

# Population Health Colloquium Preconference-I

## Case Study Overview

The purpose of this case study is to help participants identify the larger upstream determinants and contributory factors that influence the likelihood and severity of preventable disease and adverse health outcomes (e.g. asthma) in a population.

### **Specific learning objectives include:**

1. Recognize that the presentation and clinical course of many diseases is often determined by factors related to the places where an individual lives, works, plays and goes to school.
2. Describe key determinants that impact the presentation and clinical course of a disease, including socioeconomic, environmental, cultural and geographic factors.
3. Identify the important role community engagement, outreach, and advocacy play in addressing the key determinants through multi-stakeholder partnerships and actions that include the healthcare delivery system.

## **Background:**

### **Geography:**

Jefferson City is a mid-sized city with a population of 750,351 located along the banks of the Jefferson River. The city is divided into four wards: North, South, East and West. Immediately adjacent to Jefferson are several smaller suburban towns, and beyond them are rural regions.

### **History:**

Jeffersonville was first established as a mill town deriving power from the mighty Jefferson River. After changing its name to Jefferson City at the turn of the last century, the city grew with the industrial age. Several heavy manufacturing plants, a steel mill and a petroleum refinery were sited adjacent to the river and rail lines. Later, major highways were built, crisscrossing and dividing the city further.

The city was first populated with Eastern European immigrants taking jobs in the mills. During World War II and the post-war boom, many African Americans migrated from the south to take jobs in the bustling manufacturing plants. The city's population peaked at 1.25 million in the 1960s.

Over time, the plants closed and what was once a vibrant urban core dwindled. Since the city's decline, Latino families who worked on the region's farms settled in the city, taking advantage of the low rents. Many stores feature signs in both English and Spanish—a cause of friction for some long-time residents.

### **Political subdivisions:**

As a result of these historic trends, the city is divided largely on racial, ethnic and class lines. Tensions resulting from a legacy of de facto segregation and community insularity are clearly evident.

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### **North Ward:**

Consists mainly of the descendants of the city's original Polish, Irish and Slavic factory workers. The community is mostly small with tidy one-family homes and numerous Catholic churches. Many of the children attend parochial school.

### **South Ward:**

This ward is about 75% African American, many of whom live in garden apartments and large 1970's-style public housing projects. A once bustling downtown shopping district has become sad and dilapidated, as wealthier families moved to the increasingly integrated suburbs.

### **East Ward:**

This ward used to be considered one of the better communities with many larger and more stately homes. This was where the plant owners and managers lived, but decline of the city's economy and "white flight" has resulted in a major transition of the community. The homes have been subdivided into multi-family units; many of which are in poor repair. The East Ward is largely Hispanic with distinct Mexican (mainly from the Oaxaca state in Southern Mexico), Salvadoran and Dominican neighborhoods. Recently, Route 72, a major highway along the East Ward's border was expanded from four to six lanes to accommodate increasing truck traffic to warehouses taking advantage of the city's recent designation as a free-trade zone.

### **West Ward:**

This was Jefferson City's industrial core. Many former factories lie dormant or have been torn down. There is a small but growing community of artists and young creative professionals who have moved in to take advantage of low-rent and spacious lofts in converted warehouses, and jobs in the area's high-tech startups. City administrators, banking on gentrification to improve the local economy, are actively promoting the neighborhood as a hip place to live.

### **Medical system:**

Jefferson General Hospital (JCGH) is the sole survivor of a round of sometimes-acrimonious hospital takeovers and closures. The rapid depopulation and reduced average length of stay has significantly decreased the need for hospital beds. JGH is the region's only Level-I Trauma Center and hospital specializing in pediatric care. While addressing its charitable mission by maintaining a network of clinics to serve the city's low-income communities, JCGH is rapidly expanding services designed to entice suburban patients into the city for care. The hospital is struggling to overcome its recent ranking as the state's worst for readmissions, medical errors and infection rates. Some local residents have quipped that the hospital's initials stand for "*just go home (to die).*"

Many of Jefferson's private practice physicians have retired, left town or sold their practices to the hospital. New physicians are loath to establish new practices due to the high numbers of Medicaid and uninsured patients, and perceptions about the population's litigious tendencies. Only the ethnic North Ward has adequate primary care coverage. The Jefferson Federally Qualified Health Center (FQHC) and its satellite clinics serve the rest of the city.

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## Case Study Overview

### **Politics:**

The political structure in Jefferson is tenuous. Two of the last three mayors were indicted on corruption charges. The city council is engaged in a power struggle between the old guard of established city residents and an insurgent group representing the city's new professional class and younger reform-minded members of the other wards.

### **Community Organizations:**

#### **Business Roundtable**

The local business and trade organization.

#### **JeffShares**

A local anti-poverty organization.

#### **BreatheFree Jefferson**

A regional environmental group.

#### **Jefferson Healthcare Coalition**

A coalition of regional hospitals and local health care providers.

### **Economics:**

**Median household income:** \$35,659

**Unemployment rate:** 14.9%

**Average attained education:**

- 35% did not complete high school,
- 32% High school
- 33% college or above

**Population living in poverty:** 33%

### **Health Outcomes:**

**Infant mortality:** 11/1000 live births (vs. national average of 6.1)

**Insurance status:** 19%

**Asthma prevalence:**

- 11%, all races
- 15%, African American
- 14%, <18 years old

**Asthma admissions:** 400/year

**Smoking adults:** 27%

### **Environmental Outcomes:**

**Air Quality Index:** 25% worse than national average

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### **Story**

Juan is a 9 year-old boy living with his three brothers and parents in Jefferson's East Ward. For the past four years, he has suffered recurrent bouts of asthma resulting in at least 15 visits to the JGH ED and two hospitalizations for treatment and stabilization. The family is seen at the Jefferson FQHC for care when needed but lacks insurance coverage. Juan was born in the US, but his parents and older brothers are undocumented and therefore ineligible for publicly supported insurance programs.

The family rents an apartment in a converted four-family house near Route 72. Dad works as a day laborer and landscaper. Mom cleans houses. They don't own a car. All the children attend public school, but unfortunately Juan is falling behind due to his frequent medical absences and his mom's fear of sending him to school when the air is bad.

Recently, Juan suffered an asthma attack so severe he nearly died. His story was featured in an *Jefferson City Times* front-page story detailing the extent of the city's asthma epidemic and other failures of the regional health system.

### **Assignment**

In response to the public outcry over the *Jefferson City Times* story, the mayor has appointed you to a Community Health Improvement Team (CHIT) as a representative of one of the four "Community Organizations" listed above. The CHIT is tasked with identifying the city's major health issues and proposing comprehensive solutions. You and your coalition colleagues will work together to develop a coherent strategy to manage the underlying issues contributing to and aggravating Juan's asthma to apply to other community health challenges in the future. You are to address the issues from the perspective of your assigned organization.

The Mayor and Council (the session panelists) are expecting a report from the CHIT answering the following questions in detail:

1. Identify the key factors contributing to the child's asthma.
2. From your team's perspective, develop a set of proposals to address these factors. Be sure to consider the role the healthcare delivery system and other community stakeholders can and should play.