HIV and Aging: Data Access, Availability, and Research Funding Opportunities
GSA Webinar Series

NIH Centers for AIDS Research (CFAR)
Network of Integrated Clinical Systems (CNICS)

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1. The Multicenter AIDS Cohort Study (MACS)/Women’s Interagency HIV Study (WIHS) Combined Cohort Study (MWCCS)
2. Veterans Aging Cohort Study (VACS)
3. NIH Centers for AIDS Research (CFAR) Network of Integrated Clinical Systems (CNICS)
4. University of California, San Diego (UCSD) and Collaborating Sites Data Sources
5. NIH National Institute on Aging (NIA) Funding Opportunities and Data Sources

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Clarifying Questions?

- We will not be using the “raise hand” feature today
- Please use the “questions” feature accessible on the right side of your screen
- Speakers will not see questions until the end of the presentation
- If we do not get to all of the questions today, we will email responses after the webinar

Webinar Presenter

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WWW.UAB.EDU/CNICS

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CNICS – 8 CFAR Cohorts

1. University of Washington
2. University of California San Francisco
3. University of California San Diego
4. University of North Carolina at Chapel Hill
5. University of Alabama at Birmingham
6. Johns Hopkins University
7. Case Western Reserve University
8. Fenway Health
Cohort Overview

• CNICS is a dynamic network and key resource for data that reflects current decisions and outcomes in the day-to-day management of HIV-infected individuals in clinical care settings

• CNICS cohort 1995-present:
  • 34,765 patients (16,982 currently in care)
  • Racially and geographically diverse, 18% women, aging population
• Patient Reported measures and Outcomes (PROs) collected in real-time at the point of care
• >72,000 assessments completed by >18,000 patients
• Biologic specimens linked to comprehensive patient data to support basic and translational research
• 978,914 aliquots from 17,466 unique HIV-infected patients in CNICS
• Genetic information: Single nucleotide variant assays
• >2.4 million variants funded by NHLBI

Open Access Database

• CNICS is available to any investigator for the advancement of HIV/AIDS research
  • 32% of investigators are from outside CNICS sites
• State-of-the-art mentoring program continues to expand early and mid-career development in HIV research
  • 59% of approved concept proposals led by early career investigators / trainees
  • 57% led by women
  • 7.5% led by under-represented minorities
• CNICS Data Management Core (DMC)
  • Rigorous standards for data quality control
  • Update, QA, harmonize comprehensive clinical data quarterly
• No cost for data elements and PROs: Investigator’s only pay for shipping of specimens
CNICS Impact on HIV/AIDS Research

- Successful studies lead to funding:
  - $124.8 M in external research grants since inception
  - 108 funding awards including R01s, R21s, Ks
- Published 364 papers in peer-reviewed journals
- CNICS is efficient – cost $83 per patient annually provides central ascertainment of patients meeting study criteria for enrollment into effectiveness research, pragmatic intervention trials, clinical trials

![Graph showing publications and citations by year](image)

**Publications / Citations 2016-present**

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**Funding 2016 -2020**

![Graph showing funding by year](image)

- **Investigators**
  - Early career (n=4)
  - Senior (n=8)
  - Other (n=13)
  - Total (n=25)

- **Awards**
  - R01s (n=14)
  - Training (n=0)

- **Supplements** (n=4)

- **Funding**

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High-Profile Publications

- Significant decline in heavily treatment experienced persons with HIV with limited antiretroviral treatment options in the US, 2000-2017 Newly accepted in AIDS 2020
- Clinic-Level Factors Associated with Retention in Care among People Living with HIV in a Multi-Site United States Cohort, 2010-2016: Clinical Infectious Diseases
- Alcohol Use Patterns and Subsequent Sexual Behaviors Among Women, Men who have Sex with Men and Men who have Sex with Women Engaged in Routine HIV Care in the United States. AIDS Behavior 2019
- Cancer risk in HIV patients with incomplete viral suppression after initiation of antiretroviral therapy. PLoS One. 2018
- Types of Myocardial Infarction Among Human Immunodeficiency Virus Infected Individuals in the United States, JAMA Cardiol. 2017
- Association of Increased Chronicity of Depression With HIV Appointment Attendance, Treatment Failure, and Mortality Among HIV-Infected Adults in the US. JAMA Psychiatry: Impact Factor 15.3; 2018.
- Plasma tissue factor and immune activation are associated with carotid intima-media thickness progression in treated HIV infection. AIDS. 2020 Mar

Clinical Cohort Research Methods

- Cohort research has evolved with advances in information technology
- Classical cohorts (e.g., Framingham) rely on self-reported information collected outside of clinical care at set intervals
- Clinical cohorts capture comprehensive data for patients in care from Electronic Health Records (EHR)
  - Dynamic: enroll all individuals as they access care for a condition - HIV life-long chronic disease / routine monitoring
  - EHR data collected for clinical care require extensive review, verification, and re-coding prior to use in research
  - Prospective data - capture longitudinal clinical activity, not episodic
  - Contemporary ART treatment era: burden of HIV shifted from AIDS-defining illnesses to chronic comorbid conditions associated with inflammation and aging such as CVD, liver disease, renal disease, cancer

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CNICS Data Repository

- Fully Integrated Patient Data
- Combines carefully adjudicated outcomes with ongoing clinical assessments of PRO measures, genetic data, biological specimens supporting research and mentorship
- State-of-the-Art Data Management System
- Provide High-quality Datasets for Analysis

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CNICS Cohort Demographics

N=37,050

- Male
- Female
- Transgender

- White
- Black
- Asian/Pacific Islander
- Multiracial
- Other/Not reported

- MSM
- IDU
- Hetero
- Other

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CNICS Cohort Viral Suppression

Patient Reported Outcomes

<table>
<thead>
<tr>
<th>Domain</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARV adherence</td>
<td>VAS, 30-day rating</td>
</tr>
<tr>
<td>Depression</td>
<td>PHQ-9 from PRIME-MD</td>
</tr>
<tr>
<td>Anxiety</td>
<td>PHQ-4</td>
</tr>
<tr>
<td>Alcohol use</td>
<td>AUDIT-C, AUDIT/Mini if at risk</td>
</tr>
<tr>
<td>Substance use</td>
<td>ASSIST</td>
</tr>
<tr>
<td>Health related quality of life</td>
<td>EuroQOL-5D</td>
</tr>
<tr>
<td>Symptom burden</td>
<td>HIV Symptoms Index (HIV-SI)</td>
</tr>
<tr>
<td>Body morphology</td>
<td>Adapted from FRAM instrument</td>
</tr>
<tr>
<td>HIV Risk Behavior</td>
<td>HRAP</td>
</tr>
</tbody>
</table>

*Meet recent additions: Intimate partner violence, stigma

Assessments on tablet PCs with touch screens every 6 months, contains between 68 and 127 items depending on responses

- All 8 CNICS sites doing PROs
- Administered every 4-6 months at routine clinic visits in 11 domains (e.g., substance use, smoking, sexual risk behavior)
- >86,000 PRO assessments to date: Done as part of clinical visits with results to providers at beginning of same-day visit to impact care
- 21,500 unique patients to date
- English, Spanish, and Amharic
- Mean < 12 minutes

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Specimens

- Repositories at all CNICS sites collect specimens on targeted populations of interest
  - Treatment-naïve individuals initiating therapy
  - “Elite” controllers and/or long-term non-progressors
  - Universally at specified sites on all consenting patients
- Types of specimens:
  - Plasma (e.g., for biomarkers)
  - Viably frozen PBMCs (e.g., for functional immunologic assays)
  - Snap frozen PBMCs (for genetic analyses)
  - Saliva specimens
- Each of the CNICS sites has experience with sample preparation and quality assurance through the ACTG / AVEU / HVTN networks

Accessing the Cohort

- Submit a Study Feasibility Form* (not required)
- Submit a Concept Proposal Application* with a CNICS Collaborator
  - CNICS Mentoring Core can help find a collaborator
- Investigator review calls with the Research Coordinating Committee (RCC) are held on the 2nd Friday of every month at 2:30 pm and 3:00 pm Central Time
- Once concept is approved, sites are polled to participate and a dataset and/or specimens are sent to the investigative team
- For specimens only, submit a Specimen Feasibility Request Form* (no review call needed)
  - *All forms can be found online at: https://sites.uab.edu/cnics/
Thank You

GSA: Advancing Innovation in Aging

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• 5,500+ interdisciplinary members around the world touching all facets of aging

• Mission

  • Promote multi- and interdisciplinary research in aging
  • Translate and disseminate research findings
  • Promote/advocate for education/awareness on aging across disciplines
  • Foster application of research into policy development

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  • Click here for information on how to join a GSA Interest Group

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Webinar Evaluation

*In an effort for continual improvement, we would like to hear your thoughts. Please provide feedback by clicking the survey link at the end of the webinar.*

*Thank you again and we hope you enjoyed the program!*