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Contributions Community Health Centers in the Delta have made during the Pandemic and their Future

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CONTRIBUTIONS COMMUNITY HEALTH CENTERS IN THE DELTA HAVE MADE DURING THE PANDEMIC AND THEIR FUTURE

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ABSTRACT

AJAH T. SINGLETON: Contributions Community Health Centers in the Delta Have Made During the Pandemic and Their Future
(Under the direction of Dr. Paul Johnson)

Community health centers that are located in the Mississippi Delta serve as critical points of contact for residents pertaining to medical care. The framework for the services provided locally, and nationally, originate from the now Delta Health Center in Mound Bayou, MS. The care that providers within these institutions have transformed over the course of the pandemic, and the aid rendered to patients have enabled residents to maintain their current level of health. Analyzing the various services provided during this time will allow for stakeholders to determine the next steps for these institutions as the imminent transition into a COVID-19 endemic approaches. Factors such as social determinants of health, federal, local, and charitable funding, and addressing staffing needs are important influences to consider in how health centers in the MS Delta can be sustained in the future.

Keywords: Community Health Centers, rural healthcare, COVID-19, Mississippi Delta

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LIST OF ABBREVIATIONS

CHC	Community Health Center
AEH	Aaron E. Henry Community Health Services Center, Inc.
PPP	Paycheck Protection Program
OEO	Office of Economic Opportunity
UMMC	University of Mississippi Medical Center
CMS	Centers for Medicare & Medicaid Services

Introduction

And that is what we do: make a road out.
We work with people to build a road out of
their circumstances, out of the inequity,
out of the poverty." - H.J. Geiger

Research Context

For the past 57 years, the healthcare needs of Mississippi Delta residents have been met through community health centers (CHC). In 2010, Eli Adashi, Jack Geiger, and Michael Fine highlighted the importance of these centers, and recently, due to an increase in rural hospital closings, local CHCs have become the only source of healthcare for some Mississippi Delta residents (Adashi et al., 2010). Now, during the COVID-19 pandemic, CHCs have become vital in preserving public health in the Mississippi Delta (Adashi et al., 2010). CHC's can provide services such as primary medical, dental, behavioral, and social services. The care administered to low-income patients is significant, and it is imperative that CHCs either find more funding in order to continue to operate, or to develop new ways for the centers to be run more efficiently. From the initial work done by Geiger and his colleagues in Mound Bayou, MS, it became clear that the public health needs for Bolivar County were not limited to medical procedures. The needs of those in the impoverished Delta included environmental/waste management, employment, housing, food security, and psychological care. While it has proven difficult for the Tufts-Delta Community Health Center to promote and fund these initiatives, making healthcare accessible, affordable, and maintainable is a mission that the center has been advocating for these past 57 years.

Research Objectives

In my framework development, I focused on three aspects of CHCs in the MS Delta: 1) the history of Community Health Centers in the Mississippi Delta, 2) the services rendered prior to and during the COVID-19 pandemic, and 3) the aid and strategic management needs in order for CHCs to perform and run more efficiently. It has been noted that most CHCs in the Delta lack adequate support from various levels of government, and in light of this CHCs must showcase ingenuity in how they utilize funding and donations. The ideal result from this research is that CHCs, including those not located in the Delta, can apply concrete methods in order to sustain themselves. The potential solutions presented in the final chapter of this thesis may assist in reorganizing the current system(s) that are in place. The health centers in the Mississippi Delta have contributed considerably to public health during the pandemic, and once we have entered an endemic it would be an opportune time to reevaluate the efficiency and quality of care of the centers and address the current and future needs of the CHCs. Taking into consideration how distanced most areas in the Delta are from major hospitals, the services rendered may need to change. In my analysis and recommendations, I will address the history and prior concerns from CHCs in the Delta, and I will also consider concerns due to the current state of healthcare due to the pandemic and the restrictions that have risen from it. While conducting my research, I have mostly acquired my perspective and data from a member of senior leadership at a local CHC in the Delta; their testimony and perspective has shaped most of the project and have contributed to articulating the needs of themselves and their patients.

Chapter One: The Current State of Rural Healthcare

It is well known that the state of healthcare in rural areas were in dire straits before the COVID-19 pandemic. In rural areas, it is more likely for a resident to not receive care for comorbidities such as diabetes, asthma, high blood pressure, high cholesterol, etc. and the issue has been long standing within those communities.

Resources

Research has shown that there is often a shortage in available resources for rural residents (Anderson et al, 2015). This includes equipment, staff, healthcare professionals, clinics/hospitals, and other resources such as health insurance, healthy foods, and recreational facilities. The Centers for Disease Control and Prevention (CDC) has reported that "rural citizens have fewer medical specialists (i.e., pediatricians, obstetricians/gynecologists, and internists) per 100,000 people" (Anderson et al 2015, pp. 3). This is evident in areas such as the Mississippi Delta where there is a plethora of general/family medicine physicians to choose from but little to no specialists available. For example, while there are 15 family medicine providers associated with the Delta Health System that is based in the Mississippi Delta, there are only three cardiologists and two providers that specialize in hyperbaric medicine on staff (Delta Health System, n.d.).

Chronic Health Conditions

Rural areas have an issue of managing the array of chronic medical conditions that plague residents. Health behavior research indicates that "adolescents and adults are more likely to smoke and be overweight, and residents are more likely to adopt alcohol addictions" (Anderson

et al, 2015, pp.3). Residents in rural areas are also more likely to have dental problems, usually due to the lack of local dentists and a lack of dental visits (Anderson et al, 2015).

COVID-19 and the State of Rural Healthcare

When the COVID-19 pandemic began, there was great deal of concern about how rural areas would manage the virus. In an article in *Nature Medicine*, Miller, Becker, Grenfell, and Metcalf discuss the burden the disease and healthcare burden that different areas in the country would have in curbing diagnoses and fatalities. The article, which was published in August 2020, discussed how many rural areas have insufficient to no resources to treat more severe cases of COVID-19. Therefore, residents were at an increased risk to receive insufficient treatment.

Chapter Two: Tufts-Delta Health Center

The Tufts-Delta Health Center, now known simply as Delta Health Center, is one of the first community health centers in the United States. It is located in Mound Bayou, Mississippi and serves the residents of Bolivar County and greater parts of the Mississippi Delta. It was established in 1965 under the guidance of Dr. H. Jack Geiger and was funded by the Office of Economic Opportunity, in conjunction with aid from Tufts University (Ward, 2016). While Geiger was completing his final months of medical school, he observed the community health centers in local, black South African townships and brought the idea to the United States to institute it in Mississippi (Ward, 2016).

The importance of the Tufts-Delta Health Center was that it laid the foundation of what community health centers are and what services they provide for their target population. Following their initial opening in 1965, the leaders, organizers and employees at Tufts-Delta became increasingly aware of the various public health crises that were happening in the Mound Bayou area. After becoming aware of these issues, organizers amended the original program initiative in order to address the concerns that plagued residents.

Healthcare Access/Treatment

When initially planning the health center, the core goal was to better the state of healthcare in the Delta by improving access to healthcare facilities. As the volunteers and employees interacted with the residents more, they realized that access is not limited to having to experienced specialists and physicians, but also being able to afford services. Due to the extreme levels of poverty and unemployment within the Mound Bayou area, with the exception of a few

black elites, there were few citizens within the area that could afford to seek care from the local Taborian Hospital (Ward, 2016). By utilizing funding received from the OEO, the Tufts-Delta Health Center was able to provide services ranging from primary care to ambulatory to acute care.

Transportation became another complication in addressing healthcare in the region. Lower income patients that resided in rural locations usually could not afford, or arrange transportation, to travel to the Mound Bayou location. Therefore, they were faced with another issue concerning access to medical care. This led to providers volunteering to travel and conduct home health visits in order to treat isolated patients (Ward, 2016).

Environmental Reform

The health center later supported an initiative to better the environment residents lived in. The center hired Andrew James as its first sanitarian, and was tasked with improving the basic living conditions of residents (Ward, 2016). The issues of obtaining clean drinking water and properly disposing of sewage were addressed first. Then, center sponsored small water pumps were installed around the greater Bolivar County area, and the center collaborated with attorneys so that residents would get a fully operational sewer system.

The goal of the environmental operation was not limited to simply establishing sustainable systems in order for residents to reside in comfortable, hygienic conditions. James and his team had the duty of convincing residents that the water they consumed, and furthermore their living conditions, were major contributors to their ailments (Ward, 2016). Their work also spread to within the home, and since many homes within the greater Mound Bayou area were in

poor condition the center treated many cases of injuries such as falls, infections or burns due to the substandard constitution of patients' homes.

These efforts further reinforced the belief that the health center's mission was multifaceted, and clinic's involvement in various enterprises were crucial for the medical facet of the operation to remain successful.

Employment Opportunities

The introduction of the health center led to numerous job opportunities for locals in the community. Federal funding from the OEO and the educational and staff backing of Tufts University and Meharry Medical College, respectively, allowed the health center to prioritize employing those that were less educated and did not have technical skills. The health center ensured that members of the target population were hired due to a dying sharecropping industry and many residents lacking an education outside of agriculture (Ward, 2016).

During the 1960s the Mississippi Delta witnessed a loss of over 40,000 agricultural jobs due to mechanization within the industry, therefore the center made it a priority to advocate for more jobs so that citizens could afford necessities not accessible to them before. For example, home loans were vital in ensuring that residents no longer resided in the unstable homes they were in before and the sole way to receive them were for residents to have higher paying jobs (Ward, 2016). While professional staff were hired from foreign areas, Geiger and Hatch set out to allocate the remaining staff positions of medical record librarians, lab technicians, secretaries, nurses' aides, etc. to Mound Bayou locals and those that resided in the greater Mound Bayou area (Ward, 2016).

The effort to award employment opportunities was not limited to assigning job positions, but expanding education efforts so that those not awarded jobs have the ability to seek employment elsewhere. Providing GED and college preparatory classes empowered locals and bettered their quality of life.

Farm Co-Op

The farming co-op was inspired by the prevalent issue of hunger within Bolivar County's poor. It was deemed by the health center that addressing the need for healthy, sustaining food was imperative to improving the health outlook of Bolivar County. The project was headed by L.C. Dorsey and served as a way for families to work for food while serving the community (Ward, 2016). The project was very successful in promoting healthy eating habits and aided in promoting preventative care.

One of the core issues that Geiger and Hatch arrived to was that many citizens in Mound Bayou, and by further extension Bolivar County, prioritized the looming hunger crisis over receiving medical care. This was an unexpected conflict, since they arrived with the expectation that they would only manage medical dilemmas, but the employees of the clinic were committed to fulfilling the request. By gaining funding and having those that ate from the garden to maintain it, the co-op fostered a sense of community while accomplishing the goal of feeding the hungry. The co-op led to the opening of a sandwich shop, a bookstore, and a noodle production business; all three businesses both provided jobs to co-op members (Ward, 2016).

Leadership

The aspect of fostering leaders from within the community was a major objective that Geiger and Hatch wished to accomplish (Ward, 2016). The Tufts-Delta Health Center fostered

and reinforced a sense of community, pride, and self-determination for the underprivileged of Mound Bayou and Bolivar County. Encouraging patients and members of the community to lead, serve, and join advisory boards or health councils also gave Tufts-Delta crucial insight to the needs of the community. Having local residents serve and represent in leadership roles benefitted the CHC in a number of different ways. For example, when the clinic was deciding which members of the community were to be employed there, having other locals who knew more personal details about the applicant gave those in executive leadership roles clarity and transparency in who they were hiring (Ward, 2016).

Developing leaders gave rise to leaders that would later carry out initiatives that would transform and expand the duties that the health center executed. L.C. Dorsey (whom spearheaded the Farm Co-op project) is an example of the influence the center had on the local population.

Chapter Three: COVID-19 Response

Services Rendered Prior to COVID-19

The principles that push CHCs forward are: ensuring patients have access to primary and preventative care and providing enrichment for their target population. Community health centers provide accessible comprehensive primary care by severing barriers to access and providing services like screening, diagnosis, and management of chronic illnesses such as diabetes, asthma, heart and lung disease, depression, cancer, and HIV/AIDS (Geiger, 2016). Centers like the Aaron E. Henry Community Health Center, Inc. offer wellness programs, social/behavioral health services, dentistry and vision services. Similar to the mission of the Tufts-Delta Health Center, CHCs are tasked with addressing the core problems that persist in their communities. Providing transportation, giving seminars on health education and donating food to impoverished people are examples of core issues that are not medically related that CHCs carry out for their community.

COVID-19 Response

The community health centers located in the Mississippi Delta have a heightened concern of COVID-19 complications due to the prevalence of chronic illnesses such as diabetes, high blood pressure, high cholesterol, heart disease, etc. At the beginning of the pandemic Jamiko Deleveaux and Vanessa Parks (2020), both from the University of Mississippi's Centers for Population Studies, determined that the highest rate of risk of complications in Mississippi appears to be located in northwest Mississippi – including the Delta. The rate of risk is not only determined by the prevalence of illness prior to the pandemic, but also the lack of necessary

resources to ensure safe recovery. Equipment such as personal protective equipment and ventilators are sparse in quantity, and the overall healthcare infrastructure is insufficient in treating the then rising infection rates (Deleveaux & Parks, 2020). Also, due to the nature of the virus, CHCs have to manage a scarcity in qualified staff. Since centers located in the Delta were already contending with the issue of recruitment in those areas; gaining and sustaining a well-trained staff has proven itself to be a major obstacle in ensuring that residents are provided quality healthcare.

CCVI Scores and Meaning

In July 2020 during the COVID-19 outbreak, members of the Surgo Ventures team assessed that the overall Mississippi COVID-19 Community Vulnerability Index (CCVI) score was to be 0.92. The scores range from 0 –1 with zero meaning least vulnerable to one meaning extremely vulnerable. The index is not to determine which individuals will be infected, but to predict the negative impact of the virus onto a community. The CCVI scores in the Delta have averaged at 0.834 and that demonstrates the significant vulnerability and the problems that plague the residents of the Mississippi Delta.

Metrics obtained from the *New York Times* show the COVID-19 total cases and deaths for two Mississippi counties that are located in the Delta. As of 4/11/22, Bolivar County has reported approximately 9,285 confirmed cases and 179 deaths since March 2020, and Tunica County has reported approximately confirmed 2,539 cases and 46 deaths. Nearly one-third (30.6%) of Bolivar County's population and 26% of Tunica County's population tested positive for COVID-19. In comparison, as of 4/11/22, Hinds County has confirmed approximately 52,230 confirmed cases and 788 deaths since March 2020. This means that roughly 23% of Hinds County's population has tested positive for COVID-19. Unfortunately, the Delta's number of

confirmed cases and deaths reflect how difficult it has been for residents, and CHCs, to navigate through the COVID-19 pandemic. The population is vulnerable due to a lack of critical care health professionals in the area and should complications due to COVID-19 arise, residents may have no assistance or guidance.

During the Pandemic

During the pandemic, the efforts of local CHCs were limited due to the aforementioned lack of equipment. Nonetheless, CHCs conducted vital services such as hosting mobile, drive up and drive in testing drives for their local communities, distributing face masks, and collaborating with various partners in order to increase access to items such as medications and vaccines (Community Health Center Association of Mississippi, 2021). The scope of treatment the Aaron E. Henry Community Health Center has done pertaining to COVID-19 was limited to testing, administering vaccines, and outreach as of March 2022. CHCs, just like other healthcare organizations, could not perform services such as routine dental exams or evaluate patients with chronic illnesses. Due to fear of the virus and limitations surrounding when and what type of care patients could receive, the Aaron E. Henry Community Health Center has lost approximately 40% of their consistent patient base during the COVID-19 pandemic. While they have seen an increase in patients, they have come for episodic care (COVID-19 vaccines and COVID-19 testing), and whether these patients intend on being long term patients remains unclear.

Vaccine Roll Out Efforts

According to data released by The Mississippi State Department of Health (2022), the total reported vaccinations by Mississippi providers as of 4/11/22 is 3,783,297 doses (this figure

includes single vaccine injections, boosters, and the initial two-step vaccines (Pfizer and Moderna)). In the Delta, the confirmed COVID-19 vaccine doses administered number 663,562 total doses across the region (Mississippi State Department of Health, 2022). In comparison, Central Mississippi counties such as Hinds, Rankin, Copiah, Holmes, Madison and Simpson counties vaccination doses are approximately 781,311. As shown, the difference in vaccination figures is approximately 117,749 doses (Mississippi State Department of Health, 2022). This shows considerable success when considering issues such as accessibility and vaccine hesitancy that is prominent in the Delta region.

Once vaccines became available, there were complications for some CHCs in acquiring them. Due to the limited doses that were sent from the federal government, CHCs were tasked with connecting patients to centers that had the vaccine. CHCs adapted by opening phone lines to address vaccine questions, comments, and critiques (Community Health Center Association of Mississippi, 2021). The Aaron E. Henry Health Services Center, Inc. has experienced success with outreach and administering the COVID-19 vaccine to their patients. The center has administered approximately 2000 vaccines, and they consider this a success due to vaccine hesitancy that is prevalent in their community. Federal care packages, such as the CARES Act, were very beneficial to the Aaron E. Henry Health Services Center, Inc. since it gave the center the option to go out into the community to administer doses to those that could not reach the center.

Long COVID

During the pandemic, healthcare professionals and individuals experiencing COVID-19 became aware of patients encountering complications termed as post-acute sequelae of SARS-CoV-2 infection (Hale et al., 2022) or long COVID. Long COVID is a phenomenon that

healthcare professionals are currently attempting to clarify, and unfortunately this means that Mississippi Delta residents that are experiencing long COVID symptoms and complications have very little guidance or assistance in curing or treating their ailments since most community health centers in the Delta region mostly offer basic, primary services, not specialty services such as cardiology, neurology and chronic pain management. This is unfortunate since long COVID conditions may range from chronic fatigue to cardiomegaly (enlargement of the heart). This issue is paired with patients not having transportation to see a specialist – who may be located approximately 140 miles away, and patients that do have health insurance may have their long COVID claims denied (Hale et al., 2022). While most states do have long COVID clinics, they are primarily based in urban areas which still leave Delta residents with very few options. During the pandemic, CHCs were left with very few options or answers, they could either treat patients as well as they can, refer to a specialist if possible, or aid in the disability application process. The full impact of this condition is yet to be quantified. In the meantime, residents that have been affected by long COVID and can no longer work, or have their physical capabilities diminished, have applied to receive disability benefits. But proving a long COVID diagnosis and actually being qualified for benefits are two separate things and residents in question may not receive benefits (Hale et al., 2022).

Chapter Four: Discussion

The work done by those working in CHCs is imperative for low-income residents, many cannot travel long distances to get care and there are those that cannot afford care elsewhere. Prior to the pervasiveness of the CoV-Sars-2 virus, CHCs faced a unique problem of having a plethora of primary care physicians, but not having enough specialists to treat major chronic illnesses. As mentioned before, the Mississippi Delta region has been crippled by the lack of equipment and a lack of providers knowledgeable in how to operate equipment (Melvin et al, 2020). Complications have not only affected patients, but also the providers that care for them. The National Association of Community Health Centers state that a core common difficulty found across the country was the issue of supporting healthcare staff mentally, emotionally and physically. When discussing how to improve the experience of patients, it is important to consider and discuss the manner in which vital personnel are also a priority. Staffing shortages are rampant throughout the area, and COVID-19 has worsened that reality, therefore seriously considering how to make these organizations more efficient and worker friendly will prove to make them more profitable and more accessible.

During the COVID-19 pandemic, telehealth services emerged as the ideal mode of treatment. But, due to how rural most of the Delta region is, combined with the lack of advanced technology awareness and patients not having the capacity to host telehealth services on personal devices has proven that this method is not a viable option at the moment. But there was an initiative in 2008 to introduce Telepsychiatry in the Mississippi Delta, the project was led by the Delta Health Alliance – a nonprofit organization that dedicates itself to improving healthcare access in the Delta – and the project ended in December 2011 (Holland et al., 2018). While the

project was not a long-term solution is has produced evidence that supports hosting telehealth or telemental services at CHCs. Since broadband is still an issue in rural areas, hosting telehealth services at CHCs that could potentially afford the expensive operating costs associating with telehealth/telemental services allowed for underserved patients to finally see a mental health professional. Patients were also able to connect and talk with other patients that were institutionalized at the Mississippi State Hospital, and this fostered a sense of community (Holland et al., 2018). This grant project required the cooperation of multiple entities such as the Delta Health Alliance, UMMC (University of Mississippi Medical Center), Mississippi State Hospital and local CHCs in the Delta. Having these resources allowed for the project to last as long as it did and most importantly, cover the price tag of the endeavor. Costs and hurdles such as overhead, equipment, high speed internet, equipment maintenance, education and counselors/staff's salaries/wages, state-level licensing rules, limited reimbursement from third-party providers, etc. (Carrasco, 2020; Holland et al., 2018) have presented the largest hurdle that has prevented many CHCs or other similar organizations from providing telehealth/telemental services. At this time, CHCs have not been able to rely on grants to fully fund programs and initiatives, in fact, most funding comes from either federal reimbursement, CMS, or patient co-pays that are determined on a sliding scale. The only recent exception to the funding issue has been the COVID-19 pandemic where these institutions have seen an increase in funding and services. Therefore, projects such as this do not last long since resources are finite and obtaining financial support is scarce and complex.

Telehealth's implementation has also been restricted by a lack of awareness of what it is and what it offers. Incidentally, Mississippi has been a leader in telehealth for nearly a decade with UMMC leading research and advocacy efforts (Carrasco, 2020). But unfortunately, rural

residents in the past have not had the opportunity to learn about these telehealth efforts and capabilities, and this has made it difficult to implement these types of treatments. The sociotechnical theory states that "to improve organizational performance consideration needs to be given to optimizing both technical work processes and the social systems within the work environment" (Carrasco, 2020). This implies that simply providing the services would not be the entire solution, but educating and allowing for rural residents to get acclimated to this medium of care is vital for it to be maintained. Many rural residents have limited contact with healthcare professionals and it would be a disservice to simply treat the "symptoms". But instead, aiding CHCs in educating residents about options and tangible benefits would be of great help. In order for the technology and treatment to be seen as a "good" thing, the technology must be seen as simple to use.

The work of CHCs in the Delta has been comprehensive, and rather address how to simply treat an illness or injury, they work towards making the community overall healthier (Lamm, 2003). The various initiatives including employment opportunities, food/diet education, leadership cultivation, environmental reform, etc. are proof of this even before the need and a formal concept was conceived. CHCs, like most of the healthcare landscape, are emphasizing preventative care for patients since there are various benefits to the approach. Enterprises such as screening tests for diabetes, cancer screenings, food drives and free physicals/dental services are considered to be some of the most important work that CHCs have done.

Patients at CHCs, for example the AEH Center, range from elderly patients to entire schools, and the effect that the pandemic has had on both populations is staggering. Older patients make up most of the CHC's chronic cases, and due to fear of contracting COVID-19 or lacking awareness of COVID-19 services, these patients are among the 40% that the center has

lost. Students from public schools are also a significant portion of the CHC's patient base, and the center is yet to quantify the consequences of not seeing these patients at all during the majority of 2020-2022.

To summarize, CHCs in the Delta prior to the pandemic were already in dire straits concerning reach and accessibility in terms of funding. From limitations prohibiting CHCs from offering telehealth services to staffing shortages that have worsened in the past two years, CHCs have had very little to work with. While they do have greater support and funding now, they have to operate within strict guidelines that leave very little room to address other concerns besides treating COVID-19 patients. This problem is in conjunction with uncertainty of whether patients that have come to the center for episodic care will transition to long term patients.

Chapter Five: Solutions

The Iranian Health House Model

When considering which methods may assist in alleviating the burden of a lack of transportation for patients, the Iranian health house model could be a component of the solution. By bringing healthcare to the individual, rather than bringing the individual to healthcare (Hosseini, 2016), accessibility to healthcare would progress at a faster rate in comparison to earlier initiatives. The health house model would boost transportation programs and decrease the distance patients would have to travel to the nearest CHC. Also like the Tufts-Delta Center, the "Delta" house model would employ local members of the community so that employees could serve as a bridge to patients (Bristol, 2010). Then, trained employees and medical professionals can help patients in navigating the healthcare system and gain as many benefits as possible. There has not been as much discussion or update surrounding the "Delta" Health Houses, but if it were to be rebooted then it would resemble the branches of the Aaron E. Henry and Delta Health Centers where there are numerous branches throughout the Delta. But instead, some branches could serve as telehealth facilities or specialty clinics that patients would not have to get a referral for; then, patients would have even more access to quality healthcare. A huge hinderance to this project has been the uphill battle in gaining funding for this project. Many federal and state law makers do not wish to fund a project that takes inspiration from a "country in extreme disfavor with the U.S." (Bristol, 2010).

If there are DHCs (District Health Centers) that prioritize primary care, then there could be other DHCs that specialize in vision, dental, or behavioral therapy centers. Funding can then

be properly distributed, like in Iran, and management decisions will not have to sweeping and neglect addressing specific issues.

Funding

Throughout the pandemic, community health centers in the Delta have received various aid packages to manage COVID-19 cases. The AEH Center, like most CHCs, operate on a sliding fee scale depending on your income status. Prior to the pandemic, patients paid what they could and if they could not fully pay their co-pay then they would be limited in what services they could receive. While the center has had no problem with acquiring funding during the pandemic, they have faced difficulty in managing what to invest in. This problem pertains to federal and state grants that are explicit and rigid in what qualifies as acceptable expenses. Grants that address COVID-19 needs cannot be used to assist with operating costs, even if the facility has a surplus of COVID-19 treatment equipment. Therefore, AEH Centers has focused their funding and attention to efforts such as vaccines and testing. AEH Centers is also now centering efforts on combating COVID-19 variants that may arise. The Paycheck Protection Program (PPP) was cited as being a vital piece of legislation that assisted the AEH Centers immensely in retaining practitioners and talent, and this loan is forgivable as long as they are used for purposes underlined in the CARES Act (Nail & Taylor, 2021).

Also established by the CARES Act, the Provider Relief Fund Program is to aid providers in defraying COVID-19 losses and account for lost revenue. CHCs have also benefitted from this program and the program has awarded $178 billion in funds to CHCs, hospitals, long term care facilities, etc. (Nail & Taylor, 2021) and this has also aided providers in recouping losses due to COVID-19. Since providers have been less reliant on commercial loans these past two years, CHCs have not had to consider liquidity and how finance their practices.

But healthcare providers will have to navigate the healthcare market once the pandemic ends, and that is a major concern that many CHCs have due to uncertainty in long term patients.

It has been noted that funding for CHCs has been influenced by what patients can pay, and due to many patients being low-income, it was becoming increasingly difficult to administer services and has resulted in some patients not receiving all of the care that they needed. Also, while centers have received an abundance of support from the federal government, they have been hindered in what they can use the grants and awards for. The specificity of the grants has made some aspects of the COVID-19 pandemic more difficult for centers like the AEH Centers. Centers are now supplied with a surplus of funds but cannot utilize them efficiently since they have already accumulated a surplus of vaccines, tests, and PPE for that region, but they are facing difficulty managing operating costs, and that would benefit the center the most.

Therefore, a solution for CHCs could be is to advocate for grants similar in nature to the PPP loans that were administered during the pandemic. These loans aided the AEH Centers to keep employees and to minimize the effect that travel assignments have had on the greater healthcare industry.

Standardize Social Determinants of Health

While CHCs in the Mississippi Delta are already incorporating and addressing various social determinants of health, standardizing treatment is important in the effort to increase efficiency within these centers. While this may undermine efforts to address more critical and severe medical conditions, this is one way for clinics to make the most impact while maintaining their budgets. Shaping the average patient's care around a broad regimen gives the clinic the ability to customize the care plan in a way that best suits the patient's needs. The Krese

Foundation also finds that establishing the local social determinants of health allows CHCs to curtail their chances of redundancy and coordinate with systems like school systems, medical hospitals, and other public health agencies (Institute for Alternative Futures, n.d.). Having insight into those metrics would grant CHCs the capability to better utilize their resources and time; in turn, this will enhance the medical experience of patients within the Delta.

Conclusion

The COVID-19 pandemic has exposed several issues that community health centers are facing in the MS Delta. Their future and sustainability are contingent on adequate funding and having more autonomy with grants that are awarded through the federal government. In AEH Centers' case, they have received a surplus of funding and support through the federal government, while the state government were more gradual with COVID-19 public health efforts. The centers losing approximately 40% of their patient base over the course of the pandemic is concerning, and the mounting uncertainty of gaining long term patients is forcing CHCs to think about what services they are to offer when the pandemic ends. This will require ingenuity from administrators, support from local organizations and backing from state and federal legislatures.

The CHCs in the Delta have been very proactive and efficient with COVID-19 testing, and later COVID-19 vaccines, now the next goal is to determine their next steps while incurring the lost cost possible. CHCs are considering offering different therapies such as cognitive behavioral therapy, family therapy, and counseling. CHCs have a significant role to fill for members of the community that have no other options, and their impact during the pandemic cannot be understated.

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