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## Perspective from the Field on Underserved Populations

Peggy B. Smith

Baylor College of Medicine, [peggys@bcm.edu](mailto:peggys@bcm.edu)

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## Perspective from the Field on Underserved Populations

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## **Introduction:**

During the 20<sup>th</sup> century the field of public health was credited with adding 25 years to the life expectancy of the population in the United States (MMWR, 2013). While this achievement spanned improvements in areas as diverse as motor vehicle safety to the availability of effective family planning, the profound impact of such transformations is often lost on the average American. Most communities are unaware of how these advances improve their daily lives. The Centers for Disease Control and Prevention surmises that the average person, when queried about public health advances, would respond that it was limited to healthcare for low-income families (MMWR, 2013). Nevertheless, the effectiveness of such health improvements is only as successful as the adoption and integration of evidenced-based practices through partnerships with local community organizations. Such institutions are critical to the promotion of good health especially as it relates to underserved populations. Public clinics, hospital districts, medical schools, Federally Qualified Health Clinics (FQHCs) and even schools, to name a few, can collaboratively promote best practices in neighborhoods with health disparities. Moreover, such entities can also suggest policies maximizing approaches in neighborhoods that need it the most. An additional strategy to intervene with underserved populations is to ascertain whether or not a proposed intervention can be enhanced by the specific timing of its introduction.

Primary and reproductive health care services have been the proxy for this approach. From vaccines to contraception, the cost effectiveness of upstream prevention or early intervention is key to the establishment of a healthy population. One cohort that stands to benefit significantly from this philosophy is the adolescent, 13 to 19 years of age. A large body of literature

(Aaron, et. al 2008, Albert, 2013; Skopelja, Whipple, & Richwine, 2008) encourages communities and their health providers to involve themselves sooner rather than later in promoting wellness initiatives for this group. We know that avoidance or delaying of certain risk behaviors such as sexual debut and smoking along with the establishment protective factors can pay dividends in their physical, emotional and educational outcomes (Rutter, 1987). However, when reviewing the health status of our nation and our local neighborhoods, vast expanses of underserved populations remain. One may ask why, when the results of health promotions are empirically clear, we have not been able to transport such advances to underserved populations, especially to youth who need it the most.

The purpose of this paper, therefore, is fourfold. First, this presentation will highlight a subset of public health research that suggests important individual and collective approaches which, when applied, can reduce health disparities among youth. Second, this paper will identify well-being indicators relevant to this age group. Third, it will present health disparities in two local neighborhoods, along with medical interventions that have reduced specific disparities in high school cohorts. And finally, this work will also identify policies that either enhance or impede health systems to effectively work with underserved populations.

### **Public health research: What we know about the antecedents of disparities among youth**

**The Youth Risk Behavior Surveillance System:** Over the last three decades several parametric data bases have generated strong indicators of how to first avoid, and second intervene, in those areas driving health disparities. Three areas of inquiry provide some insight on strategies to

address morbidity and mortality among youth. The first, The Youth Risk Behavior Surveillance System (YRBSS), from 1991 through 2013, collected information every two years from more than 2.6 million 9<sup>th</sup> through 12<sup>th</sup> grade students in more than 1,100 separate surveys. Through a longitudinal assessment this CDC database provides an empirical window on health risk behaviors that contribute markedly to the leading causes of death, disability, and social problems among US youth. YRBSS indicators suggest risk behaviors are often established during childhood and early adolescence, co-vary and continue or worsen into adulthood. For adolescents and youth these behaviors include factors associated with unintentional injuries and violence; unplanned pregnancy, HIV and sexually transmitted infections, alcohol, tobacco and other drug use and unhealthy dietary behaviors and inadequate physical activity. Such information provides useful benchmarks to determine the prevalence of specific disparities and whether they increase, decrease, or stay the same over time.

### **Individual and collective theoretical models:**

**Individual theoretical models:** A second area of query, individually focused theoretical models, may provide some understanding of factors impacting underserved youth and some guidance on how to address them. The Resiliency theoretical model is one of several approaches with an evidenced-based explanation for why some youth, in spite of a variety of hardships, are able to overcome those influences and thrive. A key component of this model is the role of protective factors and how they mitigate existing risk factors.

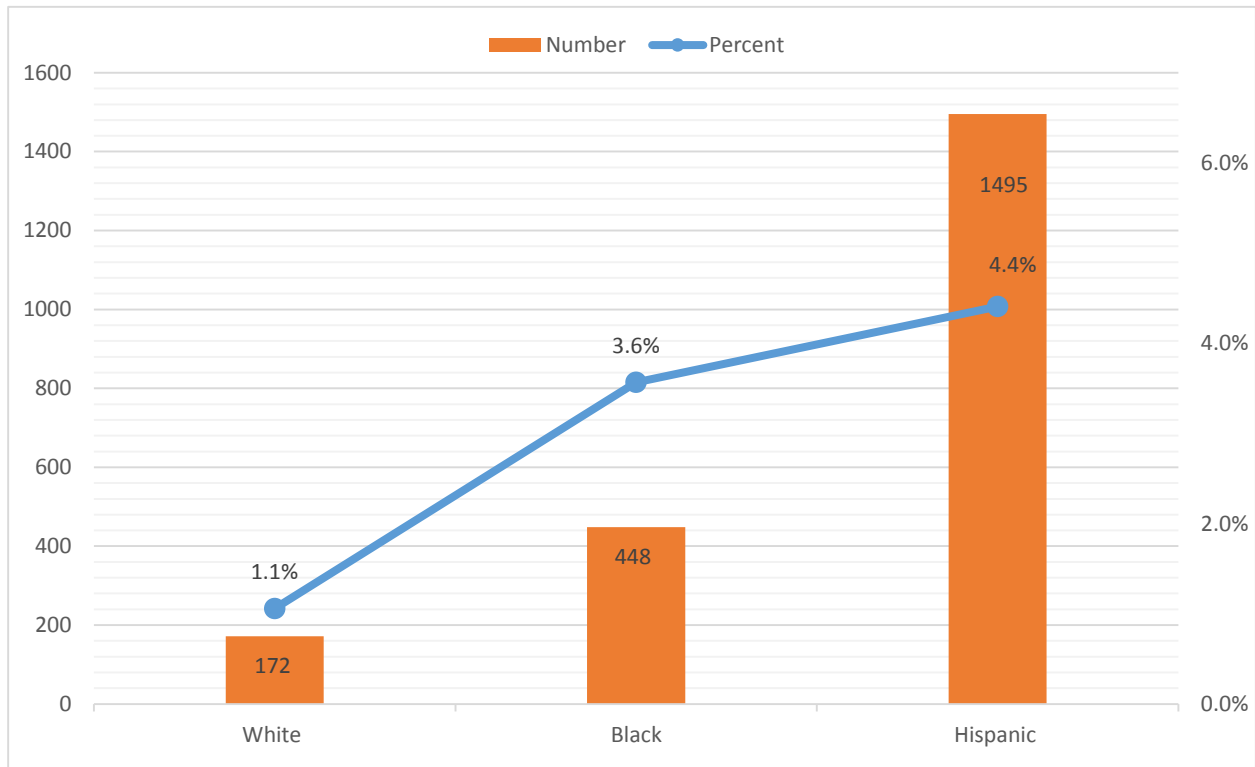
One interpretation is that youth who see adversity as temporary, transitory, not personal, and have a positive relationship with a caring adult are more

likely to succeed. Such youth also developed a sense of social competency, problem solving skills, critical consciousness and autonomy. Resiliency theorists (Bernard, 1991; Rutter, 1987, 1999) generally agree the presence of one or more protective factors can reduce the impact of harsh conditions. The more protective factors available, the more resilient a young person will be. However, it is important to note resilience is not a stable construct. Levels of resilience may vary with context or situation, while assets may remain the same.

**Collective theoretical models: Social Determinants of Health:** A third area of query looks at environmental issues and their impact on the wellness of large groups or populations. Contemporary research (Braveman and Gottlieb, 2014) suggest that health is also determined in part by access to social and economic opportunities; resources and supports available in our homes, neighborhoods, and communities; quality of our schooling; safety of our workplaces; cleanliness of our water, food, and air; and nature of our social interactions and relationships. Such a model underscores the role of community infrastructure in improving the environment. Our surroundings explain in part why some Americans are healthier than others. Social determinants are often clustered into two components and include conditions (e.g., social, economic, and physical) and setting or place (e.g., school, church, workplace, and neighborhood). Resources enhancing quality of life can have a significant influence on population health outcomes. These resources include safe and affordable housing, access to education, public safety, availability of healthy foods, local emergency/health services, and environments free of life-threatening toxins. Understanding the relationship between how population groups experience “place” and its impact on health is fundamental to this theory.

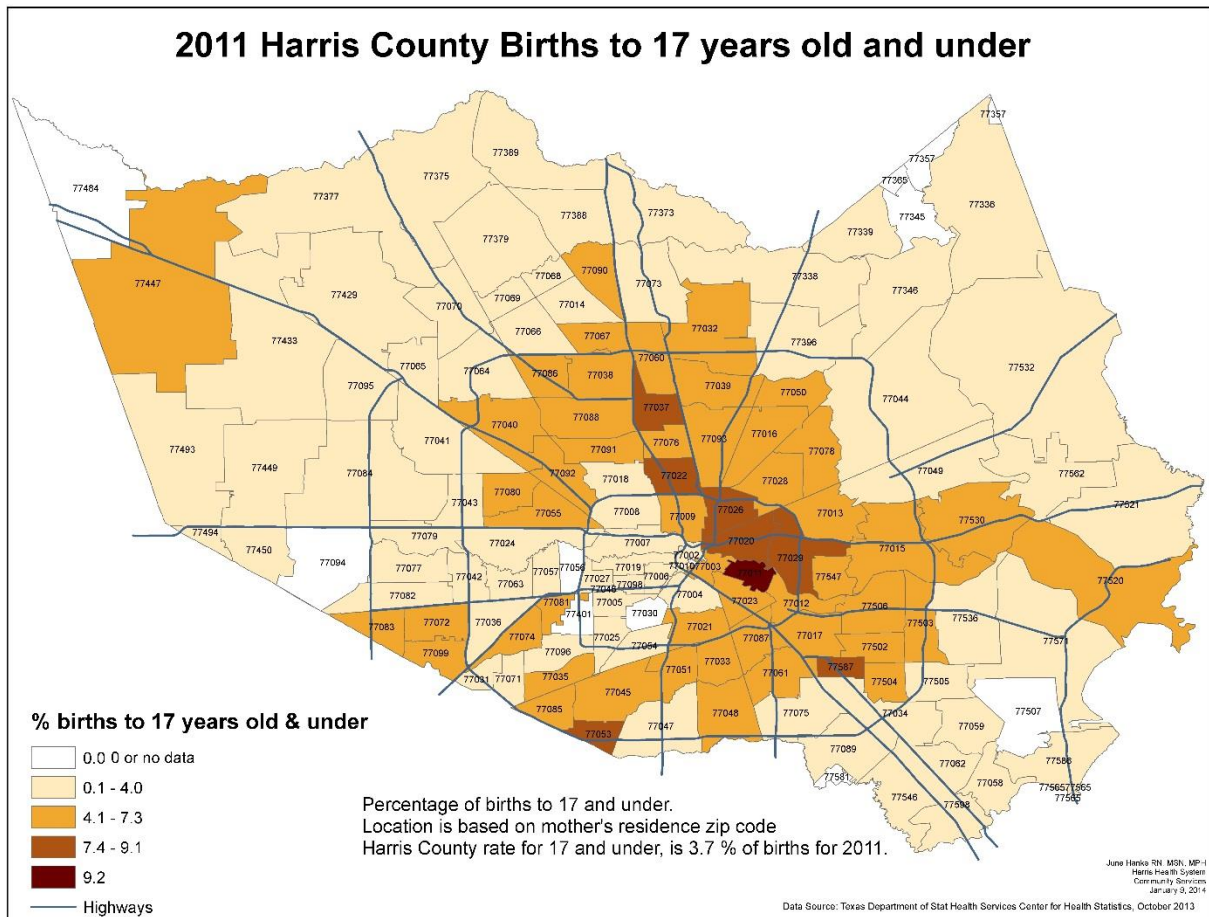
**Local indicators of well-being for youth:** The interventions suggested by both public and private research cited above can guide what we do to achieve health parity for underserved groups, 13 to 24 years of age. The integration of the YRBSS and Resiliency findings along with social determinants of health suggest that perinatal and reproductive indicators for inner city youth may afford benchmarks where significant improvements can occur. In addition, such markers can actually be geocoded to Houston neighborhoods to identify communities with the highest need for health parity. For our metropolitan area three such issues can be quantified and tracked by neighborhood. The first selected benchmark for Houston is births to mothers 17 years of age and under by race and ethnicity. As seen below, Hispanic adolescents have the highest number of births in this age cohort. (Harris Health, 2012)

### 2012 Births to Mothers 17 and under Number and percent by Race /ethnicity



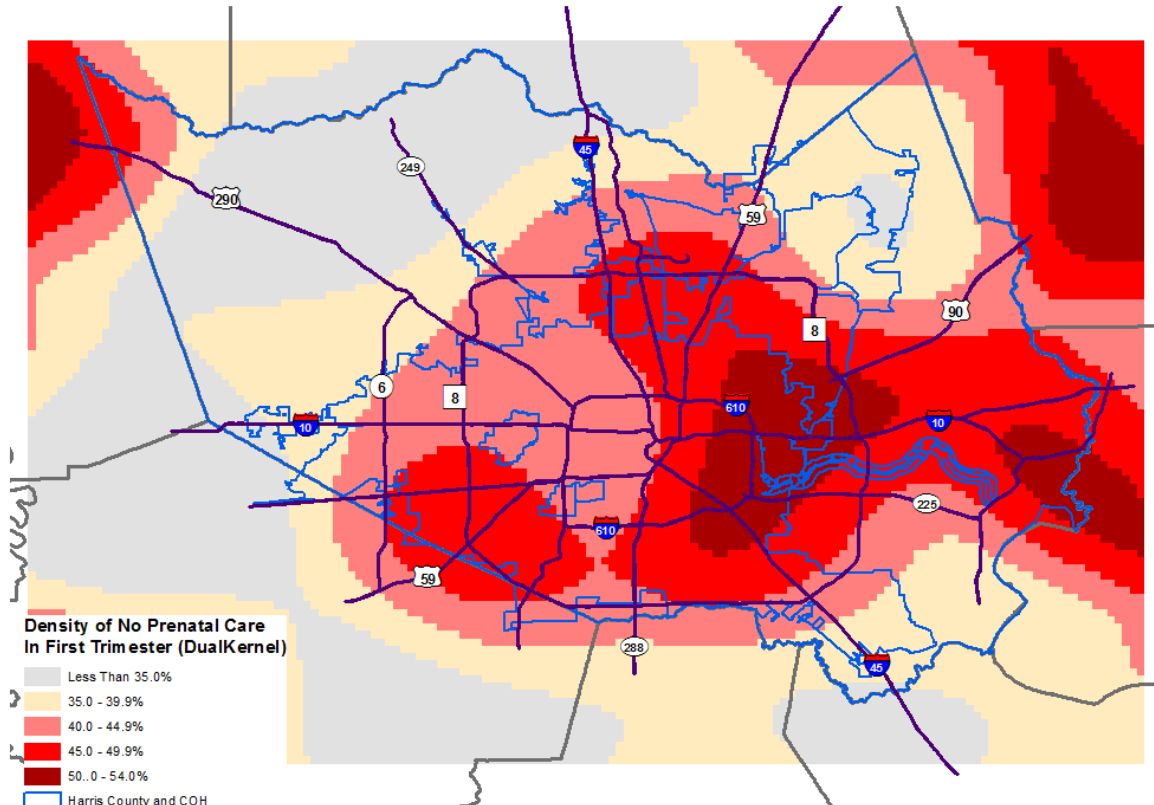
This data provides a compelling argument to make available access to reproductive health, perinatal care and a medical home for this younger cohort. The second step in addressing this benchmark is to locate the actual neighborhoods where these youth reside. When these births are also coupled with zip code information as seen below we can also locate specific geographical area in which to provide such perinatal services and review ways to address social determinants of health for the underserved in those catchment communities.





A second selected benchmark focuses on antecedents of pregnancy outcome, specifically early receipt of prenatal care. By overlaying the third geochart below, we can tailor our strategies to address this health measure. By focusing on neighborhood locations as we did in the following discussion, we are better able to convert data into actions and ultimately into policies that infuse social capital to underserved populations.

### No Prenatal Care in First Trimester, 2011 - Houston Metropolitan Area



#### Specific community social determinants and the needs of local youth:

As health disparities can be identified not only by condition but also by location we now can employ technology to precisely drive services to communities with underserved populations. Such technology has several added advantages. First, geocoding provides a strategic and logical way to place community capital, in this case health care services. Second, it establishes a useful benchmark by zip code or precinct to measure whether

the health chosen intervention reduces the targeted disparity and improves wellness of the neighborhood. Finally, such data can also stimulate conversations on what infrastructure or social determinants are in play in underserved communities. The installation of comprehensive clinics for youth in a school setting described below is a local application of geocoding whereby health system gaps are identified, quantified and resources are moved in to address those gaps. Based on our analysis we have identified two neighborhoods that reflect major disparities, made strategic placements of health interventions with community organizations for residing youth, and have benchmarked health improvements as a result of the specific interventions.

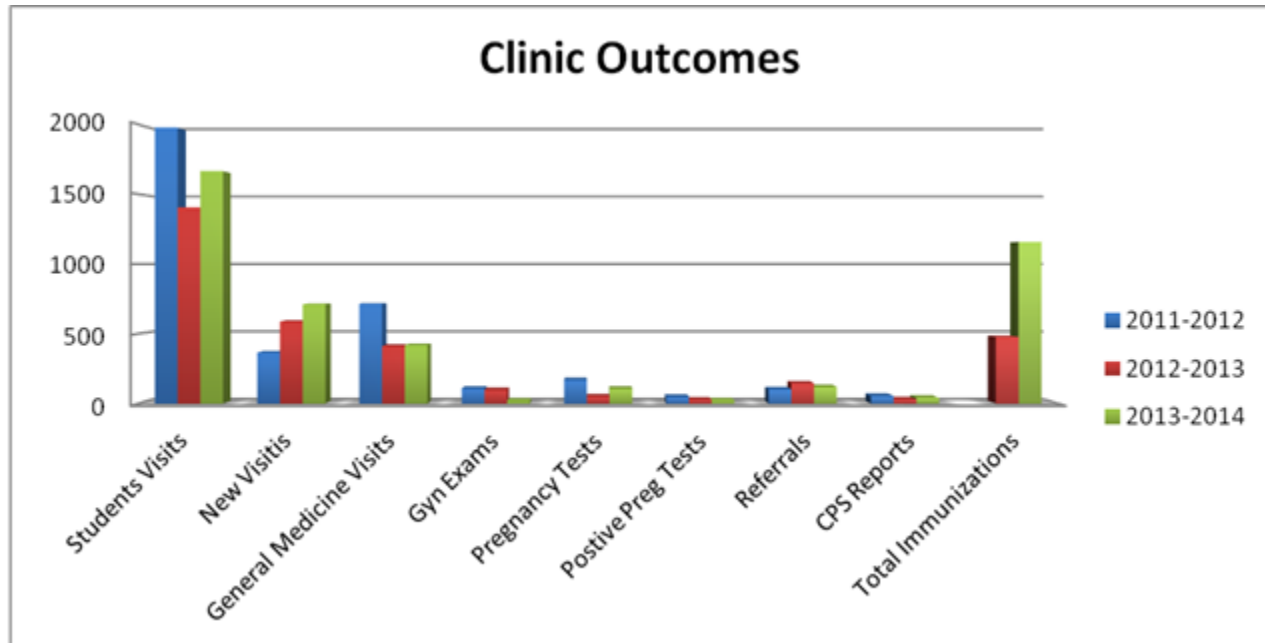
**East End Neighborhood Disparities and Gaps:** This Houston community, located in the southeastern quadrant of Harris County, in close proximity to the ship channel, has various social determinants that are deficient. Almost one in five residents is unemployed (UT Health, 2010). More occupations of East End workers, compared with workers in the city as a whole, fall into lower skill vocations, typically pay from minimum wage to \$9 an hour. Approximately 54% of East End residents ages 25 and over have less than a high school degree compared to the Houston Area average of 21% with a median household income of approximately \$34,685 (The City of Houston Planning & Development Department, 2013).

While children ages 17 and under comprise approximately 30% of the population, age specific resources for this age group are minimal. The East End has the highest proportion of uninsured adults (48% compared to the Houston average of 31%) and the highest proportion of residents in fair or poor health (27% compared to the Houston average of 20%). These residents often do not have a usual healthcare provider; use the emergency

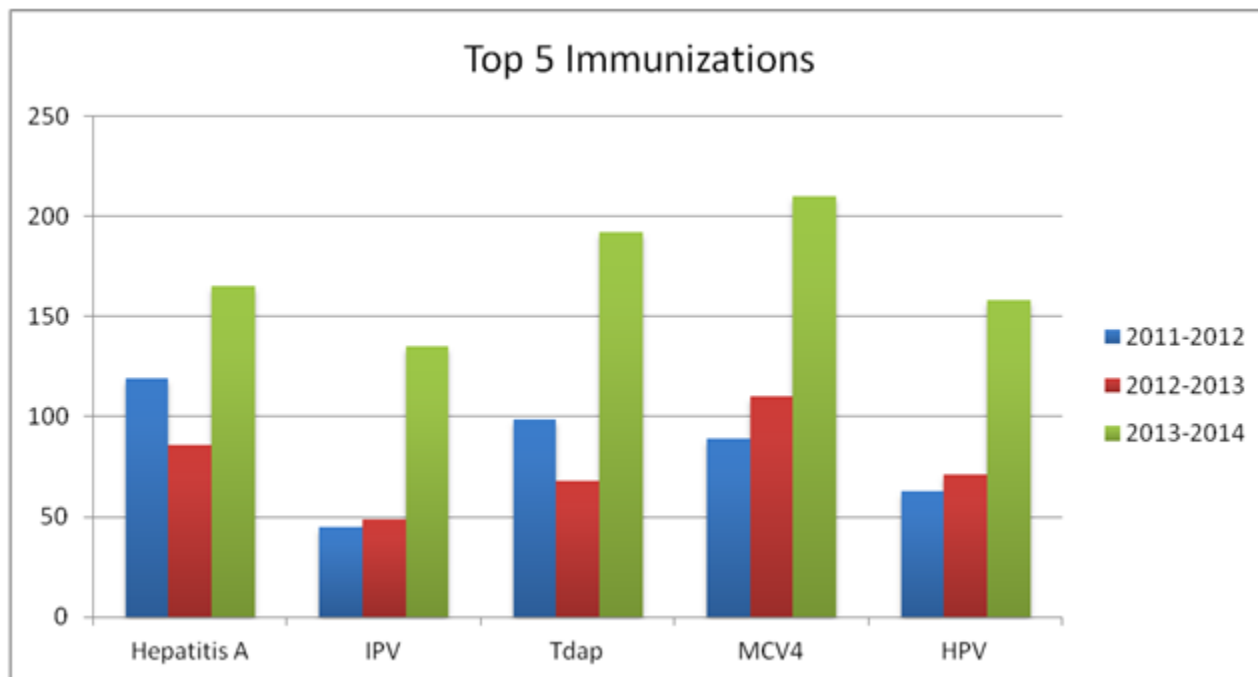
room as a place for routine care; and experience delays in care due to costs and lack of health insurance (UT Health, 2011). Approximately 22% of children in the East End are uninsured, 9% greater than the Houston average (City of Houston Planning and Development Department, 2013). Almost half the residents of the East End are immigrants. Without insurance, access to care is severely limited. A major health concern in this area is reproductive health as this adolescent cohort has the highest birth rates in Houston.

**Infusion of Community Capital: Chavez Teen Clinic:** In order to address the neighborhood health disparities described above and apply components of various theoretical constructs, Baylor College of Medicine established a clinic on this Houston Independent School District property. Geocoded maps presented above along with the prevalence of unintended pregnancy in the Hispanic adolescent cohort verified the existence of a health disparity. The Cesar E. Chavez High School was established in 2000 to serve grades 9-12. During the 2012-2013 school year, Chavez High School enrolled 2,819 students of which 83% were Hispanic. Approximately 66% of students were identified as being “at-risk” for dropping out. About 80% of students were below the federal poverty line, which qualified them for free and reduced lunch programs. Data for the class of 2012 reported a four-year graduation rate of 85.9% and a four-year dropout rate of 10.7%. The health objectives for this clinic focused on increasing the number of students who enrolled in the clinic, immunizations administered to the students, sports physicals and well child examinations and HPV vaccinations received by enrolled students. The clinic also focused on implementing HIV/STI screening for at risk students. Using these objectives, the following outcomes presented in the chart below were achieved over a three-year

period which enhanced a student wellness and reduced neighborhood health disparities.



Of special note was the uptake in vaccines in this school cohort. As seen below many students who attended this school had not completed their immunization series and were at risk for preventable major childhood diseases.



**Gulfton Neighborhood Disparities and Gaps:** The Gulfton Area Neighborhood (GAN) has a population of approximately 43,947 over a three square mile area. Four times denser than Houston's average population, Gulfton is the most densely populated neighborhood in the city. The population may be much greater than predicted due to the large number of undocumented immigrants. In 2013, the City of Houston reported the median annual household income in GAN was \$27,860, which is lower than Houston's median household income of \$44,124. Nearly half of those over the age of 25 in the GAN do not have a high school diploma, compared to a quarter of the population in the City of Houston. At the Gulfton area elementary and middle schools, over 95% of the children are considered economically disadvantaged. Almost 80% of GAN residents are Hispanic in origin, which is nearly twice the percentage of Hispanics in the City of

Houston; thus, the majority of residents are Spanish speakers. In fact, 72.6% of children ages 5 and older speak Spanish. Nearly 60% of GAN residents are foreign-born and come from more than 80 countries, and English is not the primary language for almost three-fourths of GAN residents. Students at the Lee High School come from over 50 countries and collectively speak over 30 different languages

Available employment often only includes day labor, such as domestic work, construction jobs, or gardening. This type of work makes the GAN population highly mobile: those unable to find a steady job often move from one apartment to another in the neighborhood to save as much money on rent as possible. The high mobility of the area, which often mitigates scholastic achievement (Egerter, et al, 2011), is reflected by the annual transition rate of up to 35-40% at Lee High School.

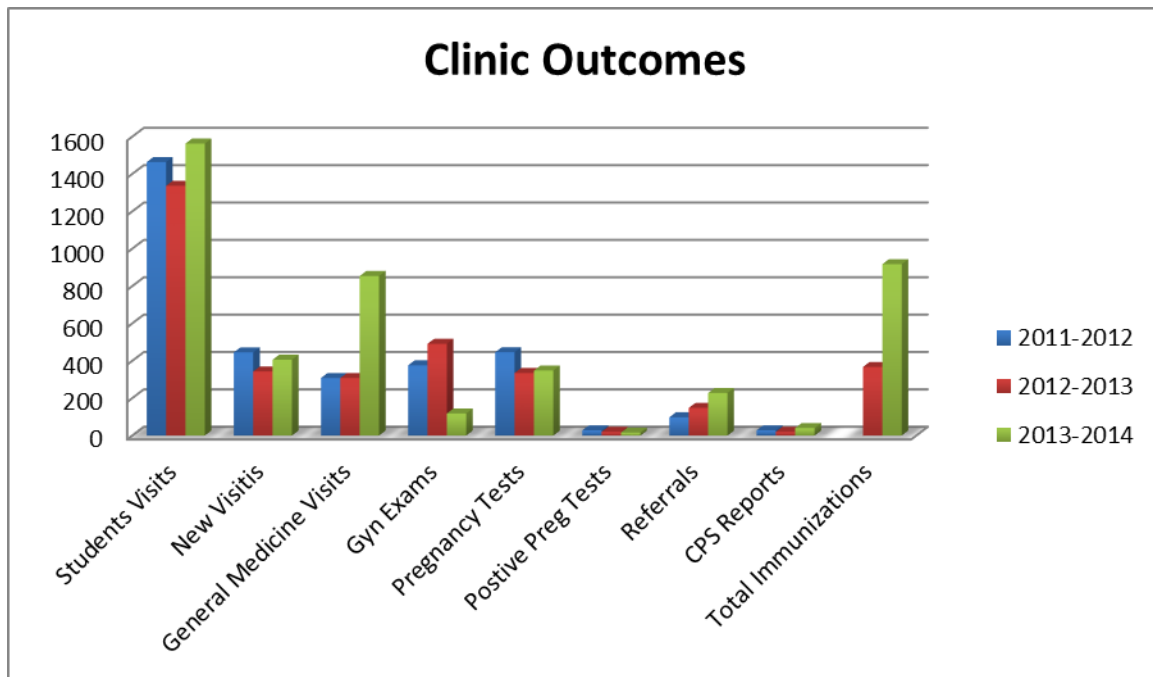
Many residents want to leave the GAN because they feel unsafe living in an area of heavy crime. Although overall crime rates have decreased since 1988, prostitution has increased in past years following crackdowns in other cities and states. The top two locations for crime in the GAN are apartments and their associated parking lots, which makes escaping possible danger from crime difficult. Other types of crimes that plague the neighborhood include auto theft and violent crimes such as domestic violence, homicide, rape, and gang crime.

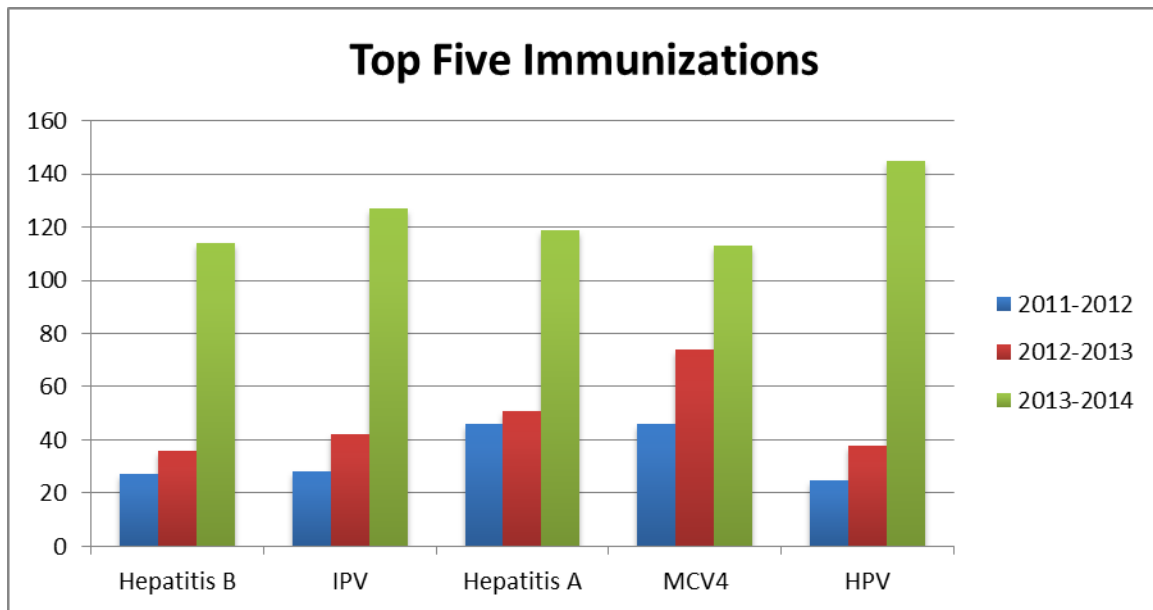
**Infusion of Community Capital: Lee High Clinic:** In 2008, because of its documented high student pregnancy rate, the Baylor College of Medicine Teen Clinic was asked to establish a clinic on its campus. Lee High School was built in 1962 on the edge of the city and initially served white middle class students. In 2000, with the opening of Westside High School and the subsequent transfer of 1,000 students out of the 3,100 Lee student body,

the school redefined itself. In July 2010, Lee high School became an Apollo school and was deemed academically unacceptable by the Texas Education Agency (TEA) based on TAKS test results (38% pass rate) and no academic improvement in the prior six years. Data for the 2012-2013 school year is as follows: Lee High School enrolled 1,409 students of which 72% were Hispanic; however, students came from over 50 countries, and from homes in which collectively over 30 different languages were spoken and almost every world religion was represented. About 30% of students were identified as speaking limited English, and 29% were enrolled in the school's English as a Second Language (ESL) program. The majority of students (69%) were identified as "at risk" and 70% of students were at or below the federal poverty level. In the 2011-2012 school year, the dropout rate was 0.8% as compared to 4.5% in 2010-2011. The four-year rate was 82.4% as compared to 67.1% in 2010-2011. Approximately 90% of the students at Lee High School are uninsured. Similar to the Chavez High clinic, primary care and its relationship to health disparity were emphasized so objectives involved increasing the number of students who attended the clinic, increasing the uptake of needed preventive vaccines, STI screening and treatment, increasing the number of athletes who received a sport physical from a board certified sports medicine physician, and the receipt of well and sick child examinations for students who needed the services. Unlike Chavez high school, Lee High Administration expressed additional concern on the unacceptable number of female students who dropped out of school because of pregnancy. This campus added an additional service; the provision of contraceptive services on campus, with parental consent. The Chavez Campus did not stock birth control in its formulary and this service was offered by referral basis only to another Baylor Teen Clinic facility nearby.



Upon comparison, the clinical outcomes were similar with several differences in the area of reproductive health. First, the follow up appointment rate for hormonal contraception among students who sought birth control at Lee school clinic was significantly higher with onsite contraceptive services compared to the Chavez school clinic with a referral policy for contraception. Second, at Lee with onsite contraception, the majority (85%) was able to keep their appointment within 14 days. Most importantly, the Chavez school clinic with a referral policy for contraception had a significantly higher pregnancy rate than the school clinic with on-site contraceptive services.





#### **Lessons learned:**

The population benchmarks established longitudinally and empirically validated have been important in determining what works in public health. This has been especially important in enhancing services for underserved groups. An added value to this approach is that many of the suggested interventions come at a very small cost, when compared to the consequences of doing nothing. Yet in spite of confirmed results, pockets of need not only in our nation but in our local community, as demonstrated earlier in this translational application above, still exist. While information

presented in this paper suggest practical examples on how to effectively identify and reduce some neighborhoods disparities, the question still exists as to why such cost effective measures have not been widely adopted. Locally we know the need and what works yet large numbers of individuals, in this case adolescents and youth, lack access to contraception, early prenatal care and immunizations for basic childhood diseases. In reflecting on the lingering need, several explanations, while not all-inclusive, can be considered, building on lessons learned and possible next steps.

**Disconnect between public policy and best practices:** As many statewide interventions for this cohort are supported with tax dollars, the approaches to those interventions are often dependent on consensus developed through the political process. Usually taking the form of hearings or submitted testimony both during the legislature and in interim committees, evidence-based and anecdotal input is submitted for review. In addition, special interest groups with specific concerns may also weigh in on health policies. Not to be ignored are vocal constituents who may have a concern specific to the elected official's district. Similar processes also occur in regional, county and local jurisdiction with taxing authorities. Public health indicators, both those subsidized by the public and those covered by individuals or third party payers, often are affected by this process. For example, regulations governing eligibility for and 'opt-out' of vaccinations for minors may contradict best practices. Especially vulnerable are those indicators that involve reproductive and perinatal care. The financial impact to the bottom line of various jurisdictions is geometrically larger than offering effective contraception or early prenatal care to underserved women. An example of such is seen in the policy governing access to contraception for Medicaid eligible mothers where all contraceptive benefits are terminated

61 days after delivery. Such a political process while democratic may not be able to focus on the best or most effective way to serve its target audience.

**Jurisdictional budget constraints:** In some cases, the evidence is accepted but the tax-based resources are not available. While variety of health disparities can be mitigated with early intervention, resources are often limited as some entities are mandated to have a balanced budget. The proxy for this is seen in efforts to address child abuse and neglect through various protective services and foster care efforts after the abuse has occurred. Strategies, however, whether it be through state Trust Funds that look at primary prevention initiatives or home visitation programs for first time moms to proactively enhance parenting behaviors have found creative ways to generate interim and eventually line-item support. Additional fees on marriage, drivers, and hunting licenses have promoted a use-based approach to bridge the funding gap. Such needs, however, while important, have difficulty competing with traditional expenditures such as higher education or federally mandated issues. Reducing health disparities may not be a high enough priority in the budgeting process to receive sufficient funds to implement effective interventions.

**Intervention guidelines that become service barriers:** There are instances where policy makers do understand the cost effectiveness of public support for health parity especially as it relates to community wellness. Funding is set aside to improve outcomes but sometimes the intended outcomes do not occur. In some cases, the intervention is

minimized by virtue of accompanying rules or eligibility guidelines, which may or may not be sensitive to the nuances of the problem or the solution. These procedural requirements can become effective barriers to the receipt of services for which the allocated funding and policy support was intended to rectify. As seen in the outcomes of the two local schools easy access to by minors to parentally approved contraception made a difference in reducing unintended pregnancy in the school population.

Not surprisingly, women's health services which can improve a variety of health outcomes often fall victim to such barriers. Historically, traditional public support for single mothers was compromised if there was a man in the home. While this scenario no longer is highlighted the consequences of his presence is documented by an unintended pregnancy. It appears reasonable that access to effective contraception would be useful. In the recent past several subtle barriers seem to work against such an approach. Potential proposals for access for subsidized birth control have required documentation of citizenship, even though in the Border States the group with the largest number of births are illegal immigrants. Other rules recommend that sexually transmitted infections for the male partners not be reimbursed. Moreover, instead of presumptive eligibility established at a clinic site, women should report to a centrally located Medicaid office to be evaluated as to whether or not they can receive services of a public women's health clinic.

### **Next steps for increasing health parity in underserved population:**

Clearly, this model of health care delivery and by implication, reduction of risk, should spread more widely throughout the Houston community. Promoting resilience among the city's teens will reduce the rates of teen pregnancy, premature birth and infant mortality. School-based clinics, particularly those that provide contraceptives and family planning advice, take the services into the communities where they are most needed. The next steps should measure the effects of this kind of intervention in populations with different kinds of risks and levels of resilience.

However, accomplishing this takes a certain amount of support from the community and the city/county leadership. Preventing disease is certainly more cost-effective than treating it or dealing with the aftermath of health disparities that often manifest in less schooling, crime and unemployment. Will reducing rates of teen pregnancy, increasing vaccination rates, and promoting access to health care in the community improve health and reduce disparities?

The data are clear, but the path forward is less so. What is most needed is a champion for the cause – someone with a voice in the community to whom decision makers and, ultimately voters, will listen. Certainly, the coming generation deserves our attention if Houston is to thrive in this century. It does not matter who takes up the cause – a political leader, a physician, a community activist. What that person most needs are the data shown here and a strong voice that can outline the issues clearly in a call to action with concrete steps. If access to care were a problem, then presumptive eligibility would be cheaper than the cost of inaction for example, automatic enrollment in family planning clinics for teens – male and female – who

desire it. Making immunization widely available, but concentrating on those underserved neighborhoods that are most at risk of a disease outbreak, will protect the entire city. We have to find a way to transfer best practices already proven in underserved communities here to a wider audience.

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