Implementing an Integrated Healthcare System in Kentucky

Kentucky Public Health Leadership Institute Scholars:

Leslie Aitken; BBA, CPA
Director of Administrative Services; Clark County Health Department

Anne Hatton; RN
Clinic Nurse Administrator; Clark County Health Department

Olivia Whitman; MPH
Community Health Development Coordinator; Clark County Health Department

Mentor(s):

April Harris; M.P.H., CHES
Deputy Director/Accreditation and QI Coordinator; Three Rivers District Health Department

EXECUTIVE SUMMARY:

Currently, the U.S. is ranked 1st in healthcare spending and 26th in life expectancy among OECD countries and life expectancy in Kentucky is below the U.S. national average.[1] The Affordable Care Act (ACA), which was signed into law in March of 2010, included comprehensive health insurance reforms aimed at increasing the quality of healthcare services provided and decreasing the cost of healthcare.[2,3] In 2014 the rollout of Kynect, Kentucky's official marketplace for insurance under ACA, resulted in the second largest decrease in the uninsured rate in the country.[3] To-date approximately only 11% of Kentuckians are uninsured yet, Kentucky still ranks 44th in the nation in terms of health outcomes.[4] The following paper reviews the potential barriers to receiving healthcare, along with the five model types of integrated healthcare systems and the features of each that could alleviate some of those barriers.

INTRODUCTION/BACKGROUND:

In the United States 17.5% of the Gross Domestic Product (GDP) is spent on healthcare, which is about $3.0 trillion dollars as a nation, and $9,523 per person.[5] However, the current life expectancy of an American is, only, approximately 76 years of age for males and 81 years of age for females.[1] Currently, the U.S. is ranked 1st in healthcare spending and 26th in life expectancy among OECD countries.[1]

The Affordable Care Act (ACA), which was signed into law in March of 2010, included comprehensive health insurance reforms.[2] The reforms are aimed at increasing the quality of healthcare services provided and decreasing the cost of healthcare.[2] ACA focuses on increasing access to affordable care by expanding Medicaid and Medicare coverage, while also requiring citizens to have a minimum amount of insurance coverage or pay a fee.[2] This has allowed millions of Americans access to healthcare they have never had before.

The state of Kentucky is currently 44th in the nation for health outcomes and has a life expectancy of 73 years of age for males and 78 years for females, which puts Kentucky below the national average for life expectancy.[4] The state was very successful in enrolling new members for health insurance with Kynect, Kentucky's official marketplace for insurance under ACA, which opened in 2014. In 2014, more than 500,000 Kentuckians received either Medicaid or private insurance and another 82,000 were signed up in 2015.[3] While currently approximately only 11% of Kentuckians do not have health insurance the state is ranked 50th in preventable hospitalizations.[4]

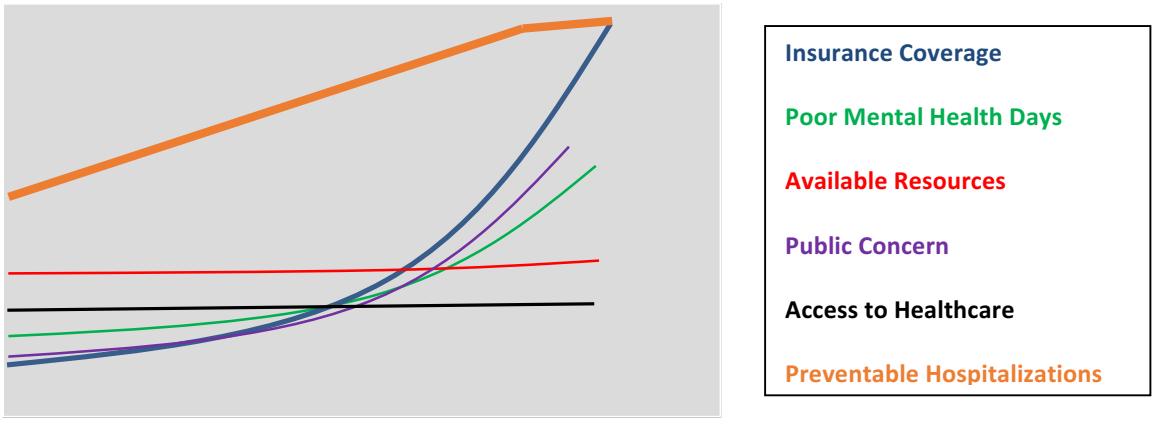
Integrated healthcare systems is "The management and delivery of health services so that clients receive a continuum of preventive and curative services, according to their needs over time and across different levels of the health system."[6] Furthermore integrated healthcare, for the user, is healthcare that is seamless and easy to navigate while for the provider, it is separate services that are provided, managed, and financed in a coordinated manner.[6] Professionally, integrated healthcare is providing multiple services in a coordinated way for clients.[6] An integrated healthcare system, in Kentucky, could be beneficial in addressing socio-economic disparities and decreasing healthcare costs. This

study will identify barriers and provide recommendations for an integrated healthcare system model in Kentucky.

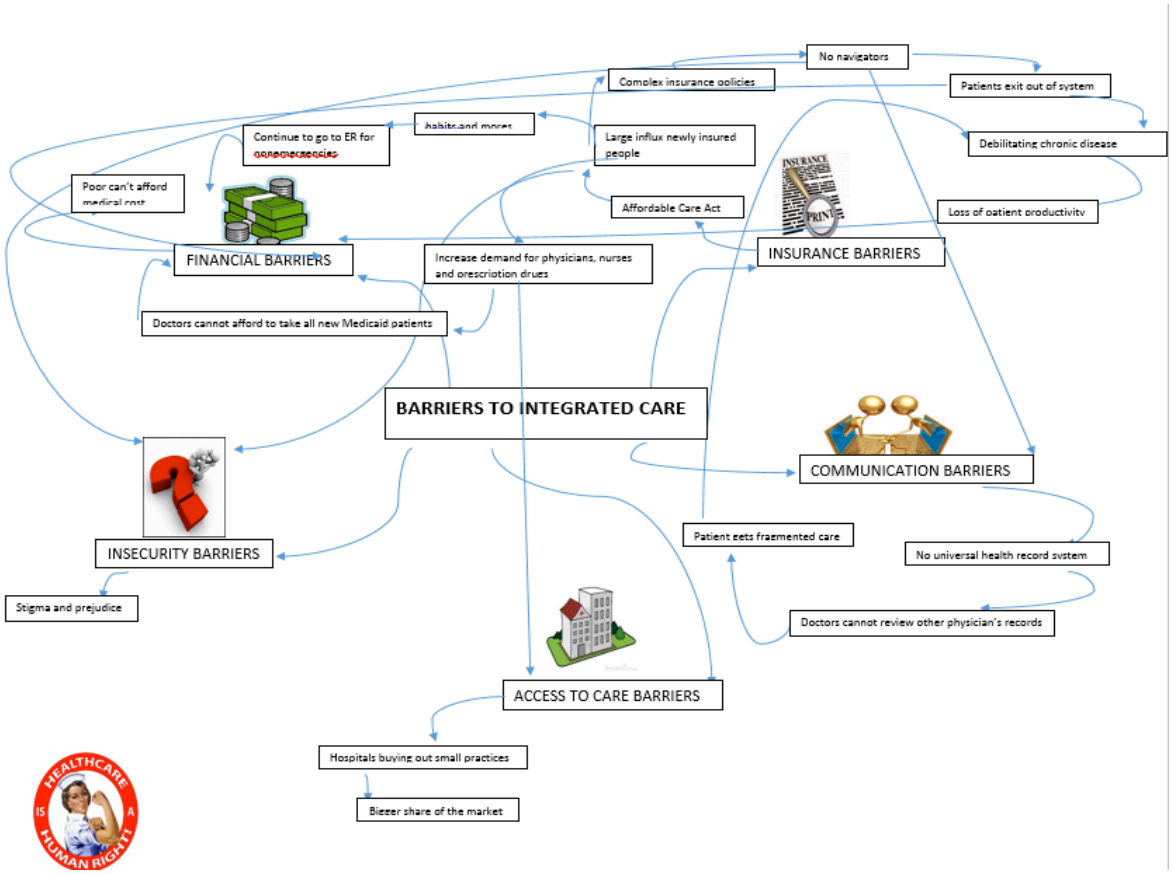
Problem Statement:

This study was developed based on the question, "Why despite our best efforts do individuals with multiple medical issues receive fragmented care?"

Behavior Over Time Graph:



Causal Loop Diagram:



10 Essential Public Health Services/National Goals Supported:

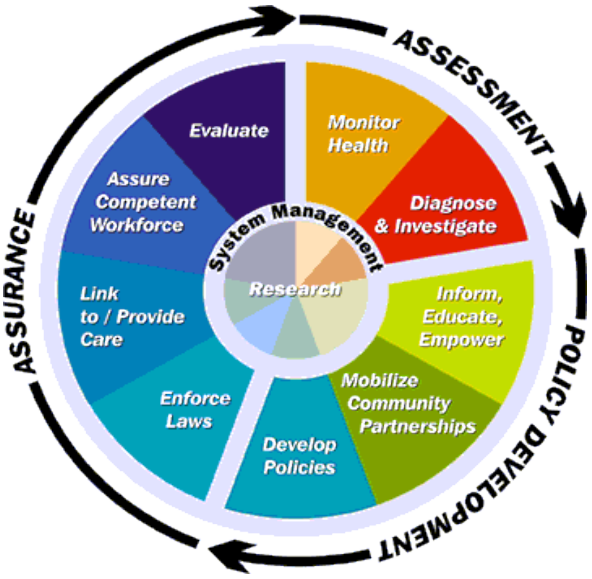


Figure 1: This picture is from Centers for Disease Control and Prevention.

The 10 Essential Public Health Services along with Healthy People 2020 guide local, state, and national public health efforts. In addition, the state of Kentucky developed Healthy Kentucky 2020 to guide state efforts in improving the health of Kentuckians. Implementing an integrated healthcare system supports the 10 Essential Public Health Services as well as Healthy People 2020 and Healthy Kentucky 2020.

The 10 Essential Public Health Services each align with one of the three core functions of public health: assessment, policy development, or assurance.[7] An integrated healthcare system supports all three of the core functions and five of the 10 Essential Public Health Services which are:

1. Monitor Health
2. Diagnose and Investigate
3. Mobilize Community Partnerships
4. Develop Policies
5. Link to/Provide Care

In addition, Healthy People 2020 and Healthy Kentucky 2020 both recognize the importance of Access to Health Care. Healthy People 2020 includes several objectives to increase access to health care.[8] The two objectives that are directly supported by an integrated healthcare system include:

1. Increase the proportion of persons who have a specific source of ongoing care
2. Reduce the proportion of persons who are unable to obtain or delay in obtaining necessary medical care, dental care, or prescription medicines.

Healthy Kentucky 2020 goals would also be supported by implementing an integrated healthcare system, specifically one of the current goals to "Improve access to comprehensive, quality health care services."[9]

PROJECT OBJECTIVES/DESCRIPTION/DELIVERABLES:

Implementing an integrated healthcare system is a complex process that involves various organizations such as insurance companies, doctor offices, dental offices, mental health offices, pharmacies, and many others.[6] Before an integrated healthcare system can be implemented it is important to understand the various individual organizations involved, how they will be involved, and the needs of the patients/clients.[6] Throughout this paper barriers to implementing an integrated healthcare system will be identified and recommendations for overcoming identified barriers to implement an integrated healthcare system will be discussed.

METHODOLOGY:

Literature Review

Integrated healthcare systems are very complex and include multiple medical specialties, to fully understand the barriers associated with integrated healthcare systems a literature review was completed.[6] The literature review also identifies benefits of implementing an integrated healthcare system. The review will highlight the various integrated systems models and the difference of each. The literature review includes journal articles, and government documents. To maintain the integrity of the literature review all journal articles included in the review were peer reviewed.

Data Collection & Review

Integrated healthcare systems focus on patient needs, access to health care services, and the quality of services delivered.[10] Therefore, the health care landscape is unique to each state and each community. To understand the needs of the population it is necessary to review population demographics, health factors, and health outcomes. The data included in this study is secondary data collected and analyzed by America's Health Rankings, the County Health Rankings, or the U.S. Census Bureau.

RESULTS:

Health Disparities

In the United Sates while health outcomes are improving overall, the rate and amount of improvement varies immensely by race, gender, socioeconomic status, and geographic location.[11] A study completed by Dr. Gloria Beckles and Dr. Benedict Truman concluded, "persons with low levels of education and income generally experience increased rates of mortality, morbidity, and risk-taking behaviors and decreased access to and quality of health care."[12] Recent studies have also shown that "racial and ethnic minorities experience a lower quality of health services and are less likely to receive routine medical procedures and have higher rates of morbidity and mortality than non-minorities."[13] According to the World Health Organization social determinants of health are the conditions is which persons are born, grow, live, work, and age; this includes the healthcare system.[6]

The Affordable Care Act, which expanded insurance coverage to millions of Americans and includes provisions to increase preventative services, is one opportunity to continue reducing health disparities.[11] However, there are barriers to healthcare that must also be addressed. How a healthcare system is organized and operates can dramatically effect a person's access to care.[14] Policies and regulations imposed by healthcare systems or entities can have unintentional consequences for minorities, such as those that are not as educated about their options.[14] It is also possible that the attitudes and behaviors of minority patients toward the healthcare system and healthcare professionals could also result in health disparities.[14] This is because in some cases visiting a healthcare professional is put off until the illness is too developed for effective treatment.[15]

The Institute of Medicine (IOM) completed an assessment to determine the differences in the type and quality of healthcare received by minorities and non-minorities. It was determined by the IOM that a "multi-level" strategy would be needed to begin addressing disparities in healthcare.[13,15]

Integrated Healthcare Systems

Poor access to healthcare services and quality healthcare services can be a driving factor in increased health expenditures, both direct and indirect, as well as disparate health outcomes.[14] The literature review identified five models of integrated healthcare systems that could increase access to healthcare services and potentially decrease costs. The five identified models are the Community Health Worker, Patient Navigator, Patient Centered Medical Home, Accountable Care Organizations Initiative, and the Episodes of Care Initiative. Each integrated healthcare system model type will be discussed including the payment structure and proposed sustainability of each.

The Community Health Worker section of the American Public Health Association (APHA) has adopted the following definition of a Community Health Worker: "A community health worker is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served."[16] Community health workers (CHW) roles and responsibilities are wide-ranging and may be different for each community. CHWs may perform a variety of tasks such as helping individuals navigate the healthcare system, receive primary and secondary care, maintain healthy behaviors, and/or manage chronic conditions.[17] CHWs support individuals in culturally and linguistically appropriate ways and are usually from the community where they work. CHWs complement the services that are provided by professionals and are not replacements for professional healthcare providers.[17] Typically the CHWs are in underserved communities and focus not only on services in the health field but on connecting clients to the human services they need covering all aspects of health development.[17] Educational backgrounds vary among CHWs from less than a high school diploma to a four-year degree.[18] The CHW is valuable in improving access to services and implementing effective interventions for individuals in the community. Although the services provided by CHWs can, in some cases, prevent the use of inpatient and emergency department services there are several critical parts of a successful CHW program including: extensive training, appropriate management, continuous support, and community buy-in.[17,18] Currently, funding for CHWs is variable and mostly short-term,

the funding may be from federal, state and/or local government, as well as private and nonprofit organizations.[17,18] The Center for Medicaid Services recently made a change to The Social Security Act, effective January 1, 2014, that allows preventative services recommended by a physician or license provider but, provided by a non-licensed provider to be reimbursed.[17] This would allow services provided by CHWs to be reimbursed. However, for states to be eligible to take advantage of the new opportunity they must file a State Plan Amendment. The State Plan Amendment must include the services that will be covered, who will provide the services, "any required education, training, experience, credentialing or registration" of the providers, how the state will qualify the individuals, and the method for reimbursement.[18] Unfortunately, there is no sustainability plan for many CHW programs so they rely on continuous grants to cover training, management, and support of CHWs. Due to the uncertainty for fund availability and ever-changing environments which demand continuous training for CHWs, many programs are short lived.[17,18]

A Patient Navigator is "a member of the healthcare team who helps patients 'navigate' the healthcare system and get timely care. Navigators help coordinate patient care, connect patients with resources, and help patients understand the healthcare system."[19] The first patient navigators were part of The Harlem Patient Navigation Program designed by Dr. Harold Freeman with the goal to reduce disparities in access to healthcare.[20] The navigators were either part of the community they served or culturally similar and were "trained experts" in the path that community members would need to follow in order to receive the clinical care needed.[20] Due to the nature of the program developed by Dr. Freeman there was limited reproducibility but the outcomes were promising.[20] After the passage of the Patient Navigation Act of 2005 the National Cancer Institute funded, developed, implemented, and evaluated a patient navigation program that was targeted at disparate populations and was reproducible.[20] To-date patient navigators are still thought of, and utilized for, specific chronic diseases such as, cancer. Extensive training is needed for patient navigators to be able to effectively navigate patients through the healthcare system and address patient barriers, provide care coordination, as well as address legal and/or ethical healthcare issues.[21] Training programs are available for patient navigators to learn or better understand the role of reducing health disparities and improving treatment for chronic disease patients.[20,21] Training programs include: patient navigator training institutions, patient navigator training collaboratives, and certificate programs at some universities. While it is not required to have a degree in social work or nursing many patient navigators have obtained this designation, a distinct difference from community health workers.[19,20,21,22] Research shows that patient navigators have improved screening rates, improved follow-through with treatment, and decreased anxiety while increasing satisfaction of services received specifically in disparate populations.[23] Currently, individual medical practices and some insurance providers employee patient navigators and offer this service to their patients. The realized savings through reduced visits to the emergency room and primary care physicians have allowed these programs to remain sustainable.[24] However, the service is not widely used and is still mainly targeted to individuals with chronic diseases.

The Patient Centered Medical Home has been, one of several, of the national drivers of change for the healthcare system by showing improvement in health outcomes and reducing costs.[25] Patient Centered Medical Homes (PCMH) require "receipt of care from

a personal doctor, who coordinates the patient's care and develops an individualized treatment plan for the patient."[25] Currently the National Committee for Quality Assurance (NCQA) is the most recognized method to determine a primary care practice's progress toward developing medical homes for their patients.[10] However, PCMHs can overlook some services that may be needed and rely solely on primary care physicians. Therefore, it is important to encourage primary care physicians to increase their focus on the social determinants that can greatly affect a patient's health as well and provide linkages to community services that may be helpful in meeting patients' needs.[10] A "harmonized multi-payer approach" would be utilized to fund PCMHs. The practices that commit to becoming NCQA certified would receive payment that increase as practices meet process and outcome goals.[10]

Accountable Care Organizations (ACO) "are groups of doctors, hospitals, and other healthcare providers, who come together voluntarily to give coordinated high quality care to the Medicare patients they serve."[26] When these entities come together to form the bigger ACO they have the potential ability to provide quality services at costs lower than projected.[27] ACOs can include whichever entities they choose including private companies but they must have primary care physicians.[27] Providers that are members of an ACO will refer their patients to other members of the ACO however, patients may be able to request to be referred to another provider without that information being shared throughout the ACO.[27] For ACOs to be successful information must be shared across the ACO continuously and without interruption.[26,27] Otherwise, costs may remain high because of unnecessary tests and procedures or duplication of efforts. This is still a fee for service based system but there is an incentive to keep costs down while keeping patients healthy.[26,27] The payment for an ACO is based on shared savings and payment is made to the ACO as a whole.[10] The payment is then distributed across the ACO providers based on provider performance in delivering services.[10,26] ACOs may have to pay penalties if they do not meet performance and/or savings targets. Therefore, the payer would have to revise the formulas they use to calculate savings every few years.[27] This is because as ACOs develop their budget for each year it will be smaller and smaller due to the savings which could lead to savings not be realized.[27] Forming ACOs could also lead to increased prices for patients. It is financially more feasible, in most cases, for hospitals to develop ACOs.[26,27] Therefore, hospitals are beginning to buy small practices which gives them a greater market share.[27] The bigger the market share the more leverage they have to negotiate prices with insurance companies, which could ultimately still lead to higher healthcare costs for the patients.[27]

Episode of Care (EOC) model "could be a potential entry point for providers making the transition to value-based care who may not yet be prepared to take on performance and financial risk for the total cost of care for broad population groups."[10] Like the ACO model the EOC model is based on quality of services not quantity of services. In this model the healthcare provider receives payment that "covers all the care a patient receives in the course of treatment for a specific illness, condition or medical event."[11,28] Currently there are limited episodes of care for which a single payment such as this can be made so, there would need to be an expansion of chronic illnesses, surgeries, or other medical events added.[10,28] This model would be based off of realized savings as well, either by the healthcare providing all services at less than the cost would be for the individual fees-for-service, by the insurer negotiating with healthcare providers to

reimburse at a rate that would be lower than the standard fee-for-service, or from the savings of not paying for additional cost of treating complications that may arise.[28]

Each of the five models discussed have significant and minor differences which could make the biggest difference for the patients involved. However, for each of these models to be successful, the electronic medical record is a necessary first step. Also, it was estimated that Kentucky would need an additional 256 full-time equivalents with the Medicaid expansion to satisfy the unmet need for primary care physicians and 63 percent of that need is in rural counties.[10] Therefore, for an integrated care system to be successful there would be need to be a significant increase in the amount of providers in Kentucky. It is imperative that providers can share patient information without interruption. It is also important to note that each of these models will present their own challenges for providers and patients. When considering each of these models it is necessary to realize that the healthcare needs of the patient may go beyond the expertise of a medical provider.

Current Data

Although the state of Kentucky saw the second largest decrease in the uninsured rate in the country in 2014 the state of Kentucky is currently 44th in the nation for health outcomes and has a life expectancy of 73 years of age for males and 78 years for females, well below the national average.[4] (Table 1) The uninsured rate dropped from 15.4% to 11.4% from 2011 to 2015 and the number of primary care physicians per 100,000 population increased from 104.2 to 107.[4,29] (Table 2) However, the accompanying health factors and health outcomes have not had the same changes.

In 2015 the adult smoking rate increased by 1.4% and the adult obesity stayed almost the exact same decreasing by 0.02%.[4,29] (Table 2) Also, from 2011 to 2015 cancer deaths increased by 3.7 per 100,000, diabetes increased by 2.5%, and premature deaths per 100,000 increased by 105 per 100,000.[4] (Table 3) Currently in Kentucky 11.4% of the population is considered a minority and 13.5% of the population is 65 years of age or older.[30] (Table 1) Particularly important is the disparity in health status metric, this metric indicates the difference in the percentage of adults aged 25 and older with versus without a high school education who report their health is very good or excellent. In Kentucky this number has increased 0.7%, indicating that the health disparity is increasing for those without a high school education.[4]

The conclusion that can be drawn from the data is that while there are more insured Kentuckians than ever before, there have not been significant positive changes in health factors or health outcomes. This leads one to conclude that there is a deeper, underlying cause for the health outcomes seen in Kentucky other than access to healthcare.

Table 1. Population Demographics

	Kentucky	**Nation**
Population (2012 estimate)	4,380,415	313,914,040
Female	50.7%	50.8%
Male	49.3%	49.2%
Life Expectancy Females	78	81.2
Life Expectancy Males	73	76.4
Median Household Income	$42,248	$52,762
Income Disparity	0.47	0.48
High School Graduation	81.6	81.4
Persons under 5	6.4%	6.4%
Persons under 18	23.2%	23.5%
Persons 65 & over	13.5%	13.7%
Caucasian	88.6%	77.9%
African American	8.1%	13.1%
American Indian or Alaska Native	0.3%	1.2%
Asian	1.3%	5.1%
Hispanic or Latino	3.2%	16.9%

Table 2. Health Factors

	Kentucky 2011	**Kentucky 2015**	**Nation 2012**	**Nation 2015**
Health Behaviors				
Adult Smoking	24.8%	26.2%	17.3%	18.1%
Adult Obesity	31.8%	31.6%	27.5%	29.6%
Physical Inactivity	29.3%	28.2%	23.9%	22.6%
Clinical Care				
Uninsured	15.4%	11.4%	16.2%	13.1%
Disparity in Health Status	26.8%	27.5%	30.1%	31.6%
Number of Primary Care Physicians per 100,000	104.2	107	121	127.4

Table 3. Health Outcomes

	Kentucky 2011	Kentucky 2015	Nation 2011	Nation 2015
Cancer Deaths per 100,000	225.1	228.8	190.8	189.6
Cardiovascular Deaths per 100,000	311.5	298.1	270.4	250.8
Diabetes	10%	12.5%	8.7%	10%
Premature Death per 100,000	9005	9110	7279	6997

CONCLUSIONS:

In 2014 the rollout of Kynect, Kentucky's official marketplace for insurance under ACA, resulted in second largest decrease in the uninsured rate in the country. To-date approximately only 11% of Kentuckians are uninsured yet, Kentucky still ranks 44th in the nation in terms of health outcomes.[4] This implies that the majority of Kentucky citizens have the means to receive health care but that Kentuckians experience other barriers to receiving routine and preventative health care services. As discussed there are many factors of health and many potential barriers that need to be addressed in order to improve health outcomes for disparate populations.

The literature review discussed five model types of integrated healthcare systems and explored the features of each. Although, each model has its strengths and weaknesses the patient navigator model has the most promise for addressing the needs of each individual patient whether the need is medical, financial, social, or cultural. The patient navigator would be able to ensure that each participant is linked to the resources and providers they need. While the current patient navigator model is sufficient to address the needs of patients, there are some changes that could be made to the current patient navigator model that may further efficacy and positive health outcomes. Changes include requiring navigators to have a social work degree or some other closely related degree, developing an accredited curriculum for universities to offer certificate programs with a four-year degree as a pre-requisite, and expanding the use of patient navigators beyond chronic diseases. Metrics that could be used to measure the success or failure of an implemented patient navigator model are: number of patients navigated, number of patient interventions, and the number of unplanned visits to the emergency department by individuals actively engaged with a patient navigator.[31]

Utilizing realized savings could sustain a patient navigation model.[24] Much like the ACO model a global payment would be made and distributed based on the performance of each provider included in the care of that patient, including the patient navigator. This would allow for the patient navigator to be employed by a primary care physician, hospital, insurance agency, or any other healthcare entity. The potential for a significant, positive impact by implementing a patient navigator model is great in regards to positive health outcomes for patients and decreased costs for the healthcare system.

LEADERSHIP DEVELOPMENT OPPORTUNITIES:

Leslie Aitken

My time spent with KPHLI has strengthened my awareness on how best to work with others as coworkers and as a supervisor. The Emergenetics and 360 degree analysis not only showed me my character traits, but how my character traits should interact with other personality styles. In addition, the readings I chose Theory U, Crucial Conversations, and the Tipping Point gave me insight on persuading population decision making and one on one persuasion techniques. More and more Health Departments are required to work with community partners to succeed in health outcomes. Using these tool have recently become helpful as Clark County Health Department is going through the process of implementing a needle exchange program.

Anne Hatton

Development paragraph

Olivia Whitman

Throughout the course of KPHLI, I expected to improve my leadership and self-management skills. As a result of KPHLI I feel like I am much more capable to lead team efforts and coach my team to be able to do the same. Emergenetics was the most powerful tool KPHLI has given me, it not only allowed me to better understand myself but also those around me. Emergenetics has reshaped the way I design and facilitate meetings. Most importantly KPHLI taught me that it is more important to reach the common goal than to get there in a specific way.

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