A Innovative Mobile Health Care Model: Training Future Health Care Professionals & Caring for Communities

10th Annual Mobile Health Clinics Forum
Savannah, GA
9-23-2014

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Agenda

1. Discuss Florida International University’s innovative approach to community health
2. Describe Social Determinants of Health and FIU addresses them through household visits and mobile health
3. Discuss the key role Mobile Health clinics are playing in this approach

Disclosures

We have no relevant financial relationships with commercial interests to report and no conflicts of interest exist.
BACKGROUND

FIU Herbert Wertheim College of Medicine created in 2007 to:

Address community healthcare challenges by educating physicians to be socially responsible and expertly trained.

Prepare physicians for the new millennium where a national and regional physician shortage is projected.

Developed the “1st new medical curriculum in over 100 years”
THE WHY

An obligation to respond to national, state, and local health concerns
THE STATE OF OUR NATION’S HEALTH

- **2011**: ranked 37th in quality measures, i.e., longevity, health disparities, responsiveness of the health care system, and
  - Highest health care per capita expenditure, $8,608
  - Spent more on health care as percentage GDP, 17.2% (WHO)

- **2013**: ranked 46 out of 48 countries in ranking of nations with the most efficient health care systems (Bloomberg) – below Turkey and Iran

*World Health Organization 2000 Report; Bloomberg Visual Data Report -2013*
OVERALL HEALTH IN FLORIDA RANKS 33 AMONG ALL STATES

Key Challenges:

• Social and economic factors
• Hospitalization rates
• High rate of uninsured population
• Low high school graduation rate
• Health disparities

- Health Outcomes rank 37
- Health Determinants rank 32
KEY HEALTH INDICATORS IN SOUTH FLORIDA

- Social and economic factors
- Families below poverty level
- Uninsured workers in civilian workforce (600K)
- Hospitalization rates
  - Uncontrolled Diabetes
  - Congestive Heart Failure
  - Adult/Pediatric Asthma
  - Urinary Track Infections
- Sexually transmitted diseases
  - AIDS/HIV incidence rate
- Babies with low birth weight

Data published by Department of Health and The Health Council of South Florida
## What Determines the Health of a Community?

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Community &amp; Environment</th>
<th>Policy</th>
<th>Clinical Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td>Violent Crime</td>
<td>Lack of Health Insurance</td>
<td>Low Birthweight</td>
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<tr>
<td>Binge Drinking</td>
<td>Occupational Fatalities</td>
<td>Public Health Funding</td>
<td>Primary Care Physicians</td>
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<tr>
<td>Drug Deaths</td>
<td>Children in Poverty</td>
<td>Immunization-Children</td>
<td>Dentists</td>
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<tr>
<td>Obesity</td>
<td>Infectious Disease</td>
<td>Immunization-Adolescents</td>
<td>Preventable Hospitalizations</td>
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<td>Physical Inactivity</td>
<td>Air Pollution</td>
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<td>High School Graduation</td>
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*Data published by United Health Foundation / America's Health Rankings 2013*
Social Determinants of Health

Health Outcomes
- Length of Life (50%)
- Quality of Life (50%)

Health Factors
- Health Behaviors (30%)
  - Tobacco Use
  - Diet & Exercise
  - Alcohol & Drug Use
  - Sexual Activity
- Clinical Care (20%)
  - Access to Care
  - Quality of Care
- Social & Economic Factors (40%)
  - Education
  - Employment
  - Income
  - Family & Social Support
  - Community Safety
- Physical Environment (10%)
  - Air & Water Quality
  - Housing & Transit

Policies & Programs

Image Courtesy of Robert Wood Johnson Foundation report on County Health Rankings & Roadmaps, 2014
A new model of education in partnership with the local community:

Green Family Foundation NeighborhoodHELP™
An interdisciplinary medical education program
Started in 4 COMMUNITIES in Miami-Dade County

1. Miami Gardens
2. Opa Locka
3. Unincorporated Miami
4. Sections of NE Miami Dade

Have since expanded to Additional areas of Miami
Educational Objectives:

Interdisciplinary teams connect to a household in the community for hands-on learning about

- Social Determinants of Health
- Cultural Diversity
- Interdisciplinary Team Skills
- Comprehensive Approach to Health Issues
- Framework to Manage Ethical Issues

Develop socially responsible, community engaged physicians and healthcare professionals.
• An early clinical experience in a real world setting to address social determinants of health

• Community engagement: 110 community-based organizations refer underserved households

• Outreach team assesses household eligibility

• FIU Medical, Social Work, Law, and Nursing students conduct household visits

• Students identify needs and work together with households on agreed-upon goals

• Not Neighborhood “DO” but rather “HELP”: aim to empower household members
Step 1. Enroll/HH Visits
Outreach Team
Your Outreach Team consists of Outreach Specialists who enroll you in the program & assist you with receiving the services our program offers. Specialists are supervised by Outreach Coordinators who are available to assist them as they work with you.

Step 2. Orientation
Outreach Specialists review the details of how the program is operated and tailored to meet the needs of participants and then provide them the opportunity to ask more questions.

Step 3. Safety
Safety Officers
Our Safety Officers are responsible for making sure our program operates in a safe environment.

Step 4. Scheduling
Schedule Coordinators
Will contact you if you are selected to meet with one of our student teams.

Service
Neighborhood Physician
A physician is assigned to each neighborhood/community included in the program. They supervise the student teams that meet with households.

Training:
Medical Student • Nursing Student • Social Work Student
After your first visit students will contact you to schedule future visits to your home and on our Mobile Health Center (MHC.) Students are supervised by faculty at the university.

Mobile Health Center Staff
If you are enrolled in our NHELP program, uninsured and receiving visits from our students, they can schedule you to receive care on our MHC.
INTERVENTIONS FOR HOUSEHOLDS

• Health Care Access: **Free or low cost community clinics, Mobile Health Center**

• Health Education: **Diet, exercise, chronic disease management and prevention, home safety assessments**

• Resources: **Community parks, libraries, support groups, places of worship**

• Social Work: **Job training, benefits assistance, domestic violence/safety issues**

• Legal: **Housing, medical debt, disability claims, immigration**

• Mental Health: **Counseling, psychiatry**
# PROGRAM EVALUATION

## DEMOGRAPHICS

<table>
<thead>
<tr>
<th>POPULATION</th>
<th>DISTRIBUTION</th>
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</table>
| AGE                         | 30 % < 18 years old  
53.7 % ages 18 to 64  
16.3 % > 65 years old or older |
| GENDER                      | 42.2 % Male  
57.8 % Female |
| RACE / ETHNICITY            | 57.1 % African American  
19.5 % Hispanic |
| MEAN HOUSEHOLD SIZE         | 3.5 (SD = 2.3) |
| PRIMARY LANGUAGE            | 75.6 % English  
15.4 % Spanish  
9 % Others |
| EDUCATIONAL LEVEL           | 47.4 % High School or below  
16.7 % Bachelor’s or above |
| EMPLOYMENT STATUS           | 21.3 % Unemployed  
38.7 % Retired |
| ANNUAL HOUSEHOLD INCOME     | 69.2 % Less than $30,000 |
| HEALTH INSURANCE            | 51.3 % Of households at least 1 member was uninsured. |
THE Impact

September 2010 – July 2014

• 991 FIU students
• 3,458 visits to 524 households
• Impacting 1,242 household members
PROGRAM EVALUATION

HOSPITAL ER as a regular place of care

- Student Group
- Control Group

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<tr>
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<th>One Year Follow-up</th>
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<td>Student Group</td>
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<tr>
<td>Control Group</td>
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<td>20.4</td>
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</table>

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PROGRAM EVALUATION

MAMMOGRAM

- Student Group
- Control Group

Baseline:
- Student Group: 56.5
- Control Group: 81

One Year Follow-up:
- Student Group: 81.6
- Control Group: 74.4

BLOOD PRESSURE CHECK

- Student Group
- Control Group

Baseline:
- Student Group: 72
- Control Group: 90.6

One Year Follow-up:
- Student Group: 88
- Control Group: 75.5

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PHYSICAL EXAM

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<td>83</td>
<td>75.5</td>
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PAP SMEAR TEST

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<tr>
<td>Student Group</td>
<td>66.7</td>
<td>73.9</td>
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<td>78.3</td>
<td>67.4</td>
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Household visits: Witnessed health needs and access barriers

Mobile Health Center: Remove barriers by going into the neighborhoods to provide services through household-centered approach to care
FIU MOBILE HEALTH CENTER

MHC 1:

Primary health care
Progressive rollout in 1 neighborhood 1 day/week
Now 4 days/week in 4 neighborhoods and expanding
Hosted by community partners including local libraries, community centers, churches
Employ Conference rooms
ACCESS TO QUALITY HEALTH CARE

- 38 foot fully equipped mobile medical unit
- ADA compliant with wheelchair lift
- 2 medical exam rooms and waiting area
- Provide full spectrum primary care services, labs, vaccines, pap smears, EKGs, Spirometry
How we started: MHC 1

Building a Referral Network

FQHCs, DOH, mammography providers, community clinics
Academic/community resources
Behavioral health: MSW, psychiatrist
Gynecology procedures: endometrial biopsy, colposcopy
Adolescent Pediatric physician
Planning group visits for Diabetes, Hypertension
Improved Means to Document and Measure Health Quality Measures

Inquiries

Find: Patients
Where: Problem Description, Any contains asthma

Home Location is 'MHC'
AND Problem Description, Any contains 'asthma'
Mobile Mammography – 3D Tomosynthesis
FUTURE FIU MOBILE HEALTH CENTER(S)

MHC 3:
Primary health care

MHC 4:
Oral and behavioral health - Telemedicine
“Never doubt that a small group of committed people can change the world. Indeed, it is the only thing that ever has.”

Margaret Mead