Conflict of Interest Statement
Disclaimers

• I do not have any conflict of interest to disclose.

• While I am part of the research study that is being discussed I have no financial gain and receive no benefit.

• I am passionate about Family Health History and Interprofessional Education.

Objectives

• Discuss the importance of Family Health History Clinical Decision Support Implementation and Adoption for Primary Care Providers.

• Describe the features of the MeTree Clinical Decision Support Tool.

• Describe the contributions to study design and implementation of numerous healthcare and research professions.

• Choose the core competencies for interprofessional collaboration highlighted by the example study.
Part 1 : FHH implementation study

The most common method of discussing and identifying genetic factors that affect disease processes is through the careful collection of family health history information (FHH).

Our research focuses on identifying and eliminating the barriers to the utilization of FHH

The NHGRI funded a study “Family Health History in Diverse Healthcare Settings” Duke is the main site, and UNTHSC is one of the study sites.

Specific Aims

1) Optimize Collection of Patient entered FHH
2) Return Clinical Decision Support results to both patients and providers
3) Assess the clinical and personal utility of FHH
4) Disseminate guidelines for a FHH intervention across diverse practice settings
Implementation sites

• UNTHSC Family Medicine clinics:
  • Patient Care Center (PCC), Seminary Road Clinic, and Eagle Ranch Clinic

• External study collaborators/sites include:
  • Duke University, Essentia Rural Health Institute, Medical College of Wisconsin, US Air Force, and Intermountain Health

Background

• Significance of FHH
  • Useful for identifying patients at risk for hereditary diseases
    • i.e. breast, colon, and ovarian cancer, hereditary cancer syndromes, thrombophilia, and coronary heart disease.
  • Normally obtained by a Family Medicine provider
  • Strongest predictor of disease risk for certain genetic diseases[1]
  • Currently underutilized [3]

My Pedigree Slide

- Patient is a 44-year-old female
- Total cholesterol is 197 but has previously been as high as 398
- 12 lbs overweight
My Pedigree Slide- Heart disease may get me one day but I’m going to go down fighting!

- THIS IS WHY I EXERCISE
- It’s also why my provider and I began discussing diet and statin therapy.
- This discussion happened as early as my 20’s and continues today!

If FHH is so important and we know it what’s the problem?

- Both patients and healthcare providers face barriers for implementation.
  - Barriers for patients
    - Do not know their FHH
    - Do not see the relevancy of the FHH questionnaire
    - Lack the skills/tools to collect an accurate FHH
  - Barriers to provider FHH collection
    - lack of training and failure to recognize heritable diseases
    - limited time/resources

FHH tools help eliminate barriers

- FHH tools help eliminate barriers
  - Reduces the need for risk recognition and FHH interpretation
  - FHH is analyzed by the software
  - Risk calculations based on generally accepted guidelines such as USPSTF guidelines
  - Saves time during patient visits
  - FHH is entered electronically by the patient prior to visit
  - Helps to educate patients regarding risk, screening opportunities and FHH collection.
Utilization of FHH tools can increase Quality of Care

- FHH tools help eliminate barriers (continued)
  - Improves the quality of data by 46-75% compared to standard practice [3]
  - In a review of 1124 primary care patients 23% of patients with no evidence of disease risk in their medical record were at moderate or strong risk when assessed by FHH tools [7]
  - Provides patients with sufficient training/time to research and obtain FHH [9]
    - FHH can be started/stopped at any time
    - Ample time to discuss health topics with family members
    - Education of patients regarding FHH increases the quality of information received including improved age at diagnosis information [14]

The Implementation Study Utilizes MeTree

- An online, patient facing, FHH collection and CDS tool
- Developed to reduce FHH collection barriers
- Based on patients FHH and personal health history it generates:
  - Personal risk stratification report for the patient
  - Personal risk stratification report for the provider with treatment recommendations and risk score(s)
  - Pedigree and disease chart if genetic counseling is needed

MeTree demonstration

- MeTree demonstration
- There is a good 15 minute explanation and walkthrough of MeTree at the following website: http://www.genome.duke.edu/research/genomic-medicine/videos/MeTree-Demo/NewStandardPlayer.html?plugin=HTML5&type=video%2Fmp4
Barriers to MeTree or other CDS adoption

- Wu et al. Found that providers believed:
  1. they already collected high quality FHH through standard methods \(^1\)
  2. MeTree would not provide relevant changes in their patients' health care plans \(^1\)
  3. patients would direct discussions away from priority topics \(^1\)
  4. MeTree would negatively impact workflow \(^1\)

Local perceived barriers

**Provider Involvement and Liability**

<table>
<thead>
<tr>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Amount of time required to participate in the study</td>
</tr>
<tr>
<td>2. Amount of resources required to participate in the study</td>
</tr>
<tr>
<td>3. Liability for lack of patient follow-up</td>
</tr>
<tr>
<td>4. Availability of genetic counseling</td>
</tr>
<tr>
<td>5. Insurance coverage for MeTree recommendations</td>
</tr>
</tbody>
</table>

Current progress of the study

- We have met 67% of our recruitment goal
  - Initial provider recruitment is complete.
  - Addressed provider concerns within the study via an onsite study visit and personal communications.
  - ORCA survey invitations have been sent.
  - Qualitative interview invitations have been sent.
- Patient recruitment should begin any day now!
  - We are currently updating some of our recruitment materials and creating a Spanish Language version of all materials.
Outline

- Part 2
  - Interprofessional Practice
    - Introduction/Review of Interprofessional Collaborative Practice Competency Domains
    - Examples of these principals in practice during this ongoing research study

For those of you who may need a little reminder
Interprofessional Collaboration Core Competencies

- Values and Ethics
- Roles/Responsibilities
- Interprofessional Communication
- Teams and Teamwork
Examples of Interprofessional Competencies during Study Initiation

• Defining Study Goals!
  • Competency – Ethics and Values
    • Placing the interests of the patients and populations at the center.
      (Overall Study Goal – Improving the Quality of Patient Care by utilizing FHH)
    • Develop a trusting relationship with patients, families and other team members.
      (By Utilizing patient and provider risk reports, conversations about screening and lifestyle are fostered.)

Examples of Interprofessional Competencies during Study Initiation

• Competency – Roles/Responsibilities
  • Recognize one’s limitations in skills, knowledge, and abilities
  • Forge interdependent relationships with other professions to improve care and advance learning.

• Competency - Teams and Teamwork
  • Integrate the knowledge and experience of other professions as appropriate in shared patient-centered problem solving

• Physicians, Research Scientists, Bioinformaticians, Ethics professionals, and others came together to contribute to the design and implementation of the study.

Examples of places we need to improve as the study continues!

• Competency – Communication
  • Choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions.
  • Organize and communicate information with patients, families, and healthcare team members in a form that is understandable.

• In the original design of the study we did some things right and other’s need improvement!
  • Patient education within MeTree was linked to Medline + which is for the lay public and has approximately a 5th grade level.
  • There was no Spanish language availability. (Although it was planned and is currently coming online.)
  • Unfortunately the recruitment materials were at the 12th grade level!
Using interprofessional competencies to help solve problems.

• Currently we have less than 5% enrollment rate for patients across all study sites.
  • Therefore we have canvassed providers regarding recruitment efforts that may work within the healthcare settings.

<table>
<thead>
<tr>
<th>Patient Recruitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suggestions</td>
</tr>
<tr>
<td>1. Increase patient enrollment by adding acute care visits</td>
</tr>
<tr>
<td>2. In-person recruitment in the waiting room of clinics</td>
</tr>
<tr>
<td>3. Study personnel provide patients with a hardcopy of the MeTree questions and enter the data into MeTree at their next appointment</td>
</tr>
</tbody>
</table>

We also added team members!

• Because much of our recruitment materials were written at a high grade level…. We are in the process of changing them!

• We engaged social scientists to help increase the readability and appeal of our recruitment materials.
  • Changes included
    • Single page
    • Less formal font
    • More whitespace
    • Bullet points.

Interprofessional Core Competencies are a component of good research practice.

• We may not think of interprofessional practice competencies as a formulaic part of research.

• However, these competencies are as important to research as they are to individual patient care.
  • Patient centered values
  • Enhanced communication
  • Teamwork
  • Roles and responsibilities
Acknowledgments

- This work was supported by the 1U01HG007282 - 01 Grant NHGRI, NIH – Genomic Medicine Pilot Project (PI – Orlando and Ginsburg Duke University) - The goal of this project is to implement patient-entered family history with open source clinical decision support tools in multiple sites. Outcomes to be tested include cancer screening rates, and patient and physician satisfaction with tools.

- My research team
  - Victoria Baria – Past Intern, Janhavi Maliah – Research Coordinator, David Gregorio – TCOM OMS-II, Cynthia Alder - HT
  - Anna Espinosa, Kim Fulda with NorTex
  - David Farmer, PhD, MA, BA
    - Interprofessional Educ Dir, Assistant Professor - Medical Education/Academic Affairs
  - IPE committee

Bibliography
