

Understanding the True Healthcare Impact of Nonprofits Serving the Navajo Tribe During the COVID-19 Pandemic

Mohan Sudabattula (Project Embrace, Utah, United States), Samuel Philips (University of Utah, Utah, United States), Gabrielle Hoyer (University of California, San Francisco/Berkeley, Utah, United States), and Audrey Pozernick (University of Utah, Utah, United States)

Abstract

Undeniably, the disruption caused by the COVID-19 pandemic has elevated healthcare needs and regressed advancement made toward Sustainable Development Goal 3. Marginalized and low-resource populations, such as the Navajo tribe, were disproportionately affected by the pandemic, as was seen in metrics such as morbidity rates, food security, and domestic abuse/ intimate partner violence occurrences. As a result, the pandemic exposed heightened pain points of vulnerable populations and introduced opportunities for nonprofits to address the urgent healthcare needs of susceptible communities. This paper determines the sustainable impact of the medical supply campaigns hosted by 501c(3), Project Embrace, as a case study to further evaluate the success of nonprofits and the progress of Sustainable Development Goals during the pandemic.

Keywords: Indigenous, Healthcare, Nonprofit, Pandemic, Rural, Supply Chain

Introduction

Nonprofit organizations play an essential role in the progression of the Sustainable Development Goals (SDGs). Often, nonprofit organizations work closely with marginalized and disenfranchised communities to provide essential services to advance the agendas of the SDGs. The COVID-19 pandemic heightened the demand to achieve these goals, as the pandemic has either halted or reversed the progress of the SDGs (Zhenmin, 2021). Indeed, this was the case in indigenous communities within the United States. Health disparities were intensified during the pandemic as the demand for healthcare services increased, while funding and resources for indigenous tribes were diminished, and access to healthcare was devastated (Shah et al., 2020). As a result, the emergence and prevalence of community initiatives developed and deployed by nonprofits, such as Project Embrace, increased throughout the duration of the pandemic. These community initiatives allowed for the progression of Sustainable Development Goal 3, despite the obstacles that the pandemic has presented. Project Embrace is focused on addressing SDG Target 3.8 within the Navajo community as the provision of essential, and affordable healthcare services is necessary to counteract the damage incurred by the pandemic (United Nations, 2021). However, despite the increase in community initiatives, the impact and implications of these programs have seldom been discussed. It is necessary to evaluate these initiatives and their overall effectiveness

in progressing the SDGs, specifically during the pandemic. Thus, the purpose of this paper is to evaluate the effectiveness of the medical campaigns facilitated by Project Embrace to the Navajo Reservation, in the context of SDG Target 3.8.

Background

The Navajo Community Prior to the Pandemic

The United States has had a poor relationship with indigenous communities, including but not limited to the Navajo tribe (Tajmajer, 2021). As a result, these communities face a lack of access to basic and necessary infrastructure, including but not limited to clean piped water, electricity, internet, road development and maintenance, housing, healthcare, and education (The World Bank, 2021). Consequently, this has and continues to contribute to a lower quality of life and poor health outcomes for indigenous communities. Although there are a variety of social determinants of health, the scope of this evaluation is limited to factors within the healthcare system, and more specifically the provision of necessary medical technologies for lifestyle assistance.

One of the most effective public health policies to improve health outcomes is the implementation of handwashing to reduce the spread of disease. Having access to clean piped water to wash hands is necessary to slow the spread of disease within a household and the greater community (Purvis Lively, 2021; Larson, 2020). The Navajo community has long suffered from a lack of access to clean piped water and it is estimated that 9,500 homes on the Navajo Reservation do not have piped water (Brown, 2020). Consequently, many homes must transport in clean water which can be financially burdensome, time consuming, and may reduce handwashing frequency.

Similarly, barriers in navigating healthcare infrastructure greatly contribute to poor health outcomes (McMaughan, Oloruntoba and Smith, 2020). In particular, socio-economic status and distance traveled for care can affect the ability to access healthcare. The Federal Reserve Bank of Minneapolis (2017) found that the Navajo Reservation had a poverty rate of 40.5% compared to a reported U.S. poverty rate of 14.6% (Federal Reserve Bank of Minneapolis, 2017). Furthermore, socio-economic status can contribute to transportation difficulties that may inhibit a patient's ability to access the healthcare system (Rural Health Information Hub, 2011). In context, the Navajo reservation is roughly the size of West Virginia, and Indian Health Services runs just 14 hospitals throughout the Navajo Nation. It was determined that on the Arizona portion of the Navajo Reservation, the average distance traveled to the nearest provider was 26.81 miles and the distance to the next provider was 44.57 miles (Navajo Nation Primary Care Area: 2020 Statistical Profile, 2021). This data does not account for the distance traveled to see a specialist or to a Level I trauma center, greatly affecting the Navajo community's ability to seek specialized and comprehensive emergency care.

Furthermore, many of the people who live on the reservation are in a food desert, with only 13 full-service grocery stores throughout the greater reservation. The average resident has to drive hours to buy food, and extreme poverty prevents many from buying more expensive items such as fresh produce. As a population, American Indians and Alaska Natives have the highest rates

of diabetes, resulting in high demand for mobility and lifestyle assist technology (NICOA, 2019). In the Navajo Area, 1 in 5 have diabetes and it is estimated that 75,000 have prediabetes, according to (Noble, 2017). Cycles of poverty further enable the increase of noncommunicable diseases throughout the greater tribe.

Project Embrace facilitated medical campaigns in four of the six counties that include the Navajo Reservation (San Juan County, UT; Navajo County, AZ; Apache County, AZ; and McKinley County, NM). In 2019, County Health Rankings compiled social determinants of health data to rank each U.S. county's health outcomes and health factors against all other counties in the respective state. All four aforementioned counties scored in the bottom 25% for their state in both health outcomes and health factors (County Health Rankings, 2020a; County Health Rankings, 2020b; County Health Rankings, 2020c; County Health Rankings, 2020d). This data illustrates the grim reality of health outcomes within the Navajo community prior to the pandemic.

The Navajo Community During the Pandemic

In both 2020 and 2021, the aforementioned counties maintained health outcome and health factor rankings in the bottom quarter for their respective states (County Health Rankings, 2021a; County Health Rankings, 2021b; County Health Rankings, 2021c; County Health Rankings, 2021d; County Health Rankings, 2022a; County Health Rankings, 2022b; County Health Rankings, 2022c; County Health Rankings, 2022d). While the rankings did not change from 2019, it must be recognized that rankings could not decrease as the counties were already in the bottom quarter. Additionally, the pandemic generally exaggerated hardships further influencing the social determinants of health and worsening health outcomes (Orgera, Garfield and Rudowitz, 2021).

Moreover, it is well established that the pandemic has disproportionately affected vulnerable communities (Sequist, 2020). The regular obstacles faced within the Navajo community have only been amplified by the severity of the COVID-19 pandemic. In particular, the mortality rate of COVID-19 is approximately 2.5 times higher on the Navajo Reservation than it is in the United States as a whole (Centers for Disease Control and Prevention, 2022; Navajo Department of Health, 2022). Thus, the pre-pandemic state of the social determinants of health has undoubtedly worsened throughout the duration of the pandemic.

About Project Embrace

A 501c(3) with the mission to 'increase access to health care services for all through the provision of necessary medical resources to low-income, isolated, marginalized, or low-resource communities in the Mountain West and abroad.' Project Embrace's operations consist of five key phases 1) collection and storage, 2) sanitization and refurbishment, 3) community partner research and outreach, 4) transportation, and 5) distribution (Project Embrace, 2022).

First, gently used medical technology is collected from vendors within the community and stored at our facility. Second, with the help of volunteers, the medical technology is then thoroughly cleaned, sanitized, and refurbished as necessary. Thirdly, community partners (CP) within an

identified community are contacted to gauge the need for medical technologies and requests from the CPs are collected. The devices are then assigned to a CP and loaded into a transport vehicle. Next, the Project Embrace team transports the devices to the region of the medical campaign and finally distributes the requested medical technologies to each CP. The entirety of this process from planning to execution, can be accomplished within 4 months.

When appropriate, the team will learn more about each community partner, including the adversity they and their patients face. This is essential for Project Embrace to build trust within the respective target community, this was especially the case during the pandemic. Having a strong history of working in vulnerable and low-resource settings, Project Embrace ensures that no community partner or patient will pay for the medical technologies. Indeed, Project Embrace aims to equip already effective community organizations to increase their overall efficiency by supplying experts with needed resources and technology to more urgently address the observed needs of the community.

Project Embrace's Relationship with the Navajo Community

Project Embrace was first introduced to the Navajo community in November 2018 by the Moran Eye Center's Global Outreach team. This medical campaign allowed Project Embrace to begin building a relationship with the Navajo community and showcased the need for medical technologies. The following medical campaign in 2019 was again facilitated in collaboration with the Moran Eye Center and further strengthened relationships with community partners from the previous campaign. Additionally, the 2019 medical campaign introduced Project Embrace to new regions of the Navajo Reservation and allowed for the development of new relationships.

Over the course of the past two years, Project Embrace has worked in close collaboration with NavajoStrong, a local 501c(3) organization dedicated to increasing health and wellness for the Navajo people. Project Embrace and NavajoStrong have worked closely as first responders in the Navajo Reservation during the COVID-19 outbreak (Navajo Strong, 2022). While Project Embrace works directly with hospitals and clinical settings through the provision of medical technologies, NavajoStrong specializes in working with isolated patients who often lack a household address, via the provision of care kits (clothing, food, school supplies, etc.). Both Project Embrace and Navajo Strong have a strong history of collaboration with indigenous communities making communication of healthcare needs easier. One of the greater obstacles in accessing this community is not in the funding of our programs, but rather in the relationship development with the Navajo. The coordination of both organizations has helped increase access to vital community contacts on the reservation, leading to more frequent outreach during the COVID-19 pandemic.

Methods

Overview

The aim of this evaluation is to determine if Project Embrace was successful in supporting the Navajo community through its medical campaigns facilitated between November 2018 and January 2022. Hereafter, success will be defined as increasing or maintaining a threshold of financial efficiency and the ability to adequately meet the needs of community partners (CP) for each campaign (services rendered). Both conditions must be met to deem Project Embrace's initiatives to the Navajo community as successful. The conditions will be evaluated using the following metrics determined for each medical campaign: 1) cost to facilitate, 2) quantity of medical technologies donated (QMTD), 3) total monetary value of the medical technologies donated, and 4) delivery cost per medical technology (DCMT).

Calculation of the Medical Technology Value

The device value calculated for each medical campaign is calculated by device type. For each medical technology type and subtype (i.e. adult, pediatric, bariatric), ten current market prices are collected from different manufacturers and retailers; these prices are then averaged to find the average retail price for the medical technology subtype. A 15% deduction is applied to the average retail price to account for the medical technology being pre-owned. The average pre-owned price is then used as the standard medical technology subtype value (MTSV). The MTSV is then multiplied by the distribution quantity and repeated for the quantity in each subtype. These values are then summed to return the total medical technology value for the medical campaign.

The medical technology types and subtypes (shown in parentheses) distributed during the medical campaigns includes the following:

- Indoor manual wheelchair (adult, pediatric, bariatric)
- Outdoor manual wheelchair (adult, pediatric, bariatric)
- Motorized wheelchair (adult, pediatric)
- Four-wheeled walker (adult, pediatric)
- Two-wheeled walker (adult, pediatric)
- Basic walker (adult, pediatric, bariatric)
- Single point cane (adult)
- Quad point cane (adult)
- Commode
- Toilet riser

- Shower chair
- Shower bench
- Knee scooter
- Forearm crutches (adult, pediatric)
- Basic crutches (adult, pediatric)
- Ankle brace
- Sling
- Orthopedic boot (adult, pediatric)
- Wrist brace
- Pantiliners*
- Tampons*
- Menstrual pads*

*These medical technologies were not accounted for in the calculations or reported metrics. See limitations.

Calculation of the Financial Data

The cost to facilitate the medical campaign is calculated by collecting the receipts and summing the funds used to facilitate the medical campaign. Costs are categorized by logistics, lodging, and meals. Logistics is generally the costliest category as it includes: vehicle daily rental rate, vehicle mileage rate, insurance, and fuel.

DCMT is calculated by dividing the total cost to facilitate the medical campaign by the QMTD, as shown in Equation 1.

Eq. 1
$$DCMT = \frac{total \ cost \ to \ facilitate \ medical \ campaign}{total \ number \ of \ medical \ technologies \ donated}$$

Adjusted DCMT is used to account for monetary support in the form of alleviating or reducing the costs of logistics, lodging, meals, or some combination thereof. Generally, this is the result of collaboration with another organization, which may alleviate or reduce certain costs. Consequently, the reported total cost to facilitate the medical campaign is lower than if collaboration did not occur. To standardize the medical campaign metrics, estimated values of

the costs avoided were factored into the total cost to facilitate the medical campaign. Thus, the adjusted DCMT is calculated using Equation 2.

Eq. 2 Adjusted $DCMT = \frac{(total \ cost \ to \ facilitate \ medical \ campaign) + (estimated \ value \ of \ costs \ avoided)}{total \ number \ of \ medical \ technologies \ donated}$

Determination of the Financial Efficiency Threshold

Financial efficiency is determined by comparing the trend in the QMTD to the trend in the DCMT, or adjusted DCMT when applicable, over the five medical campaigns. Therefore, QMTD and DCMT were plotted over time within the same figure to visualize trends (Fig. 1, 2). Additionally, the QMTD per campaign was plotted separately using a scatter plot. Linear regression was performed to determine a trendline with an equation and R² value. The slope of the reported equation represents the change in the QMTD per medical campaign, and thus over time.

To deem the medical campaigns financially efficient, one of three financial conditions must be met.

- 1. The DCMT trend remains relatively constant while the QMTD displays an increasing trend.
- 2. The DCMT displays a decreasing trend while the QMTD trend remains relatively constant.
- 3. The DCMT displays a decreasing trend while the QMTD displays an increasing trend.

Determination of the Services Rendered Range

The services rendered range is defined by balancing the supply and demand of medical technologies, over a predetermined time range. Given that Project Embrace requires adequate time to prepare for a medical campaign, the minimum range for the services rendered evaluation is set to four months (16 weeks). To account for the potential to overwhelm the community, it is imperative that the supply does not exceed six months (24 weeks). Consequently, the supply of medical technologies must last between four and six months to adequately meet the community's demand, and deem Project Embrace's services rendered successful.

The information used to evaluate services rendered is sourced from in person surveys conducted with the CPs during the medical campaigns. During these surveys, the CPs were asked to estimate the time to distribute the delivered medical technologies. This information will be supplemented with information regarding the circumstance of the Navajo community, to provide insight into supply and demand changes between medical campaigns.

Results

Overview

Project Embrace facilitated two medical campaigns within the Navajo community prior to the pandemic (November 2018 and May 2019), followed by an additional three medical campaigns during the pandemic (July 2020 to January 2022). The first medical campaign, November 2018, served as a sample set to determine the demand for medical technologies within the community. The subsequent medical campaigns increased in volume and scope as the needs of the Navajo community increased. Furthermore, the latter three medical campaigns were facilitated during the pandemic, requiring a substantial increase in quantity of medical technologies donated (QMTD) (Table 1).

Table 1: Medical Campaign Metrics

		Quantity of	
	Medical	Medical	Quantity of Community
Medical Campaign	Technology Value	Technologies	Partners Worked With
November 2018*	\$401.19	20	1
May 2019*	\$2,531.14	80	1
July 2020	\$5,898.71	110	5
December 2020	\$25,363.36	288	6
January 2022	\$37,284.23	342	6

*Pre-COVID-19 pandemic medical campaign

Financial Evaluation

As previously mentioned, the trends in both donation cost per medical technology (DCMT) and QMTD are compared to determine if the medical campaigns were financially efficient. While DCMT accounts for the costs incurred, it is also important to account for the contributions of medical campaign collaborators to standardize the metrics used to determine overall medical campaign financial efficiency. Thus, adjusted DCMT will also be used to evaluate financial efficiency.

Figure 1 visualizes the trends of DCMT and QMTD over time. Although, the DCMT of the May 2019 campaign is relatively large, the DCMT of the other campaign is fairly consistent around \$8. The QMTD displays an increasing trend as the medical campaigns grew in volume over time. Thus, the data represented in Figure 1 meet the criteria for financial efficiency under condition 1. However, the DCMT values displayed do not accurately reflect the circumstances for the November 2018 and May 2019 campaigns as DCMT values are kept artificially low through costs covered by the Moran Eye Center through subsidized lodging.

To account for the subsidized lodging, adjusted DCMT values for the two pre-pandemic campaigns were calculated. Typically, the cost of lodging in the area is estimated at \$80.00 per room per night. During the November 2018 medical campaign, the Moran Eye Center covered the cost of two rooms for one night for a value of \$160.00. Consequently, the adjusted DCMT for the November 2018 medical campaign would be \$15.50. Likewise, the Moran Eye Center covered

the cost of one room for one night during the May 2019, a value of \$80.00, for an adjusted DCMT of \$12.29 (Table 2). These adjusted DCMT values for the pre-pandemic medical campaigns replaced the respective original DCMT values in Figure 2. Although the QMTD trend remained unchanged, the adjusted DCMT trend exhibits an almost exponential decay. Given the now decreasing trend in adjusted DCMT, the data visualized in Figure 2 meets financial consideration 3.

Despite the varying DCMT trends in Figures 1 and 2, in both cases the data support one of the financial conditions. Additionally, regardless of the difference in DCMT and adjusted DCMT of the November 2018 and May 2019 medical campaigns, the latter three medical campaigns demonstrate financial efficiency. On average the QMTD per medical campaign increased by 85, while maintaining a relatively similar DCMT across the three medical campaigns (Figure 3). Furthermore, the DCMT of July 2020 and January 2022 vary the least from \$7.75 and \$7.77; yet the total monetary value and QMTD increase drastically (Table 2). Conclusively, Project Embrace improved financial efficiency throughout the execution of its medical campaigns and is thus financially successful.

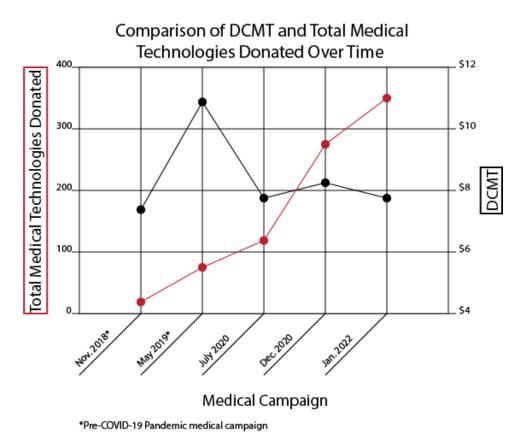
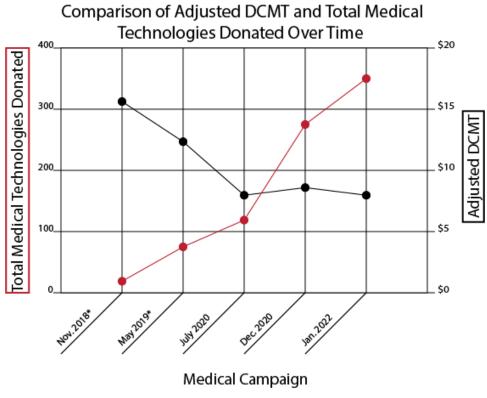


Figure 1: Comparison of DCMT and Total Medical Technologies Donated Over Time

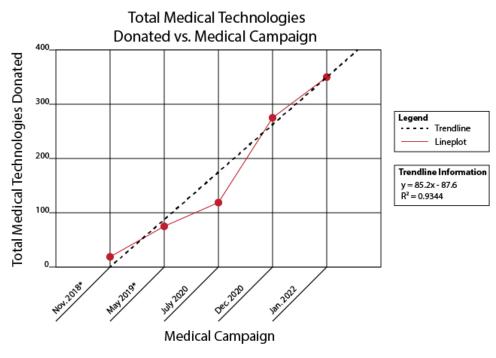


*Pre-COVID-19 Pandemic medical campaign

Figure 2: Comparison of Adjusted DCMT and Total Medical Technologies Donated Over Time

Medical Campaign	Total Medical Campaign Cost	DCMT	Adjusted Total Medical Campaign Cost	Adjusted DCMT
November 2018*	\$150.00	\$7.50	\$310.00	\$15.50
May 2019*	\$903.27	\$11.27	\$983.37	\$12.29
July 2020	\$852.10	\$7.75	N/A	N/A
December 2020	\$2,374.86	\$8.25	N/A	N/A
January 2022	\$2,657.31	\$7.77	N/A	N/A

*Pre-COVID-19 pandemic medical campaign



*Pre-COVID-19 Pandemic medical campaign

Figure 3: Total Medical Technologies Donated versus Medical Campaigns

Services Rendered Evaluation

In order for Project Embrace to truly be considered successful, the organization must not only be financially efficient, but must also demonstrate the ability to adequately address the needs of the target population. This can only be accomplished through evaluating the success of the services rendered by Project Embrace. As previously mentioned, the supply must last between 16 to 24 weeks to adequately meet the demand of the Navajo community.

As shown in Table 3, the estimated time to for CPs to distribute the medical technologies provided was collected from each medical campaign's field notes. The November 2018 medical campaign is neglected as its purpose was to provide a sample set, and not to adequately meet the needs of the Navajo community. The May 2019 medical campaign exceeded the 24-week threshold, meaning the CP was overwhelmed with the QMTD and Project Embrace did not adequately meet the demand of the community. Similarly, the following three campaigns (July 2020, December 2020, January 2022) did not adequately meet the demand present, as the estimated distribution times all fell below the 16-week minimum. Thus, Project Embrace was not successful in its services rendered as it failed to meet the demand of the community in all medical campaigns evaluated.

Medical Campaign	Quantity of Medical Technologies	Estimated Community Partner Distribution Time
November 2018*	20	N/A**
May 2019*	80	32 weeks
July 2020	110	12 weeks
December 2020	288	6 weeks
January 2022	342	≤ 1 week

Table 3: QMTD vs Estimated Distribution Times

*Pre-COVID-19 pandemic medical campaign

**Sample set

Discussion

Supply and Triage

Outlined in the Methods portion of this paper was two conditions that needed to have been met in order for Project Embrace's initiatives to the Navajo community to have been considered successful. The first being financial efficiency which Project Embrace met under condition 3, and the second being an evaluation on services rendered. Here, Project Embrace needed to have provided an adequate amount of medical technologies that should have been distributed to patients within an appropriate timeframe of 16 to 24 weeks, which Project Embrace was not able to do. Interestingly, this comes not as a lack of effort from Project Embrace but rather because the healthcare needs of the Navajo community increased substantially. With an average increase of 85 medical technologies donated per medical campaign, the amount of medical resources supplied was not sufficient across all three pandemic campaigns (Figure 3 and Table 3).

However, per SDG Target 3.8, it is arguable that Project Embrace made strides towards increasing greater access to quality healthcare services through the provision of medical technology that was not made available otherwise. Nonetheless, even if Project Embrace was able to provide a satisfactory supply of medical technologies to the Navajo population, the increase in demand for medical technology is symptomatic of greater indicators in inaccessibility in healthcare that Project Embrace was not addressing. Certainly, the COVID-19 pandemic affected many throughout the greater United States but took an especially large toll on isolated, low-resource communities like the Navajo tribe. As the pandemic continued to progress throughout the community, extenuating protocols and procedures were deployed by the Navajo, local, and federal government to prioritize COVID-19 control, often at the expense of existing and essential healthcare services.

As spending in healthcare increased and funding tightened, the expectation to triage in healthcare settings became certain. Throughout the United States, the need to prioritize COVID-19 protocols was apparent; from increasing work hours of healthcare professionals, to allocating more ICU beds to accommodate for more cases, to prioritize spending on personal protective equipment, to expediting vaccine rollout, etc. (Tangcharoensathien et al., 2021). The consequence of needing to triage an overwhelmed system meant that certain programs and care had to be cutback. While more urbanized settings were able to handle these stresses, rural settings like the Navajo Reservation faced greater obstacles in triage, and as a result had to take more extreme measures to preserve what little care was being offered. More often than not, the first expense to be cut in Navajo settings was basic medical technologies in favor necessary COVID-19 resources. Understanding this, it is observed the that greater need for medical technology, that is no longer being made available in clinical settings, increases by patient demand.

Violence Against Indigenous Women

In addition to the strain faced by healthcare settings throughout the Navajo Reservation, certain parameters placed by local authorities further perpetuated and enabled harm to the greater community. Combined with a general increase in unemployment, the government of the Navajo Nation instituted a curfew throughout the course of the pandemic in an attempt to limit excess social exposure (Touchin and Curley, 2020). Because more denizens of the Navajo Reservation were staying at home more often and for prolonged amounts of time, the increase of harmful amounts of alcohol consumption escalated resulting in unintended harms against indigenous women.

During its last medical campaign, Project Embrace worked a local domestic violence shelter, Amá Dóó Áłchíní Bíghan, Inc (ADABI), where staff of the shelter shared the alarming fact that there has been a substantial spike in domestic violence (DV) throughout the greater reservation. Local experts attribute this to the rampant increase in alcohol consumption, and families being forced to stay together inside for longer. The increase in communal isolation, and alcoholism predictably has led to poorer mental health outcomes and, conversely, an increase in DV. This was further reinforced by ADABI through its reporting of increased clientele of indigenous women throughout the pandemic. Another important factor that plays into an increase in DV is the increased abuse of harmful substances. According to the staff at ADABI, prior to the pandemic, one of the more prevalent substances abused on the reservation was marijuana; however, as the pandemic reeked more havoc on the community, an observed increase of cocaine and methamphetamines abuse became apparent. Unfortunately, these drugs acted as an aggravating factor in the egregious nature of violence that was being reported to local community centers like ADABI.

Most cases of violence were not, and have not, been reported to local authorities as the municipalities of the Navajo community have taken a hit in funding. That coupled with a general distrust in how local law enforcement has responded to domestic disturbances, has led to many women on the reservation to not seek services. ADABI shared with Project Embrace that there has been an unsettling increase in the rate of missing indigenous women as the pandemic and curfew have wagered on. For those that do report, justice is rarely found as the Navajo court

system has been shut down due to concerns surrounding COVID-19 (Navajo Courts, 2022). Systemic failures that do not allow survivors of DV to come forward enable the cycle of violence against women on the reservation. This all comes under the continued consequences of the pandemic.

Conclusively, while Project Embrace was able to provide medical technologies to community organizations like ADABI, the needs of the Navajo community extended far past any materialsbased problems. An increase in supply came as the result to assist battered women and children in situations that otherwise were enabled and worsened by the COVID-19 pandemic. Acknowledging this, it is clear that the services rendered by Project Embrace would not have been able to sufficiently address the more urgent needs of the community even if there was a greater supply of medical technologies to donate. Donations do not stop violence against women. In order to truly "ensure healthy lives and promote well-being for all at all ages", direct acts of violence must be addressed (SDG 3).

Limitations

Due to collaborative medical campaigns with the Moran Eye Center, COVID-19 safety concerns, and funding constraints Project Embrace was limited in the geographical scope of the medical campaigns. Although the focus of the medical campaigns excluded Coconino County, AZ and San Juan County, NM, the reduced geographic scale of the medical campaigns allowed Project Embrace to further develop relationships in the other four counties within the Navajo Reservation.

The scale of the medical campaigns steadily increased throughout the four years of Project Embrace's support to the Navajo community. It is clear that the societal and economic implications of COVID-19 increased the need for, and consequently the distributed volume of necessary medical technologies. However, this increase is also a result of the Project Embrace team's maturation and growth throughout years of working with the Navajo community. The increased movement of medical technology required innovation and a better understanding of the Navajo community, which would not have been possible without the team's continual growth.

Within the timeframe of this evaluation, Project Embrace has donated a substantial quantity of menstrual products to various CPs throughout the Navajo community. However, Project Embrace does not currently have a system to attribute monetary value to menstrual products. Thus, menstrual products are neglected in the calculation of both the total value of medical technologies and the DCMT. This is due to the immense diversity in products, retail size units, and the interests of the CPs. Project Embrace hopes to implement a system for standardization of menstrual products to allow for more accurate reporting of the value of medical technologies and the DCMT.

While there is a substantial amount of data published in regards to the Navajo community, the vulnerable nature of the Navajo community reduces the prevalence of public data. Furthermore, due to the constraints of the Navajo Reservation's infrastructure and rural nature, truly representative data is extremely limited. Given the constraints of the pandemic, these issues only furthered incomplete data collection and dissemination. Consequently, the COVID-19 data

reported by organizations like the Navajo Department of Health does not accurately convey the severity of the pandemic within this community.

Recommendations

The Sustainable Development Goals were adopted as a greater call to action for the global community. To accomplish these goals requires collaboration and partnership across the private, public, and nonprofit sectors, especially in the case extenuating global circumstances. While significant strides were made towards these greater global agendas, the COVID-19 pandemic regressed the progress of these goals in ways the world is still trying to understand. Indeed, it is essential for all proponents of the SDGs to evaluate their actions during the pandemic to understand the sustainability of their impact, especially if said proponents are working with vulnerable communities like the Navajo tribe.

While it is important for nonprofits such as Project Embrace to evaluate its overall capacity to serve during an otherwise difficult time, a more critical understanding of the community's needs and obstacles surfaced during the pandemic is essential to comprehend the totality of need of the community in question. Efficiency in programming alone is not sufficient in addressing the exigences produced by the pandemic. It is recommended that nonprofits continue to operate effective programs that assist underserved populations. Likewise, it is cautioned for these same nonprofits to maintain a deeper comprehension of their target communities as the pandemic has undeniably shifted the needs of vulnerable populations. The need for nonprofits to evolve and remain dynamic towards those they serve provide a new perspective on the advancement of the SDGs in context of the pandemic. In addition, it is recommended that nonprofits should hold themselves accountable to the dissemination of accurate information, creation of solutions, and responsible advocacy of communities in need. It is imperative to understand the greater implications of the pandemic in the context of nonprofits' respective work.

Reference List

- Andraska, E.A., Alabi, O., Dorsey, C., Erben, Y., Velazquez, G., Franco-Mesa, C. and Sachdev, U. (2021). Health care disparities during the COVID-19 pandemic. *Seminars in Vascular Surgery*, [online] 34(3), pp.82–88. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8349792/ [Accessed 7 Mar. 2022].
- Brown, R. (2020). Increasing Access to Safe Water on the Navajo Nation during the COVID-19 Pandemic | December 2020 Blogs. [online] Indian Health Service. Available at: https://www.ihs.gov/newsroom/ihs-blog/december2020/increasing-access-to-safe-wateron-the-navajo-nation-during-the-covid-19-pandemic/ [Accessed 7 Mar. 2022].
- Centers for Disease Control and Prevention (2022). COVID Data Tracker. [online] Centers for Disease Control and Prevention. Available at: https://covid.cdc.gov/covid-data-tracker/#datatracker-home [Accessed 23 Mar. 2022].

County Health Rankings. (2020a). County Health Rankings: Apache, Arizona. [online] Available at:

https://www.countyhealthrankings.org/app/arizona/2019/rankings/apache/county/outcom es/overall/snapshot [Accessed 7 Mar. 2022].

County Health Rankings. (2020b). County Health Rankings: McKinley, New Mexico. [online] Available at: https://www.countyhealthrankings.org/app/newmexico/2019/rankings/mckinley/county/outcomes/overall/snapshot [Accessed 7 Mar. 2022].

County Health Rankings. (2020c). County Health Rankings: Navajo, Arizona. [online] Available at:

https://www.countyhealthrankings.org/app/arizona/2019/rankings/navajo/county/outcome s/overall/snapshot [Accessed 7 Mar. 2022].

County Health Rankings. (2020d). County Health Rankings: San Juan, Utah. [online] Available at: https://www.countyhealthrankings.org/app/utah/2019/rankings/san-juan/county/outcomes/overall/snapshot [Accessed 7 Mar. 2022].

County Health Rankings. (2021a). County Health Rankings: Apache, Arizona. [online] Available at:

https://www.countyhealthrankings.org/app/arizona/2020/rankings/apache/county/outcom es/overall/snapshot [Accessed 7 Mar. 2022].

County Health Rankings. (2021b). County Health Rankings: McKinley, New Mexico. [online] Available at: https://www.countyhealthrankings.org/app/newmexico/2020/rankings/mckinley/county/outcomes/overall/snapshot [Accessed 7 Mar. 2022].

County Health Rankings. (2021c). County Health Rankings: Navajo, Arizona. [online] Available at:

https://www.countyhealthrankings.org/app/arizona/2020/rankings/navajo/county/outcome s/overall/snapshot [Accessed 7 Mar. 2022].

- County Health Rankings. (2021d). County Health Rankings: San Juan, Utah. [online] Available at: https://www.countyhealthrankings.org/app/utah/2020/rankings/san-juan/county/outcomes/overall/snapshot [Accessed 7 Mar. 2022].
- County Health Rankings. (2022a). County Health Rankings: Apache, Arizona. [online] Available at:

https://www.countyhealthrankings.org/app/arizona/2021/rankings/apache/county/outcom es/overall/snapshot [Accessed 7 Mar. 2022].

- County Health Rankings. (2022b). *County Health Rankings: McKinley, New Mexico*. [online] Available at: https://www.countyhealthrankings.org/app/newmexico/2021/rankings/mckinley/county/outcomes/overall/snapshot [Accessed 7 Mar. 2022].
- County Health Rankings. (2022c). County Health Rankings: Navajo, Arizona. [online] Available at:

https://www.countyhealthrankings.org/app/arizona/2021/rankings/navajo/county/outcome s/overall/snapshot [Accessed 7 Mar. 2022].

- County Health Rankings. (2022d). County Health Rankings: San Juan, Utah. [online] Available at: https://www.countyhealthrankings.org/app/utah/2021/rankings/san-juan/county/outcomes/overall/snapshot [Accessed 7 Mar. 2022].
- Federal Reserve Bank of Minneapolis. (2017). *Navajo Nation Reservation*. [online] Available at: https://www.minneapolisfed.org/indiancountry/resources/reservation-profiles/navajonation-reservation [Accessed 7 Mar. 2022].
- Larson, R. (2020). Water law and the response to COVID-19. *Water International*, 45(7-8), pp.716–721.
- McMaughan, D.J., Oloruntoba, O. and Smith, M.L. (2020). Socioeconomic Status and Access to Healthcare: Interrelated Drivers for Healthy Aging. *Frontiers in Public Health*, [online] 8(231). Available at: https://dx.doi.org/10.3389%2Ffpubh.2020.00231.
- Navajo Courts. (2022). *Navajo Courts: Announcements*. [online] Available at: http://www.courts.navajo-nsn.gov/ [Accessed 27 Mar. 2022].
- Navajo Department of Health. (2022). COVID-19. [online] Available at: https://www.ndoh.navajonsn.gov/COVID-19 [Accessed 23 Mar. 2022].
- Navajo Nation Primary Care Area: 2020 Statistical Profile. (2021). [online] Arizona Department of Health Services: Arizona Department of Health Services, p.1. Available at: https://www.azdhs.gov/documents/prevention/health-systems-development/data-reportsmaps/primary-care/navajo/8.pdf [Accessed 7 Mar. 2022].
- NavajoStrong (2022). *About NavajoStrong.* [online] NavajoStrong. Available at: https://www.navajostrong.org/ [Accessed 12 Mar. 2022].
- NICOA (2019). *Diabetes Still Highest Among Al/AN*. [online] National Indian Council on Aging, Inc. Available at: https://www.nicoa.org/diabetes-still-highest-among-ai-an/ [Accessed 11 Mar. 2022].

- Noble, S. (2017). IHS Navajo Area Launches Prediabetes Awareness Campaign | May 2017 Blogs. [online] Indian Health Services. Available at: https://www.ihs.gov/newsroom/ihsblog/may2017/ihs-navajo-area-launches-prediabetes-awarenesscampaign/#:~:text=As%20a%20population%2C%20American%20Indians [Accessed 11 Mar. 2022].
- Orgera, K., Garfield, R. and Rudowitz, R. (2021). *Tracking Social Determinants of Health During the COVID-19 Pandemic*. [online] KFF. Available at: https://www.kff.org/coronavirus-covid-19/issue-brief/tracking-social-determinants-of-health-during-the-covid-19-pandemic/ [Accessed 11 Mar. 2022].
- Project Embrace (2022). Overview of Project Embrace. [online] Project Embrace. Available at: https://www.projectembrace.org/ [Accessed 1 Apr. 2022].
- Purvis Lively, C. (2021) "COVID-19 in the Navajo Nation Without Access to Running Water : The lasting effects of Settler Colonialism", *Voices in Bioethics*, 7. doi: 10.7916/vib.v7i.7889.
- Rural Health Information Hub. (2011). *Needs Related to Transportation in Rural Areas RHIhub Toolkit*. [online] Available at: https://www.ruralhealthinfo.org/toolkits/transportation/1/needs-in-rural [Accessed 7 Mar. 2022].
- Sequist, T. (2020). *The Disproportionate Impact of Covid-19 on Communities of Color*. [online] NEJM Catalyst. Available at: https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0370 [Accessed 7 Mar. 2022].
- Shah, A., Seervai, S., Paxton, I., Barlow, A. and Shah, T. (2020). The Challenge of COVID-19 and American Indian Health. [online] The Commonwealth Fund. Available at: https://www.commonwealthfund.org/blog/2020/challenge-covid-19-and-american-indianhealth [Accessed 10 Mar. 2022].
- Tajmajer, J. (2021). *The United States Is Still Wronging Its Indigenous Communities*. [online] Brown Political Review. Available at: https://brownpoliticalreview.org/2021/11/the-unitedstates-is-still-wronging-its-indigenous-communities/ [Accessed 10 Mar. 2022].
- Tangcharoensathien, V., Bassett, M., Meng, Q. and Mills, A. (2021). Are overwhelmed health systems an inevitable consequence of covid-19? Experiences from China, Thailand, and New York State. *BMJ*, 372(83).
- The World Bank (2021). *Indigenous Peoples*. [online] The World Bank. Available at: https://www.worldbank.org/en/topic/indigenouspeoples#1 [Accessed 10 Mar. 2022].

Touchin, J. and Curley, C. (2020). Navajo Nation to implement more public health measures on Monday as health experts recommend online learning and advise against reopening casinos. [online] Office of the President and Vice President of the Navajo Nation. Available at: https://www.opvp.navajonsn.gov/Portals/0/FILES/PRESS%20RELEASES/2020/Nov/FOR%20IMMEDIATE%20R ELEASE%20-%20Navajo%20Nation%20to%20implement%20more%20public%20health%20measure s%20on%20Monday%20as%20health%20experts%20recommend%20online%20learnin g%20and%20advise%20against%20reopening%20casinos_HO29_HO30.pdf [Accessed 9 Mar. 2022].

- United Nations (2021). *Goal 3 | Department of Economic and Social Affairs*. [online] sdgs.un.org. Available at: https://sdgs.un.org/goals/goal3 [Accessed 6 Mar. 2022].
- World Health Organisation (2022). Social Determinants of Health. [online] World Health Organisation. Available at: https://www.who.int/health-topics/social-determinants-ofhealth#tab=tab_1.
- Zhenmin, L. (2021). *The Sustainable Development Goals Report 2021*. [online] *United Nations*, United Nations, p.5. Available at: https://unstats.un.org/sdgs/report/2021/The-Sustainable-Development-Goals-Report-2021.pdf [Accessed 10 Mar. 2022].