

PolicyMap: Digital Humanities tool linking research and practice in interprofessional health science education

Nexus Summit 2018

Genevieve Pinto Zipp, PT, EdD

Genevieve.zipp@shu.edu

Catherine Maher, PT, DPT

Catherine.maher@shu.edu



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- Complete workshop evaluations (paper) and end-of-Summit evaluation (electronic)

Those who purchase CE credit:

- MUST sign in to receive credit
- Will be sent a certificate after the Summit

****If you would like CE credit but have not purchased it, see Registration

Disclosures

Catherine Maher, PT, DPT
Genevieve Pinto Zipp, PT, EdD

- Employee: Seton Hall University, School of Health and Medical Sciences, Nutley NJ.

Presentation Purpose

- Provide participants an opportunity to explore the utility of **PolicyMap** as a **tool** to identify populations at risk, select appropriate social determinants, epidemiological, and health status factors, visualize the risk, and develop risk segmentation characteristics and criteria as we seek to explore the link between interprofessional health science education and population health analysis.



Outline

- Describe PolicyMap, a digital humanities tool
- Explore PolicyMap as a tool to identify populations at risk, select social determinants, epidemiological, and health status factors, and visualize risk
- Define the role of interprofessional practice in Healthy People 2020 and beyond.
- Small Group Discussion
- Question and Answer

Healthcare industry in the United States continues to face significant challenges in providing quality patient-centered care

- Healthy People 2020 encourages healthcare professionals to focus on the relevance of **social determinants** and **health status** in order to provide **patient-centered care**.
- **Population health strategies** coupled with the growth in **data analytics** provides a foundation for health professionals in exploring both health status and social determinants that may influence team-based healthcare.
- **National data** sets are available to all health professionals and allow for simple analysis across diverse variables.

Why GIS



A geographic information system (GIS) is designed to

- Capture
- Store
- Manipulate
- Analyze
- Manage

G is key in GIS

Geography – means that some portion of the data is spatial (referenced to locations).

Attribute data is usually coupled with geography data and provide additional information about spatial features. It is the partnership of these two data types that enables GIS to be such an effective problem solving tool through spatial analysis.

People ask the questions that lead to spatial analysis, and the management of large datasets, and the displaying of information in a map for a meaningful purpose.

Why?

- Using GIS tools such as Policy Map to secure data on social determinants influencing health supports further **development of professional competencies** that aid in addressing population management, healthcare responses and the role of healthcare professions such as physical therapy.
 - Example: data which can be extrapolated from secure data sets related to prescription opioid-overdose deaths and associated social determinates can be used to further support APTA's #ChoosePT campaign as it can **lay background** for the PTs role in managing pain and may positively impact on uncontrolled mortalities resulting from opioid-overdose.

So why “Policy Map”?

<https://www.policymap.com/>

- a digital humanities tool
- offers access to diverse variables within “big data” sets, which can be used, for secondary population health analysis.
- easy-to-use online mapping of data on demographics, real estate, health, jobs and more in communities across the US.
- PolicyMap is a simple spatial analysis tool to access demographic, health and economic variables.

How did we get involved with PolicyMap?

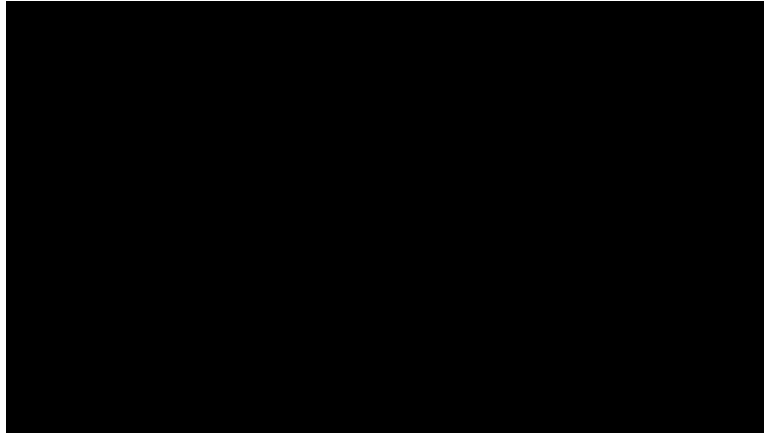
Seton Hall University via our Libraries purchased an [Enterprise License](#) to PolicyMap for the university community to encourage data literacy with GIS tools.

Dr. John Buschman, Dean of Seton Hall's University Libraries, "Student research utilizing this geographic tool will inform their subject knowledge as well as enhance their digital literacy and critical analysis skills."

We believe Policy Map (GIS) enables our students to visualize various community health problems and to assist them as they seek to find their role in preventing and managing the at-risk health conditions associated with those problems.

A Quick Tour

- <https://youtu.be/aGcPV2WeauM>



MapChats Application Samples

- <https://youtu.be/B7rFZqZU4Dc>
- Seton Hall University application
- <https://youtu.be/db15d0amYzE>
- Community health application

So how have we begun to use PolicyMap

by seeking to understand conditions in the places where people live, learn, work, and play which affect a wide range of health risks and outcomes

“Impact of Social Determinates on Health”



As part of the healthcare team we must

ensure that the impacts of social determinants of health are explicitly considered when designing patient-centered plans of care



Healthy People 2020

Approach to Social Determinants of Health

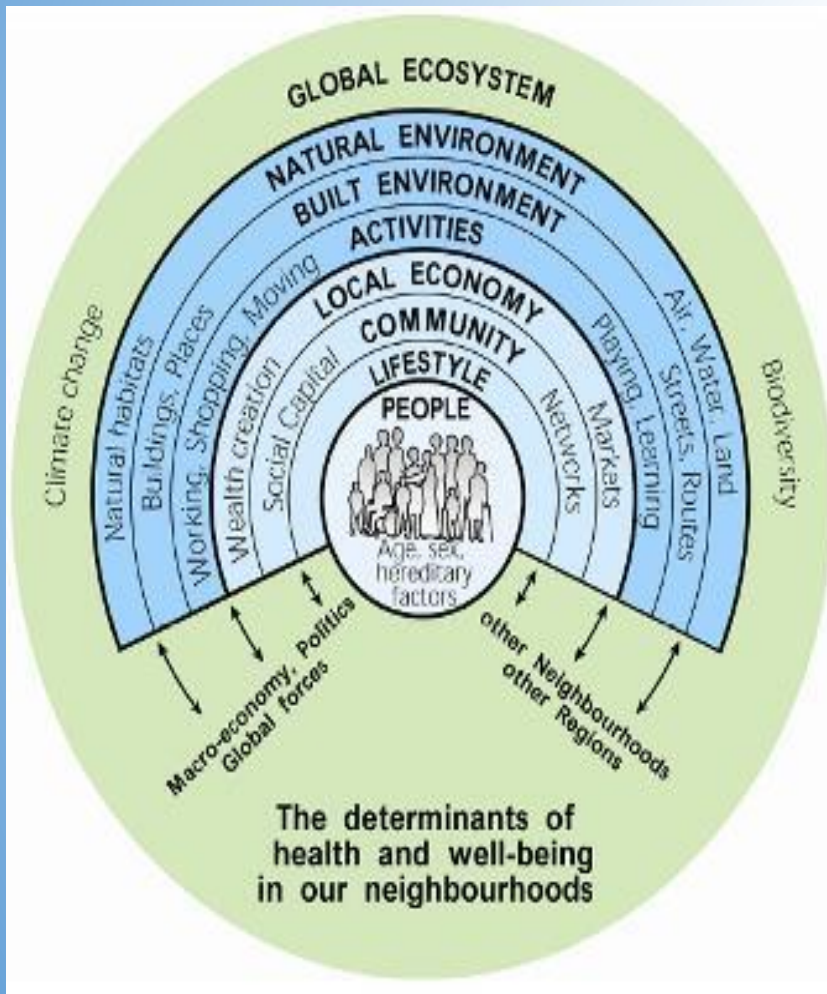
A “place-based” organizing framework,
reflecting five (5) key areas of social determinants of health
(SDOH),

These five key areas include:

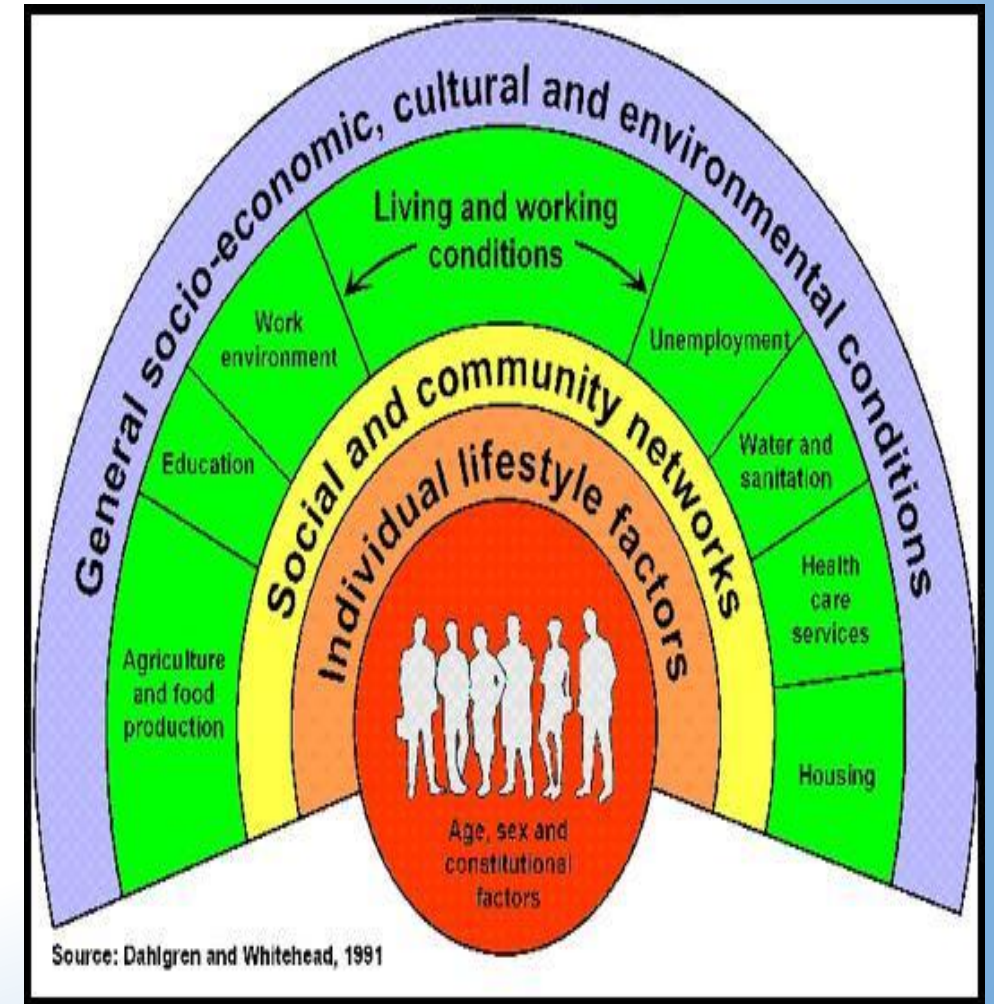
- Economic Stability
- Education
- Social and Community Context
- Health and Health Care
- Neighborhood and Built Environment



The Dahlgren-Whitehead rainbow model



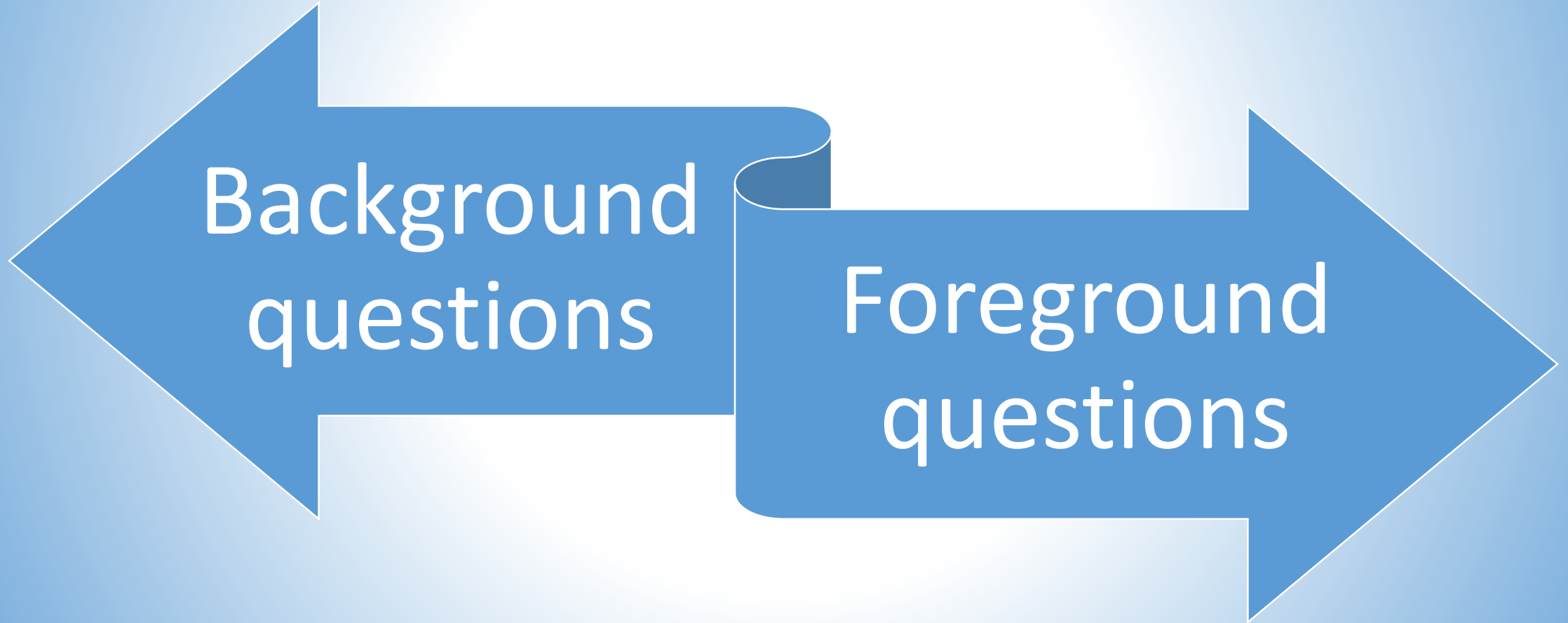
one of the most effective illustrations of health determinants, and has had widespread impact in research on health inequality and influences.



Exploring our roadmap



Research Coursework





Background questions

- ask for general knowledge about a condition, test or treatment. These types of questions typically ask who, what, where, when, how & why about things like a disorder, test, or treatment, or other aspect of healthcare.
- For example: **What causes migraines?**

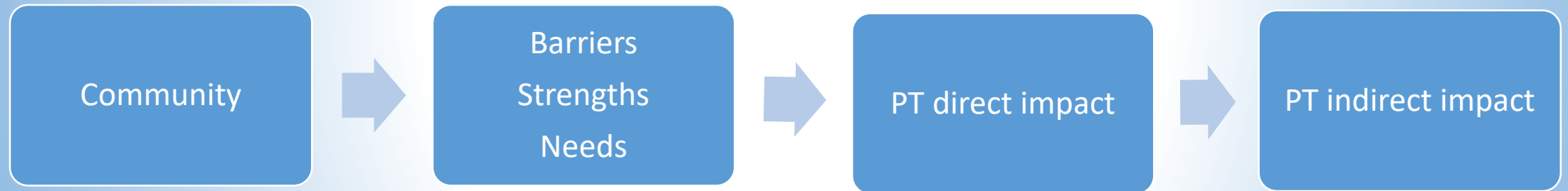
Foreground questions

- ask for specific knowledge to inform clinical decisions. Questions typically concern a specific patient or particular population. They are more specific and complex than background questions. They investigate comparisons, such as two drugs, or two treatments.
- For example: **In patients with osteoarthritis of the hip, is water therapy more effective than land-based exercise in restoring range-of-motion?**

Content Specific Course

- Geriatrics Problems GDPT xxx
 - Includes an in class instructor facilitated experience related to geriatric population focusing on identifying **social determinants** and **health status** within the local community.
 - Exposure to The PolicyMap created is used to insight discussion surrounding the role of physical therapy in prevention, health, and wellness.
 - From these discussions the students generate a foreground and background question.

Service Learning Experiences



- Service Learning GDPTXXXX

- As a full semester course of experiential learning with a community partner, DPT students participate in designing and implementing a service project to meet a need, in this case prevention, wellness, health promotion with an emphasis on social responsibility.
- Teams of students are assigned a community partner, an school for children with special needs and implement a Fun Fitness Day at end of the semester.
- During the semester students must research needs, evidence based literature and address societal needs

- The course introduces the students to PolicyMap as a means to search for data and visualize the demographics of students with special needs within various communities across the state and specifically in the counties in which SHU engages with community partners.
- This data visualization adds value to the importance of their project in impacting the underserved communities within the state.

IPE

COLLABORATION

AT OT

COMMUNICATION

PA PT

TEAMWORK

SLP

PARTNERSHIPS

IHSA

Center for Interprofessional Education in the Health Sciences (CIEHS)

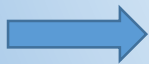


Core IPE Curriculum: 4 On-Line Learning Modules

Fall Year 1
Module 1: Professional
Behaviors

Spring Year 1
Module 2: Cultural
Competency

**Merging
Policy Map
and IPE**



Fall Year 2
Module 3: Team Science:
Evidenced Based Research
Teams

Spring Year 2
Module 4: Healthcare Issues
and Trends

IPE Module 3: Team Science for Community Health Needs Assessment

Developed by:

Glenn Beamer PhD

Nina Capone Singleton, PhD, CCC-SLP

Genevieve Pinto Zipp, PT, EdD

Jurga Marshall, MS, PA-C

Course Information

Course Number:

Year and Semester: Year 2, Fall

Credits: .25

Clock hours: 3.5

Course level: Level 2

Meeting Time: On-line Asynchronous

Introduction (overview of the module)

Today’s culture of health care requires effective and efficient evidenced-based, team- based, “patient-centered care.” Where and how do health care professionals acquire an appreciation of the interdependence that exists amongst professionals in the patient-centered care model? As faculty, we believe that interprofessional education provides the opportunity for the awareness, appreciation, and development of interdependence amongst health care professionals that is present in patient-centered care. Interprofessional education employs diverse transformative adult learning experiences to prepare health professional students for their role in the patient centered health care. As an academic institution, which prepares health science professionals for practice in today’s patient centered, evidenced based health care environment the Center for Interprofessional Education in the Health Sciences offers 4 On Line Asynchronous IPE Learning Modules.

IPE Module 3 explores the concept of “**Team Science**”. Module 3 has been designed to provide an opportunity for interprofessional teams of health care professional students and faculty members to engage in thoughtful self-directed learning and reflection on the research process and its implications for evidenced-based, team-based, patient-centered health care practice. Module 3 contains 4 learning Units. Each learning Unit has specifically utilized diverse teaching and learning strategies to explore Unit pertinent content, assist students to meet Unit and promote expected outcomes.

Unit 1: What is collaborative research?

Unit 2: How can we use secondary data for population health

Unit 3: How can you build stakeholder consensus for investigating and evaluating population health?

Unit 4: Translating Research into Interprofessional Practice

Options for group projects



Using PolicyMap for Population Health Analysis of Stroke

Overall Description:

The PolicyMap assignment is a group learning project that requires your interprofessional healthcare team to research *stroke* and the social determinate data indicators available. Based upon your insightful mining of the data the team will look for unknown patterns and trends that can be used to address one of the project assignments which may include developing models for predicting future outcomes, designing research questions, creating service learning experiences and the development of team-based patient-centered plans of care.

Project A

Goal: As an interprofessional health professions team member:

1. Identify social determinants, epidemiological, and health status factors for populations at risk for stroke using PolicyMap.
2. Develop the statement of the research problem which leads you to a research hypothesis or guiding question the team has defined.
3. Develop an **integrated research plan** to address the issues you identified.

Project Outline:

Become familiar with PolicyMap by following the Step-by-step Directions.

SHU homepage for PolicyMap

<http://library.shu.edu/policymapgs>

[PolicyMap direct link to demo](http://policymap.com/demo.html)

<http://policymap.com/demo.html>

[PolicyMap site](https://www.policymap.com/support/)

<https://www.policymap.com/support/>

[PolicyMap 3 layer approach](https://youtu.be/7CdoDurqOys)

<https://youtu.be/7CdoDurqOys>

- A. As a learning team complete at least one map related to stroke linking together the clinical conditions, epidemiological information, morbidity and mortality data and social determinants that you believe are important and show trends or identify previously unknown information.
- B. Based upon your PolicyMap write a statement of the research problem which includes rationale and justification for the study and significance of the study?
- C. Develop an integrated research plan to investigate further this issue to address the problem you have identified.
- D. Upload your PolicyMap (s), Statement of the Research Problem and Research plan to the course DropBox with all group members names identified on the front page and file saved as (PolicyMap-stroke- Research Plan--year-team name) *example policymap-stroke-2017-Zipp*

Using PolicyMap for Population Health Analysis of Stroke

Overall Description:

The PolicyMap assignment is a group learning project that requires your interprofessional healthcare team to research *stroke* and the social determinate data indicators available. Based upon your insightful mining of the data the team will look for unknown patterns and trends that can be used to address one of the project assignments which may include developing models for predicting future outcomes, designing research questions, creating service learning experiences and the development of team-based patient-centered plans of care.

Project B

Goal: As an interprofessional health professions team member:

1. Identify social determinants, epidemiological, and health status factors for populations at risk for stroke using PolicyMap.
2. Identify the specific problems discussed in the patient case and explore the patients issues in relation to the data you mined using Policy Map.
3. Develop an **integrated team-based plan of care** to address the patients issues you identified.

Project Outline:

Become familiar with PolicyMap by following the Step-by-step Directions.

SHU homepage for PolicyMap

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[PolicyMap direct link to demo](http://policymap.com/demo.html)

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[PolicyMap site](https://www.policymap.com/support/)

<https://www.policymap.com/support/>

[PolicyMap 3 layer approach](https://youtu.be/7CdoDurqOys)

<https://youtu.be/7CdoDurqOys>

- A. As a learning team complete at least one map related to stroke linking together the clinical conditions, epidemiological information, morbidity and mortality data and social determinants that you believe are important and show trends or identify previously unknown information.
- B. Identify the specific problems discussed in the patient case and explore the patients issues in relation to the data you mined using Policy Map.
- C. Develop an integrated team-based plan of care to address the patients issues you identified.
- D. Upload your PolicyMap (s) and plan of care to the course DropBox with all group members names identified on the front page and file saved as (PolicyMap-stroke-year-team name) *example policymap-POC-stroke-2017-Zipp*

Using PolicyMap for Population Health Analysis of Stroke

Overall Description:

The PolicyMap assignment is a group learning project that requires your interprofessional healthcare team to research *stroke* and the social determinate data indicators available. Based upon your insightful mining of the data the team will look for unknown patterns and trends that can be used to address one of the project assignments which may include developing models for predicting future outcomes, designing research questions, creating service learning experiences and the development of team-based patient-centered plans of care.

Project C

Goal: As an interprofessional health professions team member:

1. Identify social determinants, epidemiological, and health status factors for populations at risk for stroke using PolicyMap.
2. Identify the specific problems discussed in the patient case and explore the patients issues in relation to the data you mined using Policy Map.
3. Develop an **integrated Clinical Practice Guideline** to address the patients issues you identified.

Project Outline:

Become familiar with PolicyMap by following the Step-by-step Directions.

SHU homepage for PolicyMap

<http://library.shu.edu/policymapgs>

[PolicyMap direct link to demo](http://policymap.com/demo.html)

<http://policymap.com/demo.html>

[PolicyMap site](https://www.policymap.com/support/)

<https://www.policymap.com/support/>

[PolicyMap 3 layer approach](https://youtu.be/7CdoDurqOys)

<https://youtu.be/7CdoDurqOys>

- A. As a learning team complete at least one map related to concussion linking together the clinical conditions, epidemiological information, morbidity and mortality data and social determinants that you believe are important and show trends or identify previously unknown information.
- B. Based upon your policymap write a statement of the research problem which includes rationale and justification for the study and significance of the study?
- C. Develop an integrated CPG to address the patients issues you identified.
- D. Upload your PolicyMap (s) and CPG to the course DropBox with all group members names identified on the front page and file saved as (policymap-stroke-year-team name) *example policymap-CPG-stroke-2017-Zipp*

Using PolicyMap for Population Health Analysis of Stroke

Overall Description:

The PolicyMap assignment is a group learning project that requires your interprofessional healthcare team to research *stroke* and the social determinate data indicators available. Based upon your insightful mining of the data the team will look for unknown patterns and trends that can be used to address one of the project assignments which may include developing models for predicting future outcomes, designing research questions, creating service learning experiences and the development of team-based patient-centered plans of care.

Project D

Goal: As an interprofessional health professions team member:

1. Identify social determinants, epidemiological, and health status factors for populations at risk for stroke using PolicyMap.
2. Identify the specific problems discussed in the patient case and explore the patients issues in relation to the community data you mined using Policy Map.
3. Develop a plan for a team-based **Service Learning Project** to address the common key issues you identified which may be preventive in nature.

Project Outline:

Become familiar with PolicyMap by following the Step-by-step Directions.

SHU homepage for PolicyMap

<http://library.shu.edu/policymapgs>

[PolicyMap direct link to demo](http://policymap.com/demo.html)

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<https://youtu.be/7CdoDurqOys>

- A. As a learning team complete at least one map related to stroke linking together the clinical conditions, epidemiological information, morbidity and mortality data and social determinants that you believe are important and show trends or identify previously unknown information.
- B. Identify the specific problems discussed in the patient case and explore the patients issues in relation to the community data you mined using Policy Map.
- C. Develop a plan for a team-based **Service Learning Project** to address the common key issues you identified which may be preventive in nature.
- D. Upload your PolicyMap (s) and Service Learning Project Plan to the course DropBox with all group members names identified on the front page and file saved as (policymap-stroke-year-team name) *example policymap-SLP-stroke-2017-Zipp*



Additional web resources which can be used in tandem to explore and analysis data as you seek to support your research question, develop plans of care and advance your collaborative knowledge base include:

www.HealthyPeople.gov

<http://www.cdc.gov/socialdeterminants/Publications.html>

http://www.cdc.gov/dhdsp/maps/social_determinants_maps.htm

<http://buildhealthyplaces.org/whats-new/the-networks-picks-mapping-social-determinants-of-health/>

<https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>

- **Community Health Assessment Process: Six Common Phases (available on YouTube at: <https://www.youtube.com/watch?v=vKNHzb-ww-M&t=101s>)**

Example

Zipp direct link <http://library.shu.edu/policymap>

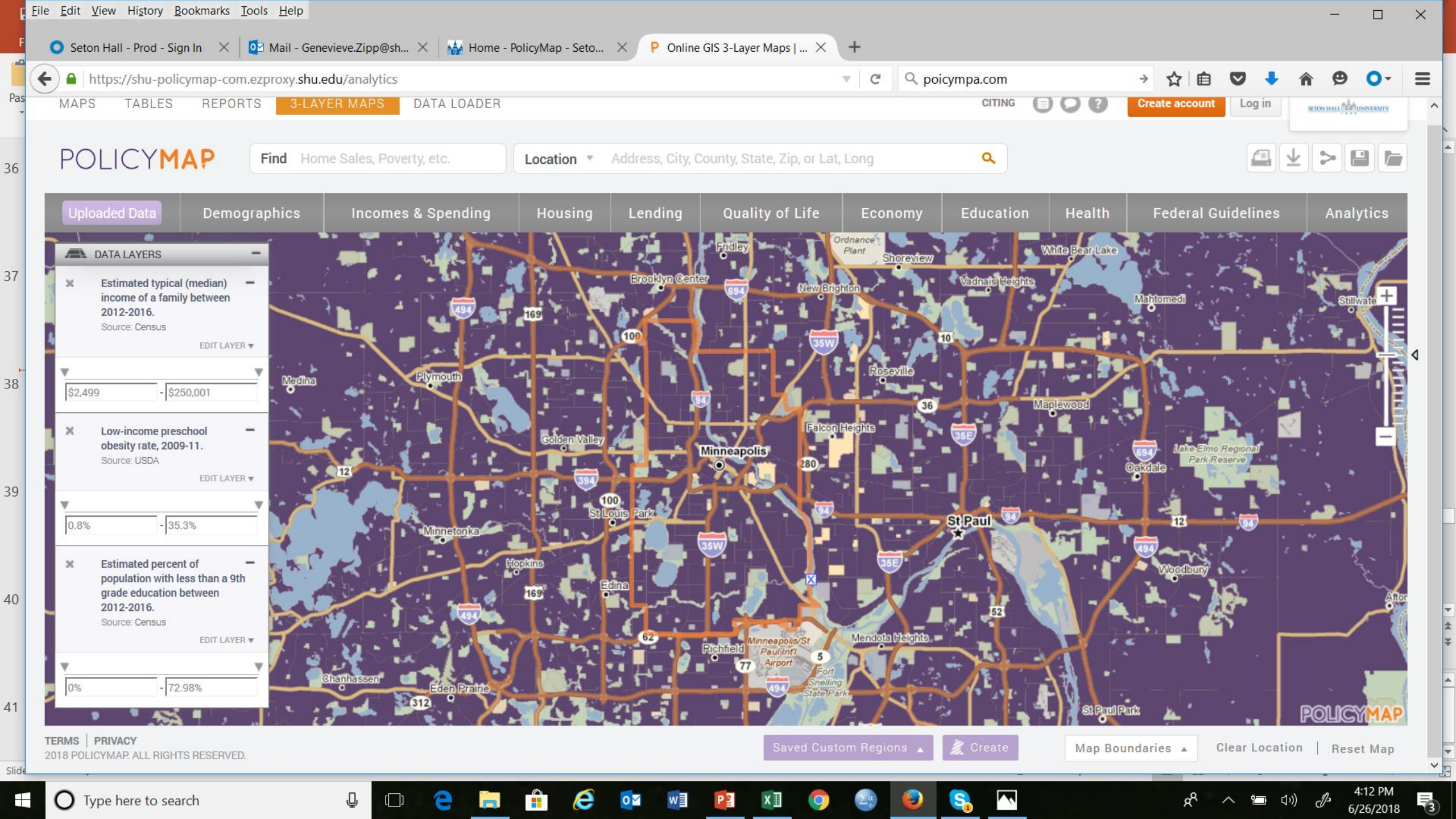
Background questions

- ask for general knowledge about a condition, test or treatment. These types of questions typically ask who, what, where, when, how & why about things like a disorder, test, or treatment, or other aspect of healthcare.
- Example: **What causes obesity ?**

Foreground questions

- ask for specific knowledge to inform clinical decisions. Questions typically concern a specific patient or particular population. They are more specific and complex than background questions. They investigate comparisons, such as two drugs, or two treatments.
- Example: **Does physical activity impact *obesity* to a greater degree then parents socio economic status in children ages 6- 13 years old living in Minneapolis?**

<https://www.policymap.com/data/our-data/>



File Edit View History Bookmarks Tools Help

Seton Hall - Prod - Sign In Mail - Genevieve.Zipp@shu.edu Home - PolicyMap - Seto... Online GIS 3-Layer Maps | ...

https://shu-policymap-com.ezproxy.shu.edu/analytics poicympa.com

MAPS TABLES REPORTS 3-LAYER MAPS DATA LOADER CITING Create account Log in

POLICYMAP Find

Uploaded Data Demographics

DATA LAYERS

- Estimated typical (median) income of a family between 2012-2016.
- Low-income preschool obesity rate, 2009-11.
- Estimated percent of population with less than a 9th grade education between 2012-2016.

Download Data CSV

Step 1 Select Data Step 2 Select Location Step 3 Confirm Download

Your CSV is being processed. Larger files could take up to 15 minutes to download.

Close

CRITERIA

- Estimated typical (median) income of a family between 2012-2016.
\$2,499 - \$250,001
- Low-income preschool obesity rate, 2009-11.
0.8% - 35.3%
- Estimated percent of population with less than a 9th grade education between 2012-2016.
0% - 72.98%

Carver Park Reserve Victoria 312 St Paul Park

POLICYMAP

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Font

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Conditional Formatting

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Styles

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Editing

Sort & Filter

Find & Select

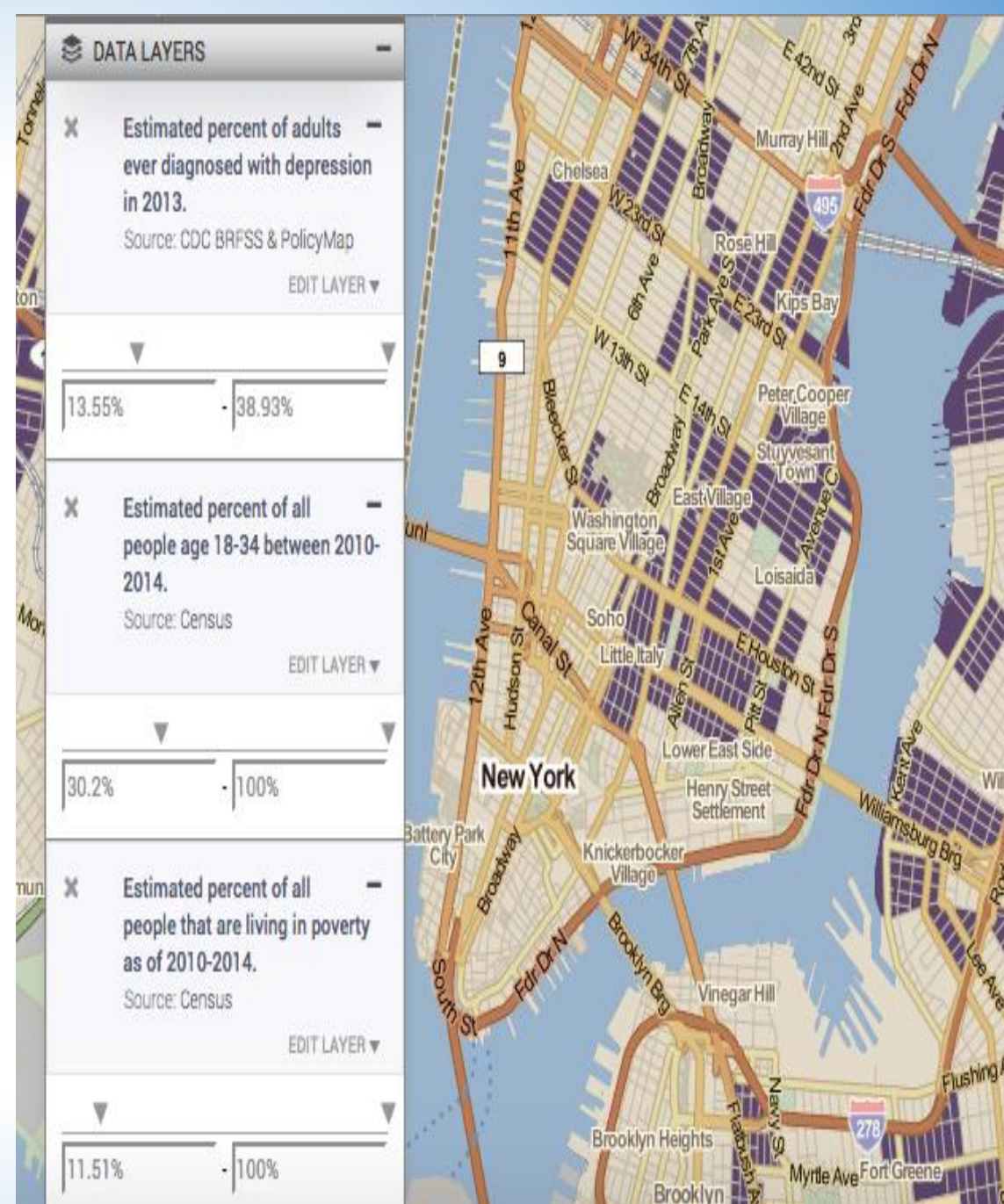
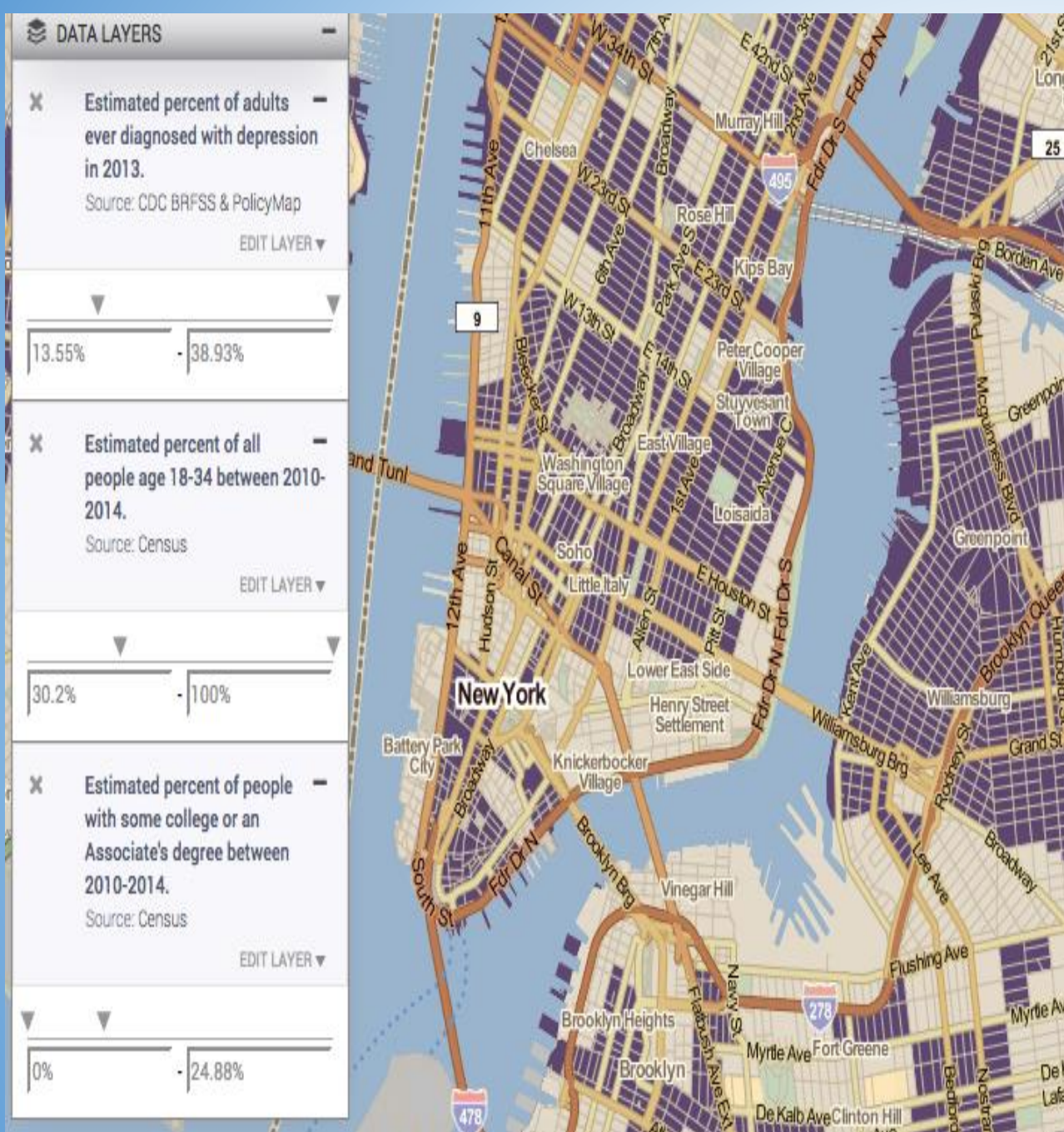
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Estimated percent of population with less than a 9th grade educa

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Data Layer	0.8% - 35.3	(Variable: percent)																				
2	Data Layer	\$2,499 - \$	(Variable: currency)																				
3	Data Layer	0% - 72.98	(Variable: percent)																				
4																							
5	State	County, 20	Low-incon	Census Tra	Estimated	Estimated percent of population with less than a 9th grade educa																	
6	Minnesota	Aitkin	14.3	2.7E+10	55263	2.49																	
7	Minnesota	Aitkin	14.3	2.7E+10	57000	2.48																	
8	Minnesota	Aitkin	14.3	2.7E+10	48646	2.81																	
9	Minnesota	Aitkin	14.3	2.7E+10	47122	1.62																	
10	Minnesota	Aitkin	14.3	2.7E+10	50667	2.69																	
11	Minnesota	Aitkin	14.3	2.7E+10	63023	0.64																	
12	Minnesota	Anoka	11	2.7E+10	79688	1.2																	
13	Minnesota	Anoka	11	2.7E+10	75689	0.38																	
14	Minnesota	Anoka	11	2.7E+10	99069	0.22																	
15	Minnesota	Anoka	11	2.7E+10	94313	1.05																	
16	Minnesota	Anoka	11	2.7E+10	106169	1.13																	
17	Minnesota	Anoka	11	2.7E+10	105208	0.05																	
18	Minnesota	Anoka	11	2.7E+10	91923	1.62																	
19	Minnesota	Anoka	11	2.7E+10	91319	2.3																	
20	Minnesota	Anoka	11	2.7E+10	96295	1.78																	
21	Minnesota	Anoka	11	2.7E+10	84589	1.83																	
22	Minnesota	Anoka	11	2.7E+10	113333	0.56																	
23	Minnesota	Anoka	11	2.7E+10	117659	0.37																	
24	Minnesota	Anoka	11	2.7E+10	108875	1.12																	
25	Minnesota	Anoka	11	2.7E+10	102885	0																	
26	Minnesota	Anoka	11	2.7E+10	101500	1.96																	
27	Minnesota	Anoka	11	2.7E+10	101833	0.6																	
28	Minnesota	Anoka	11	2.7E+10	106728	0.78																	

Depression-Population/Age-Meal Cost





So as a team lets try it out.....

- Interprofessional Service Learning Project

Driving Question: Develop a Background and Foreground questions

Based upon the developed questions discuss specifics of interest
demographics, income and spending, housing, lending, quality of life,
economy, education, health, federal guidelines, analytics

key social determinates you would be interested in investigating

Questions, Comments, Concerns

References

<https://shu.policymap.com/maps>

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