Black Lives Matter: The lens is equity and words count, but what are you going to do about it?

The Institute for Healthcare Delivery and Population Science (IHDPS) is committed, both in solidarity and through action, to the Black Lives Matter movement to end violence against Black people by working with our interdisciplinary and cross-institutional colleagues and community to overcome public health, population health, and health care disparities. This has been a time of extreme grief, anger, exhaustion, and possibly—through protest and sustained action, a time of hope. There have been important actions and conversations in our respective institutions and communities to address the Black Lives Matter movement. We came together to share our perspectives and to identify a course of action.

First, there is a need to define terms—like systemic, institutional, structural, cultural\(^1\), intra- and interpersonal racism—that are now frequently used, but may be less widely understood or applied. Second, sustainable action to engender change in our respective lives and institutions is necessary and we must communicate that action to model it for others. For instance, in any given setting, what is the representation of Black people among us? How do our leadership, health care providers, residents, faculty, and staff represent Black lives? What are the institutional policies that can shift those distributions to create structural inclusion—the antithesis of structural racism? Third, we have a collective responsibility to "flip the script" and actively center the value of Black lives—and the rich cultural diversity of Black lives—in the history of their many contributions to the arts and sciences and every other discipline, and to see and hear the lived experiences and narratives of individuals and generations so frequently silenced or rewritten. Each upcoming IHDPS newsletter will dedicate space to address these and other themes directly focused on the Black Lives Matter movement as it relates to health care and population health.

First, we must address the current population of Black people murdered by police (both white and non-white) and civilians. These racist acts of violence against Black and Brown transgender and cisgender men, women, nonbinary people, and children. These racist acts of violence against Black lives represent a national history of a population health, public health, and health care crisis that must be stopped.

The COVID-19 pandemic has highlighted long-standing institutionalized racism and structural inequity represented through disproportionate rates of infection, limited access to testing, and deaths among Black and Brown communities. Amidst the worst pandemic in the last century, racism has been identified as an even greater threat to Black lives with the recent murders by police officers and civilians of George Floyd, Rayshard Brooks, Breonna Taylor, and Ahmaud Arbery resulting in weeks of Black Lives Matter global protest. Racism is endemic to the United States, a building block to its establishment, beginning with the attempted genocide of the American Indian population and violent claim to land and the enslavement of African populations on which to build its economy. In the last eight years, there are many well-known cases of Black Americans being murdered by police officers and civilians. Most of these murders were captured on video but they represent countless other racist acts of violence not captured by video against Black and Brown transgender and cisgender men, women, nonbinary people, and children. Embedded into all U.S. institutional systems, including government, healthcare, education, and housing, racism is a public health crisis and a national/global emergency. George Floyd, like Eric
Based on the evaluation of pulmonary embolism: A qualitative study

Dr. Joeli Hettler, Chief of the Pediatric Emergency Department, and incoming PURCH student and IHDP Research Associate Marcella Jewell will be working with faculty from the Harvard Business School to apply their Time-Driven Activity-Based Costing approach to better understand the problem of behavioral health boarding in the Baystate Children’s Hospital.

Lili Peacock-Chambers was inducted to the Gold Humanism Honor Society this spring for her commitment to teaching and serving as an exemplar of humanism to her students and colleagues.

Garner six years before him, and many others have used their voice to fight for their lives. The nation is speaking out through protest for all Black Lives including Rayshard Brooks (June 12, 2020), Tony McDade (May 27, 2020), George Floyd (May 25, 2020), Ahmaud Arbery, (February 23, 2020), Breonna Taylor (March 13, 2020), Eric Logan (June 16, 2019), Botham Jean (September 6, 2018), Stephon Clark (March 18, 2018) Philando Castile (July 6, 2016), Sandra Bland (July 2015), Freddie Gray (April 12, 2015), Walter Scott, (April 4, 2015), Tamir Rice (November 22, 2014), Laquan McDonald (October 20, 2014), Michael Brown (August 9, 2014), Eric Garner (July 17, 2014), Trayvon Martin, (February 26, 2012), Oscar Grant (January 1, 2009), and a decade earlier Amadou Diallo (February 4, 1999).

Racism is as virulent as ever in 2020 evidenced by the continued devaluing of Black, Indigenous, and People of Color (BIPOC). The murder of unarmed BIPOC by whites is part of the continuous "racism epidemic" beginning even before 1619 and fueled by hundreds of years of insidious, unwavering systemic and structural bias, and de jure and de facto discrimination, the root causes of continued disparate health outcomes in the U.S. Understanding the BLM movement takes on new meaning when viewing overall life expectancy; it has increased among all groups over time and the gap between white and Black life expectancy has been decreasing since the 1900s. Today, this disparity nevertheless persists. Moreover, the gap widens at times in response to factors embedded in structural and systemic racism—the marker of a health disparity. Based on 2017 vital statistics, the gap is widest between white females (81.2) and Black males (71.9). One of the key indicators for the widening gap is homicide among the Black population. Homicide has been found to be the number one factor in potential years of life lost among Black Americans compared to heart disease among white Americans and provides further evidence of systemic racism and violence against Black Americans. Race battle fatigue, weathering, social gradient of health, embodiment, ecosocial, and social determinants of health are several theoretical frameworks that draw from a range of disciplines to address the etiology and deteriorating effects of chronic, transgenerational exposure to racism, and cumulative socioeconomic disadvantage and inequity that result in differential life experiences and health outcomes among Black and other communities of color after adjusting for socioeconomic status and other factors. Each point to the systemic and embedded role racism plays and each addresses the direct and indirect pathways including, but not limited to, the role of chronic cumulative stress by which racism impacts the health and lives of Black communities. These frameworks historically have rarely been considered in health care or medicine.

The goals of the IHDPs are to achieve better health for the people of the communities we serve and to eliminate health disparities by transforming health care service delivery through actionable research and practice. Amidst a pandemic that has highlighted the effects of institutional racism and in a country where white supremacy and racism continue to threaten the lives of Black and Brown communities, the IHDPs speaks out against racism in all its forms—including institutional and interpersonal—and affirms its commitment to identify and address racial health inequities through translation of research into improved practice and health care.

Cristina Huebner Torres, Frank Robinson, Yemisi Oloruntola-Coates, Peter Friedmann, and the faculty and staff of IHDPs

References

Adapt2Quit: Using machine learning and motivational texting to support smoking cessation

We interviewed Rajani Sadasivam, Associate Professor, Division of Health Informatics and Implementation Science, UMMS Population and Quantitative Health Sciences, about his newly-award ed grant from the National Cancer Institute (NCI), ADAPT2Quit – A Machine-Learning, Adaptive Motivational System: RCT for Socio-Economically Disadvantaged smokers.

Raj, tell us what lead you to propose this study?
Smoking, the number one preventable cause of death in the United States, causes approximately 480,000 deaths each year. Our study is focused on socio-economically-disadvantaged (SED) groups, who have the highest smoking rates in the nation and suffer more from smoking-related diseases. We recognize that the term “socioeconomic disadvantaged” can represent a complex set of characteristics; we will focus on recruiting 900 smokers who are unemployed or underemployed, low income as defined by the federal poverty guidelines, uninsured or underinsured, and/or have less than a high school education. We are focusing on SED smokers not only because this group has the highest smoking rates, but also because SED smokers are less motivated (e.g.: due to lower self-efficacy, maladaptive beliefs), and are less likely to use evidence-based strategies (such as Quitlines). SED smokers are also harder to engage in interventions, and engagement in general is a huge challenge for digital health. In this study, we will test Adapt2Quit — an innovative motivational texting “recommender system.” Outside healthcare, companies (like Amazon) use “recommender systems” to continuously learn from user feedback (e.g., products purchased) to improve, thus enhancing personal relevance and customer engagement. In the field of computer-tailored health messaging, Adapt2Quit is the first to use machine-learning to continuously adapt to feedback and select new personalized messages to send to smokers. Our study will test Adapt2Quit motivational messaging texting with SED smokers and measure its impact on smoking cessation.

What are the goals of the project?
To evaluate the impact of the recommender system, Adapt2Quit will be compared with a robust, active control, a simple but effective messaging system tested in a prior trial. We will be testing Adapt2Quit compared with a standard messaging system. Our primary research question is: Will the Adapt2Quit recommender selected messages be more effective that a standard messaging control for smoking cessation among socioeconomically disadvantaged (SED) smokers? We will also test a facilitation procedure to increase access to a Quitline. Deciding to use a Quitline and participating in the counseling sessions is a major step for SED smokers; only 2-3% of smokers use the Quitline (lower among SED smokers). Prior research has shown that it is possible to use a low intensity intervention to increase SED smokers’ motivation and cessation resources. Our strategy is to first engage the smoker in a palatable (texting) and engaging (recommender messaging) intervention. This “first step” (receiving the Adapt2Quit recommender texts) with a low entry barrier is designed to set the stage for future Quitline use and adopting other cessation-supportive behaviors.

We will conduct a 2-arm randomized trial, and smokers will be blinded to group assignment. After a brief telephone screening and baseline data collection, 700 smokers will be randomized to Adapt2Quit or standard messaging and followed for six months. The intervention group will receive Adapt2Quit recommender-selected messages texted to them for six months. The active control will receive the standard messages (simply tailored to readiness to quit). We will assess effectiveness of the system and hypothesize that Adapt2Quit smokers will have greater smoking cessation rates (6-month point prevalence biochemically verified) than control smokers.
How do the results apply to our patients at Baystate and UMass?

Baystate will be one of the sites we will be recruiting from. My collaborator at Baystate is Dr. Peter Lindenauer. We see several advantages for patients who are enrolled in the study and beyond. First, we chose texting because it is highly accessible and pushed text messages fit in well with daily lives of SED smokers. Mobile phone ownership is now near universal (95%). These rates are consistent across SED groups. Texting is the most used application on mobile phones. Thus, a successful texting program has the potential to have high impact on SED smokers. A texting program may also be relatively easier to integrate with the clinical system. In our past studies, we have tested the use of electronic referrals from an EMR to increase access to a online smoking cessation program. A similar model could be implemented at Baystate and other clinical sites to refer smokers to our texting program.

Second, we are testing a facilitation strategy starting with a low intensity approach and then using it to motivate participation to use a more intensive behavioral intervention (Quitlines). If successfully, this model could be used to support other behaviors as well. Finally, we will develop some understanding of how to best engage SED groups to participate in health interventions. This will be important information for other studies and behavioral programs in the future.


We interviewed Mihaela Stefan, MD, PhD, Associate Director of the Institute for Healthcare Delivery and Population Science (IHDPS) and Associate Professor in the Department of Medicine at UMMS-Baystate, about her recent article, which appeared in Chest.

Mihaela, what was the motivation for this study?

An estimated 10 million operations are performed on smokers annually in the US and smoking is associated with increased risk of postoperative complications. Despite this evidence, and clinical practice guidelines that recommended smoking cessation, surgeons and hospital systems have not embraced routine use of smoking cessation therapies postoperatively. One reason is the surgeons’ concern that nicotine replacement therapy (NRT) may impede wound and bone healing and that smoking cessation in immediate perioperative period may increase the risk of pulmonary complications. In this study, we examined the in-hospital use of NRT and the association between NRT and postoperative outcomes in active smokers hospitalized for a surgical procedure.

What were the main findings?

Among more than 25,000 active smokers hospitalized for a major procedure at 551 US hospitals belonging to the Premier Alliance, we found that less than 20% of smokers were prescribed NRT during hospitalization. NRT prescription was not associated with adverse in-hospital outcomes. These results in a ‘real-world’, nationally representative sample, using rigorous analytical methods are significant because they reduce the uncertainty around NRT prescription in the immediate postoperative period, suggesting that tobacco treatment does not raise the risk of perioperative complications.

What are the implications of these findings for patients undergoing surgery?

Given that hospitalization is a teachable moment with high patient motivation to quit smoking and hospital policies prohibit smoking, there appears to be a substantial opportunity to improve the care of hospitalized patients who undergo surgery. Clinicians should...
counsel patients and prescribe smoking cessation pharmacotherapy to virtually all smokers. For elective surgeries, surgeons can and should use the pre-operative period to plan a serious quit attempt by prescribing medications and counseling pre-operatively, establishing a quit date contract with the patient and using perioperative NRT to reduce cravings.

How do these results apply to our patients at Baystate?
One of my future goals is to implement strategies to increase smoking cessation uptake in the perioperative period. Baystate Health is preparing to launch a Perioperative Center which will allow standardization of evidence-based treatment for patients undergoing surgeries in our system. Smoking cessation will be high on this list.

Recently, I worked with the IHDPS Fellow and Preventive Cardiologist Dr. Quinn Pack who just submitted an R01 proposal to NHLBI in which he proposed to conduct a randomized trial comparing alternative strategies for increasing prescriptions of NRT at the time of discharge and use of NRT by patients 1 month later. The intervention involves a hospital-based tobacco treatment team empowered to prescribe individually tailored and guideline-concordant smoking cessation, counsel and motivate patients to use the treatment properly, and keep patients motivated and adherent to treatment using text-messaging.

Population Health Snapshot:
Reducing disparities in COVID prevention, testing, & treatment

We interviewed Cristina Huebner Torres, PhD, Vice President of Research and Population Health at Caring Health Center and Adjunct Fellow here at the Institute for Healthcare Delivery and Population Science (IHDPS) about a new collaboration between Caring Health Center, Baystate Division of General Internal Medicine and Community Health and the Be-Healthy Partnership ACO focused on reducing disparities related to COVID prevention, testing, and treatment.

What was the motivation for this project?
Recent data from community health centers indicate that Black patients are 2.5 times more likely to have a COVID-19 diagnosis than non-Hispanic white patients and the national COVID-19 mortality rate for Black patients is 3.5 times higher than for white non-Hispanic patients (Gross, 2020). Long-standing structural inequities and subsequent racial/ethnic health disparities have placed Black and Latinx at higher risk based on disproportionately higher rates of underlying comorbid conditions. Among Springfield residents, approximately 44% identify as Latinx, 19% identify as Black and 2% as Asian. Springfield is home to immigrant and refugee populations, with more than 10% born outside the US. Housing inequities make the “Stay at home” and “Safer at home” public health advisories impossible to achieve. Living with essential/frontline workers—a group disproportionately represented by people of color—or in multi-generational households without the ability to social distance or self-isolate all increase risk of exposure and transmission. Lack of access to protective equipment such as masks, sanitizer, cleaning supplies and the need to obtain groceries and medications further compound an increase in risk. Furthermore, obtaining accurate and accessible information about safe public health practices is hindered by lack of access to culturally, linguistically and religiously appropriate messaging. Under the leadership of Paul A. Pirraglia, MD, MPH, Chief, Division of General Medicine and Community Health and Jacqueline Spain, MD, Medical Director for Medicaid at Health New England and Co-CMO of the BHP ACO, an interdisciplinary, cross-institutional team came together to develop a strategy to reduce the risks of acquiring COVID-19 and of suffering severe adverse outcomes. We refer to this initiative as the COVID-19 disparities mitigation pilot.

What are the goals of the pilot and what are the strategies that you are employing?
Historical segregation in Springfield makes geography a critical component of addressing the multifactorial nature of COVID-19 risk. Identification of potentially high-risk locations allows for targeting of limited resources to areas of highest need. Additionally, cultural and
linguistically appropriate services (CLAS) and tailoring are needed to be responsive to the specific needs of the population within this geographic area, as disease risk is not uniformly distributed. This pilot is a multidimensional intervention comprised of the following 6 components:

1. Identify at-risk locations and select BeHealthy patients with risk factors for severe COVID-19 illness who are associated with the areas.
2. Develop and test a culturally and linguistically appropriate services (CLAS)-focused needs assessment screening questionnaire/outreach tool.
3. Survey area for pharmacies for access to medication delivery in at-risk locations.
4. Gather information on sources of food delivery, groceries and/or prepared food in at-risk locations.
5. Gather information on means of travel in at-risk locations.
6. Assess need for testing.

The project is initially focused on the greater Springfield area. Using Geographic Information Systems (GIS) and spatial decision analysis, we applied four criteria to define neighborhood risk in order to geographically target outreach efforts: (1) density of COVID-19 cases, (2) density of the census population, (3) density of the BHP ACO population, and (4) density of low-income housing. Criteria were weighted in a suitability model to predict risk of COVID-19 transmission and morbidity, with weights chosen according to their perceived importance by a panel of healthcare professionals involved in clinical care and outreach.

The result was a continuous surface risk map with risk quantified from low (green) to high (red). Using this map, we have focused on two high risk locations. The CLAS outreach questionnaire has been piloted with 10 English and Spanish-speaking patients from Caring Health Center and High Street Health Center to assess feasibility and identify initial themes, facilitators and barriers; pharmacy, food, and travel resources have been identified; mobile services and outreach are being developed, and expanded testing strategies are being formulated. We will continue to track testing, COVID-19 diagnoses, and COVID mortality rates at Baystate and Caring Health Center. The population health data will be used in an iterative process to update the maps and identify emerging high-risk areas for CLAS-tailored outreach and engagement.

**Who is participating in COVID-19 disparities mitigation project?**

The pilot disparities mitigation project is a collaboration between Baystate Health, Caring Health Center, University of Massachusetts-Baystate, Public Health Institute of Western MA and the BeHealthy Partnership Medicaid Accountable Care Organization (BHP ACO). The team is comprised of clinicians, public health practitioners, diversity and inclusion leaders, health care administrators, and investigators. Additionally, a subset of this team aims to conduct a mixed-methods evaluation of the feasibility and effectiveness of the mitigation pilot intervention initiative.

Recent IHDPS Publications: April-May


