

Collaboration is Critical: Working Together to Optimize Health in Our Communities

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Clinical care accounts for only 20% of health outcomes, with social determinants of health including environment, health behaviors, and economics accounting for the remaining 80%. Providers ought to address social determinants of health and, more and more are joining community partnerships to do so.

We have heard it before—your ZIP code is more important than your genetic code in determining health outcomes [1, 2]. This concept has been proven to be true in multiple studies, and through clear measurement of demographic data. The reality is that the determinants of health that reflect the conditions in which people are born, grow, live, work, and age have the greatest impact on health outcomes across many different populations. Research conducted by the Population Health Institute at the University of Wisconsin at Madison demonstrates that clinical medical care accounts for just 20% of health outcomes, while health behaviors (30%), social economic factors (40%), and the physical environment (10%) account for the remaining 80% [3].

Acknowledging this information, America's health care systems have started to undergo significant transformations to address these determinants of health. Hospitals are now looking at ways to build a community health infrastructure that is stronger, more targeted, and more effective. With this transformation, it has become highly evident that collaborations with community partners that focus on whole person health, and not just the treatment of symptoms associated with disease, will be necessary in order to meet population health goals [4]. Existing partnerships are being redefined and new, uncharted partnerships are being developed. It was within this premise that a new collaboration between Carolinas Health Care System, Novant Health, and the Mecklenburg County Health Department (MCHD) was created to focus on 6 ZIP codes in Mecklenburg County.

An Unexpected Collaboration

Carolinas HealthCare System

Carolinas HealthCare System is one of the leading, most comprehensive public, not for profit, health care systems in the nation, with over 900 care locations and almost 12

million patient interactions per year. In 2016, it embarked on its first community health improvement study, which is equivalent to a community health needs assessment. During this process, the decision was made to focus on social determinants of health among 10 counties served by the health system. In addition, hotspotting was used to develop a more targeted and impactful strategy to improve health outcomes. Hotspotting refers to a data driven process that identifies local patterns, behaviors, and interventions to better address patients' needs and to improve outcomes, as well as reduce cost, within a defined geographic region [5]. Through a partnership with the North Carolina Institute of Public Health (UNC Gillings School of Global Public Health), an online interactive map focusing on 12 social determinants of health indicators was developed (see Figure 1). This map consisted of neighborhood level data within the 10 county service region mentioned above.

Using those 12 determinants of health indicators, an index was created that highlighted which neighborhoods had higher social needs and higher social and economic disparities [6]. Carolinas HealthCare System then overlaid patient data with a map (see Figure 2) and found multiple concerning trends, including increased rates of diabetes and asthma, and increased numbers of preventable emergency room visits in the same neighborhoods with a higher social index score. This data drew attention to populations located within the 6 ZIP code area surrounding Charlotte's city center within Mecklenburg County [7].

Mecklenburg County Health Department

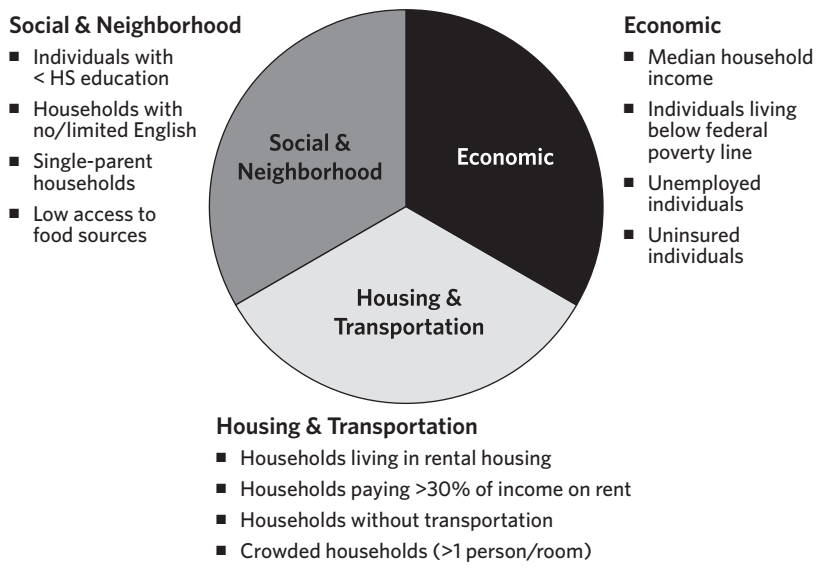
When the data from Carolinas HealthCare System was compared to County Community Health Assessment data and social indicator data from the MCHD, it showed that these same ZIP code areas had higher rates of chronic disease mortality compared to the rest of the county (see Table 1). There were also significant dis-

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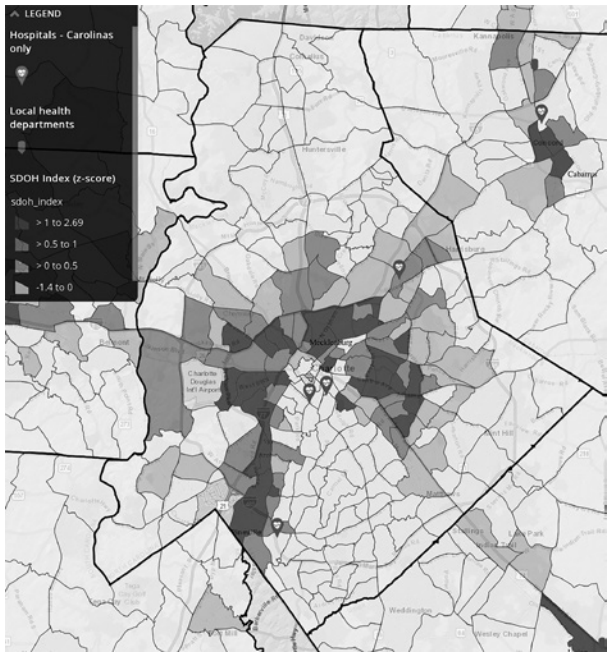
FIGURE 1.
Selected Social Determinants of Health Domains and Indicators



parities regarding death rates within these 6 ZIP codes (see Table 2). The same areas also had low educational attainment and higher unemployment rates, which are both predictors of poor health outcomes. They also had the highest rates of concentrated poverty [7]. Because of this information, MCHD had already been targeting these 6 ZIP codes, labeling them public health priority areas for specific interventions focusing on health behaviors [6].

Another priority identified by the MCHD in their 2013 community health assessment was access to care [6]. The local community objective, selected by CHS, Novant, and MCHD leadership with guidance from community members and physicians, was to provide access to care for all individuals and families in Mecklenburg County, regardless of the ability to pay. Although the Affordable Care Act did provide financial assistance for individuals to acquire health insurance, it was noted that despite higher rates of insurance, the number adults without a primary care provider increased from 2015 to 2016 (see Table 3).

FIGURE 2.
Distribution of Social Determinants of Health in Mecklenburg County, North Carolina.



Note. Darker areas indicate higher social need index (>1 to 2.69)

Novant Health

Novant Health also completed their Community Health Needs Assessment in 2016, and identified similar priorities as the MCHD regarding access to care [8]. Within the 6 ZIP codes, an observation was made that there were very few primary care or urgent care access points. Some community members living in these neighborhoods have significant barriers (eg, transportation, cost, hours open) to

TABLE 1.
2016 Chronic Conditions in Mecklenburg County, North Carolina

Condition	Public health priority area (PHPA)	Mecklenburg County (without PHPA)
Overweight/obese	66.4%	59.6%
No physical activity	25.6%	17.3%
Current smoking	17.4%	16.0%
High blood pressure	43.7%	27.1%
High cholesterol	42.4%	28.1%

Source: 2016 Local Mecklenburg Behavioral Risk Factor Surveillance Survey System (BRFSS)

TABLE 2.
2015 Death Rates (per 100,000 people) in Mecklenburg County, North Carolina

Cause of death	Public health priority area (PHPA)	Mecklenburg County (without PHPA)
Heart disease	113.6	107.7
Stroke	36.3	29.3
COPD	25.4	23.6
Diabetes	23.2	12.4
Lung cancer	32.3	31.7

Source: NC DHHS, State Center for Health Statistics

accessing these services. Oftentimes this results in preventable emergency department visits for primary care services.

Developing a Partnership

Carolinas HealthCare System, Novant Health, and the Mecklenburg County Health Department decided to collaborate and focus on the public health priority areas within Mecklenburg County. This collaboration was driven by innovative organizational leadership, and the comparison of social determinant data to patient data and outcomes. They also identified physician leadership in organizations working to improve community health. In preparation for this unexpected collaboration, the CEOs of each organization were taken on a tour of the 6 ZIP code areas. During the tour, the lack of primary care and urgent care resources was emphasized, in addition to the lack of healthy food options and poor housing conditions. This tour was visually compelling and highlighted the concerns identified through the community health assessments.

Over the next 3 years, this collaborative will develop and implement a strategy to improve access points for primary care within the 6 ZIP codes. It will also involve community partners in this transformative work, such as the YMCA of Greater Charlotte, Project 658, and the Renaissance West Community Initiative. Early wins of this collaboration include submission of applications for 2 grants, placement of a Carolinas HealthCare System community health nurse

TABLE 3.
Access to Primary Care in Mecklenburg County, 2015-2016

Relevant data selected health indicator (data source)	Mecklenburg County	North Carolina	Trend in Mecklenburg (compared to previous year)
2016, adults without a PCP (BRFSS)	25%	22% (2015)	Increased
2016, adults unable to see a doctor due to cost (BRFSS)	19%	16% (2015)	Increased
2015, uninsured population (US Census)	12%	11%	Stable

in one of the public health priority areas, and funding support from Novant Health for a newly established free clinic in another public health priority area. This is a great model of how innovative partnerships can lead to optimizing the health of our North Carolina communities.

Conclusion

The ultimate reality is that in order to effectively address community health needs, partnerships are critical and necessary, including those that are considered unexpected. Organizations need to be willing to overlook past differences and competition in order to recognize shared goals in optimizing health for every community. This allows for assets to be leveraged in a more collaborative and productive process [9]. NCMJ

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References

- Lavizzo-Mourey R. Why Health, Poverty, and Community Development are Inseparable. Investing in What Works for America's Communities: Essays on People, Place, & Purpose. Eds. Nancy O. Andrews and David J. Erickson. San Francisco, CA: Federal Reserve Bank of San Francisco and Low Income Investment Fund;2012:215-225.
- Jutte DP, Miller JL, Erickson DJ. Neighborhood adversity, child health, and the role for community development. *Pediatrics*. 2015;135(Supp 2):48-57.
- County Health Rankings & Roadmaps. Our Approach. Robert Wood Foundation website. <http://www.countyhealthrankings.org/our-approach>. Accessed April 7, 2017.
- Norris T, Howard T. Can Hospitals Heal America's Communities? "All in for mission" is the Emerging Model for Impact. Democracy Collaborative. Democracy Collaborative website. <http://democracycollaborative.org/content/can-hospitals-heal-americas-communities-0>. Accessed April 7, 2017.
- Kuperman MR, Salzman B, Bonnet M, et al. Interprofessional Student Hotspotting Project. Jefferson Center for InterProfessional Education InterProfessional Education and Care e-newsletter. 2015;6(1):4-6.
- 2016 State of the County Health Report: Overview of Selected Health Indicators for Mecklenburg County. City of Charlotte website. [http://charmeck.org/mecklenburg/county/HealthDepartment/HealthStatistics/Documents/2016 Mecklenburg SOTCH Report .pdf](http://charmeck.org/mecklenburg/county/HealthDepartment/HealthStatistics/Documents/2016%20Mecklenburg%20SOTCH%20Report.pdf). Accessed April 7, 2017.
- Carolinas HealthCare System: Mapping Social Determinants of Health. Carolinas HealthCare System website. <http://tinyurl.com/SDH-Story-Map>. Accessed May 4, 2017.
- Novant Health Presbyterian Medical Center: Community Health Needs Assessment. Mecklenburg County, North Carolina 2016-2018. Novant Health website. https://www.novanthealth.org/Portals/92/novant_health/documents/about_us/community/2016-2018-Novant-Health-Presbyterian-Medical-Center-CHNA-Approved.pdf. Ed. Cochrane JR. Accessed April 8, 2017.
- Peachey K, Cutts T, DeMont M, et al. Stakeholder Health: Insights from New Systems of Health Book, 2016. Chapter 7: Integrating Care to Improve Health Outcomes: Trauma, Resilience and Mental Health. In Cutts T and Cochrane JR. Eds. Stakeholder Health: Insights from New Systems of Health. ResearchGate website. <https://www.researchgate.net/publication/304628805>. Accessed May 4, 2017.