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Original Research Article

Development and Implementation of Friendly Dental Services: A University-Based Community Oral Health Model for Vulnerable Populations

Julio César Flores Preciado[1]*, María Carolina Hernandez Castellanos[1], Ana Luisa Rentería Campos[1], Bryan Gerardo Rodriguez Mendoza[1], Keila Caro Méndez[1]

[1]Faculty of Dentistry Mexicali, Autonomous University of Baja California, Mexicali, Baja California, Mexico

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Abstract: Access to oral healthcare remains a significant challenge for vulnerable populations due to social, economic, geographic, and cultural barriers that limit the availability and utilization of dental services. In response to these challenges, the Faculty of Dentistry Mexicali of the Autonomous University of Baja California developed the Friendly Dental Services Program, a university-based community oral health model designed to promote equitable access to oral healthcare through a people-centered, inclusive, and community-oriented approach. The program integrates oral health promotion, disease prevention, clinical care, referral systems, community participation, and interdisciplinary collaboration within a framework grounded in human rights, social inclusion, interculturality, and health equity. Through the operation of a Mobile Dental Unit and the establishment of collaborative partnerships with governmental institutions, civil society organizations, and community stakeholders, the program seeks to extend oral healthcare services beyond traditional clinical settings and reach populations facing barriers to care. The operational framework consists of six phases: health promotion and education, community and clinical assessment, primary dental intervention, referral and secondary care, clinical and community follow-up, and program evaluation. In addition to improving access to oral healthcare, the program contributes to professional training, community engagement, and the development of sustainable strategies aimed at reducing oral health disparities. This article describes the development, implementation, and operational structure of the Friendly Dental Services Program as a university-based model for community oral healthcare. The experience highlights the potential role of higher education institutions in promoting oral health equity, social inclusion, and community well-being through accessible and culturally sensitive dental services.

Keywords: Community Oral Health, Dental Services, Vulnerable Populations, Health Promotion, Social Inclusion, Health Equity, Mobile Dental Unit, Community Engagement.

1. INTRODUCTION

Oral health is an essential component of general health, well-being, and quality of life. Oral diseases remain among the most prevalent noncommunicable conditions worldwide, affecting nearly half of the global population and representing a significant public health challenge. The World Health Organization (WHO) reported that approximately 45% of the world's population is affected by oral diseases, particularly dental caries and periodontal diseases, with a disproportionate burden among socially vulnerable populations [1]. Beyond their clinical manifestations, oral diseases may negatively affect nutrition, communication, social participation, educational opportunities, and overall quality of life.

Despite advances in preventive and restorative dentistry, important inequalities in oral health persist across different population groups. Access to oral healthcare services is influenced by multiple social determinants, including income, education, housing conditions, geographic location, employment status, disability, cultural background, and access to healthcare systems [2]. These determinants frequently contribute to

***Corresponding Author:** Julio César Flores Preciado
Faculty of Dentistry Mexicali, Autonomous University of Baja California, Mexicali, Baja California, Mexico

delayed diagnosis, untreated oral conditions, and limited access to preventive and therapeutic dental services. Consequently, vulnerable populations often experience a greater burden of oral disease and reduced opportunities to achieve optimal oral health outcomes.

The reduction of health inequalities has become a priority within international public health agendas. The United Nations 2030 Agenda for Sustainable Development recognizes health, well-being, social inclusion, and the reduction of inequalities as essential components of sustainable development [3]. In this context, oral health should be considered an integral part of broader public health strategies aimed at promoting equity, improving quality of life, and strengthening community well-being. Similarly, international organizations have emphasized the need to implement people-centered healthcare models capable of addressing the social determinants of health and ensuring equitable access to essential healthcare services [4].

In response to these challenges, innovative approaches have emerged to improve healthcare accessibility and responsiveness to the needs of vulnerable populations. Friendly health services have been promoted as models of care designed to provide safe, accessible, respectful, and inclusive services while recognizing the diversity of social, cultural, and individual circumstances affecting healthcare utilization [5]. Within oral healthcare, Friendly Dental Services seek to eliminate barriers that historically limit access to dental care by promoting human rights, social inclusion, interculturality, community participation, and health equity. This approach emphasizes respectful treatment, cultural sensitivity, accessibility, confidentiality, and active engagement of individuals and communities throughout the care process.

Higher education institutions play a fundamental role in reducing health inequalities through education, research, healthcare provision, and community engagement. Public universities are uniquely positioned to develop innovative community-based interventions that integrate academic training with social responsibility and public service. Through outreach programs, collaborative partnerships, and service-learning initiatives, universities can contribute to expanding access to healthcare while strengthening professional competencies among future healthcare providers [6].

In Mexico, the Autonomous University of Baja California has strengthened its commitment to social responsibility through the implementation of community-based oral health initiatives. The Faculty of Dentistry Mexicali developed the Friendly Dental Services Program as part of its Community Care Program and Mobile Dental Unit strategies to improve access to oral healthcare among populations experiencing social, economic, cultural, or geographic barriers to care [7]. The program adopts a people-centered approach grounded in human rights, social inclusion, interculturality, community participation, and health promotion principles.

Therefore, the aim of this article is to describe the development, implementation, and operational framework of the Friendly Dental Services Program as a university-based model for community oral healthcare and social inclusion among vulnerable populations. Furthermore, the article discusses its potential contribution to oral health equity, community engagement, and the strengthening of socially responsible dental education.

2. MATERIALS AND METHODS

2.1. Study Design

This study describes the development and implementation of the Friendly Dental Services Program, a university-based community oral healthcare model designed to improve access to oral health services among vulnerable populations. The program was developed from a community health perspective and incorporates principles of health promotion, disease prevention, social inclusion, interculturality, human rights, and health equity.

The manuscript presents the conceptual, operational, and organizational framework of the program as an institutional strategy for community engagement and oral healthcare delivery beyond traditional clinical settings.

2.2. Institutional Context

The Friendly Dental Services Program was developed by the Faculty of Dentistry Mexicali of the Autonomous University of Baja California (UABC), Mexico, through its Community Care Program. The initiative operates as part of the university's commitment to social responsibility, community engagement, and the training of socially responsible healthcare professionals.

Program activities are implemented through the Mobile Dental Unit and through collaborative actions established with governmental institutions, civil society organizations, educational institutions, community centers, shelters, and other community-based organizations. These partnerships facilitate access to populations experiencing barriers to oral healthcare services and support the implementation of community-based interventions.

2.3. Target Population

The program is intended for populations experiencing conditions of vulnerability that may limit access to oral healthcare services. These conditions may be associated with social, economic, cultural, geographic, educational, administrative, or health-related barriers.

Priority populations include children and adolescents in vulnerable situations, older adults, individuals with disabilities, rural and peri-urban communities, people experiencing social exclusion, women in vulnerable circumstances, LGBTQ+ populations, and other underserved groups requiring accessible and culturally sensitive oral healthcare services.

2.4. Friendly Dental Services Model

The Friendly Dental Services model was designed to provide accessible, inclusive, respectful, and person-centered oral healthcare. The model seeks to reduce barriers to care while promoting community participation and strengthening oral health literacy.

The operational philosophy of the program is based on five core principles:

- Accessibility.
- Social inclusion.
- Respect for human rights.
- Interculturality.
- Community participation.

These principles guide all activities developed through the program and support the provision of comprehensive oral healthcare services adapted to the needs and characteristics of each population group.

2.5. Operational Framework

The implementation of the program is organized into six sequential phases that allow the planning, execution, monitoring, and evaluation of community-based oral healthcare interventions.

Phase 1. Health Promotion and Education

Community-based educational activities are conducted to increase awareness regarding oral health, preventive practices, healthy lifestyles, and self-care behaviors. Educational interventions are adapted to the sociocultural characteristics and needs of each community.

Phase 2. Community and Clinical Assessment

Information is collected through interviews, screening activities, clinical examinations, and community observations to identify oral health needs, risk factors, treatment requirements, and barriers to healthcare access.

Phase 3. Primary Dental Care Intervention

Preventive and basic dental care services are provided through community outreach activities and the Mobile Dental Unit. Services are delivered under faculty supervision and according to institutional clinical protocols.

Phase 4. Referral and Specialized Care

Individuals requiring comprehensive or specialized treatment are referred to university dental clinics or other healthcare institutions according to the complexity of their needs.

Phase 5. Follow-Up and Continuity of Care

Follow-up activities are conducted to monitor treatment adherence, evaluate patient progress, and facilitate continuity of care through coordination with community partners and healthcare providers.

Phase 6. Program Evaluation

Program implementation is continuously assessed through the collection of operational, educational, and community participation indicators. This process supports quality improvement and contributes to the sustainability of the program.

2.6. Academic and Community Integration

The Friendly Dental Services Program also functions as a community-based learning environment. Undergraduate students, social service participants, interns, and postgraduate residents participate in educational, preventive, and clinical activities under faculty supervision.

This academic-community integration promotes experiential learning, strengthens professional competencies, encourages interdisciplinary collaboration, and contributes to the social mission of the university through direct engagement with vulnerable populations.

3. RESULTS AND DISCUSSION

3.1. Friendly Dental Services as a Community-Based Oral Healthcare Model

The Friendly Dental Services Program represents an innovative approach to community-based oral healthcare that extends dental services beyond conventional clinical environments. Unlike traditional models primarily focused on curative interventions, the program integrates oral health promotion, disease prevention, primary care, community participation, and interdisciplinary collaboration within a single operational framework. This approach facilitates the delivery of accessible and person-centered oral healthcare services while addressing social and structural barriers that frequently limit access among vulnerable populations.

One of the principal strengths of the model is its emphasis on accessibility. Through the implementation of community outreach activities and the operation of a Mobile Dental Unit, oral healthcare services can be delivered directly within community settings, reducing geographic, economic, and administrative barriers that often restrict access to care. This strategy aligns with recommendations aimed at reducing health inequalities through community-based interventions and increased accessibility to healthcare services [1, 2].

The program also incorporates principles of human rights, social inclusion, interculturality, and respect for diversity as fundamental components of service delivery. These principles contribute to the creation of safe and welcoming environments where individuals can receive care without discrimination or stigma. The incorporation of culturally sensitive approaches and community participation mechanisms further supports the development of trust between healthcare providers and community members, facilitating greater engagement in preventive and therapeutic oral health activities.

Another distinctive characteristic of the model is its comprehensive operational structure. The six-phase framework integrates health promotion, community assessment, clinical intervention, referral systems, follow-up activities, and program evaluation, allowing for continuity of care and a broader understanding of oral health needs within the populations served. This structure supports not only the provision of dental services but also the identification of social determinants that may influence oral health outcomes and healthcare utilization.

From a public health perspective, the Friendly Dental Services Program contributes to ongoing efforts to promote health equity and reduce disparities in access to oral healthcare. The model recognizes that oral health is influenced by multiple social, economic, cultural, and environmental factors and therefore adopts a community-oriented approach that extends beyond the treatment of oral diseases alone. By integrating preventive, educational, and clinical components, the program seeks to strengthen individual and community capacities for oral health self-care and disease prevention.

Overall, the Friendly Dental Services Program demonstrates the feasibility of implementing a university-based oral healthcare model that combines clinical service delivery, community engagement, and social responsibility. Its operational characteristics provide a foundation for the development of sustainable and replicable strategies aimed at improving oral healthcare accessibility and promoting social inclusion among vulnerable populations.

3.2. Community Engagement and Social Inclusion

Community engagement constitutes one of the central components of the Friendly Dental Services Program and serves as a key mechanism for improving access to oral healthcare among populations experiencing conditions of vulnerability. The program was designed not only to provide clinical services but also to establish collaborative relationships with communities, institutions, and social organizations that contribute to the identification of oral health needs and the development of context-specific interventions.

The implementation of community-based activities facilitates direct interaction with individuals and groups that frequently experience barriers to oral healthcare access. Through partnerships with governmental agencies, educational institutions, community centers, civil society organizations, shelters, and other community stakeholders, the program expands its capacity to reach underserved populations and strengthens local support networks. These collaborative efforts contribute to the development of a more comprehensive approach to oral healthcare by integrating clinical services with broader community initiatives aimed at health promotion and social well-being.

Social inclusion represents another fundamental element of the Friendly Dental Services model. The program recognizes that vulnerable populations often encounter multiple forms of exclusion that may affect healthcare utilization and oral health outcomes. Consequently, service delivery is guided by principles of equity, respect, dignity, and non-discrimination, ensuring that all individuals receive care within a safe and welcoming environment regardless of their social, cultural, economic, or personal circumstances. This approach is consistent with contemporary public health perspectives that emphasize the importance of reducing health inequalities and promoting equitable access to healthcare services [2, 3].

An important contribution of the model is its emphasis on cultural relevance and interculturality. Oral health interventions are adapted to the characteristics and needs of each community through the use of accessible communication strategies, culturally appropriate educational materials, and participatory activities that encourage active involvement in oral health promotion. By recognizing the diversity of experiences and social contexts present within communities, the program seeks to foster trust, improve communication, and strengthen the effectiveness of preventive and educational interventions.

Community participation also contributes to the sustainability of the program. The involvement of community members, institutional partners, and local leaders facilitates the identification of priority needs, supports continuity of interventions, and promotes shared responsibility for oral health improvement. These collaborative processes enhance the capacity of the program to generate meaningful social impact while strengthening the relationship between the university and the communities it serves.

From a broader perspective, the Friendly Dental Services Program illustrates how community engagement and social inclusion can function as complementary strategies for addressing oral health disparities. By integrating clinical care with community participation and interinstitutional collaboration, the

model contributes to the development of more equitable, accessible, and socially responsive oral healthcare services for vulnerable populations.

3.3. Contribution to Oral Health Equity

Oral health inequities remain a persistent challenge worldwide, particularly among populations exposed to adverse social, economic, cultural, and environmental conditions. The unequal distribution of resources, opportunities, and healthcare services contributes to significant disparities in oral health outcomes and access to care [1, 2]. In this context, the Friendly Dental Services Program was developed as a community-oriented strategy intended to reduce barriers to oral healthcare and promote more equitable access to preventive, educational, and clinical services.

A distinguishing feature of the program is its recognition of oral health as an integral component of overall health and well-being. Rather than focusing exclusively on the treatment of oral diseases, the model adopts a broader perspective that considers the social determinants influencing health behaviors, healthcare utilization, and oral health outcomes. This approach is consistent with contemporary public health frameworks that emphasize the importance of addressing structural and social factors as part of efforts to reduce health inequalities [2].

The program contributes to oral health equity by expanding the availability of services among populations that may experience limited access to conventional dental care. Through community-based interventions, outreach activities, and the operation of the Mobile Dental Unit, oral healthcare services are delivered in settings that are more accessible and responsive to community needs. These actions facilitate earlier identification of oral health problems, increase opportunities for preventive care, and strengthen access to professional dental services.

Health promotion and education constitute additional mechanisms through which the program contributes to equity. Educational activities are designed to improve oral health literacy, encourage preventive behaviors, and support informed decision-making regarding oral healthcare. By strengthening knowledge and self-care practices, the program seeks to empower individuals and communities to actively participate in the maintenance and improvement of their oral health status.

The principles of inclusion, respect, interculturality, and non-discrimination embedded within the Friendly Dental Services model also contribute to equitable healthcare delivery. The creation of welcoming and culturally sensitive environments may reduce barriers associated with fear, stigma, discrimination, or previous negative healthcare experiences. Consequently, the program supports a more inclusive approach to oral healthcare that recognizes diversity and promotes equal opportunities for receiving quality services.

Furthermore, the program aligns with broader international efforts aimed at reducing inequalities and promoting health and well-being as part of sustainable development strategies [3]. By integrating oral health promotion, community participation, and accessible service delivery, the model contributes to the advancement of health equity while supporting the social mission of higher education institutions in addressing community needs.

Overall, the Friendly Dental Services Program demonstrates how university-based initiatives can contribute to reducing oral health disparities through accessible, inclusive, and community-oriented interventions. Its emphasis on prevention, participation, and social inclusion provides a practical framework for strengthening oral healthcare equity among vulnerable populations and advancing broader public health objectives.

3.4. Academic Integration and Professional Training

Beyond its contribution to community oral healthcare, the Friendly Dental Services Program serves as an educational platform that strengthens the academic mission of the Faculty of Dentistry Mexicali. The integration of community-based activities into the educational process provides students with opportunities to apply theoretical knowledge in real-world settings while developing clinical, social, ethical, and communication competencies. This approach promotes experiential learning and reinforces the relationship between professional training and social responsibility.

Student participation constitutes a fundamental component of the program. Undergraduate students, social service participants, professional practice trainees, and postgraduate residents actively engage in health promotion, preventive activities, community assessments, and clinical interventions under faculty supervision. These experiences expose future oral healthcare professionals to diverse social realities and encourage the development of a broader understanding of the factors that influence health and healthcare access.

The program also contributes to the development of competencies associated with patient-centered care, interdisciplinary collaboration, cultural sensitivity, and community engagement. Through direct interaction with diverse population groups, students gain practical experience in adapting communication strategies, identifying community needs, and delivering services within nontraditional healthcare environments. These competencies are increasingly recognized as essential elements of contemporary healthcare education and professional practice.

Another important contribution of the program is its role in fostering social awareness and ethical commitment among future dental professionals. Community-based experiences allow students to recognize the impact of social determinants on health outcomes and to understand the importance of equity, inclusion, and human rights within healthcare delivery. Such experiences may contribute to the formation of professionals who are better prepared to address health disparities and participate in socially responsive healthcare initiatives.

The Friendly Dental Services Program also creates opportunities for applied research, service-learning activities, and interinstitutional collaboration. Community interventions generate valuable information regarding oral health needs, barriers to care, and strategies for improving service accessibility. These experiences may support future research projects, program evaluations, and evidence-based improvements in community oral healthcare models.

From an institutional perspective, the integration of education, service, and community engagement strengthens the social mission of the university and reinforces its commitment to public well-being. By combining academic training with direct community service, the program demonstrates how higher education institutions can contribute simultaneously to professional development, social inclusion, and improved access to oral healthcare services.

Overall, the Friendly Dental Services Program represents an example of how community-based oral healthcare initiatives can serve as effective educational environments while generating meaningful social impact. The model supports the preparation of competent, socially responsible, and community-oriented dental professionals capable of responding to contemporary public health challenges.

3.5. Sustainability and Replicability of the Model

The long-term sustainability of community-based healthcare programs remains a critical challenge for universities and healthcare organizations. Sustainable initiatives require not only clinical resources and infrastructure but also institutional commitment, intersectoral collaboration, community participation, and continuous capacity building. In this regard, the Friendly Dental Services Program incorporates several elements that may support its continuity and future expansion.

One of the principal strengths of the model is the use of the Mobile Dental Unit as a flexible mechanism for delivering oral healthcare services in diverse community settings. By extending services beyond traditional clinical facilities, the program increases its capacity to reach underserved populations while adapting to different social and geographic contexts. This operational flexibility facilitates the implementation of oral health interventions in schools, community centers, shelters, public institutions, and other locations where access to conventional dental services may be limited.

Interinstitutional collaboration represents another important factor contributing to program sustainability. Partnerships with governmental agencies, educational institutions, civil society organizations, and community stakeholders strengthen operational capacity, facilitate resource sharing, and support the coordination of comprehensive health promotion activities. These collaborative networks also contribute to the identification of community needs and the development of interventions that are responsive to local priorities and conditions.

The integration of educational activities within the program further enhances sustainability by linking service delivery with the academic functions of the university. Student participation, faculty involvement, social service activities, and applied research initiatives create opportunities for continuous program development while reinforcing the institutional commitment to community engagement and social responsibility. This integration allows the program to function simultaneously as a healthcare initiative, an educational platform, and a mechanism for community outreach.

From a strategic perspective, the model also demonstrates considerable potential for replication in other educational institutions and community settings. The operational framework is based on principles that can be adapted to different social, cultural, and geographic environments without requiring highly specialized infrastructure. The six-phase implementation process provides a structured methodology that may facilitate adaptation and adoption by universities, public health organizations, and community-based healthcare programs seeking to improve access to oral healthcare among vulnerable populations.

The emphasis on accessibility, inclusion, community participation, and health promotion aligns with contemporary approaches to public health and oral healthcare delivery [1–3]. As a result, the Friendly Dental Services Program may serve as a useful reference for institutions interested in developing community-oriented oral healthcare models capable of addressing health inequalities and strengthening local health systems.

Overall, the sustainability and replicability of the model are supported by its community-based orientation, interdisciplinary collaboration, educational integration, and flexible operational design. These characteristics position the program as a potentially valuable strategy for expanding access to oral healthcare

and promoting social inclusion in diverse community contexts.

4. CONCLUSION

The Friendly Dental Services Program represents a university-based community oral healthcare model designed to improve access to oral health services among vulnerable populations through an inclusive, accessible, and person-centered approach. By integrating oral health promotion, disease prevention, clinical care, community participation, and interinstitutional collaboration, the program extends oral healthcare services beyond traditional clinical settings and contributes to reducing barriers that limit access to care.

The implementation of the program demonstrates the potential of higher education institutions to actively participate in the promotion of oral health equity and social inclusion. Through the operation of the Mobile Dental Unit and the development of community-based interventions, the program facilitates the delivery of oral healthcare services in diverse settings while promoting respectful, culturally sensitive, and non-discriminatory care.

Beyond its clinical contribution, the program serves as an educational platform that strengthens the professional training of future oral healthcare providers. The integration of community engagement activities into academic processes supports the development of clinical competencies, social responsibility, ethical commitment, and interdisciplinary collaboration, reinforcing the social mission of the university.

The findings presented in this article suggest that community-oriented oral healthcare initiatives can contribute to addressing oral health disparities by combining service delivery, health promotion, and community participation within a comprehensive operational framework. Furthermore, the model provides a practical example of how universities may collaborate with communities and institutions to improve access to oral healthcare while generating opportunities for education, research, and social engagement.

Future efforts should focus on the systematic evaluation of program outcomes, the development of sustainability strategies, and the strengthening of collaborative networks that support long-term implementation. The experience of the Friendly Dental Services Program may serve as a reference for other academic institutions and organizations interested in developing innovative and socially responsive approaches to community oral healthcare.

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