Traveling the Landscape of a Research Career: The Lessons I Learned From My Journey

Priscilla E. Pemu MD, MS, FACP
Associate Professor of Medicine
Morehouse School of Medicine

Disclosures

No relationships to disclose
Outcomes
- First authored manuscripts
- Grant awards
- Academic appointments
- Collaborative networks
- Mentorship of younger colleagues


The Science

Background and Environment

- Completed Med school in Nigeria (6 years)
- Completed postgraduate training in anesthesia in Nigeria (7 years)
- Completed residency training in internal medicine (3 years)
Steps…...


Flenaugh EL, Igho-Pemu PE, Harris NE.

Gender differences and practice implications of risk factors for frequent hospitalization for heart failure in an urban center serving predominantly African-American patients. Am J Cardiol.1999 May1; 83(9): 1350-5

Ofili EO, Igho-Pemu P, Bransford T.

---

Master of Science in Clinical Research (18 months: NIH-R25)

- Thesis: The role of Oxidative stress in Endothelial Dysfunction
  - Gary Gibbons; Elizabeth Ofili; Kwame Osei;
  - Arshed Quyyumi

- Didactics
  - Epidemiology, Biostatistics, Informatics
  - Ethics,

- Scientific Writing
  - Grant application (K08) unfunded but good critique
  - AHA BGIA unfunded
  - Manuscript submitted to journal hypertension: returned for major revisions

- Faculty Appointment: Clinical Instructor of Medicine
- Four presentations at National Meetings
- 3 Manuscripts
The particular set of characteristics that I bear can be a disadvantage: Being a woman who is black, raised in a different culture provided a set of challenges
• The tendency to be ‘invisible’ unless you have a certain personality
• Not having the “411” on the right steps to take to ensure success;
  • My particular set of values/personality have an impact on how I am perceived and the choices that I have made in my journey
The critique I received from an unfunded grant application was very helpful

Being at an MSI/HBCU has its advantages/challenges
• Fewer mentors for the pool of junior investigators
  • Limited access to certain opportunities e.g. serving on study sections
• At MSM; a clear focus and record on disparities created a ready niche
• Resource limitations have to be understood

A sense of self efficacy for academic work
I don’t know how to say No
My daughter Nicky thinks that my hobby is work 😒
• Work life balance is crucial

1st 5 Years as Faculty

Clinical: attending 3 months; OP Clinic 3 1/2 days/week

Project PI on NIH P20 (CRE) Investigating the role of oxidative stress in vascular dysfunction in obesity

Subproject PI on a large center grant
  • PI Anshep Quyyumi/Gary Gibbons

Associate PD for the internal medicine residency
Bibliography 2nd 5 years

*Patent


Igho Pemu P, Ofili EO. Hypertension in women: part II. J Clin Hypertens (Greenwich) 10 5, 2008 June pp 497-503

Brent M. Egan, MD;1 Daniel T. Lackland, DrPH; Priscilla Igho-Pemu, MD, MS; Katharine H. Hendrix, PhD, MS; Jan N. Basile, MD; Shakaib U. Rehman, MD; Eni C. Okonofua, MD, MSCR; Alexander Quarshie, MD, MS; Adefisayo Oduwole, MD; Anekwe Onwuanyi, MD; James Reed, MD; Chamberlain Obialo, MD; Elizabeth O. Ofili, MD, MPH. Cardiovascular Risk Factor Control in Communities—Update From the ASH Carolinas–Georgia Chapter, the Hypertension Initiative, and the Community Physician’s Network Journal of Clinical Hypertension. J Clin Hypertens (Greenwich). 2006 Dec;8(12):879-86

M. Mhosen Ibrahim, Igho-Pemu, P, D. Singh, R. Wenzel. Angiotensin receptor blockers may be similarly effective to other antihypertensive drugs for primary prevention in the short term? Evidence-based Cardiovascular Medicine, 2006 Volume 10, Issue 2, Pages 89-93.

Bibliography 2nd 5 years


Hypothesis: There will be a difference in the EPC gene expression profile among lean, obese insulin sensitive and obese insulin-resistant groups of women as a result of the response to oxidative stress.

Specific Aim 1:

- Define the gene expression profile of EPCs of obese insulin resistant compared with obese non-insulin resistant and lean AA women.

Correlates of Vascular stiffness Adjusted for Adiposity

<table>
<thead>
<tr>
<th>Variable</th>
<th>β (95% CI)</th>
<th>Adj. R-squared</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adiponectin n=40</td>
<td>11.6(4.8-18.4)</td>
<td>28</td>
<td>0.001*</td>
</tr>
<tr>
<td>Log TNF-α n=40</td>
<td>7.9(-15.1)</td>
<td>15</td>
<td>0.03*</td>
</tr>
<tr>
<td>Log GSSG-GSH n=30</td>
<td>13.2(3.9-22.5)</td>
<td>19</td>
<td>0.007*</td>
</tr>
<tr>
<td>Log 8-Isoprostane n=41</td>
<td>8.8(1.1-16.6)</td>
<td>8</td>
<td>0.03*</td>
</tr>
<tr>
<td>Log circ EPCs n=27</td>
<td>10.9(2.7-19)</td>
<td>20</td>
<td>0.01*</td>
</tr>
<tr>
<td>HDL mg/dL n=27</td>
<td>15.7(7.2-24.5)</td>
<td>23</td>
<td>0.001</td>
</tr>
<tr>
<td>DBP mmHg n=41</td>
<td>8.5(1-16.9)</td>
<td>6</td>
<td>0.05*</td>
</tr>
</tbody>
</table>

Early Alterations of the Immune Transcriptome in Cultured Progenitor Cells From Obese African-American Women

Priscilla E. Pemu1, Leonard Anderson2, Beatrice E. Gee2, Elizabeth O. Ofili1 and Sujoy Ghosh3


Socio-demographic psychosocial and clinical characteristics of participants in e-HealthyStrides®: an interactive ehealth program to improve diabetes self-management skills.

Pemu PE, Quershie AQ, Josiah-Willock R, Ojutalayo FO, Alema-Mensah E, Ofili EO.

J Health Care Poor Underserved. 2011;22(4 Suppl):146-64.
PMID: 22102311
**Postgraduate Students/Fellows:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angela Doyinsola Aina</td>
<td>MPH Thesis Committee member, 2011 Project: Reproductive Health Knowledge, Attitudes, Beliefs, and Health-Seeking Behaviors of Nigerian-born Immigrant Women in Metropolitan Atlanta, Georgia, U.S.A.</td>
</tr>
<tr>
<td>Sase Ogboghodo, BS, MPA, MSCR 2011</td>
<td>Primary Mentor Project: Simulation-based Training Program for Research Staff in Administration of Informed Consent</td>
</tr>
</tbody>
</table>

**Medical Students**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles, Domonique Larae Ikenna Erinne</td>
<td></td>
</tr>
</tbody>
</table>

**Residents**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nadine Fair, M.D.</td>
<td></td>
</tr>
<tr>
<td>Emeka Uwakwe, M.D.</td>
<td></td>
</tr>
<tr>
<td>Thaedra Mercadel, M.D.</td>
<td></td>
</tr>
</tbody>
</table>

**Challenges and Lessons**

- Best models for collaboration with the complexities of team science
- Analysis of large clinical data sets; the output from high throughput technologies requires collaborations with a multidisciplinary team; Often, we speak different languages
- Time is finite; I opted out of my role in residency program administration
  - How to retain the unique experience of practicing medicine while carrying on a full research career?
- Transitioning to independent research grant funding
  - More difficult in this environment
- Time management
- Work life balance
  - They are teenagers now. Billy goes off to college in the fall; Fuafo in a year.......
**Future Direction**

- R-34 grant NIDDK: not funded; good critique
- Developed additional preliminary data
- Applying for R01 June 2012
- PI, NHLBI SPRINT at MSM
- Developing Manuscripts based on current study outcomes
- Expanding collaborative networks: community physicians; basic science collaborators

**Acknowledgements**

**Mentors:** Elizabeth Ofili; Judith Gwathmey; Gary Gibbons; Kwame Osei; Arshed Quyyumi;

**Collaborators:** Sujoy Ghosh; Alexander Quarshie; Leonard Anderson

**Grant Support:**
- NCRR 2R25RR017694-06A1, 5U54RR022814, and 5P20RR11104; 1U01 HL079214; 3UL1RR025008-05S1
- Medtronic foundation
- Microsoft Be Well Fund