Perspectives from an Experienced Investigator

Electra D. Paskett, Ph.D

The James
Overview of Talk

- Describe what drove me to my career path.
- What possibilities exist in career paths for young investigators?
- How do you plan a career to get to that place?
What is my career?

- Health disparities researcher – behavioral and community/structural interventions
- Associate Director for Population Sciences and Program Leader for Cancer Control
- Division Director, Cancer Prevention and Control
- Director, Center for Cancer Health Equity

How did I get here?
“Why?”
Bachelor’s degree in Biology – thought I wanted to be a doctor

Worked for 10 years in drug development lab

Something more

Eureka! I found it!
  - It’s epidemiology!
  - The ultimate “why” discipline!
Education & Training

Master's of Science Degree in Public Health (Epidemiology)

Dee West, Ph.D.
Surveys
Education & Training

University of Washington

Doctoral Degree in Epidemiology and Health Services Research
School of Public Health

Community-Based Participatory Research

Epidemiology

Intervention Design

Beti Thompson, PhD

Emily White, PhD

Maureen Henderson, MD
Doctoral Work Ignited My Passion

“ I don’t want to have my womb removed because I will stop being a woman to my man. ”

Why this work?

- Inner need to right wrongs
- Right place at the right time
- Love working with communities

How?

- Dedication
- Supportive family
- Training
- Great staff/colleagues
- Respect for community members
“Health Disparities” Defined

September 1999

“... Differences in the incidence, prevalence, mortality, and burden of diseases & other adverse health conditions that exist among specific population groups in the United States.”

– National Institutes of Health

Racial and Ethnic Minorities, Medically Underserved Communities, Females, Geography, Age, Sexual Orientation, Income
How did I start on this path?
RFA released from NCI in 1991

Focus on increasing breast & cervical cancer screening among poor and minority women

Funded in 1992 to work in low-income housing communities in 2 cities

FoCaS: Forsyth County Cancer Screening Project
Community-based Interventions

Theory-based:
- Social Support
- Stages of Change
- Health Belief Model
- Theory of Reasoned Action
FoCaS: Methods

Placed Nurse in Federally Qualified Health Center

In-Reach

HOW TO GET A MAMMOGRAM AT REYNOLDS HEALTH CENTER

1. Call for an appointment to get a breast exam and a mammogram at 727-8278, 727-8234 or 727-8285.

2. On the day of your appointment, check-in at the information desk.

3. When you see the doctor, tell him that you want a mammogram.

4. Take the forms from your doctor to the x-ray department and have your mammogram done.

IF YOU HAVE NEVER BEEN TO REYNOLDS HEALTH CENTER...

IF YOU ALREADY HAVE A DOCTOR AT REYNOLDS HEALTH CENTER...

1. Call for an appointment to get a breast exam and a mammogram at 727-8278, 727-8234 or 727-8285.

2. You will get the forms for a mammogram from the nurse's station on the third floor.

3. Take the forms to the x-ray department and have your mammogram done.

How to Get a Mammogram

At Reynolds Health Center

CERVICAL CANCER

All women are at risk for cervical cancer. But some things increase your risk. They are as follows:

* If you smoked more than 100 cigarettes.
* If you had sex before age 18.
* If you have been with more than one doctor that an early smear was not normal.
* If you had sex with 3 partners.
* If you ever had a sex-transmitted disease (gonorrhea, etc.)
* If you ever had warts on the outside of your vagina.

If you have had one or more of the above, you may be at a higher risk for cervical cancer. Ask your doctor for a Pap Smear. It's a quick and easy exam that does not cost much.

BREAST SCREENING CENTERS

How to Get There.

FoCaS on You
FoCaS: Methods

Used Lay Health Advisors (LHAs) to deliver community education (groups and one-on-one)

Out-Reach
FoCaS: Methods (con’t)

- Used a Community Advisory Board and a Provider Advisory Board
- Cross-sectional and cohort samples to evaluate impact
## FoCaS: Results

### Screening Rates: Pre-to-Post Intervention

<table>
<thead>
<tr>
<th></th>
<th>Mammogram</th>
<th>Pap Smear</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comparison City</strong></td>
<td>33% to 40%</td>
<td>67% to 60%</td>
</tr>
<tr>
<td><strong>Intervention</strong></td>
<td>31% to 56%</td>
<td>73% to 87%</td>
</tr>
</tbody>
</table>

- **18% Increase** \( p=0.04 \)
- **21% Increase** \( p=0.004 \)

*(Paskett et al, CEBP, 1999) R01 CA57016*
Impact of... FoCaS

Lay Health Advisor Interventions

Dissemination of Findings & Products

Community-Based Participatory Research

Training the Next Generation
Impact of... FoCaS

Lay Health Advisor Interventions

Dissemination of Findings & Products

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Training the Next Generation
Robeson County Outreach Screening & Education Project
9/1/97 – 8/31/03

Lay Health Advisor - Intervention Tested in Studies

R01 CA72022

Carolinas Cancer Education

Community Awareness Resources Education
4/01/03 – 4/30/15
Improved Breast Cancer Screening among Tri-racial Women in Low-Income Rural County in NC

Percent of women receiving a mammogram

<table>
<thead>
<tr>
<th></th>
<th>12 Months</th>
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</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>42.5%</td>
</tr>
<tr>
<td>Control</td>
<td>27.3%</td>
</tr>
</tbody>
</table>

RR=1.56
(p<.001)

(Paskett et al, JNCI, 2006)
Lay Health Advisor- Intervention Tested in Studies

Improved Colorectal Cancer Screening among Women in Low-income Housing Communities

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>3 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>49.3%</td>
<td>55.6%</td>
</tr>
<tr>
<td>Control</td>
<td>49.3%</td>
<td>49.7%</td>
</tr>
</tbody>
</table>

OR=1.13
(p=ns)

(Katz et al, CANCER, 2007) ACS, TIOG-99-361
Patient Navigation Reduced Time to Resolution After an Abnormal Screening Test

Estimated Survival Curves for Time to Resolution
\( (p=0.009 \text{ for shared frailty model}) \)

Control
Intervention

Estimated Probability of Case Being Unresolved

Days Since Randomization
Goal

To understand why Appalachian Ohio women have high incidence and mortality rates for cervical cancer.
Cancer Mortality Rates by State Economic Area

Lay Health Advisor- Intervention Tested in Studies

14 Clinics

Observational Study
N=571

Multi-level factors associated with tobacco use & Pap testing

RCT testing LHA vs. usual care

Project 1
N=286

Pap smear use:
- Risk appropriate guidelines
- Barriers counseling

Project 3
N=1360

Case-control study
- HPV testing, Pap smear, EBV titers, Cotinine
- TGF-Beta receptor

Project 2
N=302

Smoking cessation:
- Biochemical validation
- Pharma-based intervention with behavioral component
LHA Intervention to Improve Pap Smear Use

Self-Reported Pap Status (N=235)

Adjusted* OR = 2.30
p = 0.008

*Adjusted for age, race, education, employment status, SES, marital status, health insurance, and previous abnormal Pap. Clinic included as a random effect in models.

(Paskett et al., CEBP, 2011)
LHA Intervention to Improve Smoking Cessation

Cotinine-Validated Cessation Rates

- **Intervention**
- **Control**

All p-values are <0.02 except for 12 month (p=0.09)

(Wewers et al., CEBP 2010)
Newly-funded RO1: *Comparative Effectiveness of Interventions to Improve Multiple Screening Test in Rural Women*

- Rural women in 32 counties in NW Ohio and NE Indiana
- Underserved in terms of access to medical care
- Only 8% of rural women are up-to-date on 3 screening tests
- Working with Univ of Indiana – V. Champion and S. Rawl
- Two interventions: Tailored, interactive DVD +/- PN

![Bar chart showing screening test compliance](image)

Katz et al., CEBP 2015
Impact of... **FoCaS**

- Lay Health Advisor Intervention
- Dissemination of Findings & Products
- Community-Based Participatory Research
- Training the Next Generation
Dissemination of Findings & Products

FoCaS Intervention
Used in:

TEAM Up

Core Partners:

• National Cancer Institute’s Cancer & Information Service
• American Cancer Society
• Center for Disease Control’s National Breast & Cervical Cancer Education Program
• USDA’s Cooperative State Research
• Education & Extension Service with USDA

Summary of Evidence-Based Interventions

Most Hits for Breast & Cervical Cancer Interventions

From August 2003 – Jan 2011, usage statistics collected:

# of times program summary viewed: 7,049
# of program orders completed: 161
# of single product downloads: 3,645
# of separate product “preview” files viewed: 235
Patient Navigation Research Program: All sites

Meta-Analysis Results:
PN reduced loss to follow-up in both diagnostic and treatment phases after 3 months post-diagnosis among poor, minority patients

<table>
<thead>
<tr>
<th>Days since diagnosis 91-365</th>
<th>Adjusted Hazard Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic phase</td>
<td>1.5 (1.2 – 1.8)</td>
</tr>
<tr>
<td>Treatment phase</td>
<td>1.4 (1.1 – 1.9)</td>
</tr>
</tbody>
</table>

Policy Implication:
American College of Surgeons Commission on Cancer mandate for PN starting January 2015

Freund, et al., JNCI 2014
Impact of... FoCaS

Community-Based Participatory Research

Lay Health Advisor Intervention

Dissemination of Findings & Products

Training the Next Generation
In Appalachia, “We don’t talk about cancer.”
Community-Based Participatory Research

Appalachia Ohio Coalitions & Councils to Facilitate Research

- Women in Action Against Cancer Coalition
- Noble County Coordinated Council
- Meigs County Cancer Initiative
- Partners of Hope Cancer Coalition
- Fight Cancer Save Lives – ACT Now Coalition of Scioto County
- Pike Healthy Lifestyle Initiative
- Vinton County Social Service Council
- Cancer Concern Coalition
Community-Based Participatory Research
Impact of...

FoCaS

Lay Health Advisor Intervention

Dissemination of Findings & Products

Community-Based Participatory Research

Training the Next Generation
Training The Next Generation

Training in CBPR & Health Disparities Research

- Community Members
- Students
- Post-docs & Fellows
- Junior Faculty
What Career Paths Exist for Young Investigators?

- Academic
  - University
  - Cancer Center
- Private Sector
  - Health Care Organization
  - Industry
- Community
  - Health Department
  - Government, Foundations
What Do You Want to Be Excellent In?

- **Leadership**
  - Academic – chair, dean
  - Cancer Center – program leader, associate director
  - Other Centers – eg, Health Disparities

- **Teaching**
  - Classes – load; seminars; on-line
  - Mentoring – undergrad’s, graduate school, post-docs, medical students, junior faculty
  - Training – eg., community members

- **Funding/Research**
  - Metrics at your institution
  - Climate for young investigators

- **Service**
  - Institution and the greater community of science
  - Committees, journals, study section, professional associations
How Do You Plan a Career to Get Where You Want to Go?

- Develop a Plan
- Get the right mentor(s)
- Be in the right place
- Always be learning
- Take advantage of opportunities
- Be seen for your work and be known for something
Concrete Example: Disparities Research

- What should a new investigator who wants to do and be known for disparities research learn?
  - Team Science
  - Multi-level approach
  - CBPR
A New Paradigm: Team Science

- **Multidisciplinary**: Separate bodies of knowledge
- **Interdisciplinary**: Shared bodies of knowledge and "vocabulary"
- **Transdisciplinary**: Shared language

Sarah Gehlert, Ph.D.
Multi-level Approach: Spans From Basic Biology to the Population

“From Cells to Society”
Multi-level Approach: Initial Model for Addressing Cervical Cancer

Risky Behaviors

Screening
Pap Test

HPV Infection

Smoking
Multi-level Approach: Today’s CARE II Model Comprehensive

**Project 1**
Gene-Environment Interaction In Cervical Cancer

**Project 2**
Social Networks & Smoking

**Project 3**
Stress & HPV Immune Response

**Project 4**
Patient-Provider Encounters & HPV vaccination

Social Conditions & Policies
Institutions
Social/Physical Context
Social Relationships
Individual Risk Factors
Biologic/Genetic Pathways

Cervical Cancer
CBPR: Listening to the Community

Appalachia Ohio: 12 Counties

Intervention

CRC Screening
- Billboards, posters
- Clinic intervention
- Media kit to local newspapers

Comparison

Fruit and Vegetable Consumption
Parting Words of Wisdom

- Things always take longer than expected.
- Try, try, try again.
- Submit frequently and diversify.
- The right staff make all the difference.
- Befriend your Program Officer (and listen to them).
- Say “no” to opportunities to serve judiciously.
- Enjoy the journey – that is how you bring passion to your work.

The James