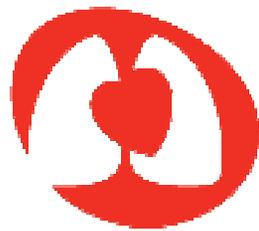# Objectives and Design of the Hispanic Community Health Study – Study of Latinos

Paul Sorlie, Lloyd Chambless, Martha Daviglus, Neil Schneiderman, Sylvia Smoller, Greg Talavera

National Heart Lung and Blood Institute

People Science Health

National Heart, Lung, and Blood Institute
National Institute of Diabetes and Digestive and Kidney Diseases
National Institute of Neurological Disorders and Stroke
National Institute of Deafness and Other Communication Disorders
National Institute of Dental and Craniofacial Research
National Center on Minority Health and Health Disparities
National Institutes of Health-Office of Dietary Supplements

SOL
STUDY OF LATINOS

Hispanic Community Health Study

Why study Hispanics/Latinos?

- **The largest minority group**
  - ☐ Underserved
  - ☐ Understudied

- **Multiple health and socioeconomic issues**

- **The "Hispanic/Latino Paradox"**

The Hispanic Community Health Study /
Study of Latinos (HCHS/SOL)

- ## Primary Goal

  To identify prevalence of

  and risk factors for

  disease, disorders and conditions in

  Hispanic/Latino populations.

- ## Design

  Longitudinal cohort study.

- Methods
  - □ Baseline medical history and exam – to identify risk factors and prevalent disease
  - □ Inclusion of major Hispanic/Latino groups – to compare risk and disease among subgroups.
  - □ Follow-up for disease events and death – to obtain incidence rates.
  - □ Inclusion of ages 18-74 – to investigate risk and disease across the age spectrum.

- **Target population**
  - □ Hispanics/Latinos living in specified communities in the USA

- **Sample population**
  - □ Target population in four different geographic locations
    - Sample size: 16,000 persons who self-identify as Hispanic/Latino
    - Ages: 18 -74 years
      - □ 6,000 ages 18-44 years
      - □ 10,000 ages 45-74 years
    - Approximately 4,000 persons who self-identify with any of the following Hispanic/Latino subgroups:
      - □ Mexicans
      - □ Puerto Ricans
      - □ Cubans
      - □ Central/South Americans

National Heart Lung and Blood Institute
People Science Health

Chicago

Bronx

NIH

UNC

San Diego

Miami

San Diego Field Center

- Target population
  - More than 85% Mexican
  - Stable population belonging to different SES
- Consortium: San Diego State University (leader), University of California at San Diego, and the San Ysidro Health Center, Inc.
- PI: Gregory Talavera, M.D., M.P.H.

San Diego Area Partners & Geography

UCSD

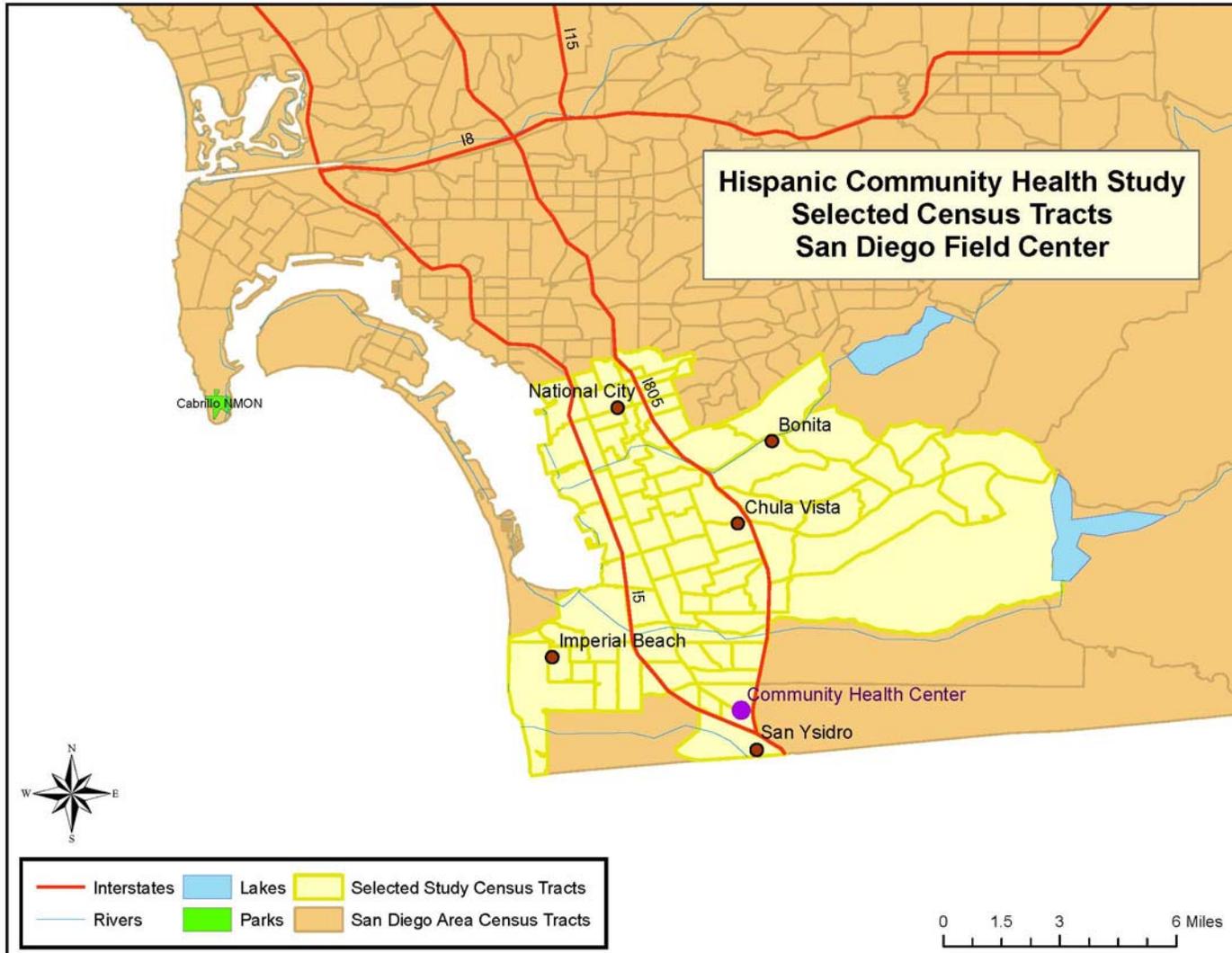SDSU-BACH

San Diego's South Bay & Field site

SYHC

- San Diego State University (SDSU)
- University of California, San Diego (UCSD)
- San Ysidro Health Center, Inc. (SYHC)
- Scripps Mercy Hospital, Chula Vista

**Hispanic Community Health Study
Selected Census Tracts
San Diego Field Center**

Chicago Field Center

- Target population
  - Approximately 55% Mexican, 25% Puerto Rican, and 10% Central/South American
- Consortium: Northwestern University (leader) and the University of Illinois at Chicago
- PI: Martha Daviglus, M.D., Ph.D.

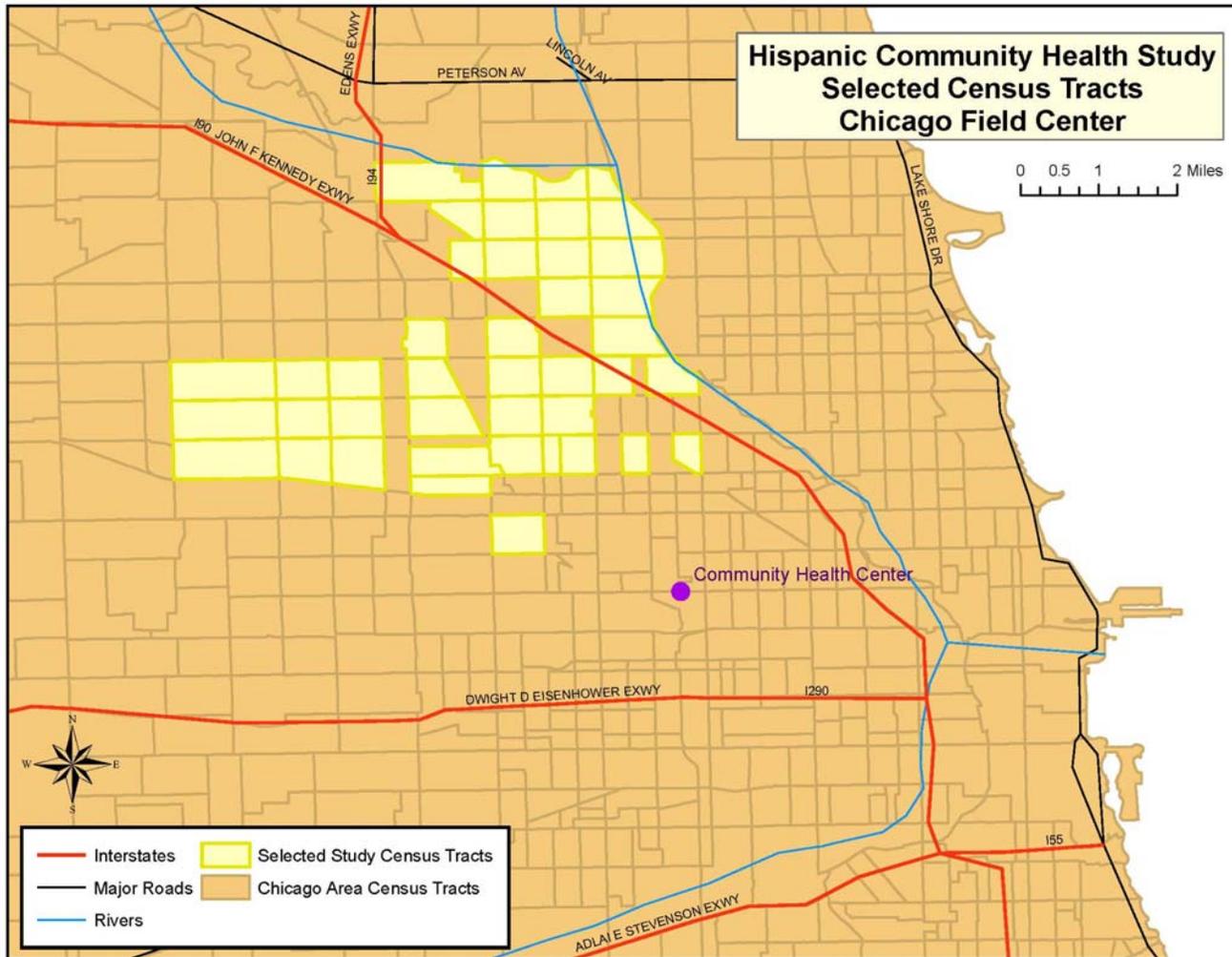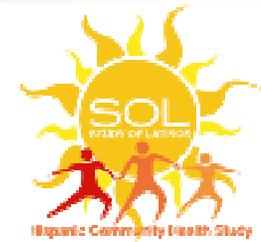Northwestern University Department of Preventive Medicine (NU)

Midwest Latino Health Research Training, and Policy Center - University of Illinois at Chicago (UIC)

Hispanic Community Health Study
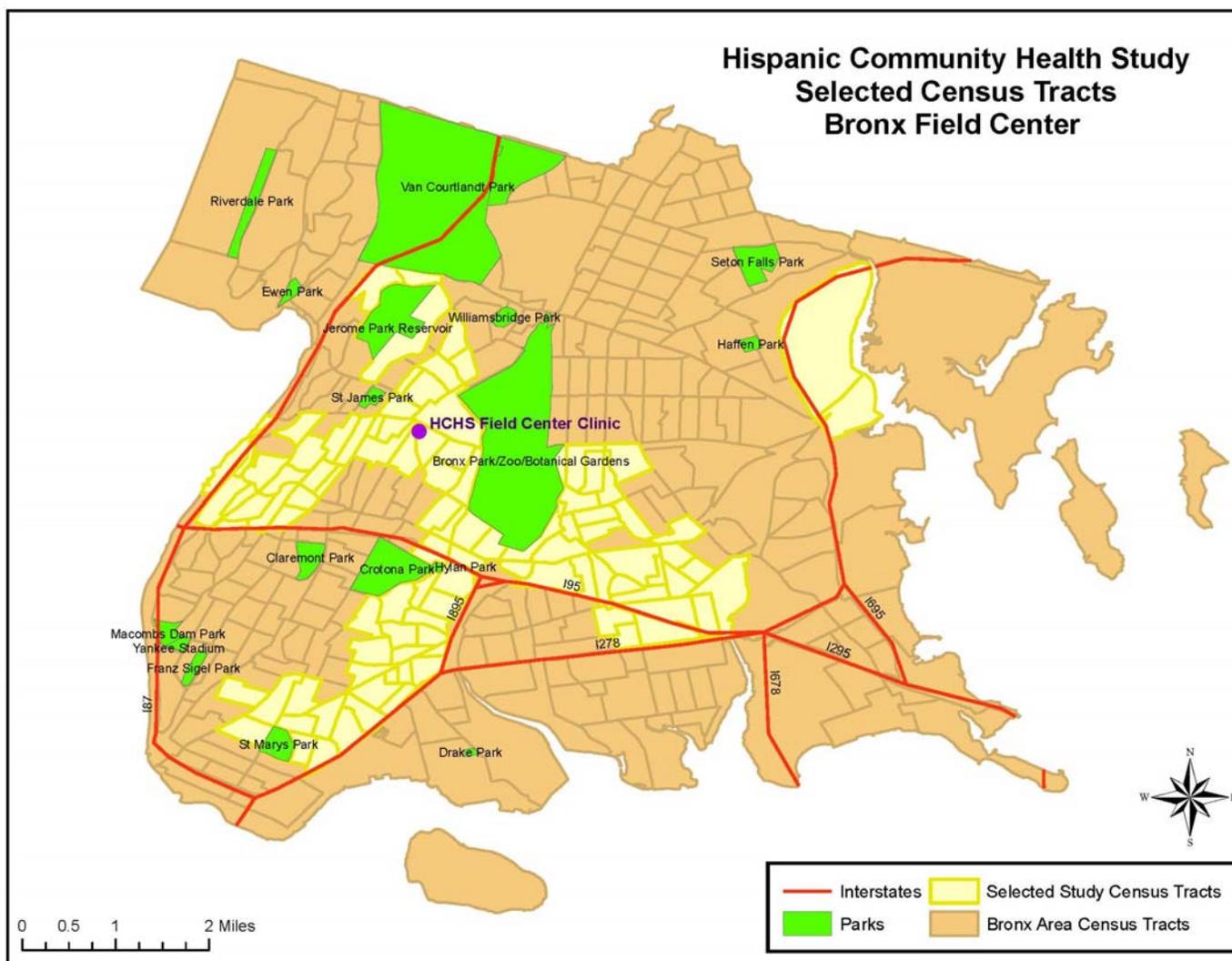Selected Census Tracts
Chicago Field Center

Bronx Field Center

- Target population
  - Over 50% Puerto Rican
  - Significant proportion of Dominican ancestry
- Albert Einstein Medical College of the Yeshiva University-Montefiore Medical Center
- PI: Sylvia Smoller, Ph.D.

Hispanic Community Health Study
Selected Census Tracts
Bronx Field Center

Riverdale Park

Van Courtlandt Park

Ewen Park

Seton Falls Park

Williamsbridge Park

Jerome Park Reservoir

Haffen Park

St James Park

HCHS Field Center Clinic

Bronx Park/Zoo/Botanical Gardens

Claremont Park

Crotona Park Hylan Park

I95

I895

Macombs Dam Park
Yankee Stadium
Franz Sigel Park

I278

I695

I87

I678

I295

St Marys Park

Drake Park

N
W   E
S

0   0.5   1   2 Miles

| | Interstates | | Selected Study Census Tracts |
| | Parks | | Bronx Area Census Tracts |

Miami Field Center

- Target population
  - Over 60% Cuban
  - A significant proportion of Central Americans
- Leader: University of Miami
- PI: Neil Schneiderman, Ph.D.

Miami

The Miami Field Center is located within a 7 mile-radius of the recruitment area. It is very close to Little Havana and the famous Calle Ocho, at the heart of Cuban Miami.
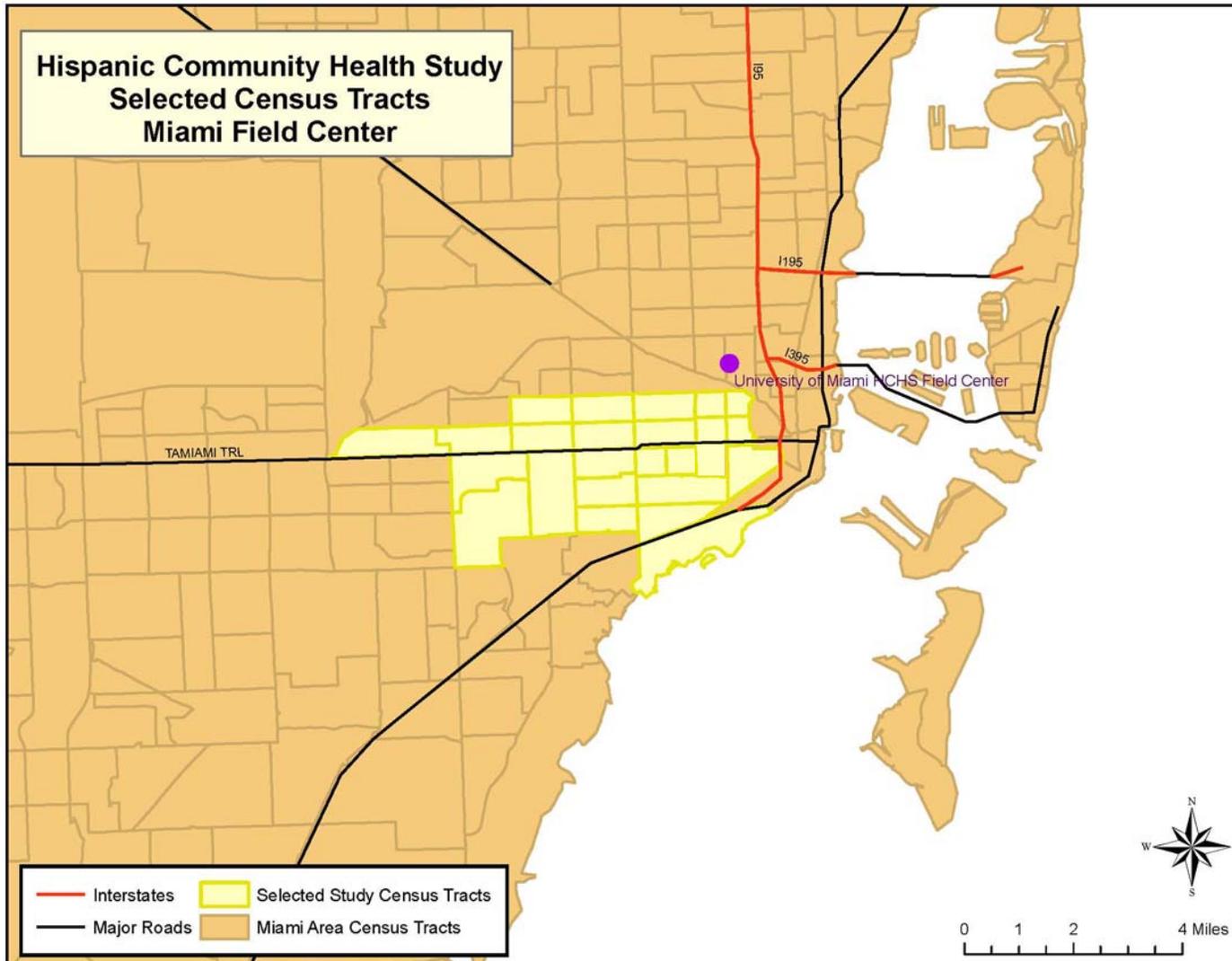
Hispanic Community Health Study
Selected Census Tracts
Miami Field Center

Miami Field Center

Selected Census Tracks Map
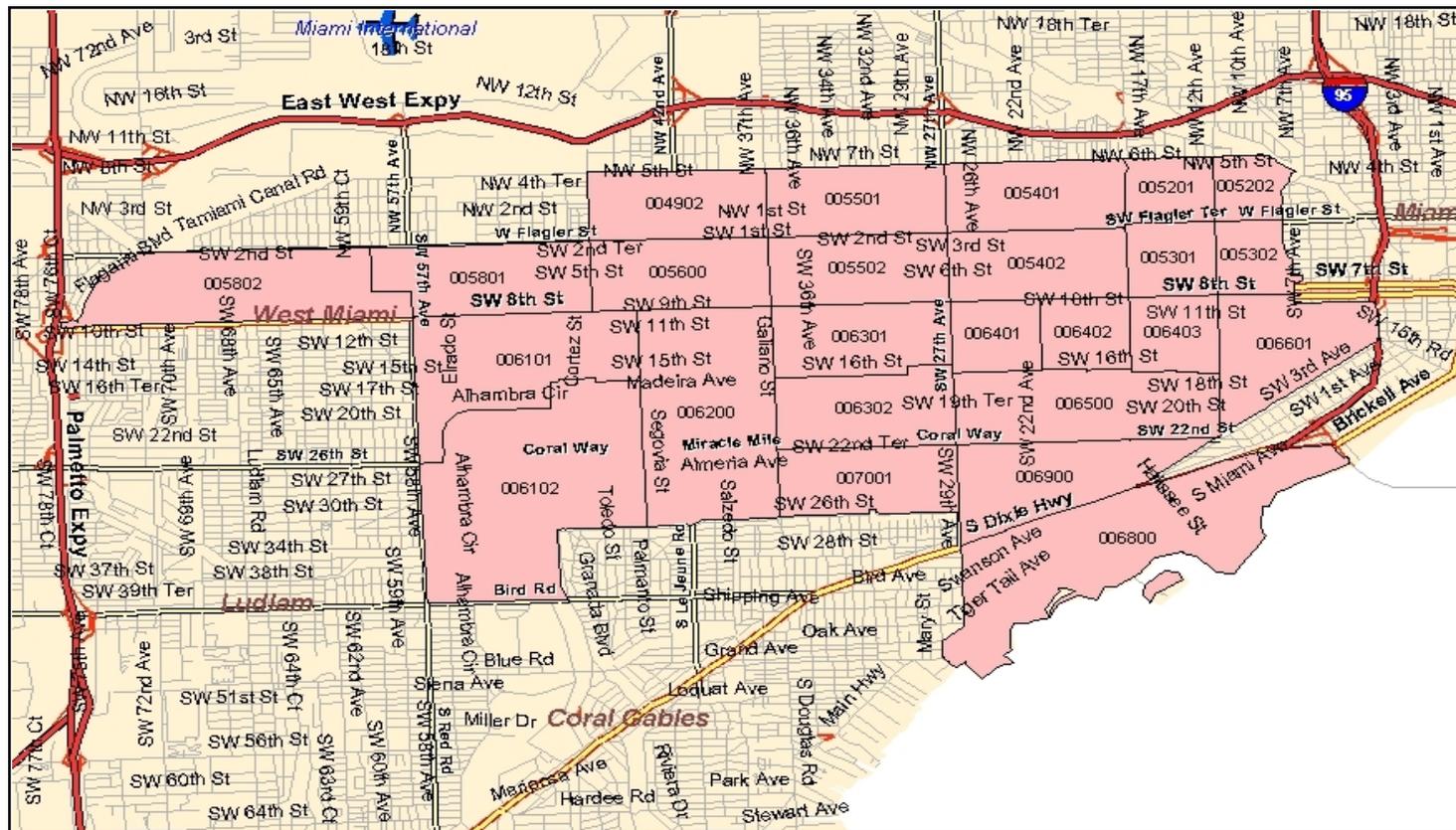
Coordinating Center

- PI: Lloyd Chambless, Ph.D.

HCHS/SOL Coordinating Center Responsibilities

- ☐ Provide statistical expertise
- ☐ Implement a comprehensive communication system
- ☐ Coordinate study activities
- ☐ Create and maintain a data management system for the project
- ☐ Establish and maintain a quality assurance program
- ☐ Perform analyses of the study data to prepare abstracts for scientific meetings and manuscripts for publication

UNC
SCHOOL OF
PUBLIC HEALTH

University of North Carolina at Chapel Hill
Department of Biostatistics
Collaborative Studies Coordinating Center

Reading Centers & Central Labs

- Central Laboratory – U Minnesota
  - PI: John Eckfeldt
- Electrocardiogram Reading Center – Wake Forest University
  - PI: Ronald Prineas
- Sleep Reading Center – Case Western Reserve University
  - PI: Susan Redline
- Pulmonary Function Tests Reading Center – Arizona
  - PI: Paul Enright
- Nutrition Reading Center – University of Minnesota
  - PI: John Himes
- Neurocognitive Center - University of Mississippi Medical Center
  - PI: Thomas Mosley
- Audiometry Reading Center – University of Wisconsin
  - PI: Karen Cruickshanks

Project Office - NHLBI

- # Paul Sorlie, Ph.D. – Project Officer

- # Larissa Avilés-Santa, M.D., M.P.H. - Deputy Project Officer

- # Phyliss Sholinsky, M.S.P.H. - Deputy Project Officer

- # Lorraine Silsbee, M.H.S. - Deputy Project Officer

- # Kristi Cooper - Contracting Officer

Baseline Components

- **Interview/Medical History**

  About 3 hours

- Procedures

Interview/Medical History

- Personal and contact information

  Household location, neighborhood, family and personal contacts, telephone contacts, SSN (optional), birth place of parents and grandparents, self-identified ethnicity, education

Interview/Medical History

- **Personal and Family Medical History**
  - Hypertension
  - High blood cholesterol
  - CV and respiratory conditions
  - Diabetes
  - Renal and hepatic conditions
  - Migraine headaches
  - Sleep disorders
  - Cancer (specific types)
  - Reproductive and menstrual history
  - Medication use (including prescribed medications, over-the-counter drugs and dietary supplements)

Interview/Medical History

- **Nutrition**
  - 24-hour recall during exam
  - 24-hour recall 3-4 weeks later via phone
  - Food propensity questionnaire 1 yr later
  - Dietary behaviors

Interview/Medical History

- Lifestyle and habits

    Tobacco use

    Alcohol consumption

    Physical activity

    Sleep habits

    Weight History

Interview/Medical History

- Economic

  Income

  Home ownership

  Relative SES position (ladder)

  Current job, hours at work, shift work

  Occupational exposure

Interview/Medical History

- Acculturation and Social Factors

  Languages

  Familismo

  Ethnic identity

  Religion

  Perceived discrimination

  Social networks

  Health care use

Interview/Medical History

- ## Health Status and Well Being

    SF-12 (general health status)

    CESD (depression scale)

    Speilberger trait anxiety scale

Interview/Medical History

- **Specific Questionnaires or Assessments**

    Neurocognitive testing (6 item screener, word memory, F and A letters, digit symbol substitution)

    Dental history

    Hearing history

Baseline Components

- Interview/Medical History

- Procedures

  About 3 hours

Procedures

- Anthropometry (height, weight, waist circumference)
- Electrocardiogram
- Pulmonary function testing (spirometry)
- Overnight sleep studies – portable device
- 2-hour Oral Glucose Tolerance Test
- Audiometry
- Dental exam
- Physical activity assessment (accelerometers)
- Ankle-brachial Index
- Blood tests

Procedures

- **Blood tests**
  - ☐ CBC
  - ☐ Fasting and 2-hr OGTT plasma glucose
  - ☐ Fasting Insulin
  - ☐ HbA1c
  - ☐ Lipids (total cholesterol, HDL cholesterol, triglycerides)
  - ☐ Serum creatinine
  - ☐ Hepatic enzymes (ALT, AST)
  - ☐ Hepatitis B and C serologies
  - ☐ Hepatitis C RNA
  - ☐ Iron, UIBC
  - ☐ DNA extraction and storage
  - ☐ Paxgene tube collection and storage
  - ☐ Urine albumin and creatinine

Disease Endpoints

- Annual follow-up by telephone
- Investigation of hospital events
- Mortality by cause
- Fatal and non-fatal cardiovascular events
- COPD and asthma exacerbations

Timeline

- Recruitment and baseline examination (3 years)
- Personal and telephone contact to record changes to health status and adverse events (yearly)
- Contract duration: 6½ years
    - Year 1: planning
    - Years 2-4: recruitment and examination
    - Years 4-6 ½: follow-up and data analysis
- Future examinations needed (if recruitment and examination is successful).

Long Term Study Benefits

- Add to knowledge of CV risk factors to improve prevention of CV disease in Hispanics/Latinos
- Understand complex role of acculturation
- Address origins and consequences of health disparities
- Develop instruments and procedures for use in other Hispanic/Latino studies
- Provide a national resource for research in Hispanics/Latinos
- Provide a training ground for new Hispanic/Latino investigators

Study Web Site

www.cscc.unc.edu/hchs