



BIOLOGICAL SEX AND HIV CURE

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SEX AND GENDER

Socially
constructed roles,
behaviours,
expressions and
identities



Both influence transmission, pathogenesis, access to treatment and health outcomes.

SPiRAL → Sex differences in HIV cure research
Focus on cis-women with XX chromosome

WOMEN ARE UNDERREPRESENTED IN BIOMEDICAL HIV RESEARCH

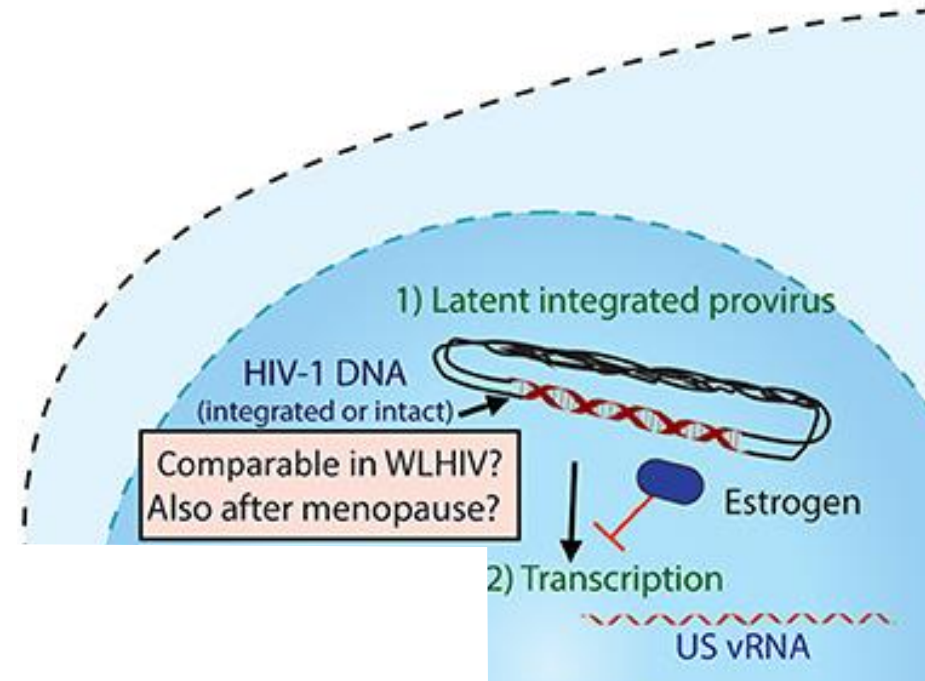
- Globally, 53% of PWH are women
 - In sub Saharan Africa – 61%
 - In Western / Central Europe and North America – 24%
 - In The Netherlands – <20%
- Majority of biomedical research and funding originate in Global North
- Historically, women were underrepresented in HIV Cure studies
 - Only 11% of trial participants between 1991 and 2011
- Long way to go to attain equal representation!



chiwos.ca

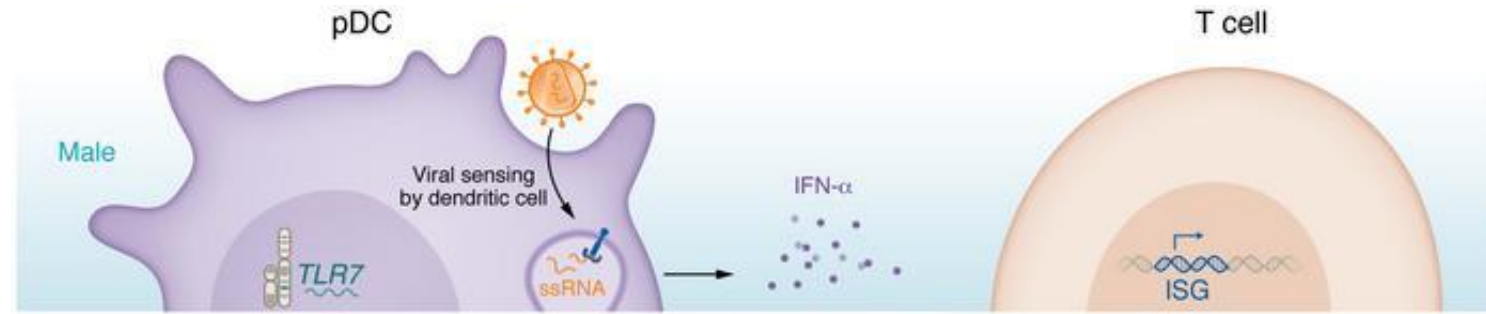
SEX-SPECIFIC DIFFERENCES IN HIV CURE

- Reservoir size
- Reservoir characteristics
- Latency reversal
- Pharmacodynamics

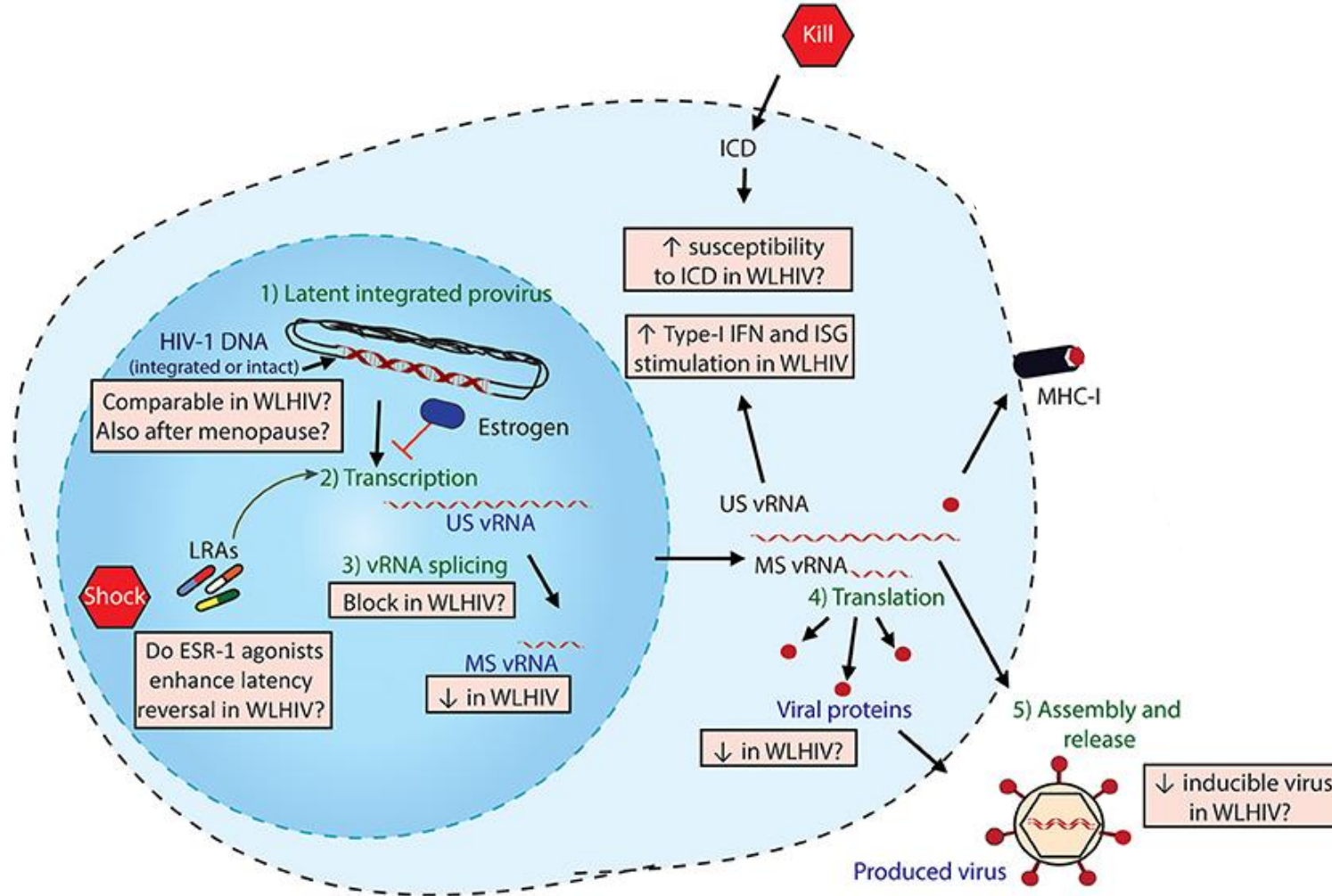


SEX-SPECIFIC DIFFERENCES IN HIV CURE

- Reservoir size
- Reservoir characteristics
- Latency reversal
- Pharmacodynamics
- Host immune responses



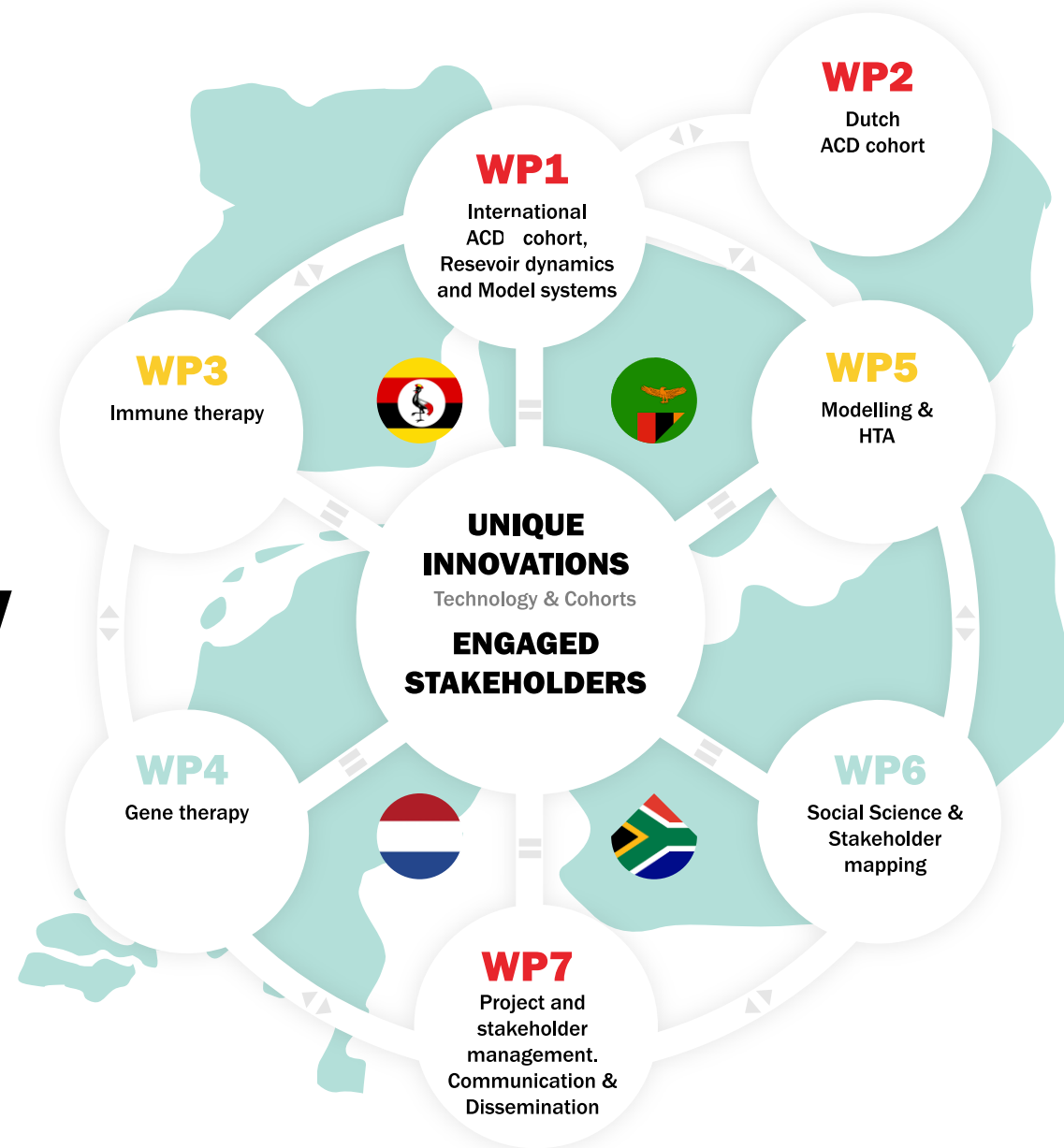
SEX-SPECIFIC DIFFERENCES IN HIV CURE



Many open questions remain!

SPIRAL ADDRESSES SEX-SPECIFIC DIFFERENCES IN HIV CURE RESEARCH

- Systematically studying contribution of biological sex on viral and host characteristics
- Collaborative endeavor



SPIRAL AIMS – COHORTS AND MODELS

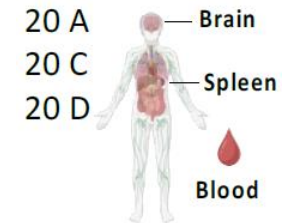
➤ Cohort building

- ❑ 90 participants : 30 per subtype (A,C and D), 15 men and women each
- ❑ Leukapheresis



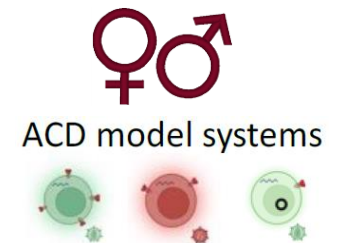
➤ Post-mortem tissue sampling

- ❑ 60 donors: 20 per subtype (A,C and D), 10 men and women each
- ❑ Fine needle biopsies of CNS, Spleen, etc.



➤ Development of unique models

- ❑ In vitro infection models
- ❑ Donor blood from men and women



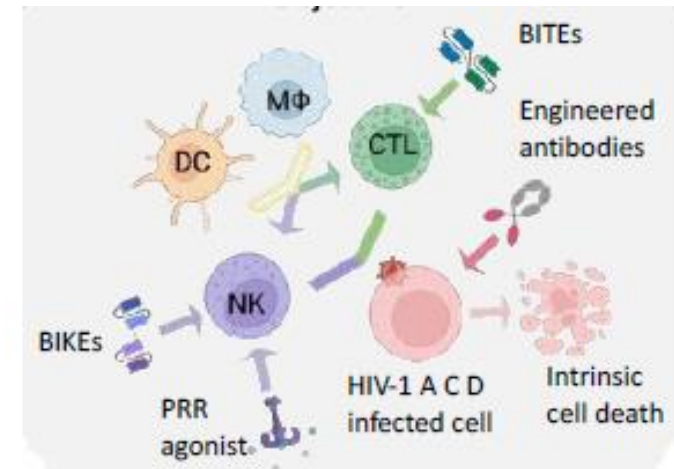
SPIRAL AIMS – CHARACTERISATION AND TARGETING OF THE VIRAL RESERVOIR

➤ Reservoir analysis

- Size
- Characteristics
- Latency Reversal

➤ Boosting host immune responses to clear the reservoir

- Assess differences in host immune responses to HIV
- Determine efficacy of novel reservoir-targeting interventions in both men and women
 - Pharmacological compounds
 - Biological compounds
 - Gene therapy
- Equal representation of men and women in clinical trial with a therapeutic vaccine to induce bnAbs in PWH



FILLING IN THE GAPS IN HIV RESEARCH



maf.org.my

Only if we address HIV in women, can we end the pandemic!