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Research Article

A Scientometric Analysis of Research Productivity in Clinics and Hospitals from Five Latin American Countries

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ABSTRACT

In university hospitals, clinical care, teaching and research are the pillars of their missions. Scientometrics play a key role in the analysis of scientific productivity of researchers, laboratories or countries. However, there are no published articles about bibliometric studies of the scientific production of healthcare institutions in Latin America. To carry out a scientometric analysis of leading clinics and hospitals from five Latin American countries. We focused on five Latin American countries with the largest scientific production: Argentina, Brazil, Chile, Colombia and Mexico. We examined available information for international publications, citations, registered clinical trials, networks of collaborations and patent applications. The institutions with the highest numbers of published articles are: Hospital de Clínicas de Porto Alegre (Brazil), Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán (Mexico), Instituto Nacional De Cardiología Ignacio Chávez (Mexico) and Hospital Italiano de Buenos Aires (Argentina). Highly cited articles, networks of collaborations and patents applications were also identified. Scientometric analysis of health research around the globe has been quite helpful, in terms of identification of priorities for funding and support. The higher scientific productivity for some of these Latin American institutions might be explained partially by their higher levels of collaborations with colleagues in institutions in high-income countries, which usually have larger funding. We provide several recommendations for strengthening clinical research in this world region.

Keywords: Scientometrics, Clinics, Hospitals, Latin America, Healthcare institutions.

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INTRODUCTION

Historically, clinics and hospitals have played an important role in medical research, facilitating the study of patients' illnesses, in addition to the analysis of pharmacological and surgical interventions, among others.[1] In university hospitals, clinical care, teaching and research are the pillars of their missions.[2] The evolution of medical science places hospitals and clinics as necessary centers for the development of clinical research projects.[3]

In recent decades, multiple methodological approaches in the field of scientometrics, particularly bibliometrics, have been developed and implemented around the world.[4,5] Scientometrics play a key role in the analysis of scientific productivity of researchers, laboratories or countries.[4] It has been used extensively, in several fields, for the analysis of multiple bibliometric indicators, such as number of articles published in international journals, features of highly cited papers and collaboration networks.[4]

In the fields of medicine and related health sciences, there are available articles about the bibliometric analysis of areas such as public and global health and biotechnology in Latin America.[6,7] However, there are no published articles about bibliometric studies of the scientific production of healthcare institutions in Latin America. In the current work, we carried out a scientometric analysis of leading clinics and hospitals from five Latin American countries.

METHODOLOGY

In this work, we used previously published methods for scientometric analysis,[7,8] which involve data collection from major bibliographic and patent databases and analysis with validated software for this type of studies.[5,7]

We focused on five Latin American countries with the largest scientific production: Argentina, Brazil, Chile, Colombia and

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Mexico.[9] In those countries, the main clinics and hospitals were identified from several available rankings (such as the one from the *América Economia* magazine) and the Scimago Institutions Ranking.[19] In Mexico, clinical institutions were identified on the websites of the Mexican national institutes of health and of the main healthcare organization in the country (*Instituto Mexicano del Seguro Social*). Scientific articles indexed in Scopus and PubMed databases[11] were identified through simple searches and the use of the Boolean operator *OR*. Highly cited articles for the included institutions were found in the Scopus database. The numbers of patent applications[12] for the included clinics and hospitals and recorded in Scopus and Google Patents[11] databases were consulted. Numbers of observational and experimental studies enlisted in the ClinicalTrials.gov registry[13] were identified. The information was retrieved from the different sources limited by time until December 2020. Word clouds were generated for the titles of the most cited articles and for the patents found for the selected institutions. The software tool VosViewer 1.6.17[14] was used for the data visualization of publication networks, based on fractional counting.

RESULTS

The search algorithms for each database are presented in supplementary Table S1. Scientific articles were identified for authors with affiliations with hospitals and clinics in Argentina, Brazil, Chile, Colombia and Mexico. There was a higher number of documents identified through Scopus compared to PubMed, where Mexico and Brazil ranked first and second, respectively (Figure 1).

Regarding the articles identified in PubMed (Table 1), the institutions with the highest numbers of published articles are: Hospital de Clínicas de Porto Alegre (*n*=6.133, Brazil), Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán (*n*=5.141, Mexico), Instituto Nacional De Cardiología Ignacio Chávez (*n*=4.026, Mexico) and Hospital Italiano de Buenos Aires (*n*=3743, Argentina).

Country	Articles indexed in PubMed	Articles indexed in Scopus
Mexico	25.653	57.908
Brazil	12.138	17.383
Argentina	5.629	8.934
Chile	4.231	8.486
Colombia	2.577	4.791

Figure 1: Geographical locations of hospitals and clinics and articles published by country.

Table 1: Clinical trials registered in ClinicalTrials.gov and articles indexed in PubMed by hospital and country.

Country	ARGENTINA		BRAZIL		CHILE		COLOMBIA		MEXICO	
Hospital or clinic and number of clinical trials registered in clinicaltrials.gov	Hospital Italiano de Buenos Aires	235	Hospital de Clínicas de Porto Alegre	508	Hospital Clínico Universidad De Chile	50	Hospital Pablo Tobón Uribe	115	Instituto Nacional de Ciencias médicas y nutrición Salvador Zubirán	137
	Hospital Universitario Austral	82	Hospital Israelita Albert Einstein	108	Clínica Alemana de Santiago	22	Fundación Valle Del Lili	60	Hospital General de México	76
	Sanatorio Guemes	36	Hospital de Cáncer de Barretos	100	Clínica Las Condes	21	Hospital Universitario San Ignacio	41	Hospital Universitario Dr. José Eleuterio González	75
	Hospital de Clínicas José de San Martín	10	Ac Camargo Cancer Center	24	Hospital Carlos Van Buren	17	Fundación Santa Fe de Bogotá	33	Hospital Civil de Guadalajara Fray Antonio Alcalde	49
	Hospital Materno Infantil Ramon Sarda	2			Hospital Guillermo Grant Benavente	16	Clínica Las Américas	11	Instituto Nacional de Enfermedades Respiratorias	46
					Hospital De Puerto Montt	5	Hospital Universitario San Vicente de Paúl	6	Hospital Infantil de México Federico Gómez	36
							Hospital Universitario Mayor Méderi	4	Instituto Nacional De Cardiología Ignacio Chávez	35
									Instituto Nacional De Neurología Y Neurocirugía	26
									Umae Hospital de Especialidades	11
									Instituto Nacional de Cancerología (Incan)	5
									Instituto Nacional de Perinatología	5
									Instituto Nacional De Psiquiatría Ramón de la Fuente Muñiz	4
									Instituto Nacional de Medicina Genómica	1

Country	ARGENTINA		BRAZIL		CHILE		COLOMBIA		MEXICO	
									Instituto Nacional de Rehabilitación luis Guillermo Ibarra Ibarra	1
									Instituto Nacional de Salud Pública de México	1
									UMAE Hospital de Cardiología Centro Medico Nacional Siglo XXI	1
Total	365		740		131		270		509	
Hospital or clinic and number of articles in PubMed.	Hospital Italiano de Buenos Aires	3.743	Hospital de Clínicas de Porto Alegre	6.133	Hospital Clínico Universidad De Chile	1.047	Fundación Valle Del Lili	622	Instituto Nacional de Ciencias médicas y nutrición Salvador Zubirán	5.141
	Hospital de Clínicas José de San Martín	1.010	Hospital Israelita Albert Einstein	3.540	Clínica Alemana de Santiago	1.700	Fundación Santa Fe de Bogotá	596	Instituto Nacional De Cardiología Ignacio Chávez	4.026
	Hospital Universitario Austral	723	Ac Camargo Cancer Center	1.602	Clínica Las Condes	1.080	Hospital Universitario San Ignacio	592	Instituto Nacional De Neurología Y Neurocirugía	1.802
	Sanatorio Guemes	105	Hospital de Cáncer de Barretos	863	Hospital Guillermo Grant Benavente	134	Hospital Pablo Tobón Uribe	462	Instituto Nacional de Enfermedades Respiratorias	1.767
	Hospital Materno Infantil Ramon Sarda	48			Hospital Hernán Henríquez Aravena	111	Clínica Las Américas	121	Hospital Infantil de México Federico Gómez	1.729
					Hospital Carlos Van Buren	98	Hospital Universitario San Vicente de Paúl	108	Hospital General de México	1.649
					Hospital De Puerto Montt	61	Hospital Universitario Mayor Méderi	76	Instituto Nacional De Psiquiatría Ramón de la Fuente Muñiz	1.551
									Instituto Nacional de Perinatología	1.126

Country	ARGENTINA	BRAZIL	CHILE	COLOMBIA	MEXICO	
					Hospital Civil de Guadalajara Fray Antonio Alcalde	906
					Hospital Universitario Dr. José Eleuterio González	830
					Instituto Nacional de Medicina Genómica	711
					Instituto Nacional de Cancerología (Incan)	681
					Instituto Nacional de Salud Pública de México	509
					Umae Hospital de Especialidades	238
					Instituto Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra	210
					UMAE Hospital de Cardiología Centro Médico Nacional Siglo XXI	121
Total	5629	12138	4231	2577	22997	

As can be seen in Table 1, for the studies registered on ClinicalTrials.gov, the largest number corresponded to Brazil with 740 and Mexico with 509; and according to hospital center, the top 5 hospitals with the highest number of studies registered on this web portal are: Hospital de Clínicas de Porto Alegre (*n*=508, Brazil), Hospital Italiano de Buenos Aires (*n*=235, Argentina), Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán (*n*=137, Mexico), Hospital Pablo Tobón Uribe (*n*=115, Colombia) and Hospital Israelita Albert Einstein (*n*=108, Brazil).

A review of all the studies registered on clinicaltrials.gov for the included institutions (Table 2) displays that they were mainly intervention studies (*n*=1681), in phase 3 (*n*=838), completed (*n*=438) or active in the recruitment phase (*n*=438) and funded by industry (*n*=1043) or other institutions (*n*=748).

In terms of collaborations in publications, Figure 2 shows the co-authorship networks, weighted by documents or citations for the selected institutions in the five countries and Figure 3 shows the co-authorship networks for each country. These bibliometric analyses show an asymmetry of profiles of collaborations among countries, with some countries with higher levels of joint publications between scientists and institutions, in addition to the existence of several subnetworks of collaborations at the Latin American level.

In the context of the international scientific impact of publications, Table 3 presents an overview of selected highly cited papers for healthcare institutions in the five countries. It highlights that highly cited papers were published in high-impact journals, as results of participations in large international collaborations, led by scientists in the United States or in Europe.

For an examination of technological advances protected by intellectual property, Table 4 shows an analysis of patent applications for the selected healthcare institutions, highlighting a heterogeneity for this indicator of innovation and technological development, with some institutions having an important number of patents and other clinics and hospitals without it.

In order to visualize the most common themes, a word cloud for the highly cited articles of the selected institutions shows a high representation of papers about the global burden of disease, cancer and published in open access journals (Figure S1). In addition, a word cloud for the patents highlights a role of technological advances related to the development of novel methods and devices for use in clinical settings (Figure S2).

DISCUSSION

This is the first scientometric study of clinics and hospitals in Latin America. In the current study, we carried out a scientometric analysis of leading healthcare institutions in five Latin American countries. We identified the profiles of international publications,

Table 2: General characteristics of the studies registered in ClinicalTrials.gov for the included healthcare institutions.

	Characteristic	Frecuency
Type of study		
	Interventional	1681
	Observational	272
	Missing values	56
	Expanded Access:Intermediate-size Population	3
	Expanded Access:Treatment IND/Protocol	2
	Expanded Access	1
Status		
	Completed	813
	Recruiting	438
	Active, not recruiting	302
	Unknown status	216
	Terminated	135
	Not yet recruiting	34
	Withdrawn	25
	Enrolling by invitation	23
	Suspended	13
	Missing values	10
	Available	4
	No longer available	2
Phases		
	Early Phase 1	3
	Phase 1	24
	Phase 1|Phase 2	30
	Phase 2	220
	Phase 2|Phase 3	78
	Phase 3	838
	Phase 4	125
	Not Applicable	363
	Missing values	334
Funded by		
	Industry	1043
	Other	748
	Industry and other	151
	Missing values	56
	NIH	17

citations, registered clinical trials, networks of collaborations and patent applications. We found that Brazil and Mexico have the healthcare institutions with the largest scientific productivity and that international collaborations play an important role in publications in high-impact journals, in addition to observing a heterogeneity between countries and institutions in the examined parameters.

Comparing our findings with previous scientometric studies in Latin America, in other related fields, highlight several common issues: Chinchilla-Rodríguez *et al.*[6] carried out an analysis of bibliometric (in public health), socioeconomic and health indicators for ten Latin American countries. They found that Brazil and Mexico were the two countries with the highest scientific output in public health, which is in concordance with our current findings. León-de la O *et al.*[7] did an analysis of publications in the field of health biotechnology for six Latin American countries. They observed that there was an important role of international collaborations, and that Brazil and Mexico were the top countries in scientific production in health biotechnology, which is in agreement with our results. Forero *et al.* carried out[8] a scientometric analysis for neurosciences in five Latin American countries and also found that Brazil and Mexico were the top producers of articles in this field.

From an international perspective, scientometric analysis of health research around the globe has been quite helpful,[15,16] in terms of identification of priorities for funding and support.[17] Previously, Chen *et al.* analyzed the publication trends in healthcare science and services research in China[18] and Muneem *et al.* compared the scientific productivity between a hospital medical and a college of medicine in the United States.[19]

The higher scientific productivity for some of these institutions, such as the Mexican hospitals, might be explained partially by their higher levels of collaborations with colleagues in institutions in the United States, which usually have larger funding[20] Moses *et al.* identified that, in comparison to North America and Europe, Latin America has a relatively low funding for medical research and that in those countries with high levels of scientific productivity, private institutions provide a large amount of funding for medical research.[20] Public and private funding for further longitudinal research studies, such as large cohorts[21] (including community-based research) and clinical trials,[20] is of particular relevance in Latin American countries, in addition to the support for strengthening the technological innovations in healthcare.[7]

An examination of highly cited papers from these healthcare institutions suggests that collaborations with international centers facilitate the publication in high-impact journals, taking into account the asymmetric dynamics of scientific publishing, including citations, in the life sciences between world regions.[22,23] An analysis of registered clinical trials highlights a key role of funding by global pharmaceutical companies, taking into account the current needs of large financial and logistic support for multicentric randomized trials.[24,25] An exploration of patent applications shows that some institutions have a higher level of

Table 3: Selected highly cited papers by healthcare institution.

Institution	Country	Article	Journal-Year	Citations
Hospital de Clínicas José de San Martín	Argentina	The Clavien-Dindo classification of surgical complications: Five-year experience.	Annals of Surgery, 2009	5145
Hospital Universitario Austral	Argentina	The IASLC lung cancer staging project: Proposals for revision of the TNM stage groupings in the forthcoming (eighth) edition of the TNM Classification for lung cancer.	Journal of Thoracic Oncology, 2016	1633
Hospital de Clínicas José de San Martín	Argentina	Human papillomavirus genotype attribution in invasive cervical cancer: a retrospective cross-sectional worldwide study.	The Lancet Oncology, 2010	1630
Hospital de Clínicas de Porto Alegre	Brazil	Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015.	The Lancet, 2016	3563
Hospital Israelita Albert Einstein	Brazil	Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016: a pooled analysis of 2416 population-based measurement studies in 128·9 million children, adolescents, and adults.	The Lancet, 2017	2606
Hospital de Cáncer de Barretos	Brazil	Ramucirumab monotherapy for previously treated advanced gastric or gastro-oesophageal junction adenocarcinoma (REGARD): An international, randomised, multicentre, placebo-controlled, phase 3 trial.	The Lancet, 2014	1406
Hospital Clínico Universidad De Chile	Chile	Phase III study of docetaxel and cisplatin plus fluorouracil compared with cisplatin and fluorouracil as first-line therapy for advanced gastric cancer: A report of the V25 study group.	Journal of Clinical Oncology, 2006	1631
Clínica Alemana de Santiago	Chile	Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013.	The Lancet, 2015	4757
Clínica Las Condes	Chile	Minimal information for studies of extracellular vesicles 2018 (MISEV2018): a position statement of the International Society for Extracellular Vesicles and update of the MISEV2014 guidelines.	Journal of Extracellular Vesicles, 2018	2593
Hospital Pablo Tobon Uribe	Colombia	Effects of tranexamic acid on death, vascular occlusive events, and blood transfusion in trauma patients with significant haemorrhage (CRASH-2): A randomised, placebo-controlled trial.	The Lancet, 2010	1854
Fundación Valle Del Lili	Colombia	The IASLC lung cancer staging project: Proposals for revision of the TNM stage groupings in the forthcoming (eighth) edition of the TNM Classification for lung cancer.	Journal of Thoracic Oncology, 2016	1633
Fundación Santa Fe de Bogotá	Colombia	Guidelines for the management of hemophilia.	Haemophilia, 2013	1171
Instituto Nacional De Ciencias Médicas Y Nutrición Salvador Zubirán	Mexico	Analysis of protein-coding genetic variation in 60,706 humans.	Nature, 2016	5762

Institution	Country	Article	Journal-Year	Citations
Hospital General de México	Mexico	Comparison of upper gastrointestinal toxicity of rofecoxib and naproxen in patients with rheumatoid arthritis.	New England Journal of Medicine, 2000	3636
Instituto Nacional de Cardiología Ignacio Chávez	Mexico	Apixaban versus warfarin in patients with atrial fibrillation.	New England Journal of Medicine, 2011	6017

Table 4: Number of patents for selected healthcare institutions.

Institution	Country	# Patents
Hospital de Clínicas de Porto Alegre	Brazil	32
Hospital Israelita Albert Einstein	Brazil	25
Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán	Mexico	12
Fundación Valle Del Lili	Colombia	5
Hospital Universitario San Ignacio	Colombia	5
Hospital de Cáncer de Barretos	Brazil	4
Instituto Nacional de Enfermedades Respiratorias	Mexico	3
Instituto Nacional De Cardiología Ignacio Chávez	Mexico	3
Hospital Pablo Tobón Uribe	Colombia	2
Clínica Alemana de Santiago	Chile	1
Clínica Las Condes	Chile	1
Hospital Civil de Guadalajara Fray Antonio Alcalde	Mexico	1

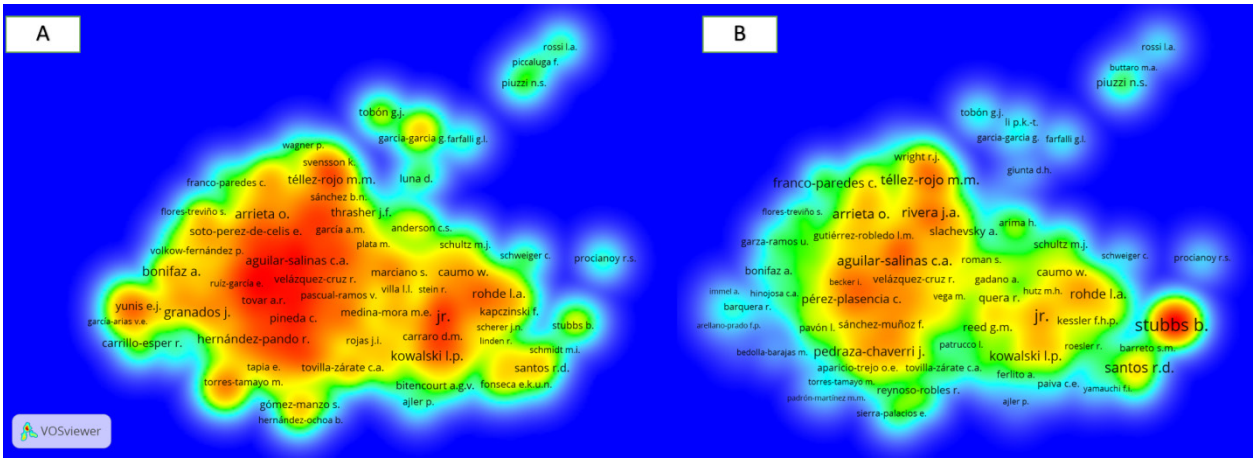

Figure 2: Co-authorship networks for hospitals and clinics in Argentina, Brazil, Chile, Colombia and Mexico. A: weighted by documents B: weighted by citations.

advance in this type of technological products, which involve particular types of previous funding and innovation capacity.[26,27]

An interesting topic that needs to be studied in further detail in future works is the correlation between scientific productivity and the quality of healthcare provided in clinics and hospitals.[28,29] In this context, lessons learned in healthcare institutions in high-income countries would be of interest to apply in clinics and hospitals in resource-limited regions. In terms of research collaborations between scientists in the Global North and the Global South, several recommendations have been provided, in order to facilitate the consolidation of appropriate scientific networks and to avoid "helicopter research".[30,31]

Some additional key aspects need further consideration.[32-34] A key aspect in leading hospitals is the close relationship with

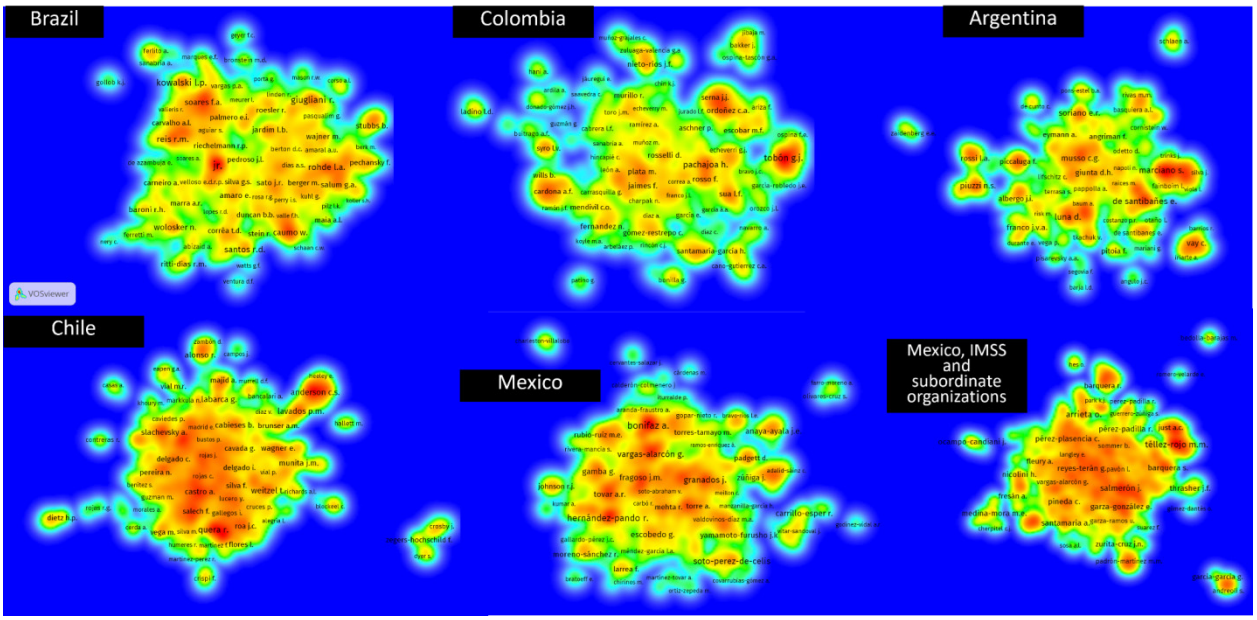

Figure 3: Co-authorship networks for each country.

major local medical schools, which have important infrastructure for research, including MSc and PhD level scientists.[2,9] Several articles have described the advantages of programs focused on advances training in research methods and scientific writing for members of clinical institutions in resource-limited countries.[35,36] A potential and recent aspect of health research in Latin American institutions involves the adequate use of novel Artificial Intelligence (IA) tools,[37] including the local challenge of the need of having automated resources for identifying IA-generated texts.[38,39]

As high-quality clinical research involves a major investment in availability of researchers, protected time for research for clinical specialists is a key need in hospitals interested in increasing its productivity.[2,3,9,33] In addition, creation of additional academic programs focused on clinical research is a major need in some of these Latin American countries[9,40]

Limitations of the current study involves the focus on the most scientifically productive institutions in the five selected Latin American countries and the main use of international databases.

CONCLUSION

This is the first scientometric study of clinics and hospitals from several Latin American countries. For a number of selected clinics and hospitals in five countries (Argentina, Brazil, Chile, Colombia and Mexico), we identified the profiles of international publications, citations, registered clinical trials, networks of collaborations and patent applications. In addition, we proposed several suggestions for strengthening research and innovation in healthcare institutions in Latin American countries.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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Supplementary Appendix

Table S1: Database search strategy.

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Hospital General de Mexico	Mexico	((((((("Hospital General de Mexico") OR ("Hospital General De Mexico")) OR ("Hospital General De México Dr. Eduardo Liceaga")) OR ("General Hospital of Mexico")) OR ("Hosp. Gen. Mexico")) OR ("Hospital General De México dr. Eduardo Liceaga"))	AF-ID ("Hospital General de Mexico" 60015684) AND (EXCLUDE (PUBYEAR, 2021))	((((((("Hospital General de Mexico") OR ("Hospital General De Mexico")) OR ("Hospital General De México Dr. Eduardo Liceaga")) OR ("General Hospital Of Mexico")) OR ("Hosp. Gen. Mexico")) OR ("Hospital General De México dr. Eduardo Liceaga"))
Hospital Israelita Albert Einstein	Brazil	((((((((("Hospital Israelita Albert Einstein") OR ("Albert Einstein Hospital")) OR ("Hospital Albert Einstein")) OR ("Instituto Israelita De Ensino E Pesquisa Albert Einstein")) OR ("Hospital Israelita Albert Einstein (hiae)")) OR ("Albert Einstein Jewish Hospital")) OR ("Albert Einstein Israelite Hospital")) OR ("Hospital Israelita Albert Einstein - Hiae")) OR ("Instituto Israelita De Ensino E Pesquisa")	AF-ID ("Hospital Israelita Albert Einstein" 60016295) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Israelita Albert Einstein"
Hospital Universitario Austral	Argentina	(Hospital Universitario Austral) OR (Hospital Austral)	AF-ID ("Hospital Universitario Austral" 60008773) AND (EXCLUDE (PUBYEAR, 2021))	(Hospital Universitario Austral) OR (Hospital Austral)
Hospital Clinico de la Universidad de Chile	Chile	(((((((((("Hospital Clínico Universidad De Chile") OR ("Hospital Clínico De La Universidad De Chile")) OR ("University of Chile Clinical Hospital")) OR ("Hospital Clinico Universidad De Chile")) OR ("Hosp. Clin. Universidad De Chile")) OR ("Clinical Hospital University Of Chile")	AF-ID ("Hospital Clínico Universidad De Chile" 60011682) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Clínico Universidad De Chile"
Hospital 20 de Noviembre	Mexico	(((((Hospital 20 De Noviembre Issste) OR (Hosp. 20 De Noviembre)) OR (Centro Hospitalario 20 De Noviembre)) OR (Centro Médico Nacional 20 De Noviembre Del Issste)) OR (Centro Medico Nacional 20 De Noviembre)) OR (((((Centro Médico Nacional 20 De Noviembre) OR (Centro Médico Nacional 20 De Noviembre Issste)) OR (Hospital 20 De Noviembre)) OR (Cent. Hosp. '20 De Noviembre')) OR (Cent. Hosp. 20 De Noviembre))	AF-ID ("Hospital 20 de Noviembre" 60000123) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital 20 de Noviembre"

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Hospital Regional de Concepción - Dr. Guillermo Grant Benavente	Chile	(((((((("Hospital Guillermo Grant Benavente") OR ("Hospital Clínico Regional De Concepción")) OR ("Hospital Clínico Regional De Concepción Dr. Guillermo Grant Benavente")) OR ("Guillermo Grant Benavente Hospital")) OR ("Hospital Guillermo Grant")) OR ("Hospital Clínico Regional Guillermo Grant Benavente")) OR ("Hospital G. Grant Benavente")) OR ("Hospital Clínico Regional De Concepción dr. Guillermo Grant Benavente")) OR ("Hosp. Clin. Reg. De Concepcion")) OR ("Hospital Clinico Regional De Concepción")	AF-ID ("Hospital Regional de Concepción-Dr. Guillermo Grant Benavente" 60086383) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Guillermo Grant Benavente"
Sanatorio Guemes	Argentina	(((((((("Sanatorio Guemes") OR ("Sanatorio Güemes")) OR ("Sanatorio Güemes Ciudad De Buenos Aires")) OR ("Hospital Universitario Sanatorio Güemes")) OR ("Sanat. Guemes")) OR ("Hospital Privado Güemes")) OR ("Sanatoria Guemes")) OR ("Hospital Universitario Sanatorio Guemes")) OR ("Hospital Privado Guemes")) OR ("Hosp. Privado Guemes")	AF-ID ("Sanatorio Guemes" 60018176) AND (EXCLUDE (PUBYEAR, 2021))	"Sanatorio Guemes"
Clínica Las Américas	Colombia	(((((((("Clínica Las Américas") OR ("Clinica Las Americas")) OR ("Clínica Las Americas")) OR ("Clínica De Las Américas")) OR ("Las Americas Clinic")) OR ("Clinica Las Américas")) OR ("Servicio De Electrofisiología")) OR ("Electrofisiología Clínica Las Américas")) OR ("Auna Clínica Las Américas")) OR ("Las Américas Clinic")	AF-ID ("Clínica Las Américas" 60106887) AND (EXCLUDE (PUBYEAR, 2021))	"Clínica Las Américas"
Hospital Carlos Van Buren	Chile	((((("Hospital Carlos Van Buren") OR ("Carlos Van Buren Hospital")) OR ("Hospital Van Buren")) OR ("Hospital Carlos Van Buren De Valparaíso")) OR ("Hosp. Van Buren")) OR ("Hosp. Carlos Van Buren")) OR ("Van Buren Hospital")	AF-ID ("Hospital Carlos Van Buren" 60017175) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Carlos Van Buren"
Hospital Universitario San Vicente de Paúl	Colombia	(((((((("Hospital Universitario San Vicente De Paúl") OR ("Hosp. Univ. San Vicente De Paul")) OR ("Hospital Universitario San Vicente De Paul ")) OR ("Hospital San Vicente De Paúl")) OR ("Hospital San Vicente De Paul")) OR ("Hospital Universitario San Vicente De Paúl-husvp")) OR ("San Vicente De Paul University Hospital")) OR ("Universidad De Antioquia Y Hospital Universitario San Vicente De Paúl")) OR ("University Hospital San Vicente De Paul")) OR ("Univ. Hospital San Vicente De Paul")	AF-ID ("Hospital Universitario San Vicente de Paúl" 60035753) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Universitario San Vicente de Paúl"

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Hospital Materno Infantil Ramón Sardá	Argentina	((((((((((("Hospital Materno Infantil Ramón Sardá") OR ("Hosp. Materno Inf. Ramon Sarda")) OR ("Hospital Materno-infantil Ramón Sardá")) OR ("Hospital Materno Infantil Ramón Sarda")) OR ("Hospital Materno Infantil Ramon Sardá")) OR ("Hosp. Materno Infantil Ramon Sarda")) OR ("Hospital Materno Infantil Ramon Sardá")) OR ("Hosp. Materno Infantil Ramon Sarda")) OR ("Hosp. Materno-inf. Ramon Sarda")) OR ("Hosp. Matern. Inf. Ramon Sarda")) OR ("Hospital Municipal Materno-infantil ramon Sarda")) OR ("Hospital Materno-infantil Ramón Sarda")	AF-ID ("Hospital Materno Infantil Ramon Sarda" 60062229) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Materno Infantil Ramon Sarda"
Hospital Universitario Mayor Méderi	Colombia	(((((((((("Hospital Universitario Mayor") OR ("Hospital Universitario Mayor Méderi")) OR ("Hospital Universitario Mayor-méderi")) OR ("Hospital Universitario Mayor Mederi")) OR ("Méderi Hospital Universitario Mayor")) OR ("Hospital Universitario Mayor-mederi")) OR ("Mederi - Hospital Universitario Mayor")) OR ("Hospital Universitario Mayor Méderi-universidad Del Rosario")) OR ("Mederi Hospital Universitario Mayor")) OR ("Hospital Universitario Mayor - Méderi")	AF-ID ("Hospital Universitario Mayor Méderi" 60190863) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Universitario Mayor Méderi"
Hospital Hernán Henríquez Aravena	Chile	(((((((((("Hospital Regional De Temuco") OR ("Hospital Regional De Temuco")) OR ("Hospital Dr. Hernán Henríquez Aravena")) OR ("Hospital Dr. Hernan Henriquez Aravena")) OR ("Hospital Dr. Hernan Henriquez Aravena")) OR ("Hospital Regional De Temuco and Universidad De La Frontera")) OR ("Hospital Hernan Henriquez Aravena")) OR ("Hospital Doctor Hernán Henríquez Aravena")) OR ("Hernán Henríquez Aravena Hospital")) OR ("Hospital Regional Dr. Hernán Henríquez Aravena")	AF-ID ("Hospital Hernán Henríquez Aravena" 60033029) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Hernán Henríquez Aravena"
Hospital Puerto Montt	Chile	(((((((((("Hospital De Puerto Montt") OR ("Hospital Puerto Montt")) OR ("Hospital Base Puerto Montt")) OR ("Hospital Regional De Puerto Montt")) OR ("Puerto Montt Hospital")) OR ("Hospital Puerto Montt Dr. Eduardo Schütz Schroeder")) OR ("Unidad Grd. Hospital Puerto Montt")) OR ("Subdirección Gestión Del Cuidado Hospital Puerto Montt")) OR ("Servicio De Obstetricia Y Ginecología. Hospital Puerto Montt")	AF-ID ("Hospital Puerto Montt" 60109634) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital De Puerto Montt"

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Hospital de Clínicas de Porto Alegre	Brazil	(((((("Hospital De Clínicas De Porto Alegre") OR ("Hospital De Clinicas De Porto Alegre")) OR ("Hospital De Clínicas De Porto Alegre (hcpa)")) OR ("Hcpa")) OR ("Hosp. De Clinicas De Porto Alegre"))	AF-ID ("Hospital de Clinicas de Porto Alegre" 60014120) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital De Clínicas De Porto Alegre"
Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán	Mexico	(((((((("Instituto Nacional De Ciencias Médicas Y Nutrición Salvador Zubirán") OR ("Instituto Nacional De La Nutrición Salvador Zubirán")) OR ("Instituto Nacional De Ciencias Médicas Y Nutrición")) OR ("Inst. Nac. La Nutr. Salvador Zubiran")) OR ("Instituto Nacional De Ciencias Medicas Y Nutricion Salvador Zubiran")) OR ("National Institute of Medical Sciences and Nutrition Salvador Zubirán")) OR ("Instituto Nacional De La Nutricion")) OR ("Instituto Nacional De La Nutrición")) OR ("Instituto Nacional De Ciencias Médicas Y Nutrición "salvador Zubirán"")) OR ("Incmnsz")	AF-ID ("Instituto Nacional de la Nutrición Salvador Zubiran" 60009149) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Ciencias Médicas Y Nutrición Salvador Zubirán"
Instituto Nacional de Cardiología Ignacio Chávez	Mexico	(((((((("Instituto Nacional De Cardiología Ignacio Chávez") OR ("Instituto Nacional De Cardiología")) OR ("Inst. Nac. Cardiol. Ignacio Chavez")) OR ("Instituto Nacional De Cardiologia")) OR ("Inst. Nac. Cardiol.")) OR ("Instituto Nacional De Cardiologia Ignacio Chavez")) OR ("Incich")) OR ("Instituto Nacional De Cardiología ignacio Chávez")) OR ("National Institute of Cardiology")) OR ("Instituto Nacional De Cardiología Ignacio Chávez (incich)")	AF-ID ("Instituto Nacional de Cardiologia Ignacio Chavez" 60010748) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Cardiología Ignacio Chávez"
Hospital Italiano de Buenos Aires	Argentina	(((((((("Hospital Italiano De Buenos Aires") OR ("Hospital Italiano")) OR ("Italian Hospital of Buenos Aires")) OR ("Italian Hospital")) OR ("Instituto Universitario Del Hospital Italiano De Buenos Aires")) OR ("Hospital Italiano De Córdoba")) OR ("Hosp. Italiano")) OR ("Instituto Universitario Hospital Italiano")) OR ("Hospital Italiano De La Plata")) OR ("Hospital Italiano Buenos Aires")	AF-ID ("Instituto Universitario del Hospital Italiano de Buenos Aires" 60008557) OR AF-ID ("Hospital Italiano de Buenos Aires - Instituto Universitario Escuela de Medicina" 60014341) AND (EXCLUDE (PUBYEAR, 2021))	Hospital Italiano De Buenos Aires

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Hospital de Clínicas José de San Martin	Argentina	(((("Hospital De Clínicas José De San Martín")) OR ("Hosp. De Clinicas Jose De S. Martin")) OR ("Hospital De Clinicas Jose De San Martin")) OR ("Hosp. De Clinicas Jose De San Martin")	AF-ID ("Hospital de Clinicas Jose de San Martin" 60009065) AND (EXCLUDE (PUBYEAR, 2021))	Hospital De Clínicas José De San Martín
Clínica Las Condes	Chile	((("Clínica Las Condes") OR ("Clinica Las Condes")) OR ("Las Condes Clinic")) OR ("Fetal Medicine Center")	AF-ID ("Clinica Las Condes" 60017912) OR AF-ID ("Latin American Collaborative Research Center" 60172558) AND (EXCLUDE (PUBYEAR, 2021))	((("Clínica Las Condes") OR ("Clinica Las Condes")) OR ("Las Condes Clinic")) OR ("Fetal Medicine Center")
Fundación Santa Fe de Bogotá	Colombia	(((((((("Fundación Santa Fe De Bogotá") OR ("Hospital Universitario Fundación Santa Fe De Bogotá")) OR ("Fundacion Santa Fe De Bogota")) OR ("Fundación Santa Fe De Bogotá University Hospital")) OR ("University Hospital Fundación Santa Fe De Bogotá")) OR ("Fundación Santa Fé De Bogotá")) OR ("Fundación Santa Fe De Bogota")) OR ("Fundacion Santa Fe De Bogotá")) OR ("Hospital Universitario De La Fundación Santa Fe De Bogotá")) OR ("Hospital Universitario Fundación Santa Fe De Bogotá And Universidad De Los Andes School Of Medicine")	AF-ID ("Fundacion Santa Fe de Bogota" 60070352) AND (EXCLUDE (PUBYEAR, 2021))	"Fundación Santa Fe De Bogotá"
Clínica Alemana de Santiago	Chile	(((((((("Clínica Alemana De Santiago") OR ("Clínica Alemana")) OR ("Clinica Alemana")) OR ("Clinica Alemana De Santiago")) OR ("Clínica Alemana De Temuco")) OR ("Clínica Alemana Santiago")) OR ("Clínica Alemana De Santiago De Chile")) OR ("Clínica Alemana Temuco")) OR ("Clinica Alemana Santiago")) OR ("Clínica Alemana De Valdivia")	AF-ID ("Clinica Alemana" 60000146) OR AF-ID ("Facultad de Medicina Clinica Alemana Universidad del Desarrollo" 60211751) AND (EXCLUDE (PUBYEAR, 2021))	"Clínica Alemana De Santiago"

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Fundación Valle del Lili	Colombia	(((((((("Fundación Valle Del Lili") OR ("Fundación Clínica Valle Del Lili")) OR ("Fundacion Valle Del Lili")) OR ("Fundación Valle De Lili")) OR ("Fundacion Clinica Valle Del Lili ")) OR ("Fundación Valle Del Lili and Universidad Icesi")) OR ("Clínica Fundación Valle Del Lili")) OR ("Fundación Valle De Lilí")) OR ("Hospital Universitario Fundación Valle Del Lili")) OR ("Fundación Valle Del Lili - Universidad Icesi")	AF-ID ("Fundación Valle del Lili" 60109272) AND (EXCLUDE (PUBYEAR, 2021))	"Fundación Valle Del Lili"
Hospital Universitario San Ignacio	Colombia	(((((((("Hospital Universitario San Ignacio") OR ("Hospital Universitario De San Ignacio")) OR ("San Ignacio University Hospital")) OR ("Hospital San Ignacio")) OR ("Pontificia Universidad Javeriana-hospital Universitario San Ignacio")) OR ("Hosp. Universitario De San Ignacio")) OR ("San Ignacio Hospital")) OR ("Hosp. Univ. San Ignacio")) OR ("Hospital Universitario San Ignacio (husi)")) OR ("Hospital Universitario San Ignacio Y Pontificia Universidad Javeriana")	AF-ID ("Hospital Universitario San Ignacio" 60040006) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Universitario San Ignacio"
Hospital Pablo Tobón Uribe	Colombia	((((((("Hospital Pablo Tobón Uribe") OR ("Hospital Pablo Tobon Uribe")) OR ("Pablo Tobón Uribe Hospital")) OR ("Hospital Pablo Tobon Uribe and Clinica Medellin")) OR ("Pablo Tobon Uribe Hospital")) OR ("Hosp. Pablo Tobon Uribe")) OR ("Universidad De Antioquia-hospital Pablo Tobón Uribe")) OR ("Grupo De Transplante De Intestino Delgado Hospital Pablo Tobón Uribe Medellín")) OR ("Hospital Pablo Tobón Uribe (hptu)")	AF-ID ("Hospital Pablo Tobon Uribe" 60058437) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Pablo Tobon Uribe"
Hospital de Câncer de Barretos	Brazil	(((((("Barretos Cancer Hospital") OR ("Hospital De Câncer De Barretos")) OR ("Hospital De Cancer De Barretos")) OR ("Hospital Do Câncer De Barretos")) OR ("Barretos Cancer Hospital - Pio Xii Foundation")) OR ("Hospital Do Cancer De Barretos")	AF-ID ("Hospital de Câncer de Barretos" 60084127) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital de Câncer de Barretos"
Hospital do Cancer A.C. Camargo	Brazil	((((((("Ac Camargo Cancer Center") OR ("A.c. Camargo Cancer Center")) OR ("A.c.camargo Cancer Center")) OR ("A. C. Camargo Cancer Center")) OR ("Hospital A.c. Camargo")) OR ("Hospital A. C. Camargo")) OR ("Hospital Ac Camargo")	AF-ID ("A.C.Camargo Cancer Center" 60020303) AND (EXCLUDE (PUBYEAR, 2021))	"Ac Camargo Cancer Center"
Research institutions in Mexico, IMSS and subordinate organizations				

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Comision Coordinadora de Institutos Nacionales de Salud y Hospitales de Alta Especialidad	Mexico	"Comision Coordinadora de Institutos Nacionales de Salud"	No está en scopus	"Comision Coordinadora de Institutos Nacionales de Salud"
Instituto Nacional de Salud Publica	Mexico	(((((((("Instituto Nacional De Salud Pública ") OR ("National Institute of Public Health")) OR ("Instituto Nacional De Salud Publica")) OR ("Inst. Nac. De Salud Pública")) OR ("Instituto Nacional De Salud Pública (insp)")) OR ("Insp")) OR ("National Institute of Public Health (insp)")) OR ("Centro De Investigación En Salud Poblacional")) OR ("Instituto Nacional De Salud Pública")) OR ("National Institute of Public Health of Mexico")	AF-ID ("Instituto Nacional de Salud Pública. México" 60022420) OR AF-ID ("Centro Regional de Investigación en Salud Pública" 60084241) OR AF-ID ("Instituto Nacional de Salud Pública. Tlalpan" 60121999) AND (EXCLUDE (PUBYEAR, 2021))	
Instituto Nacional de Salud Publica	Mexico	(((((("National Institute of Public Health of Mexico") OR ("Centro De Investigación En Salud Poblacional")) OR ("Instituto Nacional De Salud Pública de Mexico")) OR ("Instituto Nacional De Salud Pública de México")) OR ("Instituto Nacional De Salud Publica de Mexico")) OR ("Instituto Nacional De Salud Pública de México")	AF-ID ("Instituto Nacional de Salud Pública. México" 60022420) OR AF-ID ("Centro Regional de Investigación en Salud Pública" 60084241) OR AF-ID ("Instituto Nacional de Salud Pública. Tlalpan" 60121999) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Salud Pública de Mexico"
Hospital Luis Castelazo Ayala	Mexico	((((((("Hospital De Ginecobstetricia Luis Castelazo Ayala") OR ("Hospital Luis Castelazo Ayala")) OR ("Hospital De Ginecología Y Obstetricia Luis Castelazo Ayala")) OR ("Hospital De Gineco-obstetricia Luis Castelazo Ayala")) OR ("Hospital De Gineco Obstetricia Luis Castelazo Ayala")) OR ("Hospital De Ginecoobstetricia Luis Castelazo Ayala")) OR ("Hospital luis Castelazo Ayala")) OR ("Hospital De Ginecología Y Obstetricia luis Castelazo Ayala")	AF-ID ("Hospital Luis Castelazo Ayala" 60094730) AND (EXCLUDE (PUBYEAR, 2020))	"Hospital De Ginecología Y Obstetricia Luis Castelazo Ayala"

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Hospital General Centro Médico Nacional La Raza	Mexico	(((((((("Hospital General Centro Médico La Raza") OR ("Hosp. Gen. Cent. Med. La Raza")) OR ("Hospital General Centro Médico Nacional La Raza")) OR ("Hospital General Centro Medico La Raza")) OR ("Hosp. General Centro Medico La Raza")) OR ("Hosp. Gen. Ctr Medico Nac. 'la Raza'")) OR ("Hospital General Del Centro Médico Nacional La Raza")) OR ("Hospital General Cmn La Raza")) OR ("Hosp. Gen. Centro Medico 'la Raza'"))	AF-ID ("Hospital General Centro Médico Nacional La Raza" 60094737)	"Hospital General Centro Médico Nacional La Raza"
Hospital General Centro Médico Nacional La Raza	Mexico	(((((((("Hospital General Centro Médico La Raza") OR ("Hosp. Gen. Cent. Med. La Raza")) OR ("Hospital General Centro Médico Nacional La Raza")) OR ("Hospital General Centro Medico La Raza")) OR ("Hosp. General Centro Medico La Raza")) OR ("Hosp. Gen. Ctr Medico Nac. 'la Raza'")) OR ("Hospital General Del Centro Médico Nacional La Raza")) OR ("Hospital General Cmn La Raza")) OR ("Hosp. Gen. Centro Medico 'la Raza'")) ("Hospital De Especialidades Centro Médico La Raza")) OR ("Hospital De Especialidades Dr. Antonio Fraga Mouret")) OR ("Hospital De Especialidades Centro Médico Nacional La Raza"))	Aca realicé la busqueda adicionando los terminos identificados por el profesor Abraham, y busqueda muestra 223 articulos. Por favor validar esta informacion	"Hospital General Centro Médico Nacional La Raza"
Hospital de Especialidades del Centro Médico Nacional La Raza	Mexico	(((((((("Hospital De Especialidades Del Centro Médico Nacional La Raza")) OR ("Hospital De Especialidades Del Centro Médico La Raza")) OR ("Hospital De Especialidades Centro Médico Nacional La Raza")) OR ("Hospital De Especialidades Centro Médico La Raza")) OR ("Hospital De Especialidades Dr. Antonio Fraga Mouret Del Centro Médico Nacional La Raza")) OR ("Hospital Especialidades C.m. La Raza")) OR ("Hospital De Especialidades Del Centro Médico Nacional "la Raza"")) OR ("Hospital De Especialidades Del Centro Medico La Raza")	AF-ID ("Hospital de Especialidades del Centro Médico Nacional La Raza" 60094741) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital De Especialidades Del Centro Médico Nacional La Raza"
Instituto Nacional de Cancerologia, Mexico	Mexico	((("Instituto Nacional De Cancerología (incan)") OR ("Incan")) OR ("Instituto Nacional De Cancerologia de Mexico")) OR ("Mexico's National Cancer Institute")	AF-ID ("Instituto Nacional de Cancerologia México" 60019825) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Cancerología (incan)"

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Instituto Nacional de Neurologia y Neurocirugia Manuel Velasco Suarez	Mexico	(((((((("Instituto Nacional De Neurología Y Neurocirugía") OR ("National Institute of Neurology and Neurosurgery")) OR ("Instituto Nacional De Neurología Y Neurocirugía Manuel Velasco Suárez")) OR ("Inst. Nac. De Neurol. Y Neurocirugia")) OR ("Instituto Nacional De Neurologia Y Neurocirugia")) OR ("National Institute of Neurology and Neurosurgery of Mexico")) OR ("Instituto Nacional De Neurología Y Neurocirugía Mvs")) OR ("National Institute of Neurology and Neurosurgery of")) OR ("Instituto Nacional De Neurologia")) OR ("National Institute of Neurology and Neurosurgery Manuel Velasco Suárez")	AF-ID ("Instituto Nacional de Neurología y Neurocirugía" 60000029) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Neurología Y Neurocirugía"
Instituto Nacional de Enfermedades Respiratorias Ismael Cosio Villegas	Mexico	(((((((("Instituto Nacional De Enfermedades Respiratorias") OR ("Instituto Nacional De Enfermedades Respiratorias Ismael Cosío Villegas")) OR ("Inst. Nac. De Enferm. Respiratorias")) OR ("Iner")) OR ("National Institute of Respiratory Diseases")) OR ("Instituto Nacional De Enfermedades Respiratorias Ismael Cosio Villegas")) OR ("Instituto Nacional De Enfermedades Respiratorias ismael Cosío Villegas")) OR ("Instituto Nacional De Enfermedades Respiratorias (iner)")) OR ("National Institute Of Respiratory Diseases (iner)")) OR ("Instituto Nacional De Enfermedades Respiratorias Ismael Cosío Villegas (iner)")	AF-ID ("Instituto Nacional de Enfermedades Respiratorias" 60008205) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Enfermedades Respiratorias"
Instituto Nacional de Medicina Genomica	Mexico	((((("Instituto Nacional De Medicina Genómica") OR ("Instituto Nacional De Medicina Genómica (inmegen)")) OR ("National Institute of Genomic Medicine")) OR ("Instituto Nacional De Medicina Genomica")) OR ("Unam/instituto Nacional De Medicina Genómica (inmegen)")) OR ("Unam-instituto Nacional De Medicina Genómica")) OR ("Instituto Nacional De Medicina Genomica (inmegen)")	AF-ID ("Instituto Nacional de Medicina Genómica Mexico" 60095231) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Medicina Genómica" OR "Instituto Nacional De Medicina Genómica (inmegen)" OR "National Institute of Genomic Medicine" OR "Instituto Nacional De Medicina Genomica"
Hospital Infantil de Mexico Federico Gomez	Mexico	(((((((("Hospital Infantil De México Federico Gómez") OR ("Hospital Infantil De México")) OR ("Hospital Infantil De Mexico Federico Gomez")) OR ("Hospital Infantil De Mexico")) OR ("Hosp. Inf. De Mexico Federico Gomez")) OR ("Hosp. Inf. De Mex. Federico Gomez")) OR ("Hospital Infantil De")) OR ("Hosp. Infantil Mexico Federico Gomez")) OR ("Hospital Infantil De México federico Gómez")) OR ("Hospital Infantil De Mexico Federico Gómez")	AF-ID ("Hospital Infantil de Mexico Federico Gomez" 60000328) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Infantil De México Federico Gómez"

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Hospital Civil de Guadalajara	Mexico	(((((("Hospital Civil De Guadalajara Fray Antonio Alcalde") OR ("Hospital Civil De Guadalajara")) OR ("Hospital Civil De Guadalajara Dr. Juan I. Menchaca")) OR ("Hospital Civil Fray Antonio Alcalde")) OR ("Hospital Civil De Guadalajara dr. Juan I. Menchaca")) OR ("Hospital Civil De Guadalajara fray Antonio Alcalde")) OR ("Nuevo Hospital Civil De Guadalajara")) OR ("Civil Hospital of Guadalajara")	AF-ID ("Hospital Civil de Guadalajara" 60032700) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Civil De Guadalajara Fray Antonio Alcalde"
Instituto Nacional de Psiquiatria Ramon de la Fuente	Mexico	(((((((("Instituto Nacional De Psiquiatría Ramón De La Fuente Muñiz") OR ("Instituto Nacional De Psiquiatría Ramón De La Fuente")) OR ("National Institute of Psychiatry")) OR ("Inst. Mexicano De Psiquiatría")) OR ("Instituto Mexicano De Psiquiatria")) OR ("Instituto Nacional De Psiquiatría")) OR ("National Institute of Psychiatry Ramón De La Fuente Muñiz")) OR ("Instituto Mexicano De Psiquiatría")) OR ("National Institute of Psychiatry Ramón De La Fuente")) OR ("Inst. Nac. Psiq. Ramon De La Fuente")	AF-ID ("Instituto Nacional de Psiquiatría Ramon de la Fuente" 60001818) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Psiquiatría Ramón De La Fuente Muñiz"
Instituto Nacional de Perinatologia Isidro Espinosa de los Reyes	Mexico	(((((((("Instituto Nacional De Perinatología") OR ("Instituto Nacional De Perinatología Isidro Espinosa De Los Reyes")) OR ("Instituto Nacional De Perinatologia")) OR ("National Institute of Perinatology")) OR ("Inst. Nac. De Perinatología")) OR ("Instituto Nacional De Perinatologia Isidro Espinosa De Los Reyes")) OR ("Instituto Nacional De Perinatología isidro Espinosa De Los Reyes")) OR ("Instituto Nacional De Perinatología 'isidro Espinosa De Los Reyes'")) OR ("Institute Nacional De Perinatologia")) OR ("Instituto Nacional De Perinatología Isidro Espinoza De Los Reyes")	AF-ID ("Instituto Nacional de Perinatologia" 60033487) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional de Perinatologia"
UMAE Hospital de Especialidades Centro Medico Nacional Siglo XXI	Mexico	((("Umae Hospital De Especialidades")) OR ("Hospital De Especialidades Del Centro Médico Nacional Siglo Xxi"))	AF-ID ("UMAE Hospital de Especialidades Centro Medico Nacional Siglo XXI" 60019221) AND (EXCLUDE (PUBYEAR, 2021))	"Umae Hospital De Especialidades"

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
UMAE Hospital de Pediatría Centro Medico Nacional Siglo XXI	Mexico	((("Umae Hospital De Pediatría")) OR ("Umae Hospital De Pediatría Centro Médico Nacional Siglo Xxi"))	AF-ID ("UMAE Hospital de Pediatría Centro Medico Nacional Siglo XXI" 60022848) AND (EXCLUDE (PUBYEAR, 2021))	"Umae Hospital De Pediatría"
UMAE Hospital de Oncología Centro Medico Nacional Siglo XXI	Mexico	(("Mexican Oncology Hospital")) OR ("Umae Hospital De Oncología") OR ("UMAE Hospital de Oncología Centro Medico Nacional Siglo XXI")	AF-ID ("UMAE Hospital de Oncología Centro Medico Nacional Siglo XXI" 60008285) AND (EXCLUDE (PUBYEAR, 2021))	(("Mexican Oncology Hospital")) OR ("Umae Hospital De Oncología") OR ("UMAE Hospital de Oncología Centro Medico Nacional Siglo XXI")
UMAE Hospital de Cardiología Centro Medico Nacional Siglo XXI	Mexico	((((("Umae Hospital De Cardiología")) OR ("Hospital De Cardiología Del Centro Médico Nacional")) OR ("Umae Hospital De Cardiología Del Centro Médico Nacional")) OR ("Hospital De Cardiología Siglo Xxi")) OR ("Hospital De Cardiologia Luis Mendez")) OR ("Hospital De Cardiología Centro Médico Nacional Siglo Xxi")	AF-ID ("UMAE Hospital de Cardiología Centro Medico Nacional Siglo XXI" 60025537) AND (EXCLUDE (PUBYEAR, 2021))	"UMAE Hospital de Cardiología Centro Medico Nacional Siglo XXI"
Instituto Nacional de Rehabilitacion	Mexico	("Instituto Nacional De Rehabilitación luis Guillermo Ibarra Ibarra")) OR ("Instituto Nacional De Rehabilitación luis Guillermo Ibarra Ibarra")) OR ("Instituto Nacional De Rehabilitación luis Guillermo Ibarra Ibarra")) OR ("Instituto Nacional De Rehabilitación luis Guillermo Ibarra Ibarra")) OR ("Instituto Nacional De Rehabilitación Y Ortopedia"))	AF-ID ("Instituto Nacional de Rehabilitación" 60084250) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Rehabilitación luis Guillermo Ibarra Ibarra"
Hospital Universitario Dr. Jose Eleuterio Gonzalez	Mexico	(((((("Hospital Universitario Dr. José Eleuterio González")) OR ("Hospital Universitario Dr. José E. González")) OR ("Hospital Universitario dr. José Eleuterio González")) OR ("Hospital Universitario Dr José Eleuterio González"))	AF-ID ("Hospital Universitario Dr. Jose Eleuterio Gonzalez" 60018249) AND (EXCLUDE (PUBYEAR, 2021))	"Hospital Universitario Dr. José Eleuterio González"

Institution	Country	Search algorithm for PubMed	Search algorithm for Scopus	Search algorithm for ClinicalTrials.gov
Instituto Nacional de Pediatria	Mexico	((((("Instituto Nacional De Pediatría de Mexico") OR ("National Institute of Pediatrics of mexico")) OR ("Instituto Nacional De Pediatria de mexico")) OR ("Inst. Nacional De Pediatría de mexico")) OR ("Instituto Nacional De Pediatría de mexico(inp)")) OR ("National Institute of Paediatrics of mexico")) OR ("Instituto Nacional De Pediatría de mexico")) OR ("Instituto Nacional De Pediatría (inp) de mexico" AND (1967:2020[pdat])	AF-ID ("Instituto Nacional de Pediatría" 60004914) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Pediatría de Mexico") OR ("National Institute of Pediatrics of mexico")) OR ("Instituto Nacional De Pediatria de mexico")
Instituto Nacional de Geriatria	Mexico	(((((("Instituto Nacional De Geriatría de mexico") OR ("National Institute of Geriatrics of mexico")) OR ("Instituto De Geriatría de mexico")) OR ("Instituto Nacional De Geriatria de mexico")) OR ("Instituto Nacional De Geriatría (inger) de mexico")) OR ("Instituto De Geriatria de mexico")	AF-ID ("Instituto Nacional de Geriatría" 60108388) AND (EXCLUDE (PUBYEAR, 2021))	"Instituto Nacional De Geriatría de mexico") OR ("National Institute of Geriatrics of mexico")) OR ("Instituto De Geriatría de mexico")) OR ("Instituto Nacional De Geriatria de mexico")

Figure S1: Word cloud for the titles of the most cited articles found for the selected healthcare institutions.

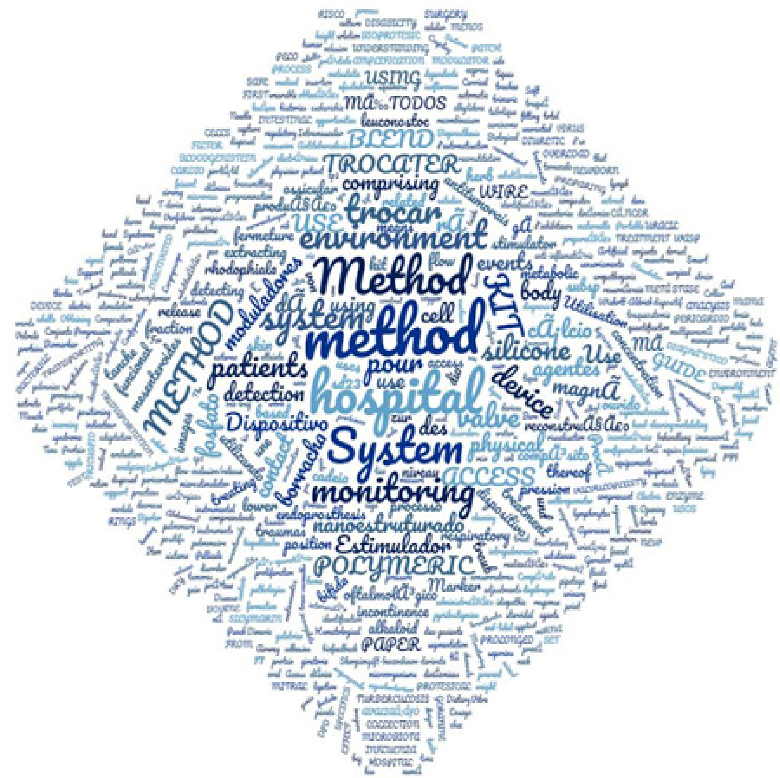

Figure S2: Word cloud for the titles of patents found for the selected healthcare institutions.