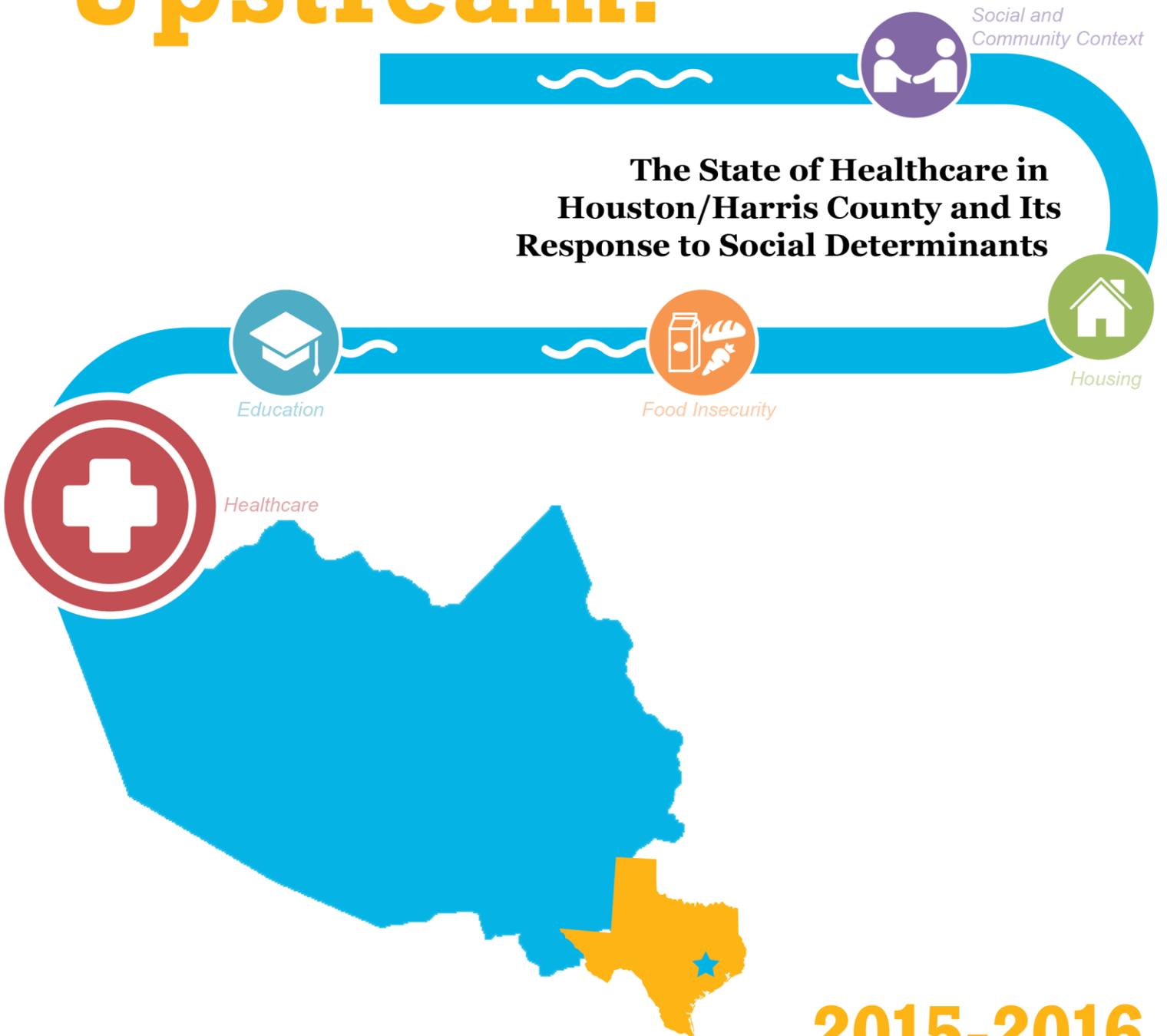




Harris County
Public Health
Building a Healthy Community

Moving Upstream:



2015-2016

Greetings,

As the Executive Director for Harris County Public Health (HCPH) and the Local Health Authority for Harris County, Texas, it is my honor to present this report and its recommendations to the healthcare community. Harris County is the third most populous county in the U.S., and home to Houston, the nation's fourth largest city. Our community is diverse in every sense of the word and we are a rapidly growing community. Thus, the growing needs of our community requires us to create new and innovative ways to meet their health demands.



Though public health and healthcare each have unique roles in our efforts to improve the health of the individuals in our community, it is the synergy that is created between each that moves us toward a healthy Harris County. HCPH views public health's relationship with healthcare as a bidirectional partnership, and there are important opportunities for healthcare to increase its impact on health and well-being by leveraging the social, economic, and physical conditions that shape health. This report was developed over several months of key informant interviews from individuals and organizations within our healthcare community. The result of those recommendations is what is used to produce this document, *"Moving Upstream: The State of Healthcare in Houston/Harris County and Its Response to Social Determinants."* It is our hope that this report will help strengthen and bolster the synergistic efforts between public health and healthcare. What this report is not intended to be is an exhaustive list of how the social determinants of health (SDH) impact one's health, as it is largely a compilation of respondent feedback. That said, addressing SDH represents an incredible challenge that requires our collective efforts so every community member can be assured of having the opportunity to reach his/her optimal health.

As a physician, I understand the challenges and obstacles that healthcare providers face in addressing SDH. Though we can all agree that an individual has responsibility over one's health, we can also agree that unmet social needs often impede a provider's ability to provide quality care. In this document, we captured the diverse ways SDH affects healthcare and how, in turn, healthcare can affect the social determinants. The challenge lies not only in directly addressing "upstream" issues that affect individual health, but also by creating bridges and utilizing tools that eliminate the gaps that obstruct progress along the continuum. While this report is centered on issues inherent to Harris County, it is important to note that it also incorporates trends from across the country related to SDH. This report covers much ground, and illustrates a number of ways healthcare can address SDH at various points along this stream, whether one is an individual or an organization. It also illustrates how all organizations – no matter how big or small – can actively participate, assuring that everyone has a contributing role.

My expectation is that "Moving Upstream" will help:

- Frame and identify many of the issues facing healthcare and provide a starting point, guidance, and real-world examples on how to address better the social determinants of health.
- Increase the resolve and ignite the collaborative spirit for organizations and individuals to focus on these upstream issues and how these efforts can in turn be incorporated into every day work.

We commend you in your commitment to this work and look forward to building collaborations that will strengthen the health and well-being of our community. Thank you in advance for your efforts!

Sincerely,

A handwritten signature in black ink, appearing to read "Umair A. Shah, M.D., M.P.H." The signature is fluid and cursive.

Umair A. Shah, M.D., M.P.H.
Executive Director, Harris County Public Health

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KEY ABBREVIATIONS

ACA – Affordable Care Act

ACO – Accountable Care Organizations

AHC – Accountable Health Communities

CCHH – Community-Centered Health Homes

CCL – Community-Clinical Linkages

CHMI-GE – Clinton Health Matters Initiative–General Electric partnership

CHNA – Community Health Needs Assessment

CHW – Community Health Worker

EHR – Electronic Health Records

FQHC – Federally Qualified Health Centers

GHHC – Greater Houston Healthconnect

HLM – Healthy Living Matters

Hosp/Sys – Hospital and Health Systems

IHCI – Integrated Healthcare Initiative

IHI – Institute for Healthcare Improvement

PCIC – Patient Care Intervention Center

PCMH – Patient Centered Medical Homes

ROI – Return on Investment

SDH – Social Determinants of Health

TMC – Texas Medical Center

ACKNOWLEDGEMENTS

The author thanks all of the interviewees who took time out of their schedule to meet and discuss this topic (see below for the list of organizations that were represented by the interviewees). The candor with which they shared their insight, advice, and concerns were invaluable, and if this report leads to any benefit, it will do so because of them and their sincere concern for the patients and community. Many of these discussions ranged from one to two hours, and that does not include follow up discussions and emails. So it goes without saying that their patience is also greatly appreciated. Additionally, a great deal of credit goes to the Harris County Public Health Executive Leadership, Rosalind Bello, Jo Carcedo, Shannon Evans, and Tim Schauer who read through and reviewed the report and provided valuable feedback, which greatly enhanced the final product. Finally, a special thank you goes to Allyson Chee who spent countless hours constantly reading and editing the report several times over in addition to always being willing and ready to undertake whatever task was sent her way.

Organizations Represented:

Alliance of Community Assistance Ministries	MD Anderson Cancer Center
Amerigroup	Memorial Hermann Health System
Baylor College of Medicine	Mental Health of America of Greater Houston
Baylor Teen Health Clinic	Ochsner Health System
CHI St. Luke's Health	PCCI
Children at Risk	Patient Care Intervention Center
Christ Clinic	Prevention Institute
City of Houston Health Department	Rise VT
Community Care Collaborative	Shape Up Houston
Community Health Choice	Texas A&M College of Medicine
Cornerstone Government Affairs	Texas Children's Health Plan
DePelchin Children's Center	Texas Children's Hospital
Episcopal Health Foundation	University of Houston
Gateway to Care	University of Houston Law Center
Harris County Public Health	University of Texas Health Science Center – San Antonio
Harris Health System	University of Texas School of Public Health
HCA	University of Texas Medical Branch
Health Leads	Michael E. DeBakey Veterans Affairs-Houston
HOPE Clinic	
Houston Area Community Services	
Houston Methodist	
Institute for Healthcare Improvement	
Kelsey-Seybold Clinic	
Legacy Community Health	
Live Well San Diego	
McGovern Medical School/UT Health	
McKesson/US Oncology	

Primary Author: Tanweer Kaleemullah, JD, LLM, MHA/MBA

Reference citations: Allyson Chee, MPH candidate

Cover Design: Hallie Frazee, MSJ

With Review & Edits by:

HCPH Executive Leadership

Dr. Umair Shah

Gwen Sims

Rocaille Roberts

Dr. Brian Reed

Elizabeth Perez

HCPH Management & Staff

Jen Hadayia

Adele Semann

Hallie Frazee

Dr. Karmen Bates

Jenny Mathai

Allyson Chee

Dr. Jacquelyn Minter

Lisa Lauter

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LIMITATIONS

The size of Houston/Harris County and the number of health organizations were limiting factors. The information for each respective institution was based on the knowledge of interviewees, and there is a possibility each institution may have been more active than the interviewees knew. Though a fair number of clinics were interviewed, the ones requested for interviews are known to perform well, and they may have been more active in SDH than other clinics. Because this report captured activities that took place between the Fall of 2015 and the middle of the Summer of 2016, activities that emerged afterwards were not included. Though newer activities could not be included in the main report, the **ADDENDUM** contains a few examples of prominent social determinants related efforts that emerged subsequent to the final version of the report.

POST 2016 ELECTION NOTE

Given the results of the 2016 elections, the health landscape will undoubtedly be impacted. However, those impacts are unknown at this time. This report was written under the context of the 2016 healthcare legal and policy framework. There may be sections of this report whose continued relevance and existence may change. Notwithstanding these realities, working to deal with the social determinants of health relies primarily on local organizations exerting local efforts and implementing local strategies, which is what the vast majority of this report focused on. Therefore, the report was not modified to reflect the new incoming administration in 2017 and the possible changes that may occur.

METHODOLOGY

The methodology for this report was to conduct a qualitative study by interviewing individuals from across the health community. Over 100 individuals representing hospital systems, clinics, physicians, health plans, medical schools, funders, academic institutions, and nonprofit organizations from within Houston/Harris County, Texas at-large, and from across the country were interviewed. The interviewees were asked a range of questions about the social determinants of health (SDH), related activities, and with regards to five domains necessary to addressing these upstream issues: 1) organizations, 2) programs and strategies, 3) data, 4) training, and 5) policy. Interviewees also shared their insight and concerns about SDH, health, and the broader community. Information for the SDH Report was also extracted from literature review, various meetings, and conferences. The purpose of this qualitative study was not to create a comprehensive listing of all the activities in the healthcare space in the region but to better comprehend the SDH landscape in healthcare as it moves forward in addressing population health issues.

The interviewees' responses were taken at face value. During the course of the discussions, interviewees were assured anonymity. The rationale behind this was to allow for more candid discussions. This report is also not meant to compare organizations against one another, which was another area of concern for many interviewees. Because of this, specific healthcare organizations are not named throughout most of this report. Many of the interviewees felt more comfortable after hearing this.

Interviewee and Organizational Breakdown

Types of Interviewees – Certain individuals were counted more than once because they fit under more than category (e.g. a physician who is also an executive and professor was counted under two categories):

- 43 Executives
- 31 Management
- 15 Staff
- 15 Academics
- 5 Consultants/Private

Types of Organizations Represented – in some cases organizations counted under more than category (e.g. Texas Children's Health Plan falling under both "Clinics" and "Health Plans").

- 10 Hospitals/Health Systems
- 7 Clinics
- 3 Health Plans
- 14 Nonprofits
- 7 Academic
- 1 Foundation
- 2 Private/Business (excluding individual consulting)
- 2 Public Health (including Harris County Public Health)

Individuals from Organization Types – some interviewees represented more than one organization type (e.g. a physician employed at a medical school who also works prominently in certain health organizations). This still provides a good representation of the numbers from each type of organization:

- 39 from Hospitals/Health Systems
- 15 from Clinics
- 7 from Health Plans
- 20 from Nonprofits
- 18 from Academic
- 3 from Foundations
- 4 from Private/Business
- 7 from Public Health

Clinical/Other – though this demonstrates individuals being trained, licensed, and/or are credentialed in one of these areas, this does not necessarily mean they are currently practicing in that capacity:

- 13 Physicians
- 7 Nurses
- 5 Social Workers
- 5 Community Health Workers
- 1 Psychologist

INTRODUCTION

With 4.1 million residents, Harris County, TX is the third largest county in the United States as well as home to the fourth largest city in the country - Houston. Within Harris County resides an incredible healthcare community with over 85 hospitals and over 150 clinics and is home to the Texas Medical Center – the largest medical center in the world.

Much of what helps determine the health of our community relates to activities happening where people, live, learn, work, worship, and play.”¹ Based on research, it is now known that 80% of a person’s health outcomes are affected by factors outside clinical care, those being the social determinants of health (40%), health behaviors (30%) and the physical environment (10%).² These are all shaping the narrative about health, as well as various policy and programmatic decisions for population health improvement.³ Health equity⁴ is an integral part of this because some individuals and communities experience poor health due to unfair, unjust or avoidable socioeconomic or environmental conditions beyond their control⁵ rather than genetic or individual characteristics.

However, healthcare organizations as a whole have not been as quick or nimble in responding to this paradigm shift, and much of this can be attributed to this only becoming a priority in recent years⁶ and the fact that acute episodes and chronic diseases are continuing to bear down on these institutions. Nevertheless, in the face of the mounting patient, regulatory, and financial responsibilities, healthcare institutions in Houston/Harris County have been attempting to address the social determinants of health. The purpose of this report is to better understand what social determinants of health (SDH) activities⁷ are taking place in Houston/Harris County healthcare settings and how best to march forward in addressing them. Due to the complexity of SDHs, it is understood that effective upstream interventions require addressing deficiencies and gaps and instituting interventions at various parts along the stream. Even though addressing SDH will require a community-wide effort from all sectors of the community, this assessment is meant to better understand what the healthcare sector can do within its own sphere and in conjunction with its community partners. There are various SDH interfaces and interventions, some in clinical settings and some in the community at large. Because health happens in and is affected by all aspects of a person’s life and because there are various synergies that need to occur throughout the process, this report will look at SDHs from a continuum of care lens along the clinical and community spectrum. Over 100 individuals from various health and non-health entities were interviewed with regards to their insight and advice on SDH as well as specific questions relating to five domains where SDH work is taking place and are necessary to addressing SDH: 1) organizations, 2) programs and strategies, 3) data, 4) training, and 5) policy.

¹ Quoting Dr. Umair Shah - publichealth.harriscountytexas.gov/About/Leadership - <http://publichealth.harriscountytexas.gov/About/Leadership> .

² Our Approach. (2016). Retrieved from <http://www.countyhealthrankings.org/our-approach>; some reports and organizations refer to the entirety of this 80% as the social determinants of health as a way to capture all of these non-clinical factors. This report will also refer to the entirety of this 80% as the social determinants of health.

³ Id.

⁴ “A state in which every person has the opportunity to attain his or her full health potential and no one is disadvantaged from achieving this potential because of socioeconomic or environmental conditions” - Harris County Public Health. (2013, January). Strategic Plan 2013-2018.

⁵ Upstream conditions are the underlying structures of our society that are at the root of social, economic, and environmental conditions – Harris County Public Health (producer). Introduction to Health Equity [video file].

⁶ The Secretary’s Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020. (2008, October 28). Phase I Report: Recommendations for the Framework and Format of Healthy People 2020. Retrieved from <http://www.healthypeople.gov/2010/hp2020/advisory/PhaseI/default.htm>

⁷ “Activities” include programs, research, education, technological investments, policy efforts, and community-wide interventions.

The content of this report was driven by the interviewees' responses. There are three sections in this report. Section I, "Roads to Social Determinants Response," outlines the dynamics and structures that play an integral role and present challenges in healthcare and undoubtedly feed into or relate to responding to SDHs. Section II, "Key Local Social Determinants Priorities," gives an overview of the types of SDH activities that the healthcare sector has deemed key priorities, a sample of local activities, and comments related to these local efforts. Section III, "Domains of Social Determinants Work," delves into the five domains mentioned above.

I. ROADS TO SOCIAL DETERMINANTS RESPONSE

Various regulations, financial realities, and relationships have played an integral role – positive and negative – in healthcare sector’s efforts to address and improve the health of the community. These will continue to play a central role and will continue to be challenges in healthcare’s gradual migration upstream as it attempts to address SDH issues.

AFFORDABLE CARE ACT

Regardless of its intent, the Affordable Care Act (ACA) has had an impact on SDH. While most of the media and general public’s attention has been focused on health access and insurance, within the health community, many other aspects of the ACA are affecting the institutions on a daily basis and, arguably, some could say in a more substantial way. The legal enforcement, financial incentives, and reporting elements of the law are causing health organizations to better consider the social determinants of health. While much of the country is understandably focused on health access and high deductibles, Centers for Medicare & Medicaid (CMS) has been continually feeding new and different programs into the pipeline – some fail and are discarded and some show promise and are retained. Some opinions see these rotating ACA related programs and rules as failed attempts and a “spaghetti on the wall” approach, but others see this as a very purposeful and methodical way of collecting evidence to “shake out” what programs actually work instead of implementing a program without knowing its efficacy, as was done with health maintenance organizations (HMO) during the 1990s. The true utility of this approach may not be known for years as the ACA continues to evolve. Below are some of the more prominent ACA related programs that potentially impact SDH.

Community Health Needs Assessment

The interviewees felt that the Community Health Needs Assessment (CHNA) had potential as a valuable tool since it requires health organizations to take account of the needs of the community it is serving and to take input from the broader community such as from governmental health departments and those in medically underserved communities.⁸ These are invaluable mechanisms and necessary connections when addressing SDH. However, most interviewees believe that the first round of CHNA’s that were produced were lackluster. A few organizations used the CHNA as an opportunity to identify SDH needs, but because the government allowed a great deal of flexibility during the first round of submissions, some organizations submitted the minimum amount possible and some failed to include an implementation plan. The interviewees’ theory was that many organizations submitted a base level CHNA to create a low comparative threshold for subsequent submissions. There is hope that the next round of CHNA submissions will be more substantive, and as this process becomes more refined, SDHs and related interventions should become more prominent features of these assessments.

⁸ IRS. (2016, June 3). *New Requirements for 501(c)(3) Hospitals Under the Affordable Care Act*; Association of State and Territorial Health Officials. (2015, May 2). *The Internal Revenue Service’s Final Rule: Charitable Hospitals & Community Health Needs Assessments*.

Patient Centered Medical Homes

Patient centered medical homes (PCMH) preceded the ACA, but the legislation gave it the necessary spotlight and subsequently there has been a steady increase in PCMHs nationwide and in Houston/Harris County. Fully addressing the total health and social well-being of patients cannot occur if an organizational alignment does not already exist for standard health needs. Some had reservations about the general PCMH designation, but they saw the value in the National Committee for Quality Assurance (NCQA) PCMH designation. NCQA is not without its critics since it awards the name based not on outcomes but on an organization having the appropriate processes and systems in place. Overall, PCMH has been seen as a very positive approach that is focused more on the patient. In regards to SDH, PCMHs are prime sites for SDH clinical screenings and where community resources can be co-located.⁹

Value-Based Payments

Value-based payments are being phased in, but many organizations and practices are already starting to adjust to the new payment model. Some interviewees looked at this model askew. They felt too many factors fell outside of the physicians and health entities' purview that could penalize them and lower reimbursements. Others argued that this is one of the mechanisms meant to force providers to eventually address SDH. Some interviewees felt that some of the quality criteria were too weighty and subjective, and minor issues may distort the quality measure. Still many expressed that while the value-based payment model may have deficiencies, it is forcing providers to address the total health and condition of the patient. Though the measures do not currently encompass SDHs, as health continues to migrate and close the gap between traditional health and social well-being in tandem with the search for more ways to make healthcare more cost effective, measures related to SDHs may eventually become incorporated into the value-based model.

Accountable Care Organizations

Accountable Care Organizations (ACOs) seek to create more vertical integration amongst doctors, hospitals, other providers, and they attempt to incentivize greater responsibility for quality and cost of care. ACOs adjust for risk to account for severity in clinical case mixes. ACOs contract with government or private payers and agree to manage this accepted responsibility. Despite the intent of creating more vertical integration, the forms of ACOs vary and do not always have necessary entities in its network such as hospitals. ACOs operate under a fee for service model, but they take into account value-based quality of care measures by focusing on prevention and better management of patients with chronic diseases. ACOs share data, and providers share in the financial savings if they meet certain quality measures and cost savings. This helps combat some of the financial disincentives resulting from lost revenue due to reduced encounters and procedures. Interviewees and critics point out that ACOs effectiveness may be limited because patients are free to go outside of the ACOs network, are assigned to ACOs based on the prior year's behavior even if they in the meantime have changed providers, and patients may decide not to share data. However, because of the negative connotations associated with HMOs, patients having freedom to move amongst providers is seen by some as a positive characteristic. Ultimately, one of the goals of the ACOs is to improve and account

⁹ Garg, A., Jack, B., & Zuckerman, B. (2013, April 25). Addressing the Social Determinants of Health Within the Patient-Centered Medical Home. *JAMA*, 309(19), 2001-2002. doi:10.1001/jama.2013.1471

for “population health,” but the debate continues whether the “population” should include the entire community or the ones in the ACO.

30-Day Readmission

The 30-day readmission policy has had a significant impact because it directly involves patient outcomes and includes financial consequences. Hospital/healthcare systems (hereinafter “Hosp/Sys”) interviewees and others involved with SDH pointed to this policy as one that is causing some Hosp/Sys to step outside of the four walls of the hospital to better serve the patient’s needs. There were a few interviewees who felt that, despite some improvements, most Hosp/Sys were still not attempting to tackle SDH issues underlying the chronic or acute issues. Critics pointed to unrelated readmissions, and to those areas that are outside of the control of the Hosp/Sys such as medication adherence and follow through on medical appointments. Additionally, even though comparisons between Hosp/Sys are risk adjusted for clinical/chronic conditions, some Hosp/Sys are calling for socio-economic risk adjustments. CMS and others have currently pushed back against this idea because it may disguise the health disparity issues that in actuality should be addressed by the Hosp/Sys and other providers.

Bundled Payments

Bundled payments allow a certain amount of flexibility and promote integration of services while incentivizing cost savings. Essentially, a certain amount of reimbursement is designated to treat a certain condition, and that amount is to be shared amongst all providers who treat that patient along the spectrum of treatment. The efficiency and collaboration along this spectrum will determine the financial benefits to the provider. Unlike capitation, bundled payments are risk-adjusted to counter overly restrictive service offerings and to account for medical conditions. Bundled payments are still not widespread yet and seem limited to certain conditions and procedures currently. If bundled payments begin to mirror global payment methods and includes SDHs, bundled payments may be a potential tool in addressing SDHs

Prevention and Public Health

The ACA’s purposeful focus on prevention and public health has helped bolster much needed attention on prevention and has impacted healthcare on various fronts. Examples of these prevention promoting provisions are the following: mandatory health coverage of preventive services, requiring the aforementioned CHNAs, funding of school-based health centers, focus on health equity, menu labeling, and creating provisions to support working mothers who breast feed. The National Prevention Strategy focused more attention on SDHs, and Community Transformation Grants, which is funded through the Prevention and Public Health Fund, outlined goals to address gaps created by SDHs.¹⁰ In total, the ACA’s prevention provisions have directed much needed attention and created opportunities for healthcare organizations to start thinking and developing strategies to overcome SDHs.

¹⁰ Jordan, N., & Duckett, P. (2014). The Affordable Care Act and Public Health. *Public Health Review*, 2; Andrulis, D.P., Cooper, M.R., Siddiqui, N.J., & Jahnke, L.R. (2013, November). *The Affordable Care Act & Racial and Ethnic Health Equity Series*; Heiman, H.J., & Artiga, S. (2015, November 4). Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity. *Kaiser Family Foundation*.

HEALTHCARE ACCESS & COSTS

Over the past several years, the ACA and the framework of the Institute for Healthcare Improvement's (IHI) Triple Aim¹¹ have undoubtedly impacted healthcare. Despite their impact, health access remains an important topic and significant challenge in the Houston/Harris County community. Even though health access is not a SDH, in the midst of discussing social determinants of health, health access invariably came up. Many of the interviewees also voiced their concern about health costs. These costs illustrate the conflicting choices that individuals have to make between their own health and that of life's necessities. Furthermore, because SDHs require more time and resources, these immediate perennial access and cost issues will continue to receive most of the attention and delay or stunt efforts to address SDH issues.

Access

The ACA accompanied by incredible efforts by health and social organizations has led to greater access. More people than ever before are able to access medical care, but not for all. Medicaid expansion was the most common action item brought up in the interviews though the interviewees understood that the current political atmosphere makes it virtually impossible to occur. Even though health access increased for local residents, interviewees distinguished between knowing about access and understanding how to appropriately use it. There is still a great deal of education needed on many fronts. For example, many people who may be eligible for subsidies are unaware of it, and they are suffering from high deductibles or avoiding health insurance all together. For some individuals, the world before and after the ACA remains the same. Without Medicaid expansion, a significant percentage of the local population is unable to access health insurance and have no available options.¹² Even for covered SDH related services such as housing services, without access to health coverage, people cannot be screened for SDHs and will be obstructed from utilizing available SDH related services [see **DOMAINS OF SOCIAL DETERMINANTS WORK** (hereinafter "**DOMAINS**"): **Data: SDH Clinical Assessments**].

The shortage of primary care physicians still presents a daunting issue. Basic medical needs let alone social ones are hampered by the lack of supply of physicians. Ever since the National Academy of Medicine (formerly the Institute of Medicine) released a report that supported increasing the scope of responsibility and use of advanced nurse practitioners (NPs) and physician assistants (PAs), there has been a boom in the number of graduates and practitioners in these fields, which may significantly dent the shortage. However, physician groups have pushed back in regards to greater prescriptive freedom. Physicians groups also prefer continuing collaborative agreements with NPs/PAs. Many states have expanded the scope of these primary care alternatives while other states have given NPs/PAs near physician level status.¹³ Texas is one of those states that has eased supervision requirements and expanded their scope of practice.¹⁴ Telemedicine is another resource that may help alleviate the primary care access issues, but it is also facing pushback in non-rural areas by physician groups, which also includes Texas.¹⁵ [see **ROADS TO SOCIAL DETERMINANTS RESPONSE** (hereinafter "**ROADS**"): **Technology and DOMAINS: Policy**].

¹¹ "Improving the patient experience of care (including quality and satisfaction); Improving the health of populations; and. Reducing the per capita cost of health care" – Berwick DM, Nolan TW, Whittington J. The Triple Aim: Care, health, and cost. *Health Affairs*. 2008 May/June;27(3):759-769.

¹² Data Tools. (n.d.). *Center for Public Policy Priorities* - <http://forabettertexas.org/data.html>

¹³ Ura, A. (2014, May 19). Texas Nurse Practitioners Look to Ease Supervision Rules. *Kaiser Health News*.

¹⁴ Dickson, V. (2016, February 20). Expanded scope: Nurse practitioners making inroads. *Modern Healthcare*.

¹⁵ Schnurman, M. (2016, March 14). Mitchell Schnurman: If employers and patients want telemedicine, why is Texas blocking it? *The Dallas Morning News*.

Some interviewees held the opposite opinion on the primary care shortage. They felt given the NPs/PAs and safety nets clinics, primary care coverage was within range of the demand. Specialty services and surgeries for the indigent population was the true area of concern.

Behavioral health access remains an issue. Some health plans do not cover behavioral health, and even if they do, some psychiatrists do not take health insurance. Texas has a higher proportion of psychiatrists who use a cash only payment system and do not take insurance. These factors have made accessing behavioral health services a challenge. Mental Health America of Greater Houston's Integrated Health Care Initiative (IHCI) initiative is seeking to address these issues as well as other access topics [see **DOMAINS: Programs & Strategies: Behavioral Health**].

Cost

Even though more people are covered, some are experiencing greater costs because of high deductibles and/or high monthly plan costs. Underinsurance was an issue prior to the ACA, but due to the reality of the mandated costs, the numbers have swelled.

Medical bills and medical expense driven bankruptcy also existed before the ACA, and they continue to be one of the major causes of bankruptcy for individuals. Some families have lost their homes, have had to take on extra jobs specifically for medical expenses, or experienced other financial hardships as a result. Even though they have health insurance, many people have to make choices between getting medical care and paying for necessities such as utilities and food.¹⁶

The mystery around health pricing continues to be a looming issue. Price transparency, potential overpricing, and inconsistent pricing across the health sector has fed many of the cost and debt issues identified above. The lack of price transparency has made it more difficult for individuals and families to plan financial decisions appropriately, and when medical bills are received with previously unknown charges, many times they are left in a bind between necessities and overwhelming medical bills. Some states are passing laws trying to rectify this issue, and some health systems are also doing the same. Such activity has not been identified in Houston/Harris County yet.

PUBLIC HEALTH-HEALTHCARE RELATIONSHIP

Despite both sectors operating under the banner of “health,” there is a noticeable disconnect between public health and healthcare. Due to different funding mechanisms, decades of bifurcated regulations and operations, and other factors, public health and healthcare institutions have had a disjointed relationship. Additionally, each operates under differing frameworks with even common terms such as “population health” carrying different meanings.¹⁷ Prevention in general has played a lesser role in healthcare settings; partly due to the previously mentioned funding mechanisms and the severity and acuity of the patients presenting at the doorsteps of the hospitals and clinics, “sick care” has occupied the vast majority of the healthcare sector’s attention. Public health has always been focused on prevention, but the shift to SDH occurred internationally within the past decade or two and probably had its true start in the United States in 2010 with the release of the Health and Human Services

¹⁶ Zieger, A. (2009, June 4). Study: 60 percent of personal bankruptcies fueled by medical bills; Brody, H. (2012, March 19). Insured but bankrupt: The hidden side of health care costs. *Houston Chronicle*; Deam, J. (2016, January 6). Even with insurance, medical debt can be a burden. *Houston Chronicle*.

¹⁷ Public health and healthcare both utilize the term “population health,” but the definition differs. Public health’s definition refers to the greater community population while healthcare’s definition refers specifically to the patient panel that visit and utilize health services and in some cases takes into account risk. This report will operate under the public health definition.

Healthy People 2020 report. In attempting to address root factors, healthcare in truth has been primarily focused on health access. It has only recently started to turn more attention to SDH, with the ACA accelerating the process. The ACA as well as local and national efforts has led to increased levels of collaboration between the public health and healthcare sectors. The emphasis and focus on upstream issues, the cost savings associated with addressing social conditions, and the financial incentives, reporting requirements, and legal enforcement mechanisms have driven these efforts.

There is a great deal of positive momentum, but there are still challenges some of which are grounded in the aforementioned disconnect. For example, the University of Texas Medical Branch (UTMB) held a Health Disparities Leadership Forum in 2015, and during a breakout session, some public health attendees felt that positive health and social outcomes should be sufficient to warrant increased levels of healthcare sector's participation in SDH. They were unaware of the business and fiscal orientation and pressures that the healthcare sector operates under. Conversely, some healthcare sector interviewees had never heard of the concept or term "social determinants" and were surprised to hear of how impactful they are on health outcomes.

Overall, it should be noted that SDH is still relatively new for both sectors. To fully address social determinants of health and to attempt to create better public health and healthcare linkages, all parties need to have common vocabulary, knowledge of social determinants, and an understanding of effective and fiscally responsible strategies.

COLLABORATION

Collaborations are opportunities to bring together multiple stakeholders with diverse skills, resources, and geographic positioning. However, collaborations come with its own challenges, and these will persist for collaborations seeking to address SDHs. Some interviewees felt collaborations tended to "chase dollars" and did not necessarily follow a strategic roadmap. Interviewees also voiced disappointment at promising programs disappearing once funding ended [see **ROADS: Funding**]. Additionally, because many collaborations are funded through grant monies, there is a sentiment that grant makers should include criteria requiring that applicants have specific skill sets and characteristics as certain organizations are absent that should be at the table, or larger organizations may be favored over smaller, more relevant ones. Another issue raised was the inconsistent attendance and efforts by participating collaborative members, which weakened the long term health of the collaborative efforts.

Many blame the competitive and non-cooperative natures of the health organizations, in particular the Hosp/Sys and some of the local government health entities, as one of the greater obstacles to collaboration. The siloed nature of health organizations garnered a great deal of criticism from the interviewees. This affects not only the organizations themselves but the community members surrounding these institutions. Houston is home to the largest medical center in the world as well as many health organizations outside of the Texas Medical Center (TMC), yet Houston has some of the starkest disparities directly in the backyard of many of these health institutions.

Despite some of these criticisms, there have been many collaborative efforts, and there are innovative efforts currently underway. These collaborations and partnerships operating throughout the region consist of traditional and non-traditional members working with great effort to accomplish their respective population health goals. Unfortunately, many of these are isolated and in some cases vying for the same partners and resources. There is nothing wrong with having different groups working towards similar goals or within specific geographical regions. However, there should be greater

regional planning to allow for alignment of goals, more effective use of resources, and greater coordination across the region to potentially create a broader collective impact. This does not necessarily mean that collaborations must attempt to affect the entire Houston/Harris County area, but strategic collaborations may lead to pilot programs or projects implemented in certain communities more suited for that project, and in some cases, larger areas that benefit from better designed and planned out efforts. Instead of the current haphazard and ad hoc approach, these mini-regional alignments and pilots could be part of a larger schema.

The BUILD Health Partnership in Pasadena is a good example of several health organizations, local government, and community partners strategically working to transform a community – an entire food system – and serving a targeted community (Pasadena, TX) to address food insecurity. If evidence-based positive outcomes emerge from this effort, it can be replicated elsewhere in the region. Another example is PCIC (Patient Care Intervention Center). This collaborative model brings together multiple stakeholders from various sectors (healthcare organizations, health plans, law enforcement, behavioral health, emergency medical services (EMS), and community organizations) to address the health needs of the super utilizers (e.g. homeless, formerly incarcerated). PCIC's work is highly intensive, and is another example where a smaller collaborative is appropriate for the desired outcome. Gateway to Care is an example of an organization that can act as a focal point or coordinator of community collaborations especially on grassroots efforts. They have been responsible for efforts related to increasing the number of Federally Qualified Health Centers (FQHC), community health workers (CHW) state legislative efforts, and health access. The City of Houston's My Brother's Keeper (MBK) is an initiative that seeks to address and improve education outcomes and employment training (e.g. Community Health Worker training) to reduce opportunity gaps for young men and boys of color.

Though there are many health collaborative efforts that exist in Houston/Harris County – of which only a few relate to SDH – overall, there is not county-wide cross sector initiative that addresses a multi-SDH strategy for the health of residents across the entire Houston/Harris County geographic region. An example of the scope of such an initiative can be found in San Diego. Live Well San Diego is an example where several agencies and organizations – state health agencies, law enforcement, schools, hospitals, faith-based organizations, and education – came together and developed a ten year strategic plan to address various health and SDH issues across the entire San Diego region. However, Live Well San Diego is operating in a different environment. California and Texas address health and the ACA in very different ways, and many of the county agencies in San Diego (e.g. child services, aging, public health, behavioral health) consolidated several years prior thus making collective efforts much less cumbersome. Still there is much that can be learned from their example as this aggressive strategy has led to very positive outcomes for the San Diego area overall. The Prevention Institute's Accountable Communities for Health report lists other successful larger scale efforts.¹⁸

Another way to create more efficient collaborations is to consolidate various programs which are working in the same area though not together. Many organizations utilize mobile units for outreach, but each mobile unit acts as an isolated unit. Especially when conducting outreach with the indigent population, coordinated actions may lead to more effective and efficient care and treatment connections. Some entities are beginning this process of bringing together multiple stakeholders. Examples include the Clinton Health Matters Initiative–General Electric partnership (CHMI-GE) bringing stakeholders together on various SDH areas, Harris County Public Health's Healthy Living

¹⁸ Mikkelsen, L., Haar, W.L., Estes, L.J., & Nichols, V. (2016, January). The Accountable Community for Health: A Model for the Next Phase of Health System Transformation. *Prevention Institute*.

Matters (HLM) Collaborative addressing childhood obesity with partners from various industries, and Go Healthy Houston's efforts to improve health and exercise as well as promote tobacco cessation. Another hopeful sign of things to come occurred in response to the CMS Accountable Health Communities (AHC) Grant. The Episcopal Health Foundation convened several health organizations in response to the AHC Grant, and many of the organizations were willing to have their systems – operationally, financially, and technologically – come together in ways they have not done so before. Eventually, the University of Texas School of Public Health (UTSPH) along with these three Hosp/Sys and the University of Texas Physicians turned in an application for the grant. Gateway to Care's CHWs will also play a role through their relationship with UTSPH. Even if they do not receive the grant, the intent and actions taken to collaborate are very hopeful signs for the future.

During the interviews, many people brought up the role of conveners – those organizations that could bring parties together for collaborative purposes either due to their influence and/or their resources. The two that came up most often were Harris County Public Health and the Episcopal Health Foundation. Other organizations also include Gateway to Care, CHMI-GE, and the City of Houston Health Department.

FUNDING

Funding is one of the controlling elements in the long term success of organizations and programs. The stability of funding greatly influences the environment and its potential for creating more work and innovation in certain areas of health. Foundations and employers have been the main funders of SDH programs. The government is another major source, and most importantly it can help make SDHs a more permanent part of the health landscape by creating the needed payment mechanisms, which potentially would enable it to be taken to scale. The door for Medicaid reimbursement has been opened at the Federal level. However, at the state level – including Texas – a state amendment is required to allow Medicaid reimbursements for positions like CHWs or non-clinical social workers [see **DOMAINS: Programs & Strategies: Community Health Workers**].¹⁹ This makes employing more CHWs and social workers, who are integral in addressing SDH issues, cost prohibitive. A more hopeful sign of potential CMS and eventual private insurance reimbursement is CMS's AHC Innovation Grant, which is focusing on the continuum of clinical and social services. If this leads to cost savings and increased quality of care data, this may be the evidentiary mechanism needed to open the doors for reimbursements. Other sources to sustain programs and cover employee costs include fundraising, government grants, high level volunteerism, and sponsorship.

One of the consequences for organizations that are not sufficiently staffed or resourced to receive a grant award is the negative cycle it creates for those organizations seeking to improve their status. Because high performers get more attention and funding while others do not, a widening gap between the have and have-not organizations is created.

Sustainability is a chronic issue for externally funded efforts. If organizations involve themselves in programs not central to a community or a strategic plan, once the funding ends, the organization will focus its resources on other non-related projects or another grant funded opportunity, which then calls into question the utility of the funding organization and the project as a whole. On the flip side,

¹⁹ Burton, A., Chang, D.I., & Gratale, D. (2013, June). *Medicaid Funding of Community-Based Prevention: Myths, State Successes Overcoming Barriers and the Promise of Integrated Payment Models*; Community Health Workers. (2016). *Association of State and Territorial Health Officials*.

there have been very beneficial projects that, despite the success and time invested, the project ends once the funding ends.

Foundations should be willing to offer open grant opportunities to allow an organization or multiple organizations the chance to direct the funds, though still requiring measurable outcomes to determine efficacy. The duration and dollar amounts for such open grants will require in-depth negotiation though. Some foundations have been pushing for more population and strategic projects, which is a positive sign, in particular as it relates to ones attempting to address SDH.

TECHNOLOGY

Technology is playing an increasingly larger role in health, and its span will only continue to grow. In regards to SDH, the technology is still very much in its infancy stage [see **DOMAINS: Data**]. Much of the technology is geared towards direct healthcare services, chronic disease management, and reminder notifications, but the opportunities are definitely present for extending these innovations into the SDH realm. The interaction and interdependence between humans and technology will only increase as demonstrated by products like Apple Watch and FitBit. One note of caution as noted by clinicians interviewed is that sometimes the turn to technology leads to inefficiencies and other issues. Some clinics have had to return in part to more human methods to counteract these inefficiencies. For example, patients may experience longer wait times or get lost in the system due to automated check-ins and patient tracking systems. One clinic rectified this issue by returning to a manual check-in with the front desk, which returned the human engagement and awareness back into this process. Also, the increase in technology has led to frustration for both providers and patients because the technology has created a barrier and hindered the human interaction that is critical in treating health and social issues.

Telemedicine

Telemedicine has existed in the health industry for a number of years. Its utility lies in connecting Hosp/Sys and physicians with rural, poor, the aging, and other patient populations that have trouble accessing providers. After being passed in the 84th Texas Legislative session, it is now being used in places like school-based clinics.²⁰ There are several case studies showing its efficacy, and it is being utilized for health issues related to diabetes, COPD, CHF, hypertension, and mental health. Depending on the type of issue, telemedicine is showing similar outcomes to in-person treatment.²¹ In addition to increased access, it has led to savings and reduced emergency room (ER) usage. Programs like the Houston Fire Department's ETHAN Project, which has not only diverted numerous unnecessary emergency visits but has also led to health home connections, demonstrate telemedicine's effectiveness and potential. Telemedicine is already making progress in addressing behavioral health, but direct services for SDH need to be developed further. One way to approach telemedicine is to use the technology to counteract the effects of SDH that obstruct people from receiving care. Ongoing built environment obstacles and high crime rates obstruct access to health and telemedicine can be an answer either through a more accessible health site or by using a tablet at home. It can also be used as an education tool and modify behavior for such things as food insecurity and nutrition counseling and to help evaluate the social conditions in the area, in particular rural or

²⁰ House Bill 1878. (2014). *The Texas Tribune*.

²¹ Dvorak, K. (2016, January 4). Nurses: Tele-ICU tools improve performance, communication. *Fierce Healthcare*; Dvorak, K. (2015, December 15). Telemedicine produces 'positive results,' but more research needed on primary care effectiveness. *Fierce Healthcare*.

removed urban ones.²² For example, telemedicine has allowed providers to identify nutritional and emotional issues that veterans are experiencing through a home telehealth program.²³ Telemedicine could also be utilized as a channel to conduct or uncover SDH issues through social screening [see **DOMAINS: Data: SDH Clinical Assessments**].

Telemedicine also comes with its challenges. Issues related to licensing, reimbursements, liability, electronic health records (EHR) interface, and HIPAA privacy have created significant obstacles in Texas.

mHealth & Social Media

Using mobile technology – mHealth²⁴ – to support health delivery helps improve patient engagement. This increased engagement correlates with improved outcomes, behavior changes, medical treatment and medicinal adherence, and chronic disease management. Additionally, utilizing mobile technology has shown to reduce no show rates and costs. Overall, people check their mobile devices over 100 times a day, and text read rates are 98%.²⁵ Especially in the modern age where digital barriers reduce human interaction and where socio-economic circumstances create other forms of barriers, mHealth can help increase the levels of substantive interactions, in particular with populations that tend to be more difficult to follow up with. Millennials for example are very responsive to mobile communications and mHealth follow ups. Mobile phones can be used as portals to telehealth and allow providers easier access to EHR.²⁶ Through applications (“apps”), mHealth can also be used to deliver education, encourage fitness, and monitor health indicators. One local clinic created an innovative app that allows community members access to large amounts of education material and resources on sexually transmitted diseases, HIV, birth control, parenting, and medication adherence. Kaiser-Permanente uses mHealth and merges it with its EHR to develop a better analytical health picture of its patients. Apps can also serve to monitor the environment such as water quality, greenhouse emissions, and other conditions that impact the social and physical well-being of individuals and communities.²⁷

Aside from communication, social media can be used for population health studies and to track health trends and hot topics. By utilizing hashtags or tracking hashtags on social media platforms such as Twitter, Facebook, Instagram, and/or Tumblr, health organizations can study growing worries or social and physical health issues as they are emerging. By combining big data and social media, organizations can hone in on specific online conversations occurring around social determinant subjects like housing issues related to gentrification. Even though this requires technical understanding of the media and data analytics, it is a resource that should be tapped into especially with the growing need to address population health issues. In an effort to better support Live Well San Diego, Virginia Commonwealth University and University of California-San Diego’s Qualcomm Institute are working

²² Homenko, D.R., Morin, P.C., Eimicke, J.P., Teresi, J.A., & Weinstock, R.S. (2010). Food Insecurity and Food Choices in Rural Older Adults with Diabetes Receiving Nutrition Education via Telemedicine. *Journal of Nutrition Education and Behavior*, 42(6), 404-409; Institute of Medicine. (2012). *The Role of Telehealth in an Evolving Health Care Environment*.

²³ Stuckey, J. (2015, May 29). How the Best Hospitals Manage Social Determinants of Health.

²⁴ Using mobile devices such as phones and tablets for public health and healthcare purposes - <https://en.wikipedia.org/wiki/MHealth>

²⁵ mPulse Mobile. (n.d.). *The Top Five Mobile Best Practices for healthcare patient engagement*. pg. 6.

²⁶ The term “electronic health record” will be used in this report rather than “electronic medical record” (EMR). Though some use them interchangeably, some define EHRs more broadly as encompassing the total digital health information (versus just the patient chart for EMRs), shared with other providers and the patient (versus within just the practice for EMRs), including more clinicians (versus just the direct service provider for EMRs).

²⁷ Redling, A. (2013, April 30). WaterQuality app makes tracking data easy and educational. *The Environmental Monitor*; Environmental Technology. (n.d.). *Which Apps Can I Use to Monitor the Environment?*

together to better understand how big data derived from various sources including social media can support public health.²⁸

* * *

Houston/Harris County health organizations are attempting to utilize technology to improve patient and community care. Aside from EHRs, however, most health organizations are not widely using the growing array of technology to its fullest extent. Many of the interviewees expressed a sincere desire to but have been limited for various reasons. Though much of this can be attributed to the aforementioned telemedicine legal barriers, there are few excuses for a great deal of the lag. Aside from using autocall and autotext functions for appointment reminders, mHealth is also underutilized. Health organizations and professionals have increasingly been using social media to educate fellow professionals and engaged members of the community, but there is still a great deal of potential use to be had.

Technology is advancing very rapidly, and the health industry must work within existing regulations in order to best meet community concerns. The health sector has been featured as being behind other industries technologically despite it being one of the healthiest and largest industries. Some of the interviewees stated there is still an overinvestment in capital and not enough in technology. The health sector may need to start shifting additional resources and hiring more individuals who will help it to fully reap the advantages these technologies can provide and position themselves for future innovations.

²⁸ Peters, E. (2015, May 6). National collaborative to test how big data can improve population health. *VCU News*.

II. KEY LOCAL SOCIAL DETERMINANTS PRIORITIES

As stated above, the comments and results of this report are based on a series of interviews representing a significant sampling of Houston/Harris County's health sector community and their partners. This report reflects most of the Hosp/Sys activities and similarly does so for the local health plans. Due to their sheer number, generalized conclusions could not be made about the community's clinic and physician activities in the region. For the purposes of this report and specifically this section, primary care clinics that are part of a larger healthcare system such as the ones associated with Harris Health System or Texas Children's Hospital are categorized under Hosp/Sys and not clinics. Texas Children's Health Plan's clinics and Baylor Teen Clinics are categorized under clinics.

GENERAL SUMMARY

Overview

Based on the interviews and other sources of information, there is a significant level of SDH activities in healthcare in Houston/Harris County. Across all of the various health organizations – Hosp/Sys, clinics, and health plans, there is a great and heightened interest in SDH, and there seems to be a desire to truly address and treat these issues in a substantive way. The actual work taking place in these institutions varies depending on type of organization. In Hosp/Sys, nearly all of the activities are being generated in the community benefits departments, and though there is little occurring on the business-clinical side (hereinafter “business side”) with the exception of behavioral health services, a select few Hosp/Sys have brought or are in the process of bringing SDH into the clinical practice arena.²⁹ All of the clinics interviewed were addressing SDH in both community partnerships and in clinical care. There is some variation among the clinics, but this was based on resource constraint and not disinterest. Nearly all of the health plans addressed SDH but again at varying levels.

Another way to view this is by types of interventions:

- ❖ **Clinical:** Interventions in this category primarily relate to social screenings to better inform the physician and staff about the patient's total health and social situation before dispensing advice and treatment. This may also include generating appropriate social referral information. Overall, there is some activity in this category, but most of this is occurring in the clinics. A few Hosp/Sys are beginning pilot programs to determine their efficacy.
- ❖ **Social and Wraparound Services:** Though many more organizations seem to be utilizing CHWs, less than a few organizations were investing in more intensive wraparound services overall. Social workers have primarily been utilized for discharge planning.
- ❖ **Facility Offerings/Community In-Roads:** Education classes mainly relating to healthy eating and maternity/prenatal care are being offered. Some organizations have created more walking and green spaces, but overall, there were not many in-facility offerings (e.g. on-site farmer's markets, gyms, etc.).
- ❖ **Community Collaboration:** There are many community-wide health partnerships and collaborations addressing worthwhile goals and outcomes, but there are only a few that relate to SDH. These are positive efforts, and they will potentially lead to beneficial outcomes for their respective populations. However, these efforts are disjointed or at best have loose

²⁹ In regards to behavioral health, this is speaking to those services beyond standard behavioral health; examples: integration and crisis management

relationships: there is little communication, coordination, or planning between or among the organizations managing them. Many times others are unaware of other ongoing efforts. More research is needed to determine how many of these collaborations are working to provide a service and fill gaps and how many of these collaborations are working to transform the condition of the respective community.

Note: The following SDH categories discussed were based on interviewees' feedback.

FOOD INSECURITY

Food insecurity, which affects about 1 in 6 households, is the result of having uncertain or limited access to nutritious foods.³⁰ People who are food insecure tend to have lower quality physical and mental health with it usually resulting in some form of chronic disease.

Many organizations are involved in addressing food insecurity. Based on the interviews and research, this arena of SDH seems to be garnering the greatest level of organizational attention and efforts. Some of the factors that contributed to this are the availability of resources, the perception that nutrition and health can be positively impacted, and the connection to chronic diseases is much clearer. Nearly half of the Hosp/Sys and most of the clinics interviewed have implemented some form of food insecurity intervention. Two of the health plans interviewed have dedicated programs as well.

Many health entities have dietitians, and some have Supplemental Nutrition Assistance Program (SNAP) and/or Women, Infants, and Children (WIC) programs. Though these are vital functions and programs, for the purposes of this report, only programs and strategies that go beyond these roles and programs and address food insecurity through screenings, referrals to community resources, collaborative efforts, strategic reformation, and focused community-clinical linkage programs are accounted for.

Combating food insecurity is accomplished in various ways. One is to bring healthy food resources into a particular community because the community or work place lacks food sources or healthier food options. An associated strategy is to provide opportunities to modify and influence individual and community behavior, in particular through nutrition programs. These programs and strategies take many forms: comprehensive wraparound services, establishing food pantries, screening for food insecurity, offering cooking classes, having onsite community gardens, offering healthy food options, food prescriptions, creating baby-friendly facilities, corner store strategies, and many others. One of the lessons learned is that programs need to be aligned better with the desires and needs of the community. For example, the community should want the cooking class that is being offered or else it will not be well attended. Attendance has been an issue for certain education initiatives while others have been very successful in getting community participation. This may be due to the lack of potential attendees, but it may also be related to the community's lack of understanding of its need and sometimes inadequate marketing and opportunities for enhancing community education.

As with most population health efforts, the efficacy of these programs will take several years to evaluate. This applies to other SDH areas (e.g. housing) as well, but this may be most pressing for food insecurity efforts. A great deal of resources have been invested in these projects, and many want to know what strategies are effective in combating hunger, malnutrition, and access to food. At this

³⁰ Houston Food Bank (n.d.). *Hunger/Food Insecurity*. Retrieved from <http://www.houstonfoodbank.org/hunger/hungerfood-insecurity/>

time, most do not have sufficient evidence to demonstrate community level change. To clarify, this does not mean they are not effective per se, but due to realities of community level change and the timeframe given to evaluate them, some may not have had enough time to prove that any shift has occurred. Interviewees have expressed that not enough consideration is being given to the complex nature of such efforts. Addressing health literacy though important is not enough, and attempting to supply healthy foods, changing eating behaviors, altering taste palates, accounting for cultural norms, teaching healthy cooking, and creating interest for resource-constrained populations are the challenges many of these organizations are faced with. What is known is that singularly focused and isolated programs will most likely not move the needle. Multi-level and multi-pronged interventions working in concert will need to be employed to address the factors truly contributing to food insecurity.

Interviewees brought up issues focused on bringing grocery stores to food deserts. This is needed, but eating habits of the consumer also need to be changed otherwise the healthy foods in the grocery store will be passed over for the unhealthy ones just as they have been doing for years prior.³¹ During the interviews, there was a concern related to a possible inverse relationship between excessive food pantries within a given area and grocery stores. Grocery stores may not come into areas where residents have multiple sources for free food. If true, this should be taken into account when developing strategies, but more research needs to be conducted to determine its applicability in Houston/Harris County.

The food-related SDH efforts have been largely successful in regards to increasing the number of community-clinical linkages (CCLs). Many in the health sector have formed partnerships with community organizations like the Houston Food Bank, YMCA, CAN DO Houston, Brighter Bites, and many others who are attempting to address these issues.

Sample of Food Insecurity Activities in the Houston/Harris County region:

- ❖ One Hosp/Sys has decided to make food insecurity (and exercise) its primary community benefits focus area. This Hosp/Sys has food insecurity screening in nearly all of its ERs and school-based clinics, and it will extend screening to all of their ERs by the end of 2016 with plans to further extend the screening to its physician practices across the region and its cash clinics. This data is incorporated into its EHR system. It is also involved in instituting criteria based food pantries in its school-based clinics.
- ❖ One of the community clinics provides healthy food boxes and healthy cooking classes to patients and community members to teach them how to prepare nutritious foods that are available to them in the community and how they can provide nutritious meals to their families on a limited budget.
- ❖ One Hosp/Sys has created a healthy living toolkit for faith-based organizations.
- ❖ For those children who miss out on school meals due to medical appointments, some local health organizations are in discussion with the USDA for a promising initiative to offer out-of-school meals to children in their facilities. This program is not live as of yet and details are still being worked out.

HOUSING

Proper housing means an individual or family has access to safe, affordable, and quality housing. For some, they may not have be able to actually live in a physical structure or a place they can live in

³¹ Singh, M. (2015, May 14). Why A Philadelphia Grocery Chain Is Thriving In Food Deserts.

consistently, while for others they may live in a low quality living situation. Negative health outcomes such as asthma or chronic conditions may result from inadequate housing or quality housing.

Because there are so many families on the Houston and Harris County public housing waiting lists – with current estimates around 40,000 families, the waiting lists themselves are no longer open.³² The true number of families waiting is far higher. The private sector, faith based entities, cultural organizations, nonprofit organizations, and the federal government offer opportunities for low income housing or subsidies, but they do not offset this housing shortage. According to the interviews, none save one of the Hosp/Sys had housing assistance programs while nearly all of the clinics interviewed had programs directing to or helping clients attain housing. One of the health plans referred their patient members for housing.

Another avenue for addressing housing is through improving housing quality. Organizations send health staff such as physicians, social workers, or CHWs who ascertain the living conditions of their patients and try to advise the patient how to improve their quality of life. For example, in the course of managing its patient's chronic issues, one Hosp/Sys deploys a care team to the patient's home and is better able to ascertain and address the social and environmental factors that are contributing to the health issues, and another Hosp/Sys is able to better monitor the living conditions of its senior patients when meals are delivered through its community relationship with Interfaith Ministries. Additionally, if certain housing or apartment complexes are under the control of a delinquent landlord, some health organizations have partnered with legal organizations or utilized their own attorneys to use the law to address quality issues such as persistent mold or safety hazards. These medical-legal partnerships are starting to grow nationally,³³ but there are very few if any in the Houston/Harris County area. According to the interviews, only one Hosp/Sys is participating in such a partnership.

Overall, according to interviewees, the situation is exacerbated by the renovation and urban renewal (as some call it “gentrification”) going on in areas like the Third Ward and neighboring areas within the county. Many of the low income residents have already had to move out of the area and have begun migrating westward and northwest along I-10 and Highway 290. The problem layered on top of that is many of the social organizations that positioned themselves closer central Houston to better serve the indigent and lower income residents will now lose that proximate connection, and these areas are not appropriately equipped to deal with the needs and issues of this migrating group of people.

Another issue is the Fair Market Rent (FMR) value. This is established by the federal government, and assistance is not allowed for any rent above this mark. The interviewees who spoke to this stated that the FMR formula needs to be fixed; the current value is too high and prohibits services to many needy families and individuals who actually need help.

Health organizations have been working with local community development corporations (CDC) like Avenue CDC and LISC (Local Initiatives Support Corporation). Also, many organizations are working with the Alliance of Community Assistance Ministries (ACAM), which is focused on homelessness prevention and who works with people across the needs spectrum from those requiring help with utilities to emergency housing needs. Health organizations are also working with cultural organizations that help people from their respective communities.

³² Alliance of Community Assistance Ministries of Greater Houston (ACAM) conducted research and provided this data.

³³ <http://medical-legalpartnership.org/>

Sample of Housing-Related Activities in the Houston/Harris County region:

- ❖ One clinic has two specific housing programs. One involves federal Housing and Urban Development (HUD) monies to fund apartments for patients who qualify for an indefinite period of time. This program also helps the patient find employment and get an education, and it provides patients with case managers on an ongoing basis. Additionally, this clinic also has a program that helps its patients to get new housing while also supplying staff on-site – registered nurse, case manager, and social worker – as well as a van service.
- ❖ One of the local clinics uses its broad cultural network to find and provide housing services.
- ❖ Many health organizations who serve people with HIV and AIDS refer their patients to Housing Opportunities for Persons with AIDS (HOPWA) for long-term housing needs.

TRANSPORTATION

Transportation remains an ongoing problem for community members and health institutions. For many community members, this lack of transportation affects their ability not only to make medical appointments but to access grocery stores, work, and school. In effect, transportation is one of the most controlling and limiting factors in addressing health let alone SDH issues. Additionally, many times low-income and minority communities are situated near highways and major roads, which causes them increased exposure to traffic-related air pollution. This leads to respiratory and cardiovascular health issues.

The vast majority of the health institutions offer some form of transportation vouchers, but in many institutions, they do not proactively ask their patients about transportation needs and rely on the patients themselves to request help. Therefore, many who need this assistance to make medical appointments never receive it despite the resource being available. On the other hand, there are also patients who are too embarrassed to accept transportation vouchers or do not want to use them altogether. Because some patients abuse transportation vouchers, some organizations make their vouchers specific to the medical appointment. Barring abuse issues, additional research is needed to explore the health community's capacity to provide transportation vouchers for non-medical needs such as to grocery stores. Medicaid provides transportation, but they require 48 hours' notice to arrange the service, which is not always feasible for organizations or the individuals they serve. Ryan White programs also provide vouchers for clients with HIV/AIDS.

Though not directly addressing transportation shortcomings, some health organizations have staff who will escort patients on public transportation to encourage people to keep their medical appointments. They do not transport the patients themselves due to liability and other logistical concerns. Others are addressing it through built-environment projects and policy efforts.

Sample of Transportation Activities in the Houston/Harris County region:

- ❖ One local clinic has a contract with Yellow Cab to transport its patients, which allows them to provide their patients more immediate service.
- ❖ One clinic provides its patients with a personal van service for those who utilize the clinic's housing program.
- ❖ One local clinic provides the homeless free, regularly scheduled bus transport for health, meal, shelter, and social services throughout the entire year.
- ❖ One local health plan escorts patients to medical appointments.

BUILT ENVIRONMENT

The built environment is the physical space and man-made elements that surround community members in their everyday lives impacts their health and social well-being. This also includes basic human necessities such as having access to safe places (e.g. to play and exercise) and safe routes (e.g. to school).

Inaccessible or absent sidewalks, bicycle and walking opportunities, and parks can lead to serious health and social issues. Additionally, the built environment has social and physical health impacts on community members depending on their proximity to industry and development, and grocery stores. Sometimes the environment either due to structural impediments or safety can create social isolation and connectedness issues.

Another way to affect the built environment is through Health Impact Assessments (HIA), which may be conducted by public or private entities. HIAs use qualitative and quantitative data to evaluate proposed community policies or projects. The purpose of HIAs is to address health through policy, planning, and decision making with the goal of mitigating negative health impacts and maximizing beneficial ones. This process also creates opportunities to engage people in the community.

The built environment also encompasses both the internal and external structures as well as accessibility to buildings. When a health organization is designing or redesigning their facilities, this would include external access to the facility not only by cars but also attempting to take into account the proximity of public transportation to the building. Internal decisions would involve for example making sure the design allows for more physical activity and accessibility to things like stairs as well as other structures, layouts, and options that promote healthy living.

Sample of Built Environment Activities in the Houston/Harris County region:

- ❖ One Hosp/Sys has developed walking spaces around its facility, which is also open to the public.
- ❖ One Hosp/Sys and one clinic along with many other community partners participated in Morgan Stanley's Healthy Cities program to transform an empty concrete elementary school space into a playground. Additional playgrounds in Houston/Harris County may be built as well.
- ❖ HLM held several activities in Pasadena related to the built environment – Walkability Workshop (community members conducted an audit of their neighborhood and were educated on best policy practices on improving neighborhood safety); provided bike racks to schools, parks, and community organizations to encourage bike use; and Bike for Health Event (encouraged active transportation (walking, biking) and gave bike safety education). Additionally, healthcare organizations (one Hosp/Sys and one clinic) participated in key informant interviews for HIAs conducted in Harris County.

EDUCATION & JOB TRAINING

Education refers to educational attainment, and it is highly connected to health outcomes. This is important not only for children but also for parents since their decisions (e.g. eating behavior, smoking, reading) impact their household and others around them. Education also affects employment opportunities. Similarly, for people new to the job market or seeking to find new types

of employment, job training is a key tool in helping those individuals. A person can raise their overall living standard and their health by improving the level and quality of their education or through effective job training. Many lower-income families, single mothers, and minorities are disproportionately impacted by absent or substandard education and job training opportunities.

According to the interviewees though, Hosp/Sys do not have existing targeted job training or education programs. Most of the clinics interviewed either had a job training program or referred their patients to an organization like Workforce Solutions. One of the health plans is specifically focusing its social determinant efforts on job training and education.

Sample of Education & Job Training Activities in the Houston/Harris County region:

- One local health plan is working with low income women and pregnant women to help them find vocational jobs. Additionally, the health plan is focusing efforts on early childhood education and high school graduation and pays for a certification in partnership with Houston Community College (HCC).
- One clinic has members that participate on the local school district's School Health Advisory Council (SHAC).³⁴
- One clinic helps its patients with their General Education Development (GED), literacy improvement, and computer literacy.
- Two Hosp/Sys and two clinics operate school-based clinics, which helps improve absenteeism and tardiness rates and therefore grades by addressing health and social needs at the schools.
- One clinic actively tries to help its patients find work
- One clinic had a program for young fathers that provided a stipend to secure a GED, diploma, or vocational training. This was in conjunction with HCC.

³⁴ A SHAC "is a group appointed by the school district to serve at the district level," and since they are made up of people from that school district's community, they are able to influence the improvement of educational instruction in manner reflecting that community's values and interests, which also includes speaking on issues related to health - Texas Department of State Health Services. (2016, December 12). *School Health Advisory Councils*.

III. DOMAINS OF SOCIAL DETERMINANTS WORK

Social determinants of health occur where people live, learn, work, worship, and play. SDHs are complex, and at times it may be difficult to know how and where healthcare can effectively address them. This section attempts to provide some guidance for healthcare organizations interested in getting more involved. Health entities are engaging the community and their upstream issues through an immense amount of work and effort (locally and nationally) in these five domains: 1) organizations, 2) programs and strategies, 3) data, 4) training, and 5) policy.

Note the issues, opportunities, and recommendations in the following sections do not represent the totality of these categories. They represent thoughts and themes based on the interviews and literature review with the understanding that others exist as well. Additionally, though some of the recommendations given – which were derived from the interviews and local and national initiatives – are based on existing models, some recommendations are meant to encourage individuals and organizations to think of new solutions – ones that may not exist yet.

ORGANIZATIONS

HEALTH PLANS

Health plans are firmly entrenched in the current health system because of their integral role in health access and financial payment structures, but their participation extends beyond these standard arenas. Because individual health insurance and provider reimbursements go through health plans, they have the unique position of being connected to various health organizations and government entities, which allows them to have more real time health data from a broader spectrum of the population. They are also responsible for being cost effective and therefore take a vested interest in learning where costs can be contained. This along with the ACA and the growing understanding of the connections between social issues and health positions health plans well to invest more resources in the community and increase partnerships with health and social organizations.

Issues

Health plans offering Medicaid and Children's Health Insurance Program (CHIP) are limited by the State of Texas as to what they can cover. CHWs and non-clinical social workers services are not covered. Most social services including assistance and referral services are not covered either. As mentioned earlier, behavioral health services are covered but only for specific services and providers.

The United States Supreme Court case *Gobeille v. Liberty Mutual*³⁵ held that self-funded plans are not obligated to share claims data with the state. The government will still receive Medicaid, Medicare, and CHIP data, but without the private payers and the associated healthier patients, the data will be skewed. This also deprives the government from receiving data related to pricing, quality, and utilization data as well as data from those organizations that collect demographic, diagnosis, services, and payments/codes. This essentially will affect public health surveillance and efforts to bring more light and regulations for price transparency, which has been one of the major factors that has

³⁵ *Gobeille v. Liberty Mutual Insurance Co.* 577 U.S. (2016).

contributed to medical debt and subsequent housing and utility bill issues [see **ROADS: Healthcare Access and Cost**]. Though not optimal, as far as encouraging self-funded plans to share data, some states have created voluntary reporting mechanisms. Another option is getting data from the providers, but again, this is less than ideal.

Opportunities

Health plans have been active in the SDH field. Locally, one health plan restructured its mission statement and vision to include social services in addition to health, and it incorporated certain SDH goals related to empowering parents, education, and job training. Other local plans are participating in the food insecurity and nutrition areas. In the Houston (and Austin) areas, United Healthcare subsidizes living expenses for those with unstable housing. In areas around the country, certain health plans are participating and/or realizing cost benefits by being more proactive in SDH. They are getting involved with projects related to housing, economic stability, education, food security, and other areas.³⁶

Health plans are using funds from their administrative budget to hire CHWs as a service to their members [see **DOMAINS: Programs & Strategies: Community Health Workers**]. Certain health plans under Texas Medicaid Managed Care utilize a per member per month rate. This method allows the health plans and associated providers more discretion when spending monies. Some local plans have used this format to cover normally more restricted or uncovered areas like behavioral health services, but these have to be deemed as value-added services and approved by the state. As SDH comes more to light, the state may deem certain social services as value-added. An example of this is the Texas Medicaid Health and Behavior Assessment and Intervention benefit that allows for limited psychosocial services for relevant family members to specifically address a child's living environment.

Private insurers technically have more freedom to decide which benefits are covered. However, each organization operates according to the personalities of its shareholders and culture. Some are more fiscally conservative and some are more willing to add services if financial and quality improvements are known. CMS now covers services related to helping the chronically homeless find housing, and private insurers tend to follow the lead of CMS since they are the largest insurers in the country.

Florida recently passed robust legislation to address price transparency. Organizations could volunteer to provide cost, data, and quality measures to the state, but if they chose not to, organizations cannot participate in programs like Medicaid. Thus far it has been successful in yielding higher levels of participation, which has helped to counteract the *Gobeille v. Liberty Mutual* decision.

Because of the evolving landscape, some health plans including a local one are more willing to share data. Health plans have been very active in using data analytics to determine hot spots or other interests. The data analysis turnaround time is also fairly quick. Some health plans are partnering with Hosp/Sys in other parts of the nation, and there are similar local partnerships in discussion underway. Population health data analysis can be distorted depending on how diverse the payer mix is. Because health plans lack data on the uninsured, one of the advantages of partnering with Hosp/Sys is they can provide this missing data set. These partnerships and collaborations allow for a more comprehensive picture of the community because it is more representative of the various payer mixes.

³⁶ Association for Community Affiliated Plans. (2014, June). *Positively Impacting Social Determinants of Health: How Safety Net Health Plans Lead the Way*; Taylor, L.A., Coyle C.E., Ndumele C., Rogan, E., Canavan, E., Curry, L., & Bradley, E.H. (2015, June). *Leveraging the Social Determinants of Health: What Works?*

Recommendations

Health organizations should work with the state to open up SDH coverage. Using the Texas Medicaid Managed Care platform, health plans and other health entities should try to expand the number of children-family portals to rectify health and social factors that are affecting the child's health and environment, which will inevitably lead to addressing the family's social conditions and needs. By entering this discussion in this manner, politicians and health organizations can avoid politically unpopular areas such as Medicaid expansion.

Many health plans have been participating in community collaboratives like HLM, and these efforts should continue. The local health plans and public health initiatives should try to expand their level of participation with one another for population health purposes. In addition to programs, sharing data would be a common sense partnership. This collaboration could be bolstered if Hosp/Sys and public health organizations also participate.

CLINICS

Clinics (FQHCs, community health clinics, cash clinics, etc.) in Houston/Harris County are the backbone and foundation for the region's safety net healthcare services. They are the frontline providers, and because they are embedded in the communities themselves, they are convenient health access points and understand their respective community's SDH. Each clinic is unique and varies in level of service delivery and capacity.

Issues

Though there are many highly effective and functioning clinics in Houston/Harris County, there are also many clinics that do not have adequate infrastructure, resources, and capacity. Due to internal and external factors some clinics do not have the resources to provide a full set of health services to their patients. The clinics offer what their budgets and resources allow, but for some, certain medical needs like x-rays and prescriptions are not available. Their ability to address food insecurity or provide other SDH services are therefore much more challenging.

Despite the large number of clinics, some interviewees felt that there are still not enough to meet the demand. Many factors account for this opinion. Two separate but parallel phenomena are occurring. First, "one-third of Harris County residents rely on safety net clinics and providers for their health care needs" and are concentrated in very specific regions in Houston/Harris County.³⁷ At the same time, Houston is continuing to expand outwards geographically, concentrations of new large populations are needing services, and the homeless and indigent are continuing to spread away from central Houston.

FQHCs are sometimes confined by payment mechanisms. FQHCs are able to offer many services, but they are also limited as to what services they can add. As interviewees pointed out, due to this limitation, some FQHCs may not offer services that address non-reimbursable SDH services.

When the ACA was passed, it was expected that Medicaid would be expanded, which would have provided millions of dollars annually to the state and subsequently to the various safety net providers.

³⁷ Harris County Healthcare Alliance. (2016). *The State of Health: Houston & Harris County 2015-2016*, 21.

That has not occurred, and the pre-ACA funding streams for uncompensated care no longer exist. The 1115 Waiver³⁸ may soon be ending and renewal is in question. There has been a recent extension, but the uncertainty still remains. The underlying anxiety amongst many providers is where will the uncompensated funding come from when the 1115 Waiver is reduced or possibly no longer available?³⁹ Many feel the safety net will crumble (and may be showing signs of it already) under the weight of the overwhelming uncompensated and underinsured need in Houston/Harris County. As frontline community organizations, the clinics are the most vulnerable, but this is an issue that concerns the Hosp/Sys and other providers as well.

Opportunities

Some clinics have been collaborating and sharing resources to make up for resource deficiencies. Four clinics for example have shared partnerships for 340B prescriptions⁴⁰ and x-rays, and due to this successful arrangement, they will soon add dental and possibly behavioral health.

Despite the resources and funding constraints, many clinics are attempting to address SDH. As referenced earlier, all of the clinics interviewed are actively trying to address issues such as housing needs or food insecurity. Charity clinics once thought to be obsolete in the post-ACA era are filling the needs of the uninsured as well as the ballooning underinsured population, which include SDH related services. Some FQHCs are also finding ways to provide SDH services through alternative funding mechanisms. As referenced earlier in this report, one clinic is receiving Federal grant funding to provide housing and wraparound services for its patients while others are utilizing cultural and religious resources to also provide care coordination and provide aid in transportation and housing.

The Prevention Institute, a nonprofit organization based in Oakland, California, has expanded on these clinics' efforts and introduced a model called community-centered health homes (CCHH).⁴¹ It encourages clinics and other health centers to address not only the immediate health and social needs, but to also take steps to make these a reality for the broader community through advocacy and getting more involved with community efforts to create the necessary change. The CCHH model looks at not only the individual but also the population and tries to affect systematic transformations. Episcopal Health Foundation has been working with the Prevention Institute on this initiative here locally in Houston/Harris County.

Recommendations

The clinics should continue to seek to form partnerships to provide their patients with complementary care services including SDH. If possible, the best case scenario would be for the clinics to strategically create partnerships over the entire region to complement one another and fill as many service gaps as possible.

³⁸ Section 1115 of the Social Security Act, allows Health and Human Services to waive provisions of health and welfare programs including Medicaid (Kaiser Commission on Medicaid and the Uninsured Key Facts); in Texas the 1115 Waiver 1) expanded Texas Medicaid Managed Care to the entire state and 2) replaced UPL with two funding pools: a) uncompensated care (UC) pool and b) DSRIP. - <http://www.tha.org/waiver> (see page 41 of this report for more on DSRIP)

³⁹ Hawkins, J.M. (2016, July 11). The looming fiscal cliff for Texas hospitals.

⁴⁰ Federal program that allows hospitals and providers to receive discounted pricing on certain outpatient prescription drugs at or below statutorily defined ceiling prices.

⁴¹ Cantor, J., Cohen, L., Mikkelsen, L., Pañares, R., Srikantharajah, J., & Valdovinos, E. (2011, February). Community-Centered Health Homes: Bridging the gap between health services and community prevention. *Prevention Institute*.

Because of the close relationships between clinics and their respective communities, a strategic alignment of clinics could serve specific schools in given regions across Houston/Harris County to better provide these schools care and SDH services. Much in the same way school-based clinics are helping to address children health, absenteeism, and education, the clinics could play a similar but more comprehensive role.⁴²

To bolster the clinics role as the health center of choice, clinics need to not only seek out funds for continued operations and expanded health services, they need to evolve to meet the challenges of their community. Clinics should proactively seek out opportunities to become CCHHs and explore other models that may emerge in the coming years.

Since the Harris County Healthcare Alliance discontinued operations, the clinics lost one of the major advocates for regional clinic planning, advocacy, and policy decisions. Gateway to Care has had a long running relationship with Houston/Harris County clinics, most of which has been for grassroots level initiatives and support. In light of the resource limitations, growing underinsured population, and the increasing focus on population health, Gateway to Care should not only continue but also bolster its relationship with the clinics and be the body to convene the clinics, be a body where planning can occur, and be a body that vigorously advocates for them.

Hosp/Sys and funding organizations should start pooling money specifically set aside for clinic use, in particular for SDH and general wraparound services. Due to the unpredictable nature of grant funding, it makes sense to develop a more stable and flexible funding source. There should be quality measures attached to the funding. Hosp/Sys will most likely benefit by having less financially burdensome patients coming to them.

HOSPITALS AND HEALTH SYSTEMS

With over 85 hospitals in the Houston/Harris County area that serve hundreds of thousands of patients, Hosp/Sys have the potential to greatly impact the upstream SDH in a significant manner. They offer a wide array of services, impact larger geographic areas, and serve large numbers of community members. They are able to interface with community members through patient care, outreach, grant making, and collaborating with community organizations. Much of the content in this section can apply to other providers (e.g. clinics, physicians) as well.

Issues

The first challenge healthcare is facing are shrinking margins. More of healthcare is getting outsourced (i.e. ambulatory surgery centers, urgent care centers), and these services that once solely resided within the four walls of Hosp/Sys are now offered as independent, free standing competitors. Making matters worse are the higher reimbursements being given in some cases to the free standing entities compared to Hosp/Sys for the same procedure. As a result, Hosp/Sys have a narrower array of revenue sources and thus, shrinking margins. What once used to be revenue centers, Hosp/Sys, as some interviewees stated, are now cost centers, and they are being more selective about spending dollars especially if there is no proven return on investment (ROI).

⁴² Memorial Hermann Community Benefit Corporation. (n.d.). *Memorial Hermann Health Centers for Schools 2014 Annual Report*. Houston, Texas.

Hosp/Sys, like physicians, have had to deal with increasing numbers of regulations that are constantly changing. Fee-for-service will soon be evolving fully into value-based and many Hosp/Sys are still unsure how to plan for this transition. The Affordable Care Act, Medicare Access and CHIP Reauthorization Act (MACRA), and the recent ICD-10 change are examples of the constantly morphing landscape. Hosp/Sys, in particular smaller and stand-alone hospitals, may therefore feel burdened or incapable of dealing with social issues that reside outside of its facilities.

Due to years of competition, Hosp/Sys are used to working individually and hesitate to work together. When addressing SDH, this competitive environment acts as an incredible impediment. Some institutions may be well positioned to impact a large segment of the population but even then, the collective impact would be greater if there was more collaboration and sharing of resources and information. Additionally, tackling the SDH community issues requires partnerships with social and other health organizations. The current siloed approach may be causing fragmented and uncoordinated partnerships even when Hosp/Sys work with external organizations when a larger more effective coalition could be developed with greater collaboration. In some cases, communication may be an issue where several organizations or collaboratives may be working on similar initiatives unaware of the other's work occurring in parallel.

In most cases, Hosp/Sys have a community benefits arm, which serves to address external community needs. Community benefits can address SDH and usually does so through collaboration. However, while some of the Hosp/Sys in Houston/Harris County have a well-developed community benefits department or division, others are understaffed and under resourced with regards to data systems/decision support and funding to fully realize its purpose. Similarly, some interviewees raised concerns about how Hosp/Sys met the minimum standards for community benefits and how some Hosp/Sys may be expending more on programs that legally qualify as community benefits, but in reality they may not be geared towards as many actual community based activities.

Incorporating SDH practices on the business side of hospitals – where the patients are provided care – proves a much more daunting task. Like any other business, Hosp/Sys operate on a business model. Adding value to the patients is important, but there must also be an associated value to the Hosp/Sys. If the latter does not occur, regardless of the value to the patient, that new service or investment may not take place. Most of the time when there are cost savings due to CHWs or some other form of intervention, they represent savings for the government and possibly health plans – not Hosp/Sys. Hosp/Sys, other than through some compensatory bonus program (e.g ACOs, shared savings plans), are not incentivized to work on most of the root social issues. Additionally, as many interviewees pointed out, Hosp/Sys are negatively incentivized to address root causes because they lose revenue when patients are not presenting with chronic based health episodes. Thus far, there has not been enough hard data on the ROI for addressing social issues to garner the energy to start incorporating, let alone transform, business operations to address these issues.

Because of the financial burden of treating minor ailments and poorly managed chronic disease related illnesses, Hosp/Sys and collaboratives understandably tend to place more resources towards reducing excessive indigent patient utilization especially in the ER. These initiatives are important, but the same level of scrutiny is not applied to employed and insured patients suffering from parallel conditions. As mentioned above, Hosp/Sys may not be incentivized to expend resources that may stop potential revenue streams. As the Health of Houston Survey reports, one in ten adults in Houston/Harris

County has diabetes and 32% are obese.⁴³ Of these, even the paying patients who are currently suffering from chronic illness are being treated mostly episodically. The perception may be that these more affluent populations are not experiencing or suffering from negative social conditions (e.g. food insecurity, behavioral health, physical abuse) when in fact, due to their status, they are simply hidden. As interviewees explained, there are populations that are on the verge of becoming chronically ill or are in the early stages but not requiring significant health services, but due to the financial payment realities and the hesitation to intercede further, the most that is done is general education. Additional interventions are not currently feasible. Therefore, these populations that are teetering on the edge of serious chronic illness and significant financial burdens on the system are left to their own devices save for general education when they visit healthcare providers. This population would greatly benefit from SDH interventions.

Throughout most of the interviews, social workers were viewed as one of the most underutilized assets in the Hosp/Sys. Though they are trained to deal with SDH, many if not most Hosp/Sys use them as discharge planners. Even when social workers help transition patients to the home, the focal point is mostly – if not solely – on the medical and not social needs.

Finally, some Hosp/Sys and providers want to do more for SDH, but the infrastructure necessary for addressing social issues is not known, not well developed, or unavailable. The long waiting list for public housing in Houston/Harris County and the lack of viable healthy food outlets in many regions are some of the examples of systemic deficiencies hindering appropriate care and referrals.

Opportunities

Hosp/Sys community benefits departments potentially have the ability to affect a broader level of change and across a wider spectrum of the community than their business side counterparts. For example, one local Hosp/Sys has been working with the Houston Food Bank and started screening for food insecurity in its ERs, school-based clinics, and they will be rolling these out to all of their affiliated physician practices and cash clinics. These questions are now incorporated into their EHR. With regards to housing, systems like Dignity Health (a Hosp/Sys in California, Arizona, and Nevada) and the Mayo Clinic (a Hosp/Sys in Minnesota) have expended or loaned millions of dollars to develop housing opportunities and spur neighborhood revitalization. Housing quality is another form of housing support. A Hosp/Sys in New York is planning on using hot spotting techniques to identify asthma issues and send CHWs out into the identified areas to work with asthma issues. Some employ medical-legal partnerships to bring legal cause against landlords who maintain low quality housing and refuse to treat issues like mold or rodent and insect infestations. One local Hosp/Sys has formed a medical-legal partnership with the Houston Volunteer Lawyers, and in addition to guardianship and education (medical needs) cases, they have also had to enter the landlord/tenant legal arena for issues like pest and insect infestation.

Regional health systems like Kaiser Permanente and Cleveland based University Hospitals are investing a great deal of monetary and strategic resources on job creation and job training, some specifically towards minorities and women. In an effort to affect school readiness through preventive and proactive health interventions, Arnot Health in New York worked with community and county partners to conduct home visits, early care, and parent education for children, which has led to very positive readiness increases (increase from 47% to 68%) as well as a reduction in ER visits (33%

⁴³ UTHHealth School of Public Health. (2015, November 10). *Linder unveils initial findings from Cities Changing Diabetes* [Press release].

decrease for children 4 and under). Through the BUILD Health Partnership, a Hosp/Sys have been working collaboratively with Harris County Public Health, the Houston Food Bank, and the local government to establish a food system that addresses healthy food accessibility, creates a food supply and distribution network, and utilizes food prescriptions and food scholarships to encourage healthy nutrition and behaviors.⁴⁴

Based on the interviews, there are several leverage points and tools that can encourage the Hosp/Sys' business side to incorporate more SDH-centric practices and personnel. They distill down into the following:

SEVEN LEVERAGE POINTS AND TOOLS

- ❖ Leadership
- ❖ Revenue Streams & Cost Savings
- ❖ Legal Incentives & Enforcement
- ❖ Payment Reform Models
- ❖ Child-Centric Linkages
- ❖ Marketing & Recognition
- ❖ Policy

First, visionary leaders will guide and navigate their institutions to address necessary community needs – even ones that may not be apparently profitable or may be unpopular at the time. Visionary leaders create or follow the example of other successful models with the community in mind and under the assumption that financial savings and other opportunities may manifest if the community's health and social needs are treated. Northwest Medical Center (NMC) in Vermont for example decided to turn a \$1.1 million budgetary cut into an opportunity by requesting that the state uses those dollars for operational prevention instead. The state agreed. The CEO of NMC decided to start using the word “health” instead of “healthcare” to set the tone and direction for the necessary culture change, made prevention part of the mission and vision of NMC, and instituted several changes including the creation of what would become Rise VT – an organization that is dedicated to providing the community with the necessary tools and support to transform individual and organizational lives into healthier ones. Another example of leadership is occurring locally. One of the local Hosp/Sys saw the effect SDH was having on children in its school-based clinics and started the process of instituting more vertical and horizontal alignment even before the ACA was actually passed. This allowed it to get ahead of the coming ACA changes and better position itself financially and operationally. That early start is paying dividends now, not only financially but also for those high-risk chronic patients requiring focused attention and for the children who are in schools associated with its school-based clinics. Examples of these dividends include reduced hospitalizations, reduced ER visits, and an increase in classroom time. Leadership is crucial.

Next, as noted, Hosp/Sys are bottom line driven, and creating revenue generating and financially beneficial programs should be encouraged. Because indigent use of ERs is so costly, there have been several ER utilization reduction projects. Massachusetts General Hospital in Boston has developed a

⁴⁴ Chen, M.A., Unruh, M.A., Pesko, M.F., Jung, H., Miranda, Y., Cea, M., ... Casalino, L.P. (2016, April). *The Role of Hospitals in Improving Non-Medical Determinants of Community Population Health*; Norris, T., & Howard, T. (n.d.). *Can Hospitals Health America's Communities?: "All in for Mission" is the Emerging Model for Impact*.

concierge medicine practice where physicians are hired to be on retainer for more accessible health services. Mass General, which is known for caring for the underserved population, implemented this service to bring in extra revenue because of financial pressures and to continue serving the underserved. Additionally, because population health requires increasing levels and more efficient services, Hosp/Sys should be looking ahead for future business opportunities. Many healthcare executives see post-acute care followed by in-house and wholly owned retail pharmacies as areas of potential growth.⁴⁵ Finally, there is a significant percentage of the middle and upper class population who are suffering from chronic diseases and behavioral health issues. These populations should be targeted for comprehensive health and social intervention and treatment because they are also creating a strain on the health system especially when they reach Medicare eligible years. Revenue from these patients can offset losses that may occur for SDH programs that target indigent patients.

Third, Hosp/Sys respond to legal incentives and enforcement. [See **ROADS: The Affordable Care Act**] According to the interviewees, the utility of the CHNA during the first round was debatable, but Hosp/Sys are taking additional efforts to upgrade this second round of CHNAs to include working even closer with public health and community partners. CHNAs are forcing Hosp/Sys to purposefully look outside of the walls of the hospital and gather relevant data. Despite the issues associated with it, the ACA's 30-day hospital readmission policy is a lever that is beginning to force many Hosp/Sys to focus more light on social issues similar to value-based reimbursements.⁴⁶

A fourth tool that will become increasingly impactful for Hosp/Sys is the creation of reimbursement systems that counteract financial disincentives to better care. An example of this is the ACO model. ACOs have served to create more vertical integration amongst various services and organizations. Sometimes they all reside under one organizational umbrella and sometimes they come in the form of cross institutional partnerships. ACOs are not perfect, but when given the time to properly set up and develop synergies, they can act to create a more comprehensive and effective financial and quality tracking system. If the ACO is properly working, it can lead to increased revenue through established reimbursement mechanisms. One of the local Hosp/Sys utilizes its ACO in conjunction with its care coordination team to implement comprehensive services across the health and social spectrum for its high risk patients including preventive, inpatient, and home health services. This has led to over \$100 million dollars in savings over the past two years, which the government then turned around and paid out bonuses to the Hosp/Sys and participating physicians. According to the interviews, physicians who were at first skeptical given the potential loss of revenue now see the quality and financial value of this ACO model. These ACO bonuses and in a similar manner health plan shared savings programs, which pay out bonuses based on meeting certain outcomes measures, help create the incentives needed to combat negative financial incentives.

The fifth tool are child-centric linkages. Due to their place in society and their ability to garner compassionate support, children may encourage more SDH investigation and can be portals to other family members. To truly impact children's health and social conditions, addressing family stability, safety, and eating behaviors are key factors and imperative. Therefore, since Hosp/Sys may be more motivated to address the needs of children despite various negative incentives, by utilizing existing or creating child-centric programs and mechanisms, Hosp/Sys may focus needed attention on not only

⁴⁵ Premier. (2016). *Economic Outlook: Spring 2016 C-Suite Survey*.

⁴⁶ Graham, K.L., Wilker, E.H., Howell, M.D., Davis, R.B., & Marcantonio, E.R. (2015, June 2). Differences Between Early and Late Readmissions Among Patients: A Cohort Study. *Ann Intern Med*, 162(11): 741-749. doi: 10.7326/M14-2159; Nagasako, E.M., Reidhead, M., Waterman, B., & Dunagan, W.C. (2014, May). Adding Socioeconomic Data To Hospital Readmissions Calculations May Produce More Useful Results. *Health Affairs*, 33(5): 786-791. doi: 10.1377/hlthaff.2013.1148

the children but the other family members as well. Collaboratives such as the Adverse Childhood Experiences (ACE) Coalition and HLM utilize this methodology, and Hosp/Sys should put more resources into comprehensive programs addressing childhood well-being not only in external partnerships but internal services as well.

Sixth, Hosp/Sys utilize marketing and recognition to drive strategic and programmatic goals that reflect sound health and social practices. There are five hospitals in Houston/Harris County, seventeen in Texas, and 359 across the nation that have received the Baby-Friendly designation.⁴⁷ Another example that reaches across industry sectors is Rise VT's Scorecard that grants different levels of certification – gold, silver, and bronze – for possessing and completing various SDH-based requirements and optional programs. This Scorecard has motivated various businesses to change and enhance their organization to receive this designation.

Finally, though this is a component within the other six tools, policy and advocacy is a powerful instrument by itself. In comparison to the other tools, this is a softer method because it attempts to shift strategies and even paradigms by relying on building momentum and gaining support over a period of time, using various communication methods to influence perceptions and understandings, and attempts to influence leadership and decision makers to not only take action, but also make it their own. Since SDHs are still relatively new in the United States, this is a very necessary tool. Examples of policy recommendations are provided in a section later in this report. **[DOMAINS: Policy]**

* * *

Given the obstacles to incorporating clinical-SDH practices on the business side, some Hosp/Sys are choosing to still screen for and address SDH. A few Hosp/Sys have partnered with an organization called Health Leads that handles the screening and referral efforts for the various social issues that present. Example Hosp/Sys who partner with Health Leads include Mass General Hospital, University Hospitals in Cleveland, and one of Kaiser Permanente's California sites. Some organizations have also requested funds to work with Health Leads through the AHC grant. Another example is Boston Children's Hospital utilization of HelpSteps to screen and refer social needs. Locally as mentioned earlier, one Hospital has fully invested in addressing food insecurity and has invested in care coordination teams that perform wraparound services that extend into the home setting. DePelchin Children's Center is partnering with a local medical school's clinics to better identify and treat SDH issues affecting children. Two other Hosp/Sys are piloting SDH clinical interventions that also focus on children. Another Hosp/Sys co-located behavioral health and works to help its patients with housing, nutrition, and transportation [see **DOMAINS: Data: SDH Clinical Assessments**].

Some are addressing SDH through personnel. Hosp/Sys are filled with a diverse array of highly skilled and highly educated individuals with expertise ranging from clinical to operations to finance. However, there is a noticeable gap when it comes to population health, and nearly half of executives in a 2014 American Hospital Association survey identified this talent gap.⁴⁸ As a result, some Hosp/Sys have begun hiring more C-Suite executives and administrators with a population health background – Population Health Managers or Executives. This has typically been someone with a clinical background, usually physicians with a public health background, but others with clinical experience such as nurses have been hired as well. Another personnel opportunity – social workers – already exists in the Hosp/Sys. Given their training, whether through case management or as a member of a

⁴⁷ <https://www.babyfriendlyusa.org/find-facilities>

⁴⁸ Punke, H. (2014, March 14). Health System C-Suiters, Meet the Chief Population Health Officer. *Becker's Hospital Review*; Barnet, S., Gamble, G., Punke, H., Rappleye, E., Rizzo, E., & Rosin, T. (2014, December 30). 10 challenges and opportunities for hospitals in 2015. *Becker's Hospital Review*.

care coordination team, social workers are natural agents for SDH and should have their roles expanded beyond purely discharge planning.

More Hosp/Sys and their providers across the country are physically leaving the four walls of the hospital to deliver better care to their patients. The teams usually are comprised of physicians or other providers, CHWs, social workers, and health coaches. When this occurs, these care coordination teams are able to better evaluate the social situation of their patient and refer, recommend, or prescribe solutions better suited to the care for that individual. Keys to these teams are linguistically appropriate personnel, ones who can connect to community members like CHWs, and ones who have appropriate clinical and social services knowledge. Myriad examples exist nationwide. Maine's Accountable Communities program has community care teams to provide wraparound services in a similar manner. Philadelphia's Corporation for Aging, Einstein Health System, and Temple University Health Systems are targeting high risk patients utilizing social workers. The local Hosp/Sys operating the aforementioned care coordination team has been in existence for several years. There is consistent follow up with targeted patients at their home, and each person in the program gets customized health coaching for their specific circumstance including preventive care education. Another local Hosp/Sys is working with Interfaith Ministries to provide meals to homebound seniors, which also serves to reduce the number of unnecessary readmissions.

Recommendations

As demonstrated above, individual Hosp/Sys are stepping up and taking necessary actions. Even with the slimmer margins and realigning payment systems, many if not most Houston/Harris County Hosp/Sys – nonprofit and for profit – run healthy profits and have the capability to enhance their facilities and ability to implement more comprehensive health and social care initiatives. The Hosp/Sys' business side represents the opportunity to intervene in the lives of thousands of patients who are voluntarily coming for help. Some interventions especially in areas affecting a child's environment or where patients have to be given individual attention to open up about such issues like domestic abuse and depression can only be facilitated through one-on-one clinical sessions. More importantly, patients place a great deal of trust in their healthcare providers for their health and social well-being.⁴⁹

The following are three levels where SDH-centric strategies and programs that can be implemented depending on the current capability of each institution.

- ❖ Organizational Grassroots – creating an atmosphere conducive to working on SDHs from within and from the ground up through hiring and training.
- ❖ Community In-Roads – creating opportunities to combat SDH related issues for patients and community members within the Hosp/Sys facility itself.
- ❖ Intensive Care Services – creating comprehensive and highly interactive clinical and social systems and mechanisms to care for the total needs of the patient along the entire spectrum from the home to the Hosp/Sys and back to the home.

⁴⁹ Why nurses again top Gallup's list of 'most trusted' professionals. (2015, January 5). *Advisory Board*; Reece, R. (2012, May 3). Why Do We Trust Doctors? *The Health Care Blog*; Ludwig, M., & Burke, W. (2014). Physician-Patient Relationship. *University of Washington*; Reece, R. (2012, May 3). Why Do We Trust Doctors? *The Health Care Blog*.

Interested parties should try to utilize the Seven Leverage Points and Tools (listed on page 34 of this report) to encourage the following actions. Institutions may not be able to implement strategies and programs at every level, but each one is encouraged to begin the process in a manner that suits its capabilities. The most important thing is to start implementing programs and policies. Again, leadership is vital when beginning the process of transformation.

Organizational Grassroots – This first level involves the following efforts: a) getting the right personnel, b) creating an atmosphere that encourages health and social sensitivity, c) transitioning to green energy, d) greater efforts to hire local residents, and e) implementing policies that further SDH. To further increase a Hosp/Sys’s functionality, highly skilled population health professionals should be hired including a Population Health Administrator who will help keep the organization’s eye on this broader issue. Depending on the nature of the organization, it may be advantageous to either align population health from the business C-Suite office or combine this position with community benefits. These individuals may be better positioned to address service deficiencies and also give community benefits the necessary support it needs to operate optimally. Additionally, if given the proper resources and platform, they will help educate healthcare sector employees about social determinants. The Population Health Administrator and Hosp/Sys should make sure their community benefits are supported with appropriate staff and resources. Many pediatricians have been at the forefront of SDH because of their intimate understanding of the social conditions affecting their young patients, and they should be some of the first candidates for population health related positions. To better create a positive and encouraging atmosphere, Hosp/Sys should have incentive laden wellness programs for all of their employees, which will help them practice what they preach and help the employees believe more in what they are advising the patients to do. Better nutrition, fitness, and health tend to create more positive employees, and having an overall positive work environment, in particular with nurses, leads to better clinical outcomes including lower readmission rates [see **DOMAINS: Training**]. The atmosphere will be augmented by increasing the proportion of healthy food options especially fruits and vegetables in the caf es, cafeterias, and vending machines and decreasing if not eliminating sugary drinks.

Additionally, Hosp/Sys should pursue designations such as Baby-Friendly to demonstrate support for healthier practices and support for mothers who desire to retain employment and simultaneously provide the best for their babies (e.g. breastfeeding rooms). Finally, Hosp/Sys, in addition to medical schools, medical societies, and other health organization, should provide SDH CMEs and education trainings and if possible more hands on opportunities to increase the social sensitivity of the organization.

Community In-Roads – The second level allows for the patients and the community to benefit from the Hosp/Sys facility and its nearby surroundings thereby facilitating better health outcomes and addressing certain SDH needs. The Hosp/Sys can provide an onsite or nearby grocery store that takes WIC and SNAP. Additionally, it can offer an onsite fitness center, which could also serve as a revenue generating source.⁵⁰ Other community-clinical linkage programs include walking paths, farmer’s markets, community playgrounds, and onsite health cooking classes for both patient and community members. More research and community assessments will be needed for each institution to determine if some of these could also serve as additional sources of revenue.

⁵⁰ Wellness Center and Fitness Gym. (2016). *St. Mary Medical Center* - <http://www.stmaryhealthcare.org/wellnesscenter>; Does UAB Hospital have gym or workout facilities for use by visitors? (2016). *UAB Health System*; <http://www.uhospitals.org/avon/the-fitness-center>.

Intensive Care Services & Social Interventions – The third level revolves around the patient, and this starts and ends with the home and may possibly extend into the broader community where appropriate and feasible. Hosp/Sys should develop robust CHW and case management wraparound services focused on serving the health and social needs of the patient. Complementary services could also include home visits and health coaching, which according to interviewees, have shown great efficacy. These services allow the Hosp/Sys to understand the psychosocial living conditions the patient is experiencing and how to better treat the underlying causes and not just the symptoms. Vertical and horizontal integration is key for this home to home complete care. Even if organizations are not designated ACOs, transforming relationships with external health and social organizations from just referrals to more formal arrangements creates a more secure continuum of care. In the clinical setting, Hosp/Sys should implement SDH screening and referral services.

* * *

In the same manner as Kaiser Permanente and Dignity Health, community benefits should continue to expand their scope of SDH projects and services based on ability. The challenge as stated earlier in the report is to not dilute efforts. For those Hosp/Sys that are investing a great deal of time, labor, and resources on an existing one to two SDHs, limiting interventions to one to two is recommended. Subsidizing and other forms of housing interventions have greatly benefited the quality outcome measures and more importantly the lives of the Hosp/Sys's patients. However, if the community benefits department is engaging SDH in lower maintenance endeavors (i.e. granting funds), they may be able to address more than three SDH areas. Another way to expand Hosp/Sys community impact is to consider pooling monetary and capital resources with a third party manager such as Episcopal Health Foundation, the Texas Medical Center, one of the local health departments, or a consortium of these organizations. This would allow for a more strategic population health approach. Ultimately, as the interviewees stated, this is a community issue – meaning all of the sectors and individuals making up the community alongside health organizations – and the community needs to drive SDH efforts. Forming strategic, long lasting relationships with non-health organizations and sectors such as education, law enforcement, parks, and faith-based organizations is crucial. Much of this is already going on, but more proactive strategically planned initiatives over specified regions of Houston/Harris County need to become the norm.

Taking from the Rise VT example, a local entity should create a similar scorecard to measure and recognize SDH practices. Different certifications demonstrating levels of SDH practice can be created. Whether gold-silver-bronze or some other system, it should prove to be a motivating tool. Over time as with other such recognitions, it may become a sought after certification. Harris County Public Health, CHMI-GE, Episcopal Health Foundation, the City of Houston Health Department, or an assortment of them could be the lead entity or entities granting the certifications.

All Hosp/Sys should place focused attention and efforts towards children and attempt to counteract adverse living conditions. Gearing the thrust of SDH programs towards children (or mothers) brings opportunities to address the entire family's condition. Social organizations may be the best place for some of these, but many people will not follow through on a referral, some do not live proximate to organizations offering these services, some may not have transportation, and again, Hosp/Sys are the nexus for tens of thousands of individuals who normally are difficult to access. In addition to prenatal and other standard programs, Hosp/Sys can better serve children and families by integrating parenting programs like Triple P, programs like the USDA out of school meal program, centered pregnancy prenatal programs, Reach Out and Read, and possibly Montessori learning environments during

children or parent appointments. Another venue is school-based clinics, and though there are several school-based clinics in Houston/Harris County, more is needed. One important point to emphasize, all children and not just the indigent are experiencing SDH related issues, and programs should be crafted and available to all children.

There is no guarantee that reimbursements and government funds will continue at their current rates or if at all even if the government mandates covering expanded services such as SDH related ones. Therefore, Hosp/Sys must continue to find new sources of revenue to offset losses that may occur. Concierge services, onsite pharmacies, Uber-like transportation services, and others that cater towards insured and non-indigent patients will need to be developed as more social services migrate inside the Hosp/Sys.

Houston/Harris County is continuing to grow. The ability to reach more entrenched and densely populated areas will become more limited, and the lack of transportation options will continue to be a chronic issue. Mobile clinics and CHWs are natural tools and personnel to address this. Additionally, built environment policies should be on the radar for all Hosp/Sys. As far as brick and mortar is concerned, Hosp/Sys should build structures that are fully functional but less expensive to allow for more access points for the population. The growth of retail clinics like Walmart, CVS, and Target have actually alleviated primary care needs and demonstrates the need. Most of the services in these retail outlets are primary care and like urgent care centers are attracting multitudes of patients. It is highly likely similar structures offering more affordable services – health and social – will be extensively utilized. Many health systems have formed partnerships with retail chains, and these retail stores could serve as the staging ground for some of these mini-hubs. Another option would be for Hosp/Sys subsidizing clinic satellites expansion to serve a similar purpose. Lastly, use of available technology such as telemedicine needs expanded and exploited to its full extent.

As Hosp/Sys look towards the future, executives understand the population health push will lead to significant health service changes citing the shift to post-acute care as one of the major changes they see occurring. However, Hosp/Sys and clinics should also understand this transformation may also force them into arenas outside of their comfort zone. Teachers and schools have had to shoulder an increasingly larger parenting and caretaking role as social structures have increasingly broken down. With payment structures trending toward quality, this will naturally encompass social services, and health organizations may be asked or forced to take on even greater social roles (e.g. community-centered health homes). Going further, Hosp/Sys may have to evolve into or become more absorbed into other community-centric structures and activities. Hosp/Sys should consider creating facilities where the children, prisons, and grocery stores are located to better fit the needs of the community. School-based clinics are examples of this, but they should not be seen as the outer limit of health's convergence with schools. Visionary leaders will be needed to get ahead and helm their institutions to be ready for such changes.

PROGRAMS & STRATEGIES

BEHAVIORAL HEALTH

After years of receiving little attention, a significant amount of energy has been directed towards behavioral health in many organizations. Behavioral health plays a highly interactive role in several SDH arenas such as food insecurity, the built environment, and housing where the interplay may lead to such conditions as obesity, anxiety, and intellectual and social developmental issues. All of the

clinics interviewed and most if not all of the Hosp/Sys have devoted extra resources and increased programming to or are involved in some way with furthering behavioral health.⁵¹ More is still definitely needed, but the devastating and sometimes hidden effects of unaddressed behavioral health issues such as depression on individuals, families, and the community is coming to full light more so than before.

Issues

Many have wanted to do more in this field for a long time, but now financial resources have allowed these organizations and others to create the programmatic support and attention needed. Despite the increased activities, more groundwork is needed to fully assess and treat behavioral health issues. Integrating healthcare and behavioral health has been one of the primary efforts in this field. Organizations are having difficulty integrating behavioral health and physical health services. Some providers still perceive them as separate and treat them as such, or some are unable to overcome structural and financial barriers to properly integrate these fields. For example, one of the main obstacles to coverage, reimbursement, and treatment is the de facto requirement to go to behavioral health providers to receive behavioral health services. Since most primary care providers are not trained in behavioral health and many patients will not go to a behavioral health provider, the services are often not utilized. Integration not only in practice but understanding is key when addressing the holistic efforts required when addressing SDH issues.

One of the challenges will be sustaining these efforts operationally when the monies that are funding these programs are not as readily available. The federal government's Delivery System Reform Incentive Payment (DSRIP)⁵² via the 1115 Waiver is funding 57 behavioral health programs in this Region. Though the funding is currently ongoing in Texas, unless an extension can be negotiated between CMS and Texas Health and Human Services Commission before December 2017, DSRIP will be phased out by 25% of the value over the next four years, at which point the funding will stop (this also applies to all of the non-behavioral health DSRIP programs).

Reimbursements still continue to be problematic.⁵³ Though the ACA and the Mental Health Parity and Addiction Equity Act (MHPAEA) mandate behavioral health coverage be in "parity" with physical health, in reality it is not fully implemented in Texas yet.⁵⁴ Therefore coverage and reimbursements remain lesser than its physical health counterpart.

Another major obstacle for integrated services is EHR systems. Most EHR systems are not yet designed to fully incorporate behavioral health, and the EHRs that are built for behavioral health are not up to date nor performing to expectations.

⁵¹ Mental health, substance use, and health-related behaviors

⁵² DSRIP is a funding "pool to incentivize hospitals and other providers to transform their service delivery practices to improve quality, health status, patient experience, coordination, and cost-effectiveness." - <http://www.hhsc.state.tx.us/1115-Waiver-Overview.shtml>

⁵³ Lopez, M., Coleman-Beattie, B., Jahnke, L., & Sanchez, K. (2008, December). *Connecting Body and Mind: A Resource Guide to Integrated Health Care in Texas and the United States*.

⁵⁴ Griffin, T. (2016, June 2). *Mental Health Parity in Texas Medicaid and CHIP* [PowerPoint Slides] - <http://www.hhsc.state.tx.us/news/presentations/2016/060216-Mental-Health-Parity-Presentation.pdf>; Beronio, K., Glied, S., & Frank, R. (2014, October). How the affordable care act and mental health parity and addiction equity act greatly expand coverage of behavioral health care. *J Behav Health Serv Res*, 41(4): 410-28. doi: 10.1007/s11414-014-9412-0.

Opportunities

Overall, there has been much progress, and organizations and collaborative efforts are working through models that facilitate improved behavioral health access and cross training for primary care and behavioral health providers. A positive sign on the national level is the National Committee on Quality Assurance's (NCQA) release of its PCMH PRIME certification program in Massachusetts, which lists behavioral health as a necessary component for this elevated designation. Some of these components include integration of behavioral health and physical health through formal agreements, behavioral health screenings (e.g. depression, anxiety), and identifying high-risk patients for care management.⁵⁵ As mentioned earlier, PCMH's are prime sites for SDH screening, and this moves the designation much closer to that from an institutional perspective.

Locally, there have been important activities in the behavioral health realm. In addition to the DSRIP programs, Mental Health of America of Greater Houston (MHA) began a major initiative to drive change at the policy level. MHA's IHCI, which began in 2015, worked with community partners from various health sectors to advance integrated healthcare by developing programmatic and policy recommendations for the Texas legislature, academia, and providers. IHCI had two task forces – Provider Preparation and Financial Sustainability – dedicated to developing these recommendations to reduce barriers related to staffing and financing integration. One of the most important pieces of the IHCI is payment that aligns with an integrated model of care, which addresses the bifurcated payment structure. Opening up these payment streams is vital for prevention and for addressing SDH related issues that stem from unemployment, food insecurity, and impoverished living conditions.⁵⁶ One of the top policy priorities in the IHCI report focuses on reimbursements for prevention and early interventions for behavioral and physical health issues.

One local clinic, which is not funded through DSRIP, but through grants and donations, has developed a behavioral health consultant model with a psychiatric consultant who works with the clinic's physicians and licensed social worker. This clinic also has a partnership with a local center where the center's licensed clinical social worker is located at the clinic. When medication is needed, telemedicine allows access to a consulting psychiatrist. Another institution's program focuses on getting patients to behavioral health providers. This involves licensed clinical social workers who are placed in a local Hosp/Sys's ER to evaluate, stabilize, and transfer the patient to one of 200 mental health private practice providers. This service has been in place for fifteen years and is for insured and uninsured patients.

There are two Hosp/Sys that have integrated services in their ambulatory clinics through co-location. Several clinics have also integrated behavioral health and physical medicine through co-location of services. Some clinics have become more effective about interweaving these services, and some are cross training physicians to further integrate care. The importance of co-location is it allows the providers and organization the ability to address health issues and potential social issues such as intimate partner violence or housing in the same visit.

⁵⁵ PCMH PRIME Certification. (n.d.). *NCQA*

⁵⁶ McSilver Institute. (n.d.). *Child Food Insecurity and Mental Health*; Development: The potential consequences of food insecurity for children. (2016). *Feeding America*.

Recommendations

Because sustainability will be an issue especially after DSRIP monies phase out, organizations running similar programs should attempt to collaborate and jointly approach funders. Because there is such a need for behavioral health services, streamlining programs is not a desired outcome, but organizations should determine more efficient ways to utilize similar resources and coordinate geographically.

Even though PCMH PRIME has not come to Texas yet, organizations should use that as a guide when developing new services and strategies. Health homes will need to have behavioral health integration, and working towards that now will better position those organizations to serve their communities. Additionally, if the PRIME certification becomes available, they will be in a better position to receive it.

Even if an institution co-locates physical and behavioral health practitioners, they should also cross train their primary care providers and behavioral health providers as well as the staff to improve their ability to provide comprehensive care and to address SDH. This multidisciplinary approach reflects recommendations developed through IHCI. IHCI has developed a comprehensive list of financial and provider integration policy recommendations. Those recommendations, particularly the recommendation for reimbursements related to prevention and early intervention, should be supported. Though these are policy recommendations, organizations should try to operationalize some of these.

COMMUNITY HEALTH WORKERS

As defined by the Texas Department of State Health Services (DSHS), a community health worker is “[a] person who, with or without compensation is a liaison and provides cultural mediation between health care and social services, and the community. A promotor(a) or community health worker: is a trusted member, and has a close understanding of, the ethnicity, language, socio-economic status, and life experiences of the community served. A promotor(a) or community health worker assists people to gain access to needed services and builds individual, community, and system capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, patient navigation and follow-up, community health education and information, informal counseling, social support, advocacy, and participation in clinical research.”

Even before the Affordable Care Act incorporated CHWs into the legislation, CHWs had been playing vital roles in several communities across the country. The National Academy of Medicine recommended utilizing CHWs back in 2003 to address health disparities, and locally organizations like Gateway to Care began training and employing CHWs. Today in Houston, a growing number of healthcare institutions have hired CHWs to perform various functions, but at the heart of their work, the reason for the increased use is because they provide a unique skill set, especially in diverse communities. As the DSHS definition states, they provide a broad range of services, but what makes them inimitable is the trust the community has in them and their ability to engage and guide people to better health understandings and practices. Houston/Harris County is one of the most diverse regions in the nation, and its population and diversity is continuing to grow. Cultural competency is a necessity because each culture has its own norms and taboos that need to be respected. Without this respect, total human care whether medical or social, the community member will be less inclined to respond to health and social treatments thereby continuing the health challenges in Houston/Harris

County. CHWs are one of the best agents at delivering the messaging and services to the community in a manner that best engages the community member.

Issues

The largest and most important issue for any sustainable CHW program is funding. In one respect, they are cost effective, but they do pose additional salaries that need to be accounted for. Despite their importance to health, chronic disease management, and social organizational connections, as it stands now, Medicaid in Texas does not reimburse for CHWs [see **ROADS: Funding; DOMAINS: Programs & Strategies: Health Plans**].

Second, according to interviewees when economic conditions worsen, CHW programs are one of the first programs to get cut despite their positive financial impact. Much like education services, CHWs are seen as softer services that are more easily expendable when a Hosp/Sys is trying to adjust to budget issues. CHW services do save the Hosp/Sys money, but the savings produced are discovered months if not years later. Many Hosp/Sys operate under monthly, quarterly, and semiannual financial indicators thus making ROI calculations challenging.

Finally, another issue is the utilization of CHWs. Some CHWs have found employment with various health entities, but the challenge is helping the staff and the physician understand how best to use CHWs once hired. In some cases, they are only being used for general office tasks like data entry. Others are being used in health but mainly for navigation for health access, which is a positive usage of CHWs, but in addressing social determinants, their knowledge of community resources and their ability to help create social connections is not being fully exploited.

Opportunities

The research shows that there is a \$2.28 ROI for every \$1 spent on a CHW,⁵⁷ and up to \$2,000 in cost reduction for diabetic Medicaid patients.⁵⁸ That is a sizable ROI. CHW salaries typically range between \$13-15/hr, and in comparison to social workers, they are more affordable. Social workers are trained to perform a broader range of functions including diagnosis of behavioral health assessments and therapy. If a practice cannot afford a social worker but needs a social assessment, a CHW could be an option. Many Hosp/Sys and clinics have hired CHWs to perform various functions from navigating patients to health insurance to performing social case management services.

CHWs are being utilized in various ways to fulfill the needs of the organization. Some Hosp/Sys have placed CHWs in ERs for screening and referrals for health and social issues. Some clinics are sending CHWs out into the community and into the homes to do post-visit assessments thereby taking note of the family, housing, and other social conditions.

In 2013, CMS changed Medicaid regulations for prevention reimbursement from only the licensed practitioner to reimbursements for preventive services “recommended by a physician or other licensed practitioner...within the scope of their practice under State law.” This opens up an incredible opportunity for sustained hiring and utility of CHWs. However, in contrast to Medicare, where Federal level rules change automatically affect all states, Medicaid requires individual state approval. In Texas,

⁵⁷ Burton, A., Chang, D.I., & Gratale, D. (2013, June). *Medicaid Funding of Community-Based Prevention: Myths, State Successes Overcoming Barriers and the Promise of Integrated Payment Models*, 8.

⁵⁸ American Public Health Association. (2015, August). *Integrating Public Health into State Innovation Models*, 5.

the process involves passing a state amendment to allow for this new reimbursement avenue. Though this will take collective work, a viable pathway has been opened. Only two states in the nation (at the time this report is being written) allow for CHW reimbursement, but the impetus and mechanisms for those are unclear since at least one of them may have preceded the passing of the ACA. Nonetheless, this potential funding stream is definitely an opportunity. What will make this potentially more complicated is the complete aversion to increasing Medicaid expenditures in Texas, and because of the ACA, the topic is even more sensitive.

Recommendations

Because CHWs earn reasonable salaries and due to their broad utility, the primary recommendation is to encourage organizations to hire more CHWs and position them to better address the social needs of the community members whether in a health institution or other setting. This is the most feasible and least cumbersome recommendation. Given the ROI, leadership needs to be patient and steady to allow these savings to occur. Additionally, during economic downtimes, leadership needs to resist eliminating these positions. The downstream effect as far as increased ER utilization by non-paying individuals exhibiting heightened health and social issues will pose additional financial burdens on the institutions receiving the patient, and they will be that much more difficult to rectify in the absence of CHWs if at all.

One idea that will require more consideration is creating an independent entity that is either grant funded or funded by a joint partnership of several health organizations. This independent entity would serve as a central location for a larger pool of CHWs. This entity could farm out CHWs and simultaneously house CHWs to serve various community needs. Some health systems may prefer to retain their own CHWs, but there are many institutions due to size and resource constraints who may benefit from this subsidized CHW pool. This cadre of CHWs could also be housed or “owned” by one of the local public health entities, but it could still perform the same independent functions suggested.

Finally, it is crucial that health institutions push for a state amendment allowing Medicaid to reimburse for the CHWs and other licensed practitioners. As mentioned, this will be highly dependent on changes in the broader political environment.

AFFECTING INDIVIDUAL & COMMUNITY BEHAVIORAL CHANGE

Hosp/Sys, clinics, physicians, and other providers can institute robust programs and increase investments to address food insecurity or improve the built environment – and have done so in many cases, but in the end the community member is the one who has to make that voluntary choice to change. To help individuals make better choices, the health community can create an environment and interact with patients and community members in a manner more favorable to positive lifestyle changes. Changing behaviors especially ones deeply embedded takes an incredible amount of intervention and in an atmosphere conducive to such transitions. As with SDH in general, health organizations and personnel need to understand these realities and be cognizant of how they can facilitate these behavior changes. Effectively communicating, educating, and caring for community members are all vital components in addressing SDH issues through initiatives that address such things as changing eating behaviors or increasing the involvement of parents in their child’s education. As with any strategy, the message, communication methods, and tools need to properly engage and be appropriate for the audiences it is targeting. Messaging and subsequently treatment opportunities are

formed both during those initial moments of communication and over a long period of outreach and relationship building.

Issues

Though most trust and defer to their providers, some community members in some areas around Houston/Harris County have issues of trust with physicians. The reasons vary, but based on interviews, these were the ones highlighted:

- ❖ Lack of cultural sensitivity
- ❖ Rotating physicians and little one-on-one time disrupts the needed rapport, in particular those from traditional cultures
- ❖ Some community members believe more in complementary and alternative medicine – handed down over generations – versus a “stranger” (physician) advising them, which also ties into the previous point made about disrupted rapport
- ❖ Communication barriers due to language/cultural differences, education-level gaps, etc.

As this indicates, a substantive challenge is the lack of cultural understanding and cultural sensitivity for many in the health provider community. This affects effective education, communication, and treatment in many ways. Sometimes patients withhold health and social issues because of the language barrier. Next, when a physician or nutritionist advises the patient to stop eating certain types of foods for example, they may be giving the community member the most appropriate advice, but the message may be lost almost immediately. The provider may be unaware that he or she is asking the community member to sacrifice a very deep and personal component of that person’s culture. Without this knowledge and culturally appropriate language, the likelihood of the community member curtailing negative eating habits reduces dramatically. Sometimes due to the education level of the patient, the provider may be speaking at too high a level for the patient to understand, and in many cases, the patient will not indicate that they do not understand. Similarly, many facilities treat all patients, feed all patients, and speak to all patients in a homogenous manner where cultural modifications may be needed.⁵⁹

Low community participation in outreach efforts is another challenge hindering change. Resources are being spent to send outreach personnel out into the community to provide guidance on health and behavioral lifestyle modifications or teach nutrition classes, but for some organizations, the turnout is low. This taxes resources and may give inaccurate data regarding the effectiveness of the outreach efforts where administration may attribute nominal ROI and little in the way of behavioral change to the effort as opposed to the marketing and cultural disconnect.

Next, nurses, outreach coordinators, and other staff perform the bulk of the one-on-one or community interactions. Many individuals needing treatment see unhealthy or disinterested clinicians and staff, and any effort to encourage lifestyle changes is undermined almost immediately [see **DOMAINS: Training**].

Understanding family dynamics plays a pivotal role in behavior change, and not having that knowledge will stunt efforts. Many times the provider is speaking to one family member about change, but the reality is, especially in traditional families, behavioral change is a function of the entire family altering

⁵⁹ Machado, A. (2014, May 7). Why Many Latinos Dread Going to the Doctor. *The Atlantic*.

its habits and finding that critical change agent in the family. The family member sometimes tries to do it alone, sometimes is not supported by other family members, or fails to ever try due to family dynamics. In many cases, due to family structures, the family member who can affect change – such as the father or grandmother – is not the one being spoken to during the provider visit.

Many assume parents know everything there is to know about parenting or that someone in the parents' inner network will be able to provide that guidance. The reality is many parents need help, and there is no one who can help them. In such environments, children may develop behavioral and development issues, which may have far ranging consequences for example on the child's health, eating habits, and educational achievement.⁶⁰

Opportunities

Though it is understood that these are not mutually exclusive and overlay one another, the following are three areas that can help facilitate more effective efforts when promoting behavior and lifestyle changes related to SDH interventions:

- ❖ Cultural Sensitivity and Humility
- ❖ Education
- ❖ Family and Community Support

Cultural Sensitivity and Humility – Having knowledge and the interpersonal skills to deal with people of all ethnicities, faiths, socio-economic status, sexual orientations, genders, ages, and disabilities is vital when engaging community members.⁶¹ A large part of this is not only attempting to learn about other cultures and populations, but also recognizing one may not know enough and attempt to be more aware and thoughtful of culture when interacting with patients and community members. This also includes recognizing cultural power imbalances that may exist in order to have more honest and trust building interactions when developing those relationships and addressing their needs.⁶²

CHWs and social workers have a history of successful communication and relationship building. CHWs by virtue of many of them coming from the same or similar neighborhoods as those they are trying to help, have more built-in credibility and an understanding of those respective cultures. Social workers also have that ability to develop appropriate rapport with the patients. Because of their training and experience, both CHWs and social workers can be bridge builders for example by educating patients on how better to ask physicians questions.

One local Hosp/Sys has taken steps to increase their facility's cultural sensitivity. From food to facility aesthetics, they transformed one of their hospitals to better reflect the surrounding community. To further serve their patients, they also made sure the cuisine reflected the various sub-cultures by catering, for example, not just a general Asian population but to the Chinese, Vietnamese, and other Asian sub-cultures. To better understand what appealed to the community, they brought in community members themselves for feedback in addition to consultants. This elevated the community's comfort level with that particular hospital.

⁶⁰ <http://www.blueprintsprograms.com/evaluation-abstract/triple-p-system>

⁶¹ Committee on Health Care for Underserved Women. (2011, May). *Cultural Sensitivity and Awareness in the Delivery of Health Care*.

⁶² Yeager, K.A., Bauer-Wu, S. (2013). Cultural humility: Essential foundation for clinical researchers. *Applied Nursing Research*, 26(4). doi: 10.1016/j.apnr.2013.06.008; Averbeck, B. (n.d.). Why Use the Term "Cultural Humility"? *Institute for Healthcare Improvement*.

Another method of improving community conditions and increasing trust with the community is to encourage employees – specifically management – to get more involved in the community. It helps health organizations better understand the realities on the ground. These positions also allow health organizations not only to hear from the community and understand the local culture, but also to have more influence when it comes to health and social discussions. One of the local health plans makes it mandatory that all of their management get involved with the community and volunteer. This extends further than one-time volunteer opportunities like Habitat for Humanity, which are important. Rather, the health plan wants their management to take positions on local boards and community organizations to create longer lasting and more sustainable relationships in the areas they are serving.

Education – As mentioned earlier [see **KEY LOCAL SOCIAL DETERMINANTS PRIORITIES** (hereinafter “**PRIORITIES**”): **Food Insecurity**], behavior and lifestyle changes requires effective and consistent opportunities for patients and community members to learn more about their condition and how best to take control of their circumstances. This requires education and assistance over a period of time, and it requires that the people delivering the message are competent and understand whom they are communicating with and the context of their living circumstances.⁶³

Home visits are gaining more attention. Health institutions are using staff or care coordination teams to go out to the homes, better understand the living conditions of the patients, and advise community members on better lifestyle practices. These home visits have led to better relationships, better health outcomes, and fewer hospitalizations. These types of visits also increase trust.

Sometimes patients and community members need help understanding the resources and opportunities around them. For example, food deserts pose a great problem in Houston/Harris County, but even if a grocery store is present, there is no guarantee that healthier eating will occur. Many people do not know how to eat healthy and sometimes the healthier eating can be cost prohibitive. One Hosp/Sys takes groups of patients to the grocery throughout the year. The goals of the program are increasing health literacy, teaching healthy eating on a budget, calorie and health food education, and increasing self-efficacy. This program has helped the patients modify their lifestyles.

Family and Community Support – In many cases, the family and community are receptive to change and desire it, but sometimes they do not know how to nor do they have the resources and skills to enact it.

One of the keys to SDH is helping empower parents. Empowering and putting parents into positions to better succeed will impact their lives and that of their children. For example, in regards to a child’s education as a key to breaking out of the negative cycle that exists in many lower socio-economic areas, one of the interviewees has been conducting a great deal of research and developing strategies to get parents more active and involved in their child’s education because there was a consistent theme of students who were succeeding at high levels because the parent – especially the mother – was very involved and pushing the child to read and succeed. In some cases, these successes were occurring despite the mother not being able to speak English or read herself. That level of involvement and motivation is not as common as it should be in certain cultures and socio-economically deprived neighborhoods, which is where interventions addressing such behaviors can result in very positive outcomes. According to the interviews, parent’s top needs are the following:

⁶³ Singh, M. (2015, May 14). Why A Philadelphia Grocery Chain Is Thriving In Food Deserts.

- ❖ Behavior training to develop confidence for themselves and with their children. This will help them understand what is best for their children especially when it comes to things like their child’s education, healthy eating, and appropriate discipline.
- ❖ Organizations, administrators, and providers can be intimidating, and parents need advocates to be their voice. Sometimes schools and health organizations do not realize or do not care that they are speaking over the parent’s head, and the parent ends up becoming a passive complier. Advocacy in these situations will help them become better stewards of their own choices.
- ❖ Some of the root issues with SDH tie directly back to education and jobs. Empowering parents includes helping them find educational opportunities, find a job, or receive the necessary training to gain employment.

Triple P (“Positive Parenting Program”) is an example of such a program that helps parents address these areas. Nurse Family Partnerships – a program designed to improve pregnancy outcomes, improve child development, and work with parents to plan for the future – also provides support and education to parents by providing ongoing nurse home visits to low-income mothers.⁶⁴ Several health and community organizations in Houston/Harris County have implemented these programs.

Attempting to affect change in individuals and in the community as a whole requires increased access points and partners outside of health. School-based clinics are examples as are food pantries that are co-located with these schools. As far as additional partners, the community and all of the sectors, not just the health sector, are responsible for addressing SDH. For example, law enforcement is needed for safe passage to schools and to help make sure streets are safe where kids and families can walk outside during the daytime. Organizations like the Houston Food Bank, Morgan Stanley, and others are embracing the idea of forming partnerships. Faith-based organizations are partners that are especially well positioned to address SDH, and according to some of the interviewees, there needs to be greater faith-based participation in the Houston/Harris County area. The DSRIP program in Brazos County is focused not only on reducing unnecessary ER usage but also addressing the social needs of their community members. Their local churches are taking a large role in coordinating these social services with other partners in this DSRIP initiative. Together, the local health entities, social organizations, and faith-based organizations have helped to greatly reduce ER usage and simultaneously address the social needs of their community. Live Well San Diego is a good example of a multi-sector effort to address common health and social goals.

Recommendations

Health organizations should invest in cultural sensitivity and humility and health equity training. Houston/Harris County is very diverse, and to encourage behavior changes, management, staff, and providers need to understand the people who are coming to them and who they are visiting. This will also help staff and providers understand who the key figures are in the family when they are attempting to encourage behavior changes.

Health organizations should hire personnel, in particular CHWs and social workers, who are equipped and trained to communicate effectively with patients and community members. They should continue outreach programs and be encouraged to have care coordination teams – providers, health coaches, CHWs, and social workers – conduct home visits.

⁶⁴ Overview. (2014, September). *Nurse-Family Partnership*.

Either by making it mandatory or by way of incentives, management should get more involved with their respective communities. This could follow the example of the local health plan that requires their management join community boards, or they could fashion it in some other form. The important point is for employees of respective health organizations being better positioned to understand and impact their communities.

In addition to class style education, health organizations should employ more programs like the grocery store tours and others that help provide patients and community members more practical experiences that help drive home those lessons and which also alleviate the uncertainty and stress that accompanies lifestyle and behavior changes. An important component of this is properly gauging interest to make sure resources are being expended responsibly and for a receptive audience.

Investing resources when the mother is pregnant and when the child is young leads to very positive outcomes as shown by programs like Triple P and Nurse Family Partnerships. All organizations cannot afford such programs, but health organizations that can, should develop such programs. For those that are more financially constrained, they can try to take essential aspects of these programs and help parents in a way suitable to the organization's capacity and ability.

The health sector alone cannot affect the needed change in the lives of individuals. Health organizations should increase efforts to form partnerships with other sectors, especially ones that have more intimate relationships with community members like faith-based organizations and the schools.

OTHER STRATEGIC RECOMMENDATIONS

Sharing Resources and Partnerships

During a talk at a TMCx event that was focusing on the future of the TMC structurally and functionally, the speaker brought up the subject of sharing and partnering on things like research and innovations. Instead of the traditional TMC model of competition and replication, he emphasized that the TMC organizations need to start working together on joint initiatives, which would in the end result in better products and results. During the course of the interviews, opportunities and gaps became apparent in a few areas.

Pooled Funds & Resources – When professors and researchers were interviewed about some of their projects – ones that the local health community relies on for data, reporting, or for other purposes, they spoke of needing to wait until they received funding before they could proceed. For example, the Health of Houston Survey is a report and data source widely used by the health organizations especially ones engaged in SDH-centric work and chronic disease management, but when it came time to initiate the next round of surveying, the process was delayed because the project needed financing. Other examples include the State of Health Houston & Harris County report as well as the State of Asian American & Pacific Islander Health in Houston/Harris County & Surrounding Areas report. Though stringent criteria would be required because not all research projects can be funded, health organizations should combine funds into a pool specified for research thereby eliminating the need to hunt for funds. Again, criteria should be created to focus these funds for highly valued and relied upon projects.

Health organizations could also help effectively disperse funds to other health organizations and nonprofits by pooling monies for joint initiatives that serve common purposes, in particular SDH

programs. This could also be a cross sector pooling of money. Many organizations are hesitant to implement SDH programs because some are risk averse, but if such projects can be funded from pooled monies, there may be more buy-in. For example, if an organization served as the host for SDH data that could be accessed and utilized by all health organizations, this pool could pay for the infrastructure and employee cost needed to properly operate such an endeavor.

As referenced earlier, CHWs are highly valuable and perform a wide range of services for the health organizations and the community. They are one of if not the best links to the communities especially minority populations, and creating a culturally competent CHW pool would prove an invaluable resource for health organizations.

Vocational Education – Health organizations can help address one of the underlying social determinant root factors negatively affecting health – namely unemployment. University costs are continuing to rise, and the numbers falling into the lower socio-economic conditions are only increasing.⁶⁵ Many individuals do not have the resources or opportunity to pursue a profession that requires a college education.⁶⁶ This shared resource could be a vocational school fully implanted in the TMC or in a region that better serves the community’s needs, or it could fund a large number of students and unemployed community members through an approved local college or vocational institution. Attendees could be granted criteria-based scholarships or lower fees depending on financial indicators and other factors. Some of these factors could also include maintaining healthy behaviors, and the curriculum could be more SDH-centric. Allowing men and women of varying backgrounds to earn a living will also serve to improve the mental and physical health of their families, upgrade living conditions, and increase access to better foods. Moreover, this institute can serve as a conduit for healthier lifestyle training classes, which would allow attendees to not only gain employment, but also learn how to better provide nutritious foods and promote more exercise in the homes and neighborhoods. An advantage of an institute located with the TMC or a singular health institution is it could provide flexibility that some families need by offering off-hour class timings including evenings, middle of the night, and weekends. Innovative partnerships and opportunities with local universities and community colleges should also be explored. Even though the research for this report could not identify an existing model, medical schools-university hospitals can serve as an existing platform to work from. More research is required to determine its feasibility, but new models and innovations will be needed to address some of these ongoing community realities.

Systems Transformation

Leveling Up – This takes from the IHI Pathway to Pacesetter’s (P2P) program, which provides organizations or a collaboration of organizations that want to improve the community the tools, resources, and coaching to better position them to truly transform their environment. These organizations are capable, but P2P enhances their capabilities to be better able to create the desired transformation. This is “leveling up.” By raising the strategic, operational, and financial capabilities of organizations, these organizations individually and collaboratively become better agents of change, decrease the time needed to build infrastructure and systems when new opportunities or regulations present themselves, and they will be more competitive when funding opportunities arise. Some local

⁶⁵ Holland, K. (2015, June 15). The high economic and social costs of student loan debt; Tuition and Fees and Room and Board over Time, 1975-76 to 2015-16, Selected Years. (2016). *The College Board*; The American Middle Class Is Losing Ground. (2015, December 9). *Pew Research Center*; Desilver, D. (2013, December 5). U.S. income inequality, on rise for decades, is now highest since 1928. *Pew Research Center*.

⁶⁶ Fifteen Surprising Side Effects of Rising College Costs. (2011, November 13). *OnlineUniversities.com*; Education and Socioeconomic Status. (2016). *American Psychological Association*.

organizations already needed help under the traditional healthcare model, but with the shift towards population health, these types of efforts are even more important. Many clinics and even departments within organizations would benefit greatly from this approach. Instead of waiting for a funding opportunity or even a multi-year strategic plan, organizations can begin taking inventory of their resources and skills and determine where they would like to go or who they want to be, and then begin the process of addressing and building the infrastructure for that change. This “leveling up” can be executed by internal personnel or through consultants. Organizations such as Harris County Public Health, CHMI-GE, and Episcopal Health Foundation could play a role in population health at the leadership level, or organizations like IHI can be sought out. The CCHH work being carried out by the Episcopal Health Foundation and the Prevention Institute is a much more involved version of this.

Evolving – A slightly more radical approach is to use the current health atmosphere as an opportunity to transform Hosp/Sys and clinics into something more. The entire industry has been evolving as far as health access, different reimbursement models, and increased regulations, but Hosp/Sys and most clinics have remained essentially the same. There are innovative minds that may be able to take Hosp/Sys and clinics to the next evolutionary step. This does not mean leaving behind existing operations but rather evolving the organization and system to the next level – one that takes a more comprehensive approach to health and being an institution built to serve the community and one that is not only responding to but also creating new paths. There is no existing model to draw from, but this is where innovative thinkers are needed.

DATA

DATA SHARING

Data has been playing a role in health for years, but today the ubiquity of technological interfaces, computer algorithms, and other modern innovations, the ability to track, connect previously remote parties, and the availability of unending raw information has made data an integral and necessary component for any effective organization. Two primary issues are addressed in this section: population data aggregation and sharing health records.

Issues

Aggregating data is one of the more sensitive topics in the industry. Nearly all of the Hosp/Sys personnel interviewed did not think their respective organizations would be willing to share data at this time while the clinics and local health plans seemed to be more willing. Despite the hesitancy of their organization, many of the interviewees themselves were in favor of sharing and most agreed that analyzing the data to better address population health issues and hotspot SDH issues is beneficial. Privacy and security concerns are cited as the main obstacles, and given the robust HIPAA laws and the many cyber breaches, these are valid concerns. However, many felt competition and market consequences play a large role in these decisions as well.

Even if data sharing did occur, other issues present additional hurdles:

- ❖ Lack of interoperability between systems, even within one Hosp/Sys
- ❖ The systems are still not advanced enough to provide what the Hosp/Sys and other providers are wanting

- ❖ Some systems do not have the desired fields or the proper extraction tools
- ❖ Reporting systems are difficult to build and some still have not been built
- ❖ Differing or incompatible metrics and measuring tools
- ❖ Different health plans and agencies require outcome measures, and in many cases not the same ones thus causing health organizations having to track varied sets of data to satisfy requirements.
- ❖ Legal formality and roadblocks even within organizations requiring extensive intervention to overcome

While sharing medical records through existing EHR systems with and between clinics was favored, the same sentiment did not hold for inter-Hosp/Sys sharing. One of the reasons given was the number of patients that went between Hosp/Sys was too minimal to invest the capital and money. Despite Hosp/Sys and clinics willingness to share between each other, most Hosp/Sys are not directly connected to a majority of the clinics. This can be justified because some Hosp/Sys are only connected to clinics that are geographically proximate and that directly feed into the local hospital. However, with such a transient population, connecting health organizations may lead to more effective care. As an example as stated earlier, the destabilization in housing for the indigent and for the homeless due to gentrification in central Houston has caused a migration westward and is causing a shift in encounter locations.

Another obstacle in sharing data is the cost especially for solo practice physicians. Additionally, though some of the fears are unwarranted, a number of physicians are still reticent to use the newer technology for fear of HIPAA privacy issues. To alleviate concerns, CMS recently released a proposal that would allow for data sharing between governmental and private organizations that are “qualified entities” as long as the goal is to “support improved care.”⁶⁷

Despite the resistance to sharing, health is still moving towards the future and needs to keep up with other industries and modernity. As one executive in a national meeting stated, our current ways of data analysis are becoming obsolete. The speaker was referring to a specific line of health professionals, but the comment relates to current ways of doing things. Some are looking at data that is 2-5 years old and basing decisions on how the landscape was, but other organizations like health plans are basing decisions on data that is only a day old. Health cannot be the vanguards for individual health and population health yet be mired in archaic systems, methods, and ideas. This is further complicated when personnel who are not familiar with technology or who like the “old” way bypass or even abandon the newer systems.

Finally, and most relevant to this report, most health organizations do not capture or track SDH data. The absence of this data makes addressing SDH issues at a population level more difficult. Even for those organizations that do track it, some only track certain SDH types while others may be tracking other types. The issues mentioned above in regards to inoperable systems and lacking capabilities is just as relevant and limiting for SDH purposes and that is only if SDH has actually been rolled into the organization’s EHR.

⁶⁷ Kern, C. (2016, February 9). CMS Rules Propose Sharing Claims Data With ‘Qualified Entities’. *Health IT Outcomes*; Medicare Program: Expanding Uses of Medicare Data by Qualified Entities. (February 2, 2016) (to be codified at 42 CFR pt. 401)

Opportunities

The Greater Houston Healthconnect (GHHC) was established locally in 2010 to facilitate better sharing between health entities. A large number of the Houston/Harris county region's health entities are members, which has allowed these facilities to share patient medical records. Currently, GHHC's market penetration is 51% of hospitals, 39% of clinics and physician practices, and approximately two million patients. Some providers have expressed some concerns about legal matters and the opt-in feature (the patient has to grant permission instead of "opting-out"), but despite some of these challenges, GHHC has set the foundation for a region wide sharing system, which is an incredible feat given the history of this very competitive market. Given time, it seems reasonable that they will continue to increase their membership and patient numbers. Currently, GHHC solely features medical record sharing, but in the future, they may incorporate data aggregation capabilities.

Despite the data sharing resistance, Hosp/Sys interviewees expressed two ways forward. First, there is no shortage of data. Aside from Hosp/Sys, several health, non-health, and government institutions are capturing and analyzing data. Health plans, privately produced white papers, the Texas Department of State Health Services, and social media are examples of this. Second, some of the interviewees expressed frustration, especially those from Hosp/Sys, at the constant requests for data because of the overflow of data analysis with no associated actions following these reports. However, they said if there was a well-defined reason and plan accompanying the request for specific data instead of a wholesale data dump, they may be more likely to share data. A hopeful example comes from one of the local health plans, which expressed its open willingness to share data for population health aggregation analysis.

In addition to GHHC, there have been parallel local data sharing collaborations, which is another hopeful sign for greater collaboration. In one case, two major Hosp/Sys have a medical records sharing agreement. In another example, PCIC's program involves sharing between participating Hosp/Sys and other health and non-health entities. To address the financial and health impact of ER super utilizers, through PCIC these organizations are allowing data exchange and medical record sharing [see **ROADS: Collaboration**]. In the public health realm, several Hosp/Sys and the two local health departments share ER data in a syndromic surveillance agreement to monitor such potential issues as influenza. Finally, a local health plan may be establishing an ACO with another regional Hosp/Sys to better address health, which could include tracking SDHs.

Though there are many legitimate reasons not to share data, there are several examples demonstrating sharing can occur. Some of these have been mandated by the state through health exchanges or state ACOs. Others have chosen to collaborate to improve the quality of care and better understand the health and social hotspots in their region. These collaborations are occurring between Hosp/Sys, Hosp/Sys and health plans, and in some cases, across sectors such as between health, law enforcement, and education institutions. North Carolina Health Information Exchange, Coordinated Care Organizations (Oregon), Regional Care Collaborative Organizations (Colorado), and Integrated Health Partnerships (Minnesota) are all examples of state level data sharing that is leading to better analytics for use in population health activities. The State of Washington has an integrated database amongst its state agencies – Medicaid, criminal justice, family services – to better identify high-risk patients and link them to housing and drug programs to help reduce their ER and inpatient utilization.

Other cities in Texas are sharing data and medical records, which bodes well for more collaboration in Houston/Harris County. Again, one of the primary balancing acts is maintaining a proper

equilibrium between privacy-security and the utility of the data. Certain entities err on the side of caution while others feel the benefit outweighs these concerns. In the Dallas area for example, Parkland Hospital is in the process of connecting with social organizations such as homeless shelters and food pantries. The data organization coordinating this effort is PCCI. They are also in discussion to connect with other Hosp/Sys. Local entities, as mentioned earlier, submitted a proposal for the CMS AHC grant, which requires data sharing.

Recommendations

As health entities are building or upgrading their EHR, they need to 1) be more judicious as to which vendor they choose, 2) attempt to pick systems that are interoperable even if there are no plans for sharing currently, 3) incorporate SDH data fields even if no plans are currently underway to address them, and 4) align metrics in regards to health and SDH to make sure data is comparable. Hindered data integration and systems non-interoperability are two of the largest roadblocks, which should make these high areas of focus. Even if entities requiring outcome measures results in endless tracking, to make data more useful between local health providers and health plans, a core set of outcome measures should be established to facilitate easier and better use of the data to address population health issues.

Public health entities and/or organizations interested in addressing SDH should develop several strategic plans to address specific issues. SDH will require going to non-health resources to acquire the necessary data. Requesting data from health organizations will need to focus on chronic diseases and require specific de-identified data and measures. This plan should also include techniques and their SDH upstream roots, and it should provide organizations confidence that data sharing is being used purposefully and hopefully encourage other institutions to follow suit. Organizations that could be the central repository for this data include UTSPH, GHHC, City of Houston Health Department, and Harris County Public Health. In general, health organizations should consider more intimate data relationships with both public health entities given their roles in population health.

Hosp/Sys and clinic EHRs should connect to social organizations like shelters and food pantries. Law enforcement, private sector, and schools are other areas of opportunities. This would allow for better tracking of outcomes, locations, and data aggregation.

SDH CLINICAL ASSESSMENTS

When a patient engages a health entity, in particular a clinic or physician's office, it provides an opportunity to perform a SDH assessment. Though it may seem intuitive to expect the physician to carry out this SDH assessment, there are several issues to take into account.

Issues

The first issue is many healthcare physicians are not trained sufficiently on SDH. Even when it comes to food nutrition, which should be married to medical treatment, medical school nutrition education is inadequate. When the topic rolls over to issues like housing and domestic abuse, physicians are ill-prepared to identify and discuss these topics with their patients [see **DOMAINS: Training**].

Next, many healthcare providers are not comfortable asking non-medically related questions. They have focused their attention almost exclusively on the medical needs of the patient, and stepping

outside of that zone is unfamiliar and uncomfortable. For the physicians who do want to discuss and assess social issues, they refrain from addressing SDH because the community may not have resources to address them or the office may be unaware of the resources. This inability to address a discovered need carries with it potential liability concerns as well. Additionally, for physicians who want to incorporate SDH assessment, they may not know what to ask or how to ask the proper questions.

Another obstacle is the sentiment from physicians and administrators that physicians are already getting overwhelmed with the growing list of mandated responsibilities. Examples just in recent years include new rules and regulations related to HIPAA privacy rules, EHR requirements, and value-based payments not to mention adjusting to the new ICD-10 coding system, which has quadrupled the number of medical codes from 2,500 to 10,000. Additional burdens also stem from patient satisfaction scores and financial incentives. The new regulations and systems mentioned are accompanied by substantial expenditures, and the time lost acclimating and training employees on new procedures also translates into lost revenue and work. A SDH assessment tool may be perceived as just another burden.

Finally, an area that represents one of the more difficult balancing acts in modern health is gathering the necessary data from the patient versus actually giving the patient that personal, quality care they desire. As it stands now, regulations, volume-based practices, and other requirements have slowly eroded patient time. Even if the volume is reasonable, doctors today spend about half their time on a screen due to EHR. Adding more screening questions may further reduce the natural interaction time and disturb attempts at creating that necessary rapport.

Opportunities

Despite these issues, some clinics and physician offices have taken on the task of addressing social determinants. In Boston for example, physicians avoided asking about hunger issues because they assumed there was nothing that could be done about it. They worked on getting their patients healthy, but they avoided addressing hunger despite it possibly being the root cause of the medical issues presenting in their office. When the physicians became aware of the community resources that address food insecurity issues, the physicians broadened the scope of the assessment and much to the physician's satisfaction were able to address the hunger issues.

In regards to process in many practices, clinical staff carries out much of the initial documentation. Instead of the physician asking the patient, the staff documents the answers thus allowing more opportunities for physician-patient one-on-one time. Sometimes questions are embedded in the initial patient intake forms, and sometimes additional questions are divided among the intake, clinical staff, and physician stages of the process. As some interviewees explained regardless of the method, this is a team effort, and each practice can customize this in a manner best suited to that practice, but the cooperative effort of the entire multidisciplinary team is the key to its success.

There are also modern methods of capturing demographic and medical history information. For those that can afford it, some institutions and offices are utilizing technological devices like iPads for this purpose. The patient is given the tablet to use upon checking in or when taken to the backroom, and the patient then proceeds to fill out the desired information in two to three minutes.

The HLM Healthcare Sector Action Team (HSAT) has been meeting for the past year. Currently, HSAT is convening several local health organizations to determine and build consensus on core SDH metrics, discuss best practices, and how best to incorporate these into the clinical setting.

As far as expenses are concerned, one of the ways physicians are dealing with the cost is partnering with larger institutions or leaving solo practice and joining Hosp/Sys or larger physician networks. These networks have the economies of scales and are able to provide the support, infrastructure, and reduced financial burdens. This is not optimal for many physicians, but for some it has been a positive experience. As far as employee expenditures, some are able to make it work with their current staff and some are using volunteer students. From the feedback received, additional resources would definitely improve and facilitate dealing with SDH, but such initiatives can move forward in the absence of these.

Several SDH screening tools have been constructed by organizations across the country. Since constructing and determining the efficacy of such a tool is very time, resource, and labor intensive, these tools have encouraged health organizations to more seriously consider SDH screenings. Examples of these include:

- ❖ PRAPARE (**P**rotocol for **R**esponding to and **A**ssessing **P**atient **A**ssets, **R**isks, and **E**xperiences)
- ❖ SEEK (**S**afe **E**nvironment for **E**very **K**id)
- ❖ WE CARE (**W**ell-child care **E**valuation **C**ommunity resources **A**dvocacy **R**eferral **E**ducation)
- ❖ WE CARE – Houston
- ❖ I HELPPP (**I**ncome **H**ousing/utilities **E**ducation **L**egal status **L**iteracy **P**ersonal safety)

Hosp/Sys and clinics especially ones working with children favor WE CARE or SEEK. Many national organizations including the National Association of Community Health Clinics (NACHC) are promoting PRAPARE for use in FQHCs, and currently 5-6 states' FQHCs are using it. In Boston, Boston Children's Hospital is utilizing HelpSteps, which is a web-based screening and referral database system. Locally, Doctors for Change also has a web-based resource open to community providers. Additionally, other organizations have gone even further. Health Leads has designed a model that addresses process and resource questions, and they have also built a cloud-based solutions platform that integrates social screenings, case management, and community resources, which can also integrate with EHRs and perform analytical functions. Locally, the utilization of these tools varies. One Hosp/Sys is already utilizing the two food insecurity questions as a precursor to its eventual roll out of PRAPARE. One clinic is considering incorporating PRAPARE into its clinical process and EHR, and because the FQHCs in other states are using PRAPARE other local FQHCs may eventually follow this path. One Hosp/Sys is piloting WE CARE but is confining the tool to food insecurity questions and will slowly expand it. One of these Hosp/Sys has created a longer version of WE CARE called WE CARE-Houston for a more extensive inpatient pilot and is using SEEK in an outpatient pilot. SEEK, which is copyrighted and requires permission, is also being used in a grant funded initiative between DePelchin Children's Center and in association with one of the local medical schools. Public health clinics are also considering becoming more advanced in their screening methods. Harris County Public Health is considering implementing one of these SDH screening tools or possibly a hybrid of some of them in its clinics. Finally, if the local CMS AHC applicants are awarded the grant, it is unclear what tool CMS will have the health organizations use. If left up to the applicants, UTSPH will utilize a HIPAA compliant online platform called RED CAP [see **ROADS: Collaboration**].

Recommendations

Time and resources remain the primary challenges. The fact that some health organizations have actually implemented SDH screening is a very positive sign. Each site will have to customize it based on its circumstance, but if done methodically, many should be able to incorporate the screening process without significantly adding to the patient-physician time, and even then, this time may actually address some of the root factors creating the episode in question. It also may take some reconfiguring, but current staffing levels should be able to handle the newer processes. Given the number of existing tools, increasing examples of health organizations utilizing them, and most importantly the value they provide in patient care, providers should begin the process of incorporating SDH screening into their practice.

Because SDH and the value-based system may eventually lead to overall community benefit, health organizations and especially physician practices should invest in CHWs and social workers. This is to assure patients will at least receive the appropriate referral if not wraparound services. Not all practices can afford these additions, but for those who can, this investment will not only result in better quality outcomes, but for those connected to an ACO or some other shared savings plan, it could result in some form of bonus payments. For organizations that may not have the resources to invest in CHWs or social workers, cross-training existing staff to evaluate SDHs is a very viable option, and even if CHWs or social workers are hired, the resulting multidisciplinary team creates a much more effective environment.

Medical associations, Hosp/Sys, and other institutions need to better equip and educate their physician practices about community resources. The practices are already dealing with a list of growing responsibilities, and it is not reasonable to expect them to account for each and every aspect of this expanding system. Certain healthcare providers may be proactive and knowledgeable about these resources, but if the expectation is to have a substantial percentage of practices well positioned to deal with SDH, entities like medical societies, Hosp/Sys, and other institutions will need to provide this information to the physicians in an organized manner. The advantage of working with organizations like Health Leads or using Doctors for Change web tool is that they are responsible for cataloguing and updating community resources. A less technical solution is employing CHWs. CHW training is specifically designed to know where and how to navigate community resources.

The growing inclusion of social screening tools is a very positive sign. However, because local organizations are utilizing different tools, they should try to find either a common tool or a core set of SDH metrics to allow for data sharing and analysis. As far as core metrics for example, the American Academy of Pediatrics report recommending the screening of all children for food insecurity nearly makes food insecurity an established core measure.⁶⁸ Due to the different requirements for children and adults, different standards may need to be established for these groups.

TRAINING

Programs and strategies that address SDH will go no further than the people moving it forward. More than just having an intellectual understanding, those in charge of combating SDH need to believe in the efficacy of the struggle while others need to know where the community resources are and how to link to them.

⁶⁸ New AAP Report Targets Lack of Adequate Food as Ongoing Health Risk to U.S. Children. (2015, October 23). *American Academy of Pediatrics*.

Issues

As mentioned earlier, during the course of the interviews there were those who had not heard of the “social determinants of health” and there were some who only had a limited understanding of how to address them. One of the more difficult challenges will be getting providers and staff to understand the value of SDH and to start thinking of treatment beyond traditional medicine and the four walls of the clinical setting. A physician panelist during a seminar framed the issue this way (paraphrased): if an overweight diabetic female who may be suffering from or has family members suffering from depression, alcoholism, and abuse all of which are contributing to the chronic state of the presenting female, and the physician’s only advice is to stop eating donuts, that physician has failed to properly treat that patient.

As one interviewee mentioned specifically about nurses (though this can be extended to all personnel engaging patients and community members), how motivated will nurses be if they themselves do not know or understand SDH? What if they themselves are not practicing what they are advising such as in nutrition and exercise? How likely is the patient or community member likely to respond and follow through? This is also an indication of SDH affecting more than just the indigent and uninsured populations when employees of major health institutions are experiencing malnutrition and not properly exercising. Many of these employees have chronic health issues.

As far as physicians and other clinical personnel, much of this misunderstanding relates to the inadequate nutrition medical school training let alone SDHs. Medical schools often only offer limited food/nutrition education. In 2014, the American Medical Association voted on a policy to better integrate SDH into the curriculum.⁶⁹ To date, this new policy has resulted in little change across the country thus far, and the interviewees were not sure if the two local medical schools have incorporated SDH into classes in any significant way, if at all. There are certain classes they can take, and they have Masters of Public Health dual programs, but these are accessed only by those already interested and motivated. The vast majority of others will know little about SDH. This impacts proper care in various ways. First, the physician and staff do not screen for SDH and are unaware of other social conditions contributing to the patient’s state. Most physicians do not screen for food insecurity, and, other than general nutrition and exercise advice, physicians do not speak to their patients at length about nutritious eating or utilizing healthy foods as treatment or as a means to curb current chronic health issues. Second, many are not accustomed to or are not comfortable asking patients SDH questions related to transportation, education, depression, domestic abuse, or living conditions. Just as in any health investigation, training is needed to properly hone in on root factors causing the illness, and physicians are not adept at knowing how to navigate through SDH. This all also applies to other providers such as nurses and physician assistants.

Even within the medical arena, there is a gulf between physical health and behavioral health despite being so intertwined. Patients experiencing physical symptoms typically are treated for the physical manifestations and screenings, factors, and treatments for behavioral medical needs are relegated solely to the behavioral health community thus creating a bifurcated and inefficient care system. Properly screening, understanding, and addressing SDHs require knowledge of both and a more holistic approach [see **DOMAINS: Programs & Strategies: Behavioral Health**].

⁶⁹ What future doctors need to know about health determinants. (2014, November 20). *AMA Wire*.

Opportunities

As far as employee health is concerned especially increasing exercise and better nutrition, health plans and organizations are offering more incentive-based wellness programs such as lower premiums if certain goals are met within the year. There is also evidence of positive ROI – such as savings on health costs and increased productivity – for organizations that choose to invest in wellness programs in areas.⁷⁰ Through the wellness programs, employees are better understanding the correlation between nutrition, exercise, and health.

There is actually movement in medical education towards addressing population health and SDH. Starting July 2016, the Liaison Committee on Medical Education, which is the accrediting body for the Association of American Medical Colleges and the American Medical Association, now requires the following content in the curriculum:

- ❖ “7.5 Societal Problems” – “The faculty of a medical school ensure that the medical curriculum includes instruction in the diagnosis, prevention, appropriate reporting, and treatment of the medical consequences of common societal problems.”
- ❖ “7.6 Cultural Competence and Health Care Disparities” – “The faculty of a medical school ensure that the medical curriculum provides opportunities for medical students to learn to recognize and appropriately address gender and cultural biases in themselves, in others, and in the health care delivery process. The medical curriculum includes instruction regarding the following:
 - The manner in which people of diverse cultures and belief systems perceive health and illness and respond to various symptoms, diseases, and treatments
 - The basic principles of culturally competent health care
 - The recognition and development of solutions for health care disparities
 - The importance of meeting the health care needs of medically underserved populations
 - The development of core professional attributes (e.g., altruism, accountability) needed to provide effective care in a multidimensional and diverse society”⁷¹

How this will look in medical schools will vary, but this is a very significant step for medical schools. For example, many medical schools already have or are creating a specific population health/medicine track. Brown University, University of California-Riverside, and others have created such a track. The Dell Medical School at the University of Texas at Austin is establishing its own population health department. Tulane University School of Medicine has a culinary program and curriculum that covers the role of food in preventing obesity and chronic issues.

For the Houston/Harris County area, about five years ago one of the local medical schools had instituted a SDH course for all its second year students, which also included working through and designing solutions for SDH issues based on demographic data from a local clinic. Starting in the latter half of 2016 for the new incoming class, this will now extend longitudinally across four years of medical school for all students. The new curriculum also includes more on nutrition, training on SDH screening, and behavioral health. Additionally, there are major plans to establish a University of

⁷⁰ Berry, L.L., Mirabito, A.M., & Baun, W.B. (2010, December). What's the Hard Return on Employee Wellness Programs? *Harvard Business Review*.

⁷¹ Liaison Committee on Medical Education. (2016, March). *Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the MD Degree*.

Houston medical school, which in addition to being a full medical school, it plans to take a population health-centric approach to care. Currently, if approved by the Texas legislature, the plans are to build this school on the main University of Houston campus in 2019.

Health institutions, namely clinics that have cared for a specialized subset of the population (e.g. HIV, homeless) already have providers who understand how to better address social conditions. Some medical schools and Hosp/Sys fellowship programs have designed rotations through some of these institutions.

As mentioned earlier, over the past several years, behavioral health has received much needed focused attention. Integration is relatively new still, but there are increasing efforts to better synthesize physical health and behavioral health. Some health organizations especially in the clinics have already integrated these two, and this has given medical students who are rotating through these clinics increased exposure to this more comprehensive form of care. Additionally, the MHA's IHCI is specifically recommending educational and training policies that further provider integration.

One of the more integral factors in training is early exposure. Whether through independent projects, crash courses, or through newer medical school curricula, exposure to SDH is a necessity for medical programs. Students and practitioners who have been exposed develop an internal understanding of SDH, and because of the impact of that experience, they are better prepared to care for these issues regardless of the setting.

Recommendation

Local Hosp/Sys, public health organizations, the TMC, and others should support the local medical schools currently integrating SDH. Important aspects of this support should include providing resources that bolster the programs and providing feedback and if possible evaluations on the graduates of the programs to determine the effectiveness of the SDH training. If SDH curriculum is absent or not well developed, local health organizations should strongly encourage and work with those local medical schools to incorporate SDH curricula (for all of its students). Even if they create an independent population health track, all medical students should have to take classes that cover these areas especially since the legal and financial frameworks are migrating towards value-based reimbursements. Medical schools also need to create more classes and create more rotations that cross train medical students on behavioral health.

In addition to creating scholarships to encourage more medical students to go into primary care, scholarships should be directed to those from communities where many of these SDH issues are prevalent such as from rural areas because according to interviewees and the research, they will be more likely to either return to those areas when they practice, be better prepared, and may be more likely to volunteer in those areas.

Hosp/Sys and continuing education designers should offer more SDH opportunities for currently practicing physicians as well as continuing education courses for other clinical and non-clinical staff. Again, some physicians and staff do not know enough about SDH let alone the community resources. The institution employing these individuals and the health community in general need to do a better job of educating and informing them about community resources and ongoing activities. This could occur by hiring more CHWs, integrating true social work and case management in cross disciplinary teams, and having individuals in each health institution whose responsibility it is to disseminate this

knowledge. This is crucial not only for proper care, but in the future, as we continue to see the social sphere intersecting with health, it may become increasingly more important for value-based quality measures and legal requirements.⁷² As indicated above, these recommendations also apply to institutions training other health professionals (e.g. nurses, physician assistants).

POLICY

The following are different local and state level policy recommendations. In the prior domain sections (**ORGANIZATIONS, PROGRAMS & STRATEGIES, DATA, AND TRAINING**) the recommendations focused on institutional decision-making and policy changes. Though the content for much of the following recommendations was derived from discussions presented in prior sections of this report, they highlight unique policy opportunities that cut across multiple issue areas.

TECHNOLOGY AND DATA

Telemedicine – Telemedicine is an important tool in addressing SDHs and without the following in place, it makes addressing SDH through this medium non-existent. When reimbursements for school-based telemedicine services for Medicaid enrolled children was passed in the 84th Texas Legislative session, children’s health was given an incredible boost. The Texas legislature should continue to expand and open new avenues for telemedicine utilization. The physical size and expanse of Houston/Harris County is growing and further dispersing patient-provider connections. School-based telemedicine will need to expand the accepted provider list to mid-level practitioners (e.g. NPs and PAs). Another policy area is expanding the types of locations where telemedicine services can be offered and reimbursed. Though Texas telemedicine laws compared to many states are lenient, it is also not as advanced as other states. Though issues like patient-provider relationship, malpractice, privacy/security, online prescribing, licensure, and other issues are not easy to resolve, legislators and the Texas State Board of Medical Examiners should be strongly encouraged to work through these, follow the models of other states, and expand telemedicine utilization. One bill that should be supported is being submitted by the Texas eHealth Alliance – Texas Hospital Association, the University of Texas, American Well, Teladoc and Cisco Systems, which attempts to broaden the patient-physician relationship establishment to videoconferencing and other analogous technology.⁷³

Data Sharing – The size of Texas may make it challenging to create a shared data system across the state like Maine or Oregon. Areas like Houston/Harris County could function as one regional collective, but given the size and population, it may require dividing the areas into sub-regions especially when considering the surrounding counties. However, if local organizations are unable to execute these, the Texas legislature could develop incentives to encourage providers to share health and social data across organizations. Though other states like Maine and Oregon have statewide data sharing frameworks, the culture in Texas may not allow for such a statewide program. Even if so, with data being such a sensitive topic, incentivizing rather than mandating data sharing may be the more prudent way forward at this juncture. These could be very specific de-identified data points that are most pertinent to SDH and chronic disease management.

Price Transparency – As mentioned earlier [see **ROADS: Healthcare Access and Costs**], price transparency is a major issue especially if we want to allow local residents to make better decisions and

⁷² Examples: ACOs, CMS AHC Grant, 30-Readmission Policy, CHNA’s

⁷³ Mack, H. (2016, July 21). Hospitals, video visits companies offer up draft bill for Texas telemedicine compromise. *MobiHealthNews*.

ones that will allow for more market driven decision making. Price transparency is an important ingredient that can help families better deal with and possibly address medical bills, bankruptcy, having to choose between paying for medical bills and other necessities (e.g. food), and possibly foreclosure and loss of home. Florida's model allows the state to sidestep the issue created by the Supreme Court's *Gobeille v. Liberty Mutual* decision, and it may be one Texas could learn from or model after.

COLLECTIVE HEALTH ADVOCACY

Health organizations are one of the largest employers in Houston/Harris County and are one of the more profitable industries in Houston/Harris County if not the state. Given this, health organizations should utilize their collective strength to push for greater environmental policies. There are executives and organizations that are involved already. Because the wealth and size of organizations who advocate for less environmentally sound policies is formidable and effective, health organizations can act as a counter force. Health organization's primary mission is to improve the health of those whom they serve. Because the literature is very clear on the effects of poor environmental conditions on the health of individuals and the population, this is a natural next step for collective health organizational effects. This also includes greater encouragement for extending METRO to other areas, which in addition to environmental benefits, it could also be a solution for the many transportation issues that the community suffers from. Given the lack of political popularity on the issue, environmental issues should be framed and packaged to appeal to areas of common agreement such as emphasizing efficient and effective business practices, creation of new and innovative jobs, and better school attendance to appeal to areas of common ground.

On a more local level, there should be collective advocacy for housing policies [see **PRIORITIES: Housing**]. Urban renewal efforts, which itself is a positive phenomenon, leads to several negative outcomes, in particular raising housing costs. This in turn can lead to negative health conditions because some may choose to cut back on necessities, move to poor quality living, move to less safe neighborhoods, or lose connections to social service organizations. Health organizations can work with and advocate for affordable housing long-term strategies and reducing barriers for affordable housing.

Taxes are not popular, but lobbying for a sugar drink tax will not only bring in revenue for the state, but it may also help curb one of the largest contributors to obesity and diabetes. Children should be the focus of these efforts, so it may be best to start with sodas and kids drinks. These efforts should also include improving school nutrition.

Local health organizations need to begin efforts to develop a strategic plan to address SDH in the Houston/Harris County region. An organization such as the Episcopal Health Foundation or others mentioned in this report should act as the convener. The groups should decide how many SDHs they would tackle (e.g. target one SDH such as food insecurity or several?) and determine methods and strategies to address them. This strategic plan may contain several pilots or regional project/efforts. Community partners should also be brought into this process as well. The manner in which this takes place across the region does not necessarily need to look uniform, but there should be a comprehensiveness and unity in the execution of plan. Additional areas that should be addressed are funding (allocation and sustainability) and data (sharing and analysis) policies.

IHCI has already developed several policy recommendations for behavioral health including one for reimbursements for prevention and early interventions, which directly intersects with SDH, and those

have been discussed and vetted thoroughly by dozens in the IHCI work group. These should be supported by the collective health organizations.

MEDICAID & BENEFITS

Increasing Medicaid reimbursements was emphasized during the interviews, in particular for providers who are not currently eligible under state law. The state amendment needed to reimburse CHW and non-clinical social workers should be a priority. CHWs are not as expensive, but many organizations still cannot afford them. CHWs and non-clinical social workers have a high utility and return on community outcomes and cost savings. This would encourage organizations to hire them, and given time, it would help drive down Texas' health costs and improve quality.

Extending coverage for new mothers from 6 weeks to 12 months for postpartum depression (PPD) should be an agenda item health organizations should advocate for. According to the interviews, since 6 weeks is not enough time to diagnose PPD, 12 months is the suggested length of time for this Medicaid extension. The previous attempt in the last legislative session focused on PPD services solely, but the current draft includes the full gamut of health services to properly test, diagnose, and treat PPD. If passed, this could serve as a mechanism to also provide extended general health services to mothers.

Texas Medicaid Managed Care was effective in driving down costs and increasing quality. Similarly, Hosp/Sys should encourage the State to create value-added reimbursements for SDH referrals, education, and services. Housing has already been approved by CMS. Covering these social issues may also help drive down health costs in Texas.

To promote healthy foods, health organizations should encourage the State to implement electronic benefit transfer (EBT) at farmers markets.

It goes without saying that Medicaid Expansion was one of the top interviewee recommendations, but given the political climate, they all knew it was not likely at least for this session.

CONCLUSION

As demonstrated in this report, there is a significant amount of SDH activities occurring. The nature of SDH inherently requires a multidisciplinary approach and partnerships, and it requires organizations to make sure they are viewing their care through a health equity lens. Even though most of these organizational relationships are disjointed, there are signs that the silos are starting to break down and that healthcare organizations are slowly coming together to address these complex issues.

Though there are many obstacles that may hinder SDH activities, there are a number of local and national healthcare examples demonstrating more can be and is being done upstream and along the continuum. What is positive and apparent is that there is an incredible amount of energy in healthcare around SDHs, and the number of organizations and individuals participating are only increasing. Regardless of what size or how well resourced the organization is, there are many ways the healthcare sector can participate in addressing SDHs. Some organizations and individuals are better suited for more direct and community upstream interventions (e.g. housing policies, advocating for CHW Medicaid reimbursement) while others are better positioned to focus more on clinically based and individual interventions (e.g. SDH screening, implementing Reach Out and Read). Some organizations and individuals are needed to ensure patients and community members are better positioned to make the needed changes and respond to the SDH interventions when given the opportunity to benefit from them (e.g. modifying eating behavior, utilizing Triple P). Most, if not all organizations, will need to continually evaluate their strategic outlook (e.g. including SDH into mission statements) and operational capabilities (e.g. personnel, data infrastructure) and improve upon their current state because the upstream issues are continuing to evolve and negatively impact patients and community members.

The following are some of the major conclusions and themes that emerged over the course of this assessment:

- ❖ **PATIENT & COMMUNITY-CENTRIC CARE** – If health organizations can center their efforts on the human beings and the community around them, the quality of care and the outcomes will follow. Payment reimbursements, commercial interests, and data are important, but if anything else occupies that center position, it will continue to result in fractured care and outcomes. The increasing roles of CHWs and social workers, who are vital community links and bridge builders, in organizations are positive signs, but more are needed to sufficiently serve the need as are the resources to sustain their continued presence. The reemergence of house visits, increasing SDH screenings coupled with navigation services, and the efforts towards behavioral health and physical health integration also demonstrate this movement toward patient and community-centric care.
- ❖ **COLLABORATION & SHARING** – The complexity and interdependent nature of SDH is too much for any one sector. This is a community endeavor, and health organizations need to improve the frequency and the way in which they collaborate. This involves sharing resources and knowledge, and it requires allowing others to cross over into once considered proprietary spaces. This also requires multi-sector partners – faith-based organizations, schools, law

enforcement, social organizations, food industry, neighborhood associations – who not only need to work with one another, but it also requires hybrid efforts and models where one sector may establish spaces or programs in another’s facility.

- ❖ **PLANNING** – SDH is too large to tackle without sound community wide strategic planning and policy making. Periodic victories may occur, but if those pockets are surrounded by still ailing communities, it is only a matter of time before that victory relapses into its former state or remain just a lone success story. Houston/Harris County is large not only in population but also in geographic expanse, and health organizations and community partners will need to develop either regional strategies or something similar to be effective. Additionally, data aggregation for population health analysis and clinical interventions will require specific but robust planning to create more transparency and give partners confidence that the data will be put to actual use and action.
- ❖ **EDUCATION** – Whether a community member or a provider, one can only act on the knowledge one possesses. In this developing SDH era, providers and health organizations will be expected to become literate in social arenas they never had to study or step foot in relative to diagnosis and treatments. Education, when conjoined with genuine hands-on experience, can create an advocate in a provider, and when working in these social arenas, which can be emotionally draining, this education and experience are needed. Community members especially those who have grown up living unhealthy or destructive lifestyles will require multiple opportunities and types of education to truly change their behavior. In the end, an individual is the one making that decision, but health organizations have a unique opportunity to guide them and impart crucial knowledge, life skills, and support.
- ❖ **FAMILY & CHILDREN** – Family and children represent the centerpiece of SDH and are nexus points for interventions. A stable house with loving parents and/or key family figures who act on proper knowledge can prevent and solve most health and social issues. Helping parents and family members meet these characteristics should be a priority when developing SDH strategies. Children traverse the entire spectrum of our health system, and early interventions or the lack thereof can potentially result in lifelong positive or destructive outcomes, respectively. Children have a unique place in health and they can bypass many of the obstacles adult services tend to have, and because children are impacted so greatly by their family and environment, they can be conduits to their family members and living environment, who in many cases may not get the attention and interventions needed.

* * *

What should organizations do with this report?

Each organization should respond according to its capabilities by doing one or more of the following:

- Educate staff and leadership about SDHs, the issues, opportunities, and all of the efforts that are currently taking place across the country.

- See how the local and national examples can be replicated within your organization; contact the entities that were mentioned in this report to get guidance and learn from their experiences.
- Identify recommendations from this report that suit your organization and local community, and build programs and strategies based on or inspired by the recommendations; these should be viewed as merely a starting point or initial platform to move forward and spur action.
- Continue to research and keep up with all of the SDH-related efforts. This report only provided examples of some of the efforts, but there are many more that exist. Additionally, by the time this report is published and read, many more will have begun.
- Please continue to share your ideas with Harris County Public Health on ways our community can achieve greater gains by addressing SDH. We want to hear more about your work and other efforts in Harris County not captured in the report. Whether your organization is interested in attempting to work towards a more regional plan, developing community interventions, joining together on a unified policy, or any other initiative, SDH require effective responses, which can only come from a strong public health and healthcare partnership. To this end, please contact Tanweer Kaleemullah, HCPH's Public Health Analyst – Health Systems Transformation at tkaleemullah@hcphes.org.

ADDENDUM

Interview Questions and Responses

During the interview process several questions were posed to the individuals. Most of the answers and ensuing discussions are merged in throughout this report. The following were more suitable stand-alone questions and answers, and they demonstrate the range of opinions the interviewees had.

1) With such a wide array of social issues, what is the best way to address and implement still relatively unknown strategies and programs? The vast majority felt that it is best to give focused attention to one to two and possibly up to three social determinants due to resource constraints. Undertaking more than one to two social determinants would only serve to dilute the greater effort. On the other hand, some felt the full panel of social determinants needed to be worked on in concert because the aggregate effect would minimize any successes in moving solely one social determinant metric. They also felt that some individuals would not qualify for intervention because they may not cross the individual threshold trigger to initiate social service intervention, but they may qualify if multiple SDHs were looked at in aggregate.

2) As Houston/Harris County is attempting to incorporate clinically-centric SDH programs into the community, where should these efforts begin? How large a geographic area should initiatives begin or pilot a program in? Some felt that the clinics made the most sense since they are already in the community, are at the frontlines, and know the community members best. Others felt the Hosp/Sys due to their larger footprint and resource pool. Suggestions also included a much more controlled approach – pilot programs in specific hospital areas to prove its value. Another approach was coined as the “buckshot” approach: just do what can be done and see what works. In regards to geographic scope, some felt Houston/Harris County was too large and pilots should be implemented in specific sub-regions. Others felt that health crossed jurisdictional lines and patients flowed between health systems often enough that it makes sense to at least look at a larger section if not all of the Houston/Harris County area.

3) Was the ACA written with SDH in mind, and was the healthcare or public health definition of “population health” used? How effective has the ACA been in addressing SDH? Most of the interviewees asked this question were unsure if SDH was the underlying purpose or even intended to be addressed by the legislation. Some felt SDH was at the heart of the language because the various legal mechanisms in effect would require delving into social services. Most felt the “population health” language in the legislation referred to the healthcare sector definition and not the public health definition. In regards to effectiveness at least in practice, at this stage, it is still early to determine how much of an impact it is having on SDH, but many organizations have incorporated social determinant-centric practices to better respond to provisions like the 30-day readmission policy and value-based payments. As far as being more aware of and better understanding upstream issues, the ACA has had an impact [See **ROADS: Affordable Care Act**].

SDH ACTIVITIES UPDATE

This report was based on interviews and research conducted during a specified period of time (Fall 2015 to Mid-Summer 2016). Since this report was completed, new SDH related activities started to emerge, but they could not be incorporated into the main body of the report. In an effort modify

some of the findings in the report and to illustrate the ongoing positive activities that are taking place, the following are examples that emerged after the timeframe mentioned.

- **Multi-Organizational Food Insecurity Screening** – following the lead of the Hosp/Sys that is conducting food insecurity screening across its system, CHMI-GE is coordinating efforts that have led to several other Hosp/Sys and clinics to sign letters of support stating they are agreeing to participate in food insecurity screening in varying capacities in their respective institutions. This is scheduled to begin sometime in 2017.
- **Community-Centered Health Homes** – the Episcopal Health Foundation partnership with the Prevention Institute is implementing an intensive training and mentoring program to position participating clinics to transition into CCHHs. Training is beginning in December of 2016.
- **Multi-SDH Hosp/Sys Screening Pilot** – One Hosp/Sys is conducting a pilot at three of its sites by expanding its current ER food insecurity screening to also include initial questions on housing, transportation, employment, utilities, and health access. In a manner similar to the AHC model, if the patient is positive for at least 2 SDH issues, has a chronic condition, and visited the ER at least 4 times in the past year, they are then admitted to a more specialized SDH intervention program. The PRAPARE screening tool is then used to more thoroughly assess the patients SDH situation. The Hosp/Sys will then intervene on the issue that presents as the most pressing for the patient’s chronic issue and conduct follow ups thereafter for several months.
- **Increased SDH Hosp/Sys Focus and Activities** – in general more Hosp/Sys from an administrative level are beginning to place more focus on SDHs in varying capacities and activities are being planned in accordance with this new focus.

COLLECTED RECOMMENDATIONS FROM “DOMAINS OF SOCIAL DETERMINANTS WORK”

For readers interested in honing in on the recommendations, this section lists all of the recommendations – which were derived from the interviews and local and national initiatives – listed throughout the entire report. Their respective headers are provided in case the reader would like to go back and review the material associated with a specific recommendation. Again, as stated before, this is not an exhaustive list of recommendations.

Organizations

- **Health Plans**
 - Health organizations should work with the state to open up SDH coverage. Using the Texas Medicaid Managed Care platform, health plans and other health entities should try to expand the number of children-family portals to rectify health and social factors that are affecting the child’s health and environment, which will inevitably lead to addressing the family’s social conditions and needs. By entering this discussion in this manner, politicians and health organizations can avoid politically unpopular Medicaid Expansion talk.
 - The health plans have been participating in collaboratives like HLM, and these efforts should continue. The local health plans and public health initiatives should try to expand their level of participation with one another for population health purposes. In addition to programs, sharing data would be a common sense partnership. This collaboration could be bolstered if Hosp/Sys and public health organizations also participate.

- **Clinics**

- The clinics should continue to seek to form partnerships to provide their patients with complementary care services including SDH. If possible, the best case scenario would be for the clinics to strategically create partnerships over the entire region to complement one another and fill as many service gaps as possible.
- Because of the close relationships between clinics and their respective communities, a strategic alignment of clinics could serve specific schools in given regions across Houston/Harris County to better provide these schools care and SDH services. Much in the same way school-based clinics are helping to address children health, absenteeism, and education, the clinics could play a similar but more comprehensive role.
- To bolster the clinics role as the health center of choice, clinics need to not only seek out funds for continued operations and expanded health services, they need to evolve to meet the challenges of their community. Clinics should proactively seek out opportunities to become CCHHs and explore other models that may emerge in the coming years.
- Since the Harris County Healthcare Alliance discontinued operations, the clinics lost one of the major advocates for regional clinic planning, advocacy, and policy decisions. Gateway to Care has had a long running relationship with Houston/Harris County clinics, most of which has been for grassroots level initiatives and support. In light of the resource limitations, growing underinsured population, and the increasing focus on population health, Gateway to Care should not only continue but also bolster its relationship with the clinics and be the body to convene the clinics, be a body where planning can occur, and be a body that vigorously advocates for them.
- Hosp/Sys and funding organizations could start pooling money specifically set aside for clinic use, in particular for SDH and general wraparound services. Due to the unpredictable nature of grant funding, it makes sense to develop a more stable and flexible funding source. There should be quality measures attached to the funding. Hosp/Sys will most likely benefit by having less financially burdensome patients coming to them.

- **Hospitals and Health Systems**

- As demonstrated above, individual Hosp/Sys are stepping up and taking necessary actions. Even with the slimmer margins and realigning payment systems, many if not most Houston/Harris County Hosp/Sys – nonprofit and for profit – run healthy profits and have the capability to enhance their facilities and ability to implement more comprehensive health and social care initiatives. The Hosp/Sys’ business side represents the opportunity to intervene in the lives of thousands of patients who are voluntarily coming for help. Some interventions especially in areas affecting a child’s environment or where patients have to be given individual attention to open up about such issues like domestic abuse and depression can only be facilitated through one-on-one clinical sessions. More importantly, patients place a great deal of trust in their providers for their health and social well-being.
- The following are three levels where SDH-centric strategies and programs that can be implemented depending on the current capability of each institution.
 - ❖ Organizational Grassroots – creating an atmosphere conducive to working on SDHs from within and from the ground up through hiring and training.

- ❖ Community In-Roads – creating opportunities to combat SDH related issues for patients and community members within the Hosp/Sys facility itself.
- ❖ Intensive Care Services – creating comprehensive and highly interactive clinical and social systems and mechanisms to care for the total needs of the patient along the entire spectrum from the home to the Hosp/Sys and back to the home.
- Interested parties should try to utilize the seven leverage points and tools listed earlier to encourage the following actions. Institutions may not be able to implement strategies and programs at every level, but each one is encouraged to begin the process in a manner that suits its capabilities. The most important thing is to start implementing programs and policies. Again, leadership is vital when beginning the process of transformation.
- Organizational Grassroots – This first level involves the following efforts: a) getting the right personnel, b) creating an atmosphere that encourages health and social sensitivity, c) transitioning to green energy, d) greater efforts to hire local residents, and e) implementing policies that further SDH. To further increase a Hosp/Sys’s functionality, highly skilled population health professionals should be hired including a Population Health Administrator who will help keep the organization’s eye on this broader issue. Depending on the nature of the organization, it may be advantageous to either align population health from the business C-Suite office or combine this position with community benefits. These individuals may be better positioned to address service deficiencies and also give community benefits the necessary support it needs to operate optimally. Additionally, if given the proper resources and platform, they will help educate healthcare sector employees about social determinants. The Population Health Administrator and Hosp/Sys should make sure their community benefits are supported with appropriate staff and resources. Many pediatricians have been at the forefront of SDH because of their intimate understanding of the social conditions affecting their young patients, and they should be some of the first candidates for population health related positions. To better create a positive and encouraging atmosphere, Hosp/Sys should have incentive laden wellness programs for all of their employees, which will help them practice what they preach and help the employees believe more in what they are advising the patients to do. Better nutrition, fitness, and health tend to create more positive employees, and having an overall positive work environment, in particular with nurses, leads to better clinical outcomes including lower readmission rates [see **DOMAINS: Training**]. The atmosphere will be augmented by increasing the proportion of healthy food options especially fruits and vegetables in the café’s, cafeterias, and vending machines and decreasing if not eliminating sugary drinks. Additionally, Hosp/Sys should pursue designations such as Baby-Friendly to demonstrate support for healthier practices and support for mothers who desire to retain employment and simultaneously provide the best for their babies. Finally, Hosp/Sys, in addition to medical schools, medical societies, and other health organization, should provide SDH CMEs and education trainings and if possible more hands on opportunities to increase the social sensitivity of the organization.
- Community In-Roads – The second level allows for the patients and the community to benefit from the Hosp/Sys facility and its nearby surroundings thereby facilitating better health outcomes and addressing certain SDH needs. The Hosp/Sys can provide an onsite or nearby grocery store that takes WIC and SNAP. Additionally, it can offer

an onsite fitness center, which could also serve as a revenue generating source. Other community-clinical linkage programs include walking paths, farmer's markets, and onsite health cooking classes for both patient and community members. More research and community assessments will be needed for each institution to determine if some of these could also serve as additional sources of revenue.

- Intensive Care Services & Social Interventions – The third level revolves around the patient, and this starts and ends with the home and may possibly extend into the broader community where appropriate and feasible. Hosp/Sys should develop robust CHW and case management wraparound services focused on serving the health and social needs of the patient. Complementary services could also include home visits and health coaching, which according to interviewees, have shown great efficacy. These services allow the Hosp/Sys to understand the psychosocial living conditions the patient is experiencing and how to better treat the underlying causes and not just the symptoms. Vertical and horizontal integration is key for this home to home complete care. Even if organizations are not designated ACOs, transforming relationships with external health and social organizations from just referrals to more formal arrangements creates a more secure continuum of care. In the clinical setting, Hosp/Sys should implement SDH screening and referral services.
- In the same manner as Kaiser Permanente and Dignity Health, community benefits should continue to expand their scope of SDH projects and services based on ability. The challenge as stated earlier in the report is to not dilute efforts. For those Hosp/Sys that are investing a great deal of time, labor, and resources on an existing one to two SDHs, limiting interventions to one to two is recommended. Subsidizing and other forms of housing interventions have greatly benefited the quality outcome measures and more importantly the lives of the Hosp/Sys's patients. However, if the community benefits department is engaging SDH in lower maintenance endeavors (i.e. granting funds), they may be able to address more than three SDH areas. Another way to expand Hosp/Sys community impact is to consider pooling monetary and capital resources with a third party manager such as Episcopal Health Foundation, TMC, one of the local health departments, or a consortium of these organizations. This would allow for a more strategic population health approach. Ultimately, as the interviewees stated, this is a community issue – meaning all of the sectors and individuals making up the community alongside health organizations – and the community needs to drive SDH efforts. Forming strategic, long lasting relationships with non-health organizations and sectors such as education, law enforcement, parks, and faith-based organizations is crucial. Much of this is already going on, but more proactive strategically planned initiatives over specified regions of Houston/Harris County need to become the norm.
- Taking from the Rise VT example, a local entity should create a similar scorecard to measure and recognize SDH practices. Different certifications demonstrating levels of SDH practice can be created. Whether gold-silver-bronze or some other system, it should prove to be a motivating tool. Over time as with other such recognitions, it may become a sought after certification. Harris County Public Health, CHMI-GE, Episcopal Health Foundation, the City of Houston Health Department, or an assortment of them could be the lead entity or entities granting the certifications.
- All Hosp/Sys should place focused attention and efforts towards children and attempt to counteract adverse living conditions. Gearing the thrust of SDH programs towards children brings opportunities to address the entire family's condition. Social

organizations may be the best place for some of these, but many people will not follow through on a referral, some do not live proximate to organizations offering these services, and again, Hosp/Sys are the nexus for tens of thousands of individuals who normally are difficult to access. In addition to prenatal and other standard programs, Hosp/Sys can better serve children and families by integrating parenting programs like Triple P, programs like the USDA out of school meal program, centered pregnancy prenatal programs, Reach Out and Read, and possibly Montessori learning environments during children or parent appointments. Another venue is school-based clinics, and though there are several school-based clinics in Houston/Harris County, more is needed. One important point to emphasize, all children and not just the indigent are experiencing SDH related issues, and programs should be crafted and available to all children.

- There is no guarantee that reimbursements and government funds will continue at their current rates or if at all even if the government mandates covering expanded services such as SDH related ones. Therefore, Hosp/Sys must continue to find new sources of revenue to offset losses that may occur. Concierge services, onsite pharmacies, Uber-like transportation services, and others that cater towards insured and non-indigent patients will need to be developed as more social services migrate inside the Hosp/Sys.
- Houston/Harris County is continuing to grow. The ability to reach more entrenched and densely populated areas will become more limited, and the lack of transportation options will continue to be a chronic issue. Mobile clinics and CHWs are natural tools and personnel to address this. As far as brick and mortar is concerned, Hosp/Sys should build structures that are fully functional but less expensive to allow for more access points for the population. The growth of retail clinics like Walmart and Target have actually alleviated primary care needs and demonstrates the need. Most of the services in these retail outlets are primary care and like urgent care centers are attracting thousands of patients. It is highly likely similar structures offering more affordable services – health and social – will be extensively utilized. Many health systems have formed partnerships with retail chains, and these retail stores could serve as the staging ground for some of these mini-hubs. Another option would be for Hosp/Sys subsidizing clinic satellites expansion to serve a similar purpose.
- As Hosp/Sys look towards the future, executives understand the population health push will lead to significant health service changes citing the shift to post-acute care as one of the major changes they see occurring. However, Hosp/Sys and clinics should also understand this transformation may also force them into arenas outside of their comfort zone. Teachers and schools have had to shoulder an increasingly larger parenting and caretaking role as social structures have broken down. With payment structures trending toward quality, this will naturally encompass social services, and health organizations may be asked or forced to take on even greater social roles (e.g. community-centered health homes). Going further, Hosp/Sys may have to evolve into or become more absorbed into other community-centric structures and activities. Hosp/Sys should consider creating facilities where the children, prisons, and grocery stores are located to better fit the needs of the community. School-based clinics are examples of this, but they should not be seen as the outer limit of health's convergence with schools. Visionary leaders will be needed to get ahead and helm their institutions to be ready for such changes.

Programs & Strategies

- **Behavioral Health**
 - Because sustainability will be an issue especially after DSRIP monies phase out, organizations running similar programs should attempt to collaborate and jointly approach funders. Because there is such a need for behavioral health services, streamlining programs is not a desired outcome, but organizations should determine more efficient ways to utilize similar resources and coordinate geographically.
 - Even though PCMH PRIME has not come to Texas yet, organizations should use that as a guide when developing new services and strategies. Health homes will need to have behavioral health integration, and working towards that now will better position those organizations to serve their communities. Additionally, if the PRIME designation becomes available, they will be in a better position to receive it.
 - Even if an institution co-locates physical and behavioral health practitioners, they should also cross train their primary care providers and behavioral health providers to improve their ability to provide comprehensive care and to address SDH. This reflects recommendations developed through IHCI. IHCI has developed a comprehensive list of financial and provider integration policy recommendations. Those recommendations, particularly the recommendation for reimbursements related to prevention and early intervention, should be supported. Though these are policy recommendations, organizations should try to operationalize some of these.
- **Community Health Workers**
 - Because CHWs earn reasonable salaries and due to their broad utility, the primary recommendation is to encourage organizations to hire more CHWs and position them to better address the social needs of the community members whether in a health institution or other setting. This is the most feasible and least cumbersome recommendation. Given the ROI, leadership needs to be patient and steady to allow these savings to occur. Additionally, during economic downtimes, leadership needs to resist eliminating these positions. The downstream effect as far as increased ER utilization by non-payers exhibiting heightened health and social issues will pose additional financial burdens on the institutions receiving the patient, and they will be that much more difficult to rectify in the absence of CHWs if at all.
 - One idea that will require more research is creating an independent entity that is either grant funded or funded by a joint partnership of several health organizations. This independent entity would serve as a central location for a larger pool of CHWs. This entity could farm out CHWs and simultaneously house CHWs to serve various community needs. Some health systems may prefer to retain their own CHWs, but there are many institutions due to size and resource constraints who may benefit from this subsidized CHW pool. This cadre of CHWs could also be housed or “owned” by one of the local public health entities, but it could still perform the same independent functions suggested.
 - Finally, it is crucial that health institutions push for a state amendment allowing Medicaid to reimburse for the CHWs and other licensed practitioners. As mentioned, this will be highly dependent on changes in the broader political environment.
- **Affecting Individual & Community Behavioral Change**
 - Health organizations should invest in cultural sensitivity and health equity training. Houston/Harris County is very diverse, and to encourage behavior changes, management, staff, and providers need to understand the people who are coming to

them and who they are visiting. This will also help staff and providers understand who the key figures are in the family when they are attempting to encourage behavior changes.

- Health organizations should hire personnel, in particular CHWs and social workers, who are equipped and trained to communicate effectively with patients and community members. They should continue outreach programs and be encouraged to have care coordination teams – providers, health coaches, CHWs, and social workers – conduct home visits.
 - Either by making it mandatory or by way of incentives, management should get more involved with their respective communities. This could follow the example of the local health plan that requires their management join community boards, or they could fashion it in some other form. The important point is for employees of respective health organizations being better positioned to understand and impact their communities.
 - In addition to class style education, health organizations should employ more programs like the grocery store tours and others that help provide patients and community members more practical experiences that help drive home those lessons and which also alleviate the uncertainty and stress that accompanies lifestyle and behavior changes. An important component of this is properly gauging interest to make sure resources are being expended responsibly and for a receptive audience.
 - Investing resources when the mother is pregnant and when the child is young leads to very positive outcomes as shown by programs like Triple P and Nurse Family Partnerships. All organizations cannot afford such programs, but health organizations that can, should develop such programs. For those that are more financially constrained, they can try to take essential aspects of these programs and help parents in a way suitable to the organization’s capacity and ability.
 - The health sector alone cannot affect the needed change in the lives of individuals. Health organizations should increase efforts to form partnerships with other sectors, especially ones that have more intimate relationships with community members like faith-based organizations and the schools.
- **Other Strategic Recommendations**
 - Pooled Funds & Resources – When professors and researchers were interviewed about some of their projects – ones that the local health community relies on for data, reporting, or for other purposes, they spoke of needing to wait until they received funding before they could proceed. For example, the Health of Houston Survey is a report and data source widely used by the health organizations especially ones engaged in SDH-centric work and chronic disease management, but when it came time to initiate the next round of surveying, the process was delayed because the project needed financing. Other examples include the State of Health Houston & Harris County report as well as the State of Asian American & Pacific Islander Health in Houston/Harris County & Surrounding Areas report. Though stringent criteria would be required because not all research projects can be funded, health organizations should combine funds into a pool specified for research thereby eliminating the need to hunt for funds. Again, criteria should be created to focus these funds for highly valued and relied upon projects.
 - Health organizations could also help effectively disperse funds to other health organizations and nonprofits by pooling monies for joint initiatives that serve

common purposes, in particular SDH programs. This could also be a cross sector pooling of money. Many organizations are hesitant to implement SDH programs because some are risk averse, but if such projects can be funded from pooled monies, there may be more buy-in. For example, if an organization served as the host for SDH data that could be accessed and utilized by all health organizations, this pool could pay for the infrastructure and employee cost needed to properly operate such an endeavor.

- As referenced earlier, CHWs are highly valuable and perform a wide range of services for the health organizations and the community. They are one of if not the best links to the communities especially minority populations, and creating a CHW pool would prove an invaluable resource for health organizations.
- Vocational Education – Health organizations can help address one of the underlying social determinant root factors negatively affecting health – unemployment. University costs are continuing to rise, and the numbers falling into the lower socio-economic conditions are only increasing. Many individuals do not have the resources or opportunity to pursue a profession that requires a college education. This shared resource could be a vocational school fully implanted in the TMC or in a region that better serves the community’s needs, or it could fund a large number of students and unemployed community members through an approved local college or vocational institution. Attendees could be granted criteria-based scholarships or lower fees depending on financial indicators and other factors. Some of these factors could also include maintaining healthy behaviors. Allowing men and women of varying backgrounds to earn a living will also serve to improve the mental and physical health of their families, upgrade living conditions, and increase access to better foods. Moreover, this institute can serve as a conduit for healthier lifestyle training classes, which would allow attendees to not only gain employment, but also learn how to better provide nutritious foods and promote more exercise in the homes and neighborhoods. An advantage of an institute located with the TMC or a singular health institution is it could provide flexibility that some families need by offering off-hour class timings including evenings, middle of the night, and weekends. Even though the research for this report could not identify an existing model, medical schools-university hospitals can serve as an existing platform to work from. More research is required to determine its feasibility, but new models and innovations will be needed to address some of these ongoing community realities.
- Leveling Up – This takes from the IHI Pathway to Pacesetter’s (P2P) program, which provides organizations or a collaboration of organizations that want to improve the community the tools, resources, and coaching to better position them to truly transform their environment. These organizations are capable, but P2P enhances their capabilities to be better able to create the desired transformation. This is “leveling up.” By raising the strategic, operational, and financial capabilities of organizations, these organizations individually and collaboratively become better agents of change, decrease the time needed to build infrastructure and systems when new opportunities or regulations present themselves, and they will be more competitive when funding opportunities arise. Some local organizations already needed help under the traditional healthcare model, but with the shift towards population health, these types of efforts are even more important. Many clinics and even departments within organizations

would benefit greatly from this approach. Instead of waiting for a funding opportunity or even a multi-year strategic plan, organizations can begin taking inventory of their resources and skills and determine where they would like to go or who they want to be, and then begin the process of addressing and building the infrastructure for that change. This “leveling up” can be executed by internal personnel or through consultants. Organizations such as Harris County Public Health, CHMI-GE, and Episcopal Health Foundation could play a role, or organizations like IHI can be sought out. The CCHH work being carried out by the Episcopal Health Foundation and the Prevention Institute is a much more involved version of this.

- Evolving – A slightly more radical approach is to use the current health atmosphere as an opportunity to transform Hosp/Sys and clinics into something more. The entire industry has been evolving as far as health access, different reimbursement models, and increased regulations, but Hosp/Sys and most clinics have remained essentially the same. There are innovative minds that may be able to take Hosp/Sys and clinics to the next evolutionary step. This does not mean leaving behind existing operations but rather evolving the organization and system to the next level – one that takes a more comprehensive approach to health and being an institution built to serve the community and one that is not only responding to but also creating new paths. There is no existing model to draw from, but this is where the innovative thinkers are needed.

Data

- **Data Sharing**

- As health entities are building or upgrading their EHR, they need to 1) be more judicious as to which vendor they choose, 2) attempt to pick systems that are interoperable even if there are no plans for sharing currently, 3) incorporate SDH data fields even if no plans are currently underway to address them, and 4) align metrics in regards to health and SDH to make sure data is comparable. Hindered data integration and systems non-interoperability are two of the largest roadblocks, which should make these high areas of focus. Even if entities requiring outcome measures results in endless tracking, to make data more useful between local health providers and health plans, a core set of outcome measures should be established to facilitate easier and better use of the data to address population health issues.
- Public health entities and/or organizations interested in addressing SDH should develop several strategic plans to address specific issues. SDH will require going to non-health resources to acquire the necessary data. Requesting data from health organizations will need to focus on chronic diseases and require specific de-identified data and measures. This plan should also include techniques and their SDH upstream roots, and it should provide organizations confidence that data sharing is being used purposefully and hopefully encourage other institutions to follow suit. Organizations that could be the central repository for this data include UTSPH, GHHC, City of Houston Health Department, and Harris County Public Health. In general, health organizations should consider more intimate data relationships with both public health entities given their roles in population health.
- Hosp/Sys and clinic EHRs should connect to social organizations like shelters and food pantries. Law enforcement and schools are other areas of opportunities. This would allow for better tracking of outcomes, locations, and data aggregation.

- **SDH Clinical Assessments**

- Time and resources remain the primary challenges. The fact that some health organizations have actually implemented SDH screening is a very positive sign. Each site will have to customize it based on its circumstance, but if done methodically, many should be able to incorporate the screening process without significantly adding to the patient-physician time, and even then, this time may actually address some of the root factors creating the episode in question. It also may take some reconfiguring, but current staffing levels should be able to handle the newer processes. Given the number of existing tools, increasing examples of health organizations utilizing them, and most importantly the value they provide in patient care, providers should begin the process of incorporating SDH screening into their practice.
- Because SDH and the value-based system may eventually lead to social interventions, health organizations and especially physician practices need to invest in CHWs and social workers. This is to assure patients will at least receive the appropriate referral if not wraparound services. Not all practices can afford these additions, but for those who can, this investment will not only result in better quality outcomes, but for those connected to an ACO or some other shared savings plan, it could result in some form of bonus payments. For organizations that may not have the resources to invest in CHWs or social workers, cross-training existing staff to evaluate SDHs is a very viable option, and even if CHWs or social workers are hired, the resulting multidisciplinary team creates a much more effective environment.
- Medical associations, Hosp/Sys, and other institutions need to better equip and educate their physician practices about community resources. The practices are already dealing with a list of growing responsibilities, and it is not reasonable to expect them to account for each and every aspect of this expanding system. Certain physicians may be proactive and knowledgeable about these resources, but if the expectation is to have a substantial percentage of practices well positioned to deal with SDH, entities like medical societies, Hosp/Sys, and other institutions will need to provide this information to the physicians in an organized manner. The advantage of working with organizations like Health Leads or using Doctors for Change web tool is they are responsible for cataloguing and updating community resources. A less technical solution is employing CHWs. CHW training is specifically designed to know where and how to navigate community resources.
- The growing inclusion of social screening tools is a very positive sign. However, because local organizations are utilizing different tools, they should try to find either a common tool or a core set of SDH metrics to allow for data sharing and analysis. As far as core metrics, the American Academy of Pediatrics report recommending the screening of all children for food insecurity nearly makes food insecurity an established core measure. Due to the different requirements for children and adults, different standards may need to be established for these groups

Training

- Local Hosp/Sys, public health organizations, the TMC, and others should support the local medical schools currently integrating SDH. Important aspects of this support should include providing resources that bolster the programs and providing feedback and if possible evaluations on the graduates of the programs to determine the effectiveness of the SDH training. If SDH curriculum is absent or not well developed, local health organizations should strongly encourage and work with those local medical schools to incorporate SDH curricula

(for all of its students). Even if they create an independent population health track, all medical students should have to take classes that cover these areas especially since the legal and financial frameworks are migrating towards value-based reimbursements. Medical schools also need to create more classes and create more rotations that cross train medical students on behavioral health.

- In addition to creating scholarships to encourage more medical students to go into primary care, scholarships should be directed to those from communities where many of these SDH issues are prevalent such as from rural areas because according to interviewees and the research, they will be more likely to either return to those areas when they practice, be better prepared, and may be more likely to volunteer in those areas.
- Hosp/Sys and CME designers should offer more SDH opportunities for currently practicing physicians as well as continuing education courses for other clinical and non-clinical staff. Again, some physicians and staff do not know enough about SDH let alone the community resources. The institution employing these individuals and the health community in general need to do a better job of educating and informing them about community resources and ongoing activities. This could occur by hiring more CHWs, integrating true social work and case management in cross disciplinary teams, and having individuals in each health institution whose responsibility it is to disseminate this knowledge. This is crucial not only for proper care, but in the future, as we continue to see the social sphere intersecting with health, it may become increasingly more important for value-based quality measures and legal requirements.

Policy

(see **DOMAINS: Policy** since the entirety of that sub-section are recommendations)

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