# HIV Tissue Repositories (VACS, WHIS, MACS, ACSR)

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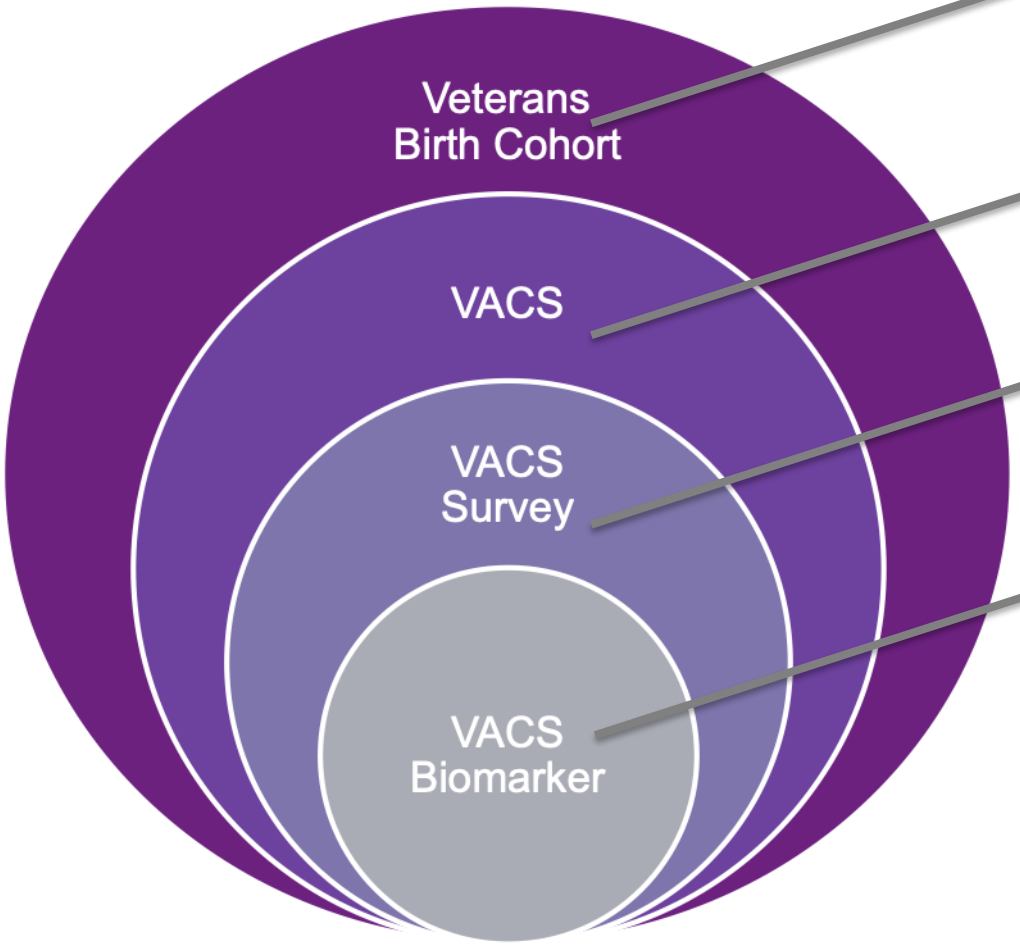
# Conflicts of Interest Disclosure

None

# Veterans Birth Cohort & VACS




N=4 million
Born 1945-1965
EHR data + mortality

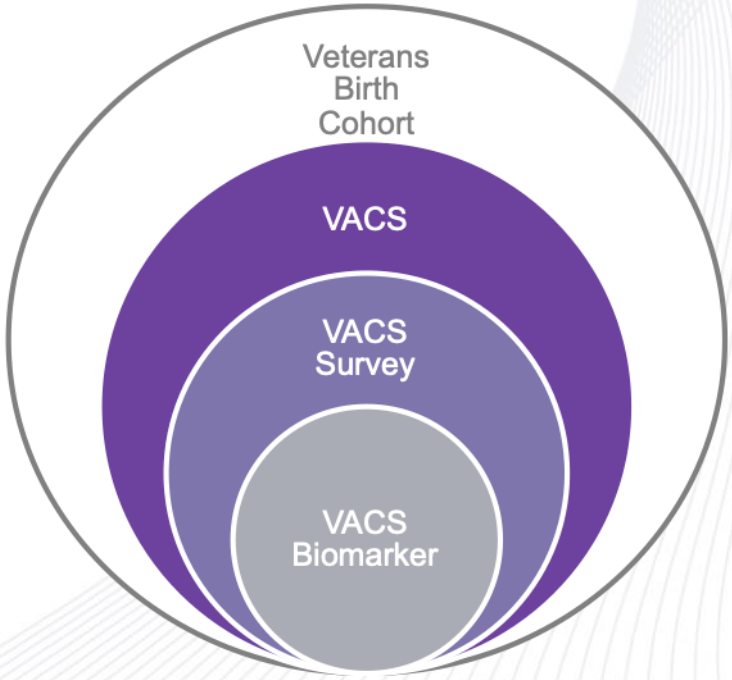
N=150,000
1 HIV+ matched to 2 HIV-

N=9,000
Annual Survey

N=2500
PBMCs, serum,
plasma, RBCs, DNA

# Veterans Aging Cohort Study (VACS)

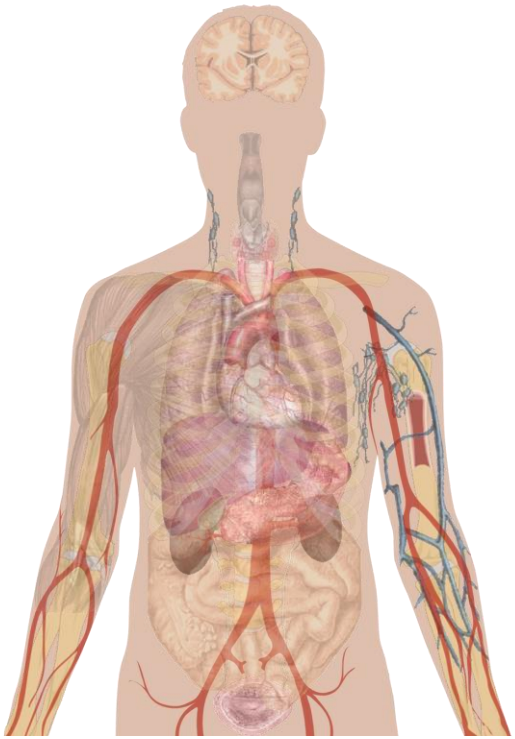
- First enrollment – 1996
- U.S. Veterans with and without HIV
- Across United States VA hospitals/clinics
- Follow-up based on
  - Clinic/Hospital visits (N=150,000)
  - Annual surveys (N=9000)
  - Add-on research protocols



# VACS Biomarker Cohort

**Routine clinical data (longitudinal, ongoing)**

- Demographics
- Diagnoses
- Pharmacy
- Labs
- Imaging
- Vital statistics



**Research protocol data (cross-sectional)**

- Interleukin-6
- Soluble CD14
- D-dimer
- PEth
- T-cell phenotypes
- B-cell phonotypes
- Monocytes
- SomaScan
- DNA + methylation (Illumina 450K, EPIC)
- Hair, nails, saliva

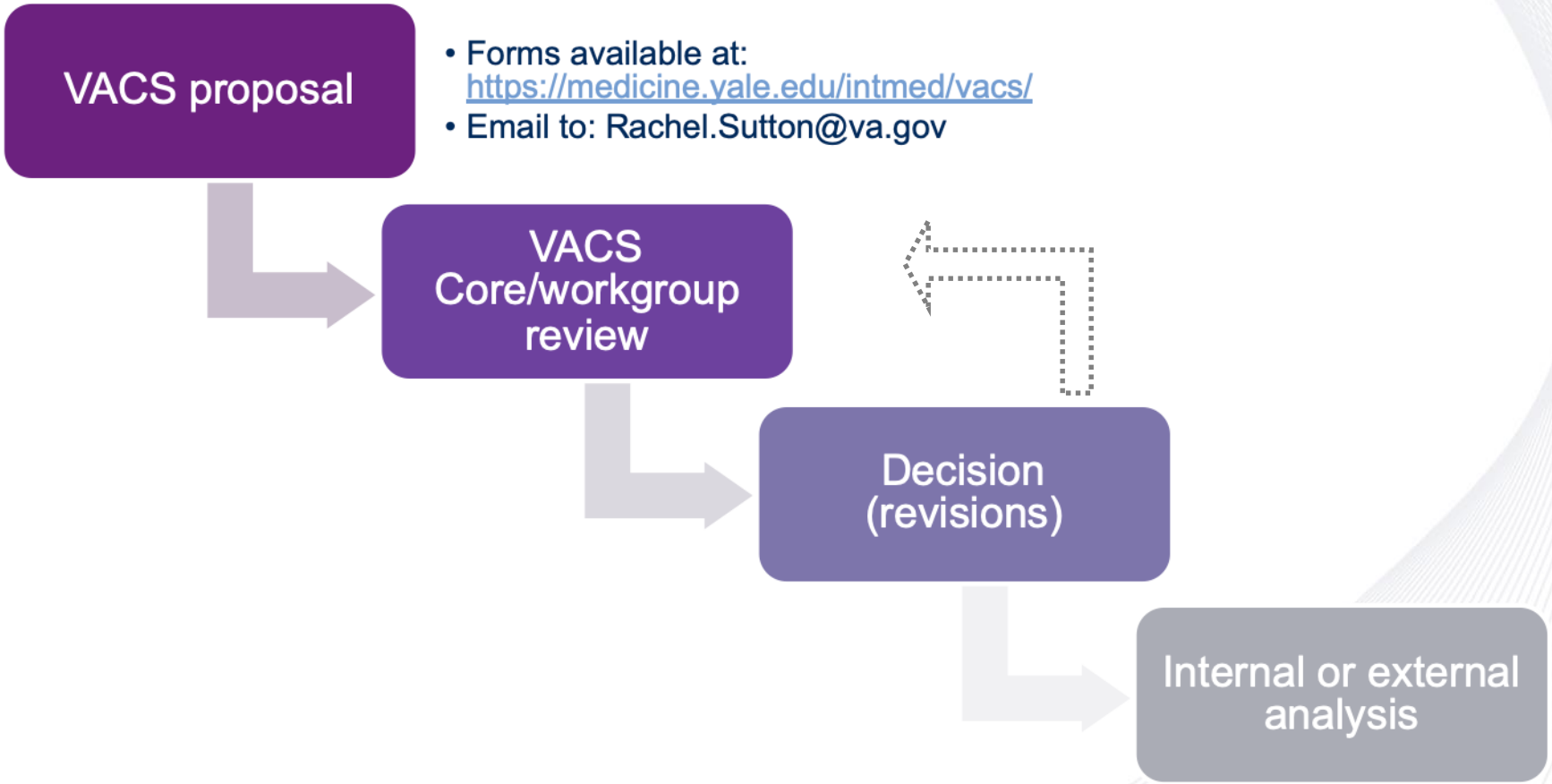
# VACS & Cancer Data

- Cancer core chairs
  - Lesley Park
  - Keith Sigel
- Data sources
  - VA National Cancer Linkage ('96-00)
  - CDW Oncology (local registry data '96-00)
- Data types
  - Clinical
  - Treatment (Rx, surgery via VASQIP)
  - HCC Biopsy
- Linked to mortality, EHR, pharmacy, survey data

# VACS & Cancer Data

| Cancer Feature | Details |
|---|---|
| Staging- how far cancer spread from origin | • SEER Summary Stage<br>• TNM Stage<br>• AJCC stage<br>• Clinical stage |
| Diagnoses | ICD9 |
| Diagnostic confirmation | |
| Anatomic site | ICD for oncology (ICD-O-3) |
| Morphology | ICD-O-3 |
| Grade (resemblance to normal tissue) | |
| Histology | |

# Proposal process for VACS

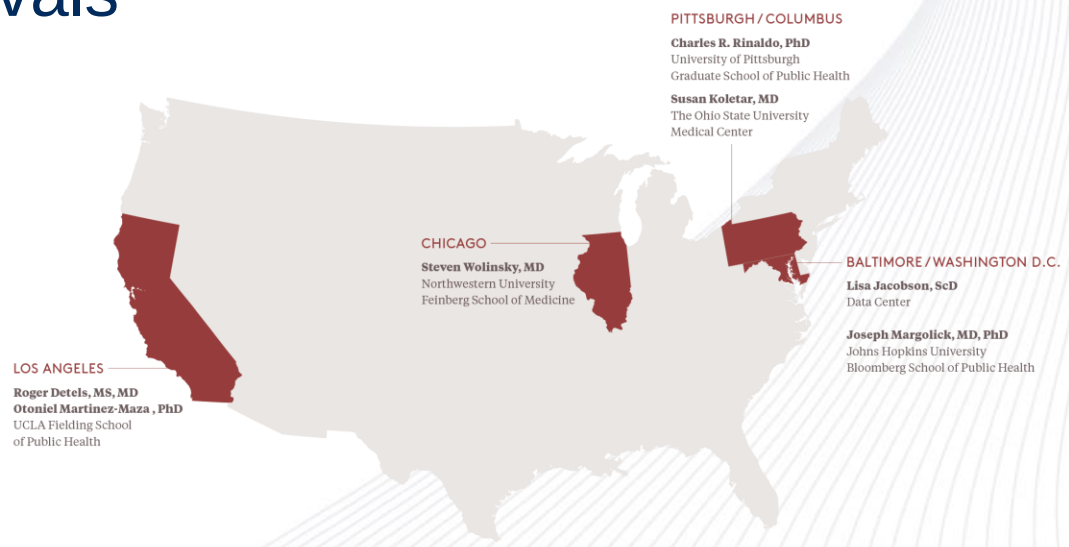


# Women's Interagency HIV Study (WIHS)

- First enrollment – 1994
- ~5000 women with and without HIV (~3:1)
- Clinical sites: NYC, DC, LA+So-Cal, SF, Chicago (1993-2012)
- Clinical sites: Atlanta, Chapel Hill, Miami, Birmingham, Jackson (2013)
- 6 month followup intervals

# Multicenter AIDS Cohort Study (MACS)

- First enrollment: 1984
- Gay and bisexual men
- Clinical sites: Baltimore, Chicago, Pittsburgh, Los Angeles
- >7000 with and without HIV
- 6 month followup intervals



# WIHS/MACS Combined Cohort Study

- Occurred Jan 1, 2019
- MACS/WIHS CCS Concept Sheet Submission
  - https://form.jotform.com/82684614472160

# WIHS Specimen Repository

- Centrally available
  - Serum
  - Plasma
  - PBMC (cells)
  - Urine
  - Cervical vaginal lavage
  - Cervical swabs
  - Stimulated saliva
  - DNA
  - Bacterial vaginosis slides
- Local sites may have additional specimens

# MACS Specimen Repository

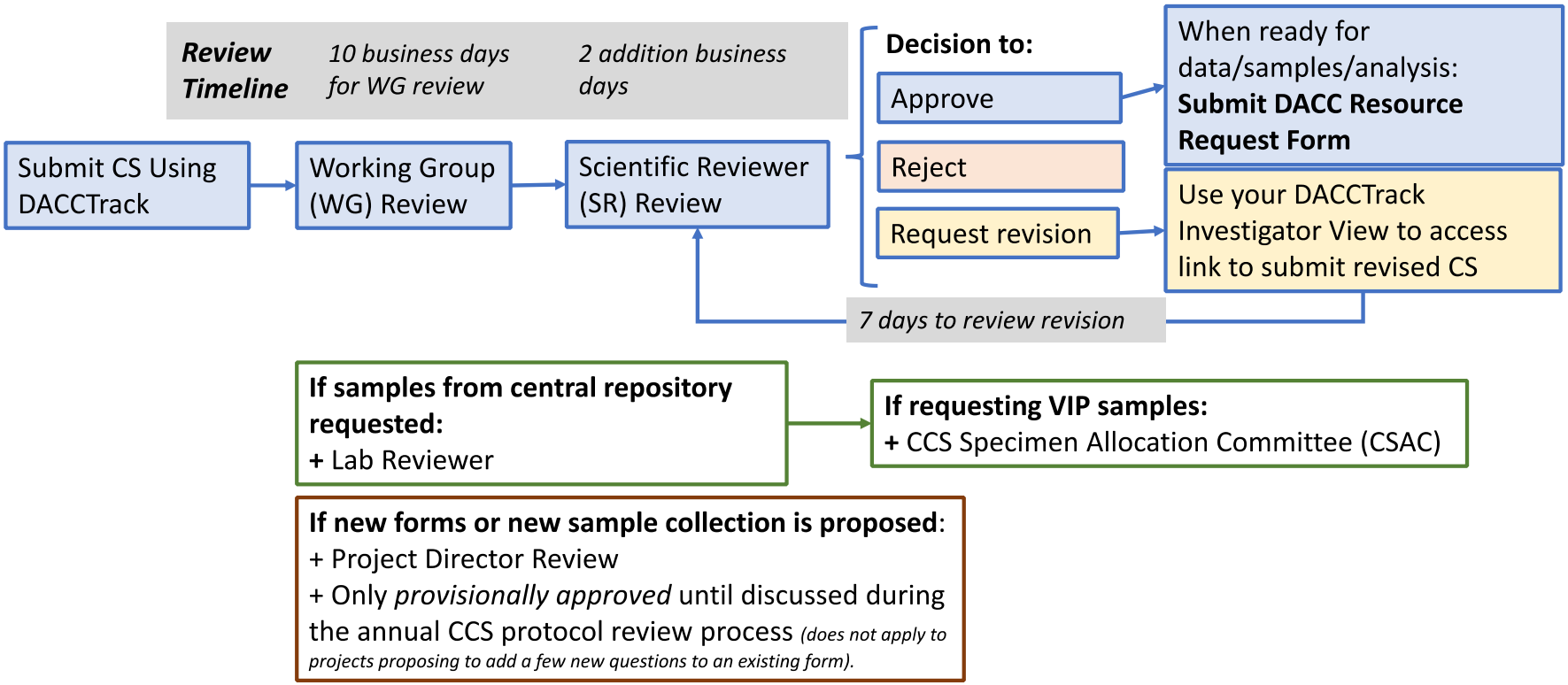
- Collected at every visit
  - Serum
  - Plasma
  - PBMC (cells)
- Not collected on regular basis
  - Semen
  - Stool
  - Urine
  - Throat wash
  - Anal swab
  - Autopsy tissue

# MACS/WIHS & Cancer Data

- Biopsy tissue obtained via colposcopy placed in ACSR
- Statewide cancer registries
- Medical records
- Death certificates
- Self-reported cancer data

# Proposal process for MACS/WIHS

## Quick Glance Summary: CCS Concept Sheet Review Process*

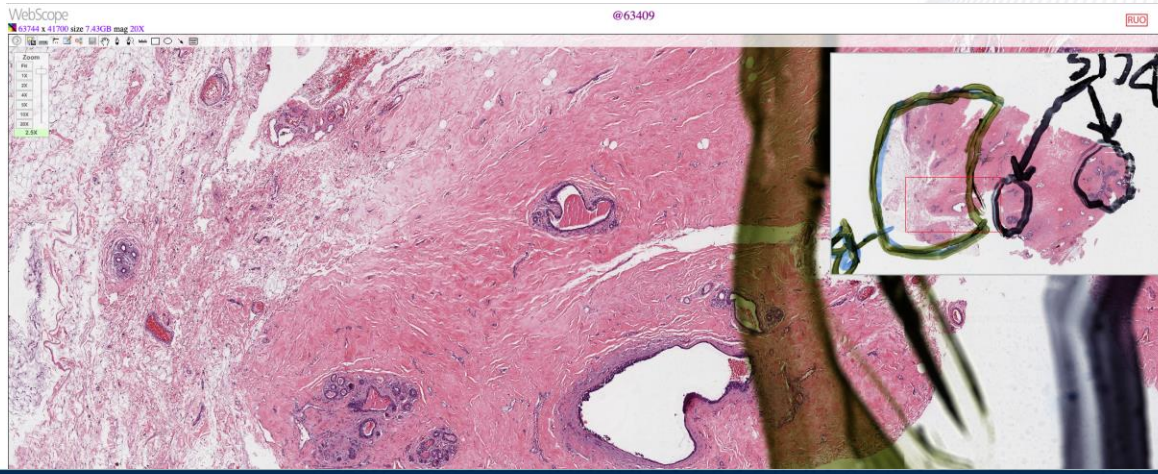



* This process applies to multi-site concept sheets and single-site concept sheets that will request specimens from the central repository. Single-site investigations that propose to utilize and/or collect data/specimens from **ONE** CCS site should still be submitted via DACCTrack, but only require review by the PI from that specific site.

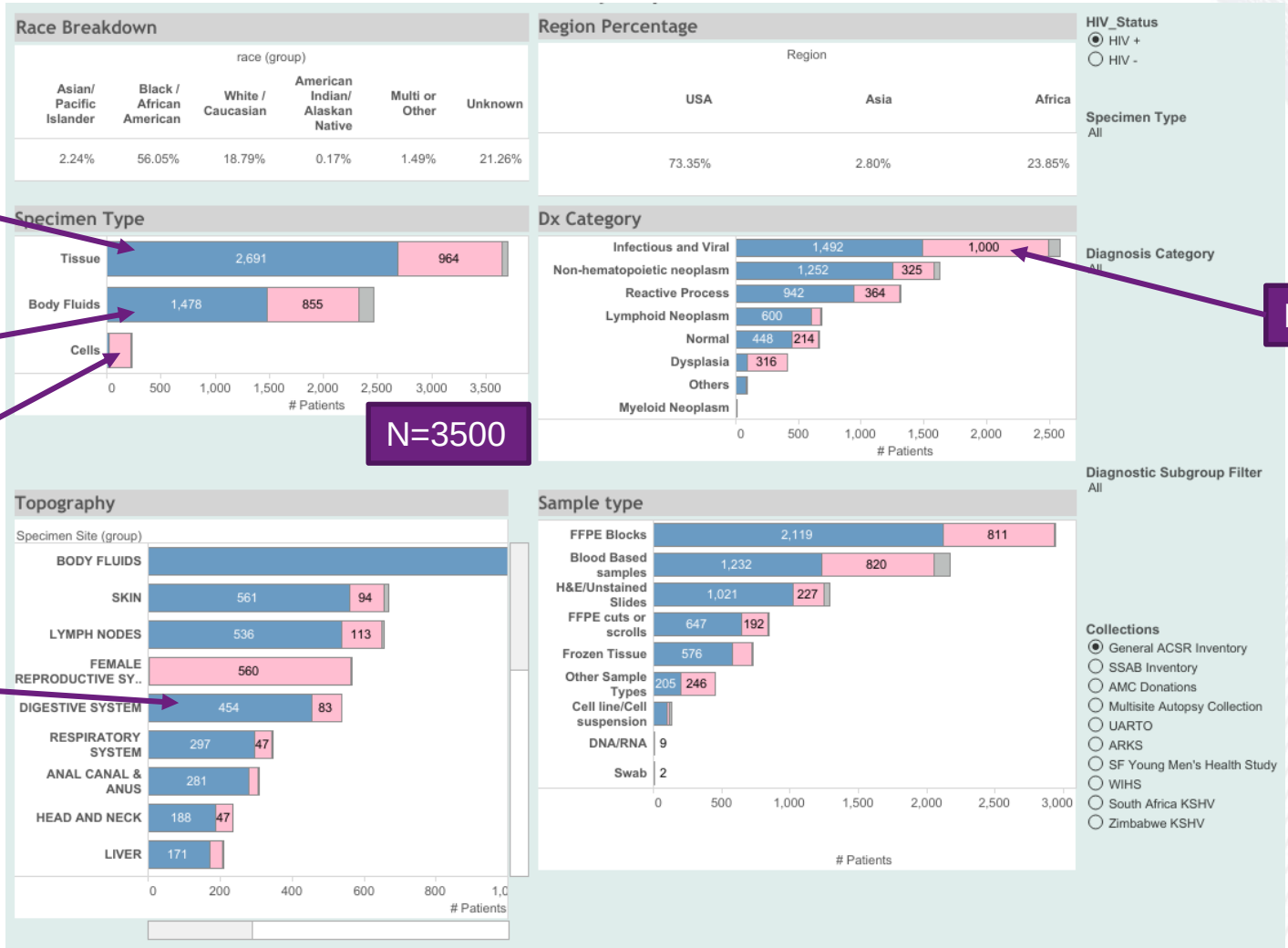
http://aidscohortstudy.org/wp-content/uploads/2019/04/Quickglance-CCS-CS-Review.pdf

# AIDS Cancer Specimen Resource (ACSR)

- National Cancer Institute sponsored biorepository for HIV specimens
- >300,000 specimens and controls
- Pre-HAART and post-HAART era of US HIV epidemic
  - Sub-Saharan African samples also represented
  - Multi-site autopsy samples (N=57 HIV patients) available
  - Tissue Microarray images



# ACSR Inventory Explorer (HIV+)




Tissue

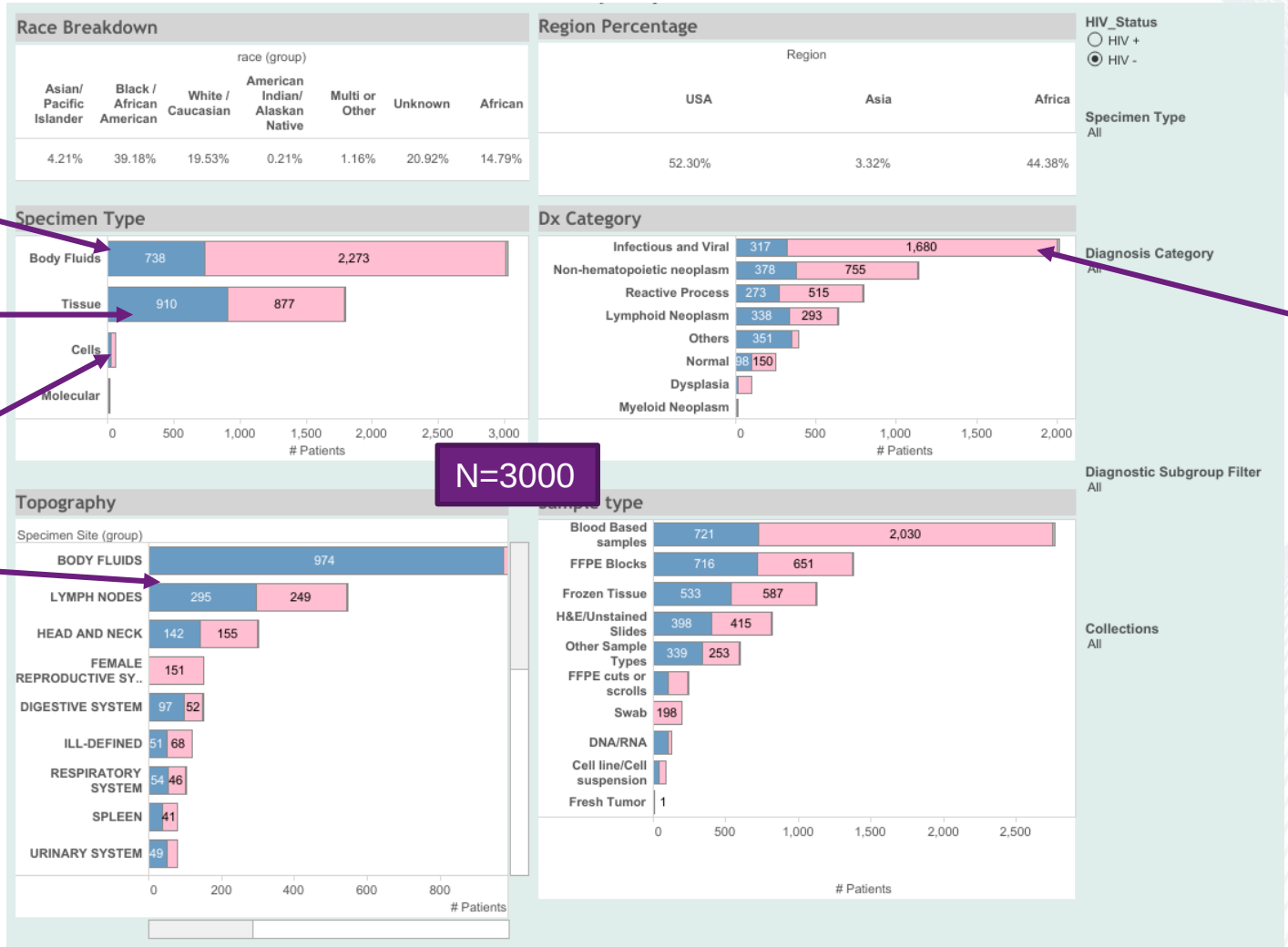
Body fluid

Cells

Male

Female

# ACSR Inventory Explorer (HIV-)




Body fluid

Tissue

Cells

Male

Female

N=3000

# Funding Opportunities

| Funder | Title | Expiration |
|---|---|---|
| NCI | Secondary Analysis and Integration of Existing Data to Elucidate the Genetic Architecture of Cancer Risk and Related Outcomes (R01, R21) | 2020 |
| NIAAA/ NCI | Secondary Analyses of Alcohol and Chronic Disease (R01, R03) | 09/2019 |
| NIDDK | Secondary Analyses in Obesity, Diabetes and Digestive and Kidney Diseases (R21) | 2021 |
| ACSR | Young investigator pilot award | Closed |
| ACSR | AIDS Malignancy consortium fellowship program | Closed |

Questions?

# THANK YOU