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HIV VACCINE DEVELOPMENT- CHALLENGES/OPPORTUNITIES FOR AFRICAN SCIENTISTS

Malegapuru William Makgoba
Vice-Chancellor and Principal, University of KwaZulu-Natal

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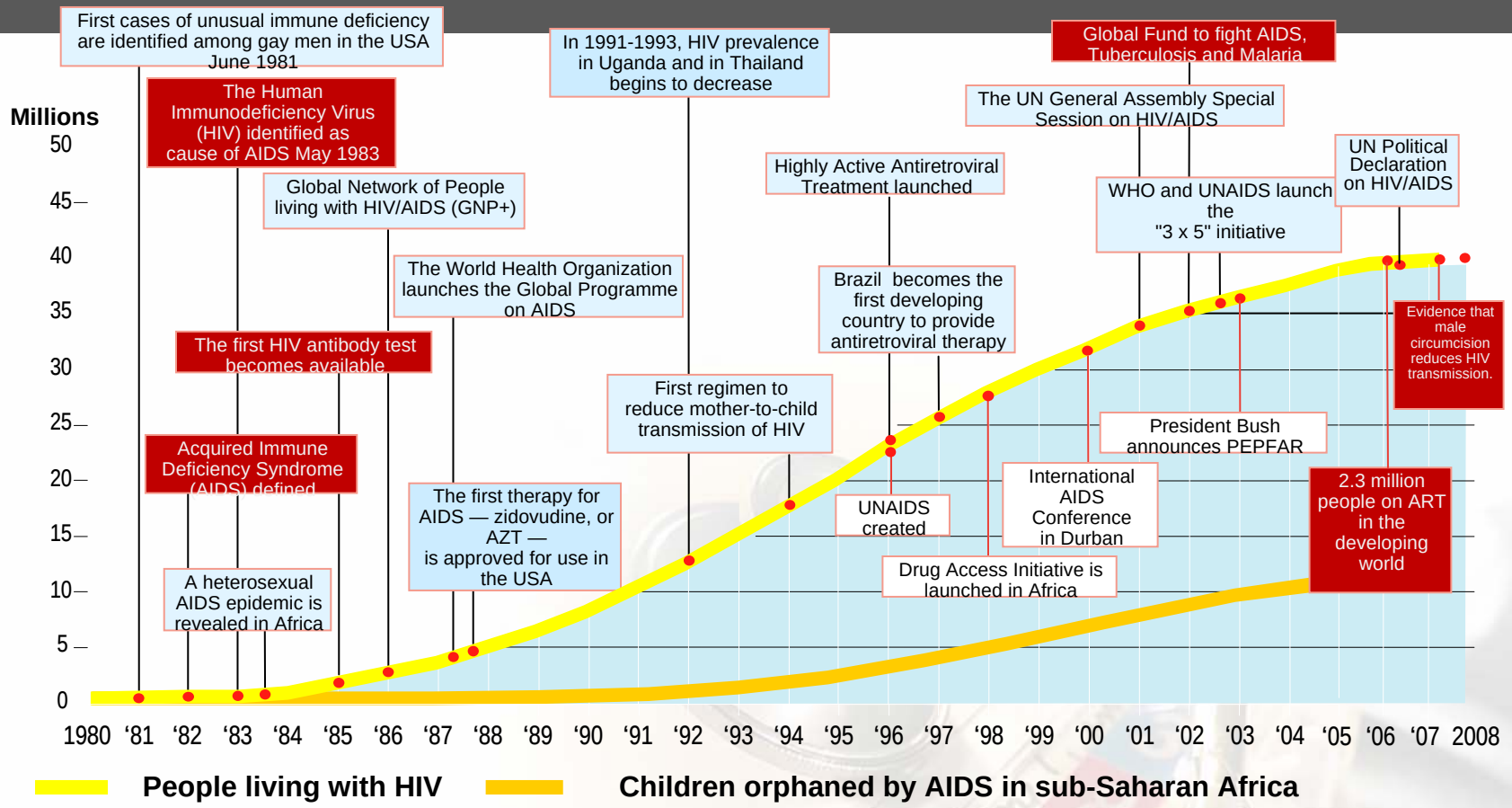
27/25 years of responding to AIDS.....

SOURCE: UNAIDS



The chronology above summarises the 'BIG Picture' of AIDS

1. The response to the HIV/AIDS epidemic has been global, incremental and is improving;
2. Despite this response, the epidemic has continued to grow in certain regions of the world, particularly Africa;
3. Major milestones & lessons have been achieved & learnt over this period through excellent scientific research e.g. the discovery of HIV in 1983;
4. We now know what works best and that which does not work in the epidemic; in both prevention & treatment e.g. that unsafe sex is a risk factor to global health;
5. Future challenges and obstacles both scientific & socio-cultural, are understood better as a result of this wealth of knowledge;
6. With this concerted, coordinated global approach, the global community is in a better state to control and ultimately manage the many facets of the epidemic better e.g. stigma, discrimination and HIV vaccine development.

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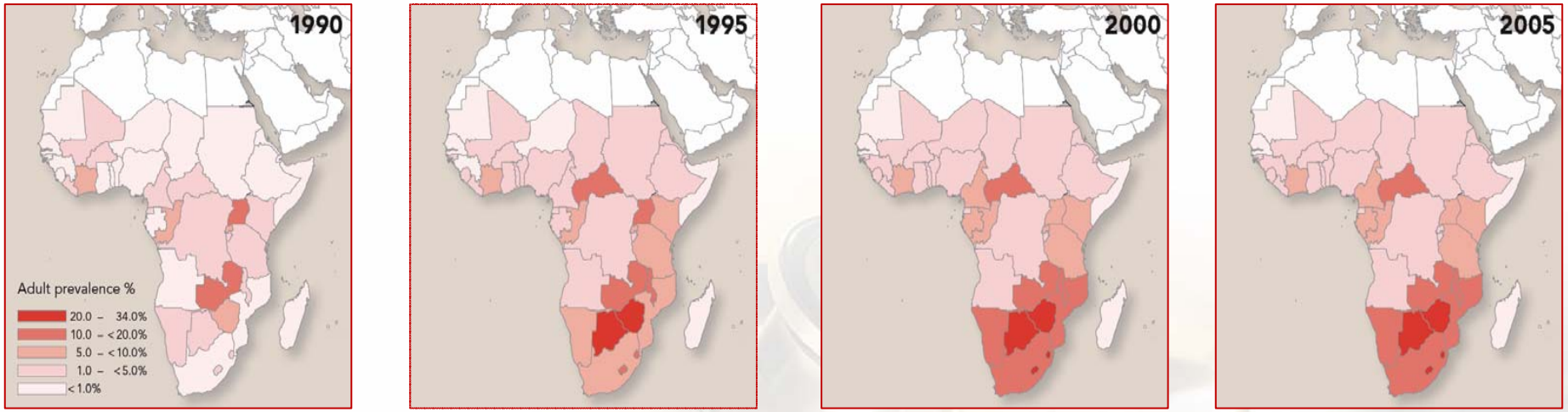
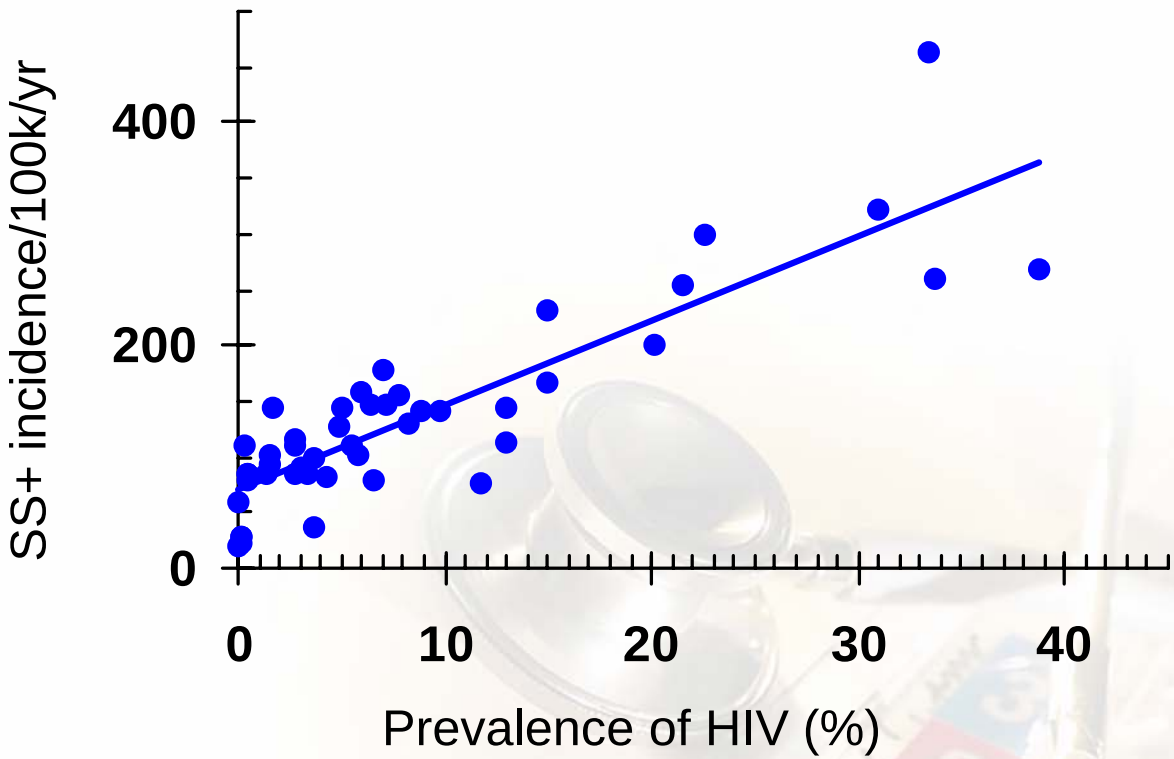
The evolving HIV epidemic in Africa



Source: UNAIDS. 2006 Report on the global AIDS epidemic. UNAIDS, Geneva

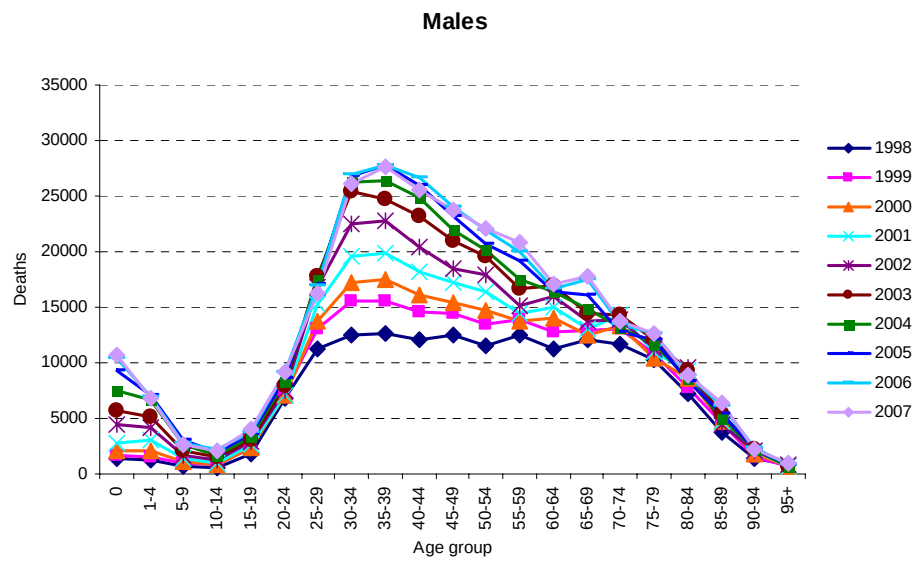
Impact of HIV on TB



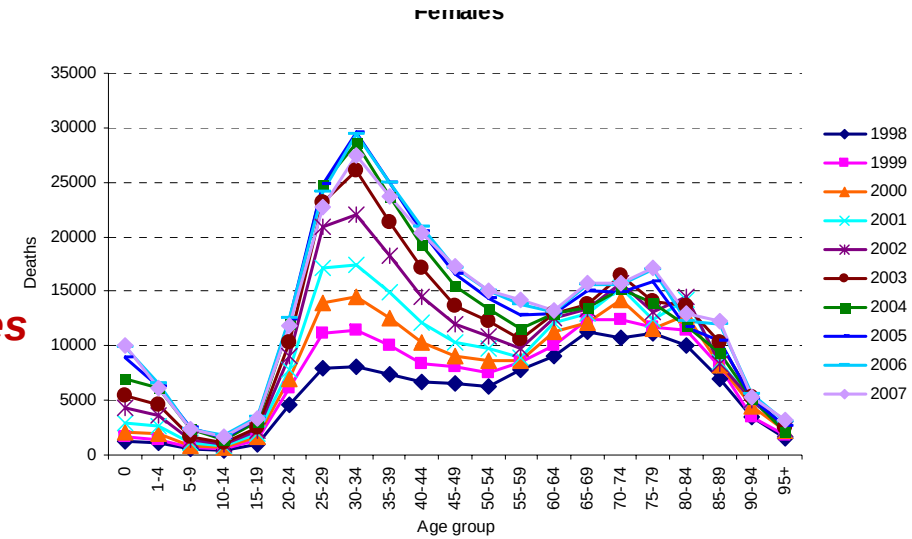
The incidence of SS+ tuberculosis plotted against the prevalence of HIV for African countries in 2001.

Number of deaths on population register

Male



Female



Two Universal Biological Principles are broken

Africa's Response to AIDS/HIV Epidemic

1. Denial--homosexuality & proven scientific measures;
   - -- Reverend Banana
   - --'Matonyola'
   - -- 'Inkonkoni', 'Sitabane'
2. Racialised--origins & heterosexual epidemic;
3. Stigma & discrimination—silenced;
4. 'Shading' scientific findings;
   - -- Question Stats, Causality
   - --Give mixed messages - 'Knofel' approach
   - -- Misrepresent scientific findings
   - -- Deny Neverapine efficacy
   - -- Introduce 'Voodoo' Science
5. The voice of Africa's Scientists was not loud enough

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What Opportunities did Africa lose?

- The opportunity to control the emerging epidemic early
- The opportunity to save lives and future investments (Quality of Life, Education, Human Creativity..)
- The opportunity to impact significantly on mortality and its pattern *
- The opportunity for society to trust science and its ethos
- The opportunity to set the research agenda
- The opportunity to set the parametres for 'modern morality

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Vaccine «Investing in the Invisible»

- Treatment is neither sustainable nor economically affordable

- Vaccine development provides an opportunity for Africa to invest in the invisible:
  - In Africans to conduct cutting-edge research
  - In training a new generation of researchers
  - In African capacity building to contribute in setting the appropriate research agenda
  - In creating Centres of Excellence
  - In participating meaningfully as scientistes in the new biology revolution

- African leadership and governments must invest financially and in the long term

- African science and scientists will succeed in an environment where they are able to:
  - Focus
  - Commit more time into active research
  - Career security and career development

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Taking advantage of global goodwill

- Gobal ‘*Goodwill ‘ and networks* in the following:
  - NIH and its Vaccine Centre
  - The Global Vaccine Enterprise
  - The Bill and Melinda Gates Foundation
  - Several PPP’s e.g. IAVI
  - Others, e.g. the Human Virology Centre in Baltimore

- Current public pressure on the Scientific Community

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Opportunities 2031/2033?

Out of the 'box thinking'

1. **A different way of doing science eg the Global Vaccine Enterprise and Centres of Excellence in the developing countries**

2. **A convergence and an integrative approach to research that creates new knowledge spaces**

3. **New approaches eg proteo-genomic**

3. **May not be T cell or antibody-mediated**

4. **More scientists from developing countries shaping the future reseach of the epidemic**

5. **Translation of the wealth of knowledge for effective solutions that provides opportunities for new knowledge production**

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Challanges 2031/2033?

What should African Scientists avoid?

- **Being politicaly correct**
- **Being unfocussed on the big scientific questions**
- **Participating in unequal partnerships**
- **Unnessesary travelling … and invest more time in conducting research**

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