

Community-Oriented Primary Care Case Study

Adapted from the University of Massachusetts COPC Fellows Course

The clinic is real. The account is fictional.

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Winston Liaw, MD, MPH has reported no conflicts of interest relative to this program.

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In order to obtain CME credit, you must complete the following tasks:

- 1) Complete the case study.
- 2) Complete the post-activity quiz (There are quizzes for each module and case study).
 - a. The last question of the quiz provides a prompt to indicate your email address. **If you want to receive CME credit, you must provide your email address so that we can score your quiz appropriately.**
<https://www.surveymonkey.com/s/5GGQ5B6>
- 3) Score at least 75% on the quiz (For quizzes with 4 questions, you must answer at least 3 questions correctly. For quizzes with 5 questions, you must answer at least 4 correctly).
- 4) Complete the CME certification form.
 - a. **In order to match the CME certification form with your quiz, you must provide the same email address that you provided during the post-activity quiz.**
<https://www.surveymonkey.com/s/53NGY5S>

After finishing the case study, please complete this evaluation survey to help us make it better!

<https://www.surveymonkey.com/s/5BP3MT6>



Pre-Case Study Activity:

Objectives:

- List the steps involved with uploading data into HealthLandscape
- Demonstrate how to adjust the settings of the HealthLandscape interface to tailor the map to inform your questions of interest
- Demonstrate how to map pre-existing datasets within HealthLandscape

Background:

Gathering and interpreting data are essential parts of the community-oriented primary care (COPC) process. The adoption of electronic medical records and advent of online mapping tools have helped facilitate these steps.

Prior to starting the group case study, you should complete this pre-case study activity, which is designed to introduce you to HealthLandscape, an online mapping tool, and this community of interest.

ACTIVITY 1: Upload dummy data set

- Log on to HealthLandscape: www.healthlandscape.org
 - o If you do not have a log in, follow these steps:
 - Register for the UDS Mapper (Uniform Data System) which allows you to view geocoded results from Health Center Program Grantee UDS responses.
 - It is important to register here because if you register at HealthLandscape first, you will not have access to the UDS Mapper without requesting us to provide that access, where if you register for the UDS Mapper you are automatically also registered for HealthLandscape
 - Go to www.udsmapper.org and select “Register for Access”
 - Complete the form (will not work in Google Chrome)
- Click on Tools
- Click on “QuickThemes”
- Click on “Click here to begin”
- Click on “click anywhere in this box”
- Open the file entitled “COPC curriculum – case study data” and select the worksheet labeled “Data-QuickThemes”
- Highlight columns “A” through “R”
- Press Control+C (hold control then press C) to copy the data
- Go back to HealthLandscape and press Control+V (hold Control then press V) to paste the data into HealthLandscape
- On the right side column, under the drop down menu for “Type”, select “Tract 2000”
- Under the drop down menu for “ID”, select “Census Tract”
- Where it asks, “Do any columns represent a...”, under the drop down menu for “Group/Category”, select “Patient count”
- Where it asks, “What other column(s) would you like to show in the tooltip”, under the drop down menu for “Group/Category”, select all of the options except for “Name”
- Click on the blue button, labeled “Load”
- You should see a map of Houston
- Zoom in as desired to view the patient distribution of the clinic

- Roll over the highlighted boxes. You should see a pop up window that shows the data for each census tract. Currently, we are viewing the number of patients per census tract
- To see the census tracts that contain the most patients, locate, “Do any columns represent a...”, and under the drop down menu for “Group/Category”, select “Top 25 highest patient count census tracts”.
- **Questions:**
 - o **How would you describe the distribution of those census tracts (clustered around the health center or dispersed throughout the city)?**
 - o **What factors do you think could explain the distribution you have observed?**
- Click on the “QuickThemes” tab
- Where it asks, “Do any columns represent a...”, under the drop down menu for “Group/Category”, select “Top 25 percentage indicating poor access to healthy foods”
- Repeat the last step for two other “Top 25” groups/categories
- **Questions:**
 - o **How would you describe the degree of overlap between the “Top 25” groups/categories you selected (1 = no overlap, 10 = perfect overlap)?**
 - o **What factors could explain this degree of overlap?**

ACTIVITY 2: View filters on HealthLandscape

- On the right side of the screen, click on the “Layer Controls” tab
- De-select the check mark next to QuickThemes so that the previously loaded data will not appear on the map
- Under “Basemaps and Optional Layers”, select Federally Qualified Health Centers and Census Tracts (2000). Select on other options if so desired to assist with navigation; however, selecting too many layers can interfere with interpreting the map.
- Locate “Good Neighbor Healthcare Center” (west of downtown Houston; you may need to zoom in to see the names of the health centers)
- Click on QuickMaps
- Select two options under “Demographics” (the options under “Health” will not provide census tract level data)
- **Question:**
 - o **Write down two observations about the three census tracts around Good Neighbor Healthcare Center (48201510200, 48201410200, and 48201410100), comparing them to the communities directly to the west and east. (Note: As you zoom in, the census tracts are subdivided into block groups. Good Neighbor used to be located in 48201410100 and is now located in 48201510200. HealthLandscape still shows the old site in 48201410100 as well.)**



- Under Tools, select “ACS QuickMaps (5-year).
- Select two options (such as % Female or % Spanish only). You may need to zoom out slightly in order to see the shading of the census tracts
- To see the locations of the health centers, you may need to go to “Layer Controls”. Click and hold on to the up down arrow below “Federally Qualified Health Centers” and drag it to the top of the list. Now, you should be able to see the health centers.

- **Question:**

- o **Write down two more observations about the three census tracts around Good Neighbor Healthcare Center (48201510200, 48201410200, and 48201410100), comparing them to the communities directly to the west and east. (Note: As you zoom in, the census tracts are subdivided into block groups. Good Neighbor used to be located in 48201410100 and is now located in 48201510200. HealthLandscape still shows the old site in 48201410100 as well.)**



Introduction

You work at the Good Neighbor Healthcare Center, located in Houston, Texas. To complete your application for National Committee for Quality Assurance (NCQA) patient centered medical home (PCMH) recognition and as part of your efforts to qualify for Centers for Medicare and Medicaid Services (CMS) Meaningful Use incentive payments, your practice started tracking the body mass indices (BMI) of children and adults. In her conversations with other directors of safety net clinics, your executive director has noticed that the percentage of patients who are overweight and obese is much higher than that of nearby clinics. Since you have been trained in community-oriented primary care (COPC), she recruits you to help her convene a COPC team with the goal of assuming responsibility for the health care of the clinic's entire community.

You enlist the help of a pediatrician, internist, family physician, nurse practitioner, physician assistant, social worker, nurse, medical assistant, a representative from the phone center, and two of the health center's board members to make up the clinic's COPC team. One of the board members is a local pastor who has worked with the clinic since its inception while the other is a well respected director of the local YMCA. There are also residents, physician assistant students, and nurse practitioner students that rotate at your clinic.

The center serves over 7,000 individuals, conducts approximately 20,000 patient visits each year, and is located in census tract 48201510200, northwest of Downtown Houston. It has traditionally defined its catchment area as the ten surrounding census tracts but has never determined the actual residence of its users (Figure 1, Map of the Original Service Area). The center was started in 1968 by Dr. Robert Eckert who left a successful private medical practice and opened the Fourth Ward Kennedy Brothers Clinic in the highly impoverished Fourth Ward community near Downtown Houston. The center was previously located in census tract 48201410100.

Questions:

- **Should people who do not work at the clinic be included in the COPC team? Why or why not?**
- **One of the clinic's board members argues that conducting COPC will detract from the clinic's ability to meet its financial goals. Do you agree with him?**

Community definition

- Objectives:
 - o State two methods for defining the community of a clinic.
 - o List two resources available to characterize a community
 - o Define penetration with respect to community definition

The COPC team realizes that they will first need to define the community they want to serve. One of the COPC team members feels that the community should consist of the ten surrounding census tracts because this will be consistent with the original center charter (Figure 1). Another team member points out that many new immigrants from Cambodia live within this area and that the center cannot serve them because of trouble with communication with this population. He argues for a definition of a community based on groups the center will be able to realistically serve.

In the past, 80% of the clinic's patients lived in the ten census tracts surrounding the clinic (Figure 1). After studying a random sample of patients, you conclude that patients are now more dispersed.

To get a better sense of where patients are living, you list the number of patients per census tract and place the tracts in descending order. The team discovers that the top ten census tracts only contain 27% of the patients. The team decides to include the top 25 census tracts as the clinic's community, which captures 43% of the clinic's patients (Figure 2, Map of the 25 Census Tracts).

Questions:

- **What factors do you think are most important when defining your clinic's community?**
- **When examining the top 25 highest patient count census tracts, you notice that several of the census tracts are isolated from the other census tracts. Do you think the isolated tracts should be included in the community definition? Why or why not?**

One of your team members attended a geographic information system workshop while at a conference and mentions that the group should also consider the clinic's penetration of census tracts when determining the clinic's service area.

Penetration = the number of patients from the clinic living in a census tract / the number of people in the census tract

After calculating the penetration of the clinic for each census tract and then placing the census tracts in descending order, you notice that tract 48201330600 is number 34 in terms of the absolute number of patients and number 10 in terms of penetration.

Question:

- **How does penetration add to your understanding of the clinic's role in the community? Should you include tract 48201330600 in the clinic's defined community? Why or why not?**

Your COPC team decides to gather more data about the defined community and consults American Fact Finder (<http://factfinder2.census.gov>) from the US Census Bureau. Using this website, you gather these data about the census tracts (Table 1, Characteristics of Selected Census Tracts; the same table is located in files "COPC curriculum – case study maps and tables" (PowerPoint) and "COPC curriculum – case study data" (Excel)).

Question:

- **From the data, census tract 48201510900 appears wealthier than the rest of Harris County. Should this census tract be included in the defined community? Why or why not?**

To determine whether the community definition actually reflects the clinic's population, the two board members on the clinic's COPC team offer to gather a group of patients to comment on the community definition.

Upon reviewing the data and the proposed community definition, the focus group confirms that the definition accurately reflects the community of the clinic. They say that there are pockets of poverty within 48201510900. Many of the patients of the clinic work in the service industry and help with maintenance of newly built houses within this tract. The clinic's original patients have migrated north due to the rising cost of living in 48201510900. Because they have received excellent care from the

clinic in the past and the clinic has worked towards engaging the patient population, they are willing to travel further in order to preserve continuity. Furthermore, the clinic is located on several easily accessible bus lines that run north-south. They agree that using the original community definition (the ten census tracts surrounding the clinic) would be inappropriate now.

Identifying health problems

Objectives:

- Describe two methods of generating lists of community health problems
- List one pro and one con of addressing a broader social issue (compared to a narrow medical issue)

The COPC team decides to create a community health committee, composed of community members. The purpose of the committee is to advise the COPC team, participate in the COPC projects, and recruit others in the community to help with projects. Ultimately 10 people participate in the committee (Table 2, Community Health Committee Members; the same table is located in files “COPC curriculum – case study maps and tables” (PowerPoint) and “COPC curriculum – case study data” (Excel)).

During one of the initial meetings, the clinic’s COPC team presents the data that you collected. At a subsequent community health committee meeting, you hold a focus group to generate a list of health issues plaguing the community.

After the focus group, your COPC team surveys the list of problems generated:

- School dropouts
- HIV/AIDS
- Lack of access to nutritional foods
- Lack of access to safe areas to exercise
- Teenage pregnancies
- Dental care
- Asthma
- Depression
- Drug use
- Crime
- Job training
- Affordable housing

Questions:

- **Do you agree with having representatives of higher socioeconomic status on the community health committee? Why?**
- **Several board members are still concerned that the community is not involved enough in the COPC process. What steps can you take to ensure that the committee’s perspective is reflected within the COPC project?**
- **What are other methods of generating a list of health problems? What could you do to improve the described process?**

Using this list, your COPC team and the community health committee try to prioritize which problem to address. Some participants argue that addressing broader issues such as access to nutritional foods and crime would impact more people while others worried that addressing social determinants required the involvement of more stakeholders and were beyond their scope of expertise. After vigorous discussion,

the committee comes to the consensus that they are most concerned about access to healthy food after two Key Mart locations (a locally owned grocery store) closed two years ago. The store had been the only option for obtaining inexpensive fresh fruits and vegetables in the area. Residents reported having to travel much further to obtain these items since the store closed.

Developing the intervention

Objectives:

- Describe the reasons to coordinate with pre-existing pertinent programs.
- List three reasons to involve the community in developing the intervention.

The COPC team and the Community Health Committee seek to improve access to healthy fruits and vegetables in their community and explore the possibility of opening a farmers' market. In researching farmers' markets in the area, one of the Community Health Committee members discovers that a work colleague serves on the Board of Directors for a farmers' market in south Houston.

Some of the Community Health Committee and clinic COPC team meet to determine which other community organizations to include, how to recruit vendors, how to advertise the market, and where the market will be located.

Questions:

- **What factors should you weigh when determining where the farmers' market will be located?**

After securing a location, recruiting vendors, and advertising the market, the farmers' market opens several months later. Attendance at the market is brisk. By all accounts, the market is a success with many buyers and sellers, but it is unclear whether the intervention actually reached the defined community.

Questions:

- **How many problems should be addressed at one time? Does the selection of more than one problem dilute resources or maximize impact and community engagement?**

Monitoring the intervention

Objectives:

- Define and list examples of process and outcome measures
- Describe the purpose of performing the evaluation

After the farmers' market opens, one of the COPC team members recalls from a COPC course that the team should have already started developing the evaluation. Furthermore, she remembers that measurements of interest can frequently be grouped into process and outcome measures and recounts that the outcome measures are the desired objectives of the project while the process measures are the steps involved in meeting the objectives. For example, if the goal is to decrease the incidence of lung cancer (outcome), then the clinic may track the number of people who received smoking cessation counseling (process) or the number of people receiving smoking cessation medications (process).

During a meeting, the team decides that they are first interested in the number of people from their defined community who have ever attended the farmers' market.

Questions:

- **What process and outcome measures would you want to track for this intervention?**
- **Who should be the target audience for the results of your evaluation?**
- **One of the COPC team members argues that the team needs more money to advertise the farmers' market and suggests that the team use the funds allocated for the evaluation. Do you agree with him? Why or why not?**

Conclusion

The farmers' market has been a huge success, but it is unclear whether the intervention has reached the defined community. Surveys of attendees of the farmers' market and patients at the clinic indicate that most of the attendees are from census tracts outside of the clinic's defined community. Furthermore, many clinic patients are not attending the farmers' market. After performing ongoing evaluations, your team discovers that patients at the clinic neither knew that the farmers' market had been created nor that the price of produce at the market was competitive with grocery stores in the area. Participants of qualitative focus groups indicated that they would use the farmers' market more frequently if vendors accepted food stamps.

Your team is able to use the data from the evaluation in a successful grant application to a local hospital foundation. Using money from the grant, you are able to advertise the farmers' market on local radio and newspapers and purchase the equipment needed for vendors to accept food stamps. Surveys after these modifications indicate that the number of people from your defined community that have attended the farmers' market has increased 75% from 13% to 17.3%.

Questions:

- **What other data do you need to know whether or not the project has been successful? How would you obtain that data?**

Post-Case Study Activity

Objectives:

- List two ways that you can use HealthLandscape to monitor the intervention

A nurse practitioner student is rotating at your practice, and her program requires that she complete a community project prior to graduation. After hearing about the COPC project, she is excited to help out and creates a survey, which she administers over 4 weekends, for attendees of the farmers' market to determine their home addresses and satisfaction with the market. From her survey, she is able to calculate the percentage of farmers' market attendees from each census tract. Her results are located in the column labeled "Percentage of market attendees from the census tract" in the worksheet labeled "Data – QuickThemes" in the file "COPC curriculum – case study data".

Concurrently, a rotating physician assistant student hears about the project and also wants to help gather data. He is interested in looking at the locations of children aged 6 to 18 years with body mass indices greater than the 95th percentile. He performs a chart review in the EMR of children who meet

these criteria over the preceding 6 months. The locations of these children are in the worksheet labeled “Data – QuickGeocodes” in the file “COPC curriculum – case study data”. The addresses of the closed Key Marts and the clinic are also included.

ACTIVITY 3: Geocoding point data

- Log on to HealthLandscape
- Click on Tools
- Click on “QuickGeocodes”
- Click on “Click here to begin”
- Click on “click anywhere in this box”
- Open the file entitled “COPC curriculum – case study data”
- Open the spreadsheet within this file entitled “Data – QuickGeocodes”
- Highlight columns “A” through “H”
- Press Control+C (hold control then press C) to copy the data
- Go back to HealthLandscape and press Control+V (hold Control then press V) to paste the data into HealthLandscape
- Where it asks, “Do any columns represent a...”, under the drop down menu for “Group/Category”, select “Location type”
- Where it asks, “What other column(s) would you like to show in the tooltip”, under the drop down menu for “Group/Category”, select all of the options except for “Longitude” and “Latitude”
- Click on the blue button, labeled “Geocode Now”
- You should see a map of Houston
- To overlay the results of the survey, follow the steps listed in Activity 1 in order to load the QuickThemes dataset (the “Data-QuickThemes” worksheet). If the QuickThemes dataset is already loaded into HealthLandscape, then skip this step.
- Click on the QuickThemes tab.
- After you have copied and pasted the data into HealthLandscape, then click on the QuickThemes tab.
- Where it asks, “Do any columns represent a...”, under the drop down menu for “Group/Category”, select “Percentage of market attendees from the census tract”
- Now, you should be able to see both the “Percentage of market attendees from the census tract” and the locations of 6-18 year olds with BMIs > 95th percentile
- To see the point locations over the census tract data, click on “Layer Controls” on the right side toolbar.
- Click on the up and down arrow below “QuickGeocodes” and drag it to the top of the list.
- You should see the point data and census tract data simultaneously.
- Note that the locations of the Key marts and the clinic are labeled with colors different from that of the patients.

Questions:

- **Based on this map (also located in Figure 3, Percentage of Farmers’ Market Attendees From Each Census Tract and Locations of Overweight Children), does it appear that the overweight patients are attending the farmers’ market?**
- **Assume that future evaluations confirm that the intervention is not reaching families of overweight children. What factors could explain this finding?**
- **How would you increase their attendance at the farmers’ market?**