



11-14 June
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9th SA AIDS
CONFERENCE
Durban ICC
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Unprecedented Innovations
and Technologies:
HIV and change

Where Are We: Statistics on the HIV & AIDS Epidemic in South Africa?

Prof Khangelani Zuma, PhD

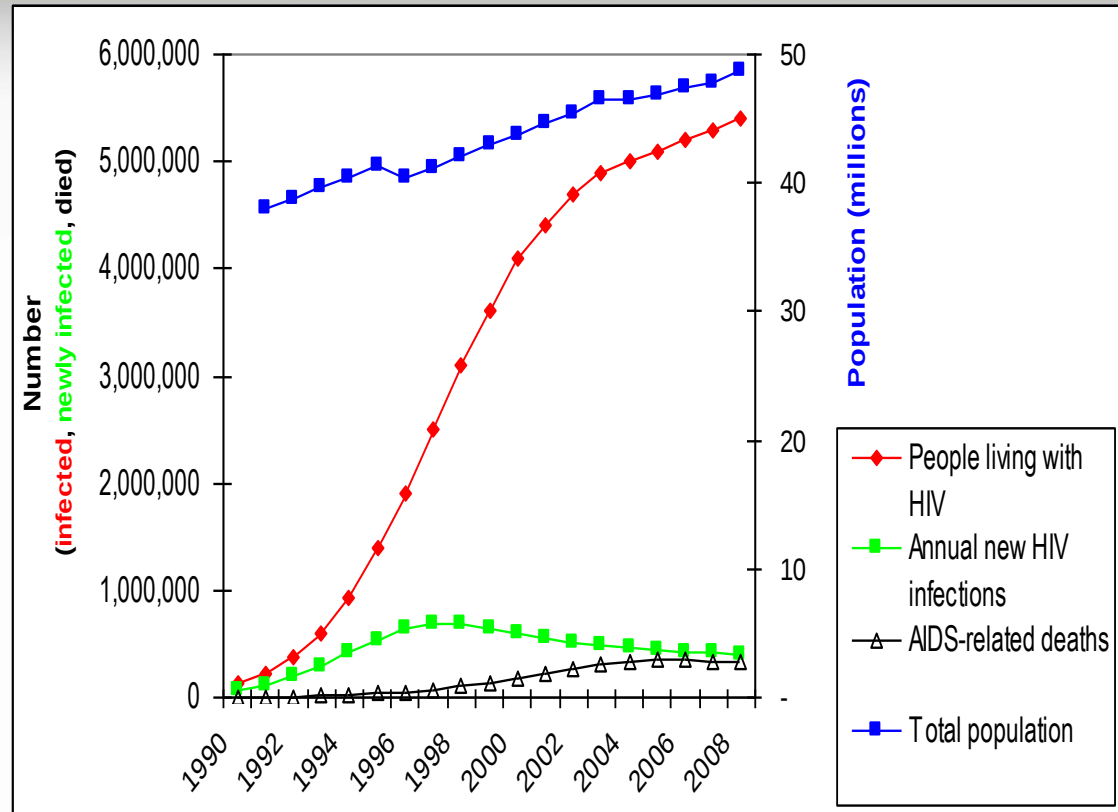
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Background

- South Africa has experienced an unprecedented epidemic of HIV and AIDS
- First AIDS case reported in South Africa in 1982 with first AIDS related death in 1985
- 1990 an estimated 74 000 to 120 000 South Africans were living with HIV.
- A exponential growth of HIV epidemic over the years



Sources: Spectrum estimations and mid-year population estimates from www.statssa.gov.za

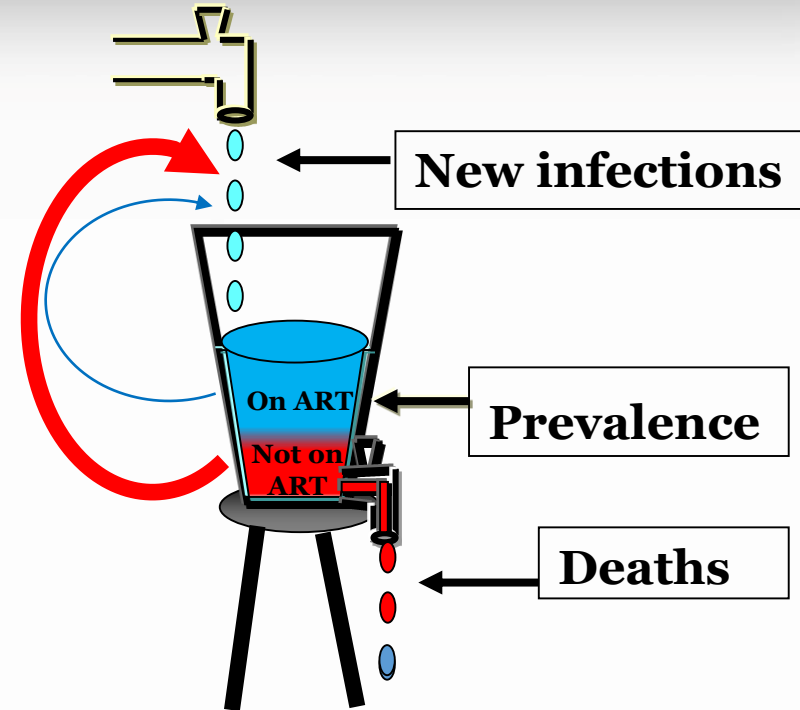
- Routine surveillance among pregnant women presented a bleak picture of HIV prevalence increasing from less than 1% in 1990 to about 30.2% in 2005.

- HSRC implemented the first population based HIV prevalence survey in 2002
- A number of surveillance surveys have since been implemented both at household level and in key sectors such as
 - Health sector
 - Education sector
 - Safety and Security sector
- Results have provided valuable information that has shaped our interventions
- These surveys have provided an important gauge of the HIV epidemic of South Africa and have helped inform our National Strategic Plan on HIV, TB and STIs



What shapes the HIV epidemic, is

- What we do in each of these drivers.
- Where we do intervene.
- The extent to which we intervene.
- New 5 year NSP launched March 2007 with key priority areas
 - Prevention
 - Treatment care and support
 - Human and legal rights
 - Monitoring, research and surveillance
- 2009, test and treat children exposed to HIV
- HIV Counselling and Testing campaign launched April 2009
- KwaZulu Natal providing voluntary male medical circumcision
- New NSP (2011) aiming to half new HIV infections; 80% eligible put on ARVs
- Universal test and treat adopted in 2016
- The **rigor** or **lack thereof** of our response to the pandemic has brought us to where we are statistically



Declining HIV incidence

Year	Age	Estimated annual HIV incidence (%)	Method
2002	15+	2.0	Model (synthetic cohort)
2005	15-49	2.4	BED assay
2005	15-49	2.2	Model (ASSA)
2005	15+	1.4	Model (EPP)
2005-2008	15+	1.3	Model (synthetic cohort)
2009	15+	1.2	Model (EPP)
2009	15-49	1.7	Model (MoT)
2011	15-49	1.5	Thembisa model
2012	2+	0.85	Multi - assay testing
2012	15-49	1.36	Multi - assay testing
2017	15-49	0.79	Multi - assay testing
2017	15-24	1.0	Multi - assay testing
2017	2+	0.48	Multi - assay testing



OPEN ACCESS Freely available online

A Decline in New HIV Infections in South Africa: Estimating HIV Incidence from Three National HIV Surveys in 2002, 2005 and 2008

Thomas M. Rehle^{1*}, Timothy B. Hallett², Olive Shisani¹, Henri Carrara¹, Sean Jooste¹

¹ Human Sciences Research Council, Cape Town, South Africa, ² Imperial College London, London, United Kingdom

ORIGINAL ARTICLES

National HIV incidence measures – new insights into the South African epidemic

Pillay, Khangelani Zuma, Adrian Puren, Warren Parker

African Journal of AIDS Research

th Africa does not on laboratory testing and older was 1.4% per year, with 571 000 new HIV infections estimated for 2005. An HIV incidence rate of 2.4% was

Results: HIV incidence in the study population aged 15 years and older was 1.4% per year, with 571 000 new HIV infections estimated for 2005. An HIV incidence rate of 2.4% was

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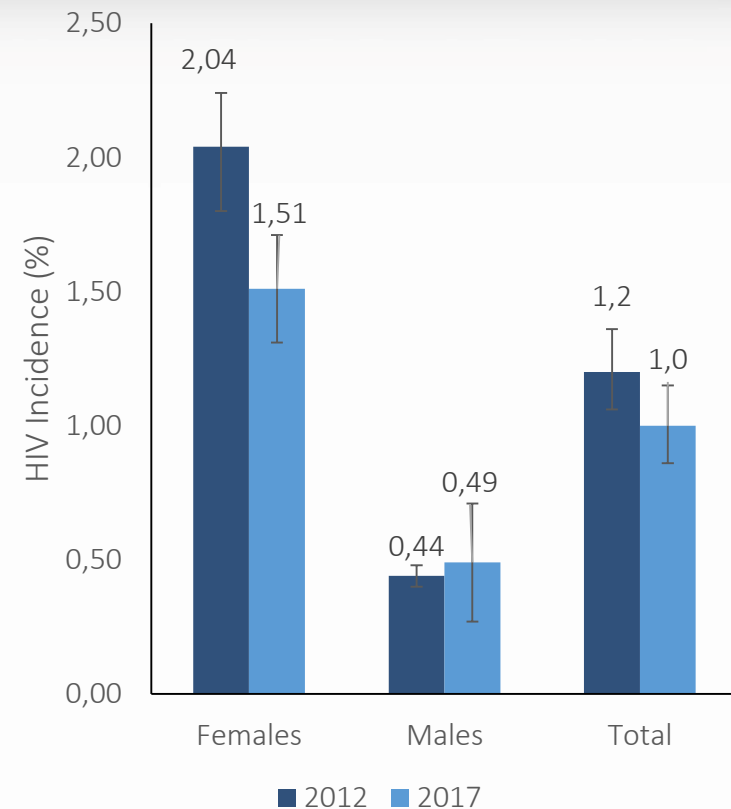
New insights into HIV epidemic in South Africa: key findings from the National HIV Prevalence, Incidence and Behaviour Survey, 2012

Khangelani Zuma, Olive Shisana, Thomas M. Rehle, Leickness C. Simbayi, Sean Jooste, Nompumelelo Zungu, Demetre Labadarios, Dorina Onoya, Meredith Evans, Sizulu Moyo & Fareed Abdullah

- All these estimates point to a common trend of declining HIV incidence.
- Still large enough to sustain the epidemic

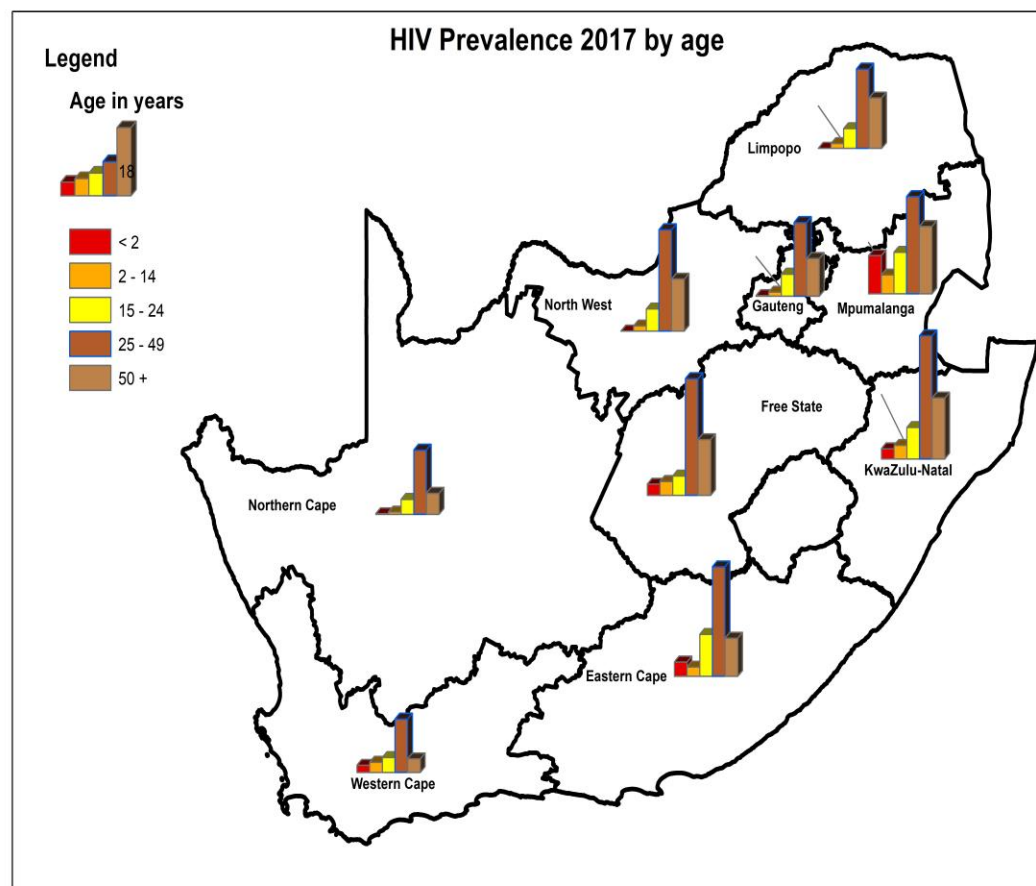
Highlights of HIV Incidence 2012 to 2017

- Incidence at 0.48 % ($\Rightarrow$ 231 000 new infections annually)
- Higher incidence among females (0.51% $\Rightarrow$ 122 000) compared to males (0.46% 109 000)
- **Youth** Incidence was 1.0 % ($\Rightarrow$ 88 000)
- **Youth** : three times higher among females (1.51% $\Rightarrow$ 66 000) compared to males (0.49% $\Rightarrow$ 22 000)
- Over a third (38.0%) of all new infections come from this age group
- HIV incidence among **youth** declined by 17%
- The decline in incidence was only among females (26%) whilst **among males incidence increased by 11%**



Prevalence of HIV

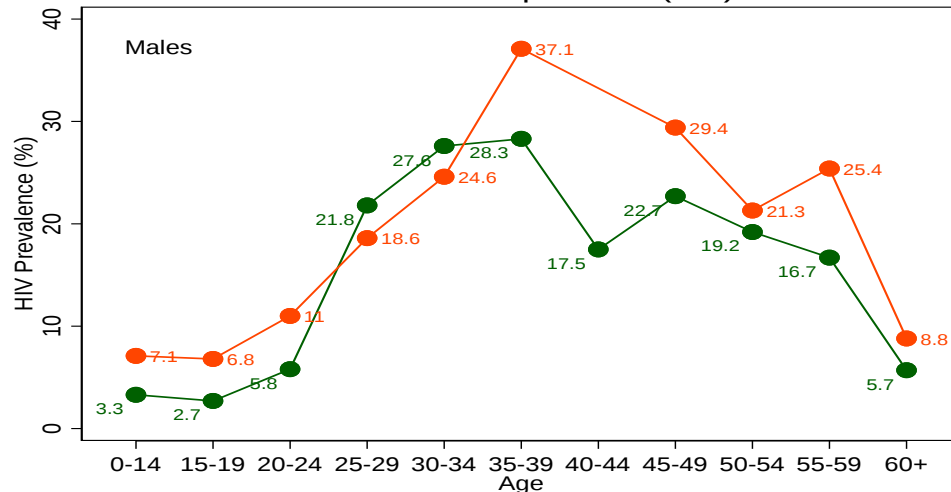
Year	<2	2 -14	15 - 24	15 - 49
2002	-	5.6	9.3	15.6
2005	-	3.3	10.3	16.2
2008	3.2	2.5	8.7	16.9
2012	1.8	2.4	7.1	18.8
2017	2.8	2.7	7.9	20.6



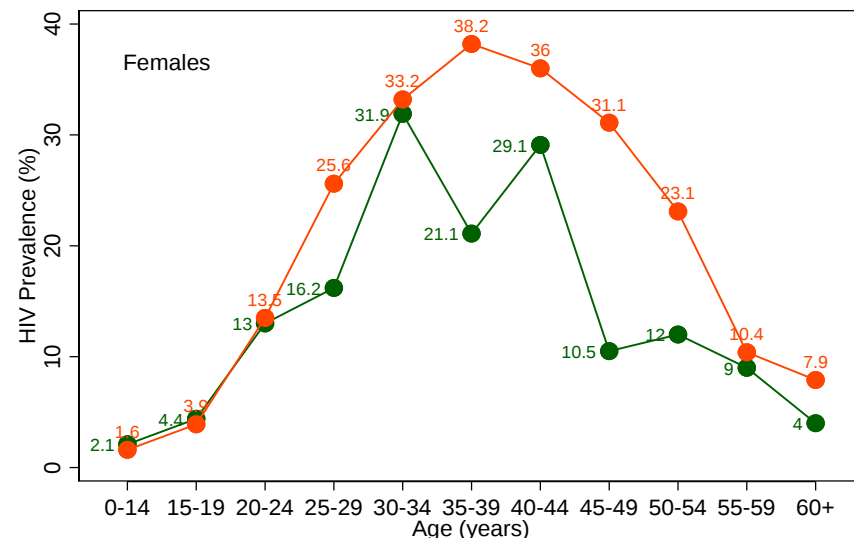
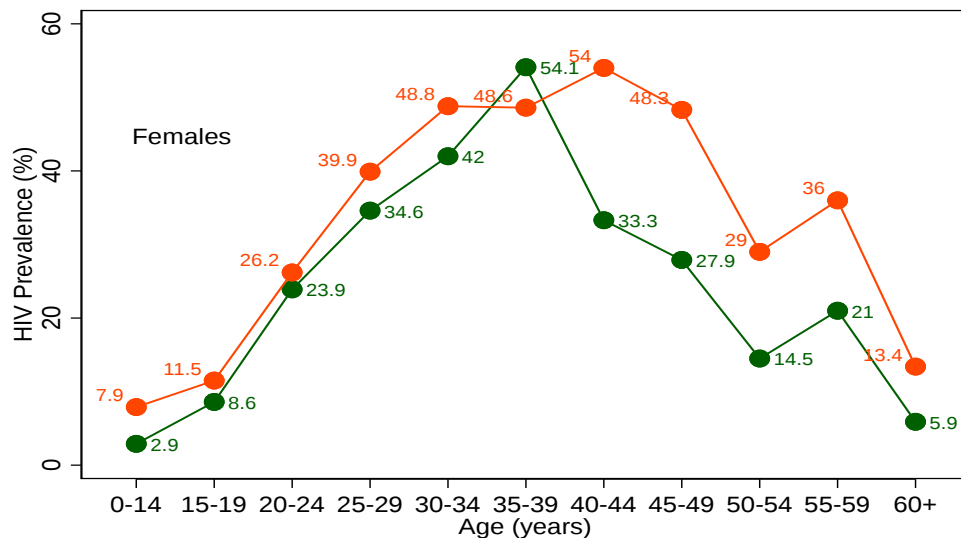
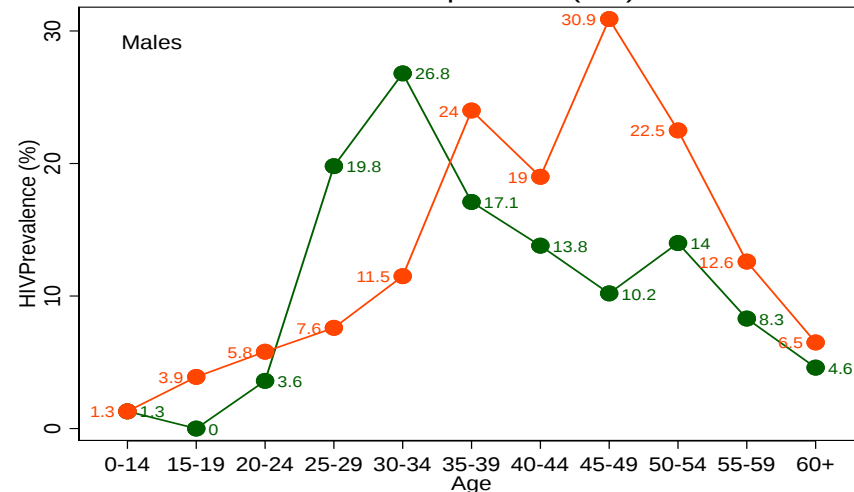
- Steadily declining HIV prevalence among 2 to 14 year olds with 4 percentage decline from 2008 to 2012 and 12.5% increase from 2012 to 2017
- Highest percentage decline of 18.4% among youth from 2008 to 2012 with 11.3% increase from 2012 to 2017
- Consistent increase in HIV prevalence year on year among 15 to 49 year olds

Typical Epidemiological Curves

Sex of the respondent (MP)



Sex of respondent (GP)

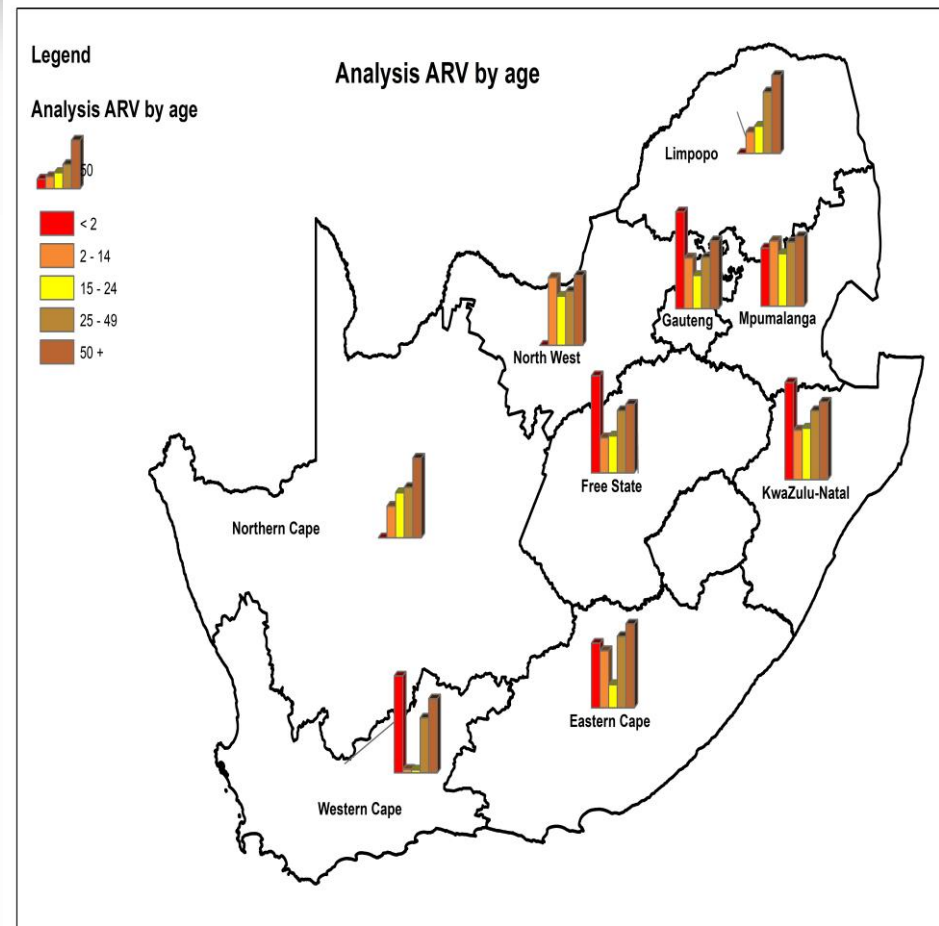


● 2012 ● 2017

● 2012 ● 2017

Exposure to ARVs, 2017

Age	HIV+	ART	ART%
<2	62 000	23 003	76.5
2-14	390 000	117 000	48.0
15-24	756 000	227 400	39.1
25-49	5 588 000	3 244 000	63.1
50+	1 124 000	753 000	76.7
Total	7 920 000	4 402 000	62.3



- A considerable proportion of <2 years on treatment.
- Youth is considerably lagging behind in access to treatment
- In all provinces that have infants living with HIV, a considerably high proportion of these infants is on treatment.

Population Viral Load Suppression, 2017

	ART Exposure (%)			Viral Suppression (%)		
Age	Total	Males	Females	Total	Males	Females
<2	76.5	48.0	100.0	67.8	46.7	77.2
2-14	48.0	49.1	47.2	50.7	56.6	45.4
15-24	39.1	43.1	38.6	47.7	49.1	47.1
25-49	63.1	53.3	68.5	62.8	51.0	69.6
50+	76.7	81.5	74.0	73.2	76.4	71.2
Total	62.3	56.3	65.6	62.3	55.0	66.5

- Viral load suppression threshold of <1 000 copies of HIV per ml in DBS samples
- High exposure to ARVs consistently translated to high viral suppression for both males and females
- 15 to 24 year olds show low levels of viral suppression

Drug Resistant Mutations, 2017

ARV Status	n	%
ARV+	102	55.7
ARV-	517	22.8
ARV+ self reported	41	75.9
Total	660	27.4

- Albeit limited sample sizes, any drug resistant mutations prevalence was estimated at 27.4%
- Prevalence of any drug resistant mutation was least among 25 years and above (26.6%), followed by 15 to 24 year olds (30.5%) and highest among 0 to 14 years olds at 33.7%
- This is a reflection of a continuing HIV transmission irrespective of exposure to ARVs

Some Concluding Remarks

- Need to do a lot more, **consistently**, than what we have done so far, if we are to end the epidemic scourge
- Putting people on treatment is saving lives demonstrating **progressive success** with a **challenge** still persistent among youth.
- Prevention of new infections especially among those younger than 35 years and youth in particular is a **serious challenge** that we face
- We need to invigorate, strengthen and sustain HIV prevention programs to stop the continuing transmission of HIV
- Presence and spread of drug resistant mutations is another **immediate challenge** that we face

Some Concluding Remarks

- Recent presentation of modelled estimated local statistics of people living with HIV in Johannesburg has suddenly made people realise that we have a serious problem of HIV in the country.
- This is a clear indication of a need to move away from national statistics to more localized statistics.
- Important district statistics will be presented on **Thursday, 13 June 2019 at 14h00 at the HSRC satellite session**
- A lot more resources are required to be able to pinpoint to the basic local level of where the challenges are and which relevant interventions are required



**science
& technology**

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



U.S. President's Emergency Plan for AIDS Relief (PEPFAR)
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Department of Science and Technology, South African National AIDS Council, Global Fund, Right to Care, UNICEF, Centre for Communication Impact, Soul City, LoveLife

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