



**NIEHS**

National Institute of  
Environmental Health Sciences

# A Conversation on Gender, Equity and Environmental Health

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## Goals

- Consider Gender in the context of NIEHS programs, priorities, practices
- Discuss potential opportunities for action



## Why Gender?

“ .... it is increasingly well recognized that there are differences in the factors determining health and the burden of ill-health for women and men. The dynamics of gender in health are of profound importance in this regard and they have long been overlooked.”

(World Health Organization, 1997)



## “Sex” and “Gender”

Interchangeably used, but not the same thing

- Imprinting and hormonal factors determine the developmental sequence and characteristics of biological systems, or sex, of the individual. Gender is the result of implanting an individual into a culture or society, which assigns them relative value and gives them specific roles to play by virtue of their biological sex. These factors are important determinants of health that affect the quality and function of biological systems." — [Dr. Marianne Legato, Director, Partnership for Gender-Specific Medicine, Columbia University College of Physicians and Surgeons](#)

# Why Gender?

## A Look at Milestones in Understanding and Action

### 1980s

- Maternal and Child Health 1987, World Bank Safe Motherhood Initiative

### 1990s

- Health as Development Objective 1993, World Bank Development Report  
Health and Wealth link, Amartya Sen
- Reproductive Rights, Population 1994, Cairo conference on Pop and Development
- Women's Issues 1995, Beijing conference,  
women's empowerment, gender issues  
Creation of Gender units at major organizations

### 2000 –

- Millennium Development Goals Gender, Equity, Development  
2006, Disease Control Priorities Project

## Millennium Development Goals

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development



# What Does Gender Mean in the NIH Context?

## Historical perspective:

- Post-World War II
- Women excluded as subjects in clinical research
- 1985: PHS Task Force on Women's Health Issues concluded that health care for women and the quality of health information available to women had been compromised by the lack of research on women's health issues.
- FDA and NIH action
- Inclusion of Women, Minorities and Children in Research: The adequacy of plans to include subjects from both genders, all racial and ethnic groups .....as appropriate for the scientific goals of the research will be assessed. Plans for the recruitment and retention of subjects will also be evaluated (see the Research Plan, Section E on Human Subjects in the PHS Form 398).

# Aspects Of Sex Will Not Vary Substantially Between Different Human Societies, Whereas Aspects Of Gender May Vary Greatly

**Examples of gender characteristics include the following:**

- In the United States (and most other countries), women earn significantly less money than men for similar work
- In Vietnam, many more men than women smoke, as female smoking has not traditionally been considered appropriate
- In Saudi Arabia, men are allowed to drive cars while women are not
- In most of the world, women do more housework than men (WHO)





# How Do These Broad Sets of Characteristics Influence Our Experience of Disease?

## Consider a spectrum of determinants

- Sex: Breast cancer, prostate cancer
- Gender: Cooking with biomass, developing world – TB, respiratory infections
- Combination of both sex and gender



## Global Summary of AIDS Epidemic, December 2007

Number of people living with HIV in 2007	33.2 million
People newly infected with HIV in 2007	2.5 million
AIDS deaths in 2007	2.1 million

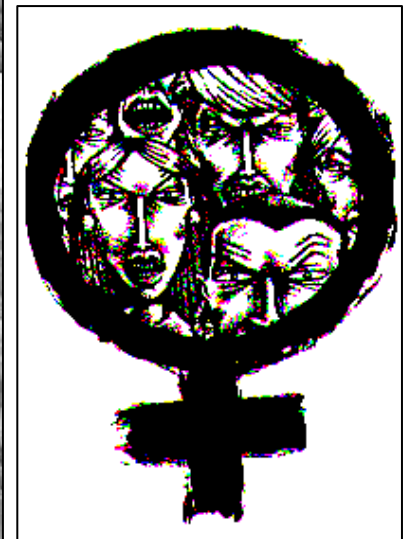
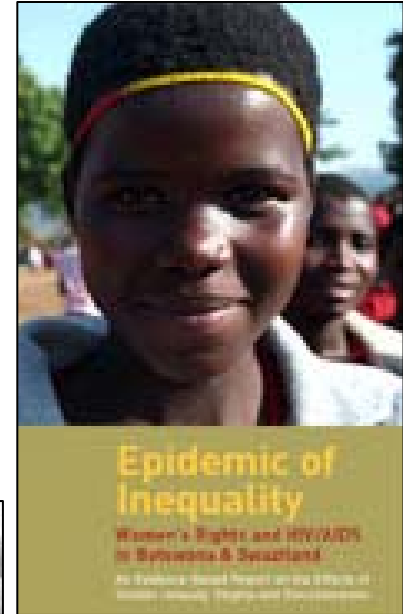
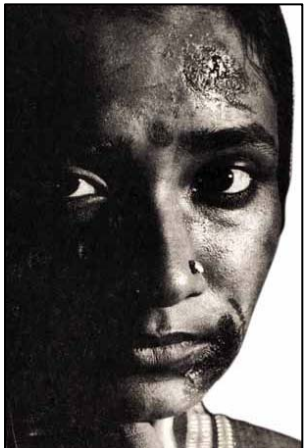


## HIV/AIDS Prevalence for Women

- In 2007 – 17.7 million women living with HIV
- “Feminization” of AIDS
- In Latin America...
  - 2004: **27%** of women, aged 15-49 were living with HIV
  - 2006: **29%** of women, aged 15-49 were living with HIV

# Why is it Difficult for Women to Protect Themselves?

- Inequalities
- Social, cultural norms
- Violence
- Stigma



## Strategies to Tackle HIV/AIDS Include Spectrum of Efforts:

- Biomedical approaches for prevention
  - Vaccines, microbicides
- Prevention and treatment strategies take into account social determinants of health
  - Status of women
  - Economic empowerment, literacy....



# NIEHS Research — Through the Gender Lens

**What can the AIDS experience teach us?**

## **Consideration of gender**

- Protective and risk factors for environmentally-related disease
- Access to resources to promote and protect health, including information, education, technology and services
- Manifestations, severity and frequency of disease, as well as health outcomes
- Social and cultural conditions of ill health/disease



## Possibilities

- Opportunities to use Gender to gain new insights in conjunction with developing technologies (e.g., Exposure Biology Program)
- With climate change projections, are there research gaps in the environmental health arena to be addressed that would include a gender dimension?
- Is there a policy research agenda, and if so, could NIEHS (and partners) address it?
- Personalized medicine, personalized environments – how does gender interact?
- Do we have adequate methodologies to measure, ask questions?

## Sum So Far

- “Gender” goes beyond including women in clinical trials, and tackling diseases particular to women
- Gender also means men
- Roles that we play in society can protect us or put us at risk for disease
- Understanding how gender factors interact with biological factors -- or independently -- will help elucidate the disease process more fully, and could lead to enhanced ability to prevent, control and treat disease





# Training

- Are we sensitizing the next generation of researchers to gender issues?
- Do they want to be sensitized??



# Which are the Problems?

**1. Unequal participation of women researchers in scientific institutions**

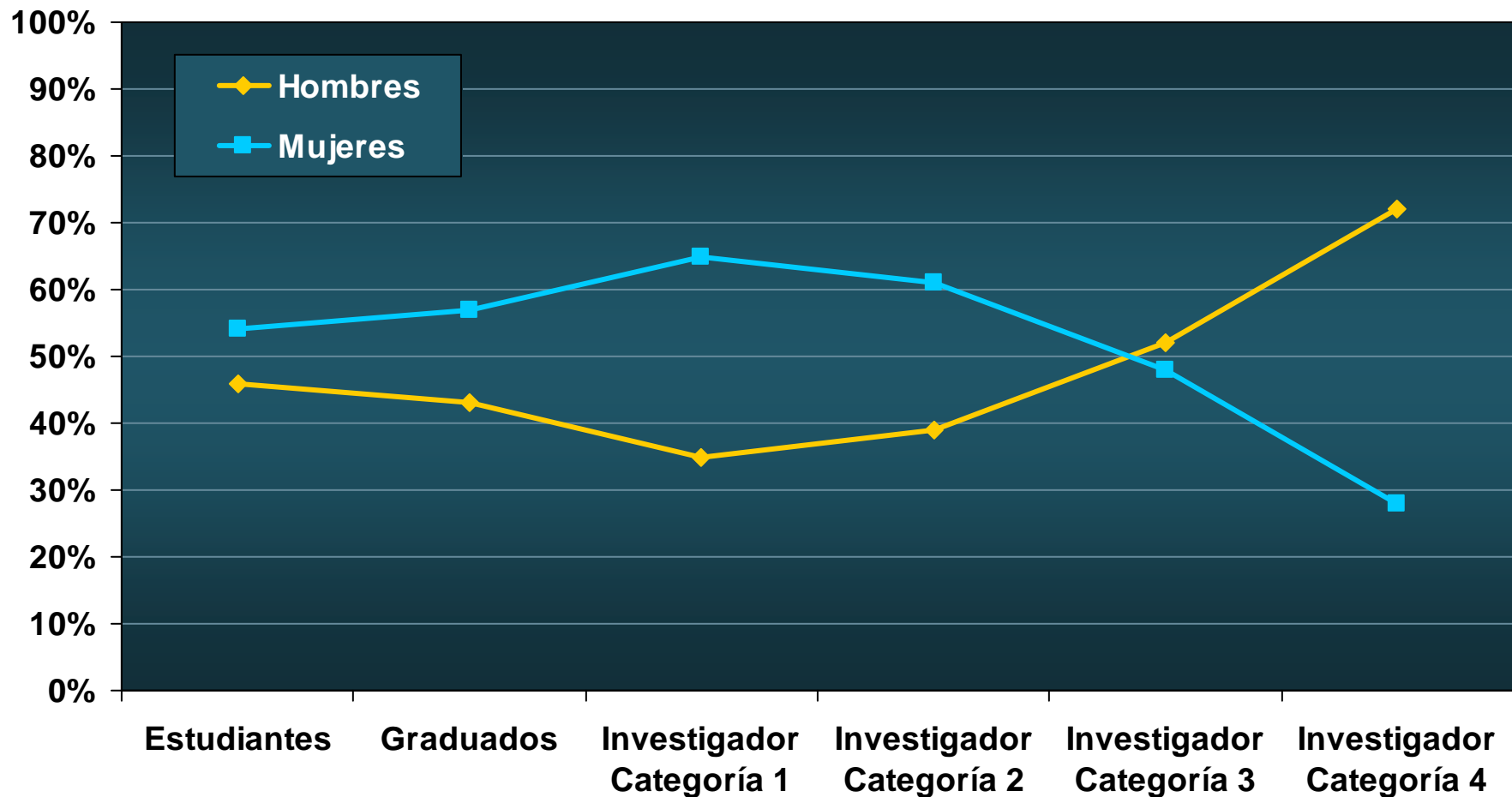
**2. Gender Blindness in Health research**

**Which are the causes?**

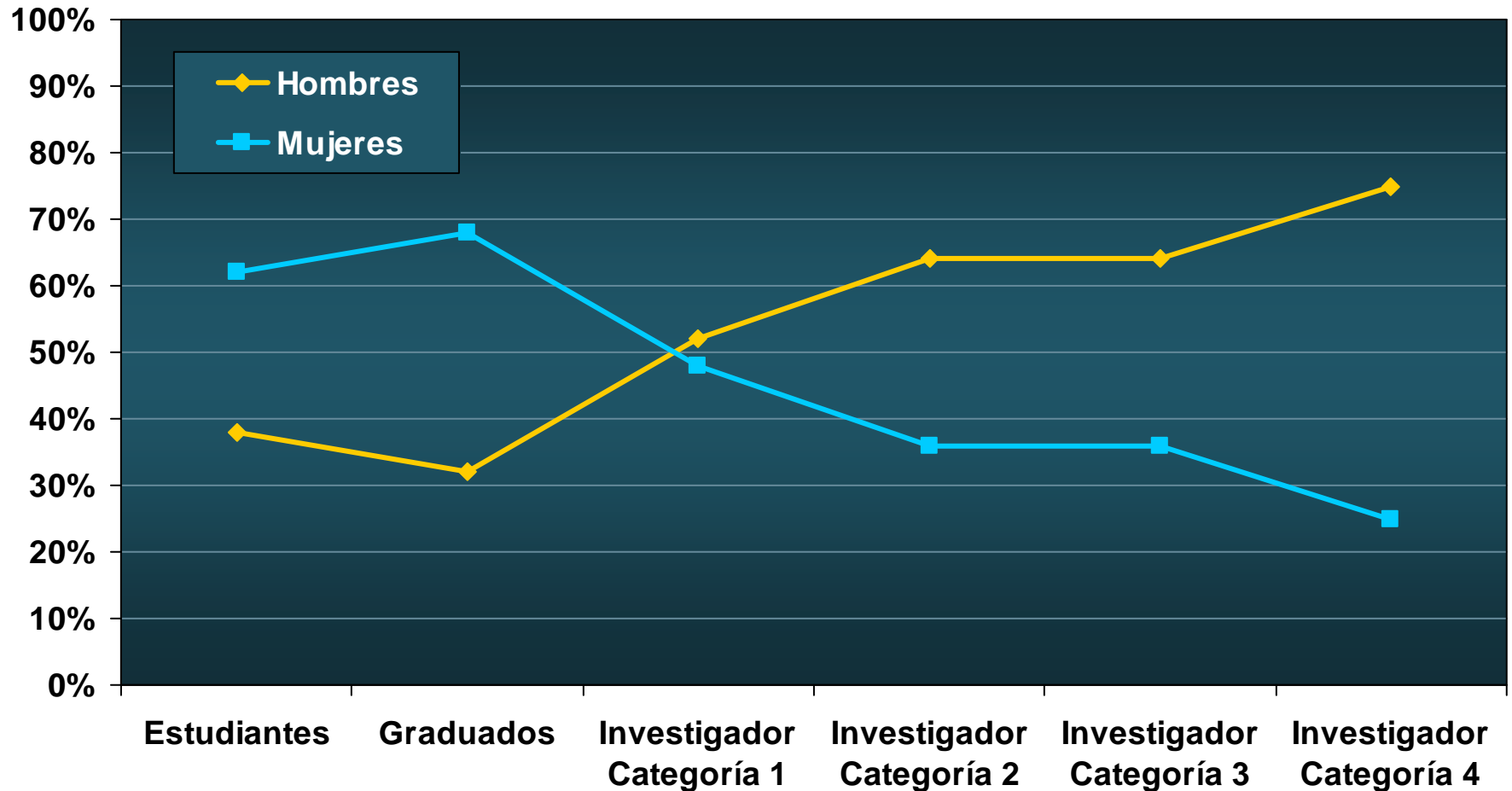
**How to address it?**

**VIRTUAL RESEARCH AND TRAINING PROGRAM FOR LATIN AMERICAN WOMEN RESEARCHERS IN BIOMEDICAL/HEALTH SCIENCES**

## “The Scissor Pattern” - Argentina



## “The Scissor Pattern” - Venezuela



## Women & Science: Which Are the Causes?

- Conflicting balance between professional, family and personal life ('wonder woman' model)
- Lack of educational programs and activities to promote and support girls and young women in S&T careers
- Lack of flexible, care-supportive employment policies
- Stereotyped representations of professional development and success
- Lack of female role models and opportunities for networking
- Discrimination (overt and subtle)
- Social representation of science and scientists
- Lack of awareness of gender discrimination (both women and men scientists)
- Women self representation as a member of a elite group vs other working women
- Leaky pipes
- Glass ceilings and walls
- Chilly cultures

## Challenges

- Barriers to leadership roles for women
- Lack of in-country research mentorship



# Career Paths for Women in the Health Sciences: A Global Perspective (FIC, NIEHS, ORWH) – 2003

## Recommendations:

- Attaining gender equity in science requires collective effort of women and men
- Research programs should include a gender perspective
- To increase women's contributions, leadership skills needed
- Networks needed to enable women scientists to overcome challenges in their home countries



## Gender, Global Health and Globalization: 2004 (FIC, NIEHS, ORWH, Canadian Institute of Gender/Health)

- Again, strong support for incorporating gender into formulation of research questions and evaluation of research projects.





## Pilot Program, 2005 – 2006

- Partnership with Social Science University of Latin America, Gender Institute
- Created virtual learning environment
- Mentors (4 women, 1 man), courses, discussions on Leadership and Gender
- 50 participants from 9 Latin American nations (Argentina, Bolivia, Chile, Colombia, Brazil, Mexico, Peru, Uruguay, Venezuela)



# Our Virtual Learning Environment



# Virtual Research And Training Program For Latin American Women Researchers In Biomedical/Health Sciences

## RESEARCH

Professional trajectories, choices and capacity-building needs of Latin American Women Researchers in Health Sciences



With the support of the Observatorio de Salud de la Mujer, Ministerio de Sanidad y Consumo, Spain

## NETWORKING

Creation of Latin American Network of Women Researchers in Health Sciences



## TRAINING AND MENTORING

Career Development and Transformational Leadership Workshop

Seminar on Gender Analysis in Health Research



## Outcomes

- Evaluation: high level of satisfaction with the contents, methodology and impacts in the participant's lives
- A **NETWORK** was created and several collaborative projects are in progress
- Improvement of professional positions, promotion of gender-fair, institutional procedures and regulations and increase of collaborative practices
- Gender “lenses” applied to their professional and personal lives and to their research
- Growing interest in this program by different stakeholders

# Gender + Science

Latin-American Network of Women on Biomedical Science

Editors: Alicia Aleman, Carolina Carrillo,  
Cecilia Catanesi and Laura García

[www.catunescomujer.org](http://www.catunescomujer.org)



This network was created by participants of the **Virtual Research and Training Program for Latin American Women Researchers in Biomedical/Health Sciences**

UNESCO Regional Chair W, S & T in LA in partnership with **Fogarty International Center, National Institutes of Health (NIH), U.S.A**

## Goal

Promote women's full participation in biomedical research at all levels and encourage them to participate in their institutions as transformational leaders

## Objectives

- Disseminate information on women's participation in scientific institutions in Iberoamerica
- Share knowledge and resources to facilitate career planning and full development
- Stimulate the integration of gender analysis in biomedical research
- Sensitize the scientific community on the need of assure equal opportunities for women and men

## Highlights

- Awareness of GENDER determinants in :
  - \*Professional and personal life
  - \*Research field and theme
- Learn or improve NEGOTIATION skills
- Better planning of their career
- Increase of OPPORTUNITIES (conferences, grants, publications)
- LEAD projects with new perspectives and attitudes



### INTERNAL

**SELF-CONFIDENCE**

I could identify:

my capacities,

my weaknesses

And...enjoy my style

### EXTERNAL

**RECOGNITION** from  
peers and supervisors

**NEW PROJECTS**

**NETWORKING**

## Next Steps - Training

- Two adaptations under consideration for current program:
  - Develop community of women researchers in Latin America and Caribbean using virtual platform on topic of AIDS
  - Include US Latina scientists as part of next phase – enhance research collaboration opportunities, and provide avenues to “give back”
- Consider development of another virtual learning environment for women researchers in the environmental health sciences?

## Benefits to NIEHS of engaging on virtual program

- Supports NIEHS priority on global environmental health
- Would address a felt need for training on leadership and gender
- Recognizes challenges facing women and men
- May provide new insights on research gaps and opportunities





## In-house Opportunities?



## Resources/Acknowledgements

- On-line NIH course on the Science of Sex and Gender in Human Health (<http://sexandgendercourse.od.nih.gov/>)
- Disease Control Priorities Project, Chapter 10 [dcp2.org](http://dcp2.org)
- Canadian Institutes for Health Research “Guide for CIHR Researchers and Reviewers on Gender and Sex-Based Analysis in Health Research”
- Writings of Lesley Doyal, Ilona Kickbusch, Miriam Stewart

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