Cuadro I
INTEGRACIÓN DE CUIDADOS PALIATIVOS EN ONCOLOGÍA EN EL INSTITUTO NACIONAL DE CANCEROLOGÍA. MÉXICO, 2012-2020

Diagnóstico	*Tiempos de referencia (TR) Mediana (RIQ) días*		*Valor de P*	*Supervivencia (SV) Mediana (RIQ) días*		*Valor de P*
	E1 (2012-2015)	E2 (2016-2020)		E1 (2012-2015)	E2 (2016-2020)	
Ca. de mama (n=934)	1 901 (461-3 020)	479 (133-933)	<0.001	94 (23-350)	111 (34-403)	0.0324
Ca.Cu (n=655)	568.5 (99-2 378.5)	335 (133-654)	<0.001	114 (28-470)	103 (28-339)	0.0158
Ca. de ovario (n=501)	433.5 (18-1 807.5)	331 (73-837)	0.1961	98 (29-289)	168 (31-519)	0.0629
Ca. de próstata (n=312)	448.5 (28-2 200.5)	379 (124-763)	0.1394	98 (39-373)	142 (29-477)	0.0837
Leucemias (n=168)	396 (195-1 663)	289 (70-547)	0.0036	74 (50-263)	118 (29-624)	0.0876
T. germinales (n=154)	399.5 (98-739)	314 (87-655)	0.6538	74 (23-256)	100 (31-469)	0.0588
Ca. gástrico n=852	9 (3-53)	164 (47-365)	<0.001	123 (32-446)	152 (40-444)	0.0173
Ca. de pulmón n=490	71 (7-589)	213 (63-521)	0.0013	75 (28-284)	105 (30-329)	0.0393
Ca. de páncreas (n=488)	7 (1-28)	11 (47-362)	<0.001	85 (21-546)	143 (35-610)	0.0609
LNH (n=411)	265 (33-1 769)	281 (80-685)	0.7836	82 (21-318)	148 (34-461)	0.04
Sarcomas n=403	91 (8-850)	230 (68-607)	0.013	92 (40-619)	122 (44-409)	0.0361
Ca. de VB (n=188)	6.5 (2-22)	132 (55-296)	<0.001	185 (29-1876)	185 (37-664)	0.25

Comparación de TR y SV de pacientes con las 12 neoplasias más frecuentemente vistas en cuidados paliativos en dos periodos, E1 (2012-2015) y E2 (2016-2020). En la primera columna se muestran el tipo de cáncer (Ca) y el número de pacientes. Las medianas y RIQ (en días) de E1 vs E2.
LNH: linfoma no Hodgkin
VB: vesícula biliar
E1: pacientes vistos de 2012 a 2015
E2: pacientes vistos de 2016 a 2020
Ca.Cu: cáncer cérvicounterino
T. germinales: tumores germinales

y modificar estrategias de atención de acuerdo con los avances de ambas especialidades.[5] Finalmente, es fundamental impulsar la investigación.

Declaración de conflicto de intereses. Los autores declararon no tener conflicto de intereses.

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mHealth: experiences and opportunities for cancer research in Mexico

Dear editor: During the Covid-19 pandemic, Mexico transformed hospitals that normally treated patients with chronic diseases into centers to treat Covid-19,[1] potentially displacing the care of patients with cancer. Mobile health (mHealth) could relieve health systems in low- and middle-income countries (LMIC) such as Mexico by offering an alternative to face-to-face contact at every stage of cancer care.[2]

The increasing burden of cancer and limited capacity for in-person care call for solutions that integrate public health and clinical professionals along the natural history of the disease. A potential channel for this integration is mHealth, which has been successfully implemented in high-income countries but data on its relevance and feasibility in LMICs are less known.[3] We present an overview of mHealth in Mexico (table I) and we call for reproducibility and transparency to maximize its potential benefits in cancer research.

Table I
IDENTIFIED MOBILE HEALTH INITIATIVES IN MEXICO, 2007-2019

Project name	*Location, year*	*Responsible institution*	*Topic*	*Functionalities*	*Purpose of the mHealth initiative*
Identified in the peer-reviewed literature					
S.N.	National 2009	National Institute of Public Health, Mexico	Epidemiologic surveillance	SMS	Surveillance of influenza outbreaks.
S.N.	Mexico, France, Australia 2013	IPADE business school	Smoking cessation	SMS	To assess smokers' perceptions, motivations, and intentions towards using an SMS-assisted smoking cessation intervention.
mSalUV	Veracruz, 2014	Institute of Public Health, University of Veracruz, Mexico	Diabetes	SMS	To develop and assess the acceptability of an SMS-based system for sending medication and appointment reminders to patients with diabetes.
S.N.	Mexico City, 2018	National Institute of Respiratory Diseases, Mexico	HIV	SMS	To describe a systematized process to design, validate and test a set of SMS to improve treatment adherence and appointment attendance among HIV positive individuals.
S.N.	Chiapas, 2013	Partners in Health, Mexico	Medical prescription	App	To assess the perceived-usefulness of an mHealth tool that guides community health workers (CHWs) through algorithm-based medication dosing.
Prevencanadol	Spain and Mexico, 2013	Monterrey Institute of Technology and Advanced Studies	Cancer prevention	SMS	To assess participants' enrollment and adherence to an online program aimed to prevent cancer risk behaviors using an educational website and mobile phones.
VidaNET	Mexico City, 2010	Carlos Slim Foundation for Health, Mexico	HIV	SMS	To increase adherence by HIV/AIDS patients to antiretroviral drug regimens.
CardioNET	Mexico City, 2011	Carlos Slim Foundation for Health, Mexico	Cardiovascular disease	SMS	To provide patients with heart-healthy, anti-obesity messages.
Project Dulce	Baja California, 2014	Autonomous University of Baja California, MexicoScripps Whittier Diabetes Institute, USA	Diabetes	App SMS Remote glucose monitoring	To integrate the usual care in the clinic with self-management and peer-led education using and app and SMS.
S.N.	Mexico City, 2017	*Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán*	Cancer treatment	App	To monitor the potential adverse events among older adults receiving chemotherapy for solid tumors using daily steps measured with a mobile phone app.
Mobile Airways Sentinel Network	Spain, Argentina and Mexico, 2019	Allergic Rhinitis and its Impact on Asthma Initiative	Allergic diseases	App	To monitor symptoms from asthma and allergic rhinitis using a mobile phone app-based diary.
iBeni	Hidalgo, 2018	Hidalgo State Autonomus University, México	Cognitive decline	App	To provide cognitive stimulation for the elderly through a mobile phone app.
Chaak	Yucatán, 2013	Colorado State University, USA Yucatán State Autonomous University, México	Dengue control	Mobile app coupled with computer database management system	To monitor dengue vectors at their early stages of development for surveillance of potential outbreaks.
Identified in other sources through a systematic search (websites and press releases)					
Zumbido	Mexico, 2007	The SHM Foundation	HIV	SMS	To create and promote social relationships for those living with HIV/AIDS that could have the potential to lead to significant positive health outcomes including emotional support, improving the participants' knowledge about accessing health services, and helping them to adhere to medical treatment.

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e-Decídete	Morelos, 2017	National Institute of Public Health, Mexico	Smoking cessation	SMS	To provide educational information, behavioral strategies, motivational and supportive messaging, and to prompt to use pharmacotherapy to support smoking cessation.
Amanece	Mexico, 2015	Carlos Slim Foundation for Health, Mexico	Prenatal care	App	To support community health worker to identify risk factor for pregnancy complications.
Qué pasa si te pasa	Ciudad de México, Estado de México, 2017	National Institute of Psychiatry, Mexico	Substance abuse	App	To educate adolescents about the risks and consequences of substance abuse.
Deslixate	Mexico City, 2018	National Autonomous University of Mexico	Dyslexia	App	To identify signs suggestive of dyslexia in children and adolescents.
PreB	Morelos, 2017	National Institute of Public Health, Mexico	Adolescent pregnancy	App	To educate and provide customized information to adolescents on sexual and reproductive health.
Salud Móvil	México, 2017	Mexican Foundation for Health	Diabetes, overweight and obesity	SMS	To promote lifestyle changes among people with type 2 diabetes, overweight or obesity.
MiSalud, Prospera Digital	México, 2017	Digital strategy, Mexican Government	Child and maternal health	SMS and Facebook messenger	To provide educational information to pregnant women or mothers of children aged 0-2 years.

mHealth: mobile health; SMS: Short Message Service; S.N.: sine nomine (without a name)

Cancer research in Mexico could follow the example of successful experiences in the areas of maternal care where the government has developed, implemented, and evaluated mHealth interventions like *Prospera Digital*.[4] This experience follows the recommendation of prototyping and evaluating interventions within a particular sector of a national health system.[3] However, full implementation of mHealth for cancer at a national scale would face additional local barriers requiring fine-tuning of the technology. Moreover, given the complexity of cancer management, mHealth interventions in this field could require inter-institutional and public-private partnerships.

mHealth interventions for cancer research in Mexico should also build upon previous experiences in high-income countries.[5] However, leapfrogging mHealth from other areas may be insufficient by itself. Cancer researchers must consider human-centered design applied to local contexts to maximize the value of mHealth.[3] Unfortunately, Mexican experiences provided little to no description of the context in which the implementation of mHealth technologies took place which could undermine the reproducibility of their findings. Similarly, there is scatter information regarding the behavior change theory among the mHealth experiences. Further research using mHealth for cancer in Mexico must therefore be transparent regarding the behavior change frameworks used to develop the technologies.[5] When researchers involve cancer patients from the design of mHealth solutions, users benefit the most.[5] Therefore, community involvement should permeate the development and reporting of cancer mHealth solutions.

For cancer mHealth technologies to become integrated into the healthcare system, they should be rigorously assessed. Once the solution has been properly designed and tested, a report should communicate its findings to the scientific community. This report could align with the Mobile Health Evidence Reporting and Assessment checklist (mERA),[6] which recognizes aspects unique to mHealth. Some of these features are the description of the technology platform, delivery, content, contextual adaptability, and data security. Innovators in mHealth may argue that publishing such reports in the peer-review literature could delay the translation of their findings from research to the clinical setting. However, if they want the scientific community and the public to understand the value of their products, they should consider alternatives to peer-review, including pre-publishing services such as medRxiv (https://www.medrxiv.org/).[7] Finally, mHealth products must provide enough information to patients, institutions, and clinicians so that they can choose among the numerous available solutions. To make an informed decision, potential users need to know about the data safety, effectiveness, design process of the product, and its integration with the healthcare system.[8] Therefore, this information must be public and accessible to potential users.[9]

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Recomendaciones de la Sociedad Mexicana de Oncología para la vacunación contra Covid-19 en personas con cáncer en México

Señor editor: El cáncer y sus tratamientos aumentan de forma significativa el riesgo de morir por Covid-19 (RR 1.8). Este riesgo es mayor en personas con neoplasias hematológicas (RR 2.5), particularmente en aquellas de reciente diagnóstico.[1] Las medidas de distanciamiento físico han mitigado los contagios, pero no han logrado contener la pandemia. Afortunadamente, se han desarrollado vacunas que son muy eficaces para disminuir el riesgo de padecer Covid-19 grave y de tener desenlaces adversos. En México, se ha otorgado autorización para el uso de emergencia de cinco vacunas, tres basadas en vectores adenovirales, una de virus inactivado y una de mRNA. Ninguna tiene el potencial de causar infección activa por SARS-CoV-2 en pacientes inmunocomprometidos. Además, estas vacunas parecen ser eficaces y seguras en personas con cáncer a pesar de que su inclusión en ensayos clínicos ha sido limitada. [2]

La Sociedad Mexicana de Oncología (SMEO) emite las siguientes recomendaciones sobre la vacunación contra Covid-19 en personas con cáncer, basadas en la evidencia existente y en una revisión de las guías de vacunación en personas con cáncer formuladas por sociedades internacionales y alineadas con la Política Nacional de Vacunación (PNV) del Gobierno de México.[3-5] Dicha política prioriza a las personas adultas mayores, lo cual parece ser la estrategia más práctica para vacunar a la mayor proporción de la población en riesgo de enfermedad grave y muerte.[5]

La SMEO recomienda que todas las personas con cáncer en México sean vacunadas en cuanto sea su turno de acuerdo con la PNV, utilizando cualquiera de las vacunas autorizadas en nuestro país.[5] Las personas con cáncer deben ser priorizadas dentro de los diferentes grupos etarios en todas las etapas de vacunación, siguiendo las recomendaciones específicas mencionadas en el cuadro I.

De forma importante, en personas con cáncer inmunizadas con vacunas que requieran dos dosis, no debe omitirse o retrasarse la aplicación de la segunda dosis bajo ninguna circunstancia, ya que existe evidencia de que esto podría llevar a una protección insuficiente debido a una menor respuesta inmune.[6]

Dada la asociación entre pobreza, hacinamiento y peores desenlaces al padecer Covid-19, la SMEO recomienda priorizar dentro de las campañas de vacunación a personas con cáncer que viven en poblaciones rurales y en municipios con altos niveles de marginación.[5] Asimismo, los pacientes con cáncer deben continuar con la aplicación de medidas de mitigación, incluido el distanciamiento físico y el uso de mascarillas después de ser vacunados. Finalmente, la SMEO exhorta a los órganos gubernamentales, sociedades médicas, organizaciones de pacientes y prestadores de la salud a difundir mensajes que informen a las personas con cáncer y sus cuidadores sobre los beneficios y la seguridad de las vacunas contra Covid-19.

A través de estas recomendaciones, la SMEO intenta colaborar para que la campaña de vacunación contra Covid-19 en México cumpla con su objetivo principal: la reducción de los casos graves y de la mortalidad por medio de la priorización de las poblaciones más vulnerables, incluyendo las personas con cáncer, quienes requieren de la mayor protección contra esta enfermedad.

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