

Overview of Current Research on HIV Prevention Technologies and Implementation Challenges

Quarraisha Abdool Karim, PhD

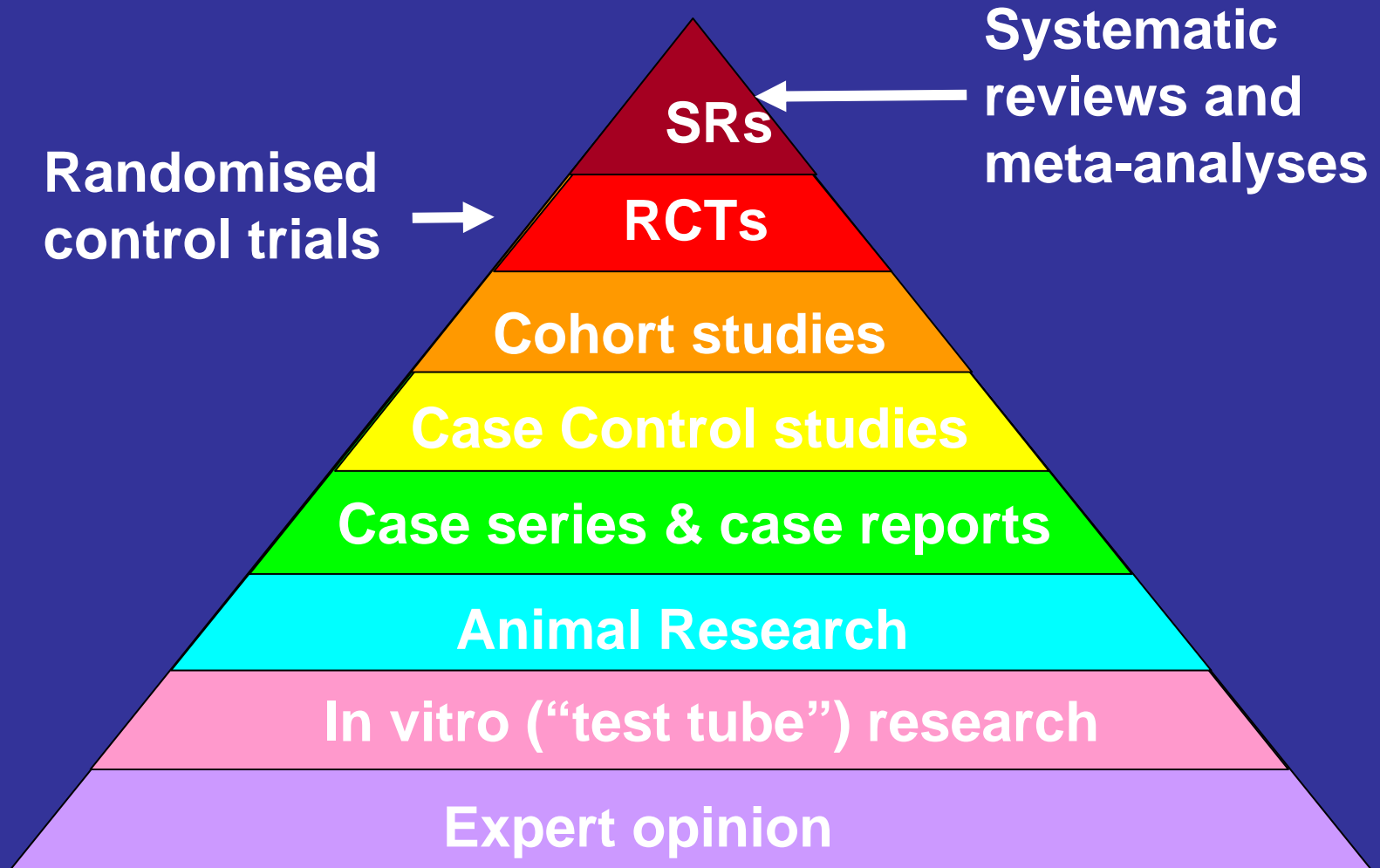
Co-PI HPTN PLG
Associate Scientific Director, CAPRISA

IAS 2007, Sydney July 2007

Overview

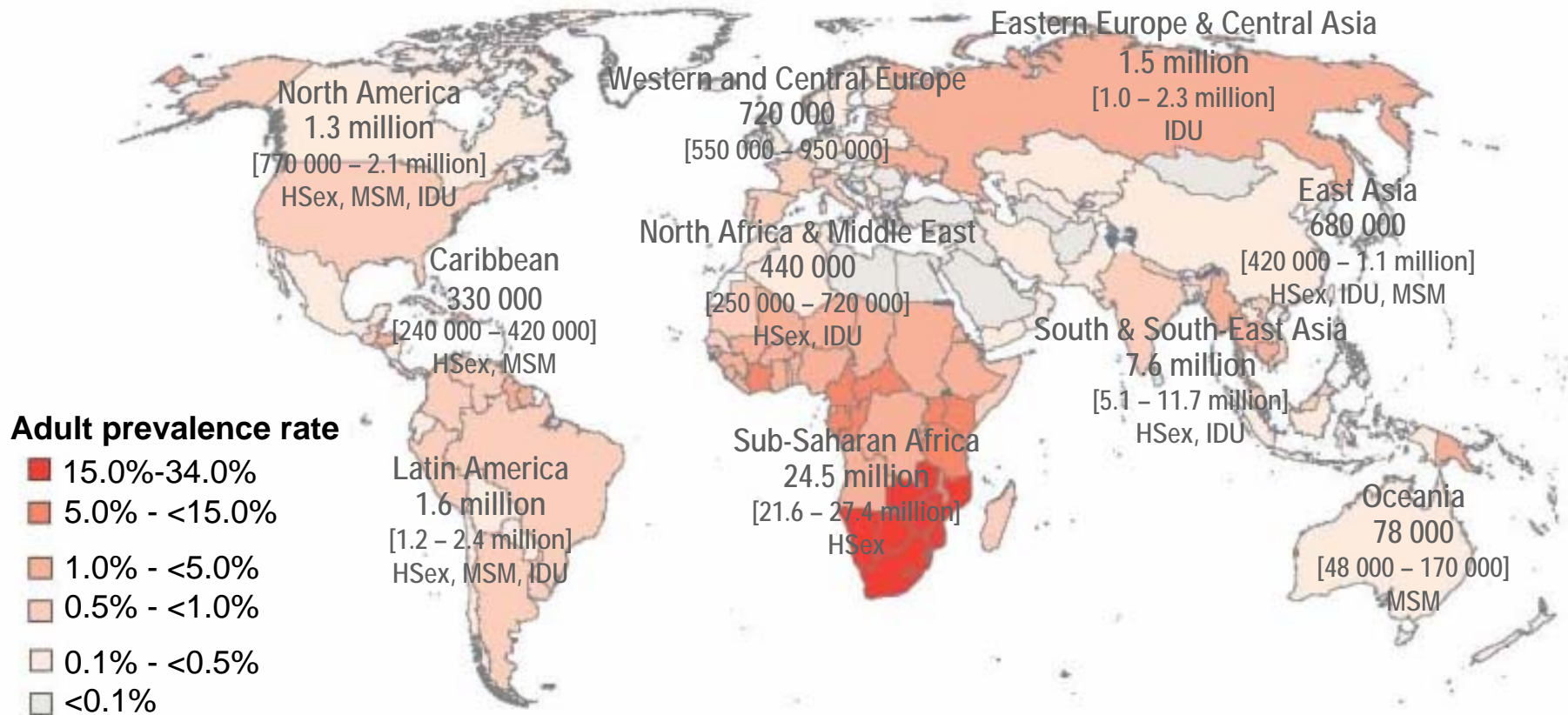
- The Evidence Pyramid
- Prevention Challenges
- Prevention Works!
- Timeline for Current HIV Prevention Trials
- GRIPP – a complex phenomenon!

The Evidence Pyramid



Prevention Challenges: Diversity of Epidemic

38.6M living with HIV, 4.1M new infections, 2.8M deaths



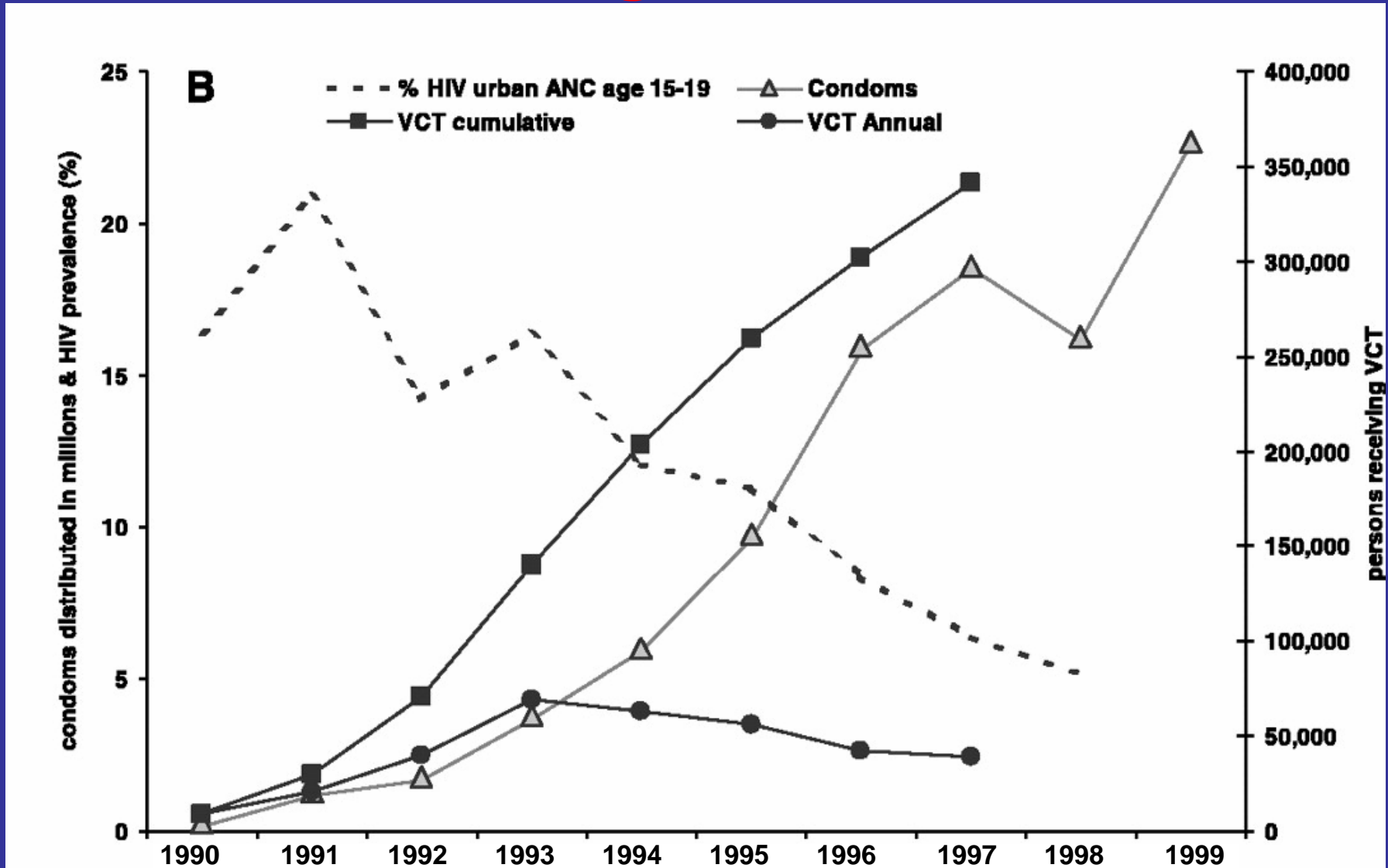
Prevention Challenges

- No single solution
- Scientific uncertainty – no surrogate markers of protection
- Public Health Imperative to respond
- Knowledge generation process – stakeholder demand for communication at all stages
- Synergy between Science & Activism
- ? Politics and Media
- More than a medical issue

Integrating prevention and care

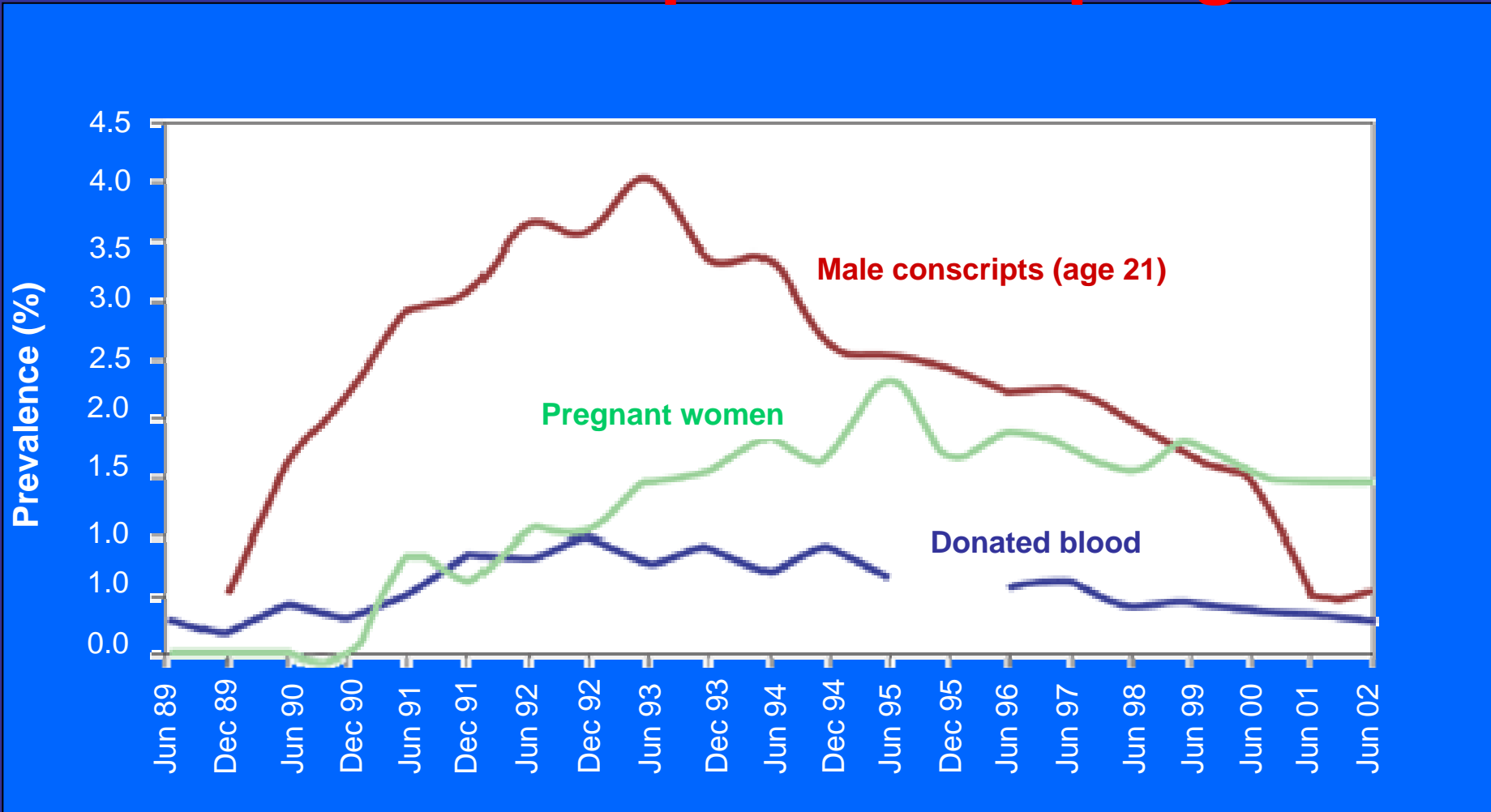
- Provision of AIDS care creates opportunities for improving prevention efforts
- Few successful, sustained efforts to integrate prevention into care programs.
- Prevention interventions have traditionally concentrated on protecting those at risk of infection
- New models which refocus prevention interventions to target those already infected, are emerging

Prevention works! Evidence from Uganda



Source: Stoneburner R et al, Science 2004

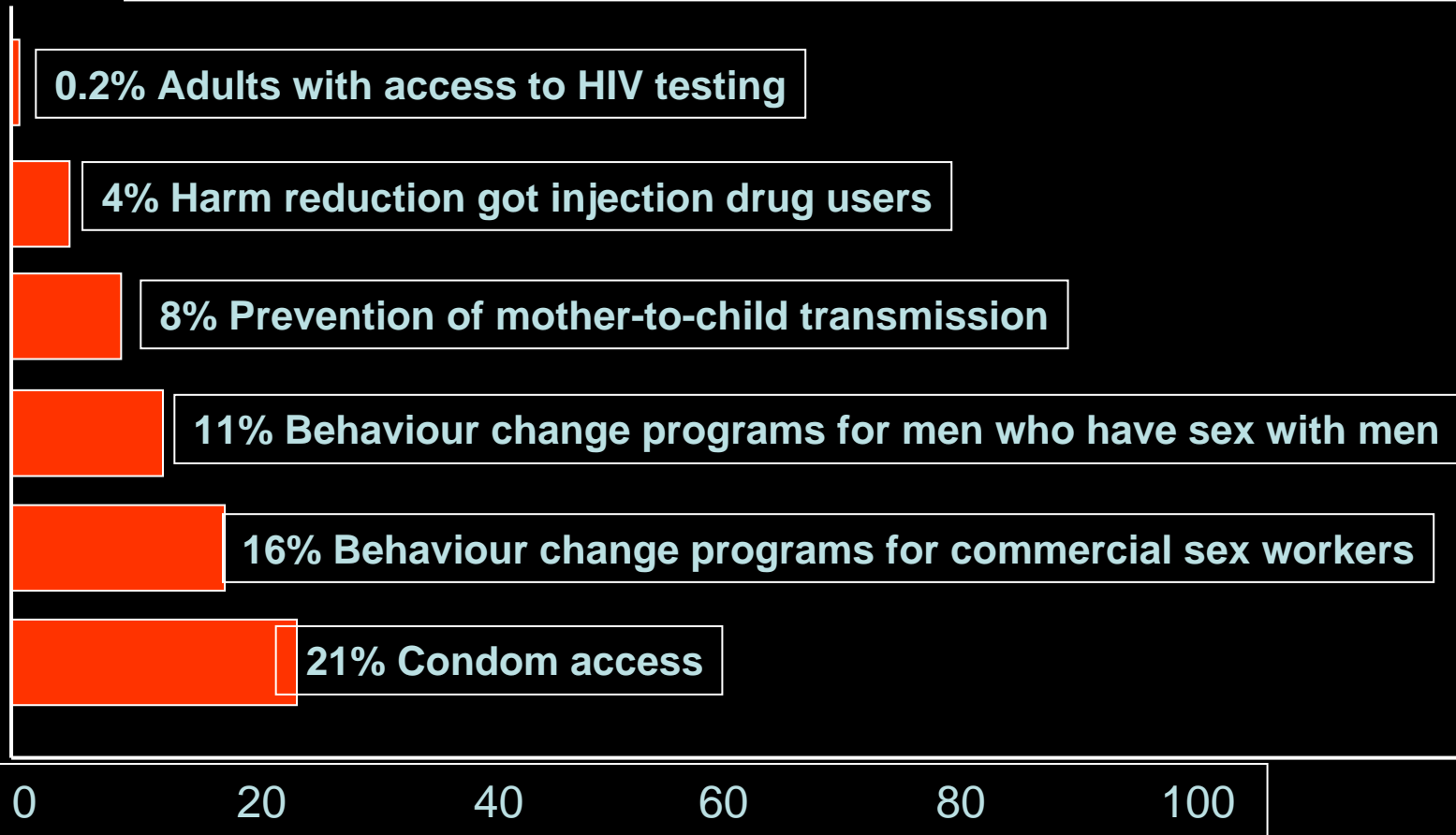
Prevention works! Evidence from the Thai 100% condom promotion program



Source: Thailand Ministry of Public Health

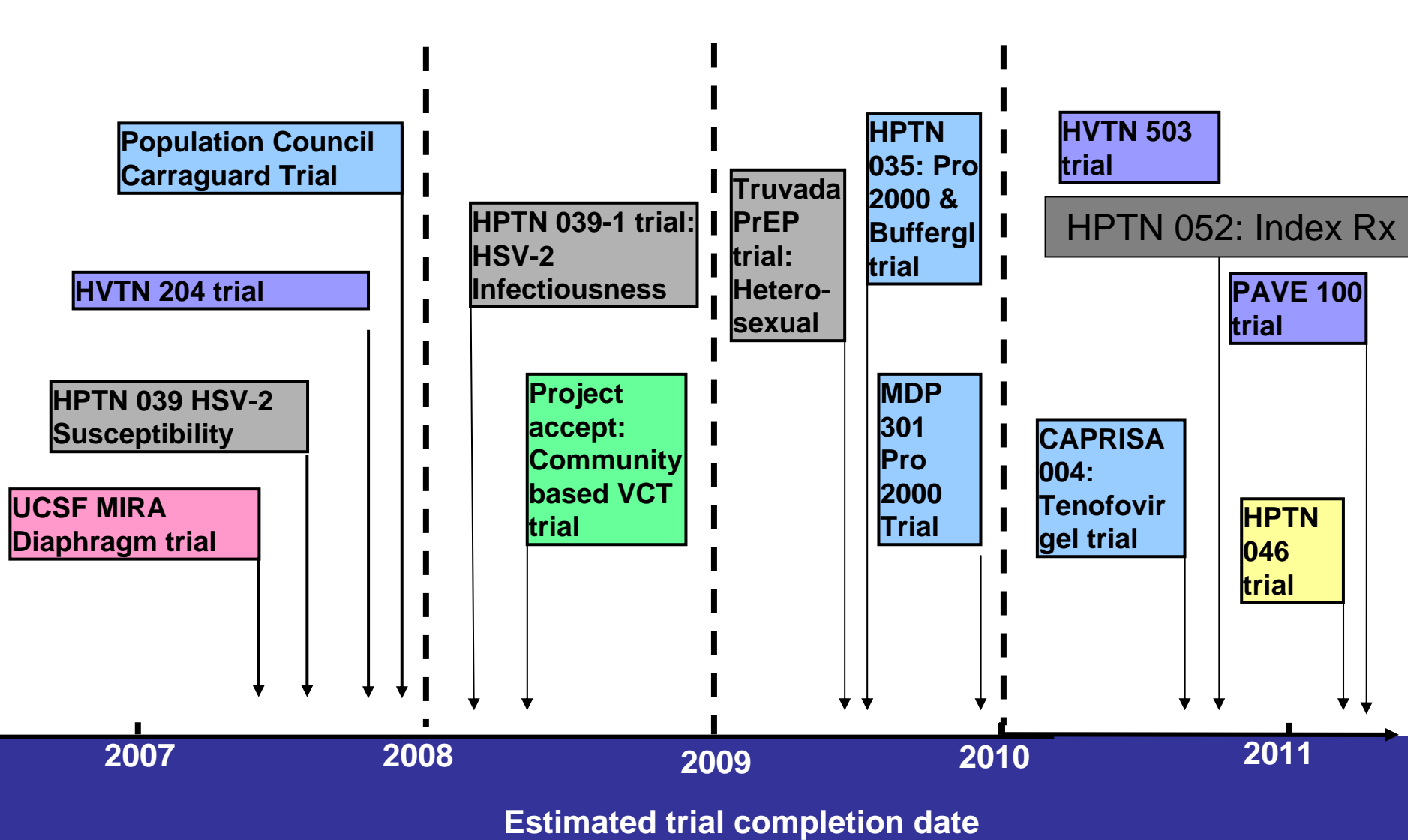
Prevention works! BUT we have failed to scale-up prevention

Global Access to existing HIV prevention methods, 2003



Anticipated Prevention Trial Results

Microbicide Barrier Behaviour Treatment pMTCT Vaccine



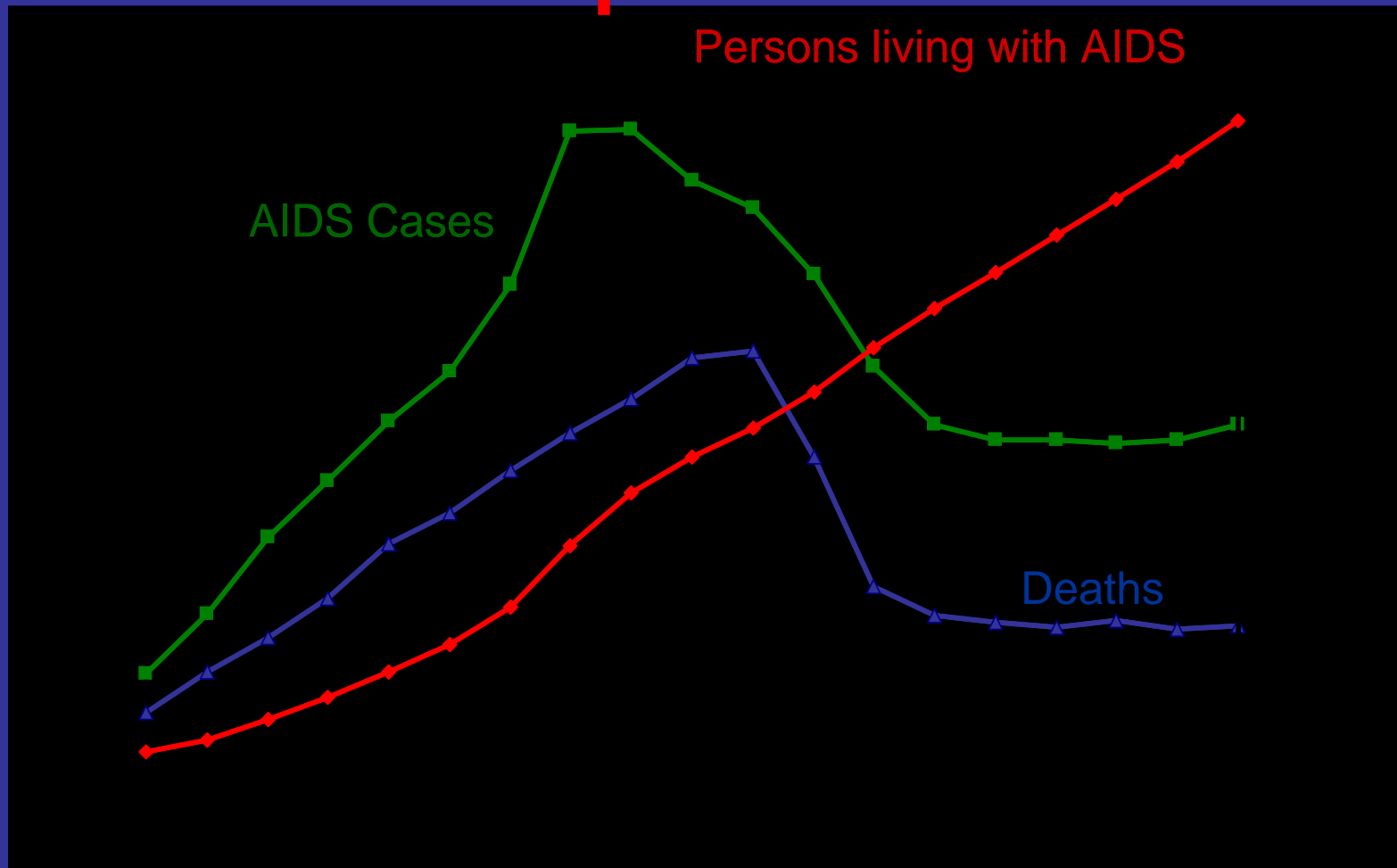
Considerations for scaling up

- Adherence in healthy uninfected persons
- Increase in health systems focus
- Knowledge of HIV status
- Migration from other methods

Getting research into policy and practice

- Lessons learnt from scaling up ARV treatment access – politics & capacity?
- Promoting knowledge of HIV status – human rights?
- Introducing the female condom – ethics?
- Male circumcision trials - culture?

Success of ART in United States: Why have we not seen this yet in the resource poor countries?



Source: US Centers for Disease Control and Prevention, AIDS Surveillance - Trends 1985-2004
available from: <http://www.cdc.gov/hiv/topics/surveillance/resources/slides/trends/index.htm>,

Slow scaling up of ART in sub-Saharan Africa

Country	Upper estimate of number on ART	Coverage (%)	Unmet need*
South Africa	138,000	14	866,000
Nigeria	48,000	8	598,000
Zimbabwe	16,000	5	308,000
Tanzania	9,500	3	307,000
Ethiopia	19,000	7	261,000
Kenya	46,000	17	233,000
Mozambique	13,000	6	204,000
DRC	6,000	3	203,000
Zambia	33,000	18	153,000
Malawi	23,000	14	150,000
Total	351,500	±10%	3,283,000

*number of people aged 0-49 in need of ART in 2005 less the estimated number treatment by June 2005

Source: The WHO reproductive health library. Reproductive Health Library informing best practice in reproductive health. 2005

Shortage of health care personnel

- Health care services in Africa are struggling to cope with the additional burden of AIDS care
 - shortage of skilled health care personnel,
 - overworked and stressed staff,
 - concerns about accidental HIV exposure (low morale)
 - doctors & nurses taken away from other care eg. EPI
- Africa has been struggling for years to retain their skilled health professionals
- The “brain drain” phenomenon:
 - Over the last 35 years, 44% of WITS Medical School graduates (Johannesburg) have emigrated

Promoting knowledge of HIV status - Lessons from experiences in: NB of VCT

Uganda

Family VCT

Kenya

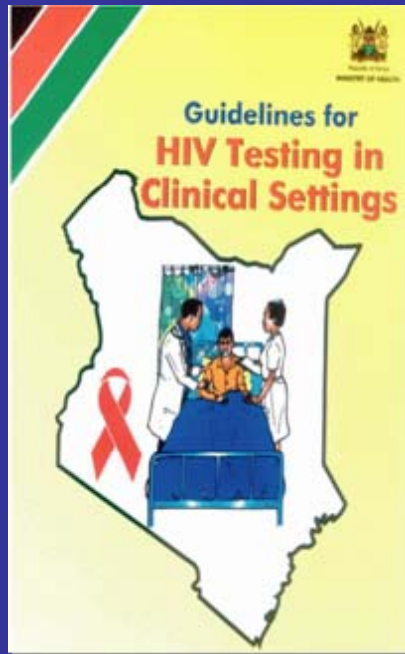
Provider-initiated

Lesotho

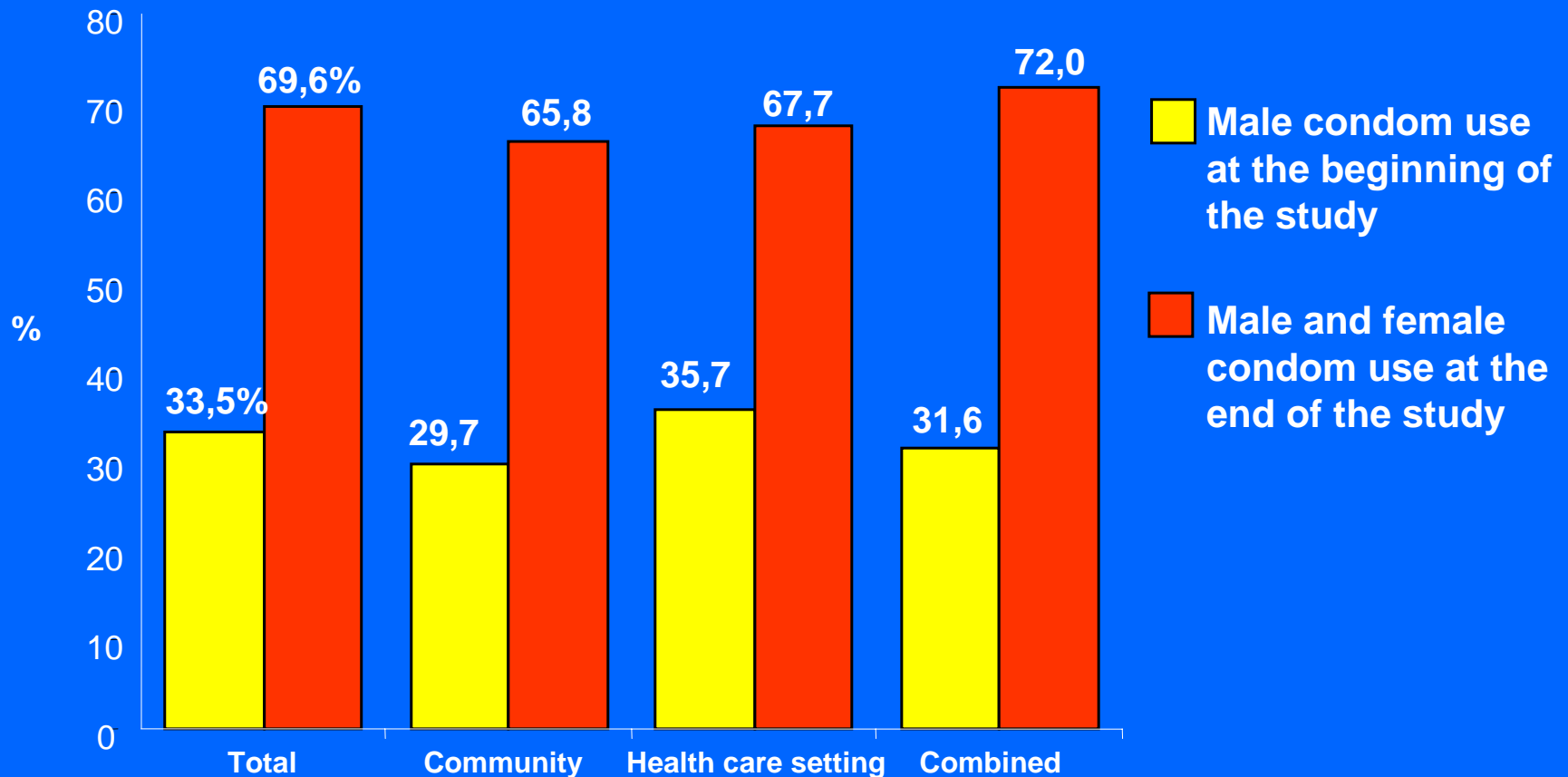
Universal

South
Africa

Community-
based



Female condoms in prevention programs increase overall condom use



Proportion of safe sex acts in the last sexual intercourse at start and end of female condom promotion in various health care settings in Brazil

Source: Barbosa R et al, XIIIth Int AIDS Conference, 2000

Evidence from 3 RCTs insufficient for Action!

	Orange Farm	Rakai	Kisumu
Sample size	3128	4996	2784
Total sero-conversions	69	65	69
HIV+ MC arm	20	22	22
HIV+ control arm	49	43	47
% reduction	61%	48%	53%
	P < 0.001	P < 0.005	P < 0.005

Male Circumcision: an Opportunity?

- To impact HIV trajectories in low circumcision and high HIV prevalence settings
- To involve consenting adult men in response
- To integrate safe male circumcision services with other sexual and reproductive health services for men
- For promoting greater male responsibility
- Reduce HIV incidence in adult men by 50-60%

- BUT, despite unprecedented rapid recommendations on scaling up from WHO/UNAIDS.....
- Lack of consensus in scientific community
- Ambivalence to make policy decision at a country level

Summary

- Translating RCT findings to policy and practice is complex
- More than a health issue - social mobilization is effective
 - RCT evidence not sufficient for policy formulation
 - Need for strengthening health care delivery systems
 - Combination Interventions - Biomedical and Behavioral/Social to impact pandemic
 - Address Stigma & Discrimination to promote uptake of HIV testing
 - Concern that the introduction of new interventions leads to migration misplaced – need panoply of options to address complex and diverse pandemic!