The Virtual Community Health Center:
Training Medical Students to Serve the Underserved

The ATSU-SOMA VCHC Team

AACOM Conference
April 22nd, 2015
Ft. Lauderdale, FL
THE VIRTUAL COMMUNITY HEALTH CENTER: CONTEXT, COMMUNITY, AND SOCIAL JUSTICE

Fred Schwartz, DO, FACOFP, Thomas Bennett, DO, Monicha Fernandez, MMS, PA-C, Lise McCoy, EdD
The VCHC Project Team:

Lise McCoy, EdD
Monica Fernandez, MMS PA-C
Thomas Bennett, DO
& Fred Schwartz, DO, FACOFP, Project Senior Researcher

A.T. Still University, School of Osteopathic Medicine in Arizona

This project is funded in part by grants:
HRSA, D54HP20674, 2010-2014
Phoenix General Hospital Osteopathic Education Fund, 2015-2016
Learning Objectives

• Experience technology-enhanced learning tools and methods related to the virtual community health center.

• Consider diagnosis, treatments, social determinants of health, and cultural considerations while solving a virtual patient case.

• Discuss osteopathic aspects of a virtual patient case.
Target Trainees

- UGME, GME
- CHC Employees

Multiple Health Professions

DO, MD, PA, Nurse, PT, OT, DDS, Pharm D, Social Workers, Counselors

Part I: VCHC Vision, Goals, Scope

The Virtual Community Health Center is an engaging virtual learning environment designed to prepare healthcare teams to serve and help transform medically underserved communities.
Virtual Cases Occur During Small Group Case Practice

- Large Group Content
- Small Group VCHC Pre-test
- Small Group Virtual Case
- Small Group VCHC Post-test
- Small Group COPC* Debrief

Weeks: 6 min, 30 min, 6 min, 10 min

*Community-oriented primary care (COPC)
<table>
<thead>
<tr>
<th>Domain</th>
<th>VCHC Alignment with AOA Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Osteopathic Medicine</td>
<td>a. Apply principles of OMT</td>
</tr>
<tr>
<td></td>
<td>b. Apply a whole person approach:</td>
</tr>
<tr>
<td></td>
<td>- Elicit facts relevant to the social determinants of health: socio-economic context, family, occupation, personal life.</td>
</tr>
<tr>
<td></td>
<td>a. Appropriately process information about culture, age and ethnicity</td>
</tr>
<tr>
<td>2. Medical Knowledge</td>
<td>a. Demonstrate knowledge of relevant clinical science</td>
</tr>
<tr>
<td></td>
<td>b. Demonstrate knowledge of relevant basic science</td>
</tr>
<tr>
<td>3. Patient Care</td>
<td>a. Demonstrate clinical reasoning</td>
</tr>
<tr>
<td></td>
<td>b. Demonstrate a patient-centered, humanistic approach</td>
</tr>
<tr>
<td></td>
<td>b. Communicate with respect within in a healthcare team</td>
</tr>
<tr>
<td></td>
<td>c. Collaborate well in a healthcare team.</td>
</tr>
<tr>
<td></td>
<td>d. Communicate regarding notes written in the EHR</td>
</tr>
<tr>
<td>5. Professionalism</td>
<td>a. Demonstrate knowledge of protocols and ethics</td>
</tr>
<tr>
<td></td>
<td>b. Exhibit professional demeanor toward patient</td>
</tr>
<tr>
<td>6. Healthcare Systems</td>
<td>a. Refer patient accurately to other providers</td>
</tr>
<tr>
<td></td>
<td>b. Facilitate use of CHC resources</td>
</tr>
</tbody>
</table>
Welcome to ATSU's Envision Community Health Center™. Explore a sample of training exercises from real patient scenarios to group participation.

Register today to become a member of the virtual community health center. Members gain insight to industry-specific knowledge and unlimited access to resources, authentic learning tools and various patient simulations.

Be a part of the solution.

LOG IN  GET INVOLVED
Humanistic Care

Keep these things in mind as you encounter patients:

- Family-oriented care
- Patient-centered care
- SDH, EHR
- Cultural considerations
- Critical thinking
- Osteopathic considerations
- Community health solutions
- Teamwork & professionalism
OMSI Students Complete Cases During Small Group, 2014

Cases are Shared via the Decision Simulation™ Platform

#1
Good Morning!

Welcome Back!

Your patient panel here at the Envision CHC™ is growing. I bet you will start having patients in your continuity clinic before long.

Today, you are again on duty in the walk-in clinic.

As always, I’ll be here from time to time to help you when needed.

Let’s go down to the clinic and see if any patients have checked in...

#2

Continue
Initial Conversation with Chris and Mr. Williams

Before you elicit Chris' history of present illness (HPI) there's one more thing you might want to ask him before proceeding.

Discuss the options below as a group.

Select the best option to continue

- What safety gear do you normally wear when skateboarding?
- Ask if Chris is a new patient to the Envision CHC™.
- Ask Chris if he minds discussing his problem with Mr. Williams (Dad) present.
- Ask Chris if he has ever had a similar problem.
Incorrect - Clearly this information will be important to your counseling of Chris and Mr. Williams at the close of this patient encounter, but first you should do what you can to meet Chris’ immediate healthcare needs, especially since

Ask if Chris is a new patient to the Envision CHC™.

Incorrect - If you reviewed the initial EMR after triage it states that this is Chris’ initial visit here. Select another option.

Ask Chris if he minds discussing his problem with Mr. Williams (Dad) present.

Correct - Way to go!!!… This is often best accomplished by having the parent leave the room to get the best information from your older pediatric patients. At age 13 Chris might even have things he’d like to talk to you about alone that are not even related to his chief complaint. Try not to offend parents or others who accompany a patient. With patients

Ask Chris if he has ever had a similar problem.
Your First Patient for Today

As you arrive in the clinic Raúl, your clinic MA (medical assistant), calls your first patient.

You happen to observe him rising in the waiting room when he is called... the start of your general survey!

He is obviously in pain which appears to be his low back.
May Arrives... Hispanic Names Explained

May: Before we go in to see our patient let me explain a little about Hispanic names to avoid confusion and to keep you culturally competent.

You nod approval...

May: In Hispanic culture there is no "last name" as we see in the U.S. Instead there are two names known as the first apellido... pronounced "Ah peh yee doh" ...(Morales in this case), and the second apellido (Gómez in this case). You probably noted the last name on the EMR was hyphenated; Morales-Gómez. The hyphen is a convention used in the U.S. and is not correct in Hispanic law or culture. This is done here to avoid confusion with what is called a "middle name" in this country, and also because many computer databases won’t accept two names in the "last name" field.

You ask her how Mr. Morales Gómez’s name is derived...

May continues: Morales is his father’s first apellido. Gómez is the first apellido of his mother. The names signify the union of families and the "male" apellido comes first. When a Hispanic person uses an "Americanized" name they will use the the first apellido as their "last name"... In your patient’s case this would be Morales. It can get a little more interesting for wives when marriages occur. You can find more information about Spanish names on the internet when you have time later. Let’s go see Mr. Morales.
Summary of Correct Scheme Decisions So Far

Here's where the correct decisions have led you.

Left click on any image to enlarge it in a new window or tab.

Keep the next decision point as well as the options available on the scheme in mind as you proceed.

Discuss the options below as a group. Select a way to continue helping Mr. Lopez.

- Review Mr. López's medical record as it stands now
- Elicit the rest of Mr. López's pertinent history
- Order specific diagnostic studies (lab and/or imaging) for Mr. López
- Obtain an orthopedic surgery consult
Mrs. McCaskill seems upset now, so you ask if there is something troubling her beyond the headache.

Mrs. McCaskill: It just seems like a lot of questions. My headache is killing me and I need some relief. In the emergency room I usually get a shot of something quickly and then I get better. Jayden is getting restless. Plus my other son, Jacob, gets home from school soon… with my husband Ethan. I need to get home. Can't you just give me something?

What should you do now?

Discuss the options below as a group before selecting one from the list below.

- Explain that you need to finish her history and do her examination before treating, which will be soon, and proceed adding a single question to those you plan on asking her as you continue.
- Explain that you are concerned about substance abuse and ask permission to do laboratory drug screening along with her other workup today before you can treat her headache.
- Apologize and explain that you will have Raul get some oral pain medicine that she can take while you continue with her focused history and physical.
- Empathize with her situation, reassure her, and begin a substance abuse questionnaire before returning to the usual history taking.
- Please give us some guidance in this
Not a Good Decision at this Point

I overheard Mrs. McCaskill's response. I wanted to diffuse the tension and discuss drug screening with you.

Your concerns about substance abuse and drug-seeking are appropriate, but your approach is not.

Asking to perform a drug abuse screening now changes your usual order of topics in the medical interview making you prone to omissions, has interfered with your patient rapport, and will take a lot of time which could be unnecessary if screening is not warranted after completion of Mrs. McCaskill's history and physical.

Let me offer a suggestion.
The Williams Family Arrives

You introduce yourself to Kim Williams, who is Conrad’s wife and Chris’ mother. She is also Barbara Washington’s daughter and Zelma Washington’s granddaughter.

You greet Chris, who is your patient, and Conrad... You empathize with them all.

It’s 9:50 now. You excuse yourself to check on the neurologist, to give the family a few minutes together, and to contemplate the scheme.
You start on the right introducing yourself and asking everyone’s name.

Mrs. Nielsen: Hi doctor, I’m Dawn Nielsen, this is my wife Margarita López-Gutiérrez, and sitting on the table is our daughter Lucia Nielsen-López.

Mrs. López-Gutiérrez: Hello, glad to meet you. I believe you took care of my brother Jesús López-Gutierrez when he hurt his back.

Mrs. Nielsen: He has nothing but good things to say about Envision.

One more introduction to go...
Call the Otolaryngologist

You phone Dr. Jackson, the otolaryngologist on call, and discuss Mr. Morales’ case and your concerns that he has acute epiglottitis. You request that he evaluate Mr. Morales as soon as possible and consider fiberoptic laryngoscopy to confirm the diagnosis.

Dr. Jackson: Certainly sounds like it... Remember that a 31-year old Mexican national would not be immunized against the numbering cause of epiglottitis since Mexico's immunization program did not introduce H.influenza type b (Hib) immunization until the mid 1990’s. I'll be there in.... say.... 20 minutes. Could you have a translator available.

You thank him and assure him all will be ready.

Continue
Osteopathic Structural Examination

Indicated Always

Your structural exam today focuses primarily on the areas of concern in the extremities.

Bilaterally there is tenderness, and swelling in both of Mrs. Yazzie's wrists, all MCP joints, all PIP joints, both ankles, and MTPs. The wrist and hand joints are warm. Her hands seem mildly edematous.

Range of motion (ROM) of the wrists and finger is restricted, as is forearm pronation and supination.

You note ropiness of the forearm muscles and some areas of point tenderness also.

Clearly there is dysfunction of the wrist related to both the articulations between the small bones of the wrist and their articulation with the distal radius and ulna. An insight into Mrs. Yazzie's hand numbness perhaps!
Chief Complaint

Dizziness

History of Present Illness (HPI)
44 y/o Chinese-American female brought in POB by coworker who observed events and also present and interviewed for HPI with pt consent. Pt clino 3 episodes of severe dizziness this AM. Episodes each started a few sec after moving head, especially looking up. She felt as if the room were spinning around and fell when unsupported. Pt describes this as like being pulled down. Episode length estimates 48 sec (less than a min) each. No LOC. Coworker states pt’s “eyeball twitching” during dizziness, but not otherwise. Pt had a bumpy bus ride to work this AM with head sitting window 6-7 times. Had associated nausea with dizziness that resolved quickly afterward. Episodes occurred sitting and standing. Appears and feels fine between episodes. Coworker corroborates.

Patient History

Medical History:
NKA; immunizations current, Anemia b/c/d with iron supplement 10 yrs ago, hasn’t seen a doctor x 10 yrs. G2P2002, regular menses, contraception: condoms, does OSE
CURRENT MEDS: multiple vt, iron supplement

Surgical History:
cholecystectomy 10 yrs ago

Family History:
Fatter-hypertension, presbycusis
Mother-gallbladder removed
Denies HTN, brain tumors seizures, and migraine

Social/Personal History:
Married, Married x18 yrs, Husband (Flower) traveling salesman, away from home a lot, Pt is primary family income source.
Not homeless, Lives in stable apartment with family. Husband and 2 daughters (12 &14)
Employed, Bank teller, Highest education level: high school graduate.
SOCIAL DETERMINANTS: positive

Smoking Status: never smoker

Alcohol Use: Never

Drug Use: Never
## Case Debrief Activity

<table>
<thead>
<tr>
<th>Code</th>
<th>Sample Student Response – Debrief Discussion - Osteopathic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment (34)</td>
<td>I learned that for the sprain, it is possible to do a treatment that will help with swelling and circulation to help the healing process.</td>
</tr>
<tr>
<td>OMT (22)</td>
<td>Assessing for issues using touch and active range of motion provide an added component to diagnosing.</td>
</tr>
<tr>
<td>Structural exam: always (11)</td>
<td>I learned that you always do an osteopathic exam. I also learned the pain could be treated using OMT techniques as well as used it to help restore function.</td>
</tr>
<tr>
<td>Speed up healing (8)</td>
<td>Osteopathic medicine can be used to help with the healing process of distal radial fractures that do not require a cast. These procedures can help with optimal lymphatic and circulation to the area for healing.</td>
</tr>
<tr>
<td>Technique (10)</td>
<td>Some form of OMM can be used, such as myofascial release. Palpation of the anatomical snuffbox to determine a scaphoid fracture is not the only concern for FOOSH injuries. Look at the whole upper extremity, and even clavicle, for such an injury.</td>
</tr>
<tr>
<td>Whole patient: Safety gear (3)</td>
<td>In addition to treating symptoms and improving health concerning the current issue, it is also important to address causative factors, such as safety concerns.</td>
</tr>
<tr>
<td>Explain osteopathic medicine (2)</td>
<td>It seemed as though the patient and his father didn't understand osteopathic medicine, and that the physician had to repeat him/herself. Also, osteopathic medicine can be important in the support and treatment of various injuries.</td>
</tr>
</tbody>
</table>
Next Steps

- Interprofessional Cases
- Case-Writing Fellowship
- 25 Cases UGME
- NACHC Cases?
- Education Research
- Resident Cases?
<table>
<thead>
<tr>
<th>Case</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>RA</td>
</tr>
<tr>
<td>Case 2</td>
<td>FOOSH</td>
</tr>
<tr>
<td>Case 3</td>
<td>Adhesive Capsulitis</td>
</tr>
<tr>
<td>Case 4</td>
<td>Regional Back Pain</td>
</tr>
<tr>
<td>Case 5</td>
<td>Headache</td>
</tr>
<tr>
<td>Case 6</td>
<td>Stroke</td>
</tr>
<tr>
<td>Case 7</td>
<td>Epilepsy</td>
</tr>
<tr>
<td>Case 8</td>
<td>Dizziness</td>
</tr>
<tr>
<td>Case 9</td>
<td>HTN</td>
</tr>
<tr>
<td>Case 10</td>
<td>URI</td>
</tr>
</tbody>
</table>
In summary, our goal is to model a cutting edge “People-Centered Health Home”

More than 45 million Americans are uninsured, and as a result, they experience increased morbidity and mortality. Even Americans who have insurance often face financial and other barriers to getting care. The Affordable Care Act removes most of these financial barriers. (Kocher, et al., 2010)
References


Landon, B. E., Hicks, L. S., O’Malley, a J., Lieu, T. a, Keegan, T., McNeil, B. J., & Guadagnoli, E. Improving the management of chronic disease at community health centers. 2007, NEJM 356:9


Blue Ribbon Commission. 2013. Overhaul of Medical Education to Address Primary Care Physician Shortages.