Programmatic mapping and size estimation of key populations: Sex Workers, Men who have Sex with Men, People Who Inject Drugs and Transgender People

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NACOSA COLLECTIVELY TURNING THE TIDE ON HIV, AIDS AND TB

SOUTH AFRICAN NATIONAL AIDS COUNCIL OUR ACTIONS COUNT

Introduction

- **MSM**, **transgender (TG) people**, **sex workers** (SWs), **injecting drug users (IDUs)**, prisoners and migrant populations are collectively labelled '***key populations***'.

- Globally, **key populations are at disproportionate risk for HIV infection** and **face barriers to accessing prevention, treatment, care and support** – increasing their vulnerability to HIV

- The **2012-2016 NSP** for HIV/AIDS, STIs and TB called for a more concerted action in our national response to **include conventional key populations**.
- However, we have been handicapped by **lack of reliable strategic information**.

- The overall aim of this study was to provide **a national size estimate for SWs, MSM, PWIDs and TG people** as well as provide information on HIV service availability in order to develop programs that address the needs of key populations as part of the National HIV response.

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What is Programmatic Mapping?

- Programmatic mapping **generates key population size estimates** that we can use to determine resource needs and allocation and program planning.

- It is a **research and assessment tool** that can be used to help **focus HIV prevention efforts on the primary drivers of the HIV epidemic**.

- This method involves **spatial data collection by systematically identifying sites** (physical structures, public spaces, and internet-based) **where key populations may be found**, estimating the **number of people** that may be found **at each site**, and documenting **health and wellness services** in relation to these locations.

- Programmatic mapping was **conducted using** the **Priorities for Local AIDS Control Efforts** (**PLACE**) method

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Size estimation using PLACE methodology

- The study adapted the **Priorities for Local AIDS Control Efforts** (PLACE) programmatic mapping **methodology for estimating the size of key populations**.

- The method involved the **listing and consequent mapping of sites in selected geographic areas** where key populations can be found.

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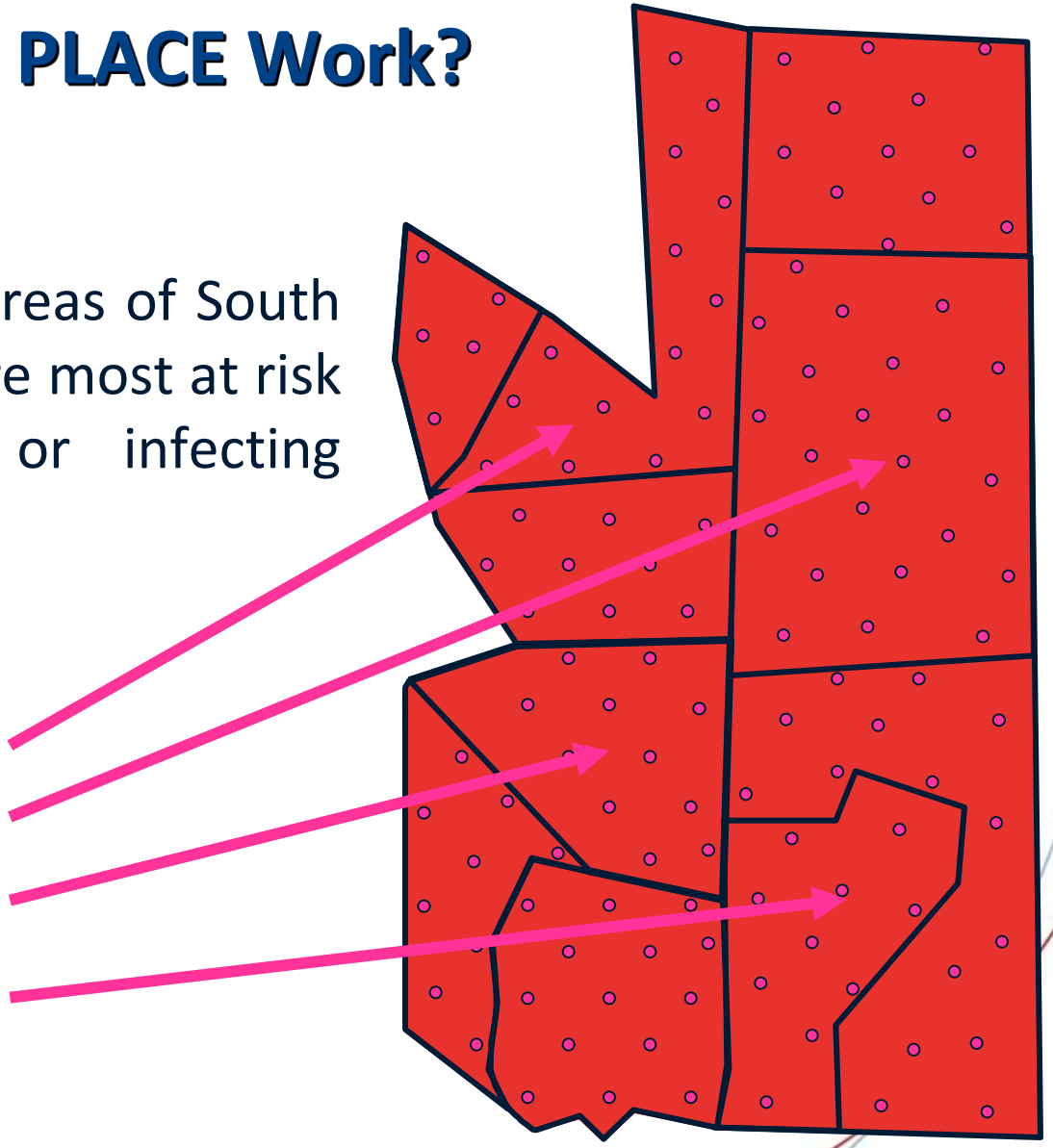
How Does PLACE Work?

PLACE takes place in areas of South Africa where people are most at risk of getting infected or infecting others:

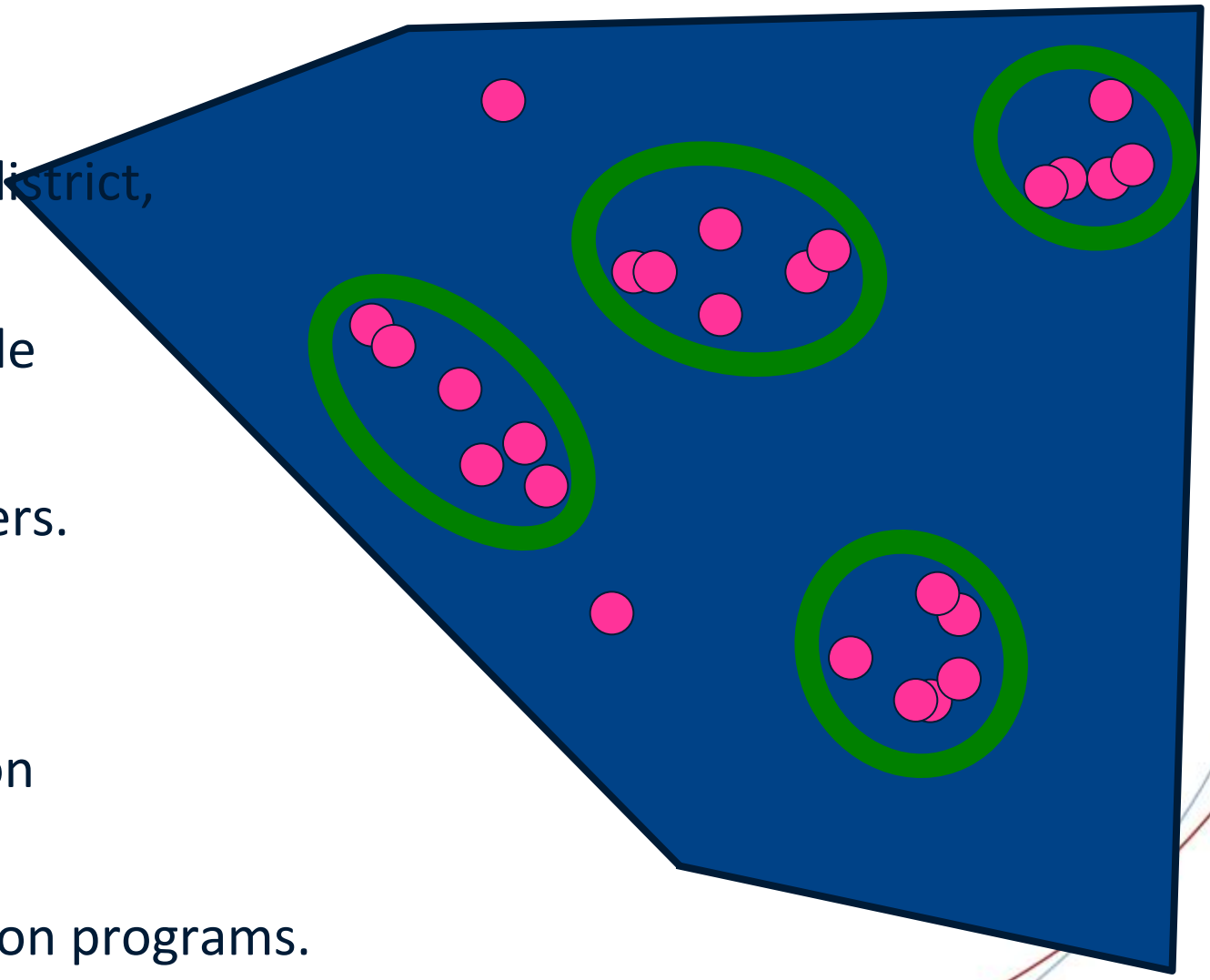
Priority Prevention Areas (PPAs)

OR Sub district



How Does PLACE Work?

Within each sub-district,
PLACE finds out
where most people
go to meet
new sexual partners.



This gives local
people information
to decide where
to target prevention programs.

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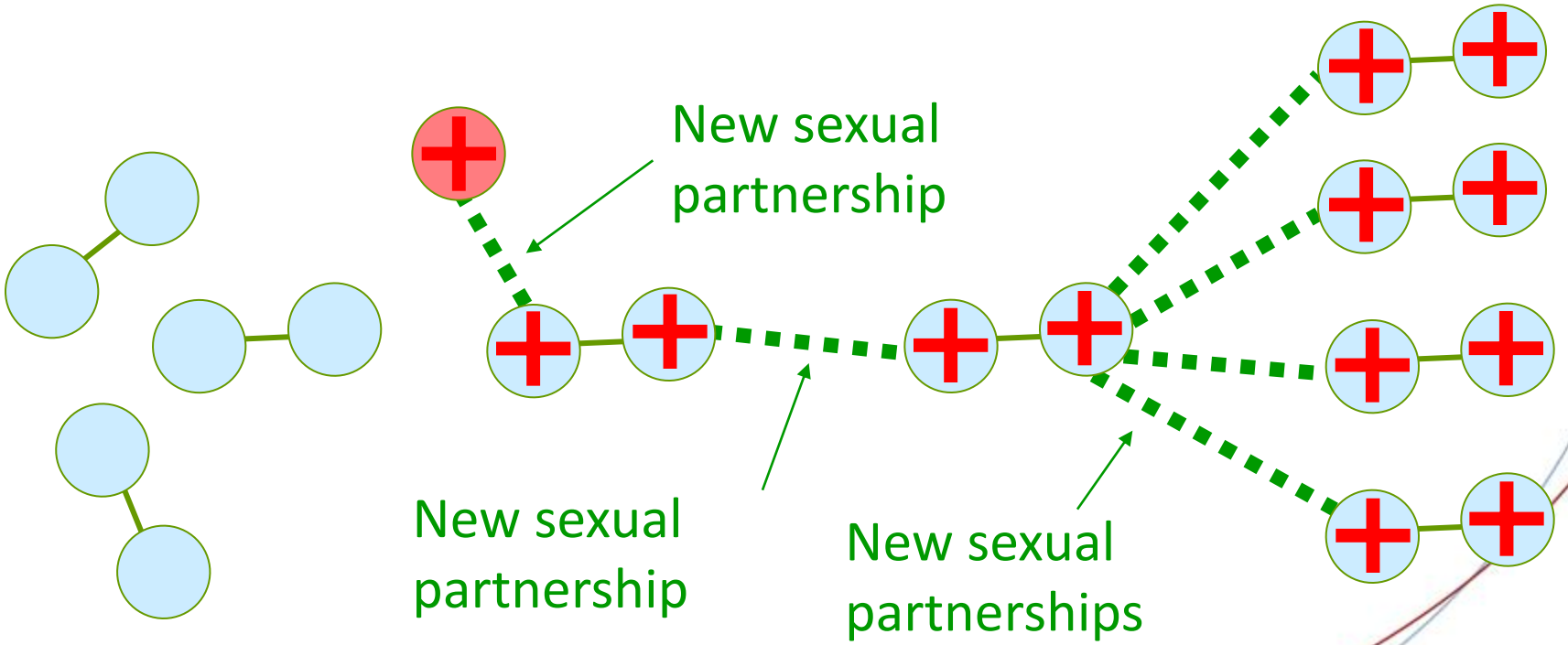
How Does PLACE Work?

- PLACE targets new sexual partnerships because new partnerships are responsible for the spread of the HIV epidemic.



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Phases of the Study

Phase 1 in Jan/Feb 2015 - **Literature review**, **Meetings** with the Technical Advisory Committee on Key Pops (set up by NACOSA) to get their input on the proposal, **Meetings** with representatives of key pops to prepare the sector for the upcoming study and get their input.

Phase 2: Conducted a **Mapping and Readiness Assessment (MRA)** to inform the implementation of the programmatic mapping and size estimate (PMSE) activity.

Phase 3: Conducted the **Programmatic Mapping and Size Estimation** of MSM, SWs, PWIDs and TG people in selected sub-districts with high concentrations of key pops.

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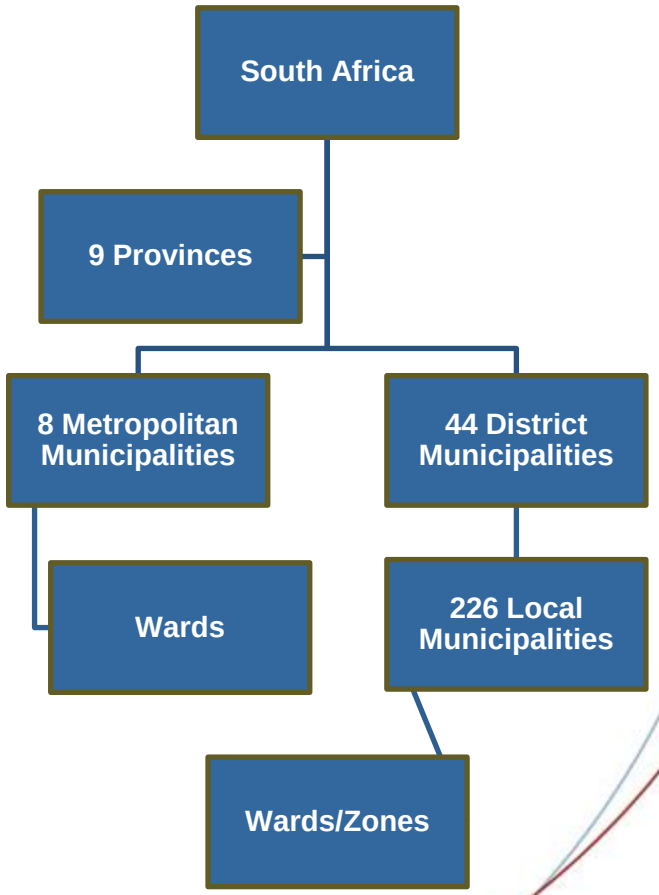
Selection of sub-districts

- The **sampling unit is the sub-district** because programs that will use the findings are organized here.
- The sampling frame is the **list of all sub-districts in SA** including 226 local municipalities, 44 districts and 8 Metropolitan municipalities.
- **25 sub-districts were selected** for the study using a sampling strategy that allows extrapolation of the findings to the national level.
- There were 2 stages for selection of sub-districts:
  - 1: **20 sub-districts** were selected based on population proportionate to size (PPS).
  - 2: **5 sub-districts** were purposively selected from among those sub-districts that were not sampled. We identified sub-districts most likely to contain hidden KPs.



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Sub-districts sampled for the PMSE study

	Sub-district (SD)	Province	SD Code	Population size	Zones
1	Ndlambe	EC	EC105	61176	2
2	Elundini	EC	EC141	138141	2
3	N Mandela B SD	EC	NMA	265436	2
4	Mbizana	EC	EC443	281905	2
5	Maluti a Phofung	FS	FS194	335784	3
6	Mogale City	GT	GT481	362422	3
7	Johannesburg F SD	GT	JHB	498341	5
8	Ekurhuleni S1 SD	GT	EKU	507707	5
9	Ekurhuleni E1 SD	GT	EKU	508082	5
10	Tshwane 6 SD	GT	TSH	581367	3
11	Tshwane 1 SD	GT	TSH	792230	3
12	Johannesburg D SD	GT	JHB	1348147	4
13	Ulundi	KZN	KZN265	194908	3
14	Ndwedwe	KZN	KZN292	231187	2
15	The Msunduzi	KZN	MP325	541248	3
16	Durban West SD	KZN	ETH	785304	5
17	Durban South SD	KZN	ETH	1537668	8
18	Ba-Phalaborwa	LIM	LIM333	390095	2
19	Blouberg	LIM	LIM344	516031	2
20	Emakhazeni	MP	MP313	229831	4
21	Rustenburg	NW	NW373	549575	3
22	Langeberg	WC	WC026	97724	2
23	George	WC	WC044	193672	2
24	CT Eastern SD	WC	CPT	423986	3
25	CT Southern SD	WC	CPT	544341	5
	Totals				**83**

Study Participants

Study Population	Definition used in the study
Sex worker	Female and male adults who receive money or goods in exchange for sexual services, either regularly or occasionally". This definition includes those who occasionally exchange sex for gifts. It does not include people younger than 18.
MSM	The term 'men who have sex with men' describes males who have sex with males, regardless of whether or not they have sex with women or have a personal or social gay or bisexual identity.
PWIDs	Men or women who have injected any time within the past 12 months. Those who have self-injected medicines for medical purposes only are excluded
Transgender people	Individuals whose gender identity and/or expression of their gender differ from social norms related to their gender of birth. The term transgender person describes a wide range of identities, roles and experiences which can vary considerably from one culture to another.

Study Participants

Study Population	Definition used in the study
Community informants in the selected sub-districts	• Men and women > = 18 in the selected sub-districts that were knowledgeable about the area (ie members of key populations, taxi drivers, and hairdressers, bar owners, men and women on the street) about where people meet new sexual partners • Community informants were asked to name places in the area where people go to meet new sex partners
Site informants	• Men and women >= 18 who were identified during visits to sites named by community informants (above). • On the day of the interview, a person who was knowledgeable about the site was interviewed. • These included the site manager or owner, a member of a key population and/or patron who was present on the day of the interview.
Patrons and members of key populations were interviewed during the validation study.	• These were men or women aged 18 and older who visited the site on the day of the interview (i.e. Step 4).

Recruitment of participants

- MSM, SWs, PWIDs and TG people were purposively recruited from existing LGBTI organizations and NGOs that provide services to PWIDs.
- In addition we also recruited participants from venues where MSM/SWs/TG people/PWIDs congregate.
- Passive recruitment for “closeted” MSM was conducted using MSM-friendly social networking sites.
- In addition we also asked members of key populations about possible internet sites where members of key populations meet each other.
- Interviews focused on the different subcategories, local terms and categories that are used to refer to MSM, SWs (male and female), TG people and PWIDs.

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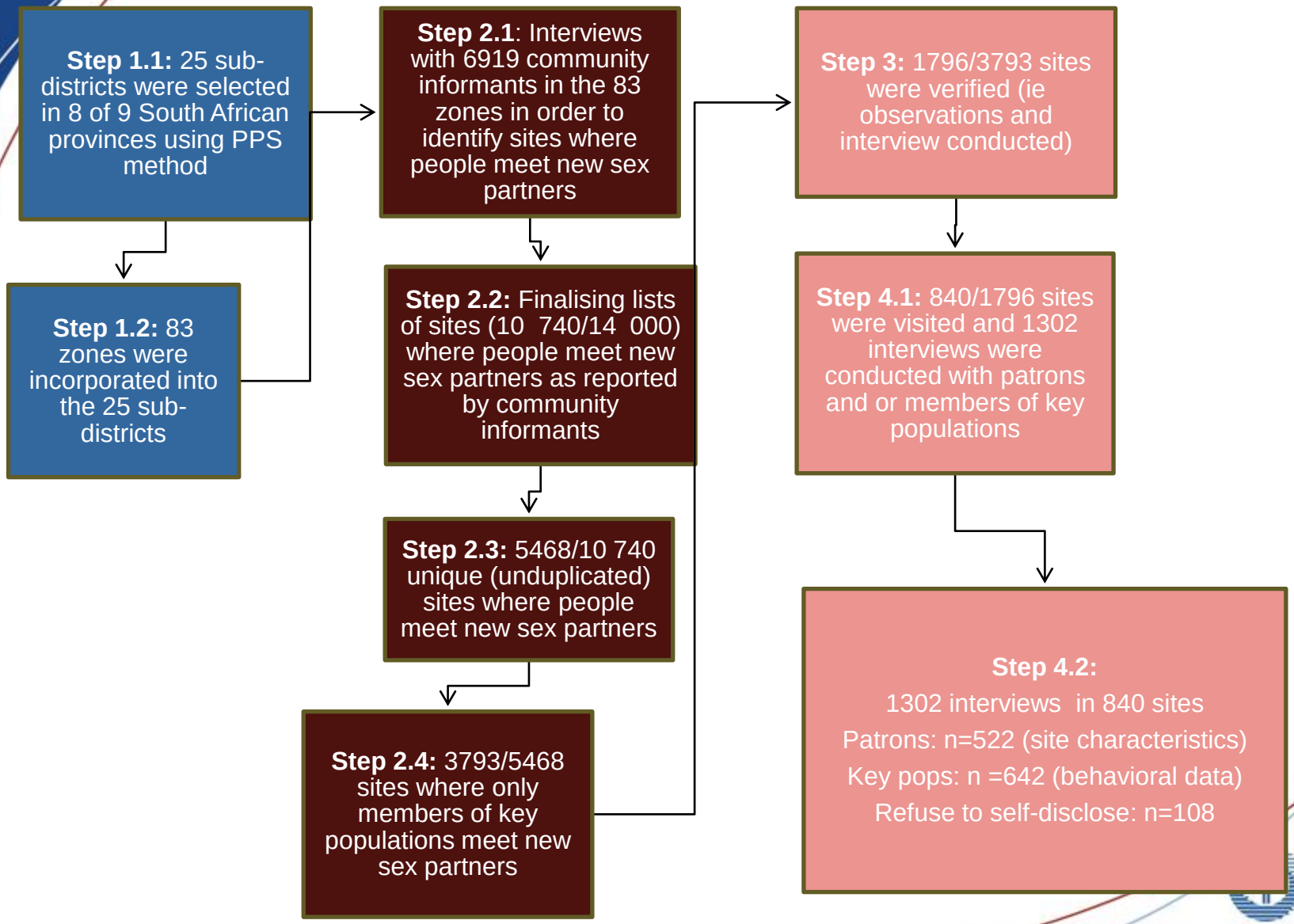
Summary of PLACE protocol used in the PMSE of key populations in SA, 2015



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Size estimation based on data obtained using the PLACE method

1. Obtained the number of unique key pop sites from the community informants data.
2. Obtained the average number of key pops per site per sub-district based on the recorded number of key pops who visit the sites obtained during site verification.
3. Derived an initial district estimate by multiplying the average number of key pops per site with the number of unique key pop sites based on community informants. In sub-districts with a small number of verified sites we did not calculate the average but recorded the number of key populations as reported by informants.
4. Adjusted the initial estimate for the frequency of visits to sites and multiple sites visits. If information about key pops known to visit public sites was available, based on literature or existing IBBSS surveys, it was used to further adjust the estimates in order to include those not visiting mappable sites, and finally.

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Adjustment for frequency of visits

$$E_i = C_i \sum_{f=1}^{7} \left(P_f \times f_p \right), \quad \text{Where}$$

E_i : Estimate total of key population in sub-district (i) after adjustment for the frequency

C_i : Estimated current key populations in sub-district (i) from site verification and community informants data

P_f : Proportion of key populations visiting the sites in sub-district (i) with the frequency f_p

The multipliers for each key population:

- The SWs multiplier of 1.056(1/95%) was based on previous sex worker size estimate in South Africa that excluded 5% of SWs that visit private sites (SWEAT Impact Consulting 2013; Konstant et al. 2015).
- Several MSM Multipliers of 12.5(1/8%), 10(1/10%), and 5(1/20%) were based on proportion of MSM who reported never to have used condoms from the 2014 IBBS RDS study on MSM in South Africa (Cloete et al. 2014). A similar approach was used for MSM size estimation study in Indonesia (Heckathorn 1997)
- The PWID Multipliers of 1.43(1/70%) and 1.25(1/80%) were based on the proportions of PWIDs reached with services based on the UNAIDS (2012) country reports that showed that nearly 70 - 80% of PWIDs reached in surveys in 49 capital cities had access to safe injecting equipment
- Transgender: No multiplier

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Size estimates for key populations in SA

with comparison of findings from previous studies

Key population	Estimates	Percentage of adult Female or Male population	Previous studies
Sex workers	**237 717**		
Female sex workers	185 357 - 205 240 **195 299**	0.97% and 1.07% of adult female population	131 000 -182 000 Impact Consulting, (2013)
Male sex workers	39 064 – 45 772 **42 418**	0.41% and 0.49% of adult male population	7,000
MSM	**1 095 527** 1 019 582- 1 171 472	5.78% and 6.71 % of adult male population	1.2 million McIntyre et al., (2013)
PWIDs	**75 701**	0.19% of adult population	67 000 Petersen et al., (2013)
Transgender people	**139 666**		
Transwomen*	67 757 – 76 554 **72 156**	0.19% and0.21% of adult population	No previous studies
Transmen*	60 129 - 74 891 **67 510**	0.17% and 0.21% of adult population	No previous studies

*No adjustment for hidden population for FSWs, and transgender. A national sex worker study reported that 5% of the sex workers do not visit public places were excluded from size estimate

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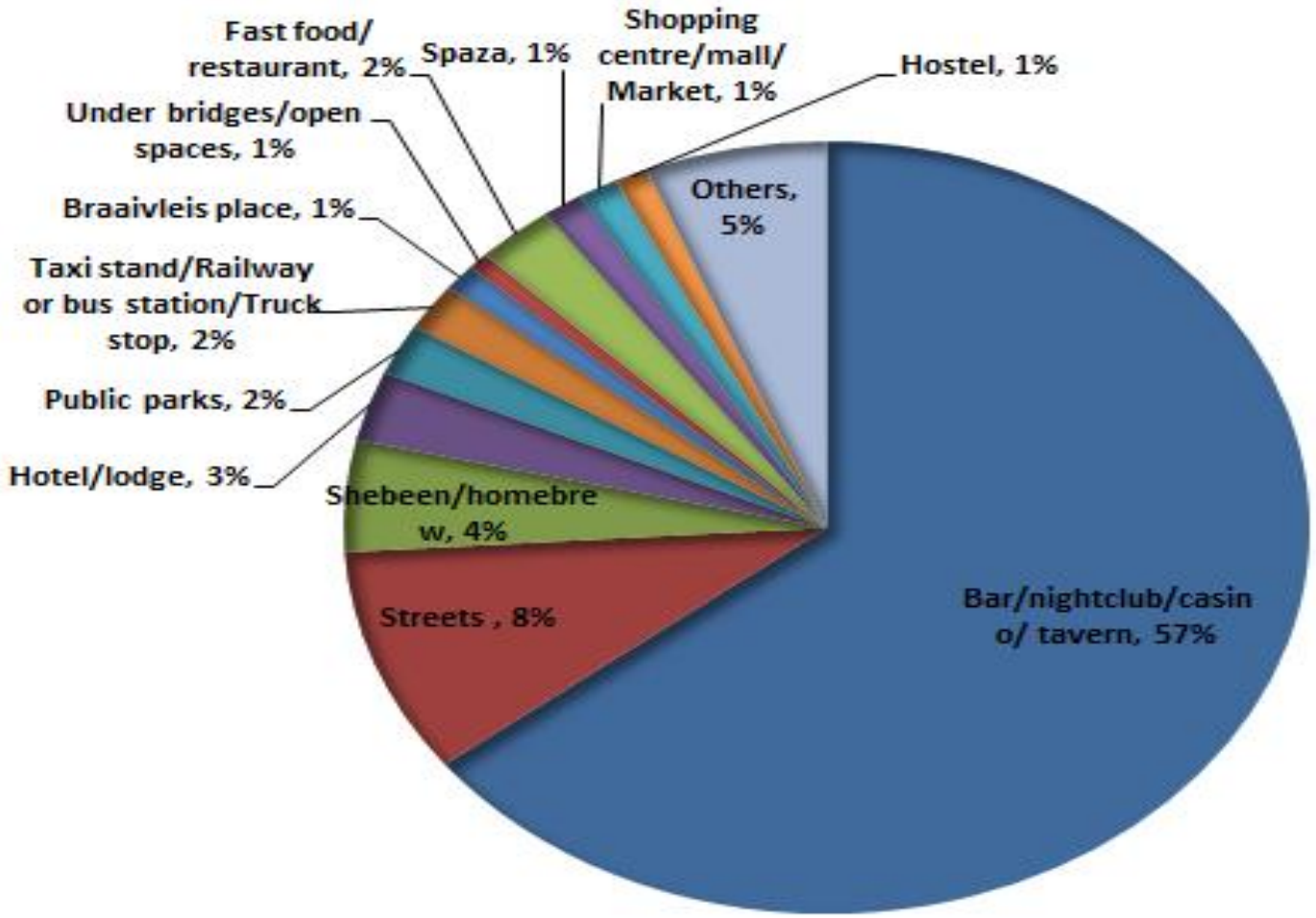
Types of sites visited by key populations in in the mapped sub districts in South Africa



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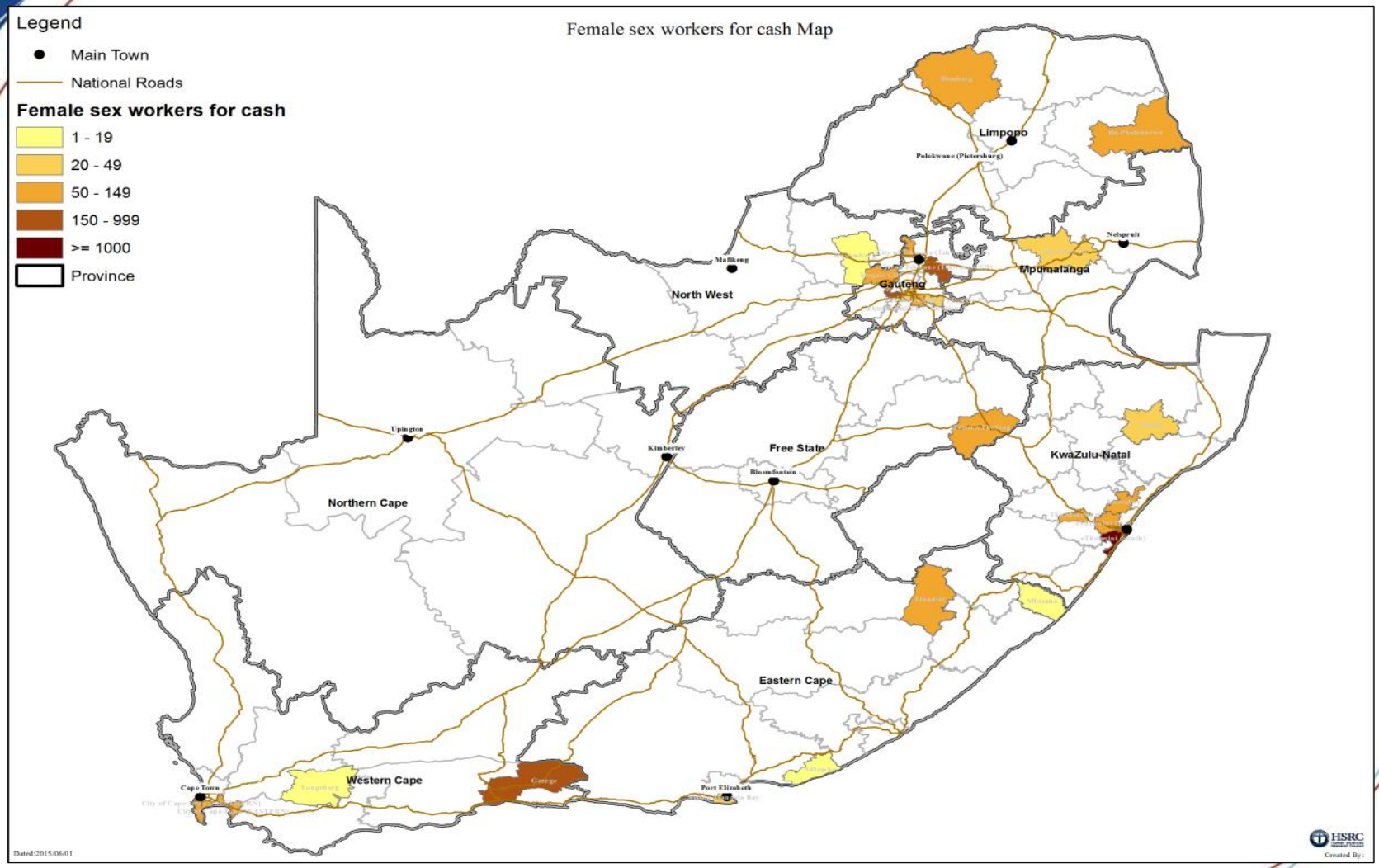
Concentration of sites for FSWs in the mapped sub districts in SA



**Yellow shows sub-districts with a fewer number of FSW sites while Brown shows sub-districts with a higher number of FSW sites*

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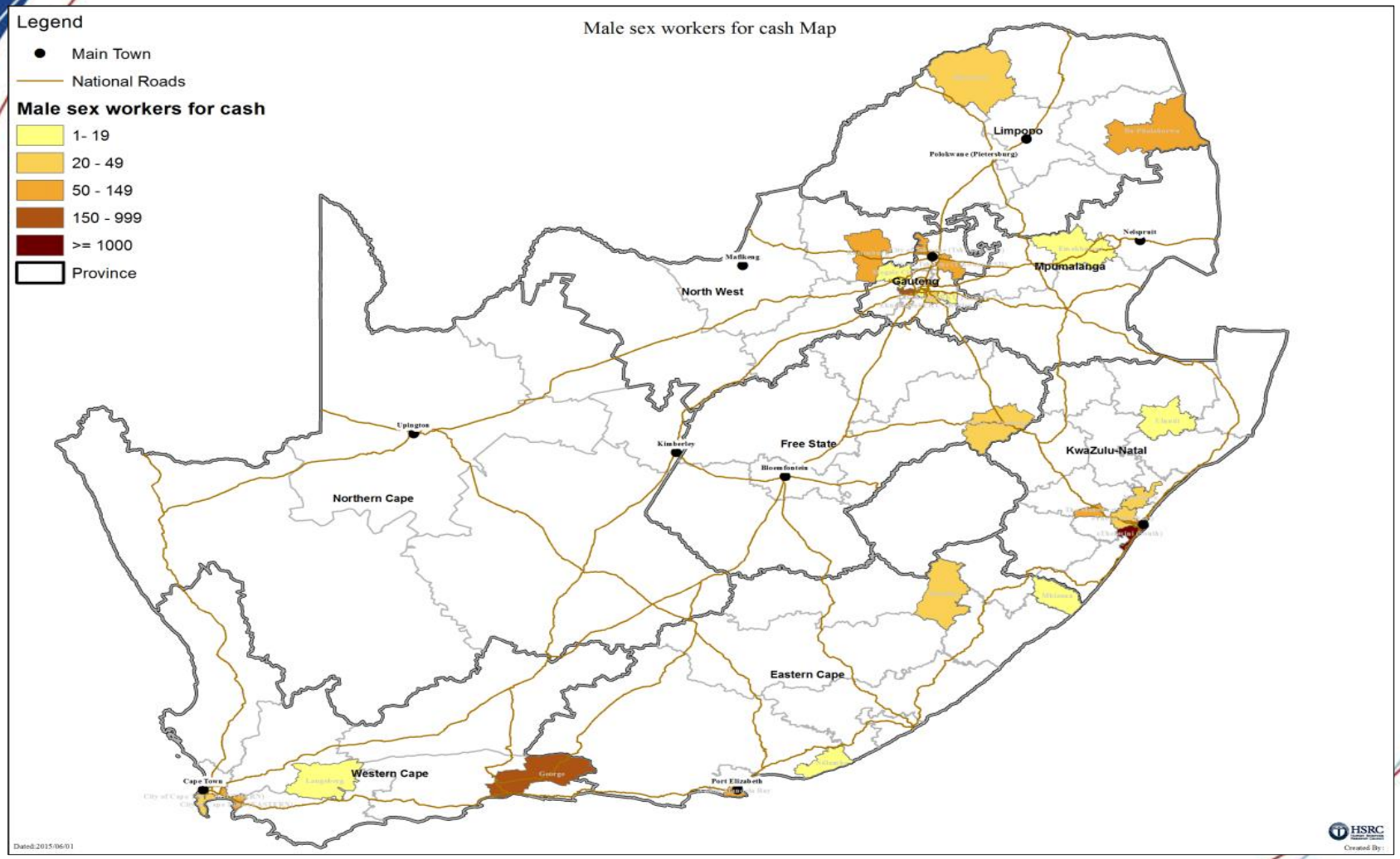
Concentration of sites for MSWs in the mapped sub districts in SA



**Yellow shows sub-districts with a fewer number of FSW sites while Brown shows sub-districts with a higher number of FSW sites*

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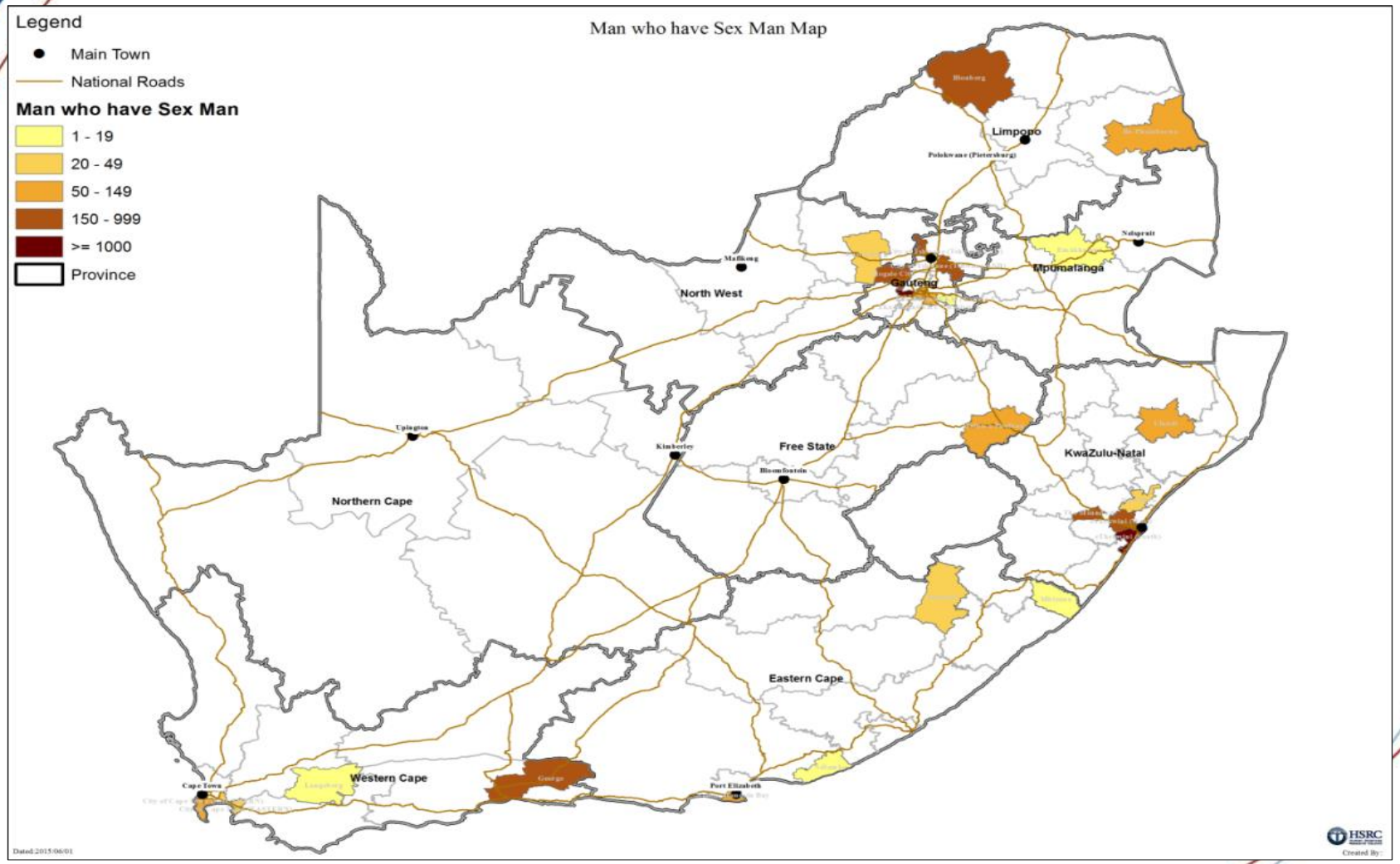
Concentration of sites for MSM in in the mapped sub districts in SA



**Yellow shows sub-districts with a fewer number of FSW sites while Brown shows sub-districts with a higher number of FSW sites*

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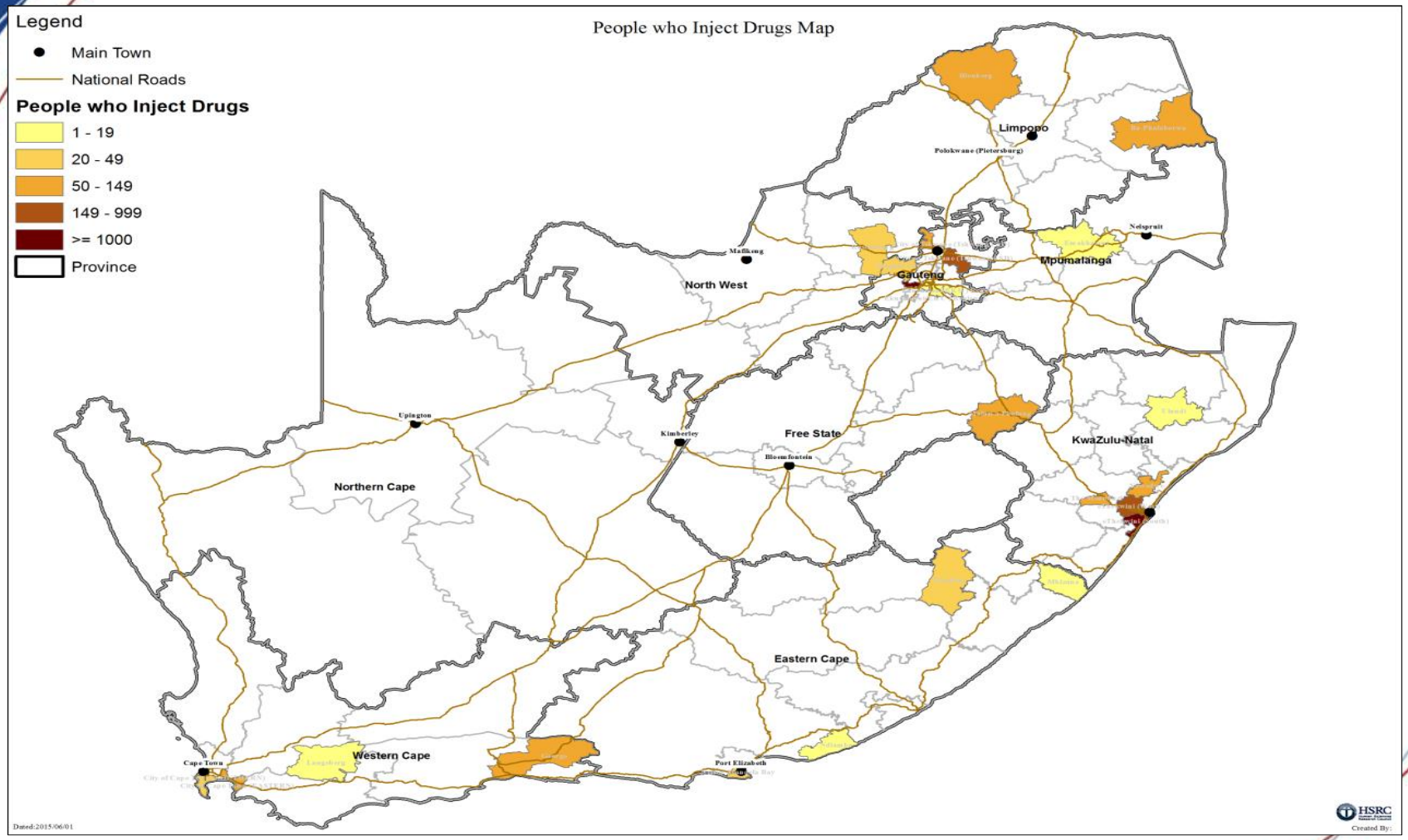
Concentration of sites for PWIDs in the mapped sub districts in SA



**Yellow shows sub-districts with a fewer number of FSW sites while Brown shows sub-districts with a higher number of FSW sites*

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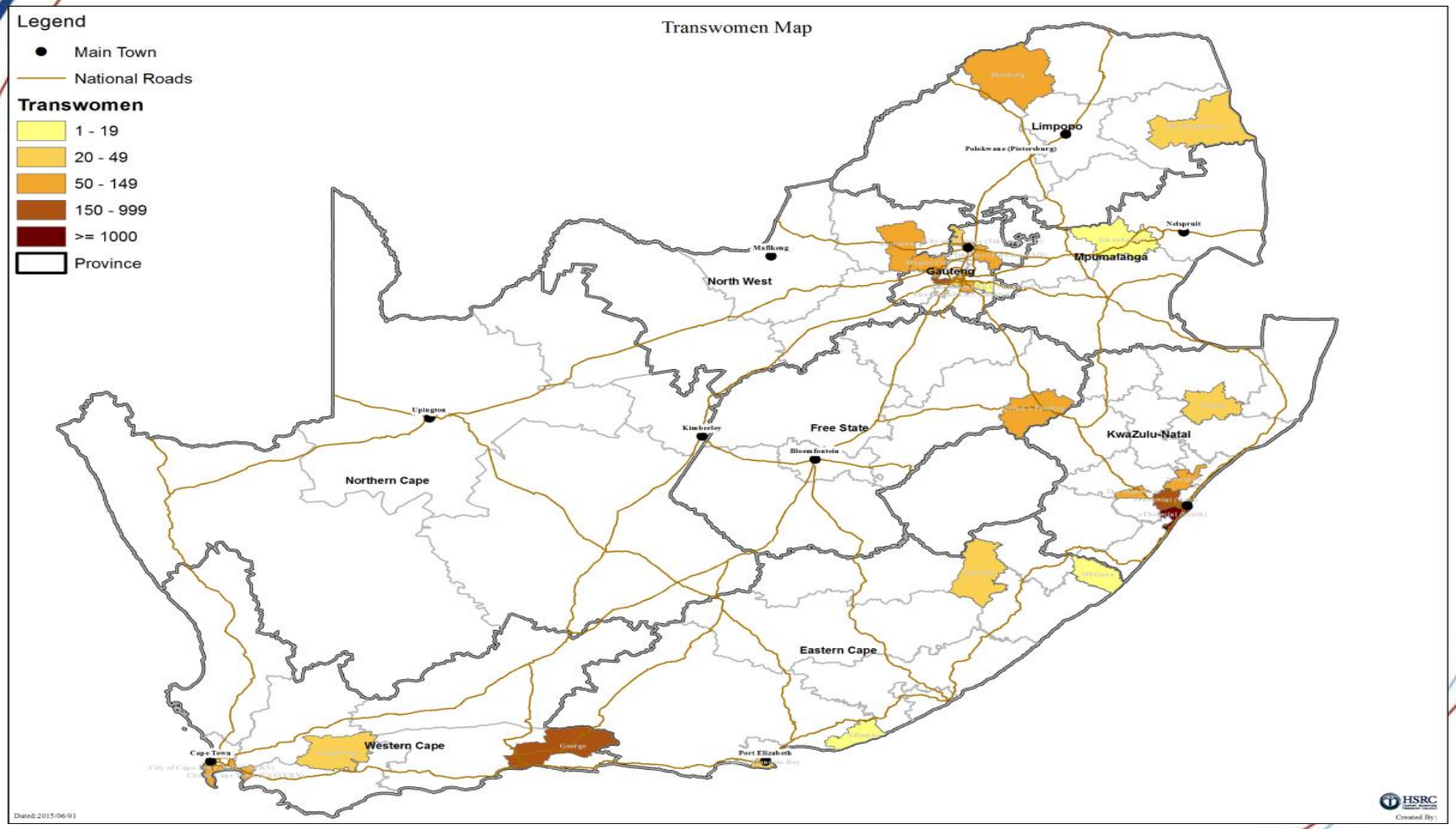
Concentration of sites for Transwomen in the mapped sub districts in SA



**Yellow shows sub-districts with a fewer number of FSW sites while Brown shows sub-districts with a higher number of FSW sites*

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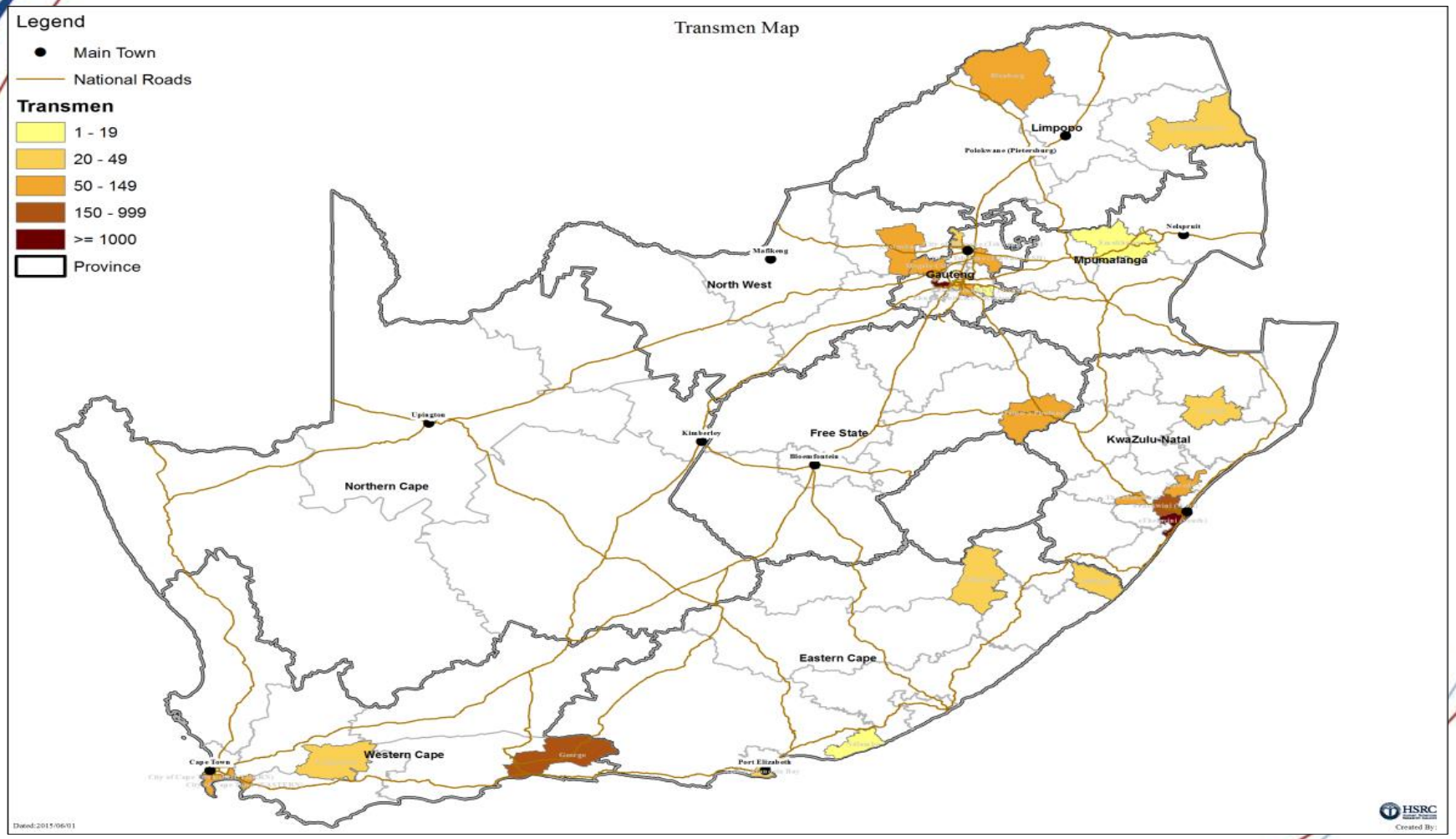
Concentration of sites for Transmen in the mapped sub districts in SA



**Yellow shows sub-districts with a fewer number of FSW sites while Brown shows sub-districts with a higher number of FSW sites*

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Conclusions

- Overall aim of providing a national size estimate for key populations including SWs, MSM, PWIDs and TG people in South Africa was achieved.

- PLACE was used successfully to identify sites where key populations meet new partners, complemented by complex multiplier methods to adjust estimates for male sex workers, MSM and PWID.

- This study serves as an important tool to develop programmes that address the needs of key populations as part of the national HIV response in South Africa.

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Recommendations

- We recommend that future size estimate studies:
  - should **examine the intersecting categories**, for example sex worker and/or transgender identifications; MSM and male sex worker etc.
  - In future studies, the **complexities inherent with intersections** (overlapping identifications) should be investigated.
  - **TG people might benefit from a separate study**, exclusively focusing on this target population.

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