COMMUNITY-LED HEALTHCARE SYSTEMS TOWARDS THE ACHIEVEMENT OF

UNIVERSAL CARE: A METHODOLOGICAL APPROACH IN

SEMI-RURAL NORTHERN MEXICO

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ABSTRACT

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PAOLA MICHEL SILVA NAVARRO

This research examines the potential of community-led healthcare to address healthcare inequities in Mexico. Using a mixed methods approach and a Health Equity framework, this study identifies the key characteristics necessary for the success of these projects, including community leadership and strategic partnerships. The study also highlights the limitations of community-led healthcare projects, such as resource constraints and communication barriers. The findings suggest that community-led healthcare projects offer promising opportunities for expanding access to healthcare services in Mexico, especially for marginalized and rural communities. Community-led healthcare empowers communities and promotes their active involvement in healthcare.The study concludes that community-led healthcare projects hold significant potential for contributing to the expansion of health equity in Mexico. The recommendations for the long-term sustainability of these projects include building community leadership, strategic partnerships with key actors, and addressing cultural considerations. The study also suggests the use of mobile healthcare units to address specialized needs while maintaining the community-led healthcare clinics as the first line of care. The community-led healthcare clinic model can also be used as a platform for receiving information on community healthcare needs, in line with the goals of the Baja California state development plan 2023.

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Introduction

It is estimated that 35,553,894 Mexican citizens are uninsured without access to any type of healthcare as of February 2023, corresponding to 27% of the total population (Instituto Nacional de Estadística y Geografía (INEGI) 2020). Access to healthcare is stated as a right to all citizens under the Mexican Constitution (Mexico 1917). Despite this and numerous healthcare reforms over the past years, lack of access remains an issue across the country and is even more prominent for marginalized and rural communities ("Nota Técnica Sobre La Carencia Por Acceso a Los Servicios de Salud 2018-2020" 2021).

Mexico's healthcare system faces numerous challenges, such as unequal access, high out-of-pocket costs, inefficient bureaucracy, and corruption. As a result, various authors have defined it as fragmented, commodified, hierarchical, inefficient, limited, and inequitable (González, 2017; Henrion et al., 2020; Martínez, 2021; Orozco, 2020; Students, n.d.; Valdemar Díaz, 2021). The system itself is complex. It is conformed by various institutions that offer a distinct type of care to different population sectors, making it inequitable by nature. The institutions that conform to it can be divided into three sectors: public, private, and social security. The public sector is the largest sector, serving about 60% of the population, the private sector serves about 30%, and the social security sector serves about 10% of the population (Dantés et al. 2011).

Another challenge with the system refers to budget. Mexico's healthcare budget has remained between 2 to 3 percent of the annual GDP despite the recommended of 6% by the OCDE and the average for other members ("Comisión de Salud emite opinión positiva sobre el presupuesto del Sector de Salud en 2023" n.d.). The healthcare budget even went down right at the peak of the pandemic and hasn't increased despite promises made by the current president while he was in campaign (Economista 2022). It was estimated that if the current level of GDP allocated to healthcare in the country remained consistent, Mexico would not achieve universal healthcare until 2056 (Valdemar Díaz, 2021). These estimates are highly discouraging, considering the current state of budgeting for the system.

Problems of access are even more discouraging for marginalized and rural populations. From 2018 to 2020, the country experienced a significant increase in deprivation due to access to health services directly impacted by the COVID-19 pandemic, which was even more pronounced in rural areas. While urban areas saw an increase in the uninsured population from 17.0% to 27.4%, rural areas increased from 13.7% to 30.5% ("Nota Técnica Sobre La Carencia Por Acceso a Los Servicios de Salud 2018-2020," 2021). Rural communities also have a higher proportion of low-income residents without health insurance. This combination of factors makes it difficult for rural residents to access the care they need, leading to poor health outcomes and premature death.

Community-led healthcare has been proposed as a potential solution to improve healthcare systems and achieve universal healthcare. This model of healthcare delivery is

designed to meet the specific needs of a community and is characterized by a bottom-up approach, in which community members actively participate in identifying health needs and designing and implementing solutions (Huang and Wang 2005).

This qualitative thesis employs a Health Equity framework with a Community-Based Participatory Research (CBPR) approach to explore community-led healthcare's role in achieving universal healthcare in Mexico. Given the country's unique healthcare challenges, innovative strategies that go beyond the conventional model of healthcare delivery are needed. As such, this thesis aims to address the Mexican healthcare system's persistent challenges by identifying sustainable solutions tailored to the community's unique needs. To explore community-led healthcare's role in achieving universal healthcare in Mexico, this CBPR work promotes the integration of community, academic, and non-profit knowledge. The findings of this study are expected to contribute to the ongoing knowledge of alternative healthcare models that enable equitable and affordable access to health services in Mexico.

This study identifies the steps involved in implementing successful community-led healthcare programs in Mexico through the development of a case study, analyzes their qualities and limitations, and investigates the roles of intergovernmental and the private sector in facilitating the development and sustainability of community-led healthcare systems. It also explores financing models, including public funds, private investments, and community contributions, and assesses their feasibility and effectiveness. Furthermore, this study determines the essential characteristics that community-led healthcare systems need to possess to be sustainable over the long term, including community participation, local ownership, and

adaptability to changing healthcare needs. Finally, it examines how community-led healthcare can reduce corruption in Mexico's healthcare system by promoting transparency, accountability, and community oversight.

In general, the objective of this project is to answer five research questions:

1. How can a community-led healthcare system be implemented in Mexico?

2. What are the qualities and limitations of community-led healthcare systems?

3. What are the roles of intergovernmentalism and the private sector in community-led healthcare systems?

4. How can community-led healthcare be financed?

5. What characteristics must community-led health follow to be sustainable?

The purpose of this thesis is to explore the implementation of a community-led healthcare initiative in semi-rural Northern Mexico, with an emphasis on health equity as the theoretical framework. The study is structured in the following maner. Firstly, an overview of Mexico's healthcare system is provided, including how it operates, its issues and difficulties, the condition of healthcare in Baja California where the case study took place, and the idea and process of executing community-led healthcare initiatives.

The second section of the thesis details the methodology used in the study. The third chapter offers an in-depth account of the case study, including the creation of the community-led healthcare project. The fourth chapter presents the research findings, followed by an analysis and

discussion of these results. Lastly, the thesis concludes with some concluding thoughts and suggestions for future research. Overall, the goal of this thesis is to enhance our understanding of community-led healthcare as a feasible approach for enhancing health outcomes, especially in neglected and marginalized communities in Mexico.

Chapter 1: Literature Review

Since its establishment in 1943, Mexico's healthcare system has evolved. Over the past decades, the Ministry of Health (SSA), the State Health Services (SESA), the Mexican Social Security Institute (IMSS), and the Institute of Security and Social Services for State Workers (ISSTE) have established solid institutions (Dantés et al. 2011), influenced by various factors including social and economic conditions (Rodríguez de Romo and Rodríguez Pérez 1998), demographic changes, a growing population (Welti-Chanes 2011), global trends such as the latest focus on preventive care, the recent global pandemic (Seguro Social, n.d.), and technological advancements (Díaz de León Castañeda 2020). To this day, these institutions serve as the backbone of Mexico's dynamic healthcare system, which continues to evolve.

The inclusion of the right to healthcare protection in the Mexican Constitution (1983) (Mexico 1917), the publishing of the General Healthcare Law (1984)(*LEY GENERAL DE SALUD* 1984), the decentralization of health services to the federal entities (the 1990s) (Jaramillo Cardona 2007), the creation of the Social Protection System in Health (2003) (Campos-Vázquez and Knox, n.d.) replaced by the National Institute of Health for Wellbeing (INSABI)(2020) ("Instituto de Salud Para El Bienestar" n.d.), and the latest launch of IMSS Bienestar ("IMSS-BIENESTAR" n.d.) represent more recent proof of changes to the system.

All together, reforms over the past decades resulted in improvements to the system. These include expanding coverage, improved quality of care, and improved access to healthcare

services. Regardless of the advancements seen as a consequence of numerous reforms, as of February 2023, estimates show that over 35 million people nationwide needed access to healthcare (Instituto Nacional de Estadística y Geografía (INEGI) 2020). This number corresponds to approximately 27% of the Mexican population. This section looks at the structure of the current healthcare system by identifying the different institutions that encompass it, along with a closer description of the system's state.

Structure: Institutions and Coverage

Mexico's healthcare system is encompassed by various institutions categorized into public and private. The public system receives government funding and is meant to provide low-cost or free healthcare to Mexican citizens. It is encompassed by IMSS, INSABI, ISSSTE, and ISSSTE estatal, and IMSS Bienestar (Dantés et al. 2011; Henrion, del Carmen Piña Ariza, and Hernández 2020). The public system is divided into federal, state, and local levels (INEGI, n.d.). The federal level is in charge of designing and implementing healthcare policy and providing funding to the state and local levels (Dantés et al. 2011). The state level provides healthcare services to the habitants of the state, while the local level provides healthcare services to the habitats within their municipality ("DOF - Diario Oficial de la Federación" n.d.). The private system receives funding from individuals and businesses. It is divided into the for-profit sector, owned and operated by private companies, and the non-profit sector owned and operated by non-profit organizations (Dantés et al. 2011; "Instituciones Sin Fines de Lucro," n.d.). Although the public sector has undergone significant reforms over the past years, the private

sector still tends to provide a wider range of services than the public sector. It is often described as offering better service (Ríos 2020).

IMSS is the oldest public healthcare institution and was established in 1943 at the end of the Mexican Revolution during the term of Manuel Avila Camacho ("El IMSS celebra 75 años de ser el Seguro de México" n.d.). It provides health insurance, pensions, and disability benefits to workers in Mexico and their families (Dantés et al. 2011). It also has the largest coverage, serving over 27 million citizens and representing 51% of the total population (Instituto Nacional de Estadística y Geografía (INEGI) 2020). The strongest concern of this institution is that it offers inequitable access to healthcare by only covering employed citizens or those who self-enroll by paying a quota. IMSS mandatorily covers workers in the formal economy. It is funded through quotas paid by workers and their employers. Workers of the informal sector, independent workers, and the unemployed or underemployed sector are allowed to self-enroll in the voluntary scheme through the payment of a quota ("17-Anexos.pdf," n.d.). This might not be possible for previous holders, especially those who are low income or fell into unemployment. Even if users self-enroll, IMSS offers different levels of benefits to different groups of people ("17-Anexos.pdf," n.d.). Workers employed in large companies usually receive better benefits. Workers in urban areas usually also receive better service than users in rural areas. As a result of these inequalities, IMSS has been criticized for not providing adequate and equal coverage to all Mexicans.

Another problem with IMSS is its issues of low capacity and a lack of resources (Economista 2019). Patients regularly go through long wait times (Rojas n.d.), long periods of time to be able to schedule an appointment, and have to navigate the bureaucracy of this institution ("'Demora en citas en IMSS, por falta de especialistas'" n.d.). There have also been reports of poor quality of care ("'Denuncian mal servicio en el IMSS'" n.d.). This is mainly attributed to other problems, such as a lack of resources, underfunding, and corruption. During the COVID pandemic, IMSS was also strongly criticized for having the highest rate of death among infected patients of almost 50% (Economista 2021). For reference, COVID's fatality rate during the first year of the pandemic was estimated at 12% (Moreno-Torres et al. 2022). IMSS has also been responsible for several cases of medical negligence (Rosete 2022) ("Adulto mayor murió en hospital del IMSS por negligencia: CNDH" 2023) .

Similar to IMSS, ISSTE is another institution that provides similar medical services in terms of preventive health care, medical and maternity care, mental and physical rehabilitation, work risk insurance, retirement insurance, unemployment in advanced and old age, disability and life insurance (de la Federación el, n.d.). In addition to health-based services, it also encompasses other programs: house acquisition support, reparation or home improvement, home extension, loans for passives' payments, personal loans, special loans, commemorative loans for purchase of vehicles, extraordinary loans for victims of natural disasters, tourist services, SUPERISSTE, funeral services, child development stays, educational and training programs, care for retirees, pensioners and the disabled, cultural, sports and recreational promotion programs (*Conoce Tus 21 Prestaciones | Instituto de Seguridad y Servicios Sociales de Los Trabajadores Del Estado |*

Gobierno | Gob.Mx, n.d.). Contrary to IMSS, ISSSTE is a decentralized agency that offers social security benefits to state workers and their families. It is funded through a mix of payroll taxes, government subsidies, and investment income (de la Federación el, n.d.). ISSTE was founded in 1959 by President Adolfo López Mateos and has over 8 million members (Cabello-López A, Gopar-Nieto R, Aguilar-Madrid G, Juárez-Pérez CA, Haro-García LC, n.d.; Instituto Nacional de Estadística y Geografía (INEGI) 2020). Public servers who work for state governments and their families are affiliated with a local branch of ISSSTE. Together, the federal and local ISSSTE branches cover 8.8% of the population (Instituto Nacional de Estadística y Geografía (INEGI) 2020).

Similar to the problems faced by IMSS, ISSSTE also has issues of inefficient management, poor quality of care (sergio 2023; "Afirma el PRI que es inconcebible la ineficiencia e incapacidad del ISSSTE" n.d.; Coronel 2018), and corruption (Mendoza 2022; García 2023; "BOLETÍN-405 Investigaciones por corrupción en el ISSSTE suman más de 43 mmdp: Lerdo de Tejada" n.d.). Additionally, it has been under scrutiny over the recent years for a number of factors, including changes in the Mexican demographics that are leading to an aging population, increasing healthcare costs and inflation, and corruption (De comunicación, n.d.; González 2017).

Other institutions that cover smaller proportions of the population correspond to the Health Institutions of Mexican Oil (PEMEX), Health Institutions of the Secretary of National Defense (SEDENA), Health Institutions of the Secretary of the Navy (SEMAR), together, these

three institutions cover .01% of citizens. Other institutions, including family medicine units, hospitals, and sanatoriums belonging to other health and social security institutions, such as is the case of the medical units of the teaching profession, metro, unions, etc., medical units belonging to the National System for the Integral Development of the Family (SNDIF), medical units belonging to public universities, among others (INEGI, n.d.) cover an additional .01% of the population. At the same time, citizens with access to private services cover .08% of citizens. Together, these three categories cover only one percent of the national population (Instituto Nacional de Estadística y Geografía (INEGI) 2020).

Citizens without access to any social security institution can access services offered by the federal and state healthcare ministries. Until 2020, the institution in charge of their healthcare coverage was Seguro Popular (SP). SP was established in 2003, and it covered medical procedures grouped into five clusters: prevention and health promotion, general and specialty medicine, emergencies, general surgery, and obstetrics (*Catálogo Universal de Servicios de Salud (CAUSES) 2019 | Comisión Nacional de Protección Social En Salud | Gobierno | Gob.Mx*, n.d.).

SP was strongly criticized because it opened the door to the commodification of healthcare. The program covered 1,400 diseases in comparison to the 12,500 covered by Social Security. Additionally, it only covered 11.2% of the diseases listed in the International Classification of Diseases (ICD). SP avoided coverage for the most expensive diseases for people over 18 years, including adult cancers, heart attacks, and severe trauma. The program is

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described to have been designed to avoid coverage for services already covered by the private sector or public healthcare institutions and to rely on the subrogation of private service providers (Valdemar Díaz 2021). SP was also identified to generate high out-of-pocket expenses for medicines by users (Juan 2014) while at the same time, it had financial management abnormalities, including a lack of evidence of full use of resources and irregularities in the acquisition of medicines and services (Medina-Gómez 2021).

In 2018, President Andrés Manuel López Obrador (AMLO) came into power and announced the latest reform to Mexico's Medical System, the Health Plan of the Fourth Transformation. In preparation for the plan, AMLO's cabinet analyzed the current state of Mexico's healthcare. Through the analysis, they identified four main challenges: The first challenge refers to the transparency of public resources. The Public Function Secretary investigated public spending during Peña Nieto's Term (Mexico's former president before López Obrador's term). The results documented the diversion of resources for "…4 thousand 179 million 46 thousand 254 pesos through 23 thousand false invoices from 837 ghost companies that affected 90 federal and state institutions in the health sector". "Among the federal institutions mentioned are the IMSS, ISSSTE, the Social Security Institute for the Mexican Armed Forces, and the Ministry of Health" (Henrion, 2020, p.43). The results of the investigation showed the extent of the corruption scheme that allowed public institutions to easily evade fiscal processes imposed by the Tax Administration Service (SAT).

The second challenge identified refers to health services and coverage. It was found that enrollment in Seguro Popular didn't lead to increases in healthcare services offered. For

comparison, even though the cost per member only varied in $519 pesos (around 25 USD) between Seguro Popular and IMSS for medical attention, the ladder attends to 14 thousand 900 diagnoses vs 1,356 for the former; regarding medical diagnoses, IMSS covers 10,000 versus 1,015 for Seguro Popular; in surgical diagnoses, 4,339 from IMSS versus 341 for Seguro Popular.

The third challenge corresponds to human resources. Not only was it found that there was a lack of medical professionals in the Seguro Popular program but also problems related to geographic location and social distribution especially when it referred to specialist doctors. These issues were attributed to a lack of human resources policy that looks to train and retain talent. As a solution, in October 2019, the program Wellness Doctors was launched with the goal of hiring and training healthcare professionals for rural Mexico. Additionally, permanent contracts were announced for 87, 300 workers who were originally part of Seguro Popular.

The fourth and last challenge identified through AMLO's cabinet corresponds to medication. It was found that corruption was deeply embedded in the federal purchase of medication. In the previous administration, 79,6% of medication was purchased from only ten different suppliers.

Based on the results of the investigation and in an attempt to improve Mexico's Healthcare System, the National Health Plan 2019-2024 was published on July 12th, 2019. The plan focuses on offering comprehensive health services and free medicines, federalizing state health systems, implementing the Primary Health Care (PHC) model, reorganizing health

regulation, and strengthening the national pharmaceutical industry and innovative research (Henrion, del Carmen Piña Ariza, and Hernández 2020).

Regarding the administration capacities of public health services, the legislation included a regionalization and federalization process. The process of a reversal towards the federalization of the State Health Systems (SESA) was planned for a period of two years (2019-2020), with the initial stage being the health services of the eight states furthest behind in the country. Consequently, the Federal Health Secretariat resumed a significant role in regulating the health service to coordinate the public institutions of the health sector. High-level salaries for public officials and public staff were reduced regarding the framework to strengthen leadership, implement austerity, and attack corruption and privileges. Private insurance policies originally offered to high public officials and former presidents of Mexico were suppressed (Henrion, del Carmen Piña Ariza, and Hernández 2020).

Additionally, as part of the plan, in 2020, SP was replaced by INSABI with the goal of providing access to healthcare to the uninsured population ("INSABI," n.d.). INSABI began its activities in January of 2020. This institution is intended to function as "…a decentralized body of the federal public administration with legal personality and its own assets" (Henrion, 2020, p.42). Human, financial, and material resources formerly belonging to the National Health Protection Commission (CNPSS) and the SP were officially transferred to INSABI. Among INSABI's objectives are: "1) to guarantee health personnel; 2) rehabilitate physical infrastructure; 3) deliver supplies and medicines and 4) regularize medical personnel" (Henrion, 2020, p.42). The organization of services is based on Primary Health Care, an "Approach to

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health and well-being centered on a commitment to social justice and equity that recognizes the fundamental right to enjoy the highest degree of health that can be achieved without social or economic distinction based on a comprehensive policy for the sake of coverage universal health (PAHO, 2019)".

The change of institutions generated great controversy since it was first announced. At the moment of the change, several governors who opposed the president's political party initially refused to switch to INSAB (Camhaji 2020). Obrador's measures against corruption saw a response from the pharma industry that led to a real or intentional shortage of medication across the country. This happened right during the COVID-19 pandemic. Eventually, temporary medication was purchased from abroad, and Congress approved the Law of Acquisition, which eliminated the monopoly formerly held by intermediaries who held control of federal medication purchases. Additionally, an agreement was signed with the United Nations for INSABI to receive technical assistance in the consolidated purchase of quality medical equipment (Henrion, del Carmen Piña Ariza, and Hernández 2020).

The launch of INSABI is considered a step back in access to universal health care, even though its goal is to ensure universal care for citizens. Frenk and Dantes (2022) identified six forms of regression in access to healthcare leading from INSABI: the decentralization of healthcare, the rights of citizens (considered an expropriation) given that INSABI's decree doesn't establish coverage for specialty care as was available with SP, cut in healthcare spending, the fall in coverage led by the decrease in spending, deterioration of public health institutions,

the deliberate weakening of the main health regulatory agency, Cofepris, and finally, the impact of public policy in people's healthcare (Fracturas de la Salud Pública). INSABI has the second largest beneficiaries, servicing 35% of the total population (Instituto Nacional de Estadística y Geografía (INEGI) 2020). Yet the numbers don't vary much from the number of people already being covered by SP (Instituto Nacional de Estadística y Geografía (INEGI) 2020).

Following INSABI, IMSS- Bienestar is the government's latest attempt to ensure everyone in the country has access to healthcare. It was launched in 2022 and was available in ten states by the end of the same year ("IMSS-Bienestar brinda servicios de salud a 21.8 millones de personas sin seguridad social; se suman entidades en 2023" n.d.). The IMSS-BIENESTAR Program was launched by the Federal Government and administered by the Mexican Social Security Institute. It provides health services to the population not covered by social security systems, constituting a reference for health care from a community perspective, which contributes to social inclusion and the effective exercise of the constitutional right to health protection. As part of the National Health System, the program aims to ensure the universality of the population's constitutional right to health protection without social security ("DOF - Diario Oficial de la Federación" n.d.).

During the first year of its launch, the program prioritized the second level of medical attention, increasing the stock of medications and rehabilitation in 30 operating rooms in 24 hospitals across the country, some of which hadn't been over in over 14 years ("A un año del Plan de Salud IMSS-Bienestar se rehabilitan 30 quirófanos en 24 hospitales del país" n.d.). The

program aims to cover 67% of citizens without coverage by the end of the second quarter of 2023 (Jiménez y Emir Olivares n.d.). There is still a lot of confusion regarding the conditions that are covered by the new program. There has also been discontent with the lack of details on how IMSS Bienestar will transition as it expands across the country, how it will be financed, and how it will tackle the current inequities in Mexico's healthcare system (Fundar 2022).

Critiques

Mexico's healthcare system has been strongly criticized by scholars, policymakers, and citizens for its mixed, fragmented, and inefficient services. The system faces several issues, such as inequities, budgeting, and financing problems, limited coverage, and lags in healthcare services. The National College of Specialists in Integrated Medicine (2018), Dantés et al. (2018), and Valdemar (2017) are among the authors who have analyzed Mexico's healthcare system and pointed out the challenges it faces. This section provides an overview of the main critiques of Mexico's healthcare system.

Fragmentation is one of the most significant problems in Mexico's healthcare system. Institutional segmentation, decentralization of health services, vertical programs, and the separation of public health services from personal care services contribute to this fragmentation (The National College of Specialists in Integrated Medicine, 2018). This fragmentation causes a lack of coordination between different healthcare providers, resulting in patients not receiving the necessary care. Additionally, fragmentation also results in inefficiencies in the delivery of healthcare services, as the different providers may not be working towards the same objective.

Another significant issue with Mexico's healthcare system is inequity. Valdemar (2017) identifies several factors that contribute to this problem, such as legal, historical, and cultural origins and structural and financial elements. These factors lead to varying service levels for specific population groups, including a sector linked to formal employment, a commodified one, and a court of assistance for the unemployed and informal workers. As a result, access to healthcare services and financing is unevenly distributed, perpetuating inequities in the system.

Budgeting and financing are also significant challenges in Mexico's healthcare system. The National College of Specialists in Integrated Medicine (2018) highlights the need for proper budgeting and financing to address the fragmentation in the healthcare system. The lack of financial resources for healthcare providers, along with an inefficient allocation of resources, causes inadequate healthcare services and long patient waiting times.

The system's limited coverage and lags in access to healthcare services are other significant problems that need to be addressed. Dantés et al. (2018) point out that the increasing prevalence of non-communicable diseases, injuries, and population aging, in addition with the limited coverage and access to specific medical services, are significant challenges for Mexico's healthcare system. Patients may have to travel long distances to receive medical attention, and those in rural areas may not have access to healthcare services at all.

The latest reform with the creation of INSABI has also generated its own isues. One of the most relevant problems is the shortage of medications in hospitals, leaving many patients without

access to essential treatments (Fernández, 2022). The INSABI has also been criticized for its lack of transparency and communication with the public, as patients have reported difficulties obtaining information on the services provided by the institution (Cámara de Diputados, 2021). This lack of information has contributed to confusion and distrust among the public, as they are uncertain about the coverage and benefits they are entitled to receive.

In conclusion, Mexico's healthcare system faces several challenges that contribute to fragmentation, inequities, inefficiencies, and limited access to healthcare services. The creation of INSABI was a relevant step, but it has generated its own issues that must be addressed. The healthcare system must work towards implementing measures that prioritize universal access, integration, and the de-commodification of healthcare.

Baja California: Healthcare Institutions and Demographics

Baja California has a total population of 3,769,020 inhabitants. Out of those, 2,905,265 have healthcare coverage while the remaining 836,317 are not affiliated with any healthcare institution. (Instituto Nacional de Estadística y Geografía). In 2021, the top three causes of death after COVID were heart disease, tumors, and diabetes, in line with the prevalent diseases affecting the rest of the country ("México: principales causas de mortalidad en el estado de Baja California 2021," n.d.).

Residents of Baja California have access to various healthcare institutions available across Mexico, as listed in the previous section. In addition, Baja California has seven

state-owned hospitals that offer a range of healthcare services including the General Hospital of Mexicali, the Psychiatric Hospital of Mexicali, and the Medical Specialty Hospital (UNEME) ("Directorio de Unidades Y Hospitales de La Secretaría de Salud de Baja California," n.d.).

The State Ministry of Health in Baja California operates hospitals and clinics that provide a wide range of healthcare services to the public, including medical consultations, laboratory and diagnostic tests, surgeries, hospitalization, and medication. These services are intended to be provided free of charge to patients, but there are limitations or conditions depending on the specific circumstances, on the availability of resources at these institutions, and on availability of resources to treat the condition. The specific procedures that are free of charge in state hospitals in Baja California may vary depending on the type of treatment, the patient's medical condition, and other factors ("Secretaría de Salud Del Estado de Baja California," n.d.).

The Institute of Health Services of the State of Baja California "ISESALUD"is the institution responsible for managing and providing healthcare services to the population of Baja California. It was created as a decentralized public organization of the State Government in 1997, with the aim of ensuring an efficient and effective healthcare system. Prior to its creation, the Coordinated Public Health Services in the State of Baja California was responsible for the regulation and control of health services. However, with the establishment of ISESALUD, it became an autonomous entity, responsible for managing its resources and organization. The institution has various departments, including health promotion, regulation and control, and administration, which work together to provide comprehensive healthcare services to the

population. ISESALUD is responsible for promoting healthy lifestyles and environments, preventing and treating infectious and chronic diseases, and contributing to the reduction and control of diseases subject to epidemiological surveillance. Despite its efforts, ISESALUD faces limitations such as limited funding and resources, which can affect the quality and accessibility of its services ("Historia Secretaría de Salud Del Estado de Baja California," n.d.).

Jornadas de Salud

Given that not everyone has access to healthcare in Baja California and in efforts to expand coverage, over the past years, the state has implemented mobile medical clinic programs in order to provide healthcare services to those living in remote or rural areas far from the city. This program, known as the "jornadas mobiles de salud" (mobile health campaigns) and previously known as "caravanas de salud " (caravans of health) aim to bring medical services to "...the most vulnerable regions, with the best team of doctors, technicians, and the most modern infrastructure in medical facilities and equipment" ("Serán Permanentes Jornadas de Salud En La Comunidad: SS BC," n.d.).

The Secretary of Health, José Adrián Medina Amarillas, described that recent updates to the program offer even more services and support than regular health centers. These mobile health centers provide general medical and dental consultations, clinical laboratory services, mammograms, chest x-rays, electrocardiograms, pelvic-obstetric-renal ultrasounds, prevention of pediculosis, densitometry, psychological care, optometry, and audiology services. Furthermore, as part of the program, wheelchairs, walkers, passes for cataract surgery, and mammogram

vouchers can be provided ("Serán Permanentes Jornadas de Salud En La Comunidad: SS BC," n.d., "Serán Permanentes Jornadas de Salud en la Comunidad: Secretaría de Salud BC" 2023).

It's important to remark that these programs historically haven't had a fixed schedule and may not be available year-round, making it challenging for users to know when the caravan is coming. This is especially true for programs like mammograms, which are typically offered only once a year. Additionally, the timing of when the caravan arrives in a specific community may not align with the healthcare requirements of the users, posing a challenge for people in remote or rural areas with restricted access to healthcare resources to plan their medical needs effectively.

State Development Plan 2022-2027

The State Development Plan of Baja California 2022-2027 was launched last year, outlining the guidelines for social, political, and economic development in the state. In the healthcare section of the plan, the goal is to carry out primary healthcare actions to preserve, recover, and improve the population's health and contribute to a better quality of life. The plan prioritizes providing timely care to avoid health risks, especially for diseases that have high rates of illness and death and affect most people in Baja California.

To achieve this goal, the plan identifies eight main health-related problems in the state. The first refers to inadequate access to healthcare services for the population without social or employment security. The plan aims to manage resources with federal government agencies to

ensure access to healthcare services in the state. The second problem is the need to strengthen

healthcare services for indigenous, migrant, and other vulnerable groups. To address this, the

plan aims to establish effective inter-institutional partnerships to promote actions aimed at

comprehensive health care.

The third problem identified is an aging population with a higher need for specialized

diagnostic and treatment interventions. The plan aims to strengthen surveillance and monitoring

procedures to have a positive impact on the health conditions of the population in this regard.

The fourth problem refers to the delay in surgical procedures due to the hospital reconversion

during the COVID-19 pandemic. The plan has the goal to improve the hospital infrastructure and

capacity to prevent this from happening again.

The fifth problem is the higher prevalence of treatable blindness among the elderly

population in marginalized areas. To address this, the plan requires financial support for

infrastructure and continuation of the Cataract Surgery Program. The sixth problem is a

significant backlog in organ transplants, particularly for kidneys. The plan aims to increase the

availability of donors and improve the healthcare infrastructure and capacity to reduce this

backlog.

The seventh problem identified is inadequate supply of medicines and medical supplies,

leading to emergency purchases. The plan aims to ensure an adequate supply of medicines and

medical supplies through efficient procurement and management procedures. The eighth and

final problem is the need to improve sexual and reproductive health through interventions aimed at addressing the main problems of public health in reproductive age.

Based on the identified problems, the plan has developed three strategies to address them. The first is to manage resources with federal government agencies to ensure access to healthcare services in the state. The second is to establish effective inter-institutional partnerships to promote actions aimed at comprehensive health care. The third is to strengthen surveillance and monitoring procedures to have a positive impact on the health conditions of the population.

In addition to these strategies, the plan includes several key components aimed at improving the health of the population. The first is the effective coverage of attention in health services. The plan aims to provide access to health services to all Baja Californians without any discrimination based on political, racial, religious, or social conditions. The second component is health promotion, which includes interventions to promote healthy lifestyles and environments at a personal, family, and community level.

The third component focuses on reducing the incidence and mortality of infectious diseases, with an emphasis on epidemiological conditions of interest in the state. The fourth component aims to prevent and treat chronic non-communicable diseases in a timely manner to reduce damage to the health of the population. Additionally, the plan includes a component to improve sexual and reproductive health through interventions aimed at addressing the main problems of public health in reproductive age. Finally, the plan emphasizes the importance of

epidemiological surveillance to contribute to the reduction and control of diseases subject to surveillance and those that put public health at risk.

Overall, the state healthcare policy plan for Baja California from 2022-2027 seeks to address the identified health-related problems in the state and improve the overall health and well-being of the Baja Californian population ("Plan Estatal de Desarrollo Del Estado de Baja California 2022-2027" 2022).

Theoretical Framework

The World Health Organization (WHO) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1948). In the context of community-led healthcare in Mexico, a Health Equity framework is relevant because it recognizes that health outcomes are influenced by complex interactions between people and their environments (Peterson et al., 2021). Community-led healthcare projects in Mexico seek to address health disparities and promote health equity among marginalized populations.

The Health Equity framework recognizes three main principles that are relevant to community-led healthcare in Mexico. The first principle emphasizes the importance of equity in health outcomes. This principle recognizes that health disparities are unfair because they are preventable, unnecessary, and influenced by social, environmental, and economic factors (Peterson et al., 2021). In the context of Mexico, health disparities are particularly pronounced

among marginalized populations, such as people living in rural areas and poverty (Knaul et al., 2012). To address these disparities, community-led healthcare projects must prioritize equity in their planning and implementation.

The second principle of the Health Equity framework recognizes that social determinants of health play a significant role in driving health equity. In Mexico, social determinants such as poverty, inequality, and discrimination contribute to health disparities (Knaul et al., 2012). Community-led healthcare projects in Mexico must address these social determinants by focusing on the root causes of health disparities, such as access to healthcare, education, and economic opportunities.

The third principle of the Health Equity framework is a historical and life-course perspective. In the context of Mexico, health inequities result from cumulative experiences across people's lives and previous generations. The impact of social determinants can change and evolve from childhood to adulthood, development stage, and experiences contributing to each area's role at various stages of life (Peterson et al., 2021). To address health equity in Mexico, community-led healthcare projects must consider the historical impact of inequities and take a long-term approach that addresses the root causes of health disparities.

The Strong Roots project in Mexico is a community-led healthcare project that seeks to improve health equity among rural populations. The project aims to construct a medical clinic in an marginalized area to provide accessible healthcare services. The Health Equity framework is particularly relevant to the Strong Roots project as it follows the construction of a medical clinic

in Mexico which ultimately wants to improve health equity. By incorporating the principles of equity in health outcomes, social determinants of health, development of strategic partnerships, and a historical and life-course perspective, the project can address the root causes of health disparities and promote health equity in the community.

In summary, the Health Equity framework is relevant to community-led healthcare in Mexico as it recognizes the complex interactions between people and their environments that contribute to health disparities. By incorporating these principles into their planning and implementation, community-led healthcare projects in Mexico such as the Strong Roots project can promote health equity among marginalized populations.

Community-Led Healthcare

Community-led healthcare is a healthcare delivery model that has been suggested as a way to enhance healthcare systems and attain universal healthcare. This model involves a bottom-up approach where community members are involved in identifying health needs and designing and implementing solutions that cater to their particular needs. According to Huang and Wang (2005), community-led healthcare involves organized voluntary efforts that may include providing health services or advocating for changes in policies and service delivery. In addition, community members impact public policies and health practices that influence their health needs and disparities.

The community-led approach to healthcare recognizes that top-down solutions alone cannot address complex issues of inequality and disadvantage. It emphasizes the importance of community-led action where those affected by injustice use their experience to define issues, identify necessary changes, and implement solutions to influence change. This approach is relevant to the Strong Roots project as it involves the active participation of community members in identifying healthcare needs, setting priorities, and developing solutions to address these needs.

The model is based on the principle of social cohesion and social capital, which refers to the capacity and willingness of community members to contribute to each other's well-being. Communities with strong social capital have active and reciprocal voluntary effort, a strong infrastructure of diverse community groups and organizations, and significant influence in decision-making processes that impact the quality of community life. This principle is important as it recognizes the importance of community involvement and participation in healthcare delivery and decision-making processes.

The community-led healthcare approach follows a series of steps proposed by Dailly et.al (2008) to develop successful community-led healthcare projects. The first step involves community engagement, where community members are engaged in identifying their needs, priorities, and aspirations. This can be achieved through community meetings, surveys, and focus groups. The second step involves planning, where a plan is developed that reflects the community's priorities and aspirations. This plan should include goals, objectives, and strategies

for achieving desired outcomes. The third step involves resource mobilization, where resources needed for the project are identified and mobilized. This can include financial resources, as well as human resources such as volunteers and community members who can contribute their skills and expertise.

The fourth step involves implementation, where the project is implemented according to the plan, with the involvement and participation of the community. The fifth step involves monitoring and evaluation, where the project's progress is monitored and evaluated using both quantitative and qualitative data. This will help to identify successes and challenges and to make adjustments as needed. The final step involves sustainability, where strategies are developed to ensure the project's sustainability, including building community capacity, strengthening partnerships, and securing ongoing resources.

In summary, the community-led healthcare approach is a relevant model for the Strong Roots project as it involves community participation in healthcare delivery and decision-making processes. The model is based on the principles of social cohesion and social capital, which recognize the importance of community involvement and building strategic partnerships in healthcare delivery. By following these steps marked by this approach, the Strong Roots project can successfully engage with the community, identify their needs and aspirations, and develop sustainable solutions to address these needs.

Chapter 2: Methodology

This study documents the case study of a community-led project where a medical clinic is built, which employed three research methods: unstructured interviews, semi-structured interviews, community-based participatory research (CBPR), and a community-led healthcare approach. Semi-structured interviews were used as a research method to explore the impact of major changes to Mexico's healthcare system on community organizing programs and non-profits. To address the knowledge gap on this topic, I examined the processes of community-led healthcare with Mexican community healthcare leaders, including their funding sources, recommendations for sustainable community-led healthcare, and their assessment of the current state of Mexico's healthcare system. Additionally, unstructured interviews were used to document the history of project in Chapter 3 prior to me joining it with community members. For the case study section of this work, community-based participatory research was utilized as a research method to carry out a needs analysis and determine the goals of the project, which involved the active participation of community members in all stages of the research process. The community-led healthcare approach was chosen for the general project, which emphasizes community empowerment and involvement. Further details on the implementation of CBPR and community-led healthcare are provided in Chapter 3.

Multi Phased Research Design

I employed four phases for this thesis. The first three phases involved data collection, while the fourth phase involved the implementation of the community-led healthcare project. Throughout this research, I had multiple meetings with the community members of Poblado

Paloverde, the Rotary Club Mexicali, the thesis committee for this study, Northern Arizona University (NAU) Institutional Review Board, and the study participants. The following describes an overview of each phase.

Phase One - Unstructured Interviews

The first data collection stage consisted on unstructured interviews. Unstructured interviews were used as a research method to interview leaders of the community where the clinic was built to document the history of the project prior to me joining it and on the community's mode of organizing. Unstructured interviews are a qualitative research method that allows for open-ended questions to explore a topic in-depth (Braun & Clarke, 2021). This approach was used to gain a comprehensive understanding of the community's perspective on the project, its evolution over time, and how they organize.

In terms of sampling, a mix of purposeful and convenience sampling was utilized for selecting participants for the unstructured interviews. Purposeful sampling was employed to ensure that participants had direct knowledge and experience with the community-led healthcare project being studied. Specifically, community leaders and community members who were involved in the project since its inception were selected to provide an in-depth history of the project. Convenience sampling was also used to select participants who were available and willing to participate in the study. The sample size was determined based on the principle of data saturation, which was reached after conducting interviews with 7 community leaders. Data saturation occurs when new data collection no longer reveals any new insights or themes related

to the research question (Guest, Bunce, & Johnson, 2006). Overall, the purposeful and convenience sampling methods were chosen to obtain a diverse and representative sample of community leaders who could provide a comprehensive perspective on the community-led healthcare project.

The unstructured interview data was analyzed using thematic analysis to identify patterns and themes in the data (Braun & Clarke, 2021). The results of the unstructured interviews are presented in Chapter 3 as part of the background and contextual information for the project.

Phase Two - Semi-Structured Interviews

In addition to unstructured interviews, this study also employed semi-structured interviews as a research method to gather information from leaders of community healthcare non-profits regarding best practices for community-led healthcare projects.

Semi-structured interviews are a qualitative research method that provides flexibility in data collection while ensuring that key questions are addressed (Fontana & Frey, 2019). This method involves a set of open-ended questions that allow participants to express their views and experiences in their own words (Bernard, 2017). The use of semi-structured interviews in this study was appropriate as it allowed for a deeper exploration of the experiences and perspectives of community healthcare leaders regarding the implementation of a community-led healthcare projects.

For the sampling method in the semi-structured interviews stage of this study, a purposeful sampling approach was employed. The goal was to connect with leaders of community healthcare non-profits who could provide valuable insights into best practices for community-led healthcare projects. To identify potential participants, the website https://rutasparafortalecer.org was utilized to compile a list of non-profits working in the community healthcare space in the study area.

A total of 50 organizations were messaged through email or phone, and 12 expressed interest in participating in the study. The organizations interviewed included Asociación Aquí Nadie Se Rinde, Fundamigos, Lilo México, Fundación Medita México, Coprabec, PROONCAVI, Arca de Noé. Purposeful sampling was appropriate in this case as it allowed for the selection of participants who had relevant knowledge and experiences related to the research topic (Palinkas et al., 2015).

Interviews were conducted either via phone or via Zoom and lasted between 20 to 35 minutes in length. The questions that had been prepared for the semi-structured interviews were:

1) How would you describe the non-profit you represent?
    a. What field of healthcare does it practice? What need is it fulfilling?
2) How did the non-profit begin operations? How has it evolved ever since?
3) How are operations financed?
    a. Is there support from the government and/or the private sector? Has there been?

4) How would you describe the status of healthcare in Mexico?

   a. What is going well?

   b. What is not working?

5) Please provide a description of how the non-profit you represent practices community healthcare.

   a. What is the role of the community/community members? Is there a structure?

6) How would you describe the qualities and limitations of community-led healthcare systems?

7) What characteristics must community-led healthcare follow to be sustainable?

8) If you could advise someone starting a community healthcare project, what would you say to them?

   a. What are some critical lessons that you concluded from your work at non_profit_name?

To analyze the data collected from the semi-structured interviews, a coding strategy was employed. All interviews were recorded and transcribed. After transcription, the data was imported into a spreadsheet for analysis. The data was then coded using a thematic analysis approach, which involved identifying patterns and themes within the data (Braun & Clarke, 2021). Each code was assigned a label, and the labeled data was then organized in a spreadsheet for ease of analysis. This process allowed for a systematic and comprehensive analysis of the data, which helped to identify key themes and patterns in the responses provided by the

participants. Overall, the use of a coding strategy and spreadsheet facilitated the analysis of the data and helped to ensure the accuracy and validity of the results.

Phase Three - CBPR

The third phase of the study involved utilizing community-based participatory research (CBPR) to analyze the needs and identify the goals of the community-led healthcare project through the implementation of a survey. CBPR is an approach to research that involves collaboration between researchers and community members to identify and address community health needs and promote health equity (Israel et al., 2018). This approach recognizes the importance of involving community members in all aspects of the research process, including planning, implementation, and dissemination of results.

CBPR was an appropriate approach for this study as it involved the community members in identifying their own health needs and developing solutions to address those needs. This approach allowed for a more nuanced understanding of the community's perspective and priorities and facilitated the development of a healthcare project that was tailored to meet the unique needs of the community.

For the sampling method, a quota sampling approach was employed. The goal was to ensure that a diverse range of perspectives was represented in the analysis of needs and identification of goals for the medical clinic project. To achieve this, the sampling approach focused on identifying participants from various categories of the community, including medical

professionals, community leaders, community members, and users of the clinic from other Poblado.

Quota sampling is a non-probability sampling technique that is often used when the goal is to ensure that specific categories or subgroups of a population are represented in a sample (Guest, Namey, & Mitchell, 2013). This approach involves setting quotas for each category or subgroup and then selecting participants who fit those categories or subgroups. Quota sampling was appropriate in this case as it allowed for a diverse range of perspectives to be included in the analysis of needs and identification of goals for the medical clinic project.

The data analysis for this phase involved a review of the results from the surveys conducted with community members. The survey asked participants to identify essential and non-essential elements for the clinic's construction. The community members were involved in the analysis process and provided guidance on the inclusion and exclusion criteria. The decision was made to include all items that were deemed essential by the community members. For non-essential items, the team assessed whether excluding an element posed a risk to the health of the clinic's users. Additionally, items that would be provided by the medical professionals giving service at the clinic were excluded. The analysis was done in a systematic and collaborative way to ensure that the community's perspectives and needs were prioritized in the decision-making process.

Phase Four - Community-led Healthcare

Phase four of this study involves the implementation of a community-led healthcare project, which is described in detail in Chapter Four.

Chapter 3: Strong Roots Project

Introduction to the Strong Roots Project

This research focuses on documenting the community organizing efforts that led to the construction of a medical clinic in semi-rural Northern Mexico. The case study, referred to as Strong Roots, provides a detailed account of how the project was initiated and developed through the collaborative efforts of the community in strategic collaboration with private actors.

The Strong Roots project took place in Poblado Paloverde, which is situated on the outskirts of Mexicali, Baja, California. The community did not assign a specific name to the project, but it was referred to as Strong Roots during the grant process with the University of Northern Arizona, and this name is used in this thesis to reference the project.

This section of the research is dedicated to describing the project and documenting the modes of organization employed by the community of Poblado Paloverde. The community's efforts have been instrumental in the development of the project, and their organizing strategies provide valuable insights into effective community organizing in healthcare. By analyzing the case study of Strong Roots, we can learn important lessons about the power of community engagement and collaboration in healthcare initiatives.

Demographics

Poblado Paloverde is a community with around 150 habitants and 61 houses (INEGI, n.d.). It is located 12 kilometers South of the city of Mexicali as part of the Cerro Prierto Delegation. Agricultural crops surround the community on one side, while an irrigation canal surrounds the other. In order to access the main highway that leads to the city, habitats of the Poblado either go across the canal through unpaved ground two kilometers to access the main highway or drive parallel to the canal for about a kilometer to get to a paved highway. There is no access to public transportation in the Poblado.

On average, 54% of the population over 12 years of age is employed. It is important to highlight that the latest census showing this data was in 2020. How the pandemic might have affected the community's labor status is unknown. In terms of access to services, 80% of the houses in the community have access to electricity, 70% to piped water, 51% of the house have a toilet, and 69% have a fridge. In terms of education, the Poblado's schooling level sits at seven. This corresponds to the 7th grade in the US education system. Additionally, 3% of the population is illiterate, and 31% moved to the Poblado from a different state in Mexico. In terms of age distribution, as of 2020, there were 17 inhabitants over the age of 60; the majority of the population were adults between 15 and 59, a total of 94 inhabitants, there were 18 kids and adolescents between the ages of 6-14, and there were 9 kids 5 years old or below (INEGI, n.d.).

According to information provided by community members, the majority of inhabitants work in manufacturing and at the nearby brick construction company. It is estimated that the

inhabitants of the community are positioned in a similar socioeconomic stratum. Additionally, some inhabitants with family members in the United States also receive remittances.

Community Organizing at Poblado Paloverde

The Poblado Paloverde community has been actively organizing since the 1960s, and to this day, they continue to do so with a dedicated directive table. The table comprises a President, a Treasurer, a Secretary, and two members. The community members stay connected through social media and communication apps like WhatsApp, allowing them to maintain regular communication. Additionally, they hold meetings every three months to discuss various community matters.

The board of directors of this organization doesn't have a set re-election period, and its members generally remain in their position until they decide to step down, or unless they are removed from their position. However, it's worth noting that no one has ever been removed from the board before. Over the two-year period of this project, the organization has had three different presidents of the board.

The role of the president consists of acting as a representative of the town in front of any institution, and they are in charge of searching for solutions that the town may encounter or personal issues with members of the town. Additionally, they direct the community board and authorize decisions, representing the town or the board. The treasurer administers the money of the community and keeps an account of it. The secretary is responsible for keeping

documentation, official announcements, and publishing them in as many means possible to communicate with the town. The additional two members serve as auxiliaries to the other positions in any matters that they need help with or in case they leave their positions, which could be assigned to take over.

Whenever an election is due, the organization calls for a community meeting to discuss and make necessary arrangements. During these meetings, candidates are proposed or self-nominated by the members of the community. Anyone who is over 18 years old and a community member is eligible to vote. The candidate who secures at least half of the votes plus one vote wins the election.

The board of directors typically engages in pre-meeting preparations before holding community meetings. This involves gathering and planning the topics that will be discussed during the meeting, as well as identifying the various options that will be presented to the community. During the meeting, the community members have the opportunity to participate in a democratic process by voting or providing input based on the information presented to them.

If a community member wishes to raise an issue or make a proposal, the standard procedure is to approach any member of the board of directors and to speak directly to them. The community member will share information about their concern or proposal, after which the board of directors will analyze the issue and evaluate whether it is feasible to proceed based on the needs of the community and available resources. By following this protocol, community members can ensure that their voices are heard and their concerns are addressed in a thoughtful and strategic manner.

A recent instance of community organization involves the community's efforts to address road maintenance. As the community lacks paved roads, heavy rainfall often leads to severe damage. In addition, increased traffic from heavy vehicles has resulted in deep potholes, rendering the road unusable during storms and causing difficulty for cars attempting to enter or exit the community. To address these issues, the community came together to purchase gravel lining services to fix the road. Furthermore, members of the community who own Ejidatario crops were able to secure additional funding through their participation in the Irrigation Module due to the legal classification of their land.

In general, we can conclude that the inhabitants of Poblado Paloverde have a strong organizational structure that shows characteristics of social cohesion and social capital. The community is characterized by active and voluntary efforts of participation and organization towards influencing the quality of community life. They operate in an integrated manner, focusing on projects and initiatives that benefit the community.

Access to Healthcare

Access to healthcare services in Poblado Paloverde is severely limited, with no medical clinic or hospital of any level of care available within the community. The closest medical centers that provide access to uninsured citizens are the Riviera Campestre Health Center and the Hidalgo Health Center, which are located at distances of 4.5 and 6.7 kilometers away from the community, respectively.

Unfortunately, due to the limited capacity of these medical centers, community members often have to spend the night outside the centers in order to secure a spot to receive medical attention. This situation presents a significant threat to the health and well-being of community members, especially given the environmental conditions of the semi-rural region. Dust from the unpaved roads, extreme weather conditions, and other environmental factors can pose serious risks to the health of those who are forced to spend the night outside the medical centers.

Other health centers in the vicinity correspond to an IMSS clinic located 6.7 kilometers away and a family health clinic under the same institution that is nine kilometers away from the community. Unfortunately, access to these institutions is restricted. In order to utilize these health centers, individuals must either be enrolled by their employers or pay a quota to enroll voluntarily. This creates a significant barrier to accessing healthcare services, particularly for those who may not have the financial means to pay for enrollment or whose employers do not provide this benefit. As a result, many community members in Poblado Paloverde are left without access to essential healthcare services, exacerbating existing health disparities and inequalities.

The community of Paloverde is not immune to the effects of structural determinants of health, which have a direct impact on their access to healthcare services. The community-led healthcare approach recognizes that social and political context, as well as socioeconomic position, are crucial determinants of health outcomes.

Paloverde, like many other communities, experiences social and economic inequalities that increase health inequities. These inequalities are often driven by systemic factors such as poverty, classism, and corruption, which result in limited access to quality healthcare. Consequently, the community of Paloverde is at risk of experiencing poorer health outcomes and reduced life expectancy.

Mobile Caravans of Health

Over the past few years, the State government, through the Secretary of Health, has been providing medical services to the Poblado community on most Wednesdays through their healthcare caravan program for at least ten years. Healthcare caravans are mobile healthcare units that offer primary healthcare services to rural and remote communities that lack access to such services. A team of medical professionals travels to the community in a van equipped with medical equipment and medicines to provide medical consultations and medicine for specific conditions. The services offered include medical check-ups, follow-up appointments for pregnancy, diabetes, and hypertension, as well as treatment for other medical conditions. In cases where patients require more advanced care, medical professionals can issue them a "pass" for referral to a specialty hospital in the city, where they can receive free consultation or to get free laboratory testing.

Not only does the health caravan that visits Paloverde provide medical services to its residents, but people from nearby towns like Ladrillera, Colonia La Arboleda, Colonia San Joaquin, Granja Santa Cecilia, El Choropo, and Campo Leon also come to receive healthcare. In

total, more than 800 individuals have access to healthcare services offered in the town of Paloverde ("Localidades de Mexicali (Municipio en Baja California)" n.d.).

While mobile caravans are a valuable resource for providing primary healthcare access and referrals to underserved communities, they do have a number of challenges. One of the biggest issues is a lack of privacy during medical procedures, which can be uncomfortable for both medical professionals and patients sharing private medical information. Members of the Poblado express concern about the lack of privacy and how it can make patients feel uncomfortable and reluctant to seek treatment especially in situations where certain conditions may cause shame or embarrassment.

There are also sanitation concerns, including the risk of infection between patients waiting for their turn. Difficulty of access can also be a challenge, particularly during extreme weather conditions throughout the year. Exposure to dust and the open environment can increase the risk of developing additional diseases, which is especially problematic for the disabled and elderly population and patients who may already have compromised immune systems or are more susceptible to infections.

In addition to other concerns, the prevalence of the Rickettsia virus is a major issue in the region. This virus is transmitted by ticks and can cause serious illnesses such as Rocky Mountain spotted fever and typhus. Due to the large population of stray dogs and the lack of pavement, dust is present everywhere, creating a breeding ground for ticks. This poses a health risk for people who visit the clinic and wait for their turn. Unfortunately, the community recently

witnessed a case of an elderly member who had to undergo amputation due to the disease and lack of medical attention.

Additionally, the lack of access to basic amenities, such as water, sewage, and air conditioning, which are essential for both patients waiting for their turn and medical professionals attending to the community, may also hinder the effectiveness of mobile caravans in serving the community and negatively impact the overall quality of care provided.

At the start of the innitiative, the mobile caravans, along with the community members in need, convened at various locations throughout the community, such as the local elementary school for two years, the nearby church, and under a large tree that provided shade. However, eventually, the community and the mobile caravans were no longer able to use these spaces.

In order to address the critical issues listed, the community of Poblado Paloverde embarked on a collaborative effort to construct a medical clinic within the community itself. The project was expected to provide essential healthcare services to the community, eliminating the need for community members to spend the night outside of medical centers and promoting equitable access to healthcare.

The Start of the Project

In the year 2019, the leaders of Poblado community undertook an initiative to establish a medical clinic. The first step was to determine the location of the clinic, which took considerable

effort and discussion among the community members. Ultimately, the public space located at the heart of Poblado, next to the local school, was chosen as the ideal location for the clinic, despite the space being originally designated for recreational use.

The community then launched a series of fundraising activities over the following months to finance the project. These included organizing a raffle and seeking donations from the local community and others who were connected to the community and wanted to support the cause.

With the funds collected from various fundraising activities and donations of used materials, the community had enough resources to begin the construction of the clinic. At the time, the community director happened to be a skilled construction worker and took charge of the construction process. Along with the help of other community members, they were able to complete the first version of the clinic within weeks days.

The community's objective was to create a space that afforded users of the mobile clinics with a degree of privacy and shelter from the elements. Their plan involved incrementally adding to the structure as funding became accessible, with the ultimate goal of gradually enhancing the clinic's conditions.

The clinic that was built was located on a 85 x 328 ft. lot and consisted of a 5x5 m rustic room with the following elements:

1. Cement Floor: A high-quality 5-inch cement floor was carefully installed, with the community prioritizing its solidity and durability. This element received the largest allocation of the budget due to its importance in ensuring the overall quality of the structure.

2. Wall Frames: The community installed solid wall frames with the specific purpose of attaching the walls to them securely. Both donated and purchased materials were used to construct the frames, ensuring that they were of high quality and capable of supporting the weight of the structure.

3. Compressed Wood Walls: Compressed wood walls were utilized to provide shade from the outside, but they did not offer complete protection from the natural elements. Unfortunately, the walls lacked insulation to guard against deterioration from the weather.

As soon as the clinic was completed, community members started to use it, appreciating the increased shelter and privacy it offered compared to their previous conditions. Despite the completion of the clinic, significant challenges remained, particularly during periods of extreme weather where temperatures could exceed 120 degrees Fahrenheit. The lack of insulation and air conditioning in the building made it especially dangerous for users, as the internal temperatures could be even higher, posing a risk of heat-related illness and even death.

The objective of the clinic in Paloverde was to continue to improve the structure as funds became available, but the community faced significant limitations due to the lack of resources and to reaching exhaustion of their relationships and networks. Despite the community's strong

social cohesion and capital, they were also constrained by psychosocial factors and structural determinants of health inequity. These factors further exacerbated during the COVID-19 pandemic, which disproportionately affected marginalized communities like Paloverde.

Adding to the community's challenges, they were without a delegate to represent them, which is a vital role in securing government funding and raising community issues with the municipality. The absence of a delegate further hindered the community's ability to address their health needs and access essential resources.

Initial Connection to the Project

A health equity framework recognizes that relationships and networks, systems of power, and psychosocial factors play a crucial role in achieving equitable health outcomes. Community-led healthcare approaches prioritize the development of strategic partnerships between communities and agencies to address the needs identified by the community.

In April of 2021, as a student at the University of Northern Arizona, I had the opportunity to access funds by the Maxwell Lutz Award for the development of a community-based project. I was eager to allocate the funds to a project in my hometown of Mexicali, Baja California, but I needed to identify a community with pressing needs.

Through a friend who had previously worked on a community project at the local school in Paloverde, I learned about the community's strong community organizing qualities. During my visit to the community, I met with the school's director, who is a respected member of the

community. Prior to the visit, we had initially discussed the needs present in her school and the potential for a project there. However, during the visit, the director led me straight to the clinic that the community had built. It is worth highlighting that this visit happened during the COVID-19 pandemic.

At the clinic, I met with members of the community board who shared their vision for improving the clinic and their interest in collaborating with others to make it happen. The community board was eager to advance with the clinic but had exhausted their resources and network, and they were seeking to expand their network and collaborate with agencies, private actors, or anyone who was willing to help. Thus, the next stage of collaboration began, with a focus on building strategic partnerships to address the needs of the community. By working together and recognizing the role of relationships and networks, we wanted to achieve health equity and create a more just and equitable healthcare system for all.

Collaboration with NAU

NAU's allocation of funds from Maxwell Lutz to the project opened up the community to a wealth of technical knowledge, relationships, and networks that could have a positive impact on the project. The Maxwell Lutz Committee, consisting of NAU's Associate Chair of the school of Civil Engineering, Construction Management, & Environmental Engineering, John Tingerthal, Professor and Director of the Sustainable Communities Program, Peter Friederici, and Janine Schipper, Director of the Department of Sociology, was formed to provide technical advice and

knowledge on construction and environmental considerations and community organizing for the construction of the clinic.

Moreover, the project could benefit from the expertise of Dr. Paul Lenze, a Senior Lecturer at the Department of Politics & International Affairs at NAU, who could contribute his knowledge on analyzing power structures and policy influencing the project. Edith Pérez Velázques, the Director and founder of the non-profit PROONCAVIAC, could also provide valuable knowledge on change theory and cultural considerations necessary for the success of such projects.

To ensure that the valuable knowledge provided by these actors was effectively communicated to the community, Leopoldo Beltran, a Construction Management student at the university who was also part of the grant, and I played a crucial role. We were responsible for disseminating this knowledge and ensuring that it was accessible and understandable to all stakeholders in the project.

Leopoldo and I had distinct roles in disseminating the knowledge provided by the actors to the community. Leopoldo focused on the technical and construction management aspect, while my focus was on project management, community organizing, and ensuring that all stakeholders understood that the community was the ultimate decision-maker. It was essential that the community led the project and determined which needs should be targeted in alignment with a Health Framework and Community-led practices.

The first step that was taken, in collaboration with the community and following a Community-led approach, was to break down the project components to identify the specific outcomes that were being sought. This allowed us to determine the required inputs (resources), processes (methods), and outputs (activities) that would lead us to the desired outcomes.

The community had a varied and unclear concept of what constituted a successful project, ranging from improving the current state of the clinic to establishing permanent healthcare services, providing patients with more privacy, and so on. Given that the resources, methods, and activities required to achieve each of these goals were significantly different, we realized that a community needs analysis was necessary.

Conducting a community needs analysis was critical to ensuring that all members of the community had a clear understanding and agreement on what constituted a successful project. It would also help us define the scope of the project and identify the resources required to achieve it. By conducting this analysis, we could ensure that the project was tailored to meet the specific needs and goals of the community.

Interviews with Experts in Community Healthcare

In order to gather information on best practices for community-led healthcare projects, this study utilized semi-structured interviews with leaders of community healthcare non-profits. The results of these interviews were intended to inform the development of the Strong Roots project and to contribute to the existing literature on this topic.

The study included interviews with leaders from a variety of community healthcare non-profits across the country, each with their own area of focus. For instance, one organization provided support for children with cancer who require bone marrow transplants, offering financing for procedures, medication, lab work, psychological support for patients and their families, and activities to improve the psychosocial environment for families during their cancer fight. Another non-profit was dedicated to integral support for individuals with addiction, including institutional strengthening of addiction issues with other organizations, prevention programs for at-risk communities, and addiction treatment and social reintegration programs. A third organization focused on comprehensive development in low-income communities through education and medical campaigns. Additionally, another non-profit provided community feeding programs to address malnutrition and anemia in low-income children. Another organization focused on mental health support, offering guidance and meditation practices for patients, caregivers, families, and medical professionals at different hospitals. Finally, there was a non-profit that focused on cancer prevention through five areas of support, such as institutional strengthening, incidence, social promotion, and assistance for patients with cancer treatment. Support services for patients included guidance on getting a diagnosis, programs for obtaining a second opinion, legal support, and information about patient rights. These diverse organizations were all interviewed to gather information about best practices for community-led healthcare projects, which would be used to inform the Strong Roots project and contribute to the literature on this topic.

Participating non-profits in this study were located throughout the country in the states of Baja California, Yucatán, Mexico, and Jalisco. The interviews included organizations that have been in operation for as long as 25 years and as recently as three years. The remaining organizations had been operating for between 11 and 13 years. Interviewing organizations with this range of experience helped to shed light on the challenges faced by non-profits working on newer projects, as well as those with more established operations and a more defined area of focus.

In terms of funding, it was found that the non-profits that participated in the study fund their operations through various methods. One non-profit is mainly supported by its founder, participates in calls for proposals, has received support from all three levels of government, and works with private companies each year to obtain resources. Another non-profit receives 100% of its donations from a US-based organization and is the only religiously-affiliated non-profit interviewed. A third non-profit reported receiving government support in the past but no longer receives any kind of support and relies on donations from the families of its users, as well as fundraising campaigns and organizations to secure funds. Another non-profit receives donations in kind from foundations, has a recurring donation program, and organizes fundraising events, such as an annual athletic race and gastronomic event, for which they depend on private company sponsorships. Another non-profit receives donations through food banks and corporate donations, while another non-profit receives private donations and also offers services for a fee to those who can afford it, using the funds to provide donations to low-income populations.

The key takeaway in terms of resources emphasizes the importance of diversifying the methods of funding for community healthcare projects, especially considering the impact of the COVID-19 pandemic. Due to the pandemic, organizing in-person fundraising activities became impossible. The most effective fundraising methods identified during the interviews were donations from private companies, recurring donations from individuals and companies, and participation in public and private campaigns. However, changes to Mexico's healthcare system have affected the latter method. To ensure continuity of projects in the long term and adaptability to uncertainty, non-profits and community-led healthcare projects must diversify their funding methods.

Another finding from these interviews was the relevance of community involvement in healthcare projects. Leaders of community healthcare non-profits emphasized that involving the community is crucial in order to develop and maintain projects in the long-term. It was also important to provide community members with the necessary support such as training to manage projects, having a clear work plan, and properly managing finances. In addition, it was suggested that strategic actors from the community should be involved in the project, with different types of leadership and a focus on transparency to maintain the sense of community. It was also important to consider cultural factors that may prevent someone from seeking medical attention, and to have clear social objectives and information on additional resources that can be shared with the community and other associations.

It was emphasized that it is essential to remain focused on the ultimate goal, while adapting to the circumstances that arise, as there are too many needs that require attention. The most relevant finding that emerged from multiple interviews was the importance of developing community leadership and capacity-building. Community members should be encouraged to develop their own leadership skills, seek donations, form strategic alliances, and have a sense of ownership in the projects. Furthermore, it was suggested that public advocacy should be a key aspect of community-led healthcare projects, with a focus on addressing the root causes of health issues.

Another key finding from these interviews was the importance of designing standard processes that are transparent and efficient for the use of resources. It was emphasized that having clear and standardized processes in place can help to prevent wasted resources, avoid duplication of efforts, and ensure that projects are effectively meeting the needs of the community. This includes establishing clear guidelines for the allocation of funds, as well as for the selection of beneficiaries and the distribution of resources.

Transparency was also highlighted as a key aspect of these processes. Community projects need to be transparent about their decision-making processes and how they allocate resources, as well as the impact of their projects. This helps to build trust with the community, donors, and other stakeholders, and can also serve as a tool for accountability.

In summary, successful community-led healthcare projects require transparent and standardized processes for resource management, which includes evaluation and monitoring to prevent resource wastage, promote transparency, and ensure accountability. Non-profits should prioritize developing these processes as part of their project planning and management. The interviews with community healthcare non-profit leaders have emphasized the importance of community involvement, capacity-building, and diverse funding methods for such projects. Additionally, these projects should maintain a clear focus on their objectives while being adaptable to changing circumstances. These findings can inform the development of effective healthcare projects that cater to the needs of marginalized populations. It is also crucial for community-led healthcare projects to diversify their resources and fundraising methods.

Analysis of Needs

To assess the needs of the community, we used a Community-Based Participatory Research Approach, which involved conducting surveys as the primary research method. Community leaders were responsible for distributing the surveys to various community members, including the doctor and nurse serving at the clinic, a project leader, and community members who utilized the clinic.

The survey responses were analyzed by me, the author of this work, to determine the necessary elements for the project. Community leaders provided guidance on the analysis process, advising on the inclusion and exclusion of elements to ensure that the results reflected

the community's needs accurately. This approach provided valuable insight into the community's needs, enabling project leaders to tailor the project accordingly.

To prioritize essential elements, we identified basic necessities commonly found in healthcare clinics, such as access to water, a restroom, a well-built structure with shade, an examination table, air conditioning inside the clinic, chairs for patients waiting to be seen, a trash can, and a fire extinguisher. We included all of these essential items in the project plan.

For non-essential items, we assessed whether their exclusion would pose a risk to the health of the clinic's users. As medications and equipment brought by the medical professionals of the Mobile Caravan were already available to the community, we excluded them from the list. This allowed us to focus on providing the most critical elements needed for the success of the project.

The results of the needs analysis was ready in November of 2021. It included the essential elements prioritized through the needs assessment process listed below while items that were discarded were recorded by the community to keep in mind for future projects:

Inputs Deemed Essential

Water

Septic Tank

Electricity

Lightning

Restroom

A shaded waiting area with benches or chairs for 15 patients

Air conditioning

Improving the installations

A desk, chairs (3), shelves, and filing cabinet for the working personnel.

Medical equipment:

- Medical Bed/ Exploration Table

- Weight scale

- Stadiometer

Inputs Deemed Non- Essential

1. Sink

2. Sidewalk for entrance/ Floor

3. Medical equipment (Listed by the Dr.):

- Negatoscope

- Screen (to separate as a wall)

- Pasteur table

- Shelf

Following the completion of the needs analysis, I proceeded to translate the findings into tentative estimates in order to obtain a general idea of the project cost. The results of this process are listed below:

1. Water: To establish a water connection for the clinic, we needed assistance from the Comisión Estatal de Servicios Públicos de Mexicali (CESPM), a decentralized public organization of the State Government responsible for planning, building, operating, and maintaining potable water and sewerage systems in the Municipality of Mexicali. CESPM initially quoted us a price of 10,129 pesos or $500 USD in 2021. During the project planning process, CESPM mistakenly connected water to the lot, but the connection was later disconnected. When community members asked CESPM why it was disconnected, they were told they should be grateful they weren't being fined for an illegal connection. CESPM then gave a new quote of more than 40,000 pesos, almost four times the original cost. Aside from the water connection through CESPM, we factored in a cost of $500 USD for plumbing and piping to connect the water.

2. Septic Tank: As there was no existing sewage system in Poblado Paloverde, we would have to install a septic system for the restroom in the clinic, which cost a total of $1,500 USD.

3. Electricity: Similar to the water system, we would need to pay an electricity connection fee to the Comisión Federal de Electricidad (CFE) in order to install electricity.

4. Lightning: To meet the lighting requirements, we estimated that we would need to allocate a total of $300 USD for the wiring.

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5. Restroom: To connect a restroom, faucets, and a sink, we estimated the total cost to be around 500 USD.

6. A shaded waiting area with benches or chairs for 15 patients: At this point, it was not clear whether we should renovate the existing clinic or construct a completely new one. Hence, we did not proceed with estimating the cost for the shaded area, as it was possible that if we decided to build a new clinic, the current area could be utilized as a waiting room.

7. Air conditioning: As we were uncertain about the final layout, we made a tentative estimation of allocating a budget of 600 USD for purchasing a mini split air conditioning system.

8. Improving the installations: We decided to avoid this requirement for now, and to analyze it during the process of creating the layout for the clinic.

9. A desk, chairs (3), shelves, and filing cabinet for the working personnel: For these needs, we tentatively estimated a budget of 500 USD.

10. Medical equipment (Medical Bed/ Exploration Table, Weight scale, Stadiometer): We decided to avoid this requirement for now, and to analyze it further on to contemplate donation alternatives.

After collaborating with the community and technical experts involved in the project, a thorough analysis was conducted on the current layout of the rustic clinic that was built by the community. After careful consideration, it was concluded that utilizing the exposed foundations

could pose a danger to the users of the clinic. As a result, a decision was made to remove all of the current construction, except for the cement floor.

Taking into account the community's input, a new layout for the clinic was developed, which was limited by the area of the existing cement floor. After a thorough evaluation, it was determined that the project would be challenging to complete within the allocated budget. However, utilizing the existing cement floor would help to mitigate the cost and make the project more feasible.

The new layout included a waiting area with nine seating spots, a small storage room for cleaning supplies, a restroom for clinic users, an examination room for medical professionals, and a private room for medical professionals. If resources allowed, a second restroom could be added to the private room.

Over several months, various avenues were explored to obtain cost estimates for the project. One option was to use train boxes repurposed by an architect for affordable construction, which was estimated to cost around $20,000 USD. Another option was to rely on volunteer labor from the community and solely focus on purchasing materials, but even this approach would exceed the available budget.

Additional resources were needed to make the project viable, and the Covid-19 pandemic had a significant impact on the construction industry in the region. Construction costs had significantly increased, nearly doubling in some cases, due to many people undertaking home

improvement projects. This made it difficult to access labor, resources, and even construction materials for the project due to material shortages.

Strategic Partnerships with the Rotary Club

At the same time when additional funds were needed for the project, a friend who was a former member of the Rotary Club and had introduced the Poblado Paloverde project reached out to offer help. She informed them about a program by the Mexicali Rotary Club that matched any donated amount towards a community project. She facilitated a meeting between Leopoldo, the project leader, and the leadership of the Mexicali Rotary Chapter, where they discussed possible collaboration. The Rotary Club expressed their intention to support the project, and the community was pleased to receive the additional assistance. However, the community retained decision-making authority over the project.

During the initial months of collaboration, the Rotary Club obtained additional quotes from their contacts and realized that the construction cost was higher than anticipated. They recognized that their support alone would not be sufficient, and they needed to access more resources.

The Mexicali Rotary Club reached out to its network and around October of 2022, they received positive responses from the Rotary Club Escondido, California chapter, and the Lion's Club from Washington, who expressed interest in collaborating with the community and other stakeholders in the project. These clubs had prior experience in construction and had built housing programs for low-income families and small cabins in two days.

After about a month of back and forth communication on the details of the project, in December of 2022, The Rotary Club Escondido and the Lion's Club proposed that they would cover all the construction materials, provide technical construction expertise, and labor for the project, except for connection to utilities, flooring, air conditioning, insulation, furniture, and medical equipment. The easiest and fastest way to proceed would be to use the construction plan that these clubs had previously implemented. However, it was essential to ensure that the building's features met the community's needs and that they approved of the design before proceeding.

The Rotary Escondido and the Lion's Club put forth a design proposal for a clinic. Given that the design was slightly smaller to the one put together through NAU and that their resources allowed, the clubs suggested to build not one, but two clinics. After presenting the proposal to the community, the design was accepted during the same month. This meant that the project could move forward without the need for a new design due to the technical capabilities and organizational structure of the Rotary Escondido and the Lion's Club.

The partnership with the US-based organizations progressed rapidly. In December, they proposed to construct the clinic during the third week of March 2023. Despite the fast timeline, the community agreed to proceed. To prepare for the clinic's construction, the team needed to quickly install a cement floor and allow it to set for at least two weeks prior to building the clinic. This was a crucial step in ensuring that the clinics could be built successfully.

NAU's donated budget of $4,600 USD went to the construction of cement floors and septic tank foundations. The installation work was carried out by a construction company owned by a friend of one of the Rotary Club members. The company only charged for the labor needed to pay its employees. Additionally, a member of the Rotary Club runs a non-profit organization that is typically used to issue tax deduction paperwork. In this case, the non-profit was used in exchange for a reduced fee.

Government Agencies, Paperwork, and Costs

At the beginning of the project, one of the major challenges was establishing connections for water and electricity, which had to be made through government institutions CESPM and CFE. As previously mentioned, both institutions provided a cost estimate for setting up these connections.

To establish the connections, the community needed to provide an updated decree signed by the community delegate stating that the land belonged to the community and therefore had the right to make such connections. Although the community had a signed document from 2008, both institutions rejected it as too old. This process began during the COVID pandemic, and it took community members over a year to obtain a new decree. Due to the pandemic, a new delegate was not assigned by the government until 2022.

With the community's persistent efforts, numerous visits to different government institutions, and assistance from some community members with connections, they eventually

persuaded the Chief of all the Delegates of the Cerro Prieto delegation to sign the new decree. This process significantly delayed progress on the project because without a signed decree, any building on the land could be deemed illegal.

After the land decree was signed, the team was able to proceed with installing water and electricity connections. To establish a water connection for the clinic, they sought assistance from the Comisión Estatal de Servicios Públicos de Mexicali (CESPM), a decentralized public organization responsible for planning, building, operating, and maintaining potable water and sewerage systems in the Municipality of Mexicali. CESPM initially quoted a price of 10,129 pesos, or approximately $500 USD in 2021, for establishing the connection.

However, shortly after the land decree was signed, CESPM mistakenly connected water to the lot even though no payment had been made. Everyone in the community was thrilled, as they had tried to negotiate a lower or donated rate for the connection through the government and the institution, given the lot's noble cause. Unfortunately, CESPM later discovered the mistake and disconnected the water. When community members asked CESPM why they had disconnected the water, they were told they should be grateful that they were not being fined for an illegal connection. CESPM then provided a new quote for over 40,000 pesos, almost four times the original cost.

The community members had also approached the Comisión Federal de Electricidad (CFE) for the past year in an attempt to secure a reduced rate or a donation, but their requests were also rejected.

Construction of the Medical Clinic

In preparation for the construction, members of the Paloverde Village, Mexicali Rotary Club, Escondido Rotary Club, and Lion's Club agreed on a date, which was set for May 24th and 25th, 2023. In preparation for the event, the clubs from the United States acquired the necessary materials for the construction and also cut them to the exact measurements. The Mexicali Rotary Club prepared everything necessary for the materials to pass through customs. The Paloverde community communicated with nearby villages to invite them to help on the day of the event and organized the preparation of food for all participants during the two days. On behalf of NAU, Leopoldo translated the construction guidelines into Spanish, while I documented the processes and assisted in coordinating the different project members.

As for the construction, the Escondido Rotary Club and Lion's Club teams have an established process for building these types of buildings with the same characteristics. They create teams based on the technical profile of the individuals. Those who have technical experience take on the activities that require their profile, while those that do not require a technical profile are distributed among the other volunteers based on the level of effort required. The latter is done in an understanding manner since no one is asked to do something, and everyone contributes based on their abilities.

On the day of the construction, approximately 40 volunteers from the clubs in the United States arrived, and approximately 30 members of the Paloverde and nearby communities,

including community leaders, were present and participated. On the first day, the foundations for the two clinics were formed. Given that there were two cement slabs, hooks were drilled into which the foundations were connected and mounted. During this first day, the base of the wiring and electrical connections was also mounted, and part of the compressed wood walls and window installation was constructed.

The US volunteers brought an impressive amount of specialized construction tools. Since some of the volunteers work in construction professionally, they brought their machinery and experience. They brought a total of two pickups filled with construction equipment and a trailer with specialized equipment.

On the second day, the walls were completed, insulation was put on the roofs, the buildings were painted, the wiring was finished, electrical accessories were installed, doors were installed, and details were checked.

Regarding the distribution of tasks, although everyone contributed in their own way, some patterns were observed. Some of the US team members have construction experience and a technical profile. These members led the construction of the foundations and were in charge of tasks that required the use of heavy machinery that could pose a risk to inexperienced people, such as industrial cutters. One person who is an electrician by profession also came from these clubs, and he was dedicated to efficiently and qualitatively doing all the wiring and electrical installation to ensure the clinic's protection.

Men with physical strength dedicated themselves to the construction of the foundations, which represented a heavy task with a high physical load. For this task, they coordinated with volunteers in the cutting area who provided them with the necessary measurements for the cuts they needed.

Young men contributed to heavy tasks such as the installation and insulation of the roofs. This represented the heaviest task in terms of physical effort and exposure to the sun. To carry out these tasks, the volunteers spent multiple hours on the roofs installing black insulation. The insulation absorbed the sun's rays and exposed them to even higher temperatures.

In general, the other volunteers rotated between tasks that included screwing walls and facades, surface repairs, painting the building, cleaning, and assisting members with technical experience as required.

Elderly volunteers contributed on the first day, and on the second day, the entire team agreed they should rest. On the day of the event, the weather was around 35 degrees Fahrenheit, but with the intensity of the sun, there was always a health risk, especially considering the volunteers who came from cold climates.

As for the members of the community, they dedicated themselves to the group of rotating volunteers and some experienced construction members also assisted in cutting some pieces. The

Paloverde community organized food for all the volunteers for both days and also provided drinks, water, and support in any way the out-of-town volunteers required. During the construction days, there was a lot of coordination among all the volunteers, a lot of energy and excitement for the great progress that the project represented.

Regarding the coordination between the community members and the US volunteers, there was a clear separation. Better planning was needed to coordinate the interaction of both groups and not let language differences represent a difficulty.

Chapter 4

Inauguration of the Clinic

The clinic was inaugurated four days after its construction on the first Wednesday of medical consultations following the construction. The event was attended by members of the community, community leaders, representatives from the Ministry of Health, the delegate of the town, local press, medical professionals from the Health Campaigns, and participants from the Rotary Club and NAU project. The event consisted of a ribbon-cutting ceremony done by the current community president and the first inhabitant or founder of the community. During the ceremony, both individuals who cut the ribbon gave speeches celebrating the community's mobilization for the construction and thanking the various actors who participated. The town delegate also spoke, celebrating the community's mobilization and mentioning that she would discuss the project with other communities, using Paloverde Town as an example. The event was followed by a pozole, a traditional Mexican dish, prepared by the community, which was enjoyed by the various participants while eating together.

During the ceremony, there was a lot of excitement about the project not only from the community but also from health professionals and members of the Ministry of Health. These actors inquired about the project's development process and showed their interest in receiving documentation about this process and getting in touch with different actors to continue with the project and also work on replicating it in other communities.

From Paloverde community and visitors from other towns who also use this community center, there was a very positive reaction to the progress with the clinic's construction. However, it is important to highlight that many relevant elements of the project still need to be addressed, which are listed in the following section.

Next Steps

This section lists the pending elements of the Strong Roots project following the construction of the medical clinic. Despite the construction of two buildings to provide medical care to the community, it is important to emphasize that there is still work to be done. The following are the specific elements and actions that remain, outlining the strategies that will be followed to provide continuity and eventual resolution.

Material Resources

The clinic project requires the following materials, according to the objectives and guidelines established by the community in the needs analysis: insulation, air conditioning, chairs for the waiting room, a desk for the medical professional, chairs for the consultation room and file cabinet, an examination table, a weight scale, a stadiometer, a sink, toilet, and restroom accessories such as a faucet.

The strategy that will be used to obtain these materials is to take advantage of the progress made with the construction of the buildings as proof of the project's relevance and organization for fundraising purposes. I will reach out to local companies via email, describing

the project, its progress, and the required materials. A request for a donation of the aforementioned items will be made, which can be in the form of space and/or cash. To identify the companies, I have a database of local businesses compiled by the National Chamber of the Transformation Industry. Additionally, potential donors will be offered the option to get a tax deduction receipt in exchange for donations through the non-profit linked to the Rotary Club.

In parallel with the previously described actions, I will contact the US civil organization PMHDC Southwest Medical Aid to receive donations of these materials. This is a non-profit in Arizona in charge or allocating donated medical supplies to other non-profits or those in need. They have already been contacted and they confirmed they can support the project. If both strategies are successful and interested companies are found to donate to the project, while PMHDC Southwest Medical Aid donates the supplies, the donations from the companies will be used for other missing elements.

Water and Electricity

The connection of water and electricity is still pending for the clinic project. Despite multiple attempts to work with CFE and CESPM to obtain discounts or support for the connection of these services, it is believed that it's worth trying again with the support of these actors due to the progress made with the project, its exposure in the media, and the close relationship developed with the local delegate in recent months.

A parallel path that will also be considered is seeking support from the federal government regarding the State Development Plan, which includes budget allocation for community health development.

If neither of these channels proves to be successful, a fundraising process will be carried out by seeking sponsorships from private companies, similar to the approach taken for obtaining resources listed in the previous section.

The connection to water and electricity is essential to meet the project goals and it is a top priority in consideration of the closeness of the summer and extreme weather conditions in the area.

Healthcare Services

The long-term vision of the project has always been to have a permanent healthcare professional providing medical services to the community. It's important to note that currently, healthcare services are only available on Wednesdays through health campaigns. The current strategy to achieve this vision is to work with the Secretary of Health. Although there is no concrete plan of action on how to achieve this, it's relevant to highlight the interest shown by the Secretary during the project inauguration and encouraging comments towards establishing permanent medical personnel to provide services to the community. This partnership is also essential to ensure the availability of medical resources referring to medicines and treatment.

Other alternatives that have been considered include working with universities to assign medical students doing their social service or residency to work in the community. However, it's believed that this could bring limitations in the services provided to the community, or it would still be necessary to have qualified medical personnel overseeing the care provided at the center.

Another pending point related to health services concerns the community's needs. Although there are shared observations by the community regarding health needs, it is important to carry out a formal needs analysis to document and confirm these needs. This data will then inform the services provided at the clinic and the resources required to meet those needs.

One of the key points for this project under the Baja California State Development Plan is the collaboration with community actors for early identification of health needs. This plan aligns with the goals and projects developed by the community of Paloverde. The plan even includes the implementation of the Certification of Health-Promoting Communities. Community members could be certified and establish collaboration strategies with government actors to achieve common goals for the benefit of the community.

Standard Processes and Fundraising Training

One important aspect that is still pending for the sustainability of the medical clinic is the design and implementation of standard procedures for its maintenance. It is essential that these processes are transparent and prioritize health equity to ensure that the clinic provides quality

healthcare services to the community in the long term. In order to achieve this, the principles of a health equity theoretical framework need to be taken into consideration.

One aspect that still needs to be addressed is the community's ability to broaden their fundraising efforts, particularly regarding the diversification of funds. As evidenced by the interviews with non-profit leaders, private companies can be a promising source of resources for the clinic. However, it is vital for community leaders to learn how to effectively engage with these companies and secure donations. Fortunately, the community has already demonstrated an interest in learning these skills, and it would be beneficial to develop them further. To facilitate communication with international actors, tools like Google Translate could be utilized during these training sessions.

The current community president has expressed a desire to start a non-profit organization that could provide tax deduction receipts to private donors. This initiative aligns with the principle of self-reliance, which is a fundamental aspect of a community-led healthcare approach. Providing the community with the tools and knowledge to be self-reliant will ensure that they have the power to shape their healthcare services and make them sustainable in the long term.

Results for Every Research Question

This section presents the results for every research question explored in this work. The research questions were designed to investigate different aspects of the development of a community-led healthcare project in Mexico, with a focus on community engagement, long-term sustainability, and health equity. The research findings provide insights into the opportunities and challenges associated with community-led healthcare initiatives, as well as the importance of incorporating community needs and perspectives into the planning and implementation of healthcare projects. The results presented in this section offer a comprehensive overview of the key findings of this study, highlighting the main contributions of this work to the field of community health and healthcare equity.

1. How can a community-led healthcare system be implemented in Mexico?

   A community-led healthcare system in Mexico can be implemented through the efforts of community organizing and collaboration with strategic actors. Such collaboration helps the community navigate situations where they might not have the necessary experience or social influence. The Strong Roots section of this thesis presents a potential path for achieving this goal, which includes engaging community members, building trust, identifying and addressing community health needs, and promoting health equity. It is important to note that while this case study provides a framework for implementing a community-led healthcare system, its applicability to other contexts and communities may vary.

2. What are the qualities and limitations of community-led healthcare systems?

Community-led healthcare systems have several qualities that make them a valuable option for improving healthcare access and outcomes in marginalized communities. One of the main qualities is that the community has a direct say in how the project is designed, developed, and implemented. This gives community members the opportunity to ensure that their needs and priorities are being met, and that the project goals and outcomes align with their values and concerns. Additionally, the process of community engagement and empowerment that is central to community-led healthcare approaches can help to foster greater trust and cooperation between healthcare providers and community members, leading to improved health outcomes and greater community cohesion.

Another key quality of community-led healthcare systems is that they are designed to be continuous and adaptive. Rather than being a one-time intervention, community-led healthcare is a ongoing process that is focused on empowering communities to identify and address their own health needs. This ongoing engagement can help to build trust and accountability between community members and healthcare providers, and can also help to ensure that the healthcare system remains responsive to changing community needs and priorities over time.

However, community-led healthcare systems also have some important limitations that must be taken into account. One of the primary challenges is the issue of

access to resources. Many marginalized communities lack the financial, human, and infrastructural resources needed to develop and maintain their own healthcare systems. In these cases, it is important to identify the community's strengts and weaknesses and determine if they might be benefitted from partnering with strategic actors who can help them at navigating complex healthcare systems, get access to funding and other resources, and build local leadership and processes.

Another limitation is coordination issues, especially with external actors who are from different cultures, speak different languages, and are located far away, as was the case with the Strong Roots project. This can make communication and project management challenging, especially when dealing with complex healthcare systems. Another consideration is that community-led healthcare projects can take a long time to develop and implement, which may lead to community burnout. This is particularly applicable if resources are limited or not readily available. It is essential for communties to stay patient and motivated while supporting each other in the community to avoid feeling overwhelmed or worse, quitting the project.

In addition, there are a number of systemic issues that can pose significant challenges to the successful implementation of community-led healthcare systems. For example, in Mexico, where healthcare is heavily centralized and bureaucratic, it can be difficult for community-led initiatives to gain the necessary support and funding from government agencies. Moreover, corruption and other forms of institutionalized

discrimination can make it even more difficult for marginalized communities to be heard and to access the resources and services they need to thrive.

Despite these limitations, community-led healthcare systems remain a promising approach for improving health outcomes and promoting health equity in marginalized communities. By empowering communities to take an active role in their own health and wellbeing, and by collaborating with strategic partners to secure the resources and support needed to sustain these efforts over time, community-led healthcare can help to create a more equitable and just healthcare system for all.

3. What are the roles of intergovernmentalism and the private sector in community-led healthcare systems?

Intergovernmentalism can play a vital role in supporting community-led healthcare systems. The policies and regulations created by governments can help to address the root causes of health inequities, such as poverty and inadequate access to healthcare. Intergovernmentalism can provide access to public funding for community-led healthcare initiatives and also facilitate community development programs that teach communities how to access resources and offer guidance and support through various steps of the process. For example, the Strong Roots project required access to electricity and water, and government agencies should help to streamline the process and ensure that the community has access to these resources instead of representing constraints for these types of projects.

The private sector also has a role to play in supporting community-led healthcare systems. Private companies can provide funding and resources to support healthcare initiatives, but it is important that they allow communities to make decisions about how they use these resources and offer support where needed without imposing any particular agenda. This means putting the needs of communities first and respecting their autonomy. By supporting community-led healthcare systems in this way, the private sector can help to promote health equity and ensure that communities have access to the resources they need to thrive.

3. How can community-led healthcare be financed?

Community-led healthcare can be financed through various methods. One option is public funding, although this might not always be available, especially in countries where there have been changes in healthcare policies such as the case of Mexico for non-profits. Another method is through campaigns organized by other organizations, which could provide funds or access to resources that can be used for specific project. Additionally, donations from the private sector could be another source of financing. In this case, it is important to ensure that the private sector respects the community's autonomy and does not impose their own interests.

Another option is establishing recurring charges from individual and private donors, where they contribute a certain amount of money regularly to support the

community-led healthcare project. Community fundraising is another option, where different initiatives such as raffles, gastronomy events, sports events, among others, can be used to raise funds for the project.

In some cases, donations from non-profits in countries with access to more resources could also be obtained. For example, hospitals in countries like the United States dispose of equipment that is still in good condition, which can be donated to communities that do not have access to such resources. Another approach is to develop custom service structures where a certain population is charged for something, and those funds are used to give donations to populations who cannot access them.

Partnerships with strategic actors such as the Rotary Club could also be established to access funding through their organization for these types of projects. It is important to explore and identify the strengths and weaknesses of the community and to determine which financing options are better and sustainable for the project.

It is important to note that in order to ensure the sustainability of community-led healthcare systems in the long term, it is recommended to diversify the sources of funding. This helps to avoid relying solely on one source of funding, which may not always be reliable or consistent. By diversifying the sources of funding, community-led healthcare systems can spread the risk and increase their chances of financial stability over time.

4. What characteristics must community-led health follow to be sustainable?

Defining processes for the management of resources and funding operations are important characteristics for sustainability of community-led health, but there are several other aspects that need to be considered. It is important to have community members engaged and empowered in decision-making processes related to the health system. This includes involvement in planning, implementation, and evaluation of health programs. In addition, community-led health systems must prioritize capacity building and knowledge sharing within the community to ensure long-term sustainability. This can be achieved through trainings, workshops, and mentorship programs.

Another key characteristic for sustainability is the establishment of effective partnerships and collaborations with outside actors, such as governmental agencies, private sector organizations, and non-profits. These partnerships can help provide access to additional resources, expertise, and funding.

Finally, community-led health systems must prioritize the development of a strong and supportive organizational culture. This includes fostering an environment of trust, collaboration, and accountability among all stakeholders. It is also important to establish clear roles and responsibilities, effective communication channels, and mechanisms for conflict resolution. By considering all of these aspects, community-led health systems can be built to be sustainable and effective in the long-term.

5. How can community-lead healthcare contribute to the fight against corruption in Mexico's Healthcare System?

Community-led healthcare can contribute significantly to the fight against corruption in Mexico's healthcare system by promoting increased transparency, accountability, and community trust. By involving the community in decision-making processes and providing them with the resources and tools they need to manage their healthcare system, the likelihood of corruption decreases. Empowering marginalized communities to participate in these processes also helps to level the playing field and reduce the potential for exploitation by those in positions of power.

Analysis and Learnings

This study has identified several overarching themes related to community-led healthcare projects. The first theme refers to the importance of community leadership for the success of healthcare projects. There is a need for community for projects to ensure sustainability and long-term success. This means that community members should be involved in the planning, implementation, and evaluation of healthcare projects.

The second theme identified is how the communities knows best what they need. This means that healthcare projects need to address the cultural considerations and specific needs of the community. The Caravans of Health program, for example, fails to recognize the community's needs for privacy, air conditioning, good waiting areas, access to a restroom, etc.

Therefore, cultural considerations must be addressed, and community involvement in the project planning stage is crucial.

The study also highlights the unfortunate negative response from government institutions CFE and CESPM regarding the connection of water and electricity. These institutions charge excessive costs, and, in the case of CESPM, argue to charge the clinic as a business when, in reality, it is a community project satisfying a community need. The study suggests that there needs to be a more supportive environment from government institutions to promote and support community-led healthcare projects.

Furthermore, the study highlights how the community-led healthcare clinic could be used for the state to provide the first level of care and reach its goals. This is in sync with the program of Baja California's State Development Plan of 2023, which aims to improve healthcare services for rural communities. The community-led healthcare clinics can also be used to establish communication between the community and mobile healthcare units based on specific needs and to train community members in preventive healthcare measures according to the state plan.

The most relevant theme in the Strong Roots project refers to how this project played a significant role in fostering community empowerment and civility within Poblado Paloverde. The enthusiasm and excitement that permeated the inauguration day of the project highlighted the transformative impact it had on the community. Public speeches from various individuals

present during the event reflect the sense of pride, gratitude, and unity that emerged through the project's development.

The Delegada de Cerro Prieto, in her address, expressed the community's excitement and acknowledged the tremendous achievement of the project. She emphasized the importance of volunteerism, organization, and collective will in realizing such endeavors. Her gratitude and recognition for the community's initiative demonstrated the powerful connection between community empowerment and the collective effort invested in the project. " It is totally an achievement of you, of the community, and now if I just come casting, to witness this noble project." The delegate recognizes the ownership of the project as a community and recognizes her role as witness.

Dr. Maricruz, a healthcare provider attending the inauguration, expressed her gratitude to all those involved. "Thank you very much for supporting us and having made all the contacts for this project to be achieved. I hope all the communities like this will support us and I am going to use them as an example with the other communities so that they can see that it is possible. Thank you so much". Her words not only highlighted the impact on the healthcare staff from Mobile Clinics but also showcased the respect and admiration she held for the community's determination and support. The success of the project served as an example for other communities, reinforcing the belief that positive change can be achieved through collaboration and determination.

The founder of the Poblado conveyed deep appreciation to the various clubs, volunteers, and neighbors who contributed to the project and reconized the difficulties that were overcome with the project. The gratitude extended to the individuals who provided donations and support, recognizing their role in making the community-led healthcare clinic a reality. The founder's words exemplified the sense of unity and mutual support within the community, showcasing the civility and collaboration that had been fostered throughout the project's development.

Josué, the Presidente del Poblado Paloverde, acknowledged the presence of the school's teacher and director whose commitment extended beyond the school to the well-being of the entire community. Josué expressed gratitude to all the clubs, individuals, and neighbors who participated in the project, recognizing the challenges and stress they faced along the way "We know that it has been difficult and that it has been work and stress and many things, but the benefit is for everyone and this benefit will be for the community, not only Paloverde, but for all the neighborhoods that are around which children also come to the community. school, parents and everyone, everyone who comes here". He highlighted the broad impact the project would have, not only benefiting Poblado Paloverde but also neighboring communities, emphasizing the value of health and education as fundamental pillars of community well-being.

The final quote from the Profesor and Director del Poblado Paloverde further acknowledged and appreciated the effort and dedication of all involved in the project. She emphasized the significance of health and education and called for increased passion, love, and commitment in community endeavors."The question of health and education is very important,

that must always prevail in us and have more will, affection and love and be passionate about what we do. So my respects to everyone for their effort." Her words highlighted the importance of these shared values in fostering community empowerment and civility.

In conclusion, the development of the Strong Roots project and the construction of a community-led healthcare clinic served as catalysts for community empowerment and the cultivation of civility within Poblado Paloverde. The speeches from individuals present during the inauguration day reflected the excitement, gratitude, and unity that emerged through the project's development. The collaboration, determination, and collective effort demonstrated throughout this project highlighted the strong sense of empowerment and community alignment that had been fostered. Additionally, the early results of the study were successful, generating interest not only within the community but also from healthcare professionals. The doctors from the Secretary of Health expressed their interest in the project and inquired about its documentation and potential to be replicated with other communities. This demonstrates that community-led healthcare projects have the potential to influence and connect with social networks and influences, aligning with the Health Equity framework element of influences and networks.

These findings underscore the importance of community leadership, community involvement, cultural considerations, and supportive government institutions for the success of community-led healthcare projects. Moreover, they highlight the potential of community-led healthcare projects to improve healthcare services and connect with social networks and

influences. The Strong Roots project serves as an example of how community-led initiatives can not only address healthcare needs but also strengthen communities, leading to lasting empowerment and a more connected society. This insights can inform the planning and implementation of future community-led healthcare projects, not only in Baja California but also in other regions.

Disseminating the Research

This piece of research has significant implications for government officials, especially those involved in public policy related to healthcare. The study emphasizes the importance of responsive community-oriented healthcare, highlighting the role that cultural context has when implementing healthcare projects. As a result, the findings of this work hold relevance for publication in academic journals or public articles, allowing a broader audience to benefit from its insights.

Additionally, it is crucial for the neighboring communities of Poblado Paloverde to examine this research, particularly if they want to replicate or execute similar projects. A comprehensive understanding of the limitations, challenges encountered, and potential avenues can lead to a successful implementation. To facilitate accessibility for a wider audience, the study could be summarized in an easy-to-digest format, making the findings more approachable for the general public.

Collaboration with local healthcare organizations in Poblado Paloverde and the surrounding areas is highly important. Sharing the study findings with these organizations will

enable valuable insights into the practical application of the research in improving healthcare services and addressing community needs. By collaborating with healthcare organizations, stakeholders can collectively work towards implementing community-oriented healthcare practices that align with the cultural context of the community.

Organizing workshops and training sessions is a valuable means of disseminating the study's findings. By engaging healthcare professionals, policymakers, and community leaders in these interactive sessions, in-depth discussions can take place, experiences can be shared, and potential strategies for implementing responsive community-oriented healthcare projects can be explored. These sessions facilitate knowledge exchange and create a collaborative environment for effective implementation.

Developing concise policy briefs based on the research is essential for assisting decision-makers in understanding the key findings and recommendations. These briefs should emphasize the need for policies that align with the cultural context of the community and promote community engagement in healthcare initiatives. Policy briefs serve as valuable tools for decision-makers to shape policies that reflect the specific needs of the community.

Utilizing online platforms, such as academic websites, research repositories, and social media, is vital for expanding the reach of the study. By sharing the research paper, key findings, and practical implications on these platforms, a diverse audience including academics, healthcare professionals, policymakers, and the general public can access and engage with the research. This enables wider dissemination and encourages active participation and discussion.

The research can serve as the basis for developing case studies and best practice guides that highlight successful approaches to community-oriented healthcare. These resources act as valuable references for healthcare practitioners, policymakers, and organizations interested in replicating similar projects or initiatives. Case studies and best practice guides provide real-world examples and practical guidance, facilitating the implementation of community-oriented healthcare in different contexts.

In conclusion, disseminating the study through collaboration with local healthcare organizations, workshops and training sessions, policy briefs, online platforms, presentations, conferences, and the development of case studies and best practice guides can ensure that the insights gained from this research are shared. By implementing these dissemination strategies, the study's findings can inform and guide the development of community-oriented healthcare programs.

Limitations

There are several limitations to this study that need to be considered. Firstly, there were resource limitations that impacted the development of the project, such as the scope of the project, the timeline, and the processes implemented.

Another limitation of the study was the communication barriers between actors due to time constraints and language barriers within the community. This barrier could have affected the

depth and accuracy of the information gathered during the study. Additionally, the researcher's limited time spent in Mexicali due to attending school in Arizona could have limited the researcher's ability to gather data and information from the community.

Furthermore, time and timeline limitations were also a challenge for this study. The study had a specific timeline, which may have affected the level of detail and depth of the data collected. The sampling for the research was also limited due to the timeline, which could have affected the overall validity and generalizability of the findings.

Additionally, there were limitations to the planning process due to the sudden availability of resources by US organizations. This could have impacted the level of community involvement and the ability to gather comprehensive data and information. The use of Zoom and phone interviews with non-profit organizations could also have affected the depth and quality of the information gathered.

In conclusion, while this study provides valuable insights into the implementation ofcommunity-led healthcare projects, there were several limitations that need to be acknowledged. These should be taken into account when interpreting the results of the study and should inform future research in this area.

Conclusion

Access to healthcare remains a significant challenge for Mexican citizens, particularly for marginalized and rural communities. This study not only sheds light on the potential of community-led healthcare projects as a method to address these inequities but also uncovers the development of civil society and community empowerment in Poblado Paloverde as a result of this project.

By utilizing a mixed methods approach and following a Health Equity framework, this study has provided insights into the key characteristics necessary for the successful of community-led healthcare projects in Mexico. Community leadership and partnering with strategic actors have been identified as essential for the long-term sustainability of these projects.

Significantly, this study has revealed the transformative impact of the community-led healthcare project in Poblado Paloverde. Through the implementation of this project, civil society has been strengthened, and community empowerment has emerged as a significant outcome. By actively participating in the planning, implementation, and evaluation of healthcare initiatives, community members have become agents of change, taking ownership of their own health outcomes and shaping the future of healthcare in their community.

Despite the limitations identified in this study, community-led healthcare projects offer promising opportunities towards expanding access to healthcare services in Mexico.

Community-led healthcare offers a path to empower communities and promote their active involvement in healthcare. The experiences and lessons learned from the community-led healthcare project in Poblado Paloverde serve as a valuable model for other communities in Mexico and beyond, providing inspiration and guidance for those seeking to tackle healthcare inequities through community-driven initiatives.

In conclusion, this study highlights the potential of community-led healthcare as a means of addressing healthcare inequities in Mexico. By promoting community leadership, fostering strategic partnerships, and nurturing community empowerment, these strategies offer a pathway to improve access to healthcare services and contribute to the expansion of health equity. The findings from this study underscore the importance of engaging communities as active participants in their healthcare journey, fostering collaboration, and creating lasting positive change for underserved populations.

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Appendix

IMAGE 1:

Localization of Poblado Paloverde in Relation to the City of Mexicali, Mexico
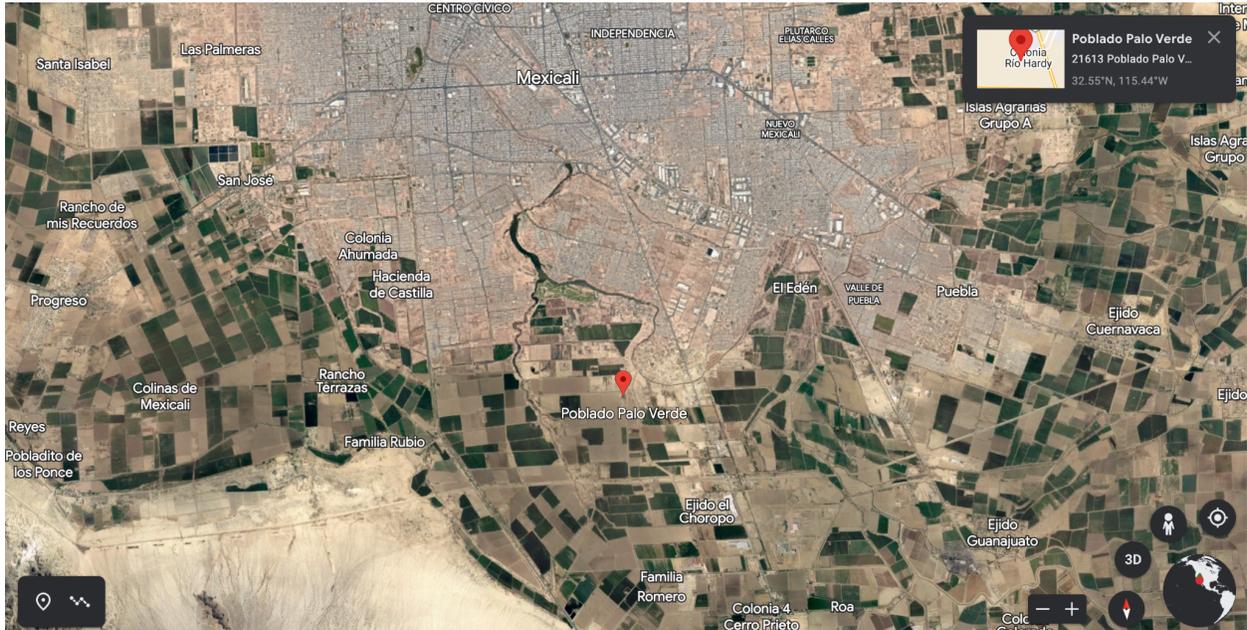

IMAGE 2:

Satellite View of Poblado Paloverde

IMAGE 3:
Rustic Clinic and Community Lot

IMAGE 4:
Inside the Rustic Clinic Built by the Community

IMAGE 5:
Inside the Rustic Clinic Built by the Community

IMAGE 6:
Medical Consultation in the Rustic Clinic

IMAGE 7:
Medical Consultation in the Rustic Clinic: Organization of Medical Tools

IMAGE 8:

Medical Consultation in the Rustic Clinic: Doctor Giving Medical Consultation

IMAGE 9:
Mobile Medical Clinic Arriving to Poblado Paloverde on a Wednesday

IMAGE 10:
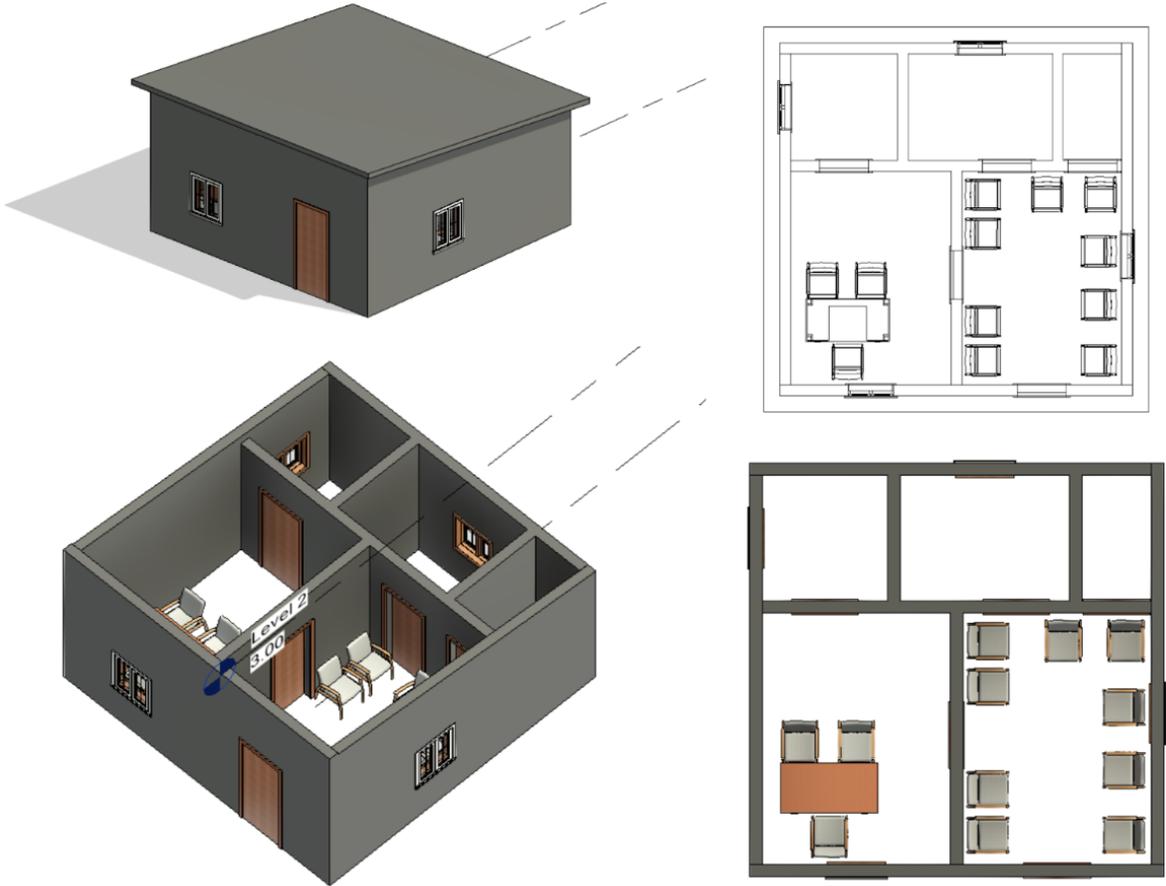Design Proposal for the New Clinic Based on the Analysis of Needs

IMAGE 11:
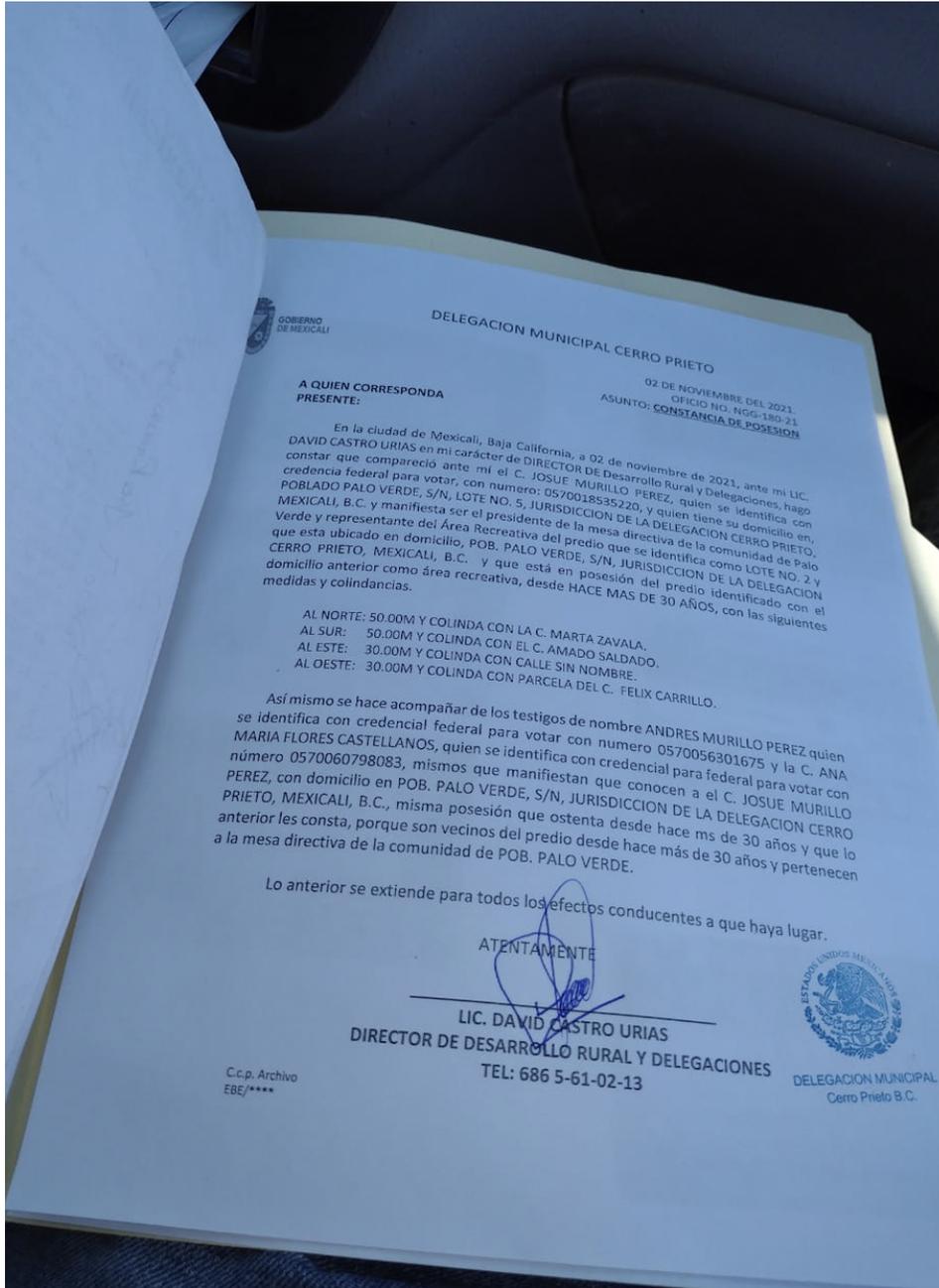Land Decree Signed by the Director of Rural Development and Delegations

IMAGE 12:
Designs for the Medical Clinics Used
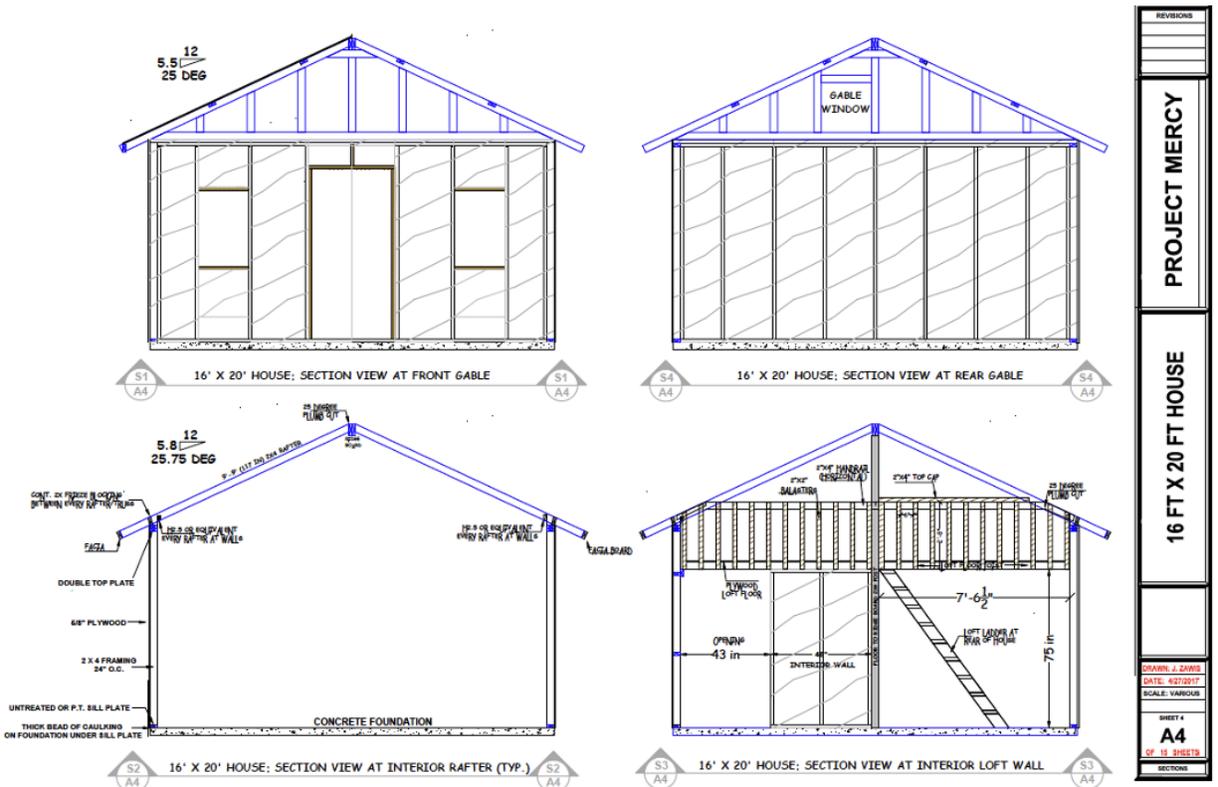

IMAGE 13:
Designs for the Medical Clinics Used

The technical drawing sheet contains the following labeled views:

- 16' X 20' HOUSE; SECTION VIEW AT FRONT GABLE (S1/A4)
- 16' X 20' HOUSE; SECTION VIEW AT REAR GABLE (S4/A4)
- 16' X 20' HOUSE; SECTION VIEW AT INTERIOR RAFTER (TYP.) (S2/A4)
- 16' X 20' HOUSE; SECTION VIEW AT INTERIOR LOFT WALL (S3/A4)

Title block:
REVISIONS
PROJECT MERCY
16 FT X 20 FT HOUSE
DRAWN: J. ZAWIB
DATE: 4/27/2017
SCALE: VARIOUS
SHEET 4
A4
OF 19 SHEETS
SECTIONS

Labels on front gable view: 5.5 / 12, 25 DEG, GABLE WINDOW

Labels on interior rafter view: 5.8 / 12, 25.75 DEG, CONT. 2X FRIEZE BLOCKING BETWEEN EVERY RAFTER / TRUSS, FASCIA, DOUBLE TOP PLATE, 5/8" PLYWOOD, 2 X 4 FRAMING 24" O.C., UNTREATED OR P.T. SILL PLATE, THICK BEAD OF CAULKING ON FOUNDATION UNDER SILL PLATE, CONCRETE FOUNDATION, H2.5 OR EQUIVALENT EVERY RAFTER AT WALL, FASCIA BOARD

Labels on interior loft wall view: 2X4 HANDRAIL (HORIZONTAL), 2X4 TOP CAP, BALASTERS, PLYWOOD LOFT FLOOR, LOFT FLOOR JOIST, OPENING 43 in, INTERIOR WALL, LOFT LADDER AT REAR OF HOUSE, 7'-6 1/2", 75 in

IMAGE 14:
Building the Cement Floor

IMAGE 15:
Building the Cement Floor

IMAGE 16:
Building the Medical Clinics

IMAGE 17:
Building the Medical Clinics

IMAGE 18:
Building the Medical Clinics

IMAGE 19:
Final State

IMAGE 20:

Inaguration of the Medical Clinic: Founder of the Poblado and Current President

IMAGE 21:

Inaguration of the Medical Clinic: Director of the Poblado's School and Current President

IMAGE 22:
Delegate Laura Icela Rodríguez Giving Some Words During Inaguration

IMAGE 23:
Representative of the Secretary of Health Giving Some Words During Inaguration

IMAGE 24:
Members of the Secretary of Health, Medical Professionals, School Director, and Leopoldo and me During the Inaguration