From Knowledge to Action: Using Sex and Gender and Health Research to Improve Policy and Practice

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Sex Does Matter

- Every cell has a sex
- Sex differences in health and disease
- Models of disease not based on women
- Gender plays a significant role
- 1993 NIH Revitalization Act: Congress mandated inclusion of women and minorities in clinical research.
Women’s Health as a Magnifier and Multiplier

- Women remain the primary care givers around the world
  - Women are the doctors, nurses, pharmacists and therapists

- In the U.S., women make over 70% of the healthcare decisions

- Women are demanding consumers of health care
  - Seek more health information, demand more education, press for prevention

- Women are the bearers of the next generation
  - Healthy women produce healthier children

- The health of women is a key indicator of a country’s overall health—economic, education, health
Women’s Health Across the Lifespan

Pre-Illness History

Illness Onset →

Illness Course →

Fetal Development
Birth
Childhood
Adolescence
Reproductive Years
Menopause
Older Aging

Fetal Development
Birth
Childhood
Adolescence
Reproductive Years
Discover, disseminate, and integrate knowledge on women’s health, gender biology and gender-specific care.

Translate this knowledge base to the highest standard of care for women, delivered in an environment that meets the needs of the women.

Women’s Health Across Fields in Medicine

- OB and Gyn
- Cancer
- Cardiovascular
- Neuroscience
- Orthopedics & Arthritis

Women’s Health
Women’s Health Across Disciplines

- **CONDUCT RESEARCH**: Produce and disseminate scientific knowledge on women’s health and sex- and gender-based biology.
- **IMPROVE CLINICAL SERVICES & PATIENT CARE**: Model, learn from, and encourage adoption of comprehensive and integrated care.
- **INFLUENCE POLICY**: Influence women’s health policy at the institutional, local and national levels.
- **DEVELOP LEADERS IN GLOBAL WOMEN’S HEALTH**: Produce leaders who have the experience, creativity, skills and determination to have a major impact in improving the health of women.
- **EDUCATE, SUPPORT LEADERS OF CHANGE**: Support leaders working to improve the health of women globally through research, teaching, intervention, and care.
- **IMPROVE THE HEALTH OF WOMEN & TRANSFORM THEIR CARE**: Develop leaders in global women’s health.
Top Cancer Killers/Women 2008

Lung 42%
(Light & Dark Blue)

Of the non-smokers with lung cancer, 60% are women
Lung Cancer in Women

• Clinical program that addresses medical and psychosocial needs of women
  – National Lung Cancer Screening Trial

• Provides the infrastructure for discovery
  – Estrogen-regulated gene associated with mesothelioma outcome

• Enables partnership of investigators, clinicians, patients and advocacy organizations
  – Lung Cancer Mortality Reduction Act of 2009
Lung Cancer in Women: Integration Across Disciplines - Research, Education, Policy

Out of the Shadows
Women and Lung Cancer

Women’s Health Policy and Advocacy Program
More Women Die from Heart Disease than Men

Heart Disease Mortality in Women and Men
Absolute Number of Deaths, 1979-2004

64% of women vs. 50% of men had no previous symptoms

Heart Disease is the Number One Cause of Death in Women

Women’s Health Across the Lifespan

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Sex Differences in Physiology of Myocardial Infarction

Plaque Rupture

Plaque Erosion

Cardiovascular Disease can be Different in Women

Blockage in “male” coronary artery

Blockage in “female” coronary artery

Coronary Artery Disease

Normal coronary artery

Diseased coronary artery
Heart Catheterization and Ultrasound
Clinical Education and Awareness Research

- Increase research to better understand sex differences in health and disease
- Expand inclusion of women in research and clinical trials
- Expand reporting of results by sex, race, and by sex/race
- Effectively translate research into clinical care
- Use sex-specific data to consider safety of interventions
- Sex-stratified quality measures

Improve education and awareness of women, investigators, physicians, and other health care providers
Pregnancy as “Stress Test” for Cardiovascular Disease

- Population with complicated pregnancy, e.g. preeclampsia
- Healthy population
- Threshold for clinical vascular or metabolic disease

Adapted with permission from Sattar, BMJ, 2002
Gestational Diabetes Mellitus and Associated Risks

- Risk with subsequent pregnancy is 50-65%
- 50-70% will develop Type 2 DM over the lifecourse
- 20-30% will develop Type 2 DM in 7-10 years
- Increased risk of Type 2 DM in children of mothers with GDM

http://www.jci.org/cgi/content/full/115/3/485
Cardiovascular Events in Women with Gestational Diabetes

Gestational Diabetes and the Health of Women: Gaps and Opportunities

• Lack of guidelines on how to care for women pre- or post-pregnancy to decrease risk

• Currently no formal method to track the population through billing

• Need to address full scope of “cardio-metabolic disorders” in younger women who are pregnant or soon to be pregnant that affect health of women and children over the lifespan
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THE FAMILY COHORT STUDY:
What we can learn to transform medicine for mothers

- Why do pregnancy complications predict early mortality in the 25% of mothers who experience them?
- Can we design a novel cardiovascular screening system to follow women who have had complex pregnancies?
- What are the intersections of psychological health with physical health, and how do they differ for men and women?
Women’s Health Across Disciplines

Produce and disseminate scientific knowledge on women’s health and sex- and gender-based biology.

Influence women’s health policy at the institutional, local and national levels.

Support leaders working to improve the health of women globally through research, teaching, intervention, and care.

Model, learn from, and encourage adoption of comprehensive and integrated care.

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Men & Women Below 100% Poverty, U.S. 2009

Healthy Heart Study

• Look at affordability of healthy diet in two lower-income, diverse Boston neighborhoods

• Conducted series of focus groups to develop culturally-appropriate and heart healthy menus

• Conducted cost assessments at large local grocery stores to develop conservative estimates for monthly food cost

• Compared cost of heart-healthy menus to monthly allowance under federal safety-net Food Stamp program
Affordability of a Healthy Diet in Boston Neighborhood

<table>
<thead>
<tr>
<th>Monthly Cost</th>
<th>Senior Food Stamp</th>
<th>Senior FESS</th>
<th>Family (4) Food Stamp</th>
<th>Family (4) FESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$242</td>
<td>$242</td>
<td>$692</td>
<td>$692</td>
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<tr>
<td>Food Stamp Max*</td>
<td>$139</td>
<td>$178</td>
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<td>$554</td>
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<tr>
<td>Difference</td>
<td>-$103</td>
<td>-$64</td>
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</table>

* Fiscal Year 2004
The Boston Collaborative for Food & Fitness

• Improve access to healthy food and safe environments for active living

• Collaborate with NGOs, government agencies and two academic medical centers to influence:
  – Community food environments (e.g. stores, farmer’s markets)
  – School food systems
  – Active living (e.g. open spaces/safe sidewalks)
  – Health care systems that support access to healthy, affordable food
Goals of the Boston Food Policy Council

1. Increase access to affordable, healthy, nutritious food for all Boston residents

2. Expand Boston’s capacity to produce, distribute, and consume local food

3. Promote food as an economic development strategy

4. Expand existing public and private partnerships and establish new partnerships with foundations and corporate leaders
Access to Healthy and Affordable Food

Obesity and diabetes presenting in the physicians office

Why?

Need access to healthy, affordable food

Public Health

Health Care Delivery

Access to healthy, affordable food supported by the physician

Access to healthy, affordable food supported by the community

Obesity and diabetes presenting in the community
Integration Across Fields: Public Health and Health Care Delivery

Levels of Integration:
- Low
- Medium
- High

Health Care Delivery
- Health Care Delivery
- Community Hospital
- Academic Medical Ctr
- Practice

Public Health
- Population
- Individual
- Patient
- Family
- Neighborhood
- Community

Integration Across Fields: Public Health and Health Care Delivery
Massachusetts Health Reform: Impact on Women's Health

Tracey Hyams, JD, MPH
Laura Cohen

Women's Health Policy and Advocacy Program
Connors Center for Women's Health and Gender Biology
Brigham and Women's Hospital
HC Reform: Goals / Research Questions

a. Define a *strategy* and *framework* for creating an effective women’s health implementation agenda within ACA

b. Examine the intersection of women’s health and health reform - structure, process and outcomes (*see next slide*)

c. Synthesize work being done by federal agencies; identify gaps; then translate evidence into action

d. Define a research agenda with an action agenda attached

e. Begin to develop models of care for women across the lifespan

f. Discuss practicality of implementation at the state level/ identify threads of assistance
“… In the new global economy, individual countries and regions would find it difficult to make economic or social progress if a disproportionate percentage of their female population remained poor, uneducated, unhealthy and disenfranchised.”

Hilary Clinton on the U.N. Fourth World Conference on Women
Model, learn from, and encourage adoption of comprehensive and integrated care

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CONDUCT RESEARCH

IMPROVE THE HEALTH OF WOMEN & TRANSFORM THEIR CARE

INFLUENCE POLICY

DEVELOP LEADERS IN GLOBAL WOMEN’S HEALTH

EDUCATE, SUPPORT LEADERS OF CHANGE

IMPROVE CLINICAL SERVICES & PATIENT CARE
Integration Across Disciplines in Botswana: Research, Education and Policy

- Has become one of the fastest growing countries in the world
- Has the second highest rate of HIV infection in the world
- 1 in 3 pregnant women are HIV positive (2007)
- Global Women’s Health Fellows study efficacy of preventing HIV transmission through breastfeeding
- Research findings integrated into approaches of the Ministry of Health
- Developing relationship with new medical school to help develop women’s health curriculum
Integration Across Disciplines in Malawi: Leadership and Policy

- One of the least developed countries in the world
- Among the highest maternal mortality rates in Africa
- Vice President Joyce Banda aims “to assist women and girls gain social and political empowerment through entrepreneurship and education”
- Adopting culturally-appropriate models of integration across disciplines
- Serve as example/”case study” for leadership development in global women’s health
Leadership for Women’s Health: Building the Field Globally to Improve Lives

**Identify Global Leaders**
Identify and recruit the most promising and up-and-coming leaders in different world regions

**Support and Develop Leaders**
Support growth by making available full, multi-disciplinary resources of Harvard University

**Establish Field of Women’s Health Leadership**
Build the field through robust research and case development

**Sustain Leaders Globally**
Develop a sustained training and collaborative network to improve the health of women around the globe
Women’s Health: Integration Across the Lifespan and Disciplines

Women’s Health Across the Lifespan

Women’s Health Across Disciplines

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