

The role of patient navigation programs in early cancer care in Mexico: a multi-case qualitative study

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Abstract

Background: In Mexico, academic publications on patient navigation are notably scarce. Thus, limited evidence in Mexico suggests that patient navigation programs (PNP) may play a promising role in early cancer care. The study's aim is to identify and describe PNP in Mexico, particularly their role in early diagnosis and opportune treatment.

Methods: Through an exploratory qualitative cross-sectional case study design. Five different programs were identified using snowball sampling. Thematic guides were developed. Data were collected through funnel-shaped semi-structured interviews with patient navigation providers. After familiarizing with the identified themes, codes were generated inductively.

Results: PNP in Mexico navigate 1 or multiple types of cancer patients, using heterogeneous sources of funding, navigate 1 or multiple levels of healthcare and from within or outside of the healthcare system; they aim to improve access to healthcare, address barriers, and reduce wait times. However, PNP often engage in activities that are not aligned with their objectives. In assessing their impact, disparities are not measured, and no data are collected at time intervals.

Conclusion: Using theoretical frameworks and logic models can support the implementation of new PNP, guide early diagnosis and treatment outcome measurement, and assess impact—ultimately helping ensure financial sustainability.

Key words: patient navigation programs; cancer; Mexico.

Implications for Practice:

1. Patient navigation programs (PNP) in Mexico are heterogeneous and adapt to the changing healthcare access landscape across the cancer continuum.
2. Upon the design of new PNP in Mexico, stakeholders must clearly identify where in the pathway to treatment they act upon and at which levels of care, before measuring outcomes.
3. While PNP help patients overcome barriers, they rarely track whether the support actually reduces inequalities or shortens the time to diagnosis or treatment. PNP in Mexico must operationalize outcome measurements using available frameworks.
4. PNP in Mexico must design interventions targeting minorities and ensure evaluation of disparities in outcomes in their research agenda.
5. It is imperative to identify new and sustainable ways to maintain PNP activities in the long term.

Background

Patient navigation programs (PNP) were developed in the United States to overcome barriers to cancer care.¹ Studies in low- and middle-income countries (LMICS) have shown that PNP can improve access to healthcare, reduce health disparities, and increase the proportion of patients receiving appropriate cancer care^{2,3} and reducing delays in care.^{2,4,5}

In Mexico, cancer represents a significant challenge for the healthcare system, being one of the main causes of morbidity and mortality.⁶ Issues such as late diagnoses and treatment,⁷⁻⁹ inequalities in access to healthcare^{6,7,10} and resources for diagnosis and treatment have been previously highlighted.^{11,12} However, until now, only 2 PNP publications have been found related to breast cancer.^{13,14} One successfully reduced referral times for specialized cancer care among low-income patients,¹³ treatment initiation time of 33 days from the first contact with the program.¹⁴ Nevertheless, it is crucial to describe other PNP in the country navigating other cancer patients, as well as patients potentially being navigated outside of the health system, in primary care or secondary care, detailing their characteristics, populations served, activities performed, and the impact metrics used to determine their role in early diagnosis and treatment.

Methods

A qualitative cross-sectional case study design was used to investigate unstudied PNP in Mexico and comparing their characteristics.^{15,16} Research took place during the development of the principal investigator's (E.B.G.) doctoral fieldwork conducted from January to March 2019. Five different PNP were identified in Mexico using the snowball sampling technique in order to identify individuals or organizations that might not label themselves as a PNP but were still relevant to the study according to other organizations. As part of the exploratory work, this method is commonly used to reach "hidden" groups that are difficult to access through traditional sampling methods. The first program was identified based on the E.B.G. prior knowledge, nonetheless she had no prior relationship with the interviewees. The inclusion criteria for the PNP required that they have at least the 4 fundamental elements of patient navigation support: case identification, barrier detection, development of a personalized plan, and systematic follow-up. The members of the PNP decided who would be interviewed: either the navigator or the program director. One member from each PNP was recruited, informed about the research objective, and, if interested, signed the consent form to participate in the study. The interviews were conducted at the facilities of the PNP and were carried out by E.B.G.

Semi-structured interviews were used to assess details such as program origins, populations served, disease focus, objectives, available resources, activities performed, evaluation mechanisms, and the monitoring of health disparities throughout the disease process. Thematic guides were developed to structure the conversation between the researcher and the PNP representative. These guides were based on a literature review and reviewed by the second author (C.V.P.). The interviews were recorded in audio format and had an average duration of 1 hour. The transcripts were imported into NVivo and after an initial stage of familiarization with the collected data, codes were labelled inductively by E.B.G. and revised by C.V.P. The

study did not require approval from the university's ethics committee.¹⁷ All those invited to the study agreed to participate in the interviews. In total, members of 5 PNP were interviewed. The study was based on the COREQ criteria for qualitative studies¹⁸ and the case study methodology.^{16,19,20}

Results

All 5 PNP interviewed were implemented from 2010 onwards. The PNP studied supported a diverse range of patients, with the number of newly diagnosed patients per year being between 500 and 1100, including those without health insurance, with private insurance and with public insurance. Meanwhile, some were part of the public health sector, others were independent non-governmental organizations (NGOs). PNP implement their programs in clinical (hospital-based) or community settings. Program navigators had diverse professional backgrounds, including nurses, health care professionals (doctors), psychologists, social workers, and cancer survivors. All PNP studied assist cancer patients, although some focus on specific types of cancer such as lung or breast, while others navigate patients with multiple cancer types and at different stages of the cancer continuum. PNP studies had different objectives, and navigation involved a diverse set of activities. [Table 1](#) shows the summary of the 5 case studies and [Table 2](#) shows the activity codes found in each program.

Case study A

A social worker, in collaboration with the medical doctor and a taxi driver are trained to navigate the patient. The social worker and doctor identify the barriers and match them with interventions at the community level. The taxi driver transports the patient to the closest hospital, interprets for the patient if necessary and mediates with the doctor to reach appointments sooner. Thereafter, the social worker communicates with the patient through telephone or WhatsApp. The intervention activities include introducing the indigenous patient to the health system environment, aid in administrative tasks (ie, filling documentation in Spanish), appointment management, mediation between the doctor and uninsured ethnic minority patients. Due to the nature of the organization, this navigation program not only linked patients with other collaborators (ie, other NGO, donors), but also donated resources geared to tackle economic barriers because of transportation hurdles and shelter access difficulties. In some cases, this PNP also donated diagnostic procedures (ie, cancer confirmation in private clinic). Additionally, a key objective within this PNP is the provision of information with regards to diagnosis, treatment, and close relationship with the patient throughout the cancer continuum. This is mainly done by the navigator in close relationship with the patient's physician. Although this PNP did not systematically include psychological services as an activity, mental health services were always available through another program.

Case study B

The navigator communicates with the uninsured patients through telephone, direct messaging, and a specific hospital line to aid the patient reach a greater understanding of their disease. Their activities included: introducing all cancer patients to the hospital environment, maintaining a personalized and friendly environment, aid in administrative tasks (ie, filling documentation), appointment management and mediation

Table 1. Summary of the patient navigation program case studies.

Characteristics	Case study A	Case study B	Case study C	Case study D	Case study E
Origin	2013	2010	2013	2014	2015
Patients navigated	500/year	330/year	1100/year	100/year	400/year
Region	Chiapas	National	Mainly central Mexico: Mexico City, Mexico State, Hidalgo, Puebla	National	National
Target population	Uninsured patients in Indigenous regions	Uninsured cancer patients	Uninsured or insured cancer patients	Uninsured women under 40 with breast cancer	Uninsured with lung cancer
Type of cancer	All types	All types (mainly breast cancer)	Lung, prostate, testicular, breast, ovarian, cervical, and hematological cancers	Breast cancer only	Lung cancer only
Setting	Community-based (rural)	Hospital-based (urban)	Community and hospital-based (urban)	Hospital-based (urban)	Hospital-based (urban)
Type of organization	Non-governmental organization (NGO)	Public health institution	Non-governmental organization (NGO)	Non-governmental organization (NGO)	Public health institution
Main objective	Facilitate access to quality healthcare in uninsured Indigenous communities	Improve the cancer care experience at the hospital level	Address economic barriers to improve access to cancer diagnosis and treatment	Facilitate access to services not covered by the public institution, such as fertility preservation and breast reconstruction	Reduce time to treatment initiation for hospitalized lung cancer patients
Type of navigator	Social worker, physicians, driver	Peer navigator, psychologist, nurse	Social worker	Psychologists and physicians	Nurse
Main activities	Identifying barriers, transport, emotional support, appointment management, coordination, mediation, funding	Telephone communication, emotional support, appointment management, mediation, support groups, post-treatment job reintegration	Appointment management, mediation, emotional support, cancer treatment funding, connecting with external resources	Emotional support, mediation, administrative support, connecting with external resources	Appointment management, clinic attendance, mediation during appointments, linking to external resources
Method of communication	Telephone, WhatsApp	Telephone, direct messaging, hospital hotline, website, WhatsApp	Social media, telephone, WhatsApp	Social media, telephone, WhatsApp	Telephone, WhatsApp
Impact evaluation	Barrier quantification, number of patients assisted	Patient satisfaction, barrier quantification, survival follow-up (planned)	Barrier quantification, number of patients assisted	Patient satisfaction, quality of life evaluation, psychological assessment	Number of patients assisted

between the doctor and patient. They tackled economic barriers mainly through collaborations with external resources (ie, free regional transportation, discounts in hotels, food, medicines, and diagnostic procedures). The provision of information and emotional support for all cancer patients is crucial. Therefore, this PNP has a direct line for patients, an educational website, and a psychological support group for each type of cancer. In addition, the patient can directly speak to the navigator for emotional support. After being treated, patients are supported through wellness and work reintegration programs.

Case study C

They communicate with the patient through social media, telephone line, and WhatsApp. After identifying barriers, this PNP continuously evaluates the barriers being tackled and re-evaluates barriers through-out the cancer continuum. This NGO introduces the patient both to the health-system and hospital environments. They aid in administrative tasks such as filling documentation or appointment management. To tackle economic barriers, this PNP not only donates food and

diagnostic tests, but actively funds cancer treatment. Additionally, they also link the patient to external resources (ie, state transportation, other NGOs, legal services).

Case study D

Navigators are psychologists and communicate with the patient through social media, telephone line and WhatsApp. Based in Mexico City, they help the patient with some administrative, logistical, mediation and linkage with external resources tasks, however, these are not their core objectives. This PNP navigates the patient in the hospital environment and mainly provides emotional support and psychological therapy to breast cancer patients under the age of 40. This privately funded organization also donates private diagnostic services and treatment for some patients.

Case study E

The navigator introduces the patient to the clinic, managing their appointments, and mediating when these are not suitable for the patient. This PNP donates lung cancer treatment for

Table 2. Summary of patient navigation program case studies coded activities.

		A	B	C	D	E
1. Navigation by health-care system levels						
Health-care level navigated	From primary care level to 2nd or 3 rd	YES				
	From 2nd level to 3 rd			YES		
	Within 3rd level		YES		YES	YES
2. Basic navigation activities						
Patient identification	Activity related to the active search of eligible patients	YES	YES	YES	YES	YES
Barriers and resource identification	Identification of barriers in access to healthcare.	YES	YES	YES	YES	YES
	Activity related to the identification of resources already found in the patient's context.	YES	YES	YES	YES	YES
Continuous evaluation of barriers	Based on previous barriers, a continuous evaluation of barriers is conducted.			YES		
	Active identification of new barriers			YES		
3. Specific interventions/activities						
Introduction to environment	Teach patients how to navigate the hospital and/or health sector	YES	YES	YES		YES
Administrative documentation	Provision of support to fill internal documentation	YES	YES	YES	YES	
	Provision of support to fill external documentation	YES	YES	YES		
Appointment management	Schedule appointment with the medical team	YES	YES	YES	YES	YES
	Appointment reminders for all the appointments, including the first	YES				
Mediation between doctor and patient	Communication between the medical team and the patient	YES	YES		YES	YES
Donation of resources	Donation of cancer treatment		YES	YES		
	Donation of food			YES		
	Donation of transportation to travel to hospital/clinic	YES		YES		
	Donation of shelters/hotel stay during the patients	YES				
	Donation of diagnostic (lab-tests) and treatment (not cancer related)	YES		YES	YES	YES
Linkage with external resources	Connection with state/public transportation services and/or shelter services	YES	YES	YES		YES
	Connection to other resources from non-profits or other organizations		YES	YES	YES	YES
	Access to discounts for hotel, medicines, transportation and food	YES	YES	YES		
	Legal advice			YES		
	Job re-integration support		YES			
Provision of information	Wellness activities		YES			
	Provision of information on cancer, diagnosis, treatment, survival and other cancer related topics	YES	YES	YES		YES
	Information on which external resources are available	YES	YES	YES	YES	
Psychological support	Communication with the patient throughout the navigation experience	YES	YES	YES	YES	
	Create and administer support group		YES	YES	YES	
	Generate a direct communication line with the navigator for emotional support		YES	YES	YES	
	Sexual health therapy				YES	
	Psychological therapy				YES	

the uninsured population through the acquisition of grants. In addition, they provide the patient with information on cancer and link the patient with external resources to tackle personal barriers to care. Although this PNP did not systematically include psychological services as an activity, mental health services were always available through another clinic.

Discussion

These case studies captured programs that have been developed in the last 10 years in various regions of Mexico with the purpose of guiding people to access care. The navigated population presents different insurance coverage schemes; there is heterogeneity across cases in the approach to cancer, objectives, resources used, financing, and evaluation methods. The PNP studies aim to intervene along the cancer continuum, in different time intervals and all seek to help those who are most at risk of delaying or not accessing care or those who are at risk

of catastrophic expenses. However, over time, these programs discuss they have evolved to address changing challenges, adopting various emerging activities.

Navigation across the cancer continuum in tiered health care systems

In the literature, PNP usually thrive in diverse care settings, spanning hospitals, community health centers, mobile clinics, and even platforms. This adaptability aims for accessibility and seamless navigation for patients.^{21–23} In the context of Mexico's healthcare system, characterized by 3 levels of care,^{24–28} this study reveals the challenge of navigating patients (upstream, downstream and within a single level of care) throughout the fragmented healthcare landscape. Figure 1 shows a graphic representation of the types of navigation taking place in the case studies: either in the health system itself, or outside the health system, within a single healthcare institution or different ones, sometimes at more than one level of care delivery.

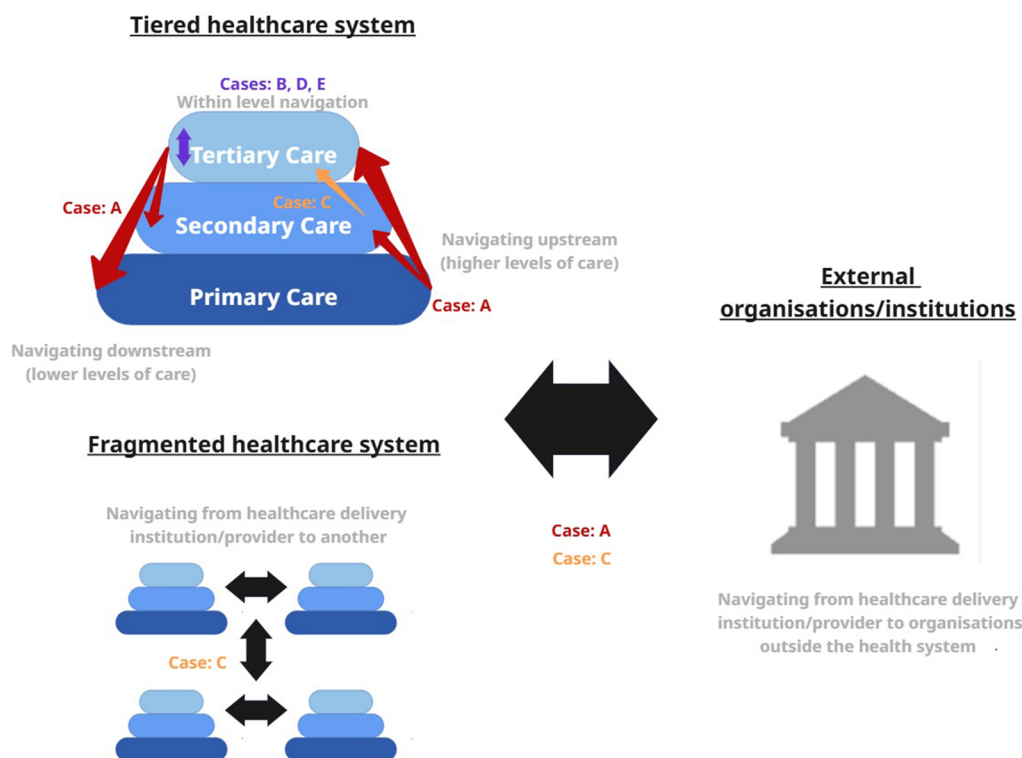


Figure 1. Graphic representation of PNP activities within and outside the health sector. PNP, patient navigation programs.

Although the PNP studied typically adapt their services based on available resources and patient characteristics, this analysis adds a new dimension: the starting point of a patient's navigation journey within the healthcare system, and whether that navigation is initiated internally by the system itself. This perspective challenges conventional ways of measuring navigation—often based on simply counting activities^{29,30}—and instead argues that the true intensity of navigation is better reflected by the range of healthcare levels involved and the complexity of processes addressed across the cancer care continuum.³¹

Patient navigator background and training

In the literature, PNP vary in the professionals they employ. Some programs seek out cancer survivors as navigators,³² and sometimes navigators are nurses, health professionals, social workers, or community representatives with little or no previous experience in the medical field and no clinical training. Some studies also report a mix of patient navigator professional backgrounds. Other programs go beyond professional background and may also seek to employ navigators with race and language concordance to their patients' characteristics in order to increase the effectiveness of the program.^{33,34}

According to these 5 case studies, patient navigators in Mexico include cancer survivors, individuals with sociodemographic characteristics similar to the patients, and community members.² However, 1 case stands out: a driver served as a navigator in an indigenous region. This inclusive and flexible approach suggests that individuals with communication skills and a willingness to help can play a key role in improving access to healthcare.

Formal training for navigators has proven to be essential to achieve desired outcomes and different training material has

been developed over time.³⁵ Content such as basic health promotion, privacy, end of life, advanced directives, and visit guides are some examples of the content developed to train navigators.³⁶ Despite this, the availability of formal patient navigation training courses is limited in both Mexico and Latin America, and most of these courses are offered only occasionally. For instance, the National Cancer Institute used to offer a virtual course for healthcare professionals or civil society volunteers, but it is currently inactive.³⁷ On the other hand, the National Institute of Medical Sciences and Nutrition Salvador Zubirán offered a Patient Navigation educational program through a virtual extension for community healthcare outcomes (ECHOS) model for healthcare professionals.³⁷ This course demonstrated a significant increase in knowledge about patient navigation, and participants reported feeling significantly more prepared to manage the barriers faced by patients and institutions.

Standardizing training helps reduce health barriers and disparities among different patient groups.³⁸ The American Cancer Society recommends implementing patient navigation educational programs to standardize professional knowledge, directly contributing to reducing health barriers and disparities. This has a positive impact on cancer patients by expanding access to high-quality navigation programs.³⁸

Patient navigation beyond the health system

Literature suggests navigators may be linked to resources outside the health system (ie, other healthcare providers, social services, and community programs).^{39,40} They connect patients to community-based programs to help overcome their personal barriers, including proactively connecting patients to external resources, following patients after referral, and providing information and encouragement.⁴¹ Navigators in these case

studies also play a central role in establishing connections beyond the health system. Their proactive activities involve linking patients with healthcare providers, social services, and community programs, employing a holistic approach to overcome personal barriers and provide ongoing support after referral.

The PNP studies have demonstrated their ability to adapt to the changing health landscape. With survival increasing thanks to innovative therapies, they are working to ensure access to treatments. However, financial barriers pose significant challenges, adjusting fundraising strategies to cover expensive treatments and provide ongoing support. To illustrate, while breast cancer treatment is completely covered by public insurance, the same is not true for lung cancer.¹⁰ This financial disparity highlights the need for greater resources to guide patients with certain types of cancer. As barriers change and health coverage evolves, interventions targeting navigated populations also transform, prioritizing specific aspects and adapting to patients' changing needs. As some therapeutic regimens have slowly been fully covered by the health system, patient navigation has shifted toward psychological, logistical, or other barriers. This ability to adapt highlights the critical importance of PNP in improving the patient experience in the healthcare system.

Frameworks and missed opportunities

In the literature, some PNP focus on navigating patients with a single cancer type^{42–45} or multiple types of cancer.^{40,46,47} This study presents organizations in which patients with different types of cancer are navigated simultaneously, through heterogeneous funding sources and diverse approaches. In the future, it is important to conduct research studies to evaluate the impact between programs that navigate multiple types of cancer versus those that focus on a single type of cancer.

The case studies take on activities that are not aligned with their objectives, evaluation indicators that do not cover all activities, or use basic indicators designed primarily for administrative purposes. Some programs evaluate patient satisfaction, quality of life along the cancer continuum, and psychological evaluations. However, a significant gap exists as none of them have collected data on time intervals to diagnosis or treatment, leading to a lack of evidence demonstrating a reduction in delays in cancer patient care due to the implementation of PNP. In the international literature, PNP have also failed to evaluate long-term impact, particularly in terms of time-to-event intervals.^{21,48–51}

In comparison with Alerta Rosa in Monterrey¹⁴ and the breast cancer PNP in Mexico City, these 5 case studies, there appears to be no clear integration between the patient navigation research agenda and early diagnosis and timely treatment. Scarcity of human and economic resources could explain the limited evaluation efforts and small presence of PNP in the academic realm. This raises questions about limitations imposed by organizational structures and formalization of PNP in the health system.

Health equity evaluation and impact

The 5 PNP studied have not implemented measures to reduce disparities in outcomes within their populations. Patient navigation is distinguished from other services by its focus on reducing health inequalities.⁵² To fulfil their mission, they must address individual barriers and design interventions that eliminate

disparities among different groups. They can achieve this by using available guidelines to develop equity-focused healthcare interventions.^{53–56} The literature provides good examples of PNP integrating interventions to reduce health disparities.⁵³

Sustainability and financial mechanisms

This study reveals that only 2 PNP in Mexico receive public funds. Most depend on private financing, obtaining support from grants, donations, and collaborations with private entities. This diversity of funding introduces different organizational dynamics, impacting objectives, scope, and sustainability. The interaction between organizational dynamics and financing models is complex, providing support to patients. Despite limited resources, these are good examples of non-public financing. Ultimately, securing funding would be more feasible if PNP demonstrate positive impacts on cancer care.

As an exploratory study, these results do not represent the full navigation spectrum that might exist in Mexico and current reality needs to be explored. A systematic mapping of all PNP in Mexico has not yet been carried out and therefore is encouraged for future research and evaluations.

Conclusion

These results contribute to the understanding of the PNP in Mexico. PNP are recommended to use theoretical frameworks and tools to evaluate their objectives, goals and activities. They could also employ a logic model to operationalize their results and evaluate their intervention. It is crucial to train PNP in the generation of evidence to facilitate decision-making about its inclusion as a strategy for reducing time intervals in cancer management.

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Author contributions

Elysse Bautista-González (Conceptualization, Methodology, Data curation, Formal analysis, Investigation, Writing—original draft, Writing—review & editing; Yanin Chavarri-Guerra: Writing—original draft, Writing—review & editing; Anne Peasey: Conceptualization, Supervision, Writing—review & editing; Hynek Pikhart: Conceptualization, Supervision, Writing—review & editing; Cecilia Vindrola-Padros: Conceptualization, Methodology, Formal analysis, Supervision, Writing—original draft, Writing—review & editing)

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Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. We do not have any patents planned, pending, or issues relevant to our work and no other relationships/conditions/circumstances reflect a potential conflict of interest.

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Data availability

The data underlying this article are available in the article.

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