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About the JUSTHealth Web Publication

JUSTHealth is a community-driven web publication hosted by the Office of Diversity in Medical Education (ODME) at Stanford University School of Medicine, committed to amplifying the voices of individuals in the San Francisco Bay and beyond who are passionate about health justice, activism, and advocacy. This publication is designed to spotlight innovative ideas, research findings, obstacles faced, and progress made in addressing health disparities, health inequity, and social justice within the realms of medicine, health and wellness.

Meet the Staff

Co-Editors in Chief
Tran Tieu
Patty Moreno

Staff Members:
Ethan Beltrand
Jeremy Miller, MD, MPH
Ali Quezada
Sarah Siddiqui

Staff Editor:
Marcella Anthony, EdD, MPA

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Tran Tieu was born in a refugee camp and made in America. She is a career shifter with 15 years experience in e-Commerce Marketing Operations for Fortune 50 Speciality Retailers & Software Sales and now pursuing a Nursing Degree. Her world view was shaped by lived experience while growing up in KS, MS, AL, WI, NY and currently lives in Los Angeles, CA.

Tran is a published artist and author of “When Language Barriers is a Health Disparity”, JUSTHealth Web Publication (Fall 2021). She currently works in Palliative Care at OPTUM and a Medical Assistant at the Colorectal Surgery at Cedar Sinai PPO. She serves as the Marketing Volunteer Coordinator for Healthcare Information and Management System Society (HIMSS) Los Angeles Chapter (2023). She is an awarded winning Ai.LA Hackathon Open Innovation Participant (Fall 2021).

Her gateway into health[that]cares was volunteering at Stanford Asian Liver Center as a Vietnamese Community Liaison in 2007 using her bilingual skills and cultural competence to help promote the grand opening of the Hep B Free Clinic in San Jose, CA. She believes JUSTHealth Web Publication embodies the courage of Social & Health Activists working to improve access across the United States.

Patty is excited to join the wonderful JUSTHealth team as the Co-Editor-In-Chief and wants to give her contribution by continuing to make sustainable changes in health and social justice. Patty was raised in Stockton, CA and is a first-generation Mexican-American graduate from San Joaquin Delta College and UC Davis, where she studied Global Disease Biology. She is currently a Patient Navigator with the Addiction Care Team (ACT) at UCSF where she is committed to providing patients, living with substance use, compassionate and culturally competent care.

In crafting the legacy of JUSTHealth, Patty aims to contribute to a profound passion for diversity and accessibility. She envisions featuring more Spanish-speaking artistic expressions on this platform, making it accessible for Spanish speakers and resonating within diverse communities. Within the heart of JUSTHealth, she envisions sharing more personal narratives that reflect on the experiences of individuals navigating healthcare systems. These narratives will serve as powerful expressions, humanizing the healthcare journey and fostering a connection that goes beyond the clinical. As an aspiring addiction specialist, her commitment extends to raising awareness about substance use disorders. Her love for learning and teaching about addiction is a flame that fuels this passion. The big-picture legacy she desires is one where JUSTHealth becomes a symbol of inclusivity, reaching a broader audience, particularly within the Latinx community—a platform with diverse voices that speaks about unity, diversity, and the transformative power of shared stories.
Staff Editor
Ethan Beltrand

Ethan is a rising senior at St. Olaf College that is on the pre-medicine track, where he aspires to pursue a career in orthopedic surgery in the future. Ethan is a Leadership Education for Aspiring Physician (LEAP) alumni, where he pursued a project surrounding rural healthcare in America. As an individual who grew up in a rural community, he is highly passionate regarding healthcare in rural communities along the healthcare related disparities that these communities face. Ethan is a published author in the fall 2022 JUSTHealth issue which highlights the ways in which the American healthcare system is failing rural America. As a first generation college student, Ethan is passionate about mentorship as he serves as a mentor to youth in his community. Through JUSTHealth Ethan seeks to be able to help advocate and amplify the unheard voices of underrepresented communities and groups in healthcare.

Staff Editor
Jeremy Miller, MD, MPH

Dr. Jeremy Miller is a current first-year general surgery resident with Icahn School of Medicine at Mount Sinai in New York City and will be transitioning into a new program in California with Desert Regional Medical Center for the remainder of his training. Following completion of his residency, Jeremy hopes to pursue a fellowship in Surgical Critical Care. As a bay area native, Jeremy completed his B.S. at San Francisco State University and went on to complete his Doctorate at Ross University School of Medicine. During medical school, Jeremy concurrently completed an MPH through the University of Illinois at Chicago, where he focused his studies on community level gun violence and its impact on community growth and health. As a first-generation college graduate, Jeremy has a passion for mentorship and service and consistently is seeking new opportunities to help lift and support the future health leaders of tomorrow.
**Staff Editor**

**Ali Quezada**

Ali Quezada graduated from UC San Diego in 2022 and obtained her B.S in Chemistry with a minor in Psychology. After graduating she spent time continuing her research in molecular medicine at Scripps Research Institute and volunteering with a nonprofit in various parts of San Diego and Tijuana. Ali is a SSCCPP and LEAP alumni, where she pursued projects researching the health risks of working in the fields of Oxnard, California. Most recently, she worked on the JUSTHealth podcast team interviewing healthcare professionals to discuss various health disparities. Her passion in research, public speaking and advocacy for spotlighting disparaged groups have led her towards a path in medicine. She is aspiring to become a psychiatrist and work with incarcerated youth and adults. Through JUSTHealth Ali hopes to shine light on health disparities to increase awareness and education in communities across the country.

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**Outreach Staff**

**Sarah Siddiqui**

Sarah Siddiqui graduated from the University of California, Berkeley in 2021 and obtained her B.A. in Molecular Cell Biology with an emphasis in Cell Development Biology and Medical Physiology. In addition to her passions in women’s health, dermatology, and social justice, she served as a staff writer for a variety of publications at UC Berkeley, such as The RightsStuff Magazine, Threads, and Morning SignOut. She is also worked as a content writer for the UCSF Synapse and the Stanford JUSTHealth Magazine. Her background in research, journalism, and health advocacy have motivated her to pursue a career in the medical field. Sarah is a Stanford LEAP Alumni and is currently working as a Data Analyst at Meta. Through JUSTHealth, she aspires to highlight the challenges that members of marginalized communities face in healthcare and network with healthcare professionals to eradicate these barriers and emphasize the importance of patient literacy.
Welcome to the JUSTHealth Fall/Winter 2023/24 Issue. We’re delighted to share this Issue, featuring passionate authors who have contributed content related to medicine, health, and justice. Together, we can tackle the pressing challenges of our time.

We extend our heartfelt thanks and gratitude to our immediate past Co-Editors in Chief and Staff who’ve dedicated their efforts to publish over 40 authors across four issues since the inaugural issue in 2020. Looking back to that first issue, we reflect on the diverse themes we’ve covered: Black Lives Matter, the COVID-19 pandemic, gun violence, mental health, poverty, language barriers and more. Please visit our website to access previous of the publication.

JUSTHealth is committed to providing a platform where individuals can engage in discussions about critical health topics including, obesity, maternal care, eczema, and other health inequities.

This issue showcases pieces that amplify the voices of our community. As the new JUSTHealth team, we are excited to bring our perspectives to this publication. This Fall, we welcomed submissions that address broader healthcare and social justice issues. Your unique perspectives on health-related topics are invaluable to our society.

We recognize the hard work put in by the previous Co-Editors in Chief, Derek Chan and Makaelah Murray, and the entire JUSTHealth team to successfully publish four enlightening issues. Their dedication has paved the way for our continued growth.

Moving forward, we aspire to include personal narratives in each issue. We believe that sharing personal motivations and encouraging others to embrace their ‘why’ is a powerful way to foster meaningful discussions and insights that improve healthcare for all of society. People in their journey should tap into the driving force behind their actions – their developed passions and purpose. Let’s collectively encourage everyone to wholeheartedly embrace their respective roles in achieving health justice. In doing so, we foster empowerment, respect, tolerance, gratitude, and healthcare excellence through the unique experiences that we share.

We want to create a space where all people can share their direct experiences related to social justice and health. These stories are invaluable because they add a deeply personal and relatable dimension to medicine. They provide a human face to the complexities of health and social justice, fostering a sense of community-focused healing. We acknowledge the significance of research and the academic world’s contributions, but we also understand the power of personal narratives as ways of knowing and improving health.

JUSTHealth is health justice for all, The JUSTHealth Editorial Board
Health Disparities - Sickle Cells

LITERARY POEM By Rao Akinlade

Abstract: A poem about the disparities of health within organizations. Every school I have taught in will only give seven sick days for every employee irrespective of your health. Any additional days taken will be deducted from the pay check. I believe there needs to be a change or a reform. People with medical conditions such as sickle cell should be given as many days needed or the option to work from home.

In the realm of DEIJ, a buzzword parade, Organizations tout their pledges displayed. Diversity, Equity, Inclusion, and Justice—we hear, But where does true equity in health appear?

Diversity, they say, encompasses all. Race, gender, religion, on that they stand tall. But health should be counted, too, in this decree. For health disparities, we too often see.

Equity, what does it indeed entail? Seven sick days for all, but does it prevail? My colleagues, they want to share theirs with me. But HR objects; no help can they decree.

Inclusion is a term, but do I feel it here? My body fights battles, operating in low gear. In policies, am I truly included, I ask? I push to complete every task with half-fill tank

And justice, where does it prevail in this plan? Seven sick days for all, but understand, For me, each day’s a struggle, a constant tough fight,

While colleagues take days off for something so slight.

But my sickness is not a choice or a plan, It comes uninvited, like a cruel, shifting sand. So I ration my days off, each one a dear treasure. To endure the pain is a lasting, tricky measure.

Sickle cell is the cross that I yet bear, Low blood and oxygen, a constant wear and tear. Inequities persist in life’s endless fight, With policies that challenge, like a shadow in the night.

In this DEIJ world, let’s broaden our scope, Include health in the conversation, and bring hope. Equity, inclusion, and justice for all, A holistic approach lets fairness stand tall.

Photo Source: Canva 2023
Access and Obesity: Unveiling the Food Environment of Urban and Rural America  
CASE STUDY By Ahmed Nour

Abstract: This study dives deep into the challenge of food accessibility and its impact on obesity, especially between urban and rural regions. We found that rural areas often lack enough healthy food options, leading to higher obesity rates. While geography plays a part, factors like income and historical city development trends also come into play.

To better predict future food access scenarios, we introduced the "HealthScape Deep-Learning Predictor". This tool uses data like population size, local economics, and housing trends to forecast food availability in different areas. Our early tests show promise, but the tool sometimes struggles to apply its learning to new, unseen data.

In essence, our research highlights a clear gap in healthy food access across regions. With the help of tools like HealthScape and thoughtful policies, we can work towards bridging this gap and promoting healthier communities.

INTRODUCTION
Growing up in Union City, nestled within the Bay Area, I was privy to a juxtaposition of affluence and need. On one hand, cities like San Francisco and Silicon Valley thrived as tech hubs, boasting a plethora of organic food choices and bustling farmer’s markets. Yet, a short distance away, neighborhoods like Richmond, East Oakland, and parts of San Jose presented a different narrative. Here, access to nutritious food was not a norm but a privilege, often obscured by the looming shadows of food swamps. These disparities weren’t just fleeting observations on my commutes; they shaped my daily reality. Families often compelled by circumstances to make less nutritious choices, either for the sake of convenience or due to budgetary constraints, became a recurrent theme that deeply influenced my perception of my hometown.

This project is more than just a statistical exploration. It’s a manifestation of my commitment to illuminating the stark food access disparities in the Bay Area, and an attempt to drive conversations and actions towards a more equitable food landscape.

Research Question: Are there differences in obesity rates between urban and rural areas based on access to healthy food options?

Access to Healthy Food Options
This subtopic focuses on investigating the availability and accessibility of healthy food options in urban and rural areas. Understanding the disparities in food access can shed light on potential contributors to obesity rates in different communities.

Question
How does the availability of healthy food options differ between urban and rural areas, and how does this impact obesity rates?

Subtopic
Presence of Grocery Stores and Farmers’ Markets.

Subtopic
Food Deserts and Food Swamps.

Hypothesis
Drawing from all the data sources listed above, the hypothesis posits nuanced disparities in obesity rates between urban and rural communities. More specifically, it suggests that the underlying differences in obesity rates may not simply hinge on the urban-rural divide but more critically on the quality of food access within these areas. Therefore, even within urban settings, zones characterized as food deserts might exhibit obesity rates comparable to, or even exceeding, certain rural areas. Conversely, rural areas with robust access to nutritious food might outperform certain urban sectors in terms of obesity prevalence.
Methodology
The foundation of my research is the HealthScape Deep-Learning Predictor, a model designed to pinpoint and address the pressing issue of food deserts.

Data Collection Sources
- **USDA Food Access Research Atlas**: This provided comprehensive insights into areas with limited access to grocery stores.
- **County Health Rankings & Roadmap**: This offered regional health metrics correlating with food access.
- **CDC Behavioral Risk Factor Surveillance System (BRFSS)**: This supplied behavioral data related to dietary habits and health outcomes.
- **National Center for Health Statistics (NHS)—CDC**: This contributed general health statistics for cross-referencing with food access data.

Model Design
- **Architecture**: My model employs a convolutional neural network (CNN), adept at processing spatial information from satellite images.
- **Features**: Geographic information, food store locations, public transport

Primary Analysis

Data Visualization/Analysis
- **Food Environment Index**: I analyzed the overall food landscape in different regions, focusing on the availability and access to healthy food options.
- **NCHS Jupyter data**: Leveraged for additional health insights related to food access.
- **Health Food Access Data**: Detailed evaluation of regions with optimal access to nutritious food sources.

Training & Implementation
- **Training Set**: I partitioned 70% of the data to train the HealthScape model, ensuring a diverse representation of urban, suburban, and rural areas.
- **Validation Set**: The remaining 30% served as the validation set to assess model performance and refine its parameters.
- **Target**: The primary output of the model is a prediction of areas most at risk of becoming food deserts.

Implementation & Iteration
- **Pilot Regions**: Initial model deployment targeted select urban areas, providing real-world validation of its predictive capabilities.
- **Feedback Loop**: As data from the pilot regions flowed in, the model underwent iterative refining, adapting to new patterns and emerging data.
- **Metrics**: Model success was gauged using accuracy, recall, and precision, prioritizing the minimization of false negatives to ensure vulnerable areas were not overlooked.
- **Parameters**: Key variables included dietary patterns, local grocery store availability, transportation access, socio-economic indicators, and geographical features. Integrity & Ethics: I ensured that all personal identifiers were removed to maintain participant anonymity, aligning with best practices for research data collection.
National Center for Health Statistics—‘NCHS Jupyter Data’ Legend

- **DR1KCAL**: Kilocalories | **DR1PROT**: Protein | **DR1ICARB**: Carbohydrates
- **DR1SUGR**: Sugars-Simple carbohydrates | **DR1FIBE**: Fiber
- **DR1TFAT**: Trans Fats | **DR1SFAT**: Sat. Fats | **DR1MFAT**: Monounsatur. Fats
- **DR1PFAT**: Polyunsat. Fats | **DR1CHOL**: Cholesterol
- **DR1VB2**: Vitamin B2 (Riboflavin) | **DR1VC**: Vitamin C
- **DR1VD**: Vitamin D | **DR1VK**: Vitamin K

**Analysis**: The correlation map reveals relationships between dietary nutrients for urban and rural Americans. Key findings include:

- **Positive Correlations (>=0.65)**: Increased caloric intake (KCAL) aligns with higher Protein, Carbs, and Fats (TFat, SFat, MFat). Trans fats (TFat) and monounsaturated fats (MFat) have particularly high correlations, highlighting fats’ major contribution to energy.

- **Neutral Correlations (0.5-0.65)**: Calories moderately correlate with vitamins (VB1, VB2) and fiber, indicating varied impacts on vitamin and fiber intake.
- **Negative Correlations (<0.65)**: As fats and carbs rise, Vitamins C, D, and K drop. This suggests calorie-rich diets might lack key vitamins, a sign of "food deserts". These insights can guide community dietary interventions.

**County Health Rankings & Roadmap—‘Health Food Access Data’**

**Population vs. Housing Units**

The "Population vs. Housing Units" graph indicates a direct relationship between population size and housing units in the sampled cities. As populations in cities like Los Angeles and San Francisco grow, housing infrastructure expands accordingly. Yet, this growth prompts a query: Does the rise in infrastructure match an increase in essential amenities, like healthy food access? The expansion could result in "food swamps" with more unhealthy than healthy options, emphasizing the need to assess if growing developments enhance food accessibility or contribute to food deserts.

Urban and Rural Discrepancies
The study highlights disparities in food accessibility between urban and rural areas. Urban regions average one supermarket for 8,663 people, while rural areas have one for 11,979 residents. Additionally, urban areas have more fast-food outlets per capita. Despite more supermarkets in cities like San Diego, the abundance of unhealthy options is concerning.
In contrast, rural areas face both limited access and quality of food. Significantly, 15.2% of rural areas vs. 8.7% of urban areas have low access within a 1-mile radius. Moreover, 20.3% of low-income areas have limited access within the same radius, suggesting poverty as a strong factor in food accessibility.

Final Analysis:
Rural areas generally face higher rates of limited food access and insecurity than urban ones. For instance, Alpine and Modoc counties report 17% limited access, while urban counties like Los Angeles have only 0-1%. Central Valley’s rural areas also show increased limited access and food insecurity.

However, anomalies exist, such as Siskiyou County, which has high limited access despite its rural setting. In essence, while rural areas typically have poorer food environments, individual county data varies. The research underscores a clear link between limited healthy food access and higher obesity rates, particularly in rural and socio-economically disadvantaged regions. Addressing this requires comprehensive strategies targeting education, affordability, and transportation. Effective policies must tackle the root causes, ensuring equal access to healthy foods for all communities, specific regions.
**HealthScape Deep-Learning Predictor:**

The primary objective of the HealthScape Deep-Learning Predictor is to leverage computational methods in predicting the availability and accessibility of healthy food options based on an array of variables. This could include socioeconomic metrics, geographical characteristics, and even historical data on urban development. Such predictions, if accurate, could greatly aid policy formulation, urban planning, and even commercial business strategies for entities interested in bolstering the healthscape of specific regions.

**Average Group Quarters Population Share & Food Access:**

With regions like Oakland and Richmond having notable group quarters populations, our predictor could help gauge the likely food environment these demographics would experience in the future. Such predictions can inform targeted interventions in these regions.
Graph 1: Model Accuracy

**Observations:**
Training accuracy starts at 0.5, drops to 0.4 at epoch 3, rises to 0.75 by epoch 7, and peaks at 0.9 by epoch 9, then stabilizes at 0.75. Validation accuracy begins at 0.5, peaks to 0.75 at epoch 3, drops back to 0.5 by epoch 9, and remains consistent thereafter.

**Interpretation:**
The model showed a dip in training accuracy at epoch 3 and a spike in validation accuracy at the same epoch, which later dropped at epoch 9. These patterns hint at potential overfitting, where the model might be memorizing the training data instead of generalizing. While the model seems proficient with the current dataset, its effectiveness on new data is questionable, impacting its utility in predicting evolving trends in food accessibility.

Graph 2: Model Loss

**Observations:**
The training loss starts at 0.75 and steadily decreases to 0 by epoch 50. On the other hand, the validation loss starts similarly at 0.75 but continuously increases to 1.1 by epoch 50.

**Interpretation:**
The model's training loss decreases, indicating learning, but increasing validation loss hints at overfitting. The HealthScape Deep-Learning Predictor, despite its flaws, is essential for addressing nationwide food access disparities.

Population vs. Housing Units & Food Access:
Earlier sections highlighted the correlation between increasing population and housing units, pointing towards urban development. If we could feed these metrics (along with the nature of the development) into the predictor, it might help us project the future food landscapes of these expanding regions. Do they risk becoming food deserts or will they ensure better nutritional access to their populace?

Urban vs Rural Disparities:
The stark differences between urban and rural areas in terms of food accessibility set the stage for a question: How would these disparities evolve over time, given the trajectories of urbanization and economic development? The deep-learning predictor could potentially forecast these dynamics, allowing for more proactive strategies to balance the food environments in both locales.
Intraoperative and Post-Operative Charcoal Depictions of Laminectomy and Desmoid Tumor Formation

AUTHOR AND MEDICAL ILLUSTRATOR: Lopa Shah, B.Sc.

Abstract:
This submission showcases two powerful charcoal drawings, each with a specific focus on the intricacies of a laminectomy procedure and the subsequent development of a desmoid tumor. The first illustration plunges the viewer into the heart of the surgical field, with the patient positioned prone and the spine exposed. The charcoal medium adds depth and texture to the anatomy, mirroring the intricacies of the real-life procedure. The second image provides a post-operative lateral view of the cervical spine, highlighting the development of a desmoid tumor. These drawings communicate the complexity of the surgical process and its potential complications through the eloquent medium of charcoal, enhancing medical education and understanding.

Description:
This submission presents two charcoal drawings that meticulously capture the essence of a laminectomy procedure and the consequential emergence of a desmoid tumor. The first drawing delves into the intraoperative view of the spine during a laminectomy. The surgeon’s skilled hands deftly manipulate the retractors, unveiling the lamina and the spinal cord, while the charcoal medium accentuates the textures and contours of anatomical structures. It presents an unobstructed perspective of the surgical field with the spine exposed, showing the lamina being carefully removed to provide space for the spinal cord and nerves.
The second image shifts its focus to the post-operative phase, presenting a lateral view of the cervical spine with the development of a desmoid tumor following a laminectomy procedure. Understanding the development of this rare complication further empowers medical professionals and patients to make informed decisions regarding the management, surveillance, and follow-up care for these rare yet clinically significant post-operative complications.

Visual depictions of surgical interventions and their complications can complement our understanding of human anatomy and pathophysiology and can further emphasize the importance of post-operative monitoring and care. The marriage of charcoal and medicine in this artwork defines the symbiotic relationship between these two disciplines and enables more informed decision-making and improved patient outcomes.
Health Equity Social Media Project

INSTAGRAM MULTIMEDIA POSTS By Alexxandra Hurtado

Abstract: This piece displays research on a correlation between racism, sexism, and African-American women’s vulnerability to COVID-19. The information presented include African American women being more susceptible to the virus than their white counterparts due to a higher likelihood of co-morbidities, including obesity, diabetes, and high blood sugar. Along with these health concerns lies other social determinants increasing COVID-19 rates in African American women, such as being likely to face eviction, homelessness, overrepresentation as essential workers, inadequate testing centers for COVID-19, and living in high-density COVID-19 hotspots (Obinna, 2020).

Recent research uses the theoretical framework of intersectionality, real-life testimonies, and research sources to support this work. For instance, in Obinna’s article, “Essential and undervalued: health disparities of African American women in the COVID-19 era,” the author describes how decades of racism and discrimination isolate communities of color and make them vulnerable to disease and insufficient healthcare. Mainly, the article focuses on how COVID-19 magnified health inequality for African-American Women in society. Additionally, because COVID-19 exacerbated health disparities in the African-American Community, one piece addresses five actionable strategies to improve health outcomes and health equity for them. The first involves democratizing health screening, increasing testing sites, and making testing more accessible in underserved areas (Brown et al., 2020). The media piece, HealthEquity Project, is helpful in presenting an intersectional analysis of the factors African-American Women face when receiving medical care. It can offer perspectives concerning racism in healthcare as systematic discrimination and how it results in a lack of access to quality care, a lack of trust in medical providers, and under-treated/under diagnosed illnesses.

Resources:


Health Equity Social Media Project
INSTAGRAM MULTIMEDIA POSTS - Alexsandra Hurtado
A project and open platform addressing Health Inequity During Covid-19.

**Health Inequity during Covid-19**

Discussion of Health Disparities in African American Communities during COVID-19.

**Did you know?**

African Americans, who represent 14 percent of the general population in the US, account for 39 percent of COVID-related deaths.

**Why are these communities more susceptible to COVID?**

1. Lack of Access to Quality Health Care
2. Systemic Discrimination in systems such as housing, education, finance, criminal justice, etc.
3. Occupation/essential workers
4. Educational, income, and wealth gaps
5. Physical Environment

**Recent Study on African American Women and Covid**

Research suggests African American women have a higher susceptibility to COVID-19 and have higher rates of comorbidities due to a higher likelihood of co-morbidities, including:

- asthma
- diabetes
- high blood sugar

**Why we need an Action Plan**

The pandemic has only intensified the discrepancies the African American community faces. It is time for some discussion, new reforms, and change. Everyone should have the opportunity to achieve optimal health, regardless of their race, ethnicity, or socioeconomic background. Further posts will discuss the importance of this societal issue.

African Americans, who represent only 14 percent of the general United States population, account for 39 percent of covid-related deaths. #covid_19 #healthequity
Confronting health inequity by furthering Covid-19 research. #socialresearch #covidresearch

1. **Sociological Perspective on Health Care**

   Social inequality characterizes the quality of health and the quality of healthcare.
   - People from disadvantaged social backgrounds are more likely to become ill and receive insufficient health care.
   - The quality of health and health care differs greatly within the United States.
   - Society's inequities along with social class, race, and ethnicity, and gender lines are amplified in our health care system.
   - Covid-19 rates in African American women served as an example of Conflict theory.

2. **Economic Impact Covid-19 Data**

3. **Social Determinants of Health and Covid-19**

   Along with health concerns lies other social determinants increasing COVID-19 rates in African American communities, such as being likely to face:
   - Eviction
   - Homelessness
   - Overrepresentation as essential workers
   - Inadequate testing centers for COVID-19 and housing in high-density COVID-19 hotspots
HEALTH EQUITY IN ACTION

INSTAGRAM MULTIMEDIA POSTS - Alexxandra Hurtado

Working together to achieve health equity, one step at a time. Different organizations to take part in and make a difference!
#weareallinthistogther Health Equity in Action:

---

Health Equity in Action: Get Involved

COVID-19 Health Equity Programs
- Hopi Tribe Support (Arizona)
- Communities served: Tribal Nations
- Partners: CDC State, Tribal, Local, and Territorial Support Task Force Tribal Support Section

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Mask America Challenge (nationwide)
- Communities served: Title I school districts and students
- Partners: CDC Community Interventions and Critical Populations Task Force, CDC Foundation, United Way, Hanes, and Business Roundtable

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Optimizing COVID-19 Infection Prevention & Control in Clinical Practice (nationwide)
- Communities served: Health care providers (HCP) serving populations at disproportionate risk of COVID-19
- Partner: Infectious Diseases Society of America

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National Resource Center for Refugees, Immigrants, and Migrants (NRC-RIM) (nationwide)
- Communities served: Refugees, immigrants, and migrants (RIM) in the United States.
- Partner: University of Minnesota
WOMEN BEING UNDERREPRESENTED IN CLINICAL TRIALS

Today’s Topic
Shocking Fact: The National Institutes of Health did not require the inclusion of women in clinical trials of drugs until 1993.

Millions of women were medicated prior to 1993 despite a lack of scientific support. What does this lack of representation mean for women trying new medications?

#somethingtostartabout #healthequity #womensupportingwomen #womenempowerment #womenmedicine #equality #blm #clinicaltrials

LET’S TALK ABOUT LIFE

Let’s Talk About...

Read more on the life expectancy of Latinx and African American populations at http://tinyurl.com/5ejk7xz2

#healthequity #lifeexpectancy #healthjustice

JUNETEENTH

DID YOU KNOW
Black women are disproportionately likely to face pregnancy complications. Sources like NPR have noted that these deaths are largely preventable. But due to the impacts of systemic racism and discrimination, they are more likely to die from their pregnancies than any other racial group. This needs to change #healthequity #healthequitynow #healthjustice
Welcome to our hospital, up to the minute and bright,  
With the newest MRI and CT machines, precision as our guide,  
But beneath the surface, there’s more we must construe,  
In our quest for excellence, do we care for each of you?  

Follow me through these halls of care and grace,  
Don’t worry about the unseen struggles persisting in this space,  
Trust, there’s no invisible biases that need to be revealed,  
And don’t be silly, we don’t have any truths to be unsealed,  

As we walk through the lobby, we pass a woman who just gave birth  
unbeknownst to you,  
In the next 11 hours, she’ll slip away, a shock to her family, and to her doctor too,  
It was assumed that the swollen legs and chest pains were for show,  
Her pleadings for morphine dismissed due to her color, and no, not the pregnancy glow,  

Now, let us venture into the psych unit, where we call our care serene,  
Most of our patients are silent, but today the loudest will go unseen,  

The sober in unit 3, who the intern reports be screened for major depressive disorder immediately,  
Our top attending jumped in explaining that we’ve found that people like him  
show symptoms of schizophrenia differently,  

Next, we’re in the clinic with the less serious cases,  
Here is a little boy, ready for his varicella shot. his heart races,  
The nurse will reassure him, but the needle will go further than the consolation,  
As if the nurse thought his skin was thicker, an uncomfortable realization,  

As we come full circle back to the lobby, we’re happy to have given you an insightful tour,  

Now, you can see things clearer and closer to the core,  
Yes, we strive for greatness, but let’s not deceive,  

Let us open our eyes to the fact that health care is not as pristine as we believed.
Behavioral Health Equity in the Digital Age: Policy Guidelines for AI-Driven Mental Health Apps

POLICY BRIEF By Derek Chang and Steven Gong

Abstract: Generative artificial intelligence (AI) has profound implications for behavioral telehealth services with the potential to address mental health disparities through its cost-effective, constantly accessible, and oftentimes anonymous nature. However, the advent of AI-driven mental health apps—chatbot therapists, mindfulness software, and other telehealth interventions—raises significant questions about its ability to advance mental health equity:

- How can AI-driven mental health apps counter existing bias and tailor patient care to diverse populations?
- Are these programs scientifically proven to be clinically effective, and under whose regulatory jurisdiction?
- Amidst the digital divide, how can AI-driven mental health apps be accessible to those who would benefit from them the most?

With these questions in mind, we formulated three non-exclusive policy recommendations intended to guide the equitable development, implementation, and dissemination of AI-driven mental health apps, especially as an intervention for addressing mental health disparities. With respect to well-documented bias in AI due to upstream human and systemic biases, we recommend the utilization of diverse algorithmic training models when considering how to tailor mental health care to diverse patient populations historically underrepresented in research and statistics. Amidst a largely unregulated and scientifically undertested landscape, we recommend establishing a regulatory framework for scientifically vetting the clinical efficacy of AI-driven mental health apps under existing FDA parameters. With the digital divide, we recommend a comprehensive investment addressing all aspects of digital inequality, from broadband access to patient digital literacy.

With these guidelines, we hope to mitigate risks associated with AI-driven mental health apps, maximize their potential as an intervention for mental health disparities, and advance mental health equity in the digital age.
**Background:**
The advent of generative artificial intelligence (AI) has raised questions on how such software could serve as a viable, alternative remedy to “reducing the mental health treatment gap” (1) and potentially addressing mental health disparities among minority, uninsured, and otherwise underserved populations. Language models such as ChatGPT can provide immediate, 24/7 access to mental health services without the need for a behavioral or mental health practitioner, often personalizing messages tailored to the individual. Chatbots like these are cost-effective compared to traditional treatment while providing a safe and anonymous space for patients who may otherwise refuse mental health services.

However, with more than 10,000 mental or behavioral health apps publicly available, companies seeking to capitalize on the growing popularity of AI-driven mental health treatment may only add to a landscape that is largely unregulated and scientifically undertested (2). Paired with risks like non-secure storage of patient data and non-representative, biased training models, there are various challenges in leveraging AI towards effective mental health treatment, much less as an intervention for mental health disparities.

In this paper, we seek to delineate three policy recommendations meant to guide the equitable development, implementation, and dissemination of AI-driven mental health apps, particularly as an intervention for mental health disparities. These guidelines, spanning the need for diverse training models, regulatory approval and oversight, and accessibility amidst a digital divide, are intended to serve as non-exclusive points of consideration for interventional AI treatments that advance mental health equity.

**Tailoring Interventions: The Need for Diverse Training Models**
AI-driven decision-making is trained from algorithmic training models utilizing large sets of data. When that data is biased or unrepresentative, often due to upstream human and systemic biases, AI has been observed to demonstrate racial, ethnic, gender, disability, and other biases in healthcare applications (4).

**Recommendation:** The utilization of diverse training models composed of ethically sourced, representative data from the target patient populations, can effectively reduce bias and tailor mental health interventions to the cultural and linguistic needs of patients.

**Strengths:** Culturally tailored interventions have “tremendous potential” to reduce health disparities and improve the quality of care, particularly for ethnic minorities (5). The AI-driven tailoring of mental health services derived from diverse, representative training models offers culturally respectful and patient-centered care, healthy lifestyle promotion, increased family and community support, efficiency and timeliness of care, and increased knowledge of diseases and healthcare for patients. Additionally, the ability to incorporate the needs of a diverse patient population can promote trust; a study showed that people given the freedom to slightly modify an AI’s algorithm felt more satisfied with its decisions, increasing the likelihood of future use (6). This is particularly relevant given the emerging AI “trust gap” (7), as even slight tailoring of care can encourage the adoption of mental health interventions. Alongside diverse teams and interdisciplinary collaboration, a baseline training foundation for tailoring mental health services to a wide range of patient populations—especially those underserved and underrepresented in training data—can therefore effectively assess and address diverse patient needs across disparities.
Weaknesses: The “data gap” continues to be a limiting factor in AI development, and the lack of data access to target populations—stemming from historical exclusion from research and statistics—has made incorporating underrepresented groups into algorithmic training data costly (8, 9). Gathering diverse and representative data itself requires time and trust-building, and in the competitive market space, companies are incentivized to take shortcuts. If it is deemed economically unviable to invest in diverse training models and tailored care, historically underserved groups—of which mental health disparities are most prominent—will continue to be underrepresented.

Clinical Efficacy: Regulatory Approval and Oversight
The COVID-19 outbreak was declared a public health emergency (PHE) on January 31, 2020. With the intent of increasing the availability and access of virtual behavioral interventions, the PHE declaration offered these services waivers to many federal and state requirements (10). While application-based interventions play an increasingly pivotal role in the behavioral health landscape, the vast majority of available mental health wellness products remain unregulated by the Food and Drug Administration (FDA) following the PHE’s expiration on May 11, 2023. Currently, there exists no official regulatory framework for AI-driven mental health apps and services (11).

Recommendation: The FDA’s mission statement of “protecting the public health by ensuring the safety, efficacy, and security” includes medical devices, a category in which application-based behavioral application falls under (12). In 2016, certain software functions were removed from the definition of “device” when Section 520 of the Federal Food, Drug, and Cosmetic Act was amended by the 21st Century Cures Act, Section 3060(a) (13). The inclusion of AI-driven mental health apps under the software functions that were once removed is the first step toward establishing a reliable regulatory framework that prioritizes user safety and quality of service.

Strength: To ensure that mental health applications successfully reduce the burden of the mental health epidemic, standardized approaches must be applied to ensure that these interventions are effective and safe for patients. Additionally, users who pay for the services provided by mental health apps (e.g. chatbots, meditation practices, journal prompts, etc.) are entitled to services at the level of quality purported by these platforms’ advertisements.

Weakness: One downside of extending the existing FDA regulatory framework to the digital, mental health landscape is the possible delay in the development, approval, and processes of interventions. While ensuring the safety and efficacy of digital interventions is an important responsibility of the FDA, the regulatory process should otherwise be efficient and timely in their review process so that apps that meet the FDA’s criteria can be made available to patients without delay. The need to evidentiating an application’s safety and efficacy can also place additional burden on costs associated with the research and development of these applications. These burdens are likely to justify the increased price of accessing the service upon approval.
Accessibility: Bridging the Digital Divide
Digital inequalities have been exacerbated due to the COVID-19 pandemic, influencing the “very state of health of the most vulnerable categories of population” (14). With respect to AI-driven mental health apps, digital literacy refers to the obtaining, accessing, and navigation of devices, software, and digital services to facilitate delivery of effective mental health services (15). Though the “digital divide” is shrinking due to improved internet access and technology, serious disparities still persist. A review found that impoverished, female, and Black populations all correlated with a decreased probability of completing a telehealth visit, and at minimum, 24 million Americans—disproportionately from rural areas, tribal lands, and areas with higher levels of poverty—have insufficient internet access (16).

Recommendation: An investment addressing all fronts of digital inequality: from the distribution of devices such as smartphones to broadband access, to digital literacy education tailored to patients, to the intuitive and accessible design of digital AI-driven mental health services.

Strengths: Equitable access encapsulates the core of telehealth, including AI-driven mental health services. Addressing mental health disparities necessitates reaching historically underserved populations with respect to traditional healthcare, infrastructure, and digital tools and access, such as minorities, rural communities, and those without a college education. Bridging this digital divide ensures that AI-driven mental health services are accessible to those that would benefit the most.

Weaknesses: Due to the various points in which digital inequality is perpetuated (i.e. internet access, digital literacy, etc.) disruption of even one part of this digital equity supply chain can exacerbate mental health disparities. This becomes further complicated by how the digital divide varies by different populations, with stacking costs. Averaging $53,000 per household connected, it can cost up to $300,000 to lay fiber-optic cables to some remote locations, notwithstanding the devices, literacy training, and intentional application development needed to facilitate telehealth delivery (17). Investments intended to address the digital divide, thus, must be both comprehensive yet tailored to underserved patient groups in order to be effective, all while balancing cost.

Conclusion:
As AI technology becomes increasingly sophisticated, it is imperative to ensure that the growth reflects the diverse composition of potential users. The mental health epidemic poses specific burdens on different racial and ethnic groups in the United States. AI-driven interventions must be designed with diversity and equity in mind. While AI-driven mental health apps have the potential to act as cost-effective and powerful tools in addressing the mental health epidemic, governing and regulatory bodies have the responsibility to update existing policies at the same pace as technological innovation. Further research is necessary to understand measures of safety among users and efficacy in outcomes.
References:


Eczema and Inner Beauty

LITERARY POEM By Sidrah Siddiqui

Abstract: The purpose of my poem is to educate others on eczema. I have been struggling with eczema since I was a child and the endless appointments to the dermatologist office made me feel self-conscious. Eczema is also known as Atopic Dermatitis. On average, 1 out of every 10 people is diagnosed with eczema and this condition is more common in females than males.

I feel itchy every time you appear,
You're like a monster drawing near,
You make me feel like I'm ugly, and that I'm nothing,
You control my mood, and that's something,
When I look in the mirror I feel scared,
I always liked to think no one cared,
But when I visit the doctor to have you seen,
I feel like I've been treated harshly and mean,
When I go to the bathroom to wash my face,
A red, rough, scaly patch takes your shape,
I cry, and cry wanting to get rid of you,
But when I get worse I rue,
This thing is like a nightmare,
No matter where I go, I feel everyone's stare,
I turn my face longing for this to be over and done,
I wish I could go outside like others, play in the grass and have fun,
But my uncle noted my discomfort and my phony smile,
He told me something I cherish every once in a while,
"You're beauty is that you always smile even though you want to cry and shout,
I want you to know that inner beauty is what you should be caring about."
LITERARY POEM By Eliana Jacobs

Abstract: Cesarean section (C-section) is one of the leading surgeries performed worldwide. Specifically, Black/African American women have the highest rate of pregnancy-related death— with one of the driving factors being the extensive rates of undergoing C-sections. During slavery and the reproduction of Black/African Americans, black women were depicted as being “strong” and beyond capable of reproducing several children—then expected to make bales of cotton while holding their child. Today, there are alarming rates of C-sections being performed in the Black/African American community— indicating a disproportionate rate of surgical birth in African communities. In the poem, “Sea-Section” the purpose of this literature is to address the role of systemic racism by exploring the health consequences, starting from the Atlantic slave trade to the present day. Readers are encouraged to reflect on pre-colonial gynecological care. Additionally, throughout the poem— readers will be informed how C-sections are anti-black through social and psychological practice. Ultimately, the purpose of the poem is to reexamine the implications of how a C-section is perceived as a medical procedure in the Black/African American community.

In a bottomless ocean
I find myself in concealed chaos
As above me is the world yet seen
Engulfed between perception vs. reality
At first, I felt the aura of mortality
But an adrenaline rush flushes the fear of fatality
Misconception causing contraception
I stop and listen to the whistling winds
As she speaks in tongue
Moved by her soft and sentimental story
I slowly submerge in shipwreck and sorrow
Witnessing her deep incision of disparities and diaspora
Striping away her screams and sacrifices
Through soiled bones, I saw a soul
Salvaging what was left to see a sea of stars
No matter the hue of blue
Her history will no longer be chained to the systemic sins of the seven trenches
Instead, her scars sowed seeds in me—igniting a lifelong odyssey
Although I have not embarked the boats my ancestors’ traveled
The water remains wide
As with wings untied, I will cross o’er
Although deep, her incision will heal
Through levels of scriptures and service
Her fight for freedom will forever furnish
Learn More About JUSTHealth

JUSTHealth is possible thanks to a network of programs in the Stanford Office of Diversity in Medical Education (ODME) that contribute to health equity. It is a symbiotic relationship built upon a shared vision.

Many programs, institution, organizations, and initiatives contribute to health justice, and this interconnectedness strengthens our mission while collaboration fuels our vision for the future.

Now, the question becomes: how can we each contribute and ensure that our aspirations become a tangible reality? Let’s embark on this journey of self-discovery and collective empowerment together.

We look forward to your contributions and the opportunity to explore the diverse dimensions of healthcare and social justice together.

Special thanks to the Stanford Office of Diversity in Medical Education (ODME), Stanford Summer Community College Pre-Medical Program (SSCCPP), Leadership Education for Aspiring Physicians (LEAP), the Stanford Summer Community College Research Program (SSCCrP), the Stanford University Minority Medical Alliance (SUMMA) Conference for their collaboration and shared vision.

Click the text below to learn more about programs that support future health professionals and researchers:

- SSCCPP and SSCCrP Summer Programs
- LEAP Saturday Academy
- JUSTHealth submissions
- Stanford Office of Stem Education and Outreach

We will be at the Stanford University Minority Medical Alliance (SUMMA) Conference at the Stanford School of Medicine on Saturday, February 3, 2024. This national pre-health conference is a one-day event focused on pre-health pathways. Please note, the conference is sold out.

Engagement & Connection

JUSTHealth is lively and engaged on various social media platforms. We invite you to join us and connect with our vibrant community by clicking the text or icons below:
Acknowledgements

Corrections
In the recent Call for Submissions announcement, it was mentioned that the Fall 2023 issue would be published as such. However, there is a slight adjustment in the publication timeline, and the correct designation for this issue will be "Fall 2023/Winter 2024." We appreciate your understanding and cooperation in updating this information for the benefit of our readers. If there are any further clarifications needed or if you have any questions, please feel free to contact us. Thank you for your attention to this matter, and we look forward to the continued success of the publication.

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