple correctional facilities in each participating country. Correctional Services staff involved with the provision of health services and data management activities were asked to describe the HIV and TB services offered (cascade of care), and the steps and tools involved in data collection and reporting. Where possible, while protecting inmate privacy and confidentiality, study personnel observed and documented these processes. Copies of (blank) paper data collection forms and blank electronic records were requested.

For a selection of key HIV and TB indicators we assessed the following questions:

- Are these indicators calculated and if so, how?
- Are they formally reported to district, provincial and/or national health authorities?
- Are they reported to internal Correctional Services authorities?

2.5.4 Key informant interviews

In-depth, semi-structured interviews were conducted with correctional facility health care providers (e.g. medical officers, nurse managers, professional nurses, nurse assistants), to gain an understanding of existing HIV and TB services (including referral/ coordination when released from the facility into the community) and data management practices, and to ascertain perceptions of their adequacy. Interviewers guided the dialogue using open-ended questions to ensure that key topics were addressed and that respondents were free to broach additional subjects and issues. Local personnel – potentially inmate volunteers such as peer educators – were interviewed and, in some settings, engaged to assist with conducting interviews and verifying results.

Prior to enrollment, prospective participants were provided with an information sheet and consent form and asked to give written informed consent. The participant was given the signed consent form as well as a copy of all study information (if requested).

2.5.5 Confidentiality

Each study participant was given a unique study identification number which was used in place of a name on all study documentation. A password-protected identification key linking each participant with his/her identification number was created for the purposes of data collection only; this information has not been retained in the electronic analytic database.

Paper documents (interview notes, interview transcripts, consent forms and observation session data collection forms) are kept in a locked office at The Aurum Institute, to which only study personnel have access. Electronic data has been de-identified and password protected. When electronic transfer of data occurs each dataset was encrypted.

2.5.6 Tools

All the data collections tools are included in Appendix 3.

Appendix A – HIV and TB Indicators

Appendix B – Senior Personnel Interview Guide

Appendix C – Nurse, Counsellor, Peer Educator Interview Guide

Appendix D – Facility M&E Interview Guide

Appendix E – M&E Unit Interview Guide

Appendix F – Participant Information Sheet and Informed Consent Form

2.5.7 Analysis and Evaluation

The information obtained during our interviews and discussions was compared to the recommended “*Comprehensive Package of Care*”. From this, and the team’s experience working in correctional settings, we were able to identify best practices and areas for improvement. In addition, we compared our findings with the Ministry of Health’s national guidelines^{xiii}, UNODC assessments conducted in the five countries and the WHO *Consolidated Guidelines on HIV Prevention, Diagnosis, Treatment and Care for Key Populations*^{xiv}.

7 MAIN FINDINGS

7.1 Sites and Interviews

The total number of interviews conducted are shown in Table 3. We visited 24 correctional facilities in the five countries, and conducted 99 interviews, made up of 21 with people in management positions (at site level or headquarters), 33 clinical staff (made up of clinical officers, doctors and nurses), 21 ancillary workers (counsellors, patient attendants or lab technologists) and 25 peer educators.

Table 3. Total number of sites and interviews conducted per country

Country	# of Sites, including HQ	Total interviews	Management	Clinical staff	Counsellors/Patient Attendants/lab	Peer Educators
Malawi	8	31	5	4	13	9
Lesotho	4	14	4	3	6	1
Namibia	3	11	4	6	1	0
Swaziland	5	22	7	11	0	4
Zambia	4	21	1	9	1	11
Total	24	99	21	33	21	25

7.2 Evaluation of the Comprehensive Package of Care

We evaluated the Comprehensive Package of Care as prescribed by UNODC in June 2013. The UNODC Comprehensive Package of Care^{xv xvi} covers the following issues: (1) information, education and communication, (2) condom programmes, (3) prevention of sexual violence, (4) drug dependence treatment, (5) needle & syringe programmes, (6) prevention of transmission through medical and dental services, (7) prevention of transmission through tattooing, piercing and other forms of skin penetration, (8) post-exposure prophylaxis, (9) HIV counselling and testing (10) HIV treatment, care and support, (11) prevention, diagnosis and treatment of tuberculosis, (12) prevention of mother-to-child transmission (13) prevention and treatment of sexually transmitted infections, (14) vaccination, diagnosis and treatment of viral hepatitis, and (15) protecting staff from occupational hazards.

7.2.1 Information, Education and Communication (IEC)

All countries seemed to have a scarcity of educational materials (news articles, National AIDS Commission magazines, pamphlets, flipcharts, posters, videos etc.), with the little that is available usually provided by NGOs working in the environment e.g. basic information on HIV. Despite the lack of materials, there were many activities and education sessions conducted by peer educators. We found the level of knowledge to be good.

Malawi: In one facility, the eight peer educators shared one flipchart to educate newly admitted inmates. We were informed by a leading NGO that provision of more flipcharts had been abused in the past. Some respondents within the same facility seemed to contradict each other, in that the peer educators all said there is a dearth of materials, whereas some nursing staff said that they are available.

Lesotho: There was a disparity between reports from senior health personnel and healthcare workers. While senior staff said that education materials were available from the Ministry of Health (MOH) and from the NGO, *Pedisanang Bopelong*, the junior staff stated that there were serious shortages and that educational materials were only sometimes available and were dependent on partners (e.g. Elizabeth Glazer, Johns Hopkins etc) to provide. It is noted that the LCS HIV and AIDS Policy Statement^{xvii} details and supports information and education.

Namibia: We found evidence that education sessions were conducted regularly (weekly) and occurred in groups in the clinic or in the cells.

Swaziland: The Ministry of Health and partners provided educational materials. The extent to which printed educational materials were available varied by respondent and across facilities. Posters presenting health information were more common than pamphlets, which were distributed in at least one facility, though both were subject to resource availability. Verbal communication – in the form of individual education sessions during clinic visits and screenings, as well as group lectures – was the primary form of communication described, and occurred regularly in all facilities visited. Nurses and, in some settings, expert clients (inmate volunteers who play a peer educator and health supporter role), provided health information and education.

Zambia: As with the other countries, there was a disparity of information around educational materials. More senior health workers reported availability of materials on TB and HIV for information and education, while other health workers said these were scarce and generally out of date. Most reported use of educational sessions conducted by nurses or peer educators in cells. Peer educators reported holding weekly sessions in cells on different topics covering hygiene, treatment adherence etc. at both large facilities.

7.2.2 Condom Programmes

In all the countries visited, except Lesotho, there was no official programme for provision of condoms. Because of current laws prohibiting same-sex intercourse in most African countries, there are no condom programmes available in their correctional facilities. Some correctional services reported that condoms are available in the clinics and are provided to inmates on exit, thereby allowing for some circulation of condoms within facilities.

The 2014 WHO Review^{xviii} clearly states that condom provision is feasible in a wide range of correctional settings. *“It has been found that condom access is unobtrusive to the prison routine, represents no threat to security or operations, does not lead to an increase in sexual activity or drug use and is accepted by most prisoners and prison staff once it is introduced. At the same time, there is evidence that making condoms available to prisoners is not enough – they need to be easily accessible and in various locations throughout the prison”*. The Review contends that condom access does not increase sexual activity, nor are condoms a threat to staff security; and that condoms decrease transmission of HIV. Our experience endorses the Review.

Malawi: Condoms and how to use them are only discussed during mass screenings and given to inmates on exit. We identified a good practice in Maula prison, where inmates on release are provided with condoms, condom education and an offer to test partners if married.

Lesotho: Lesotho is one of only two countries in Southern Africa, together with South Africa, implementing condom programmes in correctional settings. While we found that male condoms and lubricants were available to inmates and staff, the more in-depth study done by LCS/UNODC found that *“75.7% of male inmate respondents indicated that they had access and, only half (56.6%) indicated that they had access to condoms every time they were needed”^{xix}*. *“92.8% of male inmate respondents opine that condoms protect against HIV and other STIs”* which indicates a good level of education around the subject; more worrying is the finding that *“11.8% agreed that male condoms have worms or make an individual sterile, and 7.0% agreed that male condoms can either be re-used or carry the AIDS virus themselves”^{xx}*. Although female condoms are available, they do not seem to be well-dispensed, and education in their usage is erratic. The LCS/UNODC Assessment reported that *“The most commonly used lubricant seems to be Vaseline. When asked further about the availability of lubricants, 17 (of the 28 respondents) stated that they were always available when needed, 9 said they were sometimes available and 2 said they were rarely available”^{xxi}*. Again, these numbers were found to be higher among staff (over 80% indicated that condoms were available every time they were needed) and lower (0.5% said a male condom could be re-used; 0.0% believe that condoms have worms; and 1.1% said that condoms contain the AIDS virus)^{xxii}.

Namibia: Condoms and how to use them are not discussed at all but are available to inmates on exit. One of the senior respondents was adamant that they need to provide condoms as a protective barrier.

Swaziland: Male homosexuality is illegal in Swaziland and, consequently, condoms are not provided to incarcerated inmates in any facility, though they are available for correctional officers, and are distributed to inmates upon release.

Zambia: As in many other countries, homosexuality is prohibited and condoms are not made available to inmates. Condoms were available in the health clinics as many of these provide services to officials and the community, as well as to inmates. The health workers reported that they did not restrict use of condoms but, once incarcerated, inmates were prohibited from carrying condoms and may be punished if discovered. On discussion with health officials and health educators, many felt that the provision of condoms would encourage homosexual behaviour and were thus not in favour of provision of condoms.

7.2.3 Prevention of Sexual Violence

Except for South Africa and Lesotho, the current laws in most African countries prevent understanding of the possibility and occurrence of any sexual and other violence, be this among male inmates or female inmates or officials and inmates. Violence also covers consensual sexual relations under duress (where one party agrees to sex, out of concern for his/her personal safety or because of dire need (for example: food, soap, bedding etc). None of those visited seemed to have any interventions to reduce the likelihood of such sexual relations (for example: protecting juveniles; or separating long-term inmates from short-term and/or remand detainees). A mitigating factor is that there is little privacy in the facility, which leads to any sexual activity being common knowledge. *“Rape very much reduced because of peer pressure”*; and *“in the cells, they have eyes on each other”*.

Malawi: Sexual violence is discussed at monthly meetings, and inmates are sensitised to the issue. Of all those interviewed, there was no sexual assaults in their time in the facility, although it was acknowledged as a possibility. Most were confident that anyone assaulted would present at the clinic.

Lesotho: The LCS HIV and AIDS policy was written in 2009, i.e. before condom usage was permitted, it states that *“sexual activity between inmates takes place and has been identified as one of the common ways in which HIV is transmitted in correctional institutions. In this regard, safer sex practices should be encouraged for all sexually active inmates, and this should be accompanied by provision of safer sex materials such as condoms and water-based lubricants to be used with condoms. The use of water-based lubricants can help prevent condom breakage during anal intercourse, thus making the condoms currently available more useful in the correctional context. Also, because lubrication reduces tearing of the rectum as a result of anal intercourse, the risk of transmission is further reduced. For this reason, condoms and other preventive materials for both male and female inmates should be provided throughout their period of detention and prior to any form of leave or release”^{xxiii}*. This enlightened approach enables better understanding of the possibility and occurrence of any sexual violence, be this among male inmates or female inmates or officials and inmates. Only one of our respondents acknowledged the possibility of sexual assault, which could be that they’re fully aware of possible consensual sexual relations under duress. None were able to identify interventions to reduce the likelihood of such sexual relations.

Namibia: although the policy states that *“NCS shall ensure that strategies are implemented for the prevention, detection and elimination of sexual coercion and rape in all correctional facilities”^{xxiv}* and specifically referring to prevention, diagnosis and treatment, including separate housing for vulnerable inmates, there is no mention of condoms.

Swaziland: There was very little discussion about the possibility of sexual violence. When asked, some health workers mentioned cases of physical violence but no cases of sexual violence. This is contrary to the UNODC report that found over 40% of inmates, and 60% of officials, were aware that sexual violence did take place. Our review, conducted a few years after the UNODC study, indicates that these issues have not been adequately addressed.

Africans have consumed drugs for decades, if not centuries. Cannabis is grown and toked across the continent: the UN estimates that roughly 7.5% of African adults smoke weed in a typical year, almost double the global figure of 3.9%. In Somalia and Ethiopia, many men chew vast amounts of qat, a leaf with mild amphetamine properties, (much to the irritation of their wives).

The more recent spread of harder drugs such as heroin and cocaine is driven by the expansion of Africa as a transit route for chemicals on their way to Europe. Cocaine is smuggled from South America to West Africa by boat or small plane. In some small countries, the trade is huge. In Guinea-Bissau, Colombian drug dealers are alleged to have funded the re-election campaign of President João Bernardo Vieira in 2005. Mostly, the product is then smuggled out to Europe by land, sea or air. But much is sold locally, too. Cocaine-snorting in West Africa is now thought to be as common as in Europe.

In east Africa the more urgent problem is heroin, which is imported from Afghanistan and Pakistan on its way to Europe, but also serves a local market. No one is quite sure how many people take heroin—across Africa, the UN puts the number of injecting drug users anywhere between 330,000 and 5.6m. But everyone is sure it is growing. With injection comes HIV, the virus that causes AIDS, which is easily spread by sharing needles.

<http://www.economist.com/news/middle-east-and-africa>

Zambia: As with many of the other countries, there was very little discussion about the possibility of sexual violence. When asked, some health workers mentioned cases of physical violence but no cases of sexual violence.

7.2.4 Drug Dependence Treatment

Although hard drug addiction (e.g. cocaine, heroin, street drugs such as flakka, etc) is an uncommon practice in the countries we visited, we are aware of cannabis, alcohol, and prescribed drugs being taken – if not abused - by some inmates. The Lesotho report covered substance availability and use, but not treatment, indicating that the main issue was with alcohol and cannabis rather than intravenous drug use. *“A large proportion (84.2%) stated that dagga was available. Of those who reported use of drugs in the past three months (n=144), again a large proportion (83.3%) indicated that they used dagga. 16.2% reported that alcohol was available but only used by 0.7% in the 3 months prior to the study”^{xxv}.*

We found no evidence of drug dependence treatment in Swaziland correctional facilities, but this was not identified as a problem, contrary to the IV and Drug Use Situation and Needs Assessment Report from 2013^{xxvi} which identified inmates admitted with drug dependence. Although substance addiction is only common to a low percentage in Namibian correctional facilities^{xxvii}, the UNODC Assessment found that 1.7% (of those interviewed) smoked dagga, 0.9% drank alcohol, 0.9 took heroin/ opioids, 0.4% took cocaine and 2.2% took tablets without a prescription, with no treatment provided. Our questionnaires only covered safe injection supplies (to which we had a nil response), while the UNODC assessments covered availability and use, but not treatment. As there are indications in a number of countries of an increasing problem, we would encourage Correctional Services to begin considering policies and procedures for substance abuse for 2018.

In Zambia, there was also no report of drug dependency treatment but many health workers were not aware of any intravenous drug users in their facilities.

7.2.5 Needle & Syringe Programmes

As above, although we found no evidence of any addictions, and therefore no programmes in place, the UNODC Assessments give us pause and, while not an urgent priority, it should be noted that there is current evidence of inmates using needles for tattooing purposes.

7.2.6 Prevention of Transmission (through Medical & Dental Services)

In all countries visited, medical services are routine, but we found no evidence of dental services being in place. Since most Correctional Services do not have dentists on staff, all inmates requiring dental services are referred to state hospitals. Of interest, the Namibian Correctional Services Health Policy (clause 3.6.1) includes dental services in the service delivery requirement - *“all inmates [shall] have access to primary, secondary and tertiary dental care services, provided internally within NCS or by facilitating access to services provided in state or private health facilities”* ^{xxviii}.

7.2.7 Prevention of Transmission (through Tattooing, Piercing and other forms of Skin Penetration)

We found no evidence of such practices or programmes being in place in any of the countries we visited. However, tattooing (with blades or needles) and shaving were common practices. Razors and needles were shared in both activities, regardless of the high risk of HIV transmission.

Lesotho: The LCS-UNODC study found evidence of sharp object exchange, such as razors used for shaving and haircuts, and needles used for tattooing and some traditional healing rituals on an ongoing basis, although their use was not entirely revealed in the study. Interestingly, the LCS HIV Policy states that *“Tattooing has also been identified as one potential mode of transmission within the correctional service institutions as it is widespread among the inmates. One way of addressing this would be the provision of sterilising agents”* and that *“other factors putting inmates at risk of HIV infection were the exchange of razor blades used for cutting hair and sharp needles used for tattooing”*. Further highlighting the issue, a short study undertaken in Quthing correctional facility revealed that *“41.8% of respondents had tattoo marks and two-thirds of this number had their tattoo marks done inside the facility. The instruments used were unsterilized in about 78.3% of those who had tattoos, and the instruments were used for more than one person in about half of them”* ^{xxix}.

Namibia: the UNODC Assessment found that inmates shared body piercing tools e.g. razor blades 25.2%, sharing tooth brushes 4.3%, being tattooed 23.4%, being pierced 9.1% and ritual blood sharing 4.8% ^{xxx}. Interestingly, the NCS Health Policy clause 3.4.6 states that *“NCS shall ensure that all inmates have access to clean razor blades to avoid transmission of HIV and Hepatitis through the sharing of razors”*.

Swaziland: Tattooing practices were described as rare among adult detainees but more common among juvenile offenders. We observed no programmes to prevent transmission through skin penetration.

Zambia: Similarly in Zambia, we observed no programmes to prevent transmission through skin penetration.

7.2.8 Post-Exposure Prophylaxis (PEP)

Generally, staff and peer educators fully understood the importance of occupational exposure and exposure to blood during fights. However, the awareness of exposure following sexual assault was low with very few reporting knowledge of sexual assaults. However, health care workers have put a few inmates on PEP for prevention of exposure to blood during physical violence. In all countries, the Ministry of Health provides kits as required.

Lesotho: The LCS HIV Policy requires healthcare workers to ensure that inmates, who have been victims of rape, sexual violence or coercion, have timely access to PEP as well as effective complaint and redress mechanisms and procedures. Staff should have access to professional counselling and follow-up services after possible/definite exposure to blood and body fluids which will include PEP. The LCS-UNODC study found that most of their respondents had received training on PEP, but the study did not measure the frequency of such exposures nor what proportion of individuals sought PEP in these instances.

Namibia: Interviewees reported that officers and inmates would receive 3 days PEP if injuries from fighting are reported and HIV status is not known. The UNODC Assessment found that ≥75% of inmates interviewed were aware that PEP services are available; whereas only 15.6% of Officers interviewed had access to PEP^{xxxi}. We found no reference to PEP in the NCS Health Policy; and would highly recommend an amendment. Officials, healthcare workers and peer educators need to be fully aware of the process and access.

Swaziland: While PEP is accessible to all inmates and officers who require emergency treatment, it is not available on-site in all facilities. At least one facility refers individuals to a local hospital for PEP. Occurrences of aggression and sexual violence warranting PEP were described by respondents as rare. There were some discrepancies in accounts of the availability of PEP from respondents working in the same facilities; it is worrisome that knowledge of availability is not uniform.

Zambia: In Zambia, PEP was reported as available but was used mainly for needle-stick injuries for health workers. Many reported never having had a case of sexual assault among inmates.

7.2.9 HIV Counselling and Testing (HCT)

All facilities visited had HCT services, and offer HCT service on entry. In all countries, it was reported that HV testing is also offered to all inmates diagnosed with TB. All countries use only validated test kits (Determine and UniGold rapid test kits with a second rapid to confirm the result if the first is positive) in line with national policy; provide adequate and on-going psycho-social support; and utilise expertise outside Correctional Services for such purposes. Issues of voluntariness were identified as HCT offered on entry, but it was reported that 'most agree' and in some cases described as 'mandatory'. There is a concern that HIV status is established at entry and generally, once the inmate is incarcerated, he is unlikely to re-test. Provider initiated HIV testing for those visiting the health facility was mentioned but did not seem to be in practice in any of the facilities visited.

In Malawi, there were reports of repeat testing every 6 months in one facility managed by MSF. Other facilities reported repeat testing for HIV-negatives on entry and after three months to 'rule-out' positives during the window period. In general, there was very little evidence of conversions occurring while in prison although much of this may be due to the practice of systematic testing only at entry. The MPS conduct mass screening for HIV, TB and STIs every 6 months, cell by cell. No conversions were identified.

Female inmates in Lesotho are also offered PAP (Papanicolou) smears at the same time as HIV testing.

In Namibia, the NCS Health Policy states that *"all inmates shall, as soon as possible but within two months after admission, undergo a comprehensive health assessment by medical service personnel"* (clause 3.2.1) which includes screening and HCT offers. The counsellors are extremely active, and go to the cells every week to make appointments with volunteers. Excellent HCT and MMC records have been established and maintained, along with HCT registers and HCT monthly workplans, and an HIV rapid test logbook. Trained HCT Community Counsellors have been seconded to NCS from the MOHSS.

In Swaziland, HMCS offers HCT to all inmates with unknown HIV status on admission, within 30 days' post-admission, and during annual mass screening campaigns. Although the interviews discussed inmates testing after the first admission, there was no clear evidence that this was in place. It was not routine to do an HIV test at every consult. Pre-and post-test counselling is provided by both nurses and expert clients, while nurses perform testing procedures on-site. Tests include Determine for screening and Unigold for HIV confirmation. One respondent indicated that HIV testing kits are intermittently out of stock.

In Zambia, similar to the other countries, HIV testing is offered on entry. HIV testing is repeated only in specific circumstances such as illness or within three months if seroconversion is suspected. The standard tests are Unigold and Determine.

7.2.10 HIV Treatment, Care & Support

Between 2016 and 2017, universal test and treat (UTT) programmes were successfully initiated and established as routine policy in all countries we visited, with counselling and initiation by a clinical officer, either on-site or at the District Health Office. UTT was found to be fully implemented in Malawi and Swaziland where inmates are started on treatment on the day they're tested or very soon thereafter. In all the facilities, only those who had refused treatment were not on treatment. We found UTT had just been introduced as policy and was partially implemented by the time of our visits in Lesotho and Namibia. No nurses have been trained in Nurse-Initiated-Management-of-AntiRetroviral-Therapy (NIMART). We did find in many facilities, ART initiation was reliant on the Ministry of health teams and often the ART records were kept at Ministry of Health facilities. In most facilities, where the treatment was initiated outside of Correctional Services, there were larger delays in starting medication and the health workers were less involved and aware of the treatment challenges.

In general, at most facilities, there was sufficient care given to adherence with directly-observed therapy practised in Namibia and Lesotho; and good support systems in Malawi and Swaziland. Although difficulties of follow-up of certain individuals, especially those released unexpectedly, were raised by many health workers, we found most countries visited had good systems to ensure linkage to care post-release. These systems included written guidelines and procedures for follow up post-release. In Zambia, an interesting strategy was to provide treatment at the correctional facility even for inmates already released. This strategy may alleviate feelings of stigmatisation in queues at other public facilities. In Swaziland, the use of cellular phones, provided by partner organisations, for tracing individuals was in place.

Malawi: Until 2016, the protocol was to rapid test and conduct CD4 tests; when the CD4 dropped to <500, ART was initiated with counselling. As of 2016, the Universal Test and Treat (UTT) protocol has been in place, with counselling and initiation by a clinical officer and 1 month's supply from pharmacy. In large facilities, second line regimens are available and provided as per guidelines. In terms of treatment adherence and support, referral letters and feedback from clinics is observed. *"In the cells, we have eyes on each other; and we remind each other of clinic days and condition and viral loads. We talk and know the order of visits e.g. refills, consult, viral load etc. HIV-positives get extra porridge which helps with treatment adherence"*. We noted some challenges when we specifically queried adherence: (a) some patients were not willing to be observed when taking medication (DOTS); (b) because of religious reasons, a few patients were unwilling to take medication; and (c) psychological issues from being in custody can impede adherence.



Policies are displayed and used

Lesotho: The LCS HIV Policy guarantees that inmates and staff shall have access to ART in the same manner as that available to people outside the correctional facilities. LCS healthcare workers refer ART initiations to the nurse, after a confirmatory test for those testing HIV-positive. Inmates requiring ART also receive adherence counselling and treatment education, monitoring of CD4 count, viral load and management of any opportunistic infections. Medicines are collected from the dispensing room on a daily basis. Some respondents told us that patients *"are not adhering well"*, and they need *"more information and more encouragement"*. The LCS-UNODC study found that *"almost two-thirds (62.4%) of inmate respondents indicated that ARVs were available from health clinics and clinic staff within LCS."*

One-third indicated that ARVs were obtainable from hospitals and clinics outside of LCS and more than 78.9% stated that ARVs were always available when inmates needed them. The remaining proportion stated that ARVs were never available or that they were unsure”^{xxxii}. The LCS-UNODC study reported that “equal proportions of male and female staff respondents stated that ARVs could be obtained within LCS facilities (45.6% male and 45.3% female) or from hospitals and clinics outside of LCS (40.1% male and 49.3% female). Approximately two-thirds of staff stated that ARVs were always available when needed. However, 9.9% of male and 14.1% of female staff respondents stated that ARVs were never available when needed within LCS facilities. Staff were not asked to distinguish between need for themselves or need for inmates under their care”^{xxxiii}.

Counsellors provide treatment adherence and support; and are supervised by the MOH. Lay counsellors are currently being trained and mentored by the MOH. Some of those interviewed felt that they need additional training, particularly in training tailored to correctional settings. CPT is provided to all HIV-positive inmates for decreased CD4 counts or TB patients and continue for life. IPT is administered to all HIV-positive inmates. DOTS practice is applied to non-adherent patients. In terms of continuity of care post-release or on transfer, health staff complete referral (or transfer) forms with no follow-up (staff don't have contact numbers for community clinics; transport problems). However, the NGO, *Pedisinang Bopelong*, assists with follow-up to ensure patients adhere to their medicine regimens. Nurses reported that treatment defaulting was common among inmates re-admitted after release.

Namibia: Universal Test and Treat (UTT) was successfully initiated and established as routine policy in February 2017. The UTT protocol includes counselling and initiation by a clinical officer and 1 month's supply from the pharmacy. At Windhoek correctional facility, ART is provided on the same day after the inmate has tested positive; however, in facilities located further from the centre, where there is a lack of medical professionals available, the closest state hospitals (e.g. Tsumeb) visit the facility every 2 weeks, provide ART and keep the ART records. In large facilities, second line regimens are available and provided as per guidelines. Cotrimoxazole Preventive Therapy (CPT) is provided for advanced AIDS patients (WHO Stage III & IV or CD4 <350) or TB patients and is continued life-long. Isoniazid Preventive Therapy (IPT) is provided for all HIV positive patients, including those on ART, and is given at a dose of INH 300mg for 9 months.

We found evidence of peer educator programmes to manage adherence to ART. DOTS practice is applied to non-adherent patients. In cases of facility transfer or exit, a standard procedure is observed for sentenced offenders: (a) health care workers prepare inmates with exit screens for TB and STIs; (b) ART is provided; and (c) documents, including the Health Passport, are taken to the nearest clinic (some have relatives who get the details). Health workers follow-up inmates two weeks after release telephonically. Some health workers acknowledged the difficulties with following up released inmates (due to stigma).

Swaziland: Inmates who test positive for HIV receive post-test counselling, are screened for TB and initiated on ART and CPT within two weeks, regardless of CD4 count. Inmates diagnosed with TB/HIV co-infection begin TB treatment immediately and are initiated on ART one month later. Those who do not have TB are also placed on IPT following three months of ART. IPT was implemented but data suggests it's not done systematically. HIV treatment is initiated on-site at all facilities. Expert clients and cell leaders are the primary providers of treatment support for both HIV and TB, though nurses in one facility visited are currently the only supporters.

Participants from multiple facilities indicated that personnel shortages impacted the quality of treatment support available, and one respondent noted the difficulty of engaging appropriately-skilled replacements when expert clients complete their sentence and are released. Notwithstanding these challenges, respondents – both nurses and expert clients – reported very few challenges with treatment adherence while inmates are incarcerated, though a participant in one female facility explained that religion and the cultural practice of deference to husbands can result in poor adherence to both HIV and TB treatment. Referral procedures for newly-admitted, transferred and released offenders being treated for HIV and/or TB were described as including referral and transfer forms, telephone calls to receiving facilities, as well as follow-up communication to verify that treatment has continued. The extent to which these procedures are all routinely and successfully performed at each facility was not clear, nor in what proportion of transfers or releases that are followed. Additionally, mobile phones are sometimes provided by NGO partners to clinic nurses to allow for follow-up of released offenders. Once offenders complete their sentence and are released, continuity of care and treatment adherence are often poor, despite practices designed to facilitate and sustain them.

Zambia: At Lusaka Central, ART was mainly provided through the CIDRZ team as part of the “*Treatment as Prevention*” project. This team is made up of a medical officer, nurses and a number of counsellors. UTT was initiated in July 2017. Following release, a referral letter was written to the nearest clinic and was followed up with a call to the offender manager (counsellor responsible for inmates on release). As correctional facility clinics are able to see community members, inmates are often followed up post-release in the correctional facility clinic. At our follow up visit to the two Kabwe facilities in May 2018, we found that UTT was being implemented, with assistance from NGOs for supply of medication. The processes for ensuring patient follow-up post-release were very weak with no formalised process and no ability to follow-up patients. At all facilities, treatment adherence support is provided through the peer educators who also kept medication and provide daily treatment to inmates. On enquiring whether peer educators were likely to withhold treatment from inmates, health workers said they did not believe it was common practice for peer educators to abuse their authority. One of the challenges described by health workers was the issue of nutrition while on ART, and difficulties with obtaining nutritious food due to food restrictions.

7.2.11 Prevention, Diagnosis and Treatment of TB

In general, in most facilities, we found an increased awareness of TB and its risks with regards to incarceration. In almost all facilities, there was routine TB screening at entry and from campaigns while inmates were incarcerated. There was generally a vagueness in terms of when a person was identified as needing to further investigation for TB and many were not clear on what tests were being used. In some cases, where Xpert had been introduced as the routine first-line test, many health workers were still not clear that this was the first-line test.

In Lesotho, a country with very high TB rates, the availability of TB testing services seemed to be limited and erratic; and urgent attention is required there.

Once inmates were started on TB treatment, adherence was monitored closely with all being on directly-observed therapy. For TB infection control, many facilities experienced challenges with ensuring good practices. In many of the facilities visited, inmates spent a lot of time outside and favourable weather conditions assisting prevention of transmission. The use of isolation cells for inmates with active TB was being practised in many facilities, although many experienced difficulties with having enough or adequate isolation cells. The use of surgical masks for active TB patients and N95 masks for health workers seemed to be encouraged but their use was not routine. Although we did see some patients with surgical masks, we did not witness any health workers wearing a N95 mask. In general, isoniazid preventive therapy (IPT) was not practised. Many health workers were aware of IPT but, when asked about patients being started, this did not seem to be well implemented. An exception was Windhoek Central where the staff members are particularly interested in IPT implementation and seemed to be championing it. In Zambia also, a large number of HIV patients were also on INH.

Malawi: TB screening is conducted in every health centre visit, at entry and during mass screenings. Sputum tests are done via microscopy and GeneXpert at hospitals when cartridges are available; one-week waiting period for microscopy results and 45 minutes for Xpert results. Newly infected are placed in the TB ward/isolation cell for two weeks at treatment start, although we were unable to verify that these are available in all facilities. One identified weakness is that HIV-positives are not put onto IPT. We were unable to identify any DR cases, but were informed that, according to the National TB Programme, such cases would be transferred to identified hospitals. Of further interest, after noting a gap in the Maula TB register (Aug-Nov 2017), resulting from a breakdown of the GXP machine, a total mass screening was conducted (20 Nov-01 Dec) in which 10 TB cases were identified. In terms of infection control and noting that we were unclear on winter conditions, it was good to see that inmates are outside all day, and exposed to vitamin D and clean air, thus controlling TB spread. The clinics, offices, dispensary, pharmacy and HCT rooms all have open windows, enabling cross-ventilation; however, there is very little – if any – cross-ventilation in the cells (understandably, but unfortunately, this is a common experience in all Southern and East African correctional facilities). In some facilities, where there is over-crowding, inmates store their property in the wire ceilings, which further obstructs airflow, resulting in a further 10% loss of ventilation in the infection control assessment). It's interesting to note that the National TB Programme conducted an Infection Control assessment, in which Maula achieved a rating of 90%.

Lesotho: Lesotho has the second highest per capita TB burden in the world; with an estimated prevalence of 714 cases per 100,000 people. Statistics indicate that about 73% of TB cases are also co-infected with HIV.^{xxxiv} TB screenings are conducted on admission; with screens routinely conducted on each health visit. Mohale's Hoek TB-symptomatic and/or presumptive patients are sent to Mohale's Hoek hospital for GXP done by the Queen II laboratory. Sputum is taken for smear on follow-up. Senior staff did report that the process is inconsistent (due to reagent stock-out; insufficient lab technicians so that only 6 samples are processed per day; and lost results or the machine not working). Contact screening of the whole cell is done if an inmate is found to have TB. During our visit, there seemed to have been an improvement since the LCS-UNODC study report that screening was mainly done with microscopy. Additionally, the frequency of TB screening seems to have improved.

It was reported that inmates are easily located for follow-up, through the sputum identification register. This may not be the case with remand detainees who may not return to the facility after a court appearance. It was noted that the LCS policy emphasises that “over-crowding poses a threat to the prevention of infectious diseases” and that measures are recommended to reduce this. We did not find the Lesotho correctional facilities to be over-crowded, which could be due to the policy to advocate for other measures and non-custodial sentences as alternatives to imprisonment. We noted sufficient air ventilation in clinics, and in cells. One senior staff member reported that some facilities are being renovated and that, while ventilation is good in the isolation cells, the issue of infection control was not taken into account in the renovations. At Mohale’s Hoek, the issue of ventilation and no isolation cells was raised by health workers. Other issues that arose regarding infrastructure were that facilities are very cold in winter months and beds and mattresses were in poor condition.

Namibia: It’s important to stress that Namibia’s TB incidence rate of 717 cases per 100,000 people is more than twice as high as the African regional average. The TB prevalence of 586 per 100,000 people and mortality due to TB of 85 per 100,000 people are also above average for the region^{xxxv}. TB screening is conducted at every health centre visit, at entry and during an annual mass screen (bi-annual, March and October) for both officers and inmates. Sputum tests are done via microscopy; GeneXpert and chest x-rays are done at hospitals. DOTS practice is applied to non-adherent patients. Newly infected inmates are placed in the TB ward/isolation cell until they become sputum negative, although we were unable to verify that these are available in all facilities. CPT is provided at Stage III & IV or CD4 <350 or TB patients who continue for life. IPT is provided to all HIV-positives (9 months INH 300mg even if on ARVs). In terms of infection control, the facilities do not seem to have Infection Prevention & Control Committees. However, they do have TB Infection Control Plans, which are displayed in the clinic. The clinics, offices, dispensary, pharmacy and HCT rooms all have open windows, enabling cross-ventilation. Cross-ventilation or infection control in the cells, as has been found in many facilities in this review, was not in place.

Swaziland: All inmates are screened for TB at admission, when a close contact is diagnosed with TB, and during regular screening campaigns. Those screening positive are tested with either GeneXpert MTB/Rif Assay (GXP) or GXP and culture. Sputum samples are sent off-site at most facilities (on-site at Matshapha) to national TB referral laboratories for testing. Time to availability of results was described as rapid for the submission of a small number of samples, but lengthy for the processing of a high volume of samples (e.g. during screening campaigns). On being diagnosed with active TB, inmates are referred to a local hospital for treatment initiation, offered HCT, and isolated until sputum smear conversion occurs. At some facilities, however, a lack of isolation units was reported and there were some discrepancies in responses from respondents in the same facility regarding the availability of isolation units; it is thus unclear how frequently TB patients are placed in isolation. Sometimes isolation areas are used for punitively rather than being reserved for infection control purposes. The primary TB infection control practices described by participants were natural ventilation (open windows), N95 respirators for facility personnel in contact with TB patients and surgical masks for TB patients. Respirator fit testing for each wearer is critical to ensure that respirators are appropriately placed and the correct size is worn, and therefore that the greatest degree of protection is offered, but this practice was not mentioned by respondents. Ultraviolet germicidal irradiation fixtures were not available in all but one facility. Almost all respondents indicated that written infection control policies were available on-site.

Waste disposal was described as a challenge at three of the four sites visited. Promising practices were identified by individual facilities: one respondent described extractor fans in the TB room and, at a second site, all inmates in the same cell were screened when a smear-positive TB case was detected. For all the sites visited, it was clear that infection control was being considered. All cells had open windows allowing for ventilation. Matshapha has a dedicated TB facility with ventilation and extractor fans, as well as a laboratory with an Xpert machine. In addition, there was a state-of-the-art isolation unit which is able to house 10-12 inmates with good ventilation, and availability of space for leisure separate from other patients. At the time of the visit, there was only one inmate in the TB isolation unit, indicating the dramatic reduction of TB cases in Swaziland.

Zambia: In Lusaka Central, we witnessed much effort to ensure isolation of patients on TB treatment. For the first two weeks, TB (Xpert) positive inmates are isolated in a ward that is part of the hospital. Following the initial two weeks, a dedicated ward was available for TB isolation, and this ward had shown a dramatic reduction of TB patients over recent months. At Kabwe, there were no isolation facilities available for TB patients at the maximum facility and an isolation ward (housing 23 patients) in the medium facility. There was also a shortage of ambulances for transport of inmates to the referral hospital. INH was being provided consistently in all the facilities visited.

7.2.12 Prevention of Mother-to-Child Transmission of HIV (PMTCT)

At the female correctional facilities visited, UTT is in place, resulting in all HIV-positive women on ART regardless of pregnancy. We found very good practices at Lesotho's Maseru Female, where HIV services were supported by regular cervical screening, good counselling support and provision of contraceptives at exit; and, in Swaziland, where the female correctional facilities provide exceptional services for women, including regular cervical screening, antenatal and post-natal care, and use of contraceptives.

7.2.13 Prevention and Treatment of Sexually Transmitted Infections (STIs)

STI screening is done only on entry in Malawi, while Namibia screen on entry and exit. Swaziland screens for STIs on admission and manages with syndromic management.

7.2.14 Vaccination, diagnosis and treatment of viral hepatitis

We did not include hepatitis testing in this critical review. We are therefore unable to comment on this for the facilities visited.

7.2.15 Protecting Staff from Occupational Hazards

In most facilities visited, HIV and TB services were voluntary and available for staff and staff are encouraged to attend the services. In some areas, we found that there was room for further encouragement of screening of officials.

Malawi: Officials and healthcare workers can be screened and tested at the health centres, but “*staff are shy to come, although we have had a few who’ve come forward for testing*”. They’re individually encouraged to screen and test, and these services are available to spouses and families. Officials and health workers are also able to access screening and treatment at government clinics outside the facility. Condoms are available for staff. There is no routine screening. Of concern, we noted that N95 masks are “*sometimes used when visiting congested cells, but not generally used when they are available*” and that some facilities do not have masks available as routine; these were not evident in our visits.

Lesotho: Although the LCS HIV Policy does not specifically refer to occupational health and safety, it does state as that, as far as possible, LCS shall provide well-equipped facilities; ensure that health services are provided by well-trained personnel; and ensure that security issues take health issues into consideration, and vice-versa. Staff TB screening is offered, but all respondents reported that staff don’t come forward.

Namibia: The NCS Health Policy contains an entire section on “Staff Health and Well-Being”, which includes occupational health and safety. Staff TB screening is done well, with screening conducted in a separate area and a week of education. The Commissioner-General has in the past participated in such screenings. If an official is found to be positive, s/he can choose between treatment from NCS healthcare workers or from a state hospital. In the UNODC Assessment, more than 50% of officers interviewed had been tested for TB within the 12 months preceding the survey^{xxxvi}, and 15.9% of respondents had a chest x-ray less than a year before the survey^{xxxvii}.

Swaziland: As described above, N95 respirators are reportedly available to health officials and other personnel in contact with inmates with active TB, and natural ventilation provides additional protection from transmission of TB and other airborne infections. Staff TB screening is performed in all facilities, though the reported frequency of this practice varied somewhat by respondent (weekly, quarterly, annually, as needed). In some facilities, health care workers were also taking IPT. This is a good initiative, but we were not able to determine whether this was widespread and limited to only HIV-infected health workers or all health workers.

Zambia: Similarly, staff screening for TB and HIV is available and voluntary and many staff members are being treated in correctional facility clinics. It was reported that some staff may prefer to be seen elsewhere.

7.2 Policies and Practices

We have drawn up a list of the essential policies and practices for prevention and treatment of HIV and TB in the region, based on knowledge and experiences of what is considered best practice. For each of these areas, we looked at policies and evaluated whether there was evidence of this practice in facilities. In all countries visited, there were no prison-specific guidelines. All health workers were following national guidelines provided by their respective ministries of health. In some countries, including Zambia and Malawi, inmates are not even mentioned in the National Health guidelines. Prisons are specifically mentioned as a section in the National TB guidelines of Swaziland and the National AIDS policy of Lesotho.

The glaring issue in HIV Prevention is the provision of condoms and lubricants for prevention of HIV transmission within facilities, noting that Lesotho should be commended for taking the bold step of condom provision in spite of government laws that prohibit same-sex intercourse.

HIV testing is available on admission at most facilities and rapid diagnostics are being used universally. However, regular HIV testing once a person is incarcerated, and provider-initiated HIV testing and counselling, seem to be done less regularly in most facilities. This seemed to be linked to the concept that since a person is incarcerated, there would be no opportunity for further transmission. Similarly, PEP seems to be reserved for occupational exposure and exposure post-trauma. The issue of sexual violence and post-exposure prophylaxis due to sexual encounters was generally not discussed. Screening for STIs seemed to be done through symptom screens on admission. Again, any screening post-incarceration for STIs was not discussed or practised.

Screening for TB is in place on admission and at regular intervals throughout facilities, although not specifically stated in any guidelines. The use and availability of Xpert for screening seemed to have been in question at most facilities. We found policies and practices for isolation of TB cases and referral for DRTB treatment in place throughout. The provision of Isoniazid and Cotrimoxazole are included in guidelines but practice was not always evidenced in all facilities.

As mentioned previously, Universal Test and Treat has been implemented in all countries. The new Consolidated Guidelines for Treatment and Prevention of HIV infection, published by the Ministry of Health Zambia in 2016, advocates for antiretroviral treatment for all those with HIV regardless of CD4 count.

Table 4. Policies & Practices for TB and HIV Prevention and Treatment Services

	Policies					Practice				
	Malawi	Lesotho	Namibia	Swaziland	Zambia	Malawi	Lesotho	Namibia	Swaziland	Zambia
HIV Prevention										
Provision of condoms for prevention of transmission within facilities	N	Y	N	N	N	N	Y	N	N	N
Provision of lubricants for prevention of transmission within facilities	N	Y	N	N	N	N	Partial	N	N	N
HIV testing at regular intervals	N	N	N	Y**	N	Y	Y	Y	Partial	N
HIV testing offered on admission	N	N	N	N	N	Y	Y	Y	Y	Y
Use of rapid diagnostics for HIV testing	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Provider Initiated HIV Counselling & Testing (PICT)	Unknown	N	N	Y	Y	N	N	N	Y	N
PEP for HIV	Y	Y	Y	Y	Y	Partial	Partial	Partial	Partial	Partial
Screening for STIs on admission	Y	N	Y	Y	N	Y	N	Y	Y	Y
Treatment of HIV and STIs										
Universal Test and Treat (UTT) for HIV	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Screening for TB										
Screening for TB on admission	Y	Y	Y	Y	N*	Y	Y	Y	Y	Y
TB Screening at regular intervals	Y	Y	Y	Y	N*	Y	Y	Y	Y	Y
Use of rapid diagnostics for TB screening (Xpert MTB/Rif Assay)	Y	N	N	Y	N*	Partial	Y	Partial	Y	Y
Treatment for TB										
Isolation of TB cases	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Referral for DR treatment	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Prevention of TB and other diseases										
Cotrimoxazole Preventive Therapy (CPT)	Y	Y	Y	Y	Y	Partial	Y	Y	Y	Y
Isoniazid Preventive Therapy (IPT)	Y	Y	Y	Y	Y	Partial	Y	Y	Y	Y

*National TB guidelines from 2006 – no guidelines specific to prisons and prisons not included in any of the national guidelines

**Guideline mentions prisoners mentioned as a key population who should be tested regularly

8 MONITORING & EVALUATION REPORTING SYSTEMS

In general, we found the same problems in each of the countries with regards to Monitoring and Evaluation (M&E). Most correctional systems have a dedicated M&E Unit collecting general information around detention and all programmes within the correctional environment. The Health indicators seem to be included in these programmes, but the staff in these units are not specialised in health information. In addition to the M&E, there is also a Health department interested in health outcomes in the facilities. Often, the Ministry of Health (MOH) requires another set of data, i.e. additional to that required by the M&E Unit. The indicators, definitions and timelines are not aligned with MOH tools or indicators or with those of any partners, with the facilities having to report to 2-3 entities using different reports each time. In Malawi and Swaziland, we found particularly good support between the MOH district staff and the correctional facility staff; with facility staff having a very good understanding of what was required in terms of MOH documentation.

We found very little use of the information for reporting or for programme improvement. In addition, we found that equipment and systems for data reporting were generally paper-based and reliant on physical transportation for transmission of information; Malawian officials sometimes use buses to transport information. In most consultations with the M&E staff and Health staff, there was an acceptance that the situation was not ideal and they welcomed additional assistance to streamline systems and to utilise data more effectively.

Malawi: The Research & Planning Unit at Head Office is responsible for: planning and budgeting; data collection; producing aggregate, quarterly and annual reports to the National AIDS Committee; developing the Monitoring & Evaluation Framework; and providing the facilities with reporting templates. In our November 2016 visit, we were told that they were recruiting an M&E Specialist for Head Office and one for each region (4); however, we were informed (December 2017) that this is no longer the case. The National HIV Programmes Officer reviews the monthly reports and compiles a national report. Where there may be an error, the National HIV Programmes Officer calls the station or the region. Email does improve delivery; however, only 2/4 Regional Co-Ordinators have access to email, and use personal email and personal computers. The Commissioner of Operations is responsible for reviewing aggregated numbers prior to release of reports. A further weakness in the system is that duplicate data can easily arise, in that a new number is generated for every clinic visit. Likewise, the reporting system seems to note those who default as against those who pass away, but it's not a fail-safe system. The M&E Unit are meant to make quarterly visits to each facility, but this is dependent on the availability of funds. Unfortunately, we were unable to obtain a list of indicators for required capturing at each facility, although we can extrapolate/assume indicators from the MPS Strategic Plan^{xxxviii}: Facilities with an MSF presence receive reports from the registry, with the database kept by MSF off-site, and regular meetings are held to discuss results.

Lesotho: The LCS M&E systems for health were reviewed. In general, there is much data collection done at facility level but reports to the Health department and Correctional Services are not aligned. Much of the information is not reviewed or analysed by LCS and no trend analyses are done to identify gaps or guide implementation. The LCS M&E Unit is responsible for data collection and analysis; completing reports and creating graphs (monthly and quarterly); monitoring data and evaluating indicators. Although there is some information in the National Strategic Plan, there are no M&E guidelines.

There is very little correlation between the different data sets and this results in duplication of efforts and missing information at the LCS national level. A general overview provides the following understanding: Once national office receives the report from the facilities, it is signed and dated; data is compiled monthly against a monthly report deadline (10th of the following month), after which data is captured. The reporting deadlines are harmonised with the MOH but the reports are different and we noted a large number of late or missing reports. It was reported that a database has been developed for the digitisation of registers. This database should be reviewed to ensure that it has sufficient range and consistency checks, maintains integrity of data and will be able to meet the requirements of LCS. Data collection tools at the facility level are paper-based and received as hard copy. Facilities bring the reports to national office; transport is a challenge and there is usually only one car per facility (covers all needs, including health). M&E officer at LCS national office receives the reports, checks them for completeness and then sends the report to the Commissioner. If the numbers are incorrect, the sites are called and asked to rectify the errors. Often, the totals from the weekly reports do not match the monthly report that is sent separately. All 12 correctional facilities report their data, but 3 sites report as Maseru Central (Maseru Central, Female and Juvenile), and Mafeteng is being rebuilt and does not currently have any inmates. The MOH calculates the indicators; no common definitions have been shared with the facilities. The LCS national office has both electronic and paper-based tools. The electronic data capture system is internet-based and does not work a few times a month and, although IT Tech Support is there to assist, the problems are not resolved. The Chief Officer: M&E reviews aggregated data prior to it being released.

The national office acknowledge that they're meant to visit sites every quarter, and that sites find the feedback very helpful and motivating, but they equally acknowledge that communication is a challenge. National office personnel are fully aware of the inadequacy of their M&E Systems, and would very much appreciate assistance in developing and implementing a sound system, with defined indicators and good communication and reporting between HQ and the facilities. Health staff in the facilities compile monthly HCT and TB screening with ART, TB and nutrition statistics to the District Health Management Team (DHMT). In addition, quarterly reports are prepared for LCS national office. Although the DHMT supervise register and reporting completion, it is rare for them to visit facilities. Some health workers reported that they see no value in the report they send to HQ, that issues are ignored and the reports do not seem to be taken seriously (e.g. kitchen issues or water issues); while others felt that these can be helpful (e.g. to see who needs to be tested or to compare quarterly reports for progress). All facility staff interviewed said they never receive any feedback and would greatly appreciate knowing how they, and others, are doing, as well as getting a response to their concerns/ issues.

Namibia: NCS HQ have a Directorate: Performance Assurance, Monitoring and Evaluation. However, it seems that the responsibilities for data collection and reporting are covered by the Deputy Commissioner: Health Care services and the Senior Superintendent: Health Care Services. HQ personnel are fully aware of the low adequacy of their M&E Systems - *"the NCS recognises that, inadequacy of data to inform disease occurrence impedes proper planning for health care and treatment services within the facilities"*^{xxxxix} - and would very much appreciate assistance in developing and implementing a sound system, with defined indicators and good communication and reporting between NQ and the facilities. Unfortunately, we were unable to obtain a well-defined list of indicators for required capturing at each facility. The data collected from each facility lacks accuracy and description. There is no feedback of information back to the facilities and very little systematic analysis of the data obtained.

The biggest limitation experienced was that of having an experienced M&E person to assist the team in defining indicators, analysing data and developing reports. We believe that a well-functioning M&E and reporting system is essential to monitor progress, inform budgets and targets and improve performance into the future.

Swaziland: HMCS currently employs paper-based data recording and reporting systems as does the Swaziland MOH. For MOH data, plans are in place to implement an electronic reporting system, which is currently being piloted in some sites. This would collect individual patient information. At facility level, data is compiled using MOH registers and reported using MOH monthly reports to the District Office. Data from correctional facilities form part of all MOH data (district, provincial, and national). In addition, inmate health data are collated from the registers into monthly one- and six-page reports that are submitted to HMCS's M&E office and HMCS's health group respectively. Reports are compiled using paper tools and transported to recipient offices via car or land cruiser. The M&E Unit compiles a general quarterly report, which includes HIV and TB indicators, and is submitted to the Commissioner-General. Staff at all facilities have been trained on data management process and tools, and ongoing training on data collection and reporting is provided at workshops held 2-3 times a year. At the facility level, data quality is assessed by health personnel, who are supported by a local NGO and the regional M&E Unit, which conducts quarterly supervisory visits to reporting units. Officers within the M&E Unit review facility-level data and aggregated numbers prior to report submission. When corrections are needed, the M&E Unit phones the reporting units; incomplete reports are sent back. It was not evident during site visits whether or not data discrepancies such as incomplete or inaccurate reports are documented.

Zambia: The ZCS M&E system is a paper-based data recording and reporting system. The ZCS system is not integrated with the Ministry of Health. At facility level, data is compiled using MOH registers and reported using MOH monthly reports to the District Office. Data from correctional facilities form part of all MOH data (district, provincial, and national). In addition, inmate health data are collated from the registers into monthly reports that are submitted to ZCS M&E office. Both systems require a highly complicated list of indicators with very little training, no manuals and guidelines on how to complete the respective forms.

Table 5. Characterisation of M&E systems in the various country programmes

Type of System	Malawi System	Lesotho	Namibia	Swaziland	Zambia
Link with National Health M&E system	No identified link between MOH and MPS systems. Health indicators reported directly to district. Monthly/quarterly report to government after all prisons report into head office.	No identified link between MOH and Prison services. Health indicators reported directly to district. Monthly/quarterly report to government after all prisons report into head office.	No identified link between MOH and Prison services. Health indicators reported directly to district. Monthly/quarterly report to government after all prisons report into head office.	No	No
Dedicated M&E personnel for health	In process: 1 Head Office; 1 per region (4) – November 2016 No health M&E positions; this work by the HIV co-ordinator – December 2017	Yes, M&E officers are in place	None	No	No
Training of personnel on form completion	Approx. 50% trained	Some is done	none	Yes	No
Standardised tools for reporting	Only using tools from the Ministry of Health	Yes, but very poorly developed	Yes, but very poorly developed	Yes	Yes
Standardised indicators with definitions	All indicators originate from strategic plan	No	No	Partial	Yes
Analysis and trend reporting in place	Not identified	No	No	Partial	No
Mechanisms for feedback to prison clinics	None identified	None identified	None identified	Partial	Yes
Electronic data collection/aggregation tools	75% electronic and 25% manual	None	None	No	No

4.2 HIV AND TB INDICATORS FOR THE COUNTRIES

Indicator	MALAWI		NAMIBIA		LESOTHO		SWAZILAND		ZAMBIA	
	Estimate	Source	Estimate	Source	Estimate	Source	Estimate	Source	Estimate	Source
Estimated TB prevalence	0.7%	Surveillance study	Unknown	-	Unknown	-	2400	UNODC report 2013	4.6%	Plos 2013
Estimated HIV prevalence	16.37%	MPS Stats (Jul-Sep 16)	11.1%	UNODC Study	31.4% male 69% female	LCS-UNODC Study	34%	UNODC report 2013	27.4%	Plos 2013
Estimated STI Prevalence (e.g. Syphilis)	Unknown	-	2.7%	UNODC study	Unknown	-	Hep B 10,8% Syphilis 11,8%	UNODC report 2013	-	-
Quarterly statistics (Jul – Sep 2016)										
Total population	+/- 14 000	MPS interview (Nov 16)	3971	NCS interview (March 2017)	2350	LCS interview (June 2017)	3604	www.prisonstudies.org 2015 stats	18 560	www.prisonstudies.org 2015 stats
No. inmates counselled and tested	2945	MPS Stats (Jul-Sep 16)	242	NCS Stats (Jul-Sep 16)	524	LCS Stats (Jul-Sep 16)	710	HCMS Q3 2016 report		
	870	MPS Stats (Jul-Sep 17)					710	HCMS Q3 2017 report		
No. HIV-positive inmates	2293	MPS Stats (Jul-Sep 16)	527	NCS Stats (Jul-Sep 16)	601	LCS Stats (Jul-Sep 16)	1726	HCMS Q3 2016 report		
	2293	MPS Stats (Jul-Sep 17)								
No. HIV-infected inmates currently on ART	1332	MPS Stats (Jul-Sep 16)	368	NCS Stats (Jul-Sep 16)	591	LCS Stats (Jul-Sep 16)	1717	HCMS Q3 2016 report		
	1332	MPS Stats (Jul-Sep 17)								

No. HIV-infected inmates currently on IPT/CPT	Unknown	-	Unknown		Unknown		Unknown			
No. staff counselled and tested	73	MPS Stats (Jul-Sep 16)	Unknown	-	Unknown		172	HCMS Q3 2016 report		
	22	MPS Stats (Jul-Sep 17)								
No. HIV-positive staff	129 (?)	MPS Stats (Jul-Sep 16)	Unknown	-	Unknown					
	129	MPS Stats (Jul-Sep 17)								
No. HIV-infected staff currently on ART	95 (?)	MPS Stats (Jul-Sep 16)	Unknown		Unknown		114	HCMS Q3 2016 report		
	95	MPS Stats (Jul-Sep 17)								
New DRTB cases	Unknown	-	1	NCS Stats (Jul-Sep 16)	2		1	HCMS Q3 2016 report		
New DSTB cases	Unknown	-	Unknown		17		12	HCMS Q3 2016 report		
TB screening conducted	Unknown	-	Unknown		307		3336	HCMS Q3 2016 report		

9 BEST PRACTICES IDENTIFIED

- **Test and Treat for HIV:** Universal Test and Treat for HIV has been implemented in all the countries that were visited. UTT has been in place since July 2016 in Malawi Prison Service, where same-day initiation is being implemented. There are no delays in adherence counselling or in further laboratory testing which we have encountered in many other countries. Where there is a clinic on-site (e.g.) Maula, TB treatment is initiated immediately to an unwell patient and ART initiated 2 weeks later.

Similarly, in Swaziland, ART is provided as soon as inmates test positive for HIV, regardless of CD4 count. This is being done consistently and was reported at all facilities visited. The high numbers of individuals on treatment is a testimony to the aggressive approach to identifying HIV-infected inmates and promptly starting them on treatment. The very low TB rates are probably a consequence of this practice.

We found that nurse-initiated ART was not being practised in any facilities. Due to the shortage of doctors, we would recommend the training of nurses to initiate treatment.

- **Condom Programme:** Other than South Africa, Lesotho is the only country providing condoms in correctional facilities. It would be worthwhile to investigate what impact this has had on morale, sexual assault and STI transmission. In all other countries, it would be good practice to make condoms available in the clinic and in the cells, to prevent HIV and STI transmission during sexual intercourse, consensual or otherwise. Given the current prohibition of condom distribution, it's commendable that MPS provide inmates with condoms at exit. A good practice identified at Maula is the condom education provided to partners, with an offer to test partners and inmates being released.

Linkage to Care Post-Release: Lesotho Correctional Services paid good attention to referral and continuity of care following release is evident from the higher levels of facility staff. The research^{xi} conducted to understand how many inmates are retained in care following release and to understand the barriers towards continuity of care is evidence of the importance that is placed on continuity of care. Also at facility level, we found much care and attention about continuity of care with inmates in Mohale's Hoek being delivered to the district health authorities. The use of NGOs for provision of transport for ensuring continuity of care was practised. In Malawi, all prisons follow-up inmates on chronic treatment post-release, usually by phone. Maula have a 'Job Aide' (referral form) which facilitates feedback from released inmates. In Swaziland, HCMS have a linkage to care post-release SOP in place. There is also a National Referral Tool that is filled in for all released offenders. There is also a Social Welfare department as part of the staff at facility level. While continuity of care is often unsuccessful, once inmates are released into the community, it is important to note that mechanisms are in place to link inmates with appropriate health care when they leave a facility in which they were receiving medical treatment. While the impact of this intervention is unknown, in the context of poor continuity of care and treatment adherence upon release into the community, the provision of mobile phones to health workers to facilitate contact with post-release inmates is a promising practice.

- **Mental Health Screening:** Of those countries visited, Malawi seems to be the only correctional service with a Mental Health Screen, which we were able to view and which is actioned on entry. In addition, there is regular Mental Health training for officers.
- **TB Infection Control:** A large emphasis of the Swaziland programme is on TB Infection Control. Some examples of the importance given to TB infection control are described below:
 - **State-of-the Art facilities at Matshapha clinic** with a fully-equipped TB clinic, TB lab (including biological hood and Xpert machines) and TB isolation wards. All have extractor fans and good ventilation.
 - **TB screening of personnel:** correctional personnel who develop active TB are promptly and properly treated, and disease burden among personnel is known. TB screening is conducted across the entire cell when a TB case is identified: This is an essential practice in overcrowded environments where all inmates are essentially contacts, ensuring that other inmates to whom TB has been transmitted receive appropriate treatment.
 - **Availability of N95 respirators and surgical masks:** providing individuals exposed to infectious TB patients with N95 respirators, and surgical masks to coughing patients, reduces the risk of transmission between individuals with TB and inmates and correctional personnel.
 - **Attention to infection control in cells:** All cells visited seemed to pay much attention to open windows in all cells. During the day, most inmates are outside for most daylight hours.
- **District Health Support:** The Malawi District Health staff visit the facility ART clinic and provide good M&E support at the local level. Where there is no on-site clinic, patients are taken to the District Health Office (DHO) for treatment initiation; the DHO team also provide support in the form of a clinician/nurse once a week to these facilities, to provide an outpatient clinic, and to examine psychiatric patients, treat skin infections etc. (this service is also provided by MSF once per week); the DHO also provide an ART clinic once a month. The Tier.net database is used for ART management and a monthly report is drawn up from the Tier.net database. This monthly report is checked each month by the district health team. The team review the data and also train clinic staff in new guidelines while they're on site.
- **Provision of Female-Centred Services at Mawelawela, Swaziland:** This clinic illustrates a female-centred approach with much care given to obstetric services, contraception provision on exit and regular cervical screening for women. This very clean and organised facility gives an overall impression of a very high standard of care for female inmates and community members.
- **Engagement of 'Expert Clients' to Aid with Screening, Health Education and Treatment Support**
As inmates themselves in Swaziland correctional services, these peers have more regular access to, and are potentially more respected by, inmates than health care providers, and are therefore well-positioned to provide health information and adherence support. The naming of these inmates as "expert clients" is unique and could be propagated to other countries. Although peer educators are present in other countries, Swaziland seems to place a bigger emphasis on their role and presence.

- **Staff Health:** The Malawian Prison Service provide ART on-site for HIV-positive staff, enabling the facility to maintain staff on duty while they receive treatment. The large numbers of staff reported to be on ART treatment is evidence of the wide-scale implementation of the programme. In Namibia, staff participate in the bi-annual TB mass screening which also allows for the Commissioner-General to participate.
- **Planned Implementation of Electronic Patient System in Swaziland:** a national electronic patient system is being implemented in a phased approach. This system allows collection of patient-level data and generation of reports. Pigg's Peak & Mawelawela are already involved in the piloting of this system.

10 CHALLENGES EXPERIENCED/IDENTIFIED AND POTENTIAL INTERVENTIONS

Emphasis on HIV prevention: As mentioned previously, the issue of HIV prevention and post-exposure prophylaxis following sexual exposure is largely ignored. The testing for HIV on entry in most countries, with very little repeat testing, may be giving rise to the misconception that HIV transmission is not occurring. If inmates tested HIV-positive during incarceration, this was usually attributed to heterosexual sex due to inmates being given leave to visit family/girlfriends in special circumstances. We recommend more regular HIV testing to be offered routinely on inmates even if HIV negative on admission. The issue of blood-borne infection and transmission following sexual assault needs to be given more prominence. Training on Post-Exposure Prophylaxis is required and reporting on sexual assaults need to be encouraged.

The provision of HIV prevention strategies, such as the provision of condoms for inmates currently incarcerated were not implemented due to the criminalisation of same-sex intercourse. We urge the governments to consult with other countries where these activities are criminalised but that have provided condoms for the health benefits and/or consulting with countries where these activities have been decriminalised.

One approach could be that, since Lesotho and South Africa are providing condoms when many other countries in the region are not, further work is done to understand the use of condoms in these settings. There has been some funding allocated to conduct a limited cross-sectional survey administered through a semi-structured face-to-face interview tool and an exploratory study using in-depth interviews will also be conducted to understand patient experiences of condom use among those who reported inconsistent condom use. The objectives of this research will be:

- To understand risk behaviours associated with HIV in LCS.
- To measure the use of condoms within Lesotho Correctional Services.
- To measure association between condom use and various factors, such as partner type, sex type, age, gender identity STIs, alcohol and drug use.

Screening for TB: There were some deficiencies noted with screening of TB. The use and availability of Xpert needs to be fully implemented and training needs to be improved. Xpert MTB Rif has been shown to be significantly more sensitive than sputum microscopy for TB diagnosis, and should be considered as first line. The use of isoniazid preventive therapy (IPT) was inconsistent. IPT uptake has been a problem worldwide and the introduction of the new once-weekly three-month regimen for prevention of TB (known as 3HP) may be better accepted.

Monitoring and Evaluation Systems. As described, the M&E systems are weak and do not serve to inform management or improve services. In general, there is much data collection done at facility level but reports to the health department and the correctional services are not aligned. Much of the information is not reviewed or analysed by correctional services and no trend analyses are being done to identify gaps or guide implementation. The M&E Units are responsible for data collection and analysis; completing reports and creating graphs (monthly and quarterly); monitoring data and evaluating indicators but the skills of staff to do this work is not available. There is very little correlation between the different data sets, resulting in duplication of efforts and missing information at the LCS National Level. One suggestion is to provide a consultancy support to these departments for a short period of time. Such support could include the following strategic steps:

- The initiation of the development of M&E tools which are standardised and aligned with the MOH tools
- The development of a standard operating procedures, which can be used for training and ensures accuracy and completeness of information, timelines that are harmonised with the MOH timelines for reporting, checking of data and feedback to facilities.
- Regular monitoring and evaluation visits need to take place where the M&E officers need to support and train the health staff in completion of reports.

Data recording can be burdensome due to the high volume of paperwork that must be completed. This is relevant taking into account that health personnel are reporting to two systems that don't seem to be talking to each other.

Poor Living Conditions are prevalent throughout Malawi and Zambia. In Malawi, poor and inadequate nutrition and inadequate rations are visible in all correctional facilities i.e. *nsima* with beans; health workers understand the difficulty of achieving good adherence when food is inadequate. This is well-documented in the Malawi Prisons Strategic Plan 2015-2020^{xi}.

“Investigations recently conducted at Mzimba and Mzuzu prisons have established that inmates who are living with HIV are not being given a balanced diet. It has also been established that due to insufficient food supply in the stated prisons, inmates are not being given adequate food”^{xii}. Water is not available when there is no electricity i.e. the water pumps can't function. It's difficult to understand why fresh vegetables and fish are not available when we observed inmates working on farms adjacent to the facility. Apparently, some prisons have been provided with peanut butter; this highly inexpensive and valuable protein could be a good source of nutrition in all facilities. The main request was for fruit and vegetables. Poor hygiene/sanitation in Malawi in particular e.g. buckets used at night in cells; reports of unhygienic conditions leading to a need for shoes due to soiled floors.

An increase in hygiene and sanitation materials and education would be a quick win, increasing awareness, even though soap (and other supplies may be short). This should include education regarding the repeated use of unsterile blades and the safe disposal of used blades. It may be worthwhile investigating the cost and security issues of providing clean blades. The most significant intervention is for additional resources to be made available, in the form of food and other basic requirements such as soap, buckets, bins, slip-slops and blankets. The cost in terms of treatment for gastro-intestinal infections, rashes and nutritional supplements could be dramatically reduced through the provision of these items. Most participants echoed the well-understood fact of sufficient food and nutrition for all inmates, and especially for those with a chronic disease.

In Zambia, health officials reported that lack of nutrition was particularly difficult in patients on isoniazid and ART. The inmate diet was mainly made of 'capenta' (dried fish) and 'ishima' (mielie meal). Living conditions were also described as poor with a lack of space to sleep, no bedding and blankets, and this was leading to a large number of skin conditions in patients. Other materials that were not available included tooth brushes, tooth paste, detergent for washing clothes etc.

Infrastructure for Clinical Services: This is generally inadequate and insufficient in all facilities visited but was particularly problematic in Lesotho, where we found clinical services were all conducted in a single room with no privacy between patients. Although facilities for inmates were much improved from those of many other African countries in terms of occupancy and food, there was an issue of cold in the winter and difficulties in keeping cells warm during the winter months. At both Mohale's Hoek and Maseru Central, staff complained about not enough space for consultation rooms. Often patients are seen in the same room so the service cannot be privately administered. Namibia and Malawi have very old facilities with extremely small clinics (usually a converted cell).

Transport: The lack of transport is particularly problematic in Malawi and, where there are no on-site clinics, patients have to be transported to District Health facilities for everything. This is cost- and time-inefficient. In addition, there is hardly any patient transport e.g. private vehicles are used where possible, patients walk or are carried for distances that vary from 5km to 15 km. One region only has one doctor, who is required to visit all the facilities within the region on a monthly basis; however, due to lack of funding for fuel, he does not adhere to this requirement. However, we observed similar challenges in Lesotho and Namibia where staff complained that they needed to use their own money for travel.

Overcrowding: Overcrowding, lack of appropriate infrastructure (isolation areas, dedicated care rooms), and poor ventilation in most sites visited. Many facilities appeared to be old structures with very small housing units. Overcrowding contributes to TB transmission and spread, and needs to be addressed.

Laboratory Services: The referral of lab specimens to the national laboratory service seem to vary between reasonably adequate to causing much frustration for healthcare workers. Timely processing of laboratory tests (and consequently treatment initiation) was impeded by high sample volumes, inadequate laboratory personnel and equipment, and transportation challenges.

Waste Disposal Systems: In Swaziland, inadequate waste disposal systems can hamper infection control and increase risk of disease transmission among both inmates and healthcare workers. The waste disposal system was highlighted in most facilities. There does not seem to be a formalised approach to waste disposal.

Staff Shortages: Most countries do not have an ideal ratio of healthcare workers to inmates, resulting in facility personnel being over-burdened and limiting their ability to deliver appropriate care, especially where facilities extend health services to external communities. This is probably mostly related to the very high burden of HIV and the workload required to treat high numbers of inmates.

Malaria Prophylaxis: In Malawi, MPS has a shortage of malaria prophylaxis (*doxycycline*) and malaria treatment (intravenous quinine, *artemether-lumefantrine*), and, in some cases, a lack of awareness and education regarding malaria.

Dignity and Respect: The transfer of inmates for tertiary care was emphasised by health workers. A dedicated ward for inmates in Mbabane (Swaziland) had been closed down due to renovations not having considered this ward. It was felt strongly by health workers, that the inmates' dignity is compromised when they must be taken to off-site health facilities to receive care, as they were often shackled and guarded and were spectacles to the general public.

Finally, we noticed an over-reliance on NGOs, which can have dramatic consequences when the funding is reduced and the services can no longer be provided. A strategy for continuation of services following cessation of NGOs needs to be **urgently** developed, especially given that MSF will withdraw their services by June 2018.

11 STUDY LIMITATIONS

In all countries, we were limited by resources that only allowed for a period of 3-4 days in-country, which meant that we were only able to visit three facilities in close proximity, leading to generalising our findings to other facilities. It should be noted that, other than specifying certain criteria (e.g. size, males/females), Aurum did not select the facilities to be visited or their location – these were chosen by Correctional Services. We were also limited by the amount of time at each facility, and so were only able to speak to a limited number of participants who were available at the time of the interview. To facilitate access to the facilities within the time period available for the work, we refrained from requesting inmate interviews, other than with peer educators, and so were not able to assess their perception of the services they're offered. Therefore, it should be noted that this project was a fairly superficial assessment of their clinical services and monitoring and evaluation services, so as to identify the main challenges and issues being encountered and to determine the needs going forward.

In addition, we were unable to ascertain structural factors (or enabling environment) indicators, as per **WHO Key Structural Interventions for Correctional Facilities**^{xliii}, described in detail in WHO key population guidance: *Tool to set and monitor targets for HIV prevention, diagnosis, treatment and care for key populations*. Geneva, WHO, 2015. <http://www.who.int/hiv/pub/toolkits/kpp-monitoring-tools/en/>:

- audit of current legislation and policy
- number of key population-led organisations
- meaningful involvement of people from key populations in policy and strategy formulation
- legal support services for key populations
- support services for people from key populations who experience violence
- sensitisation training on key populations for law enforcement officers

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