Focus for Impact

Community profile
Catchment area for Mthandeni Clinic (Wards 7 and 8)

Maphumulo local municipality
iLembe District
KwaZulu-Natal

July 2017

Table of Contents

Table of Figures

List of Tables

Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
CCG	Community Care Givers
CCMDD	Centralised Chronic Medicine Distribution and Distribution
CDC	Centres for Disease Control and Prevention
CHC	Community Health Centres
DAC	District AIDS Council
DHIS	District Health Information System
HIV	Human Immunodeficiency Virus
HTS	HIV Testing Services
KZN	Kwa-Zulu Natal
LAC	Local AIDS Council
LGBTIQ	Lesbian Gay Bisexual Transgender Intersex and Queer
MSM	Men Who Have Sex with Men
NDOH	National Department of Health
NHIRD	National Health Information Repository and Data warehouse
PEP	post-exposure antiretroviral prophylaxis
PLHIV	People living with HIV/AIDS
PrEP	pre-exposure antiretroviral prophylaxis
PWID	People Who Inject drugs
SAMPI	South Africa Multidimensional Poverty Index
SANAC	South Africa National AIDS Council
SRD	Social relief of Distress (vouchers)
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TB	Tuberculosis

Acknowledgement

The initial work for the development of the Focus for Impact approach was funded through SANAC by the Centers for Disease Control and Prevention under Grant No CDC-RFA-GH13-1338 and in-kind contributions from the National Department of Health. Subsequent work is funded under the Global Fund.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the Funders.

Focus for Impact – understanding the background

At the heart of the NSP 2017-2022, is the strategy to "focus for impact" using the more detailed information and insights now available. While comprehensive prevention and care will be provided countrywide, intensified, concentrated efforts will be made in HIV and TB high burden areas. In these high-burden areas, redoubled efforts will draw on detailed, innovative data sources (such as geospatial mapping) to identify those most at risk. The purpose is saturation of high-impact prevention and treatment services and strengthened efforts to address the social and structural factors that increase vulnerability to infection. Nationally, but especially within these high-burden areas, key and vulnerable populations most heavily affected by the epidemics will receive intensified focus to empower them, improve service access and reduce barriers to service uptake. The "focus for impact" approach represents a new, transformative way to achieve reductions in the morbidity and mortality associated with HIV and TB and morbidity from STIs. In line with the evidence, there will be a substantially stronger focus on adolescent girls and young women and on key and vulnerable populations, not forgetting adolescent boys and young men.

The process for identifying high-burden areas for intensification of efforts dates back to September 2015, when the SANAC Secretariat established the Hotspot Mapping Advisory Committee. The Committee – including governmental and non-governmental epidemiological experts as well as international partners – was tasked with developing a transparent, multi-sectoral, locally informed and user-friendly approach to Focus for Impact.

An approach was developed that use geospatial mapping and risk profiling to allow stakeholders to have a more granular understanding of geospatial variations in HIV, TB and STI burden. The ***model aims to answer four key questions***:

(a) ***Where*** in a particular district ***are the areas with the highest HIV and/or TB burden***?

(b) ***Why*** does a ***specific area*** have a higher HIV and/or TB burden (i.e. what are the contributing/associated factors)?

(c) ***Who*** is the most vulnerable population?

(d) ***Which multi-sectoral interventions*** may be deployed in the high-burden area to reduce associated HIV and/or

To maximise the impact of efforts, the NSP introduces this more intensified, more strategic focus at provincial, district and ward levels. There will be a greater priority on primary prevention and on strategies to address the social and structural drivers of the three infections in a thoroughly multi-sectoral manner. South Africa's recent success in scaling up prevention and treatment programmes will be complemented by an equivalent focus on improving service quality and on reducing loss to follow-up among people who initiate care, while simultaneously implementing the new "test and treat" policy. Recognising that different people require different prevention approaches, differentiated care models will be scaled up to tailor interventions to each person's needs, including enhanced use of proven community-centred service delivery. Priority is given to ensuring that treatment programmes are holistic, addressing each person's health needs, including co-morbidities. The need for innovative new sources of funding is identified. A higher priority is placed on the collection and timely use of high-quality data to guide and inform programmes and policies.

The ultimate success of the NSP 2017 – 2022, depends on effective implementation at the provincial, district and ward levels. From the national to the local context, three levels of focus will accelerate implementation of the Plan and optimise its impact:

- ***Spatial location:*** The NSP calls for steps to ensure the delivery of comprehensive services to all who need them, regardless of where they live. In cognisance of the marked geographic variation in disease burden, intensified action is required in localised areas of high burden for intensified action. In each of these high-burden areas:
  1) ambitious coverage targets will be set;
  2) current and new programmes will focus strategically on those in greatest need; and
  3) other strategies will be intensified to address the social and structural factors that increase individual and community vulnerabilities which contribute to the disease burdens.

  This component links with the first question that the Focus for Impact model aims to answer: *"Where in a particular district are the areas with the highest HIV and/or TB burden?"*

- ***Population and community profile:*** The community profile is done once a high burden area is identified using secondary data from multiple sources (health, education, socio-economic) and the provision and utilisation of services is described. The engagement with the community is to identify priorities of the risks for HIV, TB and STIs in that specific area and gaps in service delivery to address these priorities.

  In each of these high-burden areas, programmatic efforts will be strategically targeted towards the populations among whom the need is greatest, and where the impact of efforts will be most pronounced. Given the degree to which transmission among adolescent girls and young women is driving HIV across the country, *every* province, district and ward must take steps to intensify efforts to reduce new HIV infections and increase service access for adolescent girls and young women, including addressing the social and structural factors that increase their vulnerability. Guided by local data and circumstances from geospatial mapping and profiling, provincial and local responses should prioritise key and vulnerable populations.

  This component links with the second question that the Focus for Impact model aims to answer: *"Why does a specific area have a higher HIV and/or TB burden (i.e. what are the contributing/associated factors)?"*

- ***Multi-sectoral interventions:*** Enhanced focus is also needed on the combination of interventions that are prioritised for scale-up. Priority will be placed on implementing the right mix of high-value, high-impact interventions that will maximise the number of new infections and deaths averted.

  This component links with the third question that the Focus for Impact model aims to answer: *"Which multi-sectoral interventions may be deployed in the high-burden area to reduce associated HIV and/or TB risks?"*

> **Multi-sectoral** refers to deliberate collaboration among various stakeholder groups (e.g., government, civil society, and private sector) and sectors (e.g., health, environment, economy) to jointly achieve a common goal. In this case reducing the associated risks in high burden areas

Introduction to Profile

This profile presents secondary (public and non-public) data on the HIV and TB epidemics and population demographic profile, enriched with information collected from the community identified associated risk factors, services and assets in this area in Maphumulo local municipality under the iLembe district, KwaZulu Natal.

The profile is intended to give the AIDS Councils and any other planning groups a thorough understanding of the HIV, TB and STI related context within this district. By reflecting who is at risk of becoming HIV infected and where they are within a specific location, the profile assists to identify the people who are in need of prevention and care services, both those who are infected and those at risk of infection. The latest available ward level population data is that from Census 2011. This is used as the basis for the population data and aligned with boundaries within this report.

The profile is intended to give the AIDS Councils and any other planning groups a thorough understanding of the HIV, TB and STI related context within this district. By reflecting who is at risk of becoming HIV infected and where they are within a specific location, the profile assists to identify the people who are in need of prevention and care services.

The profile highlights factors that influence the risks of HIV and TB infection. Such factors include the socio-economic status e.g. structural measures of poverty; sexual risk behaviours such as condom use, multiple sexual partnerships and transactional sex in a given population in a specific service area and/or administrative area. The same applies to data on exposure to psycho-active substances, report or history of sexually transmitted infections (STIs). Data is presented at the level that it is available. The risk factors are explored within the categories of the socio-demographic data (e.g., age, sex, race, educational status) at wards level.

The profile for this specific area includes two types of data: 1) secondary (public and non-public) data and 2) local knowledge and understanding of what influences the associated risk profile. Information that reflects the local knowledge and understanding of the associated risk profile for the area is collected through community engagement through stakeholder and community workshops in the specific catchment area. More detail on the approach is described in Appendix C: Methodology for stakeholder engagement to explore local level data.

For this profile, the catchment area for Mthandeni Clinic, Maphumulo local municipality is defined as Maphumulo Wards 7 and 8. For this specific profile, two stakeholder and community workshops held on 27 and 28 July 2017 in wards 7 and 8 War Rooms, Maphumulo. The workshops were attended by 78 stakeholders and community members during these two days. As more local level profiles are completed within the local municipality, a richer picture of the context within Maphumulo local municipality will evolve. The same applies to more granular data that becomes available for this specific catchment area. This profile will be updated accordingly and should therefore be considered a living document.

During the workshops participants identified the following priorities for consideration during the implementation of multi-sectoral interventions and focus of key and vulnerable populations to reduce the associated risk in the Mthandeni Clinic catchment area:

- Key and vulnerable populations:
    - Young women
    - Orphans and vulnerable children
    - People with disabilities
- Interventions that address:
    - Poverty, especially livelihoods support, to mitigate transactional sex as a source of income (including young women and girls)
    - Keeping girls in school irrespective of pregnancy
    - Gender Norms and Gender-based Violence, particularly aspects of consent, reporting and GBV support coverage
    - Parenting Support to ensure consistent comprehensive sexuality education messaging between school and home
    - Support to Teen and older mothers to enrol in and adhere to PMTCT
    - Improved monitoring of and access to services for disabled persons to retain them care and support
    - Substance abuse, particularly among youth
    - Support to the caregivers of PLHIV on basic HIV education, safety and support networks
    - Improved safety and security in open spaces and community education on child protection
    - Follow-up and counselling for VMMC, particularly management of adverse events and HIV prevention
    - Targeted location specific HIV prevention interventions with contract workers on big infrastructure projects

1. Socio-demographic profile

1.1 Demarcated boundaries

iLembe District is one of the 11 district municipalities of KwaZulu-Natal province. The Maphumulo local municipality is one of the four local municipalities in iLembe district. The rest are KwaDukuza, Mandeni and Ndwedwe local municipalities.

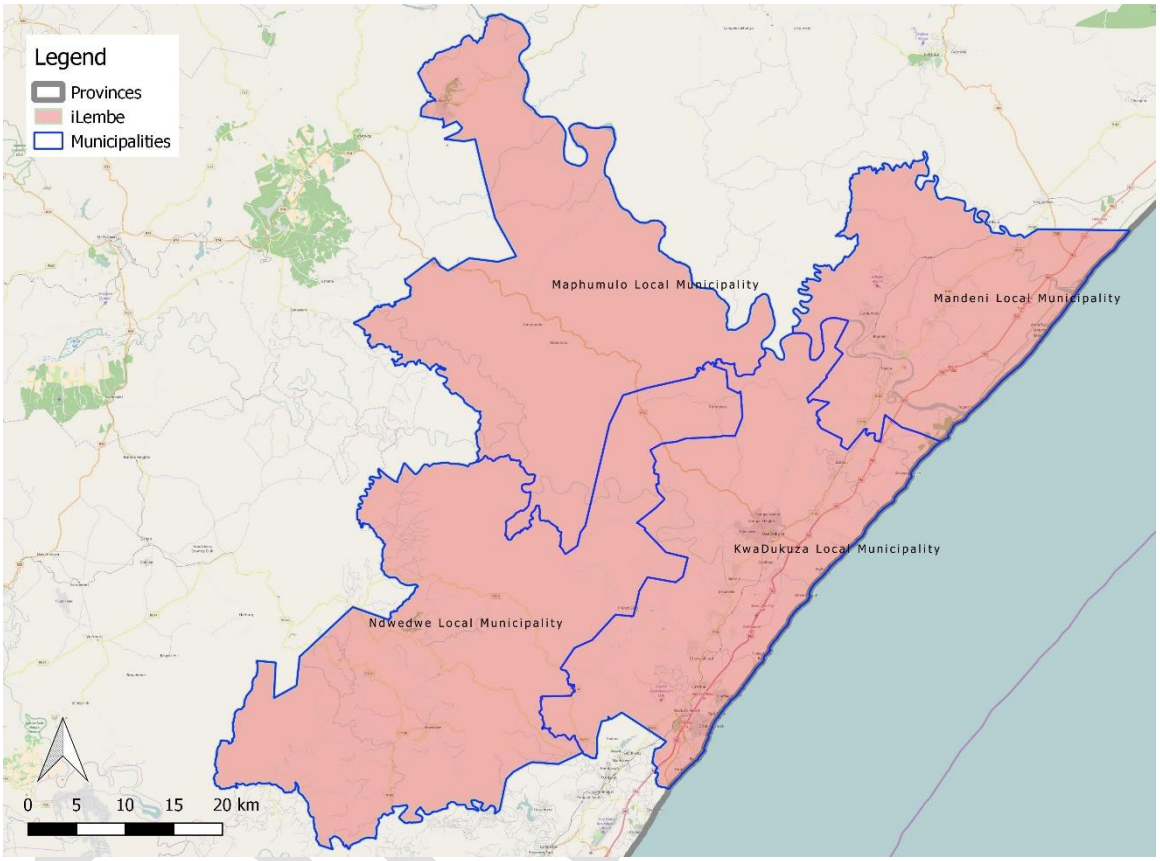

Figure 1: Local municipalities' iLembe district

The Maphumulo local municipality constitute of 11 administrative wards (see Figure 2).

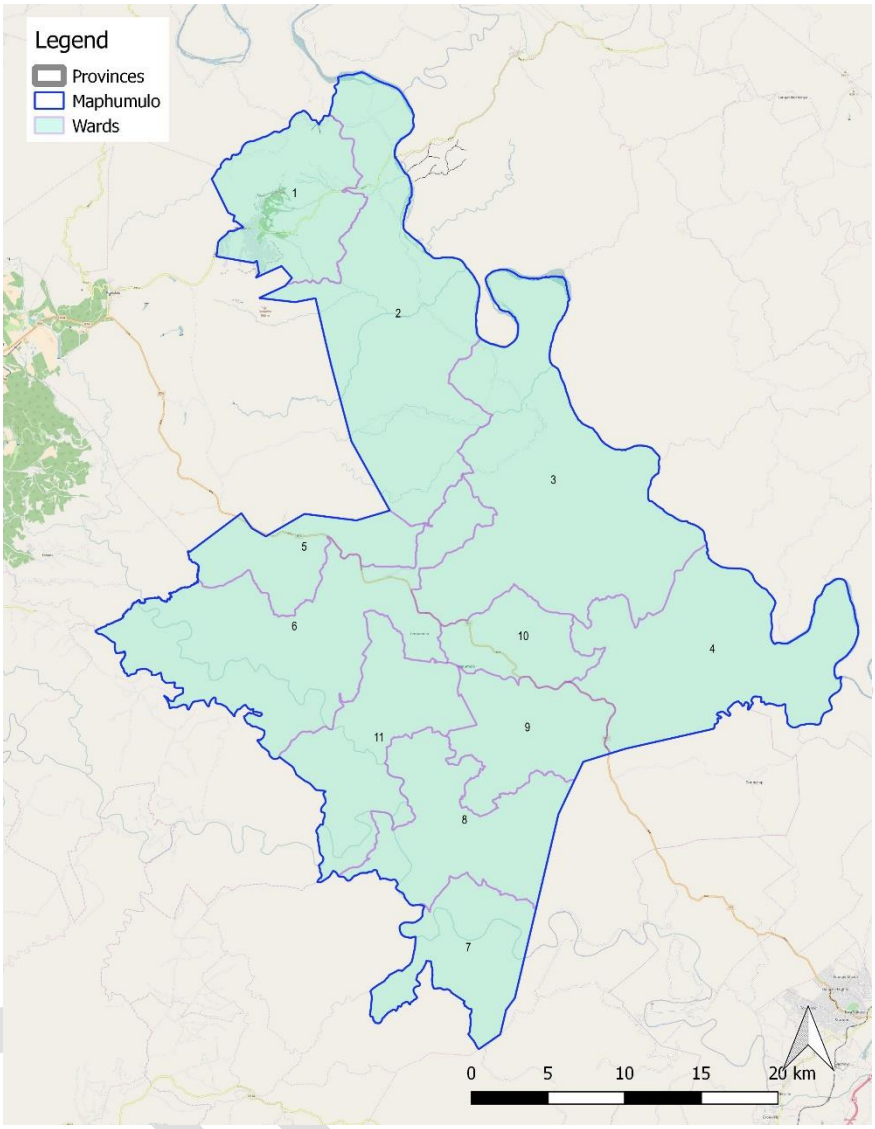

Figure 2: Distribution of Wards in the Maphumulo local municipality

1.2 Population by sex and age

During the 2011 Census 96 717 were counted in the 11 wards. Table 1 summarises the age and sex per population in these wards. Females constitute 55% of population, compared to males 45%. The young people ≤ 25 years (64%) make up the majority of population in the local municipality. The detail for Wards 7 and 8 that forms the catchment area for Mthandeni Clinic are highlighted in the table below.

Table 1: Population per age groups per ward, Maphumulo local municipality

Ward	Age							Sex		
	0-9	10-14	15-19	20-24	25-49	50+	Total	Female	Male	Total
Ward 001	2079	1062	1158	792	2160	1248	8499	4680	3819	8499
Ward 002	2973	1464	1383	762	1767	1479	9828	5775	4053	9828
Ward 003	2469	1287	1125	627	1629	1242	8379	4776	3603	8379
Ward 004	2679	1263	1386	876	2154	1806	10164	5472	4692	10164
Ward 005	3039	1434	1509	825	2247	1521	10575	5895	4680	10575
Ward 006	1956	1083	1059	645	1581	1200	7524	4212	3312	7524
Ward 007	2235	1047	1041	720	1524	1410	7977	4362	3615	7977
Ward 008	2460	1221	1131	837	1866	1701	9216	5034	4182	9216
Ward 009	2064	957	1065	693	1776	1380	7935	4254	3681	7935
Ward 010	2487	1323	1464	861	2259	1428	9822	5322	4500	9822
Ward 011	1794	918	984	606	1329	1167	6798	3708	3090	6798
Total	**26235**	**13059**	**13305**	**8244**	**20292**	**15582**	**96717**	**53490**	**43227**	**96717**
%	**27%**	**14%**	**14%**	**9%**	**21%**	**16%**		**55%**	**45%**	

Table 2 reflects the sex and age breakdown of the youth between 10 and 35 years for the same geographic area.

Table 2: Youth population per sex and five-year age groups per ward, Maphumulo local municipality

Ward	Female					Male					
	10-14	15-19	20-24	25-29	30-34	10-14	15-19	20-24	25-29	30-34	
Ward 001	516	573	429	390	267	546	585	363	255	210	**4134**
Ward 002	732	705	498	339	225	732	678	264	144	105	**4422**
Ward 003	645	621	384	297	186	642	504	243	144	117	**3783**
Ward 004	603	681	480	366	267	660	705	396	255	180	**4593**
Ward 005	678	729	486	411	273	756	780	339	267	162	**4881**
Ward 006	495	546	387	285	195	588	513	258	174	117	**3558**
Ward 007	498	531	363	255	189	549	510	357	192	123	**3567**
Ward 008	564	585	480	282	249	657	546	357	237	138	**4095**
Ward 009	465	555	375	297	213	492	510	318	222	156	**3603**
Ward 010	633	762	468	351	261	690	702	393	267	216	**4743**
Ward 011	447	480	336	189	147	471	504	270	147	105	**3096**
	6276	**6768**	**4686**	**3462**	**2472**	**6783**	**6537**	**3558**	**2304**	**1629**	**44475**

Figure 3 below reflects the population pyramid for Maphumulo local municipality. This figure visualises sex (male and female) and age in five-year age bands for this population. It is noted that the biggest group is in the 0-4 year olds, followed by the 10-14 years age group, and then the 15-19 year olds.

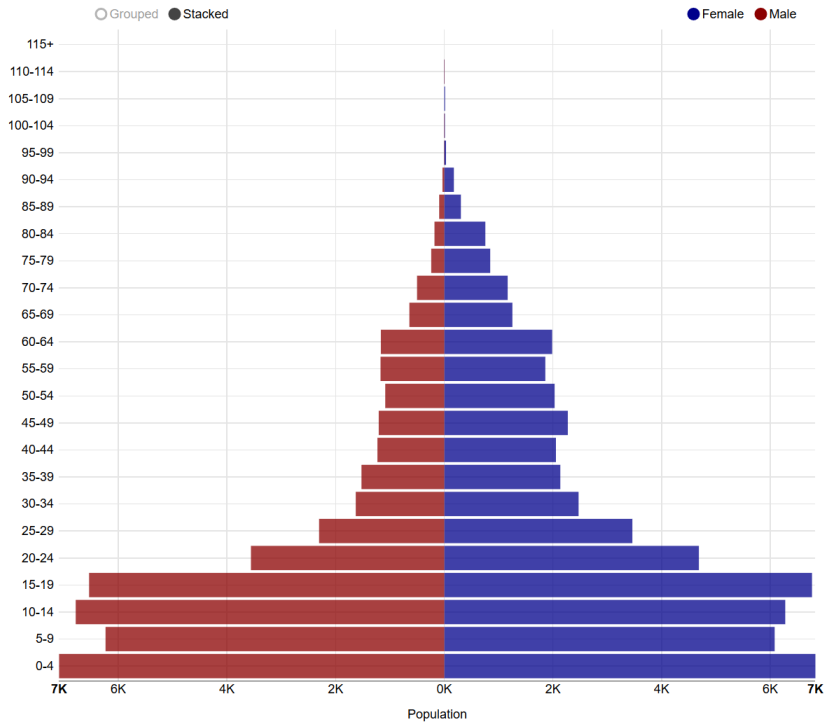

Figure 3: Population Pyramid Maphumulo local municipality

From this population, 40.6 % children and 6.5% elderly are dependent on the 52.9% economically active population of the Maphumulo local municipality (Figure 4).

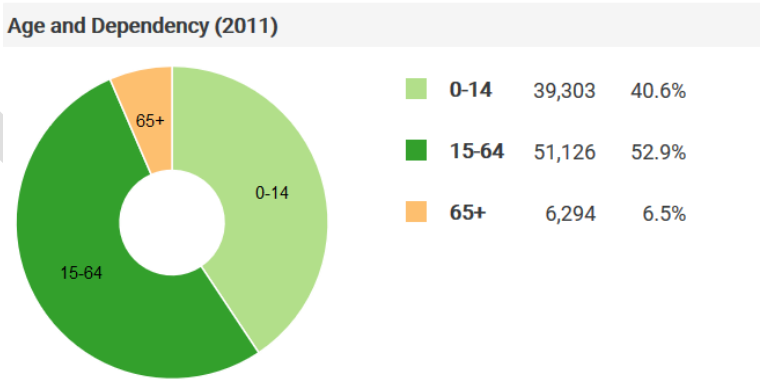

Figure 4: Dependency ratio Maphumulo local municipality (Source Census 2011)

In the catchment area for the Mthandeni Clinic (Maphumulo Wards 7 and 8) there is a change in the population profile (Figure 5) with a different male to female distribution to that seen in the Maphumulo Local municipality population pyramid in Figure 3.

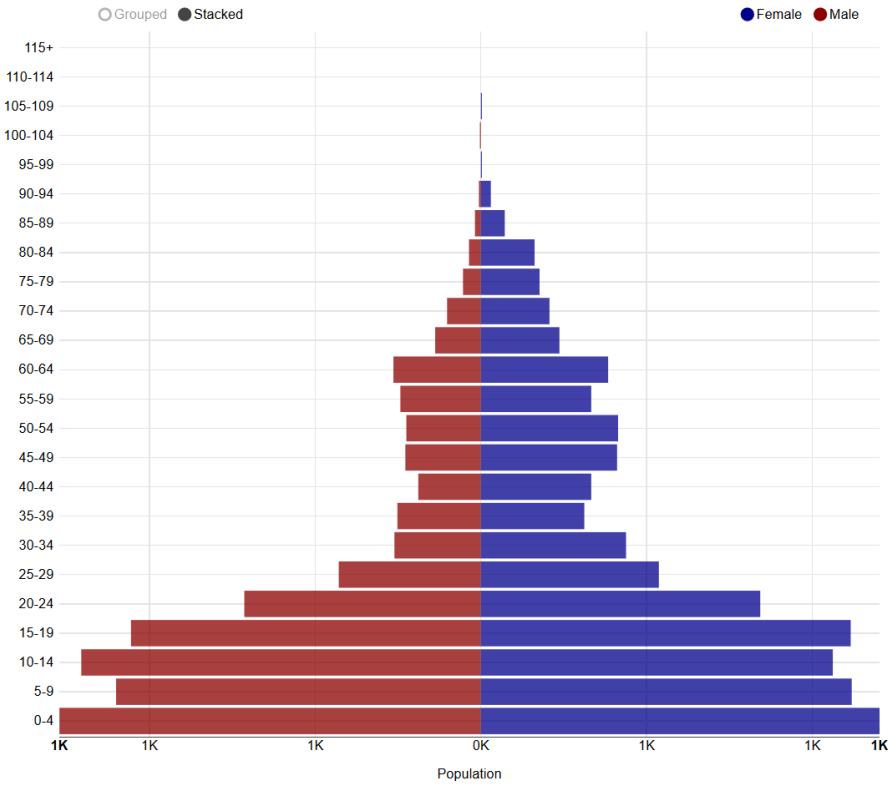

Figure 5: Population Pyramid Mthandeni Clinic catchment area (Source Census 2011)

In the same catchment population, 40.5% children and 7.3% elderly are dependent on the 52.2% economically active population (Figure 6).

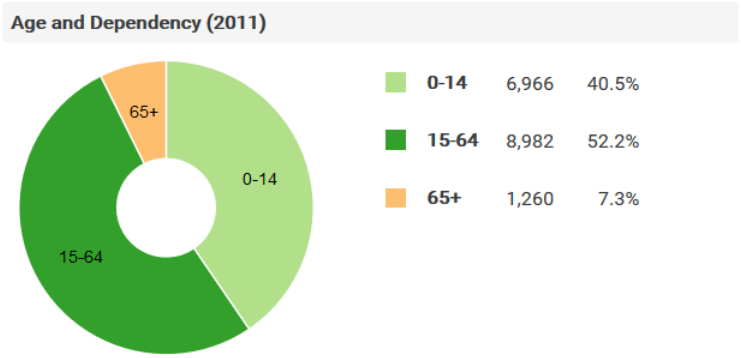

Figure 6: Dependency ratio Mthandeni Clinic catchment area (Source Census 2011)

1.3 Population by race

The dominant population group in Maphumulo local municipality is Black African at 99.7% followed by white with 0,1% (detail in Figure 7 and Table 3).

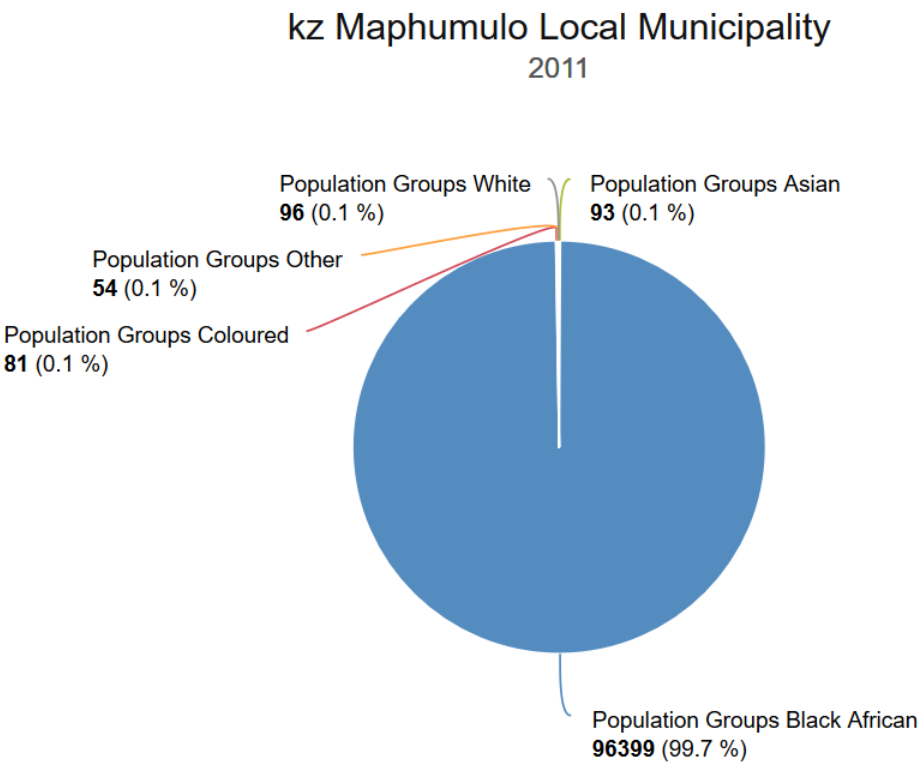

Figure 7: Population group distribution in Maphumulo local municipality (Source Census 2011)

The detail for Wards 7 and 8 that forms the catchment area for Mthandeni Clinic are highlighted in the table below.

Table 3: Ward level population distribution by Race in Maphumulo local municipality

Ward	Asian	Black African	Coloured	Other	White	Total
Ward 001	9	8478	6		3	**8496**
Ward 002	3	9792	6		6	**9807**
Ward 003	12	8355	3	3	3	**8376**
Ward 004	6	10134	3	21	9	**10173**
Ward 005	24	10515	21	9	15	**10584**
Ward 006	3	7509	6	3	3	**7524**
Ward 007	3	7959	6		9	**7977**
Ward 008	3	9207	9		9	**9228**
Ward 009	9	7917	3	3	3	**7935**
Ward 010	15	9777	15	6	6	**9819**
Ward 011	6	6756	3	9	30	**6804**
	93	**96399**	**81**	**54**	**96**	**96723**

2. Epidemiological profile

2.1 Causes of death

With the roll out of ART in South Africa, AIDS is now becoming a chronic disease since many people living with HIV are living longer. The main causes of death, the iLembe district is TB (XXX%) followed by HIV (XX%) (Table 4). The profile would also show five-year series to show the trend of deaths over the past 5 years comparing AIDS related deaths and all-cause mortality at a local level.

Table 4: Main cause of deaths in the iLembe District (Source STATSSA)

Cause	Number of deaths	Percent deaths

2.2 HIV

The figures that follow below reflects the HIV positivity rate based on the routine health data collected, collated and reported in health facilities under iLembe district. The definitions for these indicators can be found in Appendix B: Terms, Definitions and calculations.

Due to the small numbers at a local level, it is not included at ward level in this report. See note on small number in Appendix A.

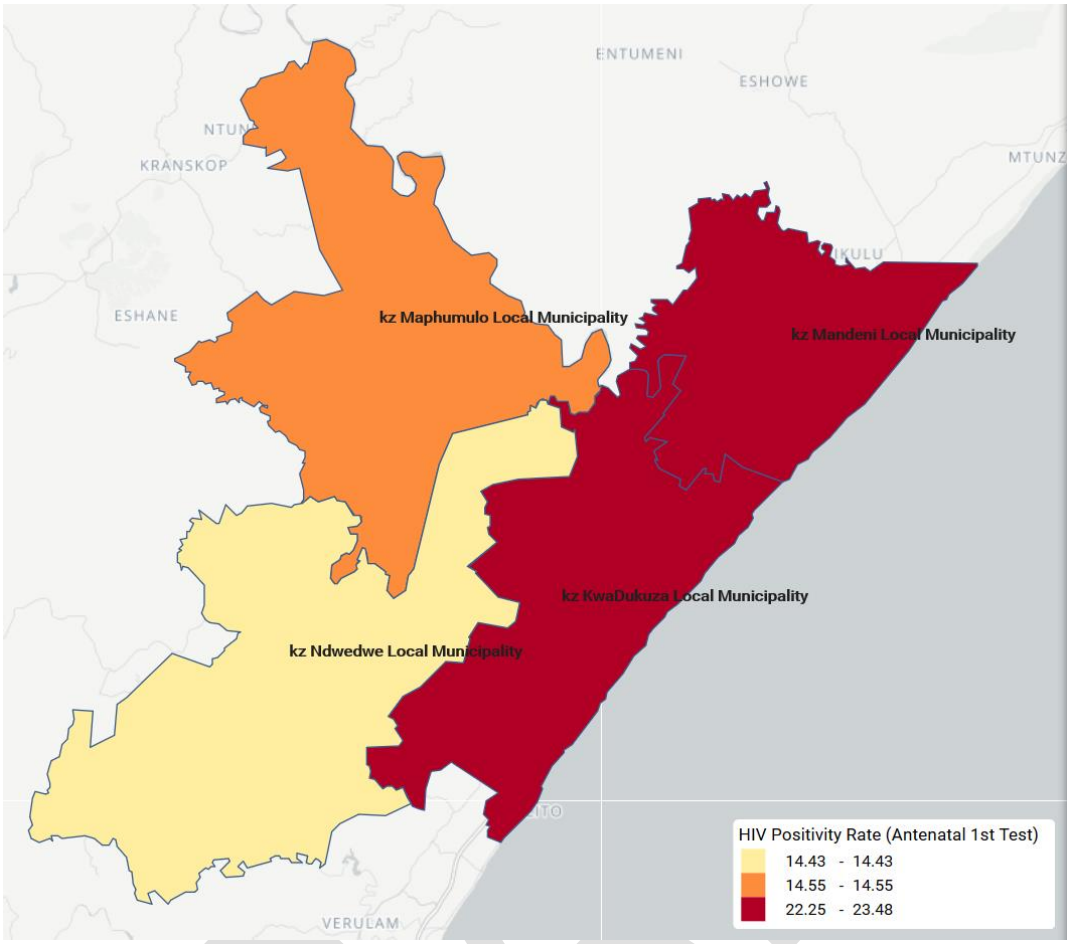

Figure 8: ANC client HIV 1st test positive rate iLembe district (Source: KZN DHIS 2015)

Table 5: HIV Positivity Rate (Antenatal 1st Test) iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: 19.9 %								
	local municipality	**2015 : HIV Positivity Rate (Antenatal 1st Test)**					**NUM %**	**DEN %**
1	kz Ndwedwe local municipality	14.43	%	(278	/	1926)	13.57 %	18.70 %
2	kz Maphumulo local municipality	14.55	%	(269	/	1849)	13.13 %	17.96 %
3	kz Mandeni local municipality	22.25	%	(535	/	2404)	26.11 %	23.35 %
4	kz KwaDukuza local municipality	23.48	%	(967	/	4118)	47.19 %	39.99 %

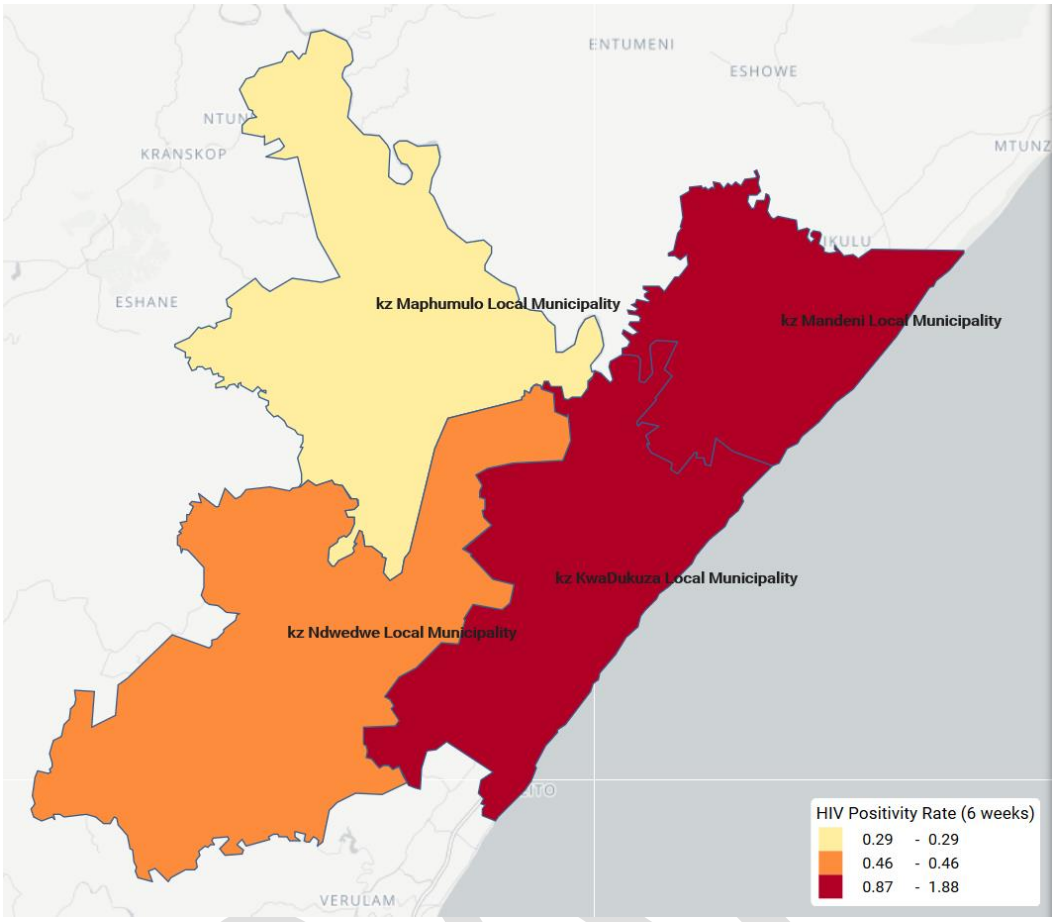

Figure 9: Infant 1st PCR test positive around 6 weeks rate iLembe district (Source: KZN DHIS 2015)

Table 6: HIV Positivity Rate (6 weeks) iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **1.2 %**								
	local municipality	**2015 : HIV Positivity Rate (6 weeks)**					**NUM %**	**DEN %**
1	kz Maphumulo local municipality	0.29	%	(1	/	349)	2.63 %	11.21 %
2	kz Ndwedwe local municipality	0.46	%	(3	/	647)	7.89 %	20.79 %
3	kz Mandeni local municipality	0.87	%	(5	/	577)	13.16 %	18.54 %
4	kz KwaDukuza local municipality	1.88	%	(29	/	1539)	76.32 %	49.45 %

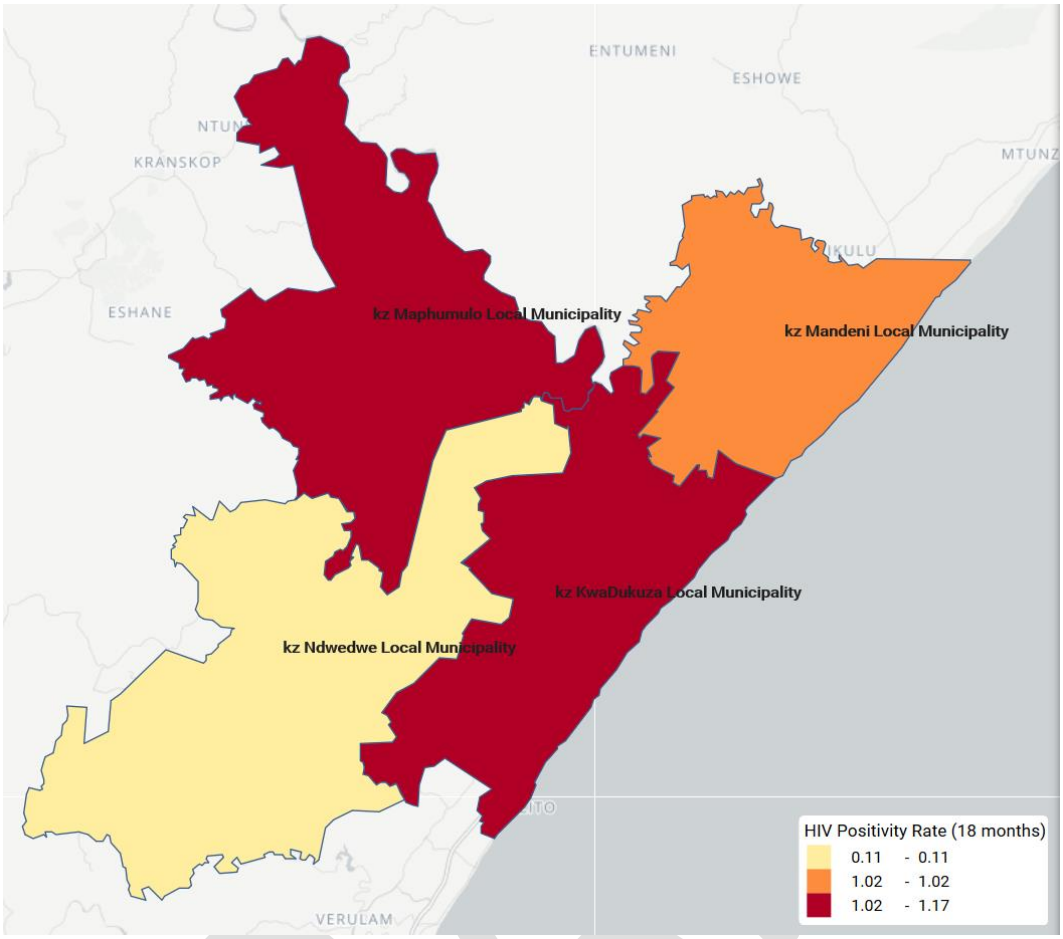

Figure 10: Infant rapid HIV test around 18 months positive rate iLembe district (Source: KZN DHIS 2015)

Table 7: HIV Positivity Rate (18 months) iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **1 %**								
	local municipality	**2015 : HIV Positivity Rate (18 months)**					**NUM %**	**DEN %**
1	kz Ndwedwe local municipality	0.11	%	(1	/	951)	1.69 %	15.34 %
2	kz Mandeni local municipality	1.02	%	(11	/	1077)	18.64 %	17.37 %
3	kz Maphumulo local municipality	1.02	%	(13	/	1270)	22.03 %	20.49 %
4	kz KwaDukuza local municipality	1.17	%	(34	/	2901)	57.63 %	46.80 %

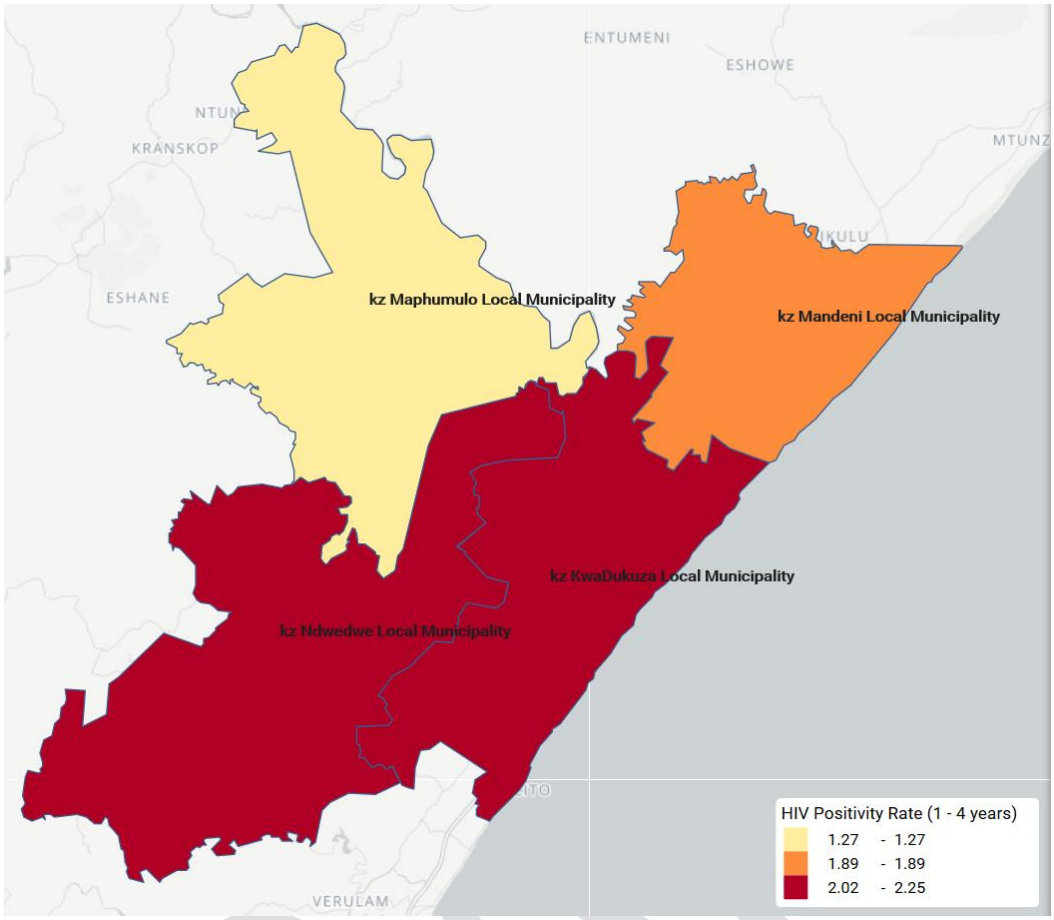

Figure 11: HIV test positive child 12-59 months rate iLembe district (Source: KZN DHIS 2015)

Table 8: HIV Positivity Rate (12-59 months) iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **1.9 %**								
	local municipality	**2015 : HIV Positivity Rate (1 - 4 years)**					**NUM %**	**DEN %**
1	kz Maphumulo local municipality	1.27	%	(31	/	2436)	15.27 %	23.07 %
2	kz Mandeni local municipality	1.89	%	(32	/	1692)	15.76 %	16.03 %
3	kz Ndwedwe local municipality	2.02	%	(43	/	2126)	21.18 %	20.14 %
4	kz KwaDukuza local municipality	2.25	%	(97	/	4303)	47.78 %	40.76 %

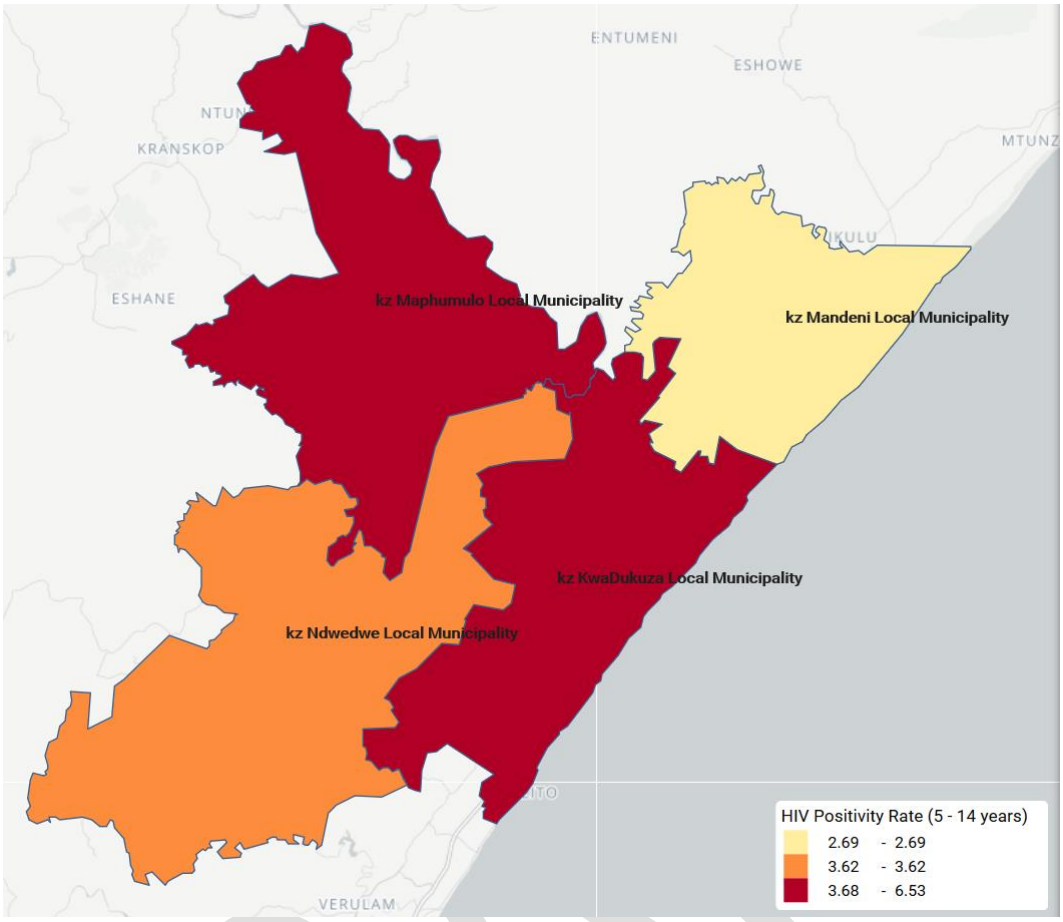

Figure 12: HIV test positive child 5-14 years rate iLembe district (Source: KZN DHIS 2015)

Table 9: HIV Positivity Rate (5 - 14 years) iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **4 %**								
	local municipality	**2015 : HIV Positivity Rate (5 - 14 years)**					**NUM %**	**DEN %**
1	kz Mandeni local municipality	2.69	%	(34	/	1265)	14.59 %	21.93 %
2	kz Ndwedwe local municipality	3.62	%	(71	/	1963)	30.47 %	34.03 %
3	kz Maphumulo local municipality	3.68	%	(49	/	1332)	21.03 %	23.09 %
4	kz KwaDukuza local municipality	6.53	%	(79	/	1209)	33.91 %	20.96 %

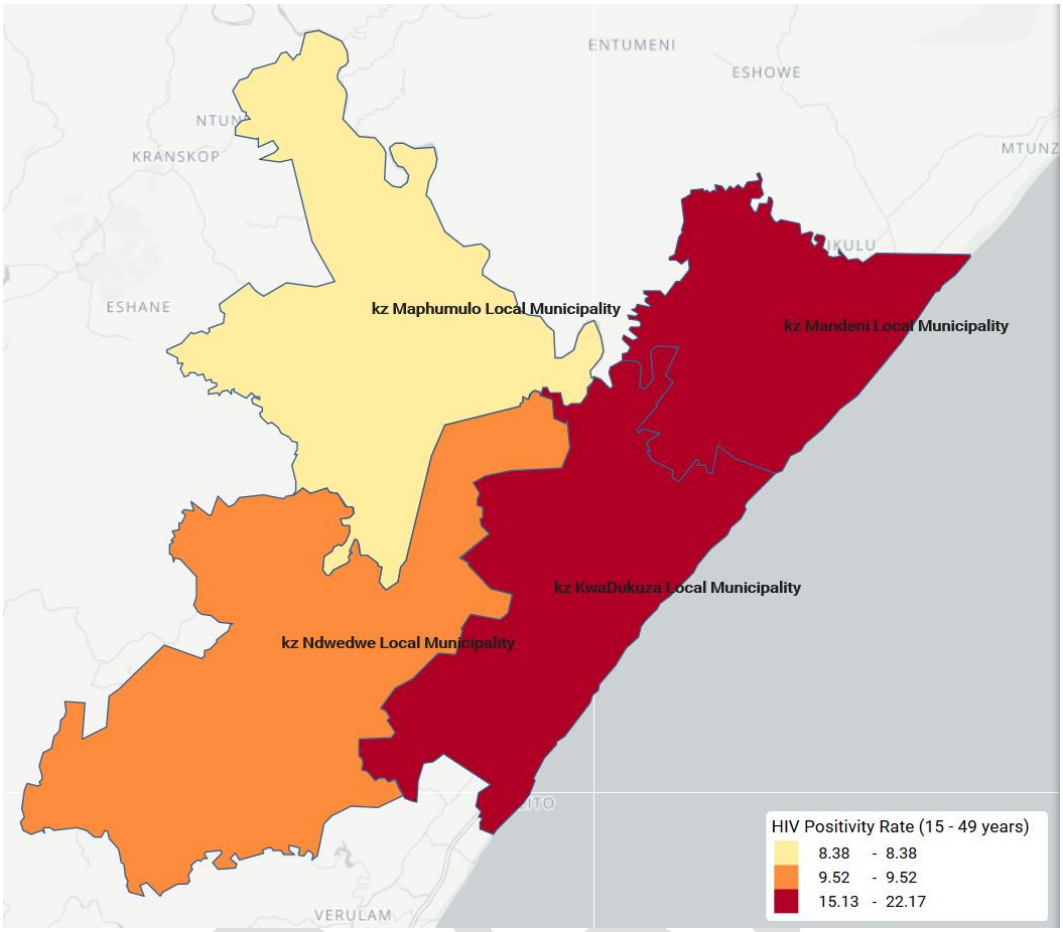

Figure 13: HIV prevalence amongst client tested 15-49 years rate iLembe district (Source: KZN DHIS 2015)

Table 10: HIV Positivity Rate (15 - 49 years) iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **14.5 %**								
	local municipality	**2015 : HIV Positivity Rate (15 - 49 years)**					**NUM %**	**DEN %**
1	kz Maphumulo local municipality	8.38	%	(1565	/	18670)	11.10 %	19.25 %
2	kz Ndwedwe local municipality	9.52	%	(2238	/	23514)	15.87 %	24.24 %
3	kz Mandeni local municipality	15.13	%	(3989	/	26368)	28.29 %	27.18 %
4	kz KwaDukuza local municipality	22.17	%	(6309	/	28458)	44.74 %	29.34 %

2.3 TB

The figures that follow reflects the TB burden based on the routine health data collected, collated and reported in health facilities under iLembe district. The definitions for these indicators can be found in

Appendix B: Terms, Definitions and calculations.

Due to the small numbers at a local level, it is not included at ward level in this report. See note on small number in Annexure A.

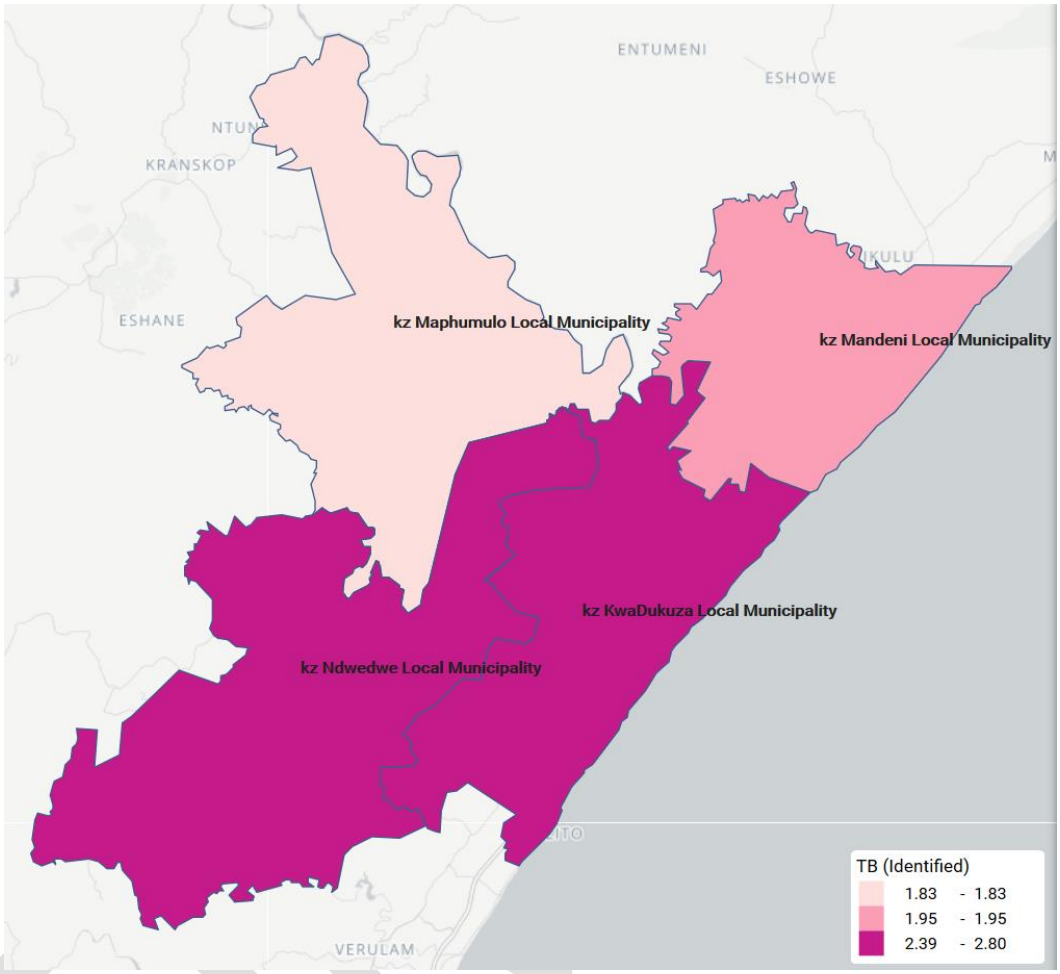

Figure 14: TB (pulmonary) case finding index iLembe district (Source: KZN DHIS 2015)

Table 11: TB (pulmonary) case finding index iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **2.3 %**								
	local municipality	**2015 : TB (Identified)**					**NUM %**	**DEN %**
1	kz Maphumulo local municipality	1.83	%	(5289	/	288352)	13.84 %	17.13 %
2	kz Mandeni local municipality	1.95	%	(8606	/	441841)	22.51 %	26.24 %
3	kz KwaDukuza local municipality	2.39	%	(13751	/	575669)	35.97 %	34.19 %
4	kz Ndwedwe local municipality	2.80	%	(10579	/	377770)	27.68 %	22.44 %

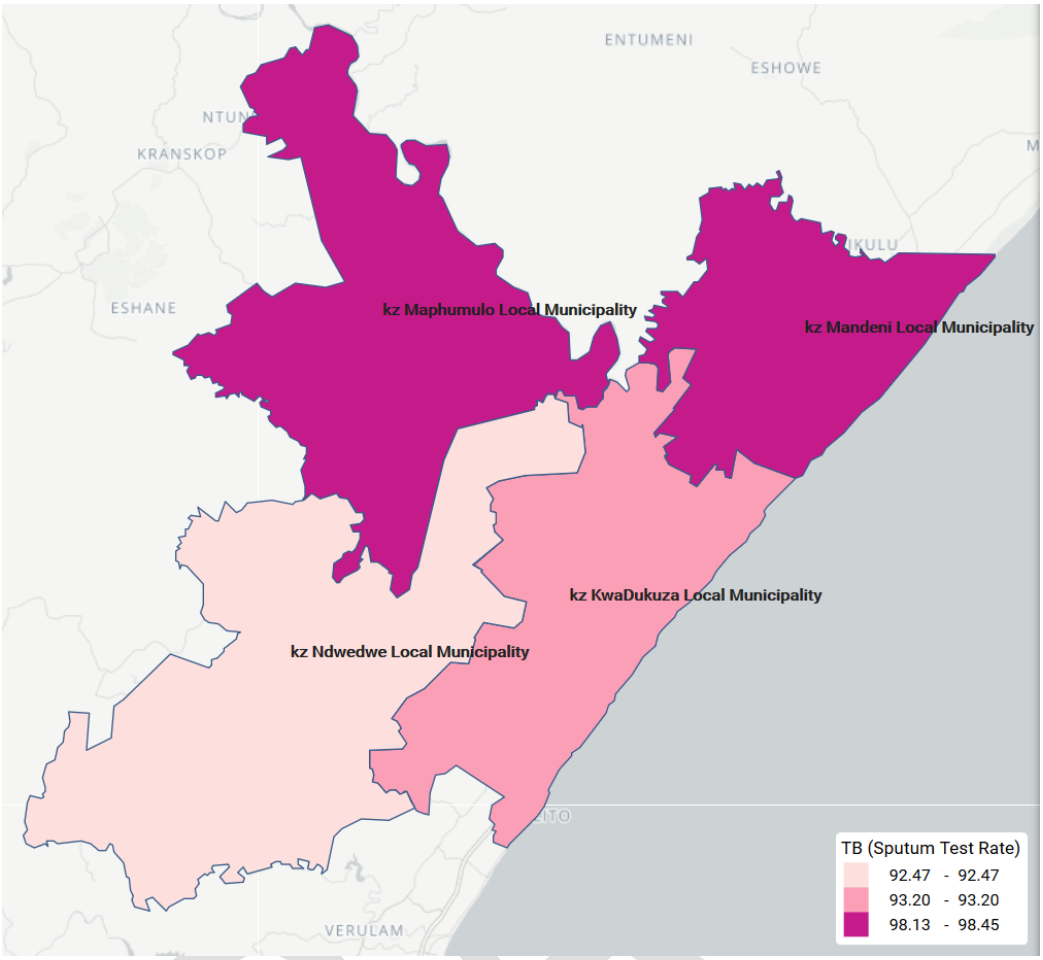

Figure 15: TB suspect sputum test rate iLembe district (Source: KZN DHIS 2015)

Table 12: TB (Sputum Test Rate) iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **94.8 %**								
	local municipality	**2015 : TB (Sputum Test Rate)**					**NUM %**	**DEN %**
1	kz Ndwedwe local municipality	92.47	%	(10579	/	11441)	27.68 %	28.36 %
2	kz KwaDukuza local municipality	93.20	%	(13751	/	14755)	35.97 %	36.58 %
3	kz Mandeni local municipality	98.13	%	(8606	/	8770)	22.51 %	21.74 %
4	kz Maphumulo local municipality	98.45	%	(5289	/	5372)	13.84 %	13.32 %

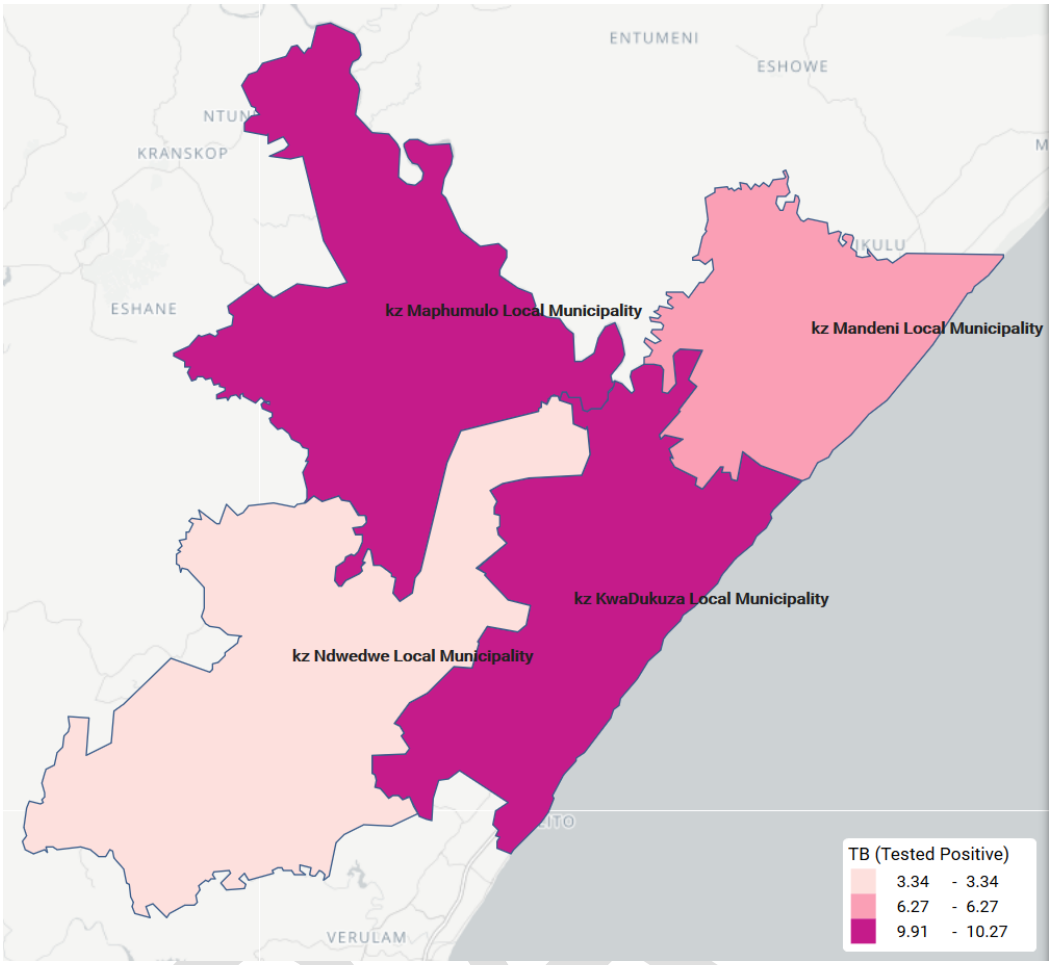

Figure 16: TB suspect smear positive rate iLembe district (Source: KZN DHIS 2015)

Table 13: TB suspect smear positive rate iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **7.3 %**									
	local municipality	**2015 : TB (Tested Positive)**					**NUM %**	**DEN %**
1	kz Ndwedwe local municipality	3.34	%	(353	/	10579)	12.61 %	27.68 %
2	kz Mandeni local municipality	6.27	%	(540	/	8606)	19.29 %	22.51 %
3	kz KwaDukuza local municipality	9.91	%	(1363	/	13751)	48.70 %	35.97 %
4	kz Maphumulo local municipality	10.27	%	(543	/	5289)	19.40 %	13.84 %

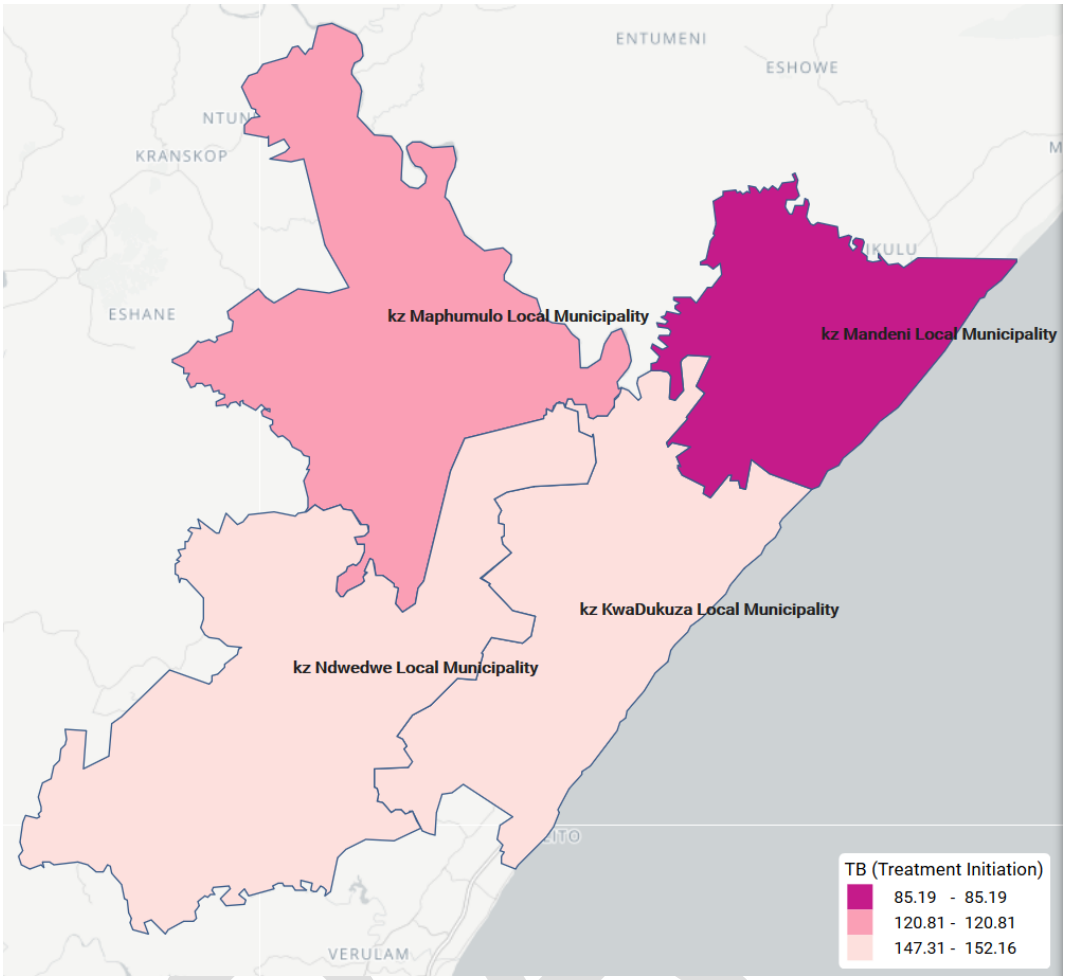

Figure 17: TB suspect treatment initiation rate iLembe district (Source: KZN DHIS 2015)

Table 14: TB suspect treatment initiation rate iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **132.5 %**								
	local municipality	**2015 : TB (Treatment Initiation)**					**NUM %**	**DEN %**
1	kz Mandeni local municipality	85.19	%	(460	/	540)	12.40 %	19.29 %
2	kz Maphumulo local municipality	120.81	%	(656	/	543)	17.68 %	19.40 %
3	kz Ndwedwe local municipality	147.31	%	(520	/	353)	14.02 %	12.61 %
4	kz KwaDukuza local municipality	152.16	%	(2074	/	1363)	55.90 %	48.70 %

2.4 STIs

Sexually transmitted infections (STIs) are a major risk factor to the human immunodeficiency virus (HIV) epidemic[1]. The presence of a sexually transmitted infection, such as syphilis, gonorrhoea, or herpes simplex virus infection, greatly increases the risk of acquiring or transmitting HIV infection (by two to three times, in some populations). The HIV-1 infected persons with STIs are at increased risk of transmitting HIV-1 because genital tract shedding of HIV-1 is elevated in the presence of genital tract inflammation[23]. v. In 2014, HIV co-infection amongst STI patients remained relatively high with a HIV co-infection of 30.1% [45] among those with male urethritis syndrome, 40.3% among those with vaginal discharge syndrome and 46.3% among those with genital ulcer syndrome[6] Location is also a factor. Ramjee et.al confirms the high prevalence and incidence of STIs among women living in rural and urban communities of KwaZulu-Natal. Therefore, STI control programmes need to be embedded in HIV care and treatment programmes and vice-versa in order to achieve optimal benefit in ameliorating the impact of HIV, AIDS and STIs.

The figure below reflects the STI burden based on the routine health data collected, collated and reported in health facilities under iLembe district. At this point the most robust data is for Male urethritis syndrome rate. As the data quality for other STI routine health indicators improve, it will be included in updated profiles. The definitions for this indicator can be found in Appendix B. Due to the small numbers at a local level, it is not included at ward level in this report. See note on small number in Appendix A.

[1] Naidoo, S., Wand, H., & Ramjee, G. (2014). High prevalence and incidence of sexually transmitted infections among women living in Kwazulu-Natal, South Africa. *AIDS Research and Therapy*, 11–31. http://doi.org/10.1186/1742-6405-11-31

[2] Cohen, M., Hoffman, I., Royce, R., Kazembe, P., Dyer, J., & Daly, C. (1997). Reduction of concentration of HIV-1 in semen after treatment of urethritis: implications for prevention of sexual transmission of HIV-1. AIDSCAP Malawi Research Group. *Lancet*, *349*(9096), 1868–73.

[3] Johnson, L., & Lewis, D. (2008). The effect of genital tract infections on HIV-1 shedding in the genital tract: a systematic review and meta-analysis. *Sex Transm Dis*, *35*(11), 946–59.

[4] Cohen, M., Hoffman, I., Royce, R., Kazembe, P., Dyer, J., & Daly, C. (1997). Reduction of concentration of HIV-1 in semen after treatment of urethritis: implications for prevention of sexual transmission of HIV-1. AIDSCAP Malawi Research Group. *Lancet*, *349*(9096), 1868–73.

[5] Johnson, L., & Lewis, D. (2008). The effect of genital tract infections on HIV-1 shedding in the genital tract: a systematic review and meta-analysis. *Sex Transm Dis*, *35*(11), 946–59.

[6] Naidoo, S., Wand, H., & Ramjee, G. (2014). High prevalence and incidence of sexually transmitted infections among women living in Kwazulu-Natal, South Africa. *AIDS Research and Therapy*, 11–31. http://doi.org/10.1186/1742-6405-11-31

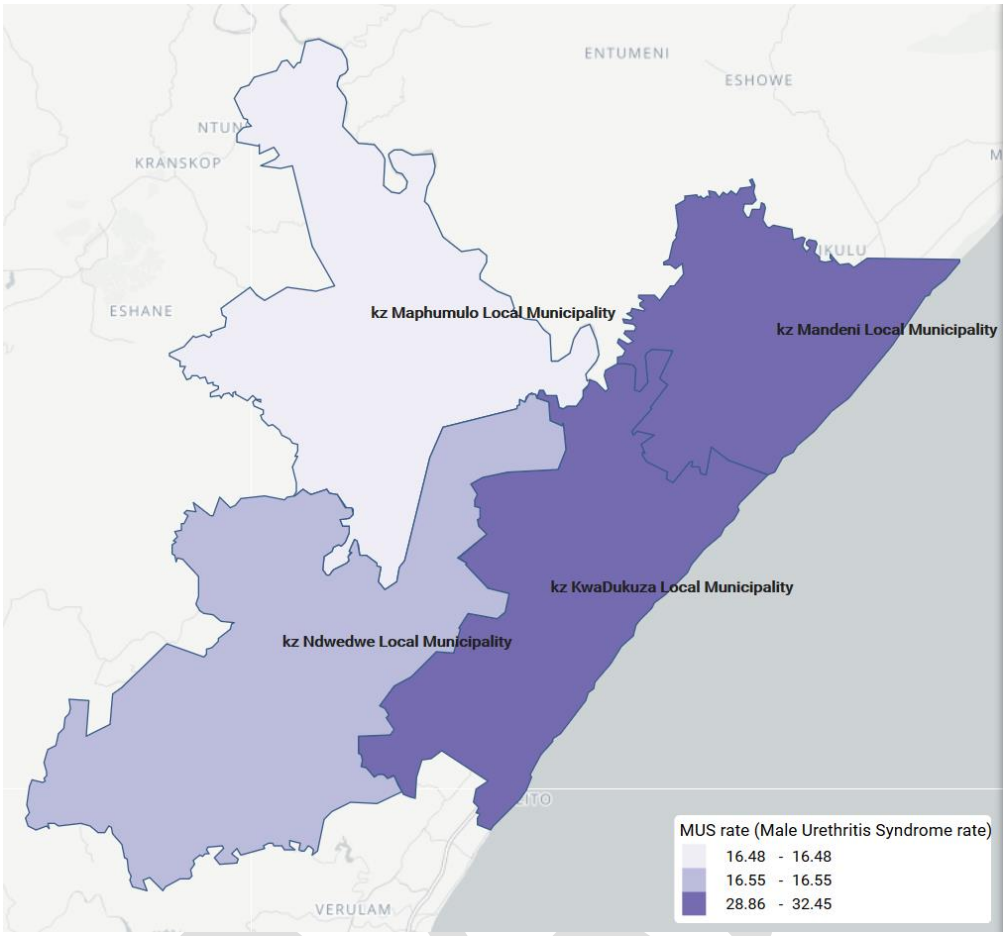

Figure 18: Male urethritis syndrome rate iLembe district (Source: KZN DHIS 2015)

Table 15: Male urethritis syndrome rate iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **27.9 %**								
	local municipality	**2015 : MUS rate (Male Urethritis Syndrome rate)**					**NUM %**	**DEN %**
1	kz Maphumulo local municipality	16.48	%	(504	/	3059)	7.12 %	12.04 %
2	kz Ndwedwe local municipality	16.55	%	(443	/	2676)	6.26 %	10.53 %
3	kz Mandeni local municipality	28.86	%	(2030	/	7034)	28.69 %	27.69 %
4	kz KwaDukuza local municipality	32.45	%	(4099	/	12633)	57.93 %	49.73 %

3. Associated risk profile

3.1 Biomedical Profile

3.1.1 HIV Testing

Awareness of one's HIV status through HIV Testing Services (HTS) is pivotal to accessing prevention, care services, and ARV treatment which mitigate the impact of HIV [7]. It is therefore important to determine the success of routine HIV testing and counselling by the department of health. From the National 2013 HIV testing campaign, nearly two-thirds of respondents (65.5%) indicated that they had tested for HIV with females reporting higher rates of testing (71.5%) than of males (59%)[8]. 78% of adults aged 25–49 years reported testing compared to youth aged 15–24 years (50.6%) and the elderly (aged 50 years and older) (54.8%)[9].

During stakeholder and community engagement workshops it was noted that there are no mobile clinics that provide HIV testing in the rural areas, people have to go to clinics to know their status. People fear HIV testing and they only test when they are very sick.

3.1.2 Circumcision

Voluntary medical male circumcision (VMMC) is being scaled up in the country because it has been shown to be partially effective in reducing HIV infection among males[10]. Nationally, there are reported about 46.4% circumcisions, with a significant lower percentage of men aged 15–19 years compared to all age groups. High percentage of black Africans (52.4%) reported that they were circumcised compared to the other three race groups[11].

Stakeholder and community engagement workshops revealed the following about ***circumcision*** in the area:

- Boys do circumcise in this area but there is a problem of adverse events;
- Some older men do not like to circumcise because it's not their culture and they end up being infected;
- Some men are not circumcising because they are afraid to go for HTC; and
- Most of the circumcised men don't condomise because they have a tendency to think they will not get infected.

[7] Shisana, O., T. Rehle, et al. (2014). South African National HIV Prevalence, Incidence and Behaviour Survey,2012. Cape Town, HSRC Press.
[8] ibid
[9] ibid
[10] SANAC. 2011. NSP 2012–2016
[11] Shisana, O., T. Rehle, et al. (2014). South African National HIV Prevalence, Incidence and Behaviour Survey,2012. Cape Town, HSRC Press.

3.1.2 ARV treatment

During the stakeholder and community engagement workshops the following was said about ***ARV treatment*** in the area:

- ARV's are accessible and available in the clinic at all the time and others can even collect your medicine for you;
- The problem is that people are scared or afraid to take ARV's at the clinic because they don't want to be seen by each other;
- There used to be a different file for ARV patients but not anymore but people are still not trusting the process (discrimination history);
- Community care givers (CCG's) are doing a good job of supporting those who are on ART;
- There are a lot of lost to follow up – those hiding in their homes, others taking treatment from Stanger, Tongaat and KwaMashu but there is a cost and they default because it's too far then they come to Mthandeni being very sick; and
- ART is helping people to recover from being sick.

3.1.3 PEP and PrEP

The following was discussed around ***post-exposure antiretroviral prophylaxis (PEP) and pre-exposure antiretroviral prophylaxis (PrEP) during*** the stakeholder and community engagement workshops in the area:

- Only the health workers know about PEP for rape, the rest of the community does not know;
- There is very little knowledge, even among the health workers, about PrEP because they do not have a guideline so don't give it; and
- The youth need a lot of education on PEP because when they are raped, they just accept it they don't know you must get PEP in 72 hours.

3.1.4 Lubricant

During the stakeholder and community engagement workshops it was noted that in general there is no knowledge of the benefit of extra lubricant or where it can be accessed.

3.2 Behaviour that influences risk for HIV infection

The reported high incidence among young women aged women aged 15–24 years (2.54; 2.04–3.04) approximately 116 000 new infections compared to young men (0.55; 0.45–0.65) approximately 26 000 new infections[12] calls for need to address the associated social factors such as age-disparate relationships, particularly at a much local level. However, data on factors influencing risk of HIV infection e.g. condom use, multiple sexual partnerships, intergenerational sex, transactional sex, risky sexual practices (anal sex) are not routinely collected. Such data are mostly obtained from independent behavioural surveys[13], and are reported at provincial level which is much higher that district, local municipalities, and high burden areas. There is need for the department of health to devise approaches to routinely collect quantitative data on sexual risk behaviours in identified local levels and/or high burden areas.

3.2.1 HIV Knowledge

The following was discussed around ***HIV knowledge*** during the stakeholder and community engagement workshops in the area:

- The community is aware of HIV because there are Health Workers who give talks and education on ARV's. Every morning in Clinics there are also classes on ARV's;
- Older people and children (don't know enough about HIV) because older people have sympathy for their grandchildren and their grandchildren hide their status and usually they (the grandparents) are infected due to blood contact;
- Parents don't follow the procedure on how to feed a baby - in these cases CCG's intervene but parents move to other locations like Durban; and
- They say if you had sex with a child and an older person you get cured.

3.2.2 Sexual risky behaviours

The community engagement discussion on ***risky sexual behaviour*** did not identify any particularly risky behaviours but reflected extensively on polygamy which will be presented under the discussion on religious and cultural norms in paragraph 3.3.2 below. However in other discussions references were made to young girls wanting to protect their virginity by having anal sex.

3.2.3 Substance abuse

The following was discussed about ***substance abuse*** during the stakeholder and community engagement workshops in the area:

- Young people are mostly the population that consumes alcohol and drugs and then they make decisions that increases their risk of HIV infection;

[12] Shisana, O., T. Rehle, et al. (2014). South African National HIV Prevalence, Incidence and Behaviour Survey,2012. Cape Town, HSRC Press.
[13] ibid

- Shortage and distances of recreational facilities like cinemas, libraries also contribute. This leads the youth to be regulars in taverns, get drunk and end up having unprotected sex; and
- Alcohol abuse also leads to Istimela where young girls are gang-raped by the group of boys that bought them drinks at the tavern.

3.2.4 Condoms

Stakeholder and community engagement workshops revealed the following about ***condoms use and availability*** in the area:

- Condoms are available distributed by CCG's in shops, clubs and taverns; and people are educated on how to use them properly;
- But women fear using them because they fear their partners;
- There is a misperception where women don't want to use female condoms because they believe they can't urinate if they put it in earlier and they can't wait for eight hours without urinating; and
- There is no sensation with female condoms.

In Figure 19 and Figure 20 the condom distribution for females and males (annualised) are reflected at local municipality level in iLembe district. The definitions for these indicators can be found in Appendix B. Due to the small numbers at a local level, it is not included at ward level in this report. See note on small number in Appendix A.

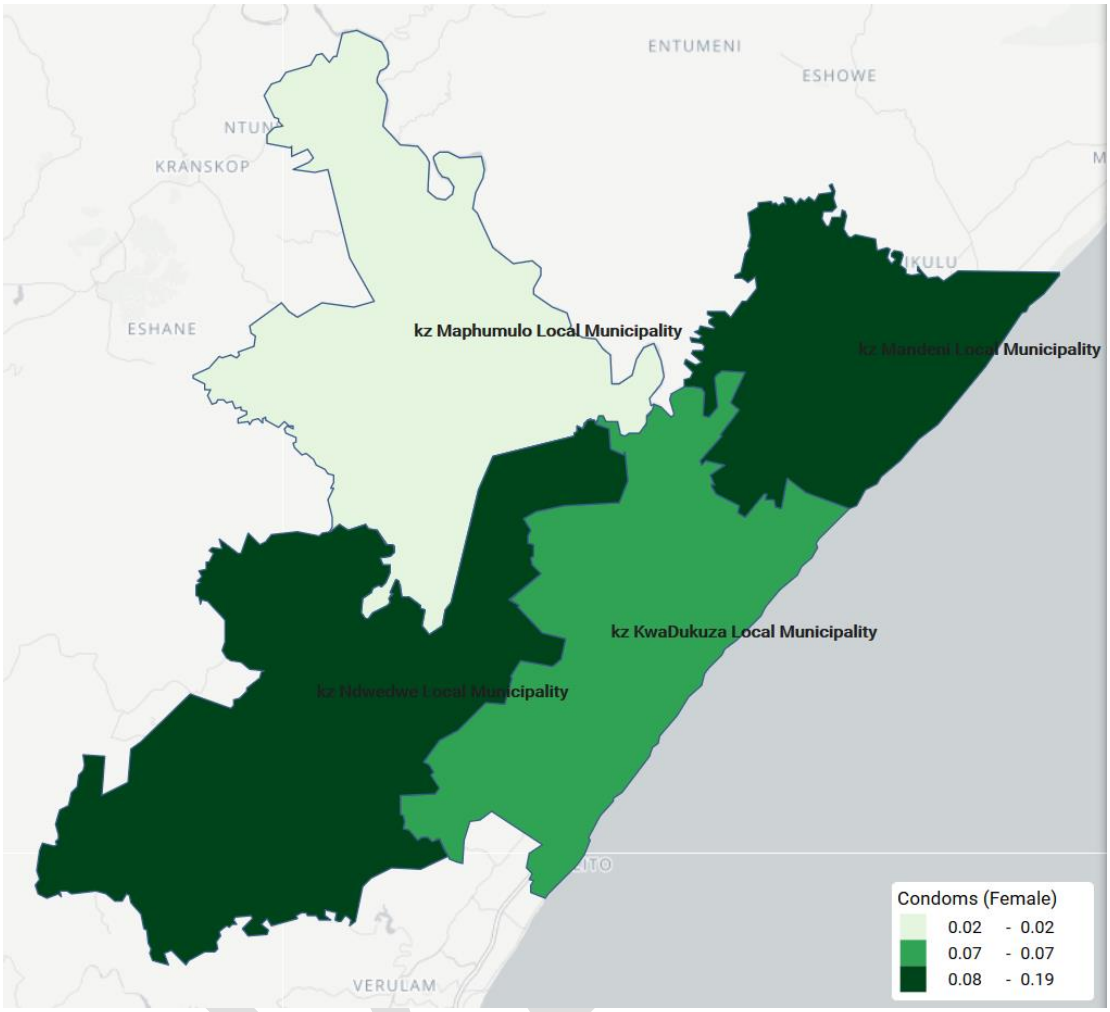

Figure 19: Female condom distribution rate iLembe district (Source: KZN DHIS 2015)

Table 16: Female condom distribution rate iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **9.1 No**								
	local municipality	**2015 : Condoms (Female)**					**NUM %**	**DEN %**
1	kz Maphumulo local municipality	0.02	No	(8809	/	462732)	3.28 %	15.67 %
2	kz KwaDukuza local municipality	0.07	No	(78665	/	1149648)	29.30 %	38.94 %
3	kz Ndwedwe local municipality	0.08	No	(52002	/	661380)	19.37 %	22.40 %
4	kz Mandeni local municipality	0.19	No	(129036	/	678396)	48.06 %	22.98 %

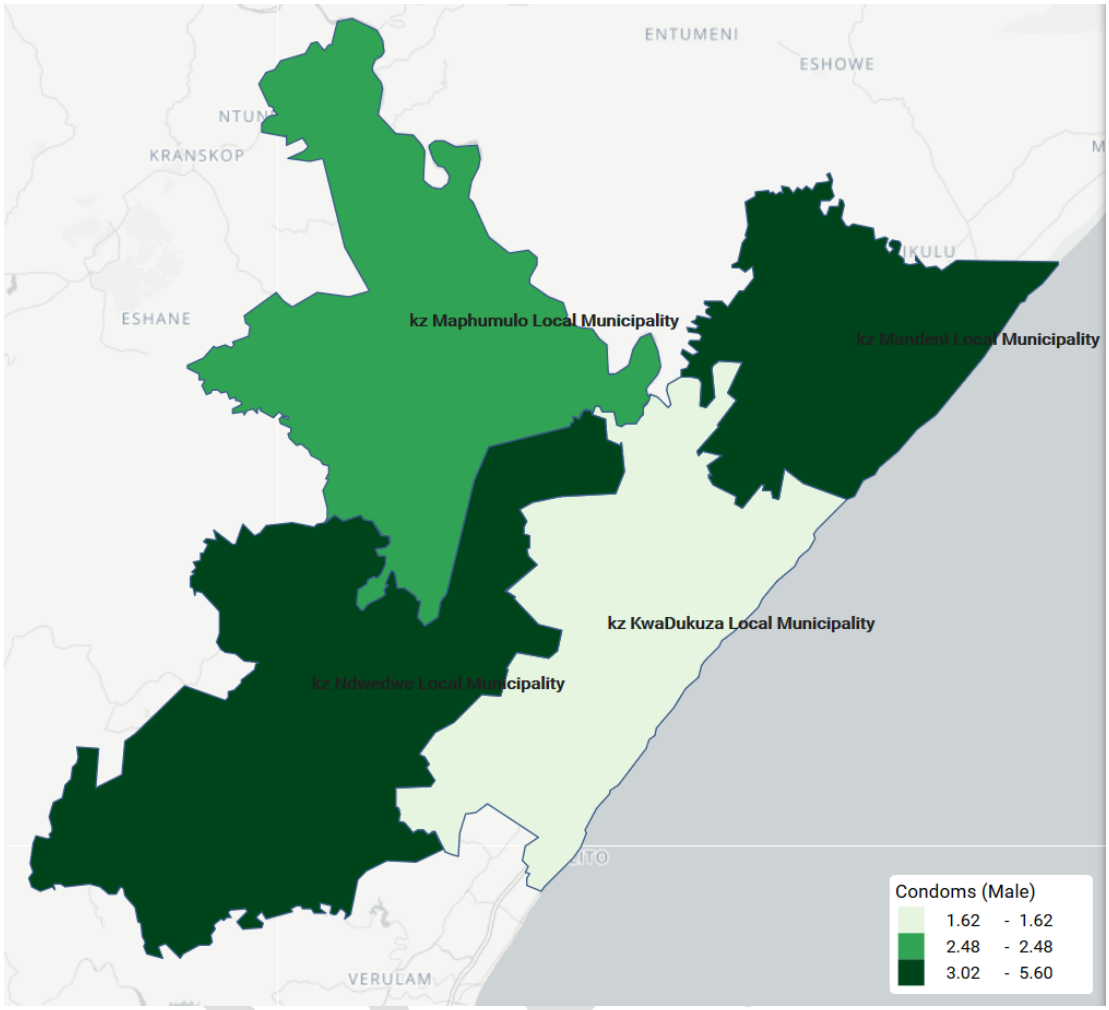

Figure 20: Male condom distribution rate iLembe district (Source: KZN DHIS 2015)

Table 17: Male condom distribution rate iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **292.4 No**								
	local municipality	**2015 : Condoms (Male)**					**NUM %**	**DEN %**
1	kz KwaDukuza local municipality	1.62	No	(1787393	/	1103880)	24.34 %	43.95 %
2	kz Maphumulo local municipality	2.48	No	(759819	/	306240)	10.35 %	12.19 %
3	kz Ndwedwe local municipality	3.02	No	(1602470	/	530868)	21.82 %	21.14 %
4	kz Mandeni local municipality	5.60	No	(3193579	/	570768)	43.49 %	22.72 %

3.2.5 Key and vulnerable populations

Figure 21 is a reflection of under 18-year-old girls that deliver in facilities. This is a proxy for teenage pregnancies in the community. The indicator definition is included in Appendix B. Due to the small numbers at a local level, it is not included at ward level in this report. See note on small number in Appendix A.

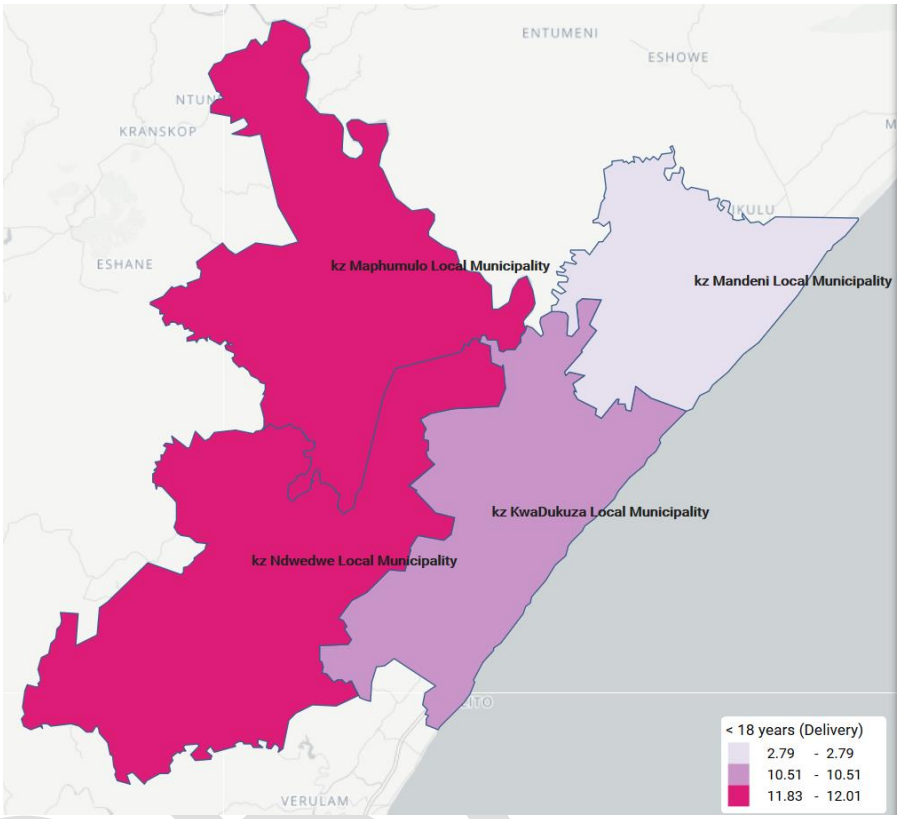

Figure 21: Teenage Pregnancy rate iLembe district (Source: KZN DHIS 2015)

Table 18: Teenage Pregnancy rate iLembe district (Source: KZN DHIS 2015 report 26 June 2017)

KZ ILEMBE DISTRICT MUNICIPALITY: **10 %**									
	local municipality	**2015 : < 18 years (Delivery)**					**NUM %**	**DEN %**
1	kz Mandeni local municipality	2.79	%	(36	/	1289)	3.39 %	12.11 %
2	kz KwaDukuza local municipality	10.51	%	(669	/	6366)	62.99 %	59.81 %
3	kz Ndwedwe local municipality	11.83	%	(130	/	1099)	12.24 %	10.33 %
4	kz Maphumulo local municipality	12.01	%	(227	/	1890)	21.37 %	17.76 %

Table 19 reflects different discussions during the community engagement that relates to key and vulnerable populations specifically.

Table 19: Key and vulnerable population groups

Key and vulnerable population group	Stakeholder and community feedback
Young women	Young women in the community consider early pregnancy as a sign of the fecundity and do not return to school after conceiving. This is reinforced by limited opportunities for employment or further education and training after school.
Youth	Youth are bored in the community because there are no facilities or programmes they can participate in.
Orphans and vulnerable children	OVC are affected by the lack of supervision from their older siblings who has to have boyfriends to pay for the family's costs. This behaviour is role-modelled in the family so other younger also begin to practice transactional sex early.
People with disabilities	The disabled are hidden in the Maphumulo community. There is no special school for the disabled so they stay at home and don't get educated. Their caregivers can't supervise them all the time and when they are left alone they are sexually exploited by neighbours and family members.
Older Persons	The elderly are not properly educated on HIV and those grandparents looking after PLHIV don't know how to practice safety.
Contract workers	There are many infrastructure projects for water, electricity, roads and storm water. The construction companies employ people from outside the community. They have lots of money and are lonely so they date young girls from the community.
Migrant Workers	Fathers go out to work in other places and then come home to infect their wives.

3.3 Social and structural factors that influence HIV risk

3.3.1 Orphan hood

In 2011, the proportion of orphans was especially high in the rural Wards. High level of HIV prevalence in KwaZulu-Natal had been associated with high proportion of orphans[14] , albeit at provincial level. The detail for Ward 7 and 8 that forms the catchment area for Mthandeni Clinic, are highlighted in the table below.

Table 20: Orphan hood for Census 2011 at Ward level in Maphumulo local municipality

Ward	Maternal orphans			Paternal orphans			Double orphans		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Ward 1	86	64	151	362	354	716	137	136	273
Ward 2	87	92	178	490	503	993	211	224	435
Ward 3	74	69	143	393	390	783	153	130	283
Ward 4	111	104	215	380	380	760	175	165	341
Ward 5	114	76	191	557	548	1 104	249	208	457
Ward 6	50	60	109	419	385	804	145	154	300
Ward 7	77	79	157	300	324	623	131	120	251
Ward 8	75	61	136	317	287	603	135	138	272
Ward 9	55	76	132	289	327	615	154	141	295
Ward 10	108	90	198	382	323	705	166	110	276
Ward 11	74	68	141	242	223	465	124	98	223

[14] Shisana, O., T. Rehle, et al. (2014). South African National HIV Prevalence, Incidence and Behaviour Survey,2012. Cape Town, HSRC Press.

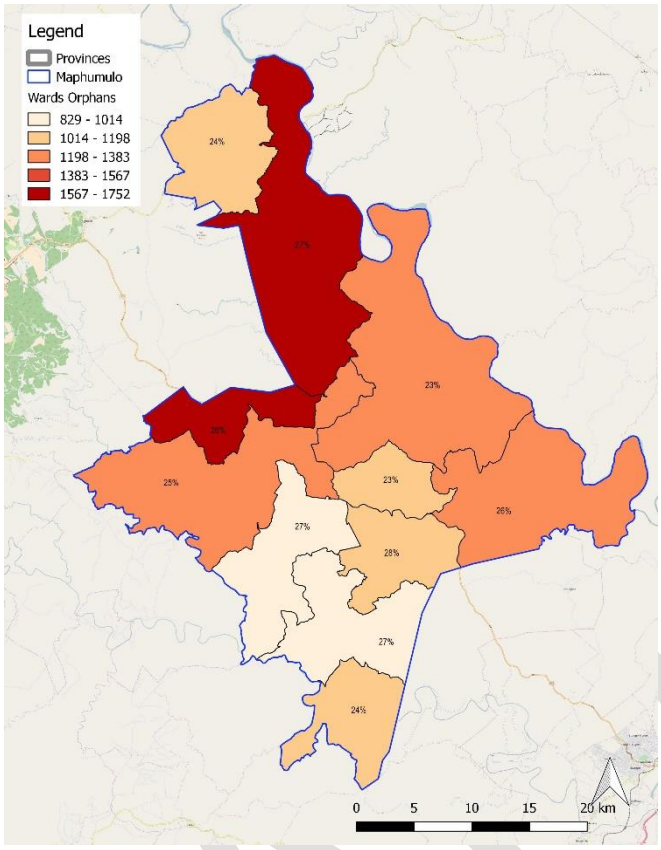

Figure 22: Total number of Orphans with percentage that are double orphans per ward (Source Census 2011)

The following was identified as associated risks for ***Orphans and vulnerable children***:

- Child heads of households are forced into transactional sex to provide for the family;
- Early sexual debut happens when the younger ones see this practice; and
- Neighbours and other men see the vulnerability and take advantage.

3.3.2 Cultural and Religious Norms

Stakeholder and community engagement workshops revealed the following about ***cultural and religious norm***s:

- There is a culture of having sex with people who have lost their partners after the mourning period, especially the brothers in law;
- Traditional Healers use the same razors when they practice ritual scarring for different clients;
- Sangoma's sleep with their initiates without protection;
- Priests sleep with congregants when they come for prayer;
- Church night vigils and other traditional activities which happen at night also contributes to people having unprotected sex;
- Evening church groups and classes also expose most young people to irresponsible sexual practices as this is their only social activity;
- Virginity testing also makes young girls to have Anal sex which has a higher risk of infection;

- Older people still use lobola (traditional marriage) and the young people cannot negotiate condoms;
- There is a perception that there are forced marriages to young people within the Shembe church; and
- Polygamy is seen a very big contributor to HIV transmission because wives can't tell their husbands to use condoms even if they know there are other sexual partners.

3.3.3 Gender norms and gender-based violence

Stakeholder and community engagement workshops revealed the following about ***gender norms and gender-based violence*** in the area:

- There is a lot of sexual abuse of young children by stepfathers and uncles which is kept a secret and dealt with within the family. The children are not tested so no one knows their status;
- Women can't tell husbands or boyfriends what to do because men decide how the relationship goes;
- Women cannot negotiate condoms with their sexual partners even if they know they are HIV positive or have other sexual partners; and
- Young women are educated but not employed this makes them dependent on men and have to accept the partners choice not to wear condoms.

3.3.4 Stigma

Stigma is seen as decreasing because people are disclosing their status to others. Some people still feel they cannot be seen by their neighbours so they get their medication in other facilities – Tongaat, Kwa Mashu and Durban.

3.3.5 Poverty

Poverty is measured through the South Africa Multidimensional Poverty Index (SAMPI)[15]. The detail for Wards 7 and 8 that forms the catchment area for Mthandeni Clinic are highlighted in the table below.

Table 21: Poverty measures for Census 2011 at Ward level in Maphumulo local municipality

	Poverty Headcount (H)	Intensity of Poverty (A)	SAMPI (HxA)
Ward 001	19.5	40.6	**0.079**
Ward 002	35.2	38.5	**0.136**
Ward 003	35.6	40.8	**0.145**
Ward 004	22.2	39.4	**0.087**
Ward 005	27.9	42.3	**0.118**
Ward 006	28.7	40.4	**0.116**
Ward 007	26.1	40.6	**0.106**
Ward 008	28.6	40.7	**0.116**
Ward 009	17.2	41.2	**0.071**
Ward 010	12.5	41.8	**0.052**
Ward 011	29.1	41.3	**0.120**
kz Maphumulo	**25.7**	**40.7**	**0.105**

Ward 10 had the lowest head count at 12.5%. The greatest contributors to high poverty measures in KZN are health (measured by child mortality) and education (measured by years of schooling and school attendance). The Multidimensional Poverty Index for Maphumulo local municipality changed between 2001 (Figure 23) and 2011 (Figure 24). In 2001 the highest Poverty Index was 24.19. This reduced to 14.53 in 2011.

In the catchment area for Mthandeni Clinic, the highest poverty headcount is in ward 8 at 11.64%, making it the fifth highest in Maphumulo local municipality. This is visible with the moderate shading in figure 26 for the SAMPI poverty headcount for the ward level.

[15] SAMPI is the product of the headcount (proportion of households defined as multi-dimensionally poor using the poverty cut-off) and intensity of poverty (average proportion of indicators in which poor households are deprived). The SAMPI constitutes weighted education, health, assets, and economic activity (unemployment rates) indicators.

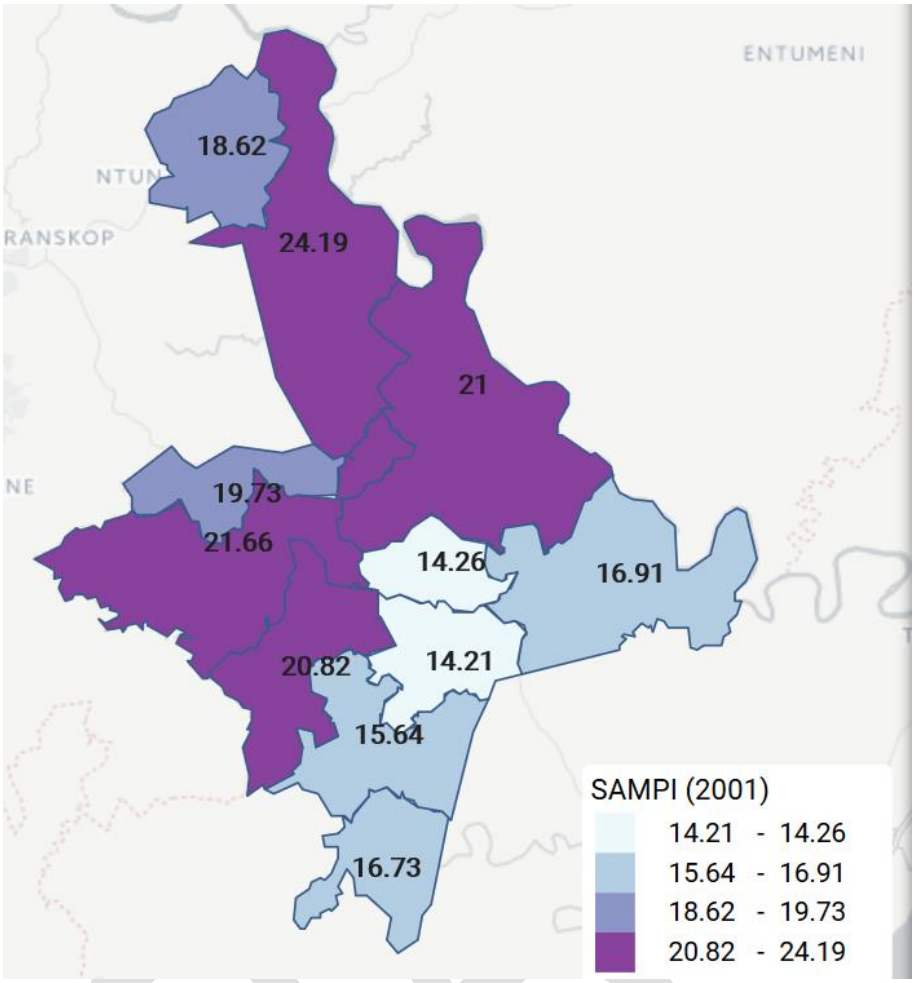

Figure 23: SAMPI (poverty Index) 2001 - ward level, Maphumulo local municipality

Table 22: SAMPI (poverty Index) 2001 - ward level, Maphumulo local municipality

KZ MAPHUMULO LOCAL MUNICIPALITY: **18.6 %**						
	Ward (2011)	**SAMPI (2001)**				
1	kz Maphumulo Ward 009	14.21	%	(14.2	/	100)
2	kz Maphumulo Ward 010	14.26	%	(14.3	/	100)
3	kz Maphumulo Ward 008	15.64	%	(15.6	/	100)
4	kz Maphumulo Ward 007	16.73	%	(16.7	/	100)
5	kz Maphumulo Ward 004	16.91	%	(16.9	/	100)
6	kz Maphumulo Ward 001	18.62	%	(18.6	/	100)
7	kz Maphumulo Ward 005	19.73	%	(19.7	/	100)
8	kz Maphumulo Ward 011	20.82	%	(20.8	/	100)
9	kz Maphumulo Ward 003	21	%	(21	/	100)
10	kz Maphumulo Ward 006	21.66	%	(21.7	/	100)
11	kz Maphumulo Ward 002	24.19	%	(24.2	/	100)

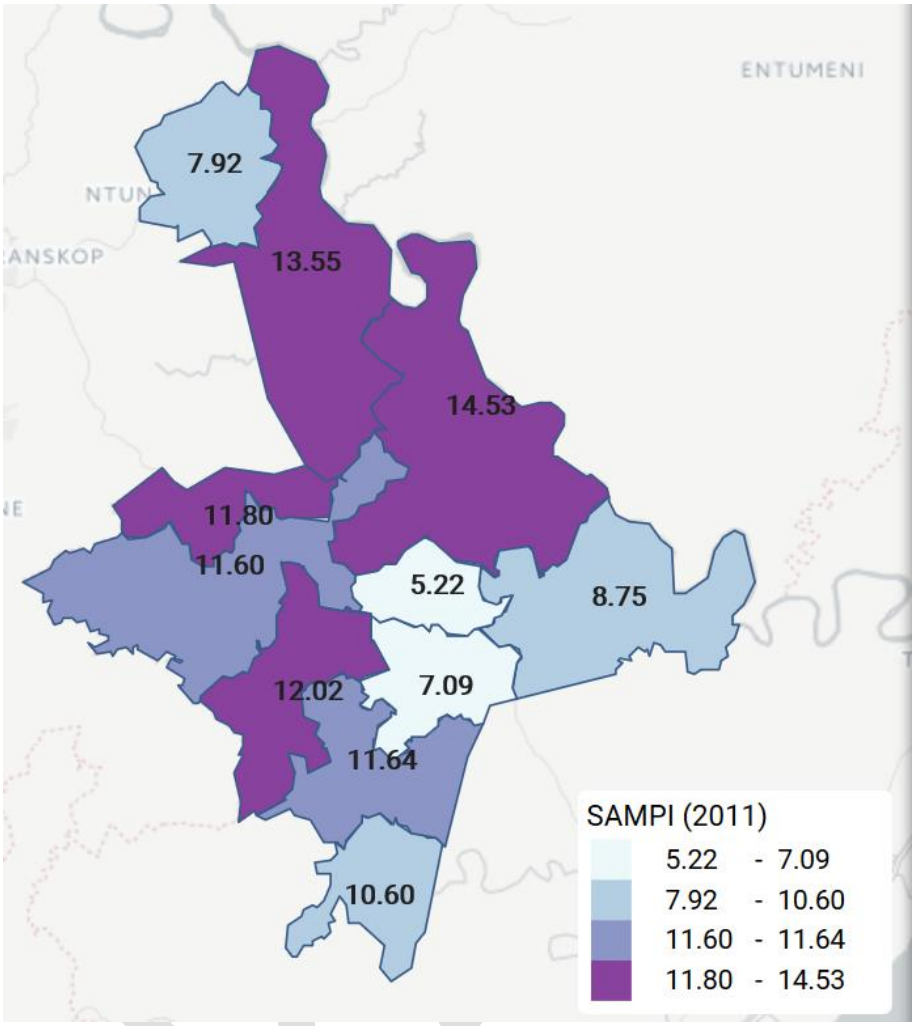

Figure 24: SAMPI (poverty Index) 2011 - ward level, Maphumulo local municipality

Table 23: SAMPI (poverty Index) 2011 - ward level, Maphumulo local municipality

KZ MAPHUMULO LOCAL MUNICIPALITY: **11.6 %**						
	Ward (2011)	**SAMPI (2011)**				
1	kz Maphumulo Ward 010	5.22	%	(5.2	/	100)
2	kz Maphumulo Ward 009	7.09	%	(7.1	/	100)
3	kz Maphumulo Ward 001	7.92	%	(7.9	/	100)
4	kz Maphumulo Ward 004	8.75	%	(8.7	/	100)
5	kz Maphumulo Ward 007	10.60	%	(10.6	/	100)
6	kz Maphumulo Ward 006	11.60	%	(11.6	/	100)
7	kz Maphumulo Ward 008	11.64	%	(11.6	/	100)
8	kz Maphumulo Ward 005	11.80	%	(11.8	/	100)
9	kz Maphumulo Ward 011	12.02	%	(12	/	100)
10	kz Maphumulo Ward 002	13.55	%	(13.6	/	100)
11	kz Maphumulo Ward 003	14.53	%	(14.5	/	100)

It is important to note that changes between the 2001 (Figure 25) and 2011 (Figure 26) for SAMPI at ward level. In 2001 the highest headcount amongst the wards in Maphumulo was 57.6. This reduced to 35.6 in 2011.

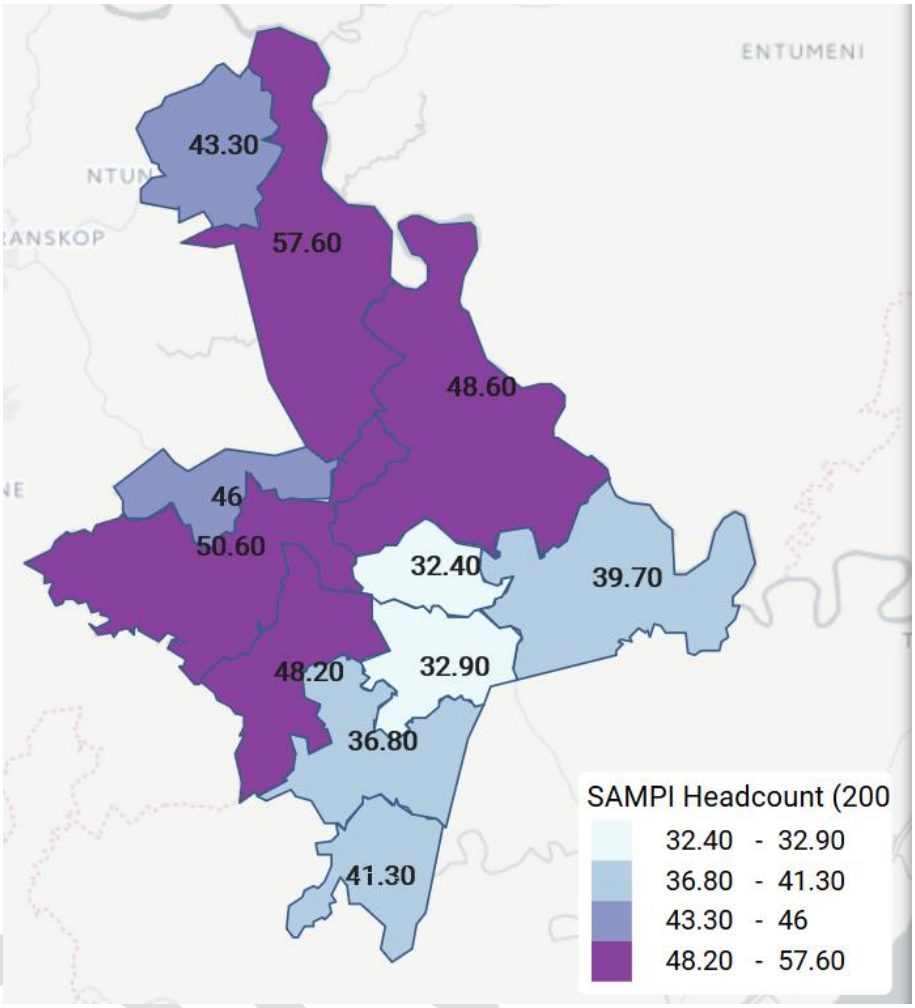

Figure 25: SAMPI 2001 poverty headcount - ward level, Maphumulo local municipality

Table 24: SAMPI 2001 poverty headcount - ward level, Maphumulo local municipality

KZ MAPHUMULO LOCAL MUNICIPALITY: **43.3 %**						
	Ward (2011)	**SAMPI Headcount (2001)**				
1	kz Maphumulo Ward 010	32.40	%	(32.4	/	100)
2	kz Maphumulo Ward 009	32.90	%	(32.9	/	100)
3	kz Maphumulo Ward 008	36.80	%	(36.8	/	100)
4	kz Maphumulo Ward 004	39.70	%	(39.7	/	100)
5	kz Maphumulo Ward 007	41.30	%	(41.3	/	100)
6	kz Maphumulo Ward 001	43.30	%	(43.3	/	100)
7	kz Maphumulo Ward 005	46	%	(46	/	100)
8	kz Maphumulo Ward 011	48.20	%	(48.2	/	100)
9	kz Maphumulo Ward 003	48.60	%	(48.6	/	100)
10	kz Maphumulo Ward 006	50.60	%	(50.6	/	100)
11	kz Maphumulo Ward 002	57.60	%	(57.6	/	100)

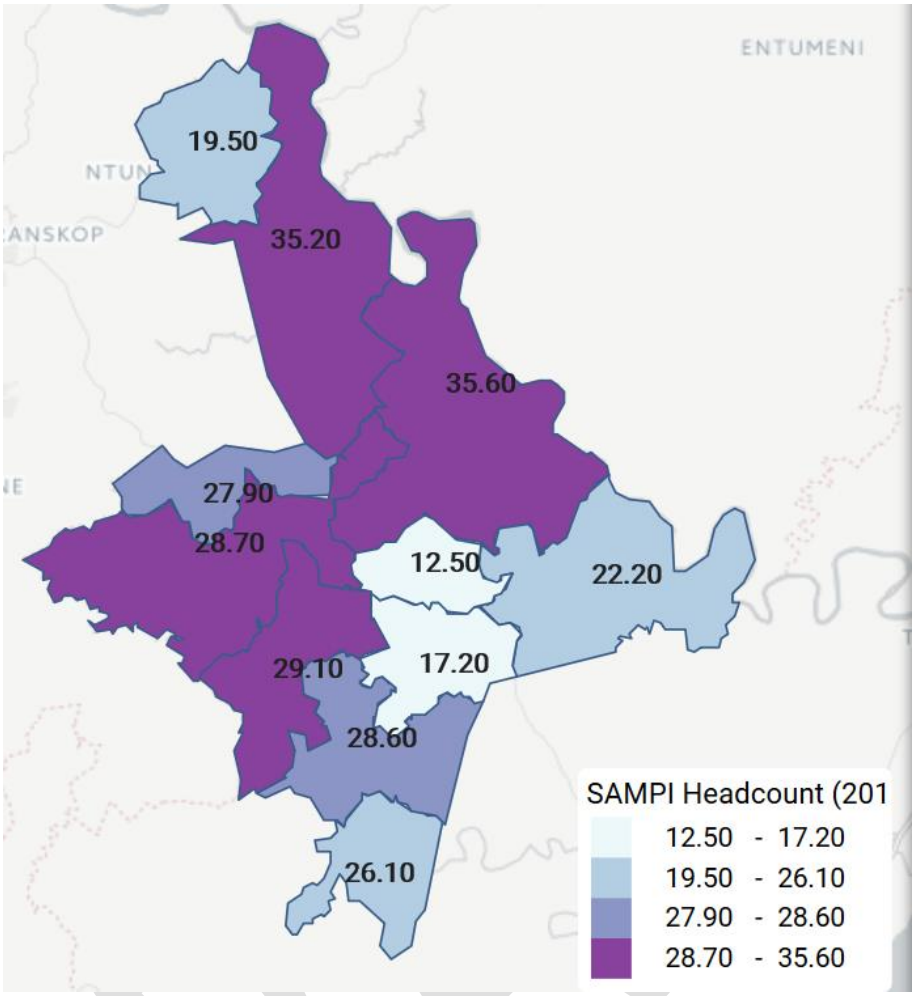

Figure 26: SAMPI 2011 poverty headcount - ward level, Maphumulo local municipality

Table 25: SAMPI 2011 poverty headcount - ward level, Maphumulo local municipality

KZ MAPHUMULO LOCAL MUNICIPALITY: **27.9 %**						
	Ward (2011)	**SAMPI Headcount (2011)**				
1	kz Maphumulo Ward 010	12.50	%	(12.5	/	100)
2	kz Maphumulo Ward 009	17.20	%	(17.2	/	100)
3	kz Maphumulo Ward 001	19.50	%	(19.5	/	100)
4	kz Maphumulo Ward 004	22.20	%	(22.2	/	100)
5	kz Maphumulo Ward 007	26.10	%	(26.1	/	100)
6	kz Maphumulo Ward 005	27.90	%	(27.9	/	100)
7	kz Maphumulo Ward 008	28.60	%	(28.6	/	100)
8	kz Maphumulo Ward 006	28.70	%	(28.7	/	100)
9	kz Maphumulo Ward 011	29.10	%	(29.1	/	100)
10	kz Maphumulo Ward 002	35.20	%	(35.2	/	100)
11	kz Maphumulo Ward 003	35.60	%	(35.6	/	100)

Stakeholder and community engagement workshops revealed the following about ***poverty*** and how this affects HIV in the area:

- People are unemployed and this leads to them selling their bodies (transactional sex) for sexual favours as a means of survival;
- Sex workers are rife because of poverty but they work in other areas they don't work in Maphumulo;
- People who run businesses: If you cannot pay them you pay them through sex; and
- Young people are getting involved with older people because they have money.

3.3.6 Employment

In Maphumulo local municipality, 10% of the female population at economically active age is employed while 11% of the economically active males are employed. See Figure 27 below.

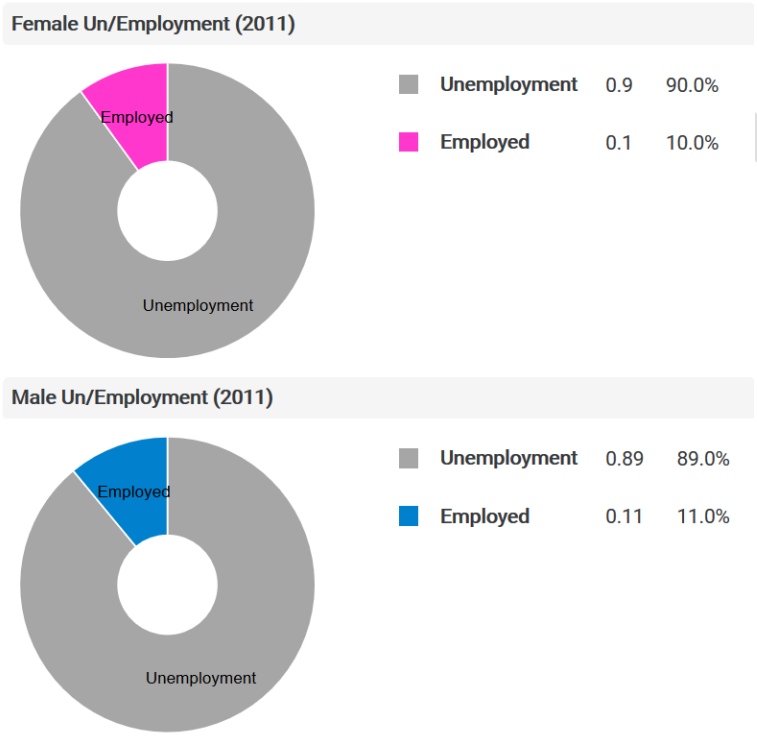

Figure 27: Female and Male employment Maphumulo local municipality (Source Census 2011)

Unemployment of youth in Maphumulo local municipality is at 91.8%. Almost all the youth in the area were therefore unemployed at the time of the Census.

Figure 28: Youth unemployment Maphumulo local municipality (source Census 2011)

In comparison with the Maphumulo local municipality a marginally smaller percentage of females and males are employed from the total population in the Mthandeni Clinic catchment area. In this area 8% of the female population and 9% of the male population is employed (see Figure 29)

Figure 29: Female and Male employment Mthandeni Clinic catchment area (Source Census 2011)

More youth (93.2%) are unemployed in the Mthandeni Clinic catchment area than the Maphumulo local municipality (91.8%).

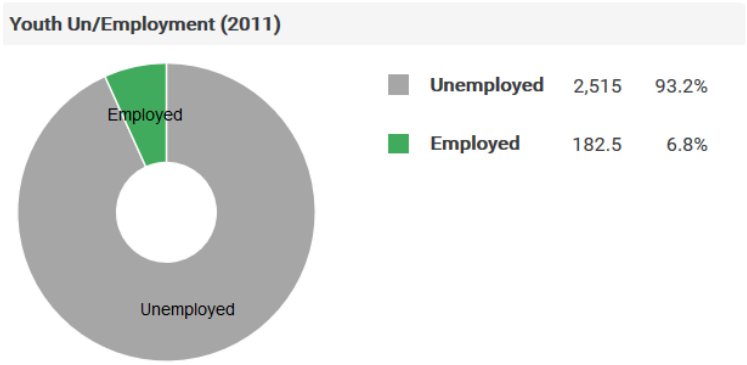

Figure 30: Youth unemployment Mthandeni Clinic catchment area (source Census 2011)

During the stakeholder and community engagement workshops the following was said about ***employment*** and how this affects HIV in the area:

- Unemployment is rife in the community making people to be dependent on those that are working or those that come here with money;
- Unemployment leads the youth to be vulnerable to drugs which makes them to end up having unprotected sex. They end up sleeping with anyone, anywhere in return for money; and
- Contract workers end up having sexual relationships with young girls because they (the young girls) are unemployed and need money.

3.3.7 Types of settlements

Stakeholder and community engagement workshops felt that the ***types of settlements*** have the following influences in the area:

- The community acknowledged that the space afforded to them prevented overcrowding but space also equals danger;
- The sugar cane farms in the vicinity are especially dangerous as young girls and women can be raped; and
- Long distances between schools, shops and settlements mean children need to walk in unsafe conditions making them vulnerable to sexual and gender based violence which is a risk for HIV transmission.

3.3.8 Migration patterns in the area

The main migrants in the community are contract workers on large infrastructure projects. Somali shop owners also inhabit the area and take young women and second and third wives. Many inhabitants of the Maphumulo catchment area seek work elsewhere and then return home infected with HIV.

3.3.9 Education and literacy

Because higher education is very expensive the majority of the community members only study up to matric senior certificate level, if they have not dropped out due to teen pregnancy. This also contributes on the high level of unemployment and increased HIV infection for reasons mentioned above. Parents do not augment the school curriculum on sex education.

3.3.10Hate crimes – xenophobic, homophobic, other

Homosexuals' sexual behavioural pattern is not well known by most community members but there was acknowledgement that MSM tend to remain a secret community.

3.3.11Disability

Stakeholder and community engagement workshops felt that the ***people with disability*** have an increased risk of HIV infection due to the lack of access to infrastructure and programmes for the disabled, especially intellectually disabled young people, disabled people are neglected and lack of supervision opens them up to vulnerability such as rape.

4. Services in the local municipality

4.1 Health facilities

There are thirteen health facilities in Maphumulo local municipality. See Figure 31 below for distribution of these facilities.

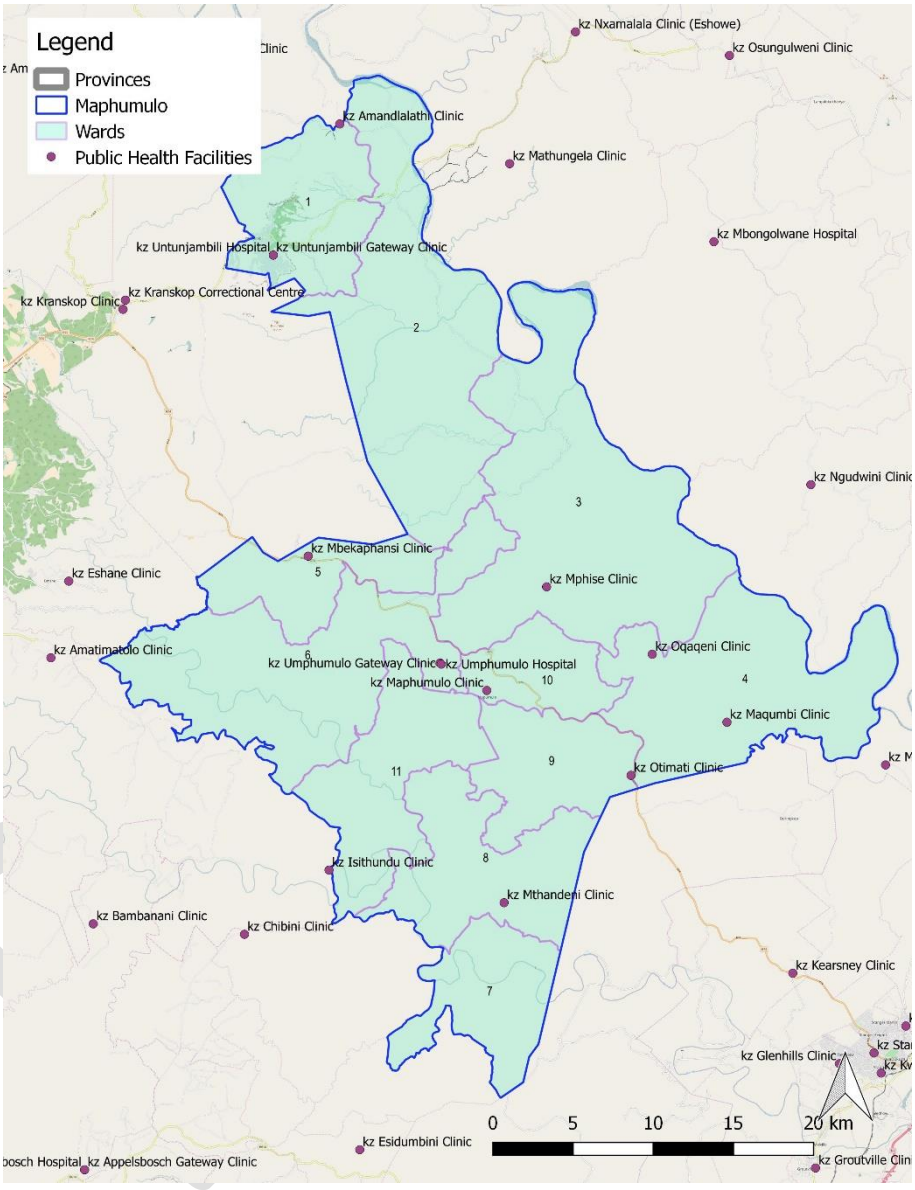

Figure 31: Distribution of health facilities in Maphumulo local municipality

5. Recommendations for multi-sectoral interventions and focus on key and vulnerable populations

Based on the priorities identified in the profile for high burden areas, a mechanism needs to be put in place to coordinate the multi-sectoral response at the various levels. This is to ensure a comprehensive approach and to build sustainability of the response with local ownership. Coordination of the multi-sectoral interventions at the level of implementation would result in:

- increased access to available resources;
- more efficient use of resources;
- enhancement of accountability;
- development of innovative implementation strategies and modalities;
- broadened awareness about the priorities highlighted in the risk profile;
- development of new partnerships to render services;
- sustainable development of activities;
- broadened sharing of responsibility for different, yet related activities;
- stronger ownership by stakeholders;
- use of strengths of different partners; and
- sharing of new knowledge and lessons learnt.

Process for development and implementation of multi-sectoral HIV, TB and STI intervention packages through existing multi-sectoral coordination structures e.g. AIDS Councils, OSS war rooms:

1. Update community profiles with directory of existing services e.g. rendered by government, NGO, donor funded organisations. This will be used to determine resources and programmes already available to address the priorities in the community profile as well as resource and programme gaps that exist;
2. Communicate and validate the profiles through meetings with government, private and civil society organisations in the specific geographical area;
3. Present the profile findings and recommendations for multi-sectoral interventions to the multi-sectoral structure for validation of findings, prioritization of programmatic gaps and linkage with existing resources (final decision on resource allocation should be requested through appropriate channels, e.g. government processes, Global Fund etc.);
4. For gaps prioritised, identify possible service providers and interventions that can address the needs following the relevant government or donor processes and procedures (depending on source of funding); and
5. Provincial, district and local coordination structures to coordinate an implementation plan with clear activities, timelines and responsible stakeholders that aligns with the profile. This will form the foundation for tracking performance and progress against the implementation plan; and
6. Further and focused engagement to be done with the Young women and girls group identified as the priority population in this area to have a detailed understanding of their specific risks.

Table 26 summarises the key and vulnerable populations as well as priority interventions identified during the development of the community profiles in each of the seven local municipalities in the District. Due to the importance of TB as the main cause of death in the district, it is included in the priority interventions.

Table 26: Key and vulnerable populations as well as priority interventions identified in high burden areas

Key and vulnerable populations TB	**Priority interventions**
• People living with HIV • Household contacts of TB index patients • Health care workers • Inmates • Pregnant women • Children < 5 years old • People living in informal settlements	• TB contact tracing, testing and post-exposure management • Enhanced health education about HIV/TB co-infection, reinfection • Service delivery and treatment delivery points in community, non-traditional settings
Key and vulnerable populations HIV	**Priority interventions**
• Young women • Orphans and vulnerable children • People with disabilities	• Poverty, especially livelihoods support, to mitigate transactional sex as a source of income (including young women and girls) • Keeping girls in school irrespective of pregnancy • Gender Norms and Gender-based Violence, particularly aspects of consent, reporting and GBV support coverage • Parenting Support to ensure consistent comprehensive sexuality education messaging between school and home • Support to Teen and older mothers to enrol in and adhere to PMTCT • Improved monitoring of and access to services for disabled persons to retain them care and support • Substance abuse, particularly among youth • Support to the caregivers of PLHIV on basic HIV education, safety and support networks • Improved safety and security in open spaces and community education on child protection • Follow-up and counselling for VMMC, particularly management of adverse events and HIV prevention • Targeted location specific HIV prevention interventions with contract workers on big infrastructure projects

Considering the priorities identified during the stakeholder and community workshops as well as the general profile, the following service delivery packages are recommended in line with the National Strategic Plan for HIV, TB and STIs (2017 to 2022) and other relevant strategic documents. These service delivery packages needs to be unpacked and included in the implementation plan referred to above based on the existing resource envelop in the District. Priority is given to the key and vulnerable populations identified, followed by other interventions identified in the NSP.

Table 27: Recommended multi-sectoral intervention package

Inclusive package of services for all key and vulnerable populations that will be customised to age and population served		**Multi-sectoral partner**

• Service delivery in non-traditional settings, including after-hours and weekend hours
• Health information, customised to client needs
• Sexual and reproductive health services
• HIV screening, testing and treatment
• STI screening, treatment
• TB screening, treatment (including preventive therapy) and contact tracing for DS- and DR-TB
• Mental health screening and psychosocial support
• Access to PEP and post-sexual assault support
• Alcohol and drug use screening and referral to harm reduction services
• Violence screening and referral to psychosocial and other support services
• Condom and lubricant promotion and provision
• Targeted social and behaviour change communication
• Core rights-based programme components:
  ○ Human rights and constitutional protection
  ○ Health empowerment
  ○ Economic empowerment
  ○ Gender norms and equality
  ○ Justice
  ○ Principles of universal design and accommodation that enables reasonable access for persons with disabilities
		• NGOs
		• DoH
		• DSD
		• DBE
		• NPA
		• PCA, DAC, LAC
		• SAPS
		• DOT

HIV and STI vulnerable populations		

Adolescent girls and young women	• Peer-led outreach
	• Youth-friendly sexual and reproductive health services in schools and community settings which include:
	  ○ PrEP (for over 18 years olds)
	  ○ Complete two dose HPV vaccine (Grade 4 learners)
	  ○ PMTCT
		• DBE
		• DHET
		• DoH
		• DSD
		• NGOs

Inclusive package of services for all key and vulnerable populations that will be customised to age and population served		Multi-sectoral partner
	○ Choice of termination of pregnancy ○ Family planning services ○ Male and female condom provision in school ○ Sanitary towels • Programmes to keep girls in schools, including support for pregnant learners • Access to peer groups and clubs • Access to parenting programmes • Economic empowerment programmes • Increased access to further education opportunities • Increased access to mentorship and internships • Comprehensive sexuality and gender education • Provide reasonable accessibility for girls and young women with disabilities • Age-specific support to HIV-positive adolescents (support for disclosure, adherence)	• DoL • Private sector
Children and orphans and vulnerable children	• Health education, with a particular focus on sexual exploitation in the absence of primary caregivers • Accelerated nutritional and social grant support • Youth-friendly sexual and reproductive health services in schools and community settings which include: ○ HPV vaccination ○ Contraceptives including condoms ○ Choice of termination of pregnancy • Comprehensive sexuality education in residential, school and non-school and youth-friendly settings • Intensive psychosocial support • Gender norms education, including risk reduction in relation to age-disparate relationships • School retention	• DSD • DBE • DoH
People with disabilities	• Peer-led or peer-supported outreach • Specialised health education regarding risk and vulnerability to HIV, TB and STIs, particularly regarding sexual exploitation • Accelerated nutritional and social grant support • Comprehensive sexuality education accessible to learners with disabilities	• NGOs • DoH • DSD • DoH, DBE • DSD

Inclusive package of services for all key and vulnerable populations that will be customised to age and population served		Multi-sectoral partner
	• Intensive psychosocial support • Intensified TB screening, treatment and care due to increased exposure typically caused by confined living conditions • All people with disabilities have ready access to prevention services • Move to mainstreaming of the policy that 7% of all programmes target people with disabilities • PrEP available • Ensure universal accommodation of people with disabilities	• DoH
TB vulnerable populations		
Children <5 yrs	• Household TB and HIV screening, immediate linkage to treatment • Improved diagnostic and treatment capacity for paediatric TB • Promote activism for child-friendly TB formulations and introduce as soon as they are available • Improve sputum induction at PHC and hospital level • Screening for and protection from the sexual exploitation of children	• DoH • NGOs • Civil Society • DSD
Healthcare workers	• Implement guidelines for TB in HCWs • Institute regular TB screening and offer HIV testing for all HCWs • Offer TB preventive therapy to all HCWs who are living with HIV • Develop a recording and reporting system for TB and DR-TB in HCWs • Appoint a DoH-led task force to monitor implementation and further elucidate the effort–effect ratio of screening all HCWs annually with symptom screening and CXR, and to investigate the role of preventive therapy for HCWs • Implement the FAST model in facilities (finding cases actively by cough surveillance and rapid molecular sputum testing, separating safely, and treating effectively, based on rapid drug susceptibility testing)	• DoH • DoH
Household contacts of TB index patients	• Implement simplified screening algorithms for TB-exposed children • Implement community education and mobilisation programmes to improve acceptance of contact investigations and to create awareness of the benefits of preventive therapy • Strengthen routine M&E for TB contact investigations, HIV testing, TB preventive therapy including outcomes, and pharmacovigilance	• DoH • NGOs

Inclusive package of services for all key and vulnerable populations that will be customised to age and population served		Multi-sectoral partner
People living in informal settlements (also a vulnerable population for HIV and STIs)	• Facilitate access and demand creation to increase community HIV, TB and STI service provision • Intensify GBV programmes and screening • Accelerate social support • Community education • Provide mobile services to improve accessibility • Infection control strategy for TB	• DoH • DSD • NGOs
People living with HIV	• Prompt ART initiation as a component of TB prevention • Adherence and psychosocial support • Peer education and support for TB prevention and treatment • Optimal uptake of preventive therapy for TB • Infection control in facilities, communities and households • TB symptom screening at each visit, linkages to treatment and care • HIV screening for household members, including partners and children • Cohort monitoring of HIV/TB co-infected patients • Support groups specifically addressing internalised stigma	• DoH
Pregnant women and neonates	• Full access to PMTCT services • Household TB and HIV screening, immediate linkage to treatment • Improve mother–child pair tracing and service delivery • Improve TB screening and testing among pregnant women to reduce congenital and perinatal TB transmission • Improve diagnostic and treatment capacity for neonatal TB	• DoH • NGOs • DSD

Comprehensive package of services for the general population, that will then be supplemented and customised to the age and population served			Multisectoral partner
• Accessible, friendly, comprehensive service delivery and health education, customised to client needs • HIV screening, testing, treatment • STI screening, testing, treatment • TB screening, testing, treatment and contact tracing for DS- and DR-TB • Medical male circumcision, referral • Comprehensive SRH services (including: cervical cancer screening, Pap smears, access to emergency contraception, choice of termination of pregnancy) • Prevention of mother-to-child transmission (PMTCT) of HIV • Mental health screening and psychosocial support • Access to PEP and post-sexual assault support • Alcohol and drug-use screening, referral • Violence screening, referral • Condom promotion and provision • Targeted social and behaviour change communication			• All implementing agencies • DoH • DSD • NPA • DBE • NGOS • PCA and DAC
Population	**Services/Interventions/Approaches**	**Setting**	**Multisectoral partner**
Children	• Child abuse screening • Age-appropriate HIV testing, treatment, adherence support • Support for disclosure of HIV status • HIV testing of household adult or adolescent index client • Contact tracing from adult, adolescent TB cases • Sputum induction for TB testing • Update hospital admission requirements for DR-TB treatment • Comprehensive sexuality education: Sexuality, puberty education, gender and empowerment, GBV, reproductive health, contraception, alcohol and drug use prevention, decision-making, self-esteem	• Health facility-based • School-based • Community-based • Mobile services	• DoH • DBE • DSD • CBOs • NGOs • Private employers • Private healthcare providers
PLHIV (adults, adolescents)	• Hearing and vision screening, referral, treatment • Partner HIV testing, disclosure support, treatment, adherence support • Hepatitis B and HPV vaccine where eligible • PMTCT and enhanced adherence support through pre- and post-natal period, including breastfeeding • Gender norms • Health and health rights literacy • Economic empowerment and health promotion	• Health facility-based • School-based • Community-based • Mobile services	• DoH • DBE • DCS • DSD • CBOs • NGOs • Private employers • Private healthcare

Population	Services/Interventions/Approaches	Setting	Multisectoral partner
	• School retention • Accelerated nutritional and social grant support, if indicated • Targeted demand creation for services • Targeted, PLHIV-friendly IEC materials and SBCC, including social media and materials for those with vision and hearing impairment • Service delivery points in community, non-traditional settings		providers
Persons with TB (adults, adolescents)	• TB contact tracing, testing and post-exposure management • Partner HIV testing, disclosure support, treatment, adherence support • Enhanced health education about HIV/TB co-infection, reinfection • Hearing and vision screening, referral, treatment • Hepatitis B and HPV vaccine where eligible • PMTCT and enhanced adherence support through pre- and post-natal period, including breastfeeding, if indicated • Mental health screening • Gender norms education • Health and health rights literacy • Economic empowerment and health promotion • School retention • Accelerated nutritional and social grant support, if indicated • Targeted, TB-friendly IEC materials and SBCC, including social media and materials for those with vision and hearing impairment • Service delivery and treatment delivery points in community, non-traditional settings	• Clinic-based • School-based • Community-based • Mobile services	• DoH • DBE • DCS • DSD • CBOs • NGOs • Private employers • Private healthcare providers
Discordant couples	• Partner HIV testing, disclosure support, treatment, adherence support • Hepatitis B and HPV vaccine where eligible • PMTCT and enhanced adherence support through pre- and post-natal period, including breastfeeding if pregnant and HIV-positive • Gender norms • Health and health rights literacy • Economic empowerment and health promotion • Accelerated nutritional and social grant support, if indicated • Targeted demand creation for services	• Clinic-based • Community-based • Mobile services	• DoH • DCS • DSD • CBOs • NGOs • Private employers • Private healthcare providers

Addressing social and structural drivers	Service	Multi-sectoral partner
Strengthened and scaled-up community based one-stop Khuseleka Centres	• Integrate community support programmes in one-stop centres	• DSD • SAPS • DoH • DOJ
Strengthened and scaled-up community-based 'white-door' shelters	• Provide short-term (72-hour) places of safety and shelter within communities and referral/integration with HIV/TB/STI services	• DSD • SAPS • DoH • DOJ
Identify and speedily allocate social grants to all who are eligible	• Link PLHIV, TB clients to social security programmes for access to social relief distress grants	• DSD • Civil society including NGOs
Scaled-up provision of food parcels, and nutritional supplementation to all eligible PLHIV and PTB	• Strengthen capacity of HIV/TB providers to screen for food insecurity • Ensure access to sufficient food in particular for PLHIV and PWTB • Expand drop-in centres especially in high-burden districts • Expand access through Isibindi model	• DSD • NGOs • SANAC sectors
Expand inpatient and outpatient rehabilitation facilities	• Develop adolescent-friendly practices • Sensitise and capacitate HCWs to screen for and refer and provide interim support for people with harmful use of alcohol and drugs • Expand availability of inpatient rehabilitation facilities	• DSD • DoH • DBE • NGOs
Implementation of harm reduction services to identify and support people who use substances and alcohol	• The Drug Master Plan harm reduction interventions including the provision of Opioid Substitution Therapy • Needle and syringe exchange programmes by NGOs • Identify for referral to in- and out-patient rehabilitation services	• DSD • DoH • NGOs • DBE • DHET
Community awareness and advocacy programmes	• Implement programmes to increase awareness of services	• DSD • Civil society including NGOs
Combination socio-economic programmes	• Strengthen economic capacities through support to access further education, training, job placements and entrepreneurial activities, including for PWDs	• DSD • Private sector • DHET

Addressing social and structural drivers	Service	Multi-sectoral partner
		• Civil society including NGOs
Training for adolescent girls and young women	• Empower young women, such as through SABCOHA's BizAIDS programme, to start and improve their own businesses • Encourage companies to support the programme through co-funding and job opportunities	• SABCOHA and other private sector • Organised labour • DOT

Generic HIV, TB and STI prevention, management and care		
Focus	**Activities**	**Multi-sectoral partner**
Promote retention in care for all PLHIV on ART	This will be supported and strengthened by: • Increased efforts to implement the test and treat policy at facility level through the DIP process • Increased quality assurance to promote adherence to guidelines • Expansion of implementation strategies to include community based ART initiation demonstration projects for well patients, including the use of GPs • Prioritise rapid and same day ART initiation • Implement extended hours services for working people and adolescents • Use PLHIV in health facilities and communities to encourage linkage to care • Explore innovative ways to improve patients' linkage to services • Differentiated ART delivery for stable patients, including a minimum of 3 months drug supply and optimised prescription periods to meet the needs of key and vulnerable populations and improve adherence • Ensure a functional fast lane for collection of repeat drug prescriptions at all pharmacies • Use of approved patient representatives to collect ART refills • Expand of the Central Chronic Medicine Dispensing and Distribution programme • Implementation of a return friendly system in all facilities • Track and improve the management of chronic diseases and their complications, as the population on ART ages	• DoH • DoT • Dept. of Agriculture • Private Sector • Civil society (PLHIV sector)

Generic HIV, TB and STI prevention, management and care		
Focus	**Activities**	**Multi-sectoral partner**
Improve adherence support	• Implementation of a comprehensive and age appropriate psychosocial package to enhance adherence • Promoting the establishment of peer-led differentiated support groups for new and stable patients • Ensuring their linkages to psychosocial support.	• DSD • DoH • Private Sector
Intensified facility-level TB case-finding	• Passive case-finding (test individuals presenting with symptoms of TB • Routine symptom screening for all adult clinic attendees • Undertaking Xpert MTB/RIF test for symptomatic individuals not tested for TB in the last 3 months and undertaking culture test for HIV+, Xpert-negative cases	• DoH • Private healthcare providers
Improve laboratory diagnostics to deliver optimal DS and DR-TB services	• Universal implementation of Xpert MTB/RIF as initial diagnostic tests • Monitoring and optimising implementation of all existing algorithms • Implementing robust reflex testing for samples found to be Xpert RIF resistant • Developing a platform for introduction of new diagnostics • Prepare and train on guidelines and algorithms in advance of Xpert Ultra introduction • Upgrade the laboratories to ensure sufficient second line LPA coverage to ensure optimal implementation of MDR-TB short regimen • Implement lessons learnt from Xpert rollout • All labs doing second line LPA should be either able to conduct phenotypic second line drug sensitivity testing or have easy referral to a lab that has this capability.	• DoH
Active case-finding for key and vulnerable populations	• Screening of household contacts under 5 years of age • Intensified TB screening and access to appropriate treatment in correctional facilities, mines, informal settlements and antenatal clinics and for diabetics, PLHIV, health care workers and all household contacts • Contact tracing for all household members of TB index cases • Routine screening for health care workers • TB screening and testing among pregnant women to reduce congenital and perinatal TB transmission • Improved paediatric sputum induction at PHC and hospital level.	• DoH • NGOs and CBOs working in this area • DBE • DSD • Private healthcare providers

Generic HIV, TB and STI prevention, management and care		
Focus	**Activities**	**Multi-sectoral partner**
Reduce initial loss to follow-up rates for DS and DR TB cases	• Retrain staff and implement on-going clinical governance using QI approach • Establish initial loss to follow-up rate as a management priority as part of the DIP process • Reduce duration and number of visits from symptom onset to treatment initiation.	• DoH • Districts • Facilities • Development partners
Provide standard care for DS-TB cases	• Provision of adherence support and retention of patients in care for treatment duration including referral for psychosocial support as needed • Bacteriological monitoring of treatment outcomes and implementation of recommendations from reviews • National research priority studies to determine what health facility and programme management interventions impact on treatment outcomes, whether alternative drug dispensing strategies affect adherence and patient outcomes and what clinical management and adherence support strategies improve treatment outcomes? • The multi-sectoral TB Think Tank using the findings to timeously review and update policies.	• DoH • Civil society (PLHIV, PTB sectors) • NGOs
Scale up short-course MDR-TB treatment and provide decentralised MDR-TB care	• Training and mentoring of staff on these at PHC level and referral centres • Adaptation of the EDR to accommodate new regimens • Monitoring the initiation rate of patients on the new regimen as part of the DIP process to optimise uptake • Provision of psychosocial support to patients who need it.	• DoH
Implement a quality improvement (QI) initiative to close gaps in the TB care cascade and improve programme outcomes.	• Development of DoH capacity to undertake QI (district and sub-district teams established; leadership and QI skills developed; tools and guidelines developed; learning networks established) with demonstration sites for QI established • All implementing partners to implement TB QI projects • Then undertake district baseline assessments and set targets for national scale-up based on successful models including nurse initiated care.	• DoH • Support partners
Implement the National STI National Framework guidance on the detection and treatment of asymptomatic STIs	• Developing, testing and validation of the sexual history tool for different populations and different ages as the basis for screening tests and / or presumptive treatment • Building capacity of health workers on the use of the tool and integrating it into all customised delivery sites.	• DoH, NICD, NHLS • Dept. of Transport • Civil society (key population sectors) • District Management Teams • Private health sector

Generic HIV, TB and STI prevention, management and care		
Focus	**Activities**	**Multi-sectoral partner**
	• Improved ACSM in high burden districts through targeted STIs messages. • Using the sexual history tool to screen and treat priority populations (pregnant women, AGYW and SW) for asymptomatic STIs.	
Appropriate syndromic management of STIs	• Ensuring appropriate management of cases non-responsive to the syndromic approach • The use of mobile outreach services for men with extended hours • Implementation of strategies to strengthen partner notification and contact tracing especially for key populations • Training and re-training of HCWs on syndromic management • Quality assurance programmes and advanced level STI management in secondary hospitals and CHCs with the necessary tools and training.	• DoH • DHET/HEAIDS • Private health sector
Screening of all pregnant women for syphilis at first ANC visit	• Screening for syphilis at birth for all infants born to Syphilis positive women or to women who were unbooked or untested • Linking all children diagnosed with congenital syphilis to care and ensuring they receive treatment; • Intensified notification process • Routine congenital syphilis monitoring and tracing and management of confirmed syphilis clients.	• DoH • Private health sector
Promote integration of STI prevention care and treatment into HIV, TB, ANC, sexual and reproductive health services	• Strengthened ART initiation at STIs services or linkage to ARV services	• DoH • Private health sector

Appendix A: Selecting Data for the Profile

It is important to note that the quality of an HIV epidemic and risk profile depends on the quality of secondary data used. The following are considerations for reviewing data and data sources to be used in the epidemiologic profile:

- **Completeness of the data:** How well do the prevalence of HIV and the associated factors represent the true number of persons living with HIV in the selected service and/or administrative area?

- **Representativeness of the data:** How well do the characteristics from a data source correspond to the characteristics of the overall population? For example, data from a hospital-based sample may not represent all HIV-infected persons or all HIV-infected persons in care in the area covered by the survey.

- **Age of the data:** For example, a behavioural survey conducted in 2000 might not provide data that are sufficiently up-to-date for current prevention activities.

- **Timeliness of the data:** if dealing with administrative data, how long is the reporting delay between the diagnosis of HIV and associated socio demographic characteristics recorded and reported to relevant departments?

- **Surrogate, or proxy, markers:** A proxy variable can be used as a marker for other variables when what we really want to measure is too difficult to measure directly. For example, some areas may use STI data as a proxy when data on sexual behaviours are not available.

- **Reliability of the data:** How accurate and complete are the data? For example, how well was information e.g. age, recorded whether in a survey or in administrative records and transcribed to the case report from the medical record.

- **Small numbers:** Small numbers of cases need to be interpreted with caution because small absolute changes in the number of cases can produce large relative or proportionate changes in rates that may be misinterpreted by end users. Rates calculated from numerators smaller than 10 should be denoted in a footnote as unreliable.

Data assumptions and limitations

The National Department of Health collects routine HIV data. The data is captured in the National Health Information Repository and Data warehouse (NIRDS), through the provincial and district health information systems (DHIS). The data are mostly obtained through routine service delivery by providers e.g. health facilities, and PHC clinics and consist of reports of confirmatory HIV tests, viral loads and CD4 counts. Additionally, the system captures case reports and interview data that might include information on socio-demographics e.g. age, race, sex. Data on socio demographics rely heavily on patient and provider reporting. In most cases data of this nature may be obtained from independent cross-sectional and bio-behavioural surveys and only reported at much higher

geographical levels than local levels or high burden areas. The bio-behavioural surveys also provide data on sexual risk behaviours.

Age breakdown of routine indicators are limited to predefined indicators, with no sex breakdown available at Provincial and National Dataset level. No key population specific data can be segregated from any of the available datasets. Given the importance of key populations in understanding of the local context, this is considered a serious limitation in available routine data. Data on HIV risk exposure or mode of transmission require disease specialists and willingness of patient to participate is also not available at national and/or local level. Mobile clinic data is reported under the point where mobile is working from and is not segregated by service delivery point. This skews the picture when data is projected geospatially. Sexual risk data not part of routine data collected, secondary data available from surveys are included for this yet this is only available at District level. Figure 32 below reflects on the source of various levels of data for the profile. Data is presented at the level that it is available.

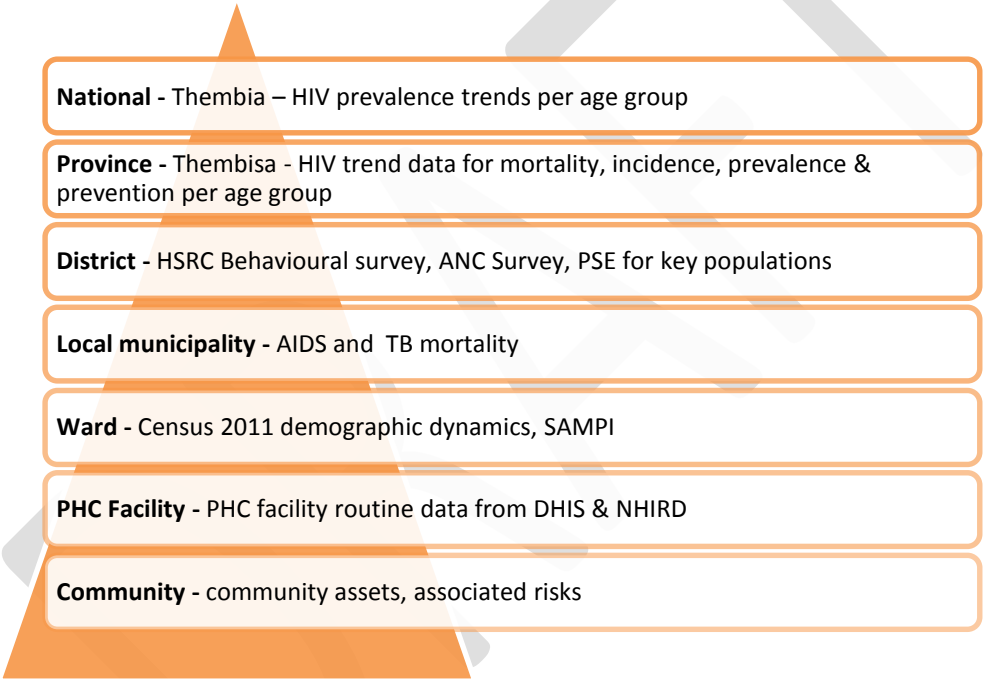

Figure 32: Data pyramid used for risk profiles

Care is also taken to avoid reporting on small number of cases without caution. Definitions and outlines of calculations are provided in

Catchment area and catchment populations

The catchment population is different from a catchment area, whereby the population is not simply just a count of the total number of people that are resident within that geographical boundary, but is rather an estimate of the estimated population that could access that specific facility.

Agreement on a health-care facility's catchment area is an important component in the Focus for Impact approach for defining the soft boundary for associated risk profiling within the catchment

population linked to a specific HIV high burden area, estimate population-based rates of HIV, TB and STI as well as other important analyses.

For the purpose of the Focus for Impact approach demographic data for the population is derived from the Census 2011 data linked to a specific ward within the agreed catchment areas.

Working closely with the KZN DoH, the DoH used a geospatial approach to allocate each ward in KZN to the closest health facility. For the purposes of the Focus for Impact approach only the catchment area of fixed PHC facilities were used. Please keep in mind that multiple PHC facilities (fixed and mobile) refer to a specific Hospital and therefore relates to a larger catchment area that might overlap with several PHC facility catchment areas.

It is acknowledged that this approach does not take into consideration the topography of the area or preferences of the health facility users. It is therefore suggested that the catchment area be used as a starting point and that the approach be refined to determine the catchment population as better data becomes available e.g. through the scale up of the Health Patient Registration System (HPRS) where more granular patient level data will become available.

HIV associated risks

The HIV associated risk profile is a tool to assist decision-makers to design appropriate and sustainable interventions for HIV prevention. The diagram below illustrates factors affecting HIV associated risk. Data in this profile links with the different variables identified below (as far as it is available).

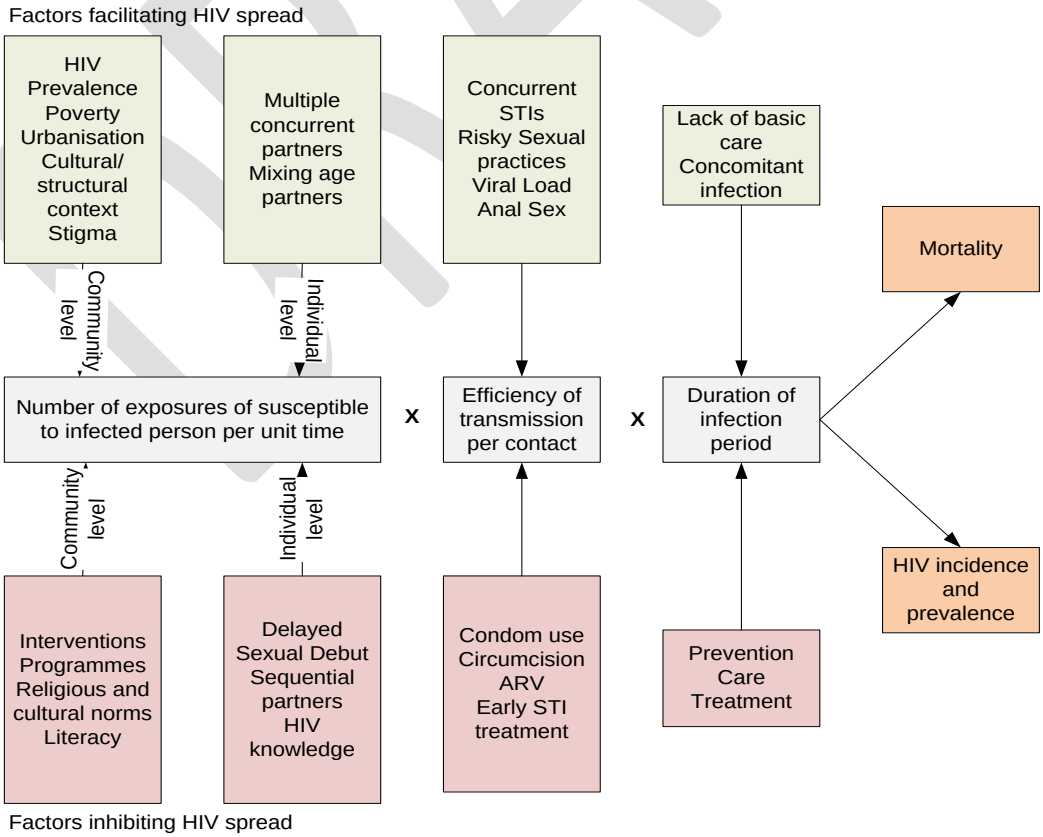

Figure 33: Factors influencing HIV associated risk and outcomes

Appendix B: Terms, Definitions and calculations

ANC client HIV 1st test positive rate (routine health indicator DHIS 2015)	Short Name - ANC HIV 1st test pos rate Numerator - Antenatal client HIV 1st test positive Denominator - Antenatal client HIV 1st test Indicator Type - % Definition - Antenatal clients tested HIV positive as proportion of antenatal client's HIV tested for the first time during current pregnancy
Antenatal client HIV re-test positive rate (routine health indicator DHIS 2015)	Short Name - ANC HIV re-test pos rate Numerator - Antenatal client HIV re-test positive Denominator - Antenatal client HIV re-test Indicator Type - % Definition - Antenatal clients re-tested positive for HIV as proportion of antenatal clients re-tested for HIV
Behavioral data	Data collected from studies of human behavior that is relevant to disease risk. Relevant behaviors for HIV risk may include sexual activity, substance use, needle sharing, condom use, or responses to primary and secondary prevention messages, knowledge of HIV transmission and prevention
Data	Raw, unprocessed numbers
Delivery in facility under 18 years rate (routine health indicator DHIS 2015)	Short Name - Delivery 18 rate Numerator - Delivery under 18 years in facility Denominator - Delivery in facility - total Indicator Type - % Definition - Deliveries to women under the age of 18 years as proportion of total deliveries in health facilities
Dependency ratio	The dependency ratio is an indicator of potential dependency burden of children and the elderly on those who are of economically productive ages in a population. Source Census 2011
Epidemiologic profile	A document that describes the distribution of HIV in various populations and identifies characteristics both of HIV-infected and HIV-negative persons in defined geographic areas. It is composed of information gathered to describe the effect of HIV on an area in terms of socio-demographic, geographic, behavioral, and clinical characteristics. Identifies characteristics of the general population and of populations who are living with, or at high risk for HIV infection in the pre-defined geographic areas in need of primary and secondary prevention or care services; and identifies social, behavioral, cultural, factors driving local HIV infection. This providing information required to conduct needs assessments and gap analyses to complete the local HIV profile
Female condom distribution coverage (routine health indicator DHIS 2015)	Short Name - Fem condom dist cov Numerator - Female condoms distributed Denominator - Female population 15 years and older Indicator Type - %

	Definition - Female condoms distributed from a primary distribution site to health facilities or points in the community (e.g. campaigns, non-traditional outlets, etc.)
HIV prevalence amongst client tested 15-49 years rate (routine health indicator DHIS 2015)	Short name - HIV test 15-49y pos rate Numerator - HIV test positive 15-49 years, excl ANC Denominator - HIV test 15-49 years, excl ANC Indicator Type - % Description - Proportion of clients on whom an HIV test was done who tested positive for the first time
HIV test positive child 12-59 months rate (routine health indicator DHIS 2015)	Short Name - HIV+ 12-59 rate Numerator - HIV test positive 12-59 months Denominator - HIV test 12-59 months Indicator Type - % Definition - Children 12 to 59 months who tested HIV positive as a proportion of children who were tested for HIV in this age group
HIV test positive child 5-14 years rate (routine health indicator DHIS 2015)	Short Name - HIV+ 5-14 rate Numerator - HIV test positive 5-14 years Denominator - HIV test child 5-14 years Indicator Type - % Definition - Children 5 to 14 years who tested HIV positive as a proportion of children who were tested for HIV in this age group
Incidence	The number of new infections in a defined population during a specific period, often 1 year, which can be used to measure disease frequency. There is an important difference between HIV incidence and a new diagnosis of HIV infection: HIV incidence refers to persons newly infected with HIV, whereas persons newly diagnosed with HIV may have been infected years before the diagnosis. Population-based incidence estimates include new infections that have been diagnosed as well as new infections that have not been diagnosed. HIV incidence data may be used to monitor emerging trends and guide prevention activities
Indicators	A quantitative or qualitative variable that provides a simple and reliable measurement of one aspect of performance, achievement or change in a program or project
Infant 1st PCR test positive around 6 weeks' rate (routine health indicator DHIS 2015)	Short Name - PCR at 10w pos rate Numerator - Infant PCR test positive around 6 weeks Denominator - Infant PCR test around 6 weeks Indicator Type - % Definition - Infants tested PCR positive for follow up test as a proportion of Infants PCR tested around 6 weeks
Infant rapid HIV test around 18 months positive rate (routine health indicator DHIS 2015)	Short name - HIV test 18m pos rate Numerator - HIV test positive around 18 months Denominator - HIV test around 18 months Indicator Type - % Description - Infants tested positive for HIV antibodies around 18 months

	after birth as the proportion of Infants tested for HIV antibodies around 18 months
Information	Processed or analyzed data that adds context through relationships between data to allow for interpretation and use
Intensity of poverty	The average proportion of indicators in which poor households are deprived. Example, an intensity of 44% in 2011 means the average intensity of poverty was 44% amongst the 20% poor households
Male condom distribution coverage (routine health indicator DHIS 2015)	Short Name - Male cond dist cov Numerator - Male condoms distributed Denominator - Male population 15 years and older Indicator Type - % Definition - Male condoms distributed from a primary distribution site to health facilities or points in the community (e.g. campaigns, non-traditional outlets, etc.)
Male urethritis syndrome rate (routine health indicator DHIS 2015)	Short Name - MUS rate Numerator - Male Urethritis Syndrome treated - new episode Denominator - STI male - new episode Indicator Type - % Definition - Male Urethritis Syndrome new episodes treated as a proportion of total males with STI new episodes treated
Modes of HIV transmission or mode of HIV exposure	Heterosex (or heterosexual contact with a partner who is HIV positive or at increased risk for HIV. Often this level of knowledge about sexual partners (anonymous, casual, or exclusive) may be unknown; Men who have sex with men (MSM); People who Inject Drugs (PWID); Joint risk of MSM/PWID; and Other mode of exposure including (transplant, hemophilia, transfusion or mother with HIV or HIV risk (PMTCT)
Morbidity	The presence of illness in the population.
Mortality	The total number of persons who have died of the disease of interest. Usually expressed as a rate, mortality (total number of deaths over the total population) measures the effect of the disease on the population as a whole
Percentage	A proportion of the whole, in which the whole is 100. Example: Assume that 10 of the 40 cases of AIDS in a given year in a Ward occurred in men. (10 ÷ 40) x100= 25%
Poverty Headcount	The proportion of households defined as multi-dimensionally poor using the poverty cut-off. Example a headcount of 20% in 2011, based on 2011 census, means that 20% of households in South Africa were poor.
Prevalence	The proportion of cases of a disease in a population at risk, measured at a given point in time (often referred to as point prevalence). Prevalence can also be measured over a period (e.g., a year; known as period prevalence). Prevalence does not indicate how long a person has had a disease. It can provide an estimate of risk for a disease at a specific time. Prevalence data

	provide an indication of the extent of a condition and may have implications for services needed in a community. For HIV surveillance, prevalence refers to living persons with HIV disease, regardless of time of infection or date of diagnosis.
Qualitative data	Information from sources such as narrative behaviour studies, focus group interviews, open-ended interviews, direct observations, ethnographic studies, and documents. Findings from these sources are usually described in terms of common themes and patterns of response rather than by numeric or statistical analysis. Qualitative data often complement and help explain quantitative data
Quantitative data	Numeric information (e.g., numbers, rates, and percentages).
Rate	Measure of the frequency of an event compared with the number of persons at risk for the event. When rates are being calculated, it is usual for the denominator to be the general population rather than the population potentially exposed to HIV infection by various high-risk behaviours. The size of the general population is known from data from the U.S Census Bureau, whereas the size of a population at high risk is usually not known. $\frac{\text{number of HIV diagnoses}}{\text{Population}} X\ 100000 = \text{population rate of HIV diagnosis}$ Calculated for a given period. The multiplier (100,000) is used to convert the resulting fraction to number of cases per 100,000 populations. Although arbitrary, the choice of 100,000 is standard practice. Example: Assume that 200 cases of HIV disease were diagnosed during 2014 in a Ward X and that 400,000 persons lived in the Ward X in 2014 Rate: 200 ÷ 400,000 × 100,000 = 50 per 100,000
Routine health service based information	In terms of the National Health Act (Act 61 of 2003) the National Department of Health (NDoH) is required to facilitate and coordinate the establishment, implementation and maintenance of health information systems at all levels. The District Health Management Information System (DHMIS) Policy 2011 defines the requirements and expectations to provide comprehensive, timely, reliable and good quality routine evidence for tracking and improving health service delivery. The strategic objectives of the policy are to strengthen monitoring and evaluation (M&E) through standardization of data management activities and to clarify the main roles and responsibilities at each level for each category of staff to optimize completeness, quality, use, ownership, security and integrity of data. In 2000 the District Health Information System (DHIS) was adopted as the official South African routine health information system for managing aggregated routine health service based information. This information is defined as specific indicators and used in Focus for Impact to ensure

<table>
<tr><td></td><td>standardization of indicators across the different geographical areas.

Source: Department of Health. 2015. NDOH Data Directory. Available online from http://dd.dhmis.org/index.html</td></tr>
<tr><td>Service area</td><td>The jurisdictions of service areas or planning regions of respective planning groups. Example Health districts, sub- districts, wards or health facility catchment areas</td></tr>
<tr><td>Socio-demographic factors</td><td>Background information about the population of interest (e.g., age, sex, race, educational status, income, geographic location). These factors are often thought of as explanatory because they help us to make sense of the results of our analyses</td></tr>
<tr><td>Socio-economic status (SES)</td><td>A measure of social and economic factors that helps to describe a person's standing in society (e.g., income level, relationship to the national poverty line, educational achievement)</td></tr>
<tr><td>South Africa Multidimensional Poverty Index (SAMPI[16]) (StatSSA, 2014)</td><td>The SAMPI is based on the global Multidimensional Poverty Index (MPI) which is an international measure of acute poverty. The MPI "complements traditional income/ expenditure-based poverty measures by capturing the severe deprivations that each person or household faces with respect the following dimensions: - education (measured by years of schooling and school attendance indicators), health (measured by nutrition and child mortality indicators), and living standards (measured by indicators such as cooking fuel, Sanitation, water, electricity, floor, and assets).

The MPI creates a comprehensive picture of who and where people are that are living in poverty… [and it also] permits comparisons within countries by population group, settlement type, as well as other key household and community characteristics.

The SAMPI includes an additional dimension –the economic activity indicated by adult unemployment
<table>
<tr><th>Dimension</th><th>Indicator</th><th>Deprivation cut-off</th></tr>
<tr><td>Health</td><td>Child mortality</td><td>If any child under the age of 5 has died in the past 12 months</td></tr>
<tr><td>Education</td><td>Years of schooling

School attendance</td><td>If no household member aged 15 or older has completed 5 years of schooling
If any school-aged child (aged 7 to 15) is out of school</td></tr>
<tr><td>Standard of living</td><td>Fuel for lighting</td><td>If household is using paraffin/candles/nothing/other</td></tr>
</table>
</td></tr>
</table>

[16] StatSSA. (2014). *The South African MPI: Creating a multidimensional poverty index using census data*. Pretoria, South Africa.

		Fuel for heating	If household is using paraffin/wood/coal/dung/other/ none
		Fuel for cooking	If household is using paraffin/wood/coal/dung/other/ none
		Water access	If no piped water in dwelling or on stand
		Sanitation type	If not a flush toilet
		Dwelling type	If an informal shack/traditional dwelling/caravan/tent/other
		Asset ownership	If household does not own more than one of radio, television, telephone or refrigerator and does not own a car
	Economic activity	Unemployment (all adults)	If all adults (aged 15 to 64) in the household are unemployed

SAMPI is the product of the headcount (proportion of households defined as multi-dimensionally poor using the poverty cut-off) and intensity of poverty (average proportion of indicators in which poor households are deprived)

Example - If the headcount poverty was 20% in 2011 (i.e. 20% of all households were poor in 2011), and the average intensity of poverty amongst the poor households was 44%. Then the SAMPI equals 0.09(=20% X 44%)

In an extremely poor society where all households are poor and are deprived in all dimension indicators, the SAMPI score would be 1, 0. However, in an impoverished society where 50% of households are poor and experienced deprivation on 50% of all dimensions, the SAMPI score would be 0. 25.

TB (pulmonary) case finding index (routine health indicator DHIS 2015)	Short name - PTB case finding index Numerator - TB suspect 5 years and older sputum sent Denominator - PHC headcount 5 years and older Description - Proportion of clients 5 years and older, who were identified as TB suspects and for whom sputum was sent to the laboratory Growth-Sentiment - negative (high values are negative, low values are ideal: positive)
TB suspect smear positive rate (routine health indicator DHIS 2015)	Short name - TB suspect smear pos rate Numerator: TB suspect 5 years and older test positive Denominator: TB suspect 5 years and older sputum sent Indicator Type - % Description - Proportion of TB suspects with smear positive sputum results Growth-Sentiment: negative (high values are negative, low values are ideal: positive)

TB suspect sputum test rate (routine health indicator DHIS 2015)	Short name - TB susp sputum test rate Numerator - TB suspect 5 years and older sputum sent Denominator - TB suspect 5 years and older identified Indicator Type - % Description - Proportion of TB suspects with sputum sent to the laboratory for testing Growth-Sentiment: positive (low values are negative, high values are ideal: positive)
TB suspect treatment initiation rate (routine health indicator DHIS 2015)	Short name - TB suspect treatment rate Numerator - TB suspect 5 years and older initiated on treatment Denominator - TB suspect 5 years and older test positive Indicator Type - % Description - Proportion of smear positive TB suspects initiated on treatment Growth-Sentiment - positive (low values are negative, high values are ideal: positive)
Triangulation	Synthesis of data to compare and contrast the results of different kinds of research that address the same topic

Appendix C: Methodology for stakeholder engagement to explore local level data

The feedback from the community brings a local intelligence and ownership to the process that not only facilitates buy-in for HIV programming, but also brings about an opportunity for advocacy and accountability at this level. This gives new meaning to 'nothing about us, without us'. There is internal validation and triangulation of the data through this process, as stakeholders should be from various sectors/departments and types of organisations. Groups within the workshop validate the information before it is documented. In addition, the same information is tested with a community group (that should include members of key populations) and additions made with consensus.

Figure 34 below describes the various steps followed to develop this risk profile. A detailed guideline is available from SANAC that can be used be stakeholders and partners to ensure a standardised approach in the development and updating of the risk profile.

Figure 34: Steps for development of HIV associated risk profile