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Referral and Counter-Referral Patient Management Systems in Latin America: Care Coordination Mechanisms and the role of Family and Community Medicine

Os Sistemas de Referencia e Contra-Referência de pacientes na América Latina: Mecanismos de Coordenação Assistencial e papel da Medicina de Família e Comunidade

Los Sistemas de Referencia y Contrarreferencia de pacientes en América Latina: Mecanismos de Coordinación Asistencial y el rol de la Medicina Familiar y Comunitaria

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Abstract

The results of the Situational Analysis among their various levels of healthcare of 16 countries in Latin America related to their Referral and Counter-Referral Patient Management Systems are presented in this document. The research results were analyzed by WONCA Latin America country member representatives at the VI Ibero-American Family Medicine Summit in San Jose, Costa Rica in April 2016.

Keywords:
Primary/Secondary Integration
Health Systems
Primary Healthcare
Family Medicine

Resumo

São apresentados os resultados do diagnostico situacional de 16 países da América Latina em relação aos seus Sistemas de Referência e Contra-Referencia de pacientes entre os três níveis de atenção médica. Os resultados da pesquisa foram analisados por representantes dos países membros da WONCA Ibero-Americana CIMF no âmbito da VI Cúpula Ibero-Americana de Medicina Familiar em San Jose, Costa Rica em abril 2016.

Palavras-chave:
Integração Primária/Secundária
Sistemas de Saúde
Atenção Primária de saúde
Medicina de Família

Resumen

Se presentan los resultados del diagnóstico situacional de 16 países de América Latina, en cuanto a sus Sistemas de Referencia y Contrarreferencia de pacientes entre los tres niveles de atención médica. Los resultados de la investigación fueron analizados por representantes de los países miembros de WONCA Iberoamérica CIMF, en el marco de la VI Cumbre Iberoamericana de Medicina Familiar en San José de Costa Rica en abril de 2016.

Palabras clave:
Integración
Primaria/Secundaria
Sistemas de Salud
Atención Primaria de salud
Medicina Familiar

Introduction

According to the World Health Organization (WHO), governments around the world have the responsibility to ensure that, their health systems meet the needs of its population effectively and efficiently, basing their models Health in Primary Care (PHC). Based on this premise, the Member States was committed in 2005 to develop their health financing systems so that all people have access to services and not suffer financial hardship to pay for them, this objective is defined as "Universal coverage".[1]

Mrs. Margaret Chan, Director of WHO mentioned "between 20% and 40% of health spending is wasted by inefficient health systems". The lack of planning in the services provision, resources duplication, registration and information inefficient systems, as well as the lack of properly trained and qualified human resources lead to the networks ineffectiveness to provide services. Therefore generating serious problems of access and coverage inequality resulting in the death of many people each year.[1]

WHO suggests that a healthcare system "consists of a set of organizations, people and actions whose purpose is to promote, restore or maintain health".[2-4]

In 2011, during the 64th World Health Assembly of WHO the final agreement regarding the Integrated Services Delivery Model, was worded as follows:

> *"The healthcare organization is evolving into a sort of "Integrated Services Delivery networks". Through adapting the acquired experience in the development of district health systems to a pluralistic healthcare system. The actual integrated services delivery networks are organized as primary care providers who are either close to the customer - public, private or mixed, and backed by hospitals and specialized services. These networks are responsible for the health of a defined population, offering services of health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation and palliative care...".*[1,5]

In this regard, WHO, mentioned in the document "Renewing Primary Health Care in the Americas" 2007:

> *"Primary care services should be supported and complemented by different levels of specialized care, both ambulatory and hospital ambiance, as well as the rest of the network of social protection. For this reason,*

Healthcare Systems should work seamlessly for the development of mechanisms that will allow coordination of care across the entire services spectrum, including the referral and counter-referral patients network development...".[6]

In many countries of the world, their health systems have been organized under the strategy of levels or staggering of medical care. A keystone of these systems are the operational units identified as of the first level (Clinics, Family Medicine or Family Health Units, Basic Health Centers, etc.), which provide specific outpatient care and solves between the 80-85% of most common health problems with only using low complexity technology support.[7-16]

The second level of care, with medium complexity technology resources, involves General hospitals, Specialty Clinics and the so called Polyclinics, and is responsible for solving the 10-15% of health problems referred by the primary care or those consulted spontaneously through the emergency departments.[14-16]

The third level of care is handled through "The National Institutes of Health and Medical Specialty Centers which are designed to meet 5% of the health problems that require highly complex technology resources and the highest levels of medical savvy...".[14-16]

The integration between the various levels of medical care, working as a coordinated network of health services, promotes the continuity and integrity in the service delivery; this translates in most countries as the Referral and Counter-Referral Patient Management System (R&CRPMS).[17]

The Referral and Counter-Referral Patient Management System (R&CRPMS) is defined as the coordination process between the operational units of the three levels of medical care. The basic purpose is to facilitate sending and receiving patients, in order to provide timely, comprehensive medical care and quality which goes beyond the limits of regional and institutional levels for the benefit of the patient.[7,8,11-14]

From a general perspective, R&CRPMS is organized according to the needs of each country in two forms: geographically or institutionally oriented, although there may be a mixture of both. It is also known that there are different levels of organizational structure, ranging from the national or federal level; state and local (county, municipal or city hall). System effectiveness and efficiency, mainly in the execution of processes of counter-referral varies.[7,8,11,12,17-20]

Objective

Through a Situational Diagnosis, determine the Referral and Counter-Referral Patient Management System (R&CRPMS) status in the health systems of the countries of Latin America in order to identify strategies linked to the practice of Family Medicine in the countries of the region that can be strengthen.

Methods and Material

This paper is the result of a transversal, exploratory situational diagnosis study, performed between October of 2015 and March of 2016. An official invitation was issued to the 20 WONCA Ibero-American Presidents of Family Medicine country associations, so they could appoint one or two expert delegates per country for this purpose.

Among its participants, academics, researchers, clinicians and national scientific society boards' members were included. They main task was to answer a 33 items questionnaire related to the Referral and Counter-Referral Patient Management System (R&CRPMS) in their respective countries.

The questionnaire's content was originally reviewed and validated by teachers and professors from different educational institutions of Mexico and Costa Rica, and in a second stage by the group of study participants.

The evaluation tool was sent by email to each of the participants, and their answers identified per country. The final answers joint report was sent for review of its contents and approval to all the participants. Further analysis and discussion of this material was done at the working sessions of the VI Ibero-American Family Medicine Summit in San Jose, Costa Rica in April 2016.

Results

Sixteen out of the 20 invited countries did answer the questionnaire, so this report integrates the answers from: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, El Salvador, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Dominican Republic and Venezuela. The countries that did not provide answers were Ecuador, Spain, Portugal and Uruguay.

We will describe the results:

Health Models that have Family Medicine Specialists

All of the countries that answered mentioned that they consider the Family Medicine Specialist as part of their Healthcare Model. In some countries with a greater degree of consolidation to this role as in Cuba, Brazil and Mexico, while in others as Panama, Peru, Paraguay, Costa Rica, Dominican Republic and Colombia a considerable progress has been made in light of new reforms to the Health Systems so the Family Medicine Model and Family Healthcare become keystones of their systems.

Levels of care in the Latin American countries

Of the surveyed 16 countries, one hundred percent reported having three levels of care. Each one classified accordingly to a complexity degree, where the first level of care corresponds to a set of activities with less infrastructure and the largest coverage as a generalist service provider. In the case of Colombia the system also describes three levels of care, however, in the healthcare environment, "a fourth level" is mentioned, which actually corresponds to the third level of care in the rest of the countries.

Family Medicine Specialists' role in the medical care levels

The Family Medicine Specialists are mainly assigned to the Primary Care Level in all the evaluated countries. Cuba, Brazil, Panama and Venezuela considered an almost exclusive clinical and administrative participation in primary care. The other 11 countries such as Argentina, Bolivia (National Health Fund), Chile, Colombia, El Salvador, Mexico, Nicaragua, Paraguay, Peru and the Dominican Republic, also reported a predominance of the Family Medicine Specialist into Primary Care in their care assignment. However, they in these countries they can also be located on the Second Level of Healthcare, involved in hospital emergency care, chronic degenerative diseases, palliative care efforts and administrative functions. Only in the cases of Costa Rica and Puerto Rico, it was stated that administrative tasks and medical management was referred as the main work environment for them (Table 1).

Table 1. Location of family physicians based on their roles in the levels of care

1st Level (Medical Care and Administrative Tasks)*	Cuba, Brazil, Panama, Venezuela
1st and 2nd Level (Medical, Administrative Tasks, Emergency Room Duties)*	Argentina, Bolivia, Chile, Colombia, El Salvador, Mexico, Nicaragua, Paraguay, Peru, Dominican Republic.
1st, 2nd y 3rd Level (Administrative and Managerial Tasks)*	Costa Rica and Puerto Rico
Teaching/Educational	All of them (except Nicaragua)
Research*	None

*As main activity.

Referral and Counter-Referral Patient Management System (R&CRPMS) existence

All of the evaluated countries do have a Referral and Counter-Referral Patient Management System (R&CRPMS). Thirteen of them in a national level well defined way. Four names were the most commonly way to address them mainly due to local spelling variations: Sistema de Referencia y Contrarreferencia de pacientes (Bolivia, El Salvador and Puerto Rico), Sistema de Referencia y Contrarreferencia de pacientes (Colombia, Cuba, Mexico, Peru And Dominican Republic), Sistema de Referencia y Contra-referencia de pacientes (Brazil, Chile, Paraguay and Venezuela); in Panama There is a small variation in the wording including "Unique"; so it is known as Sistema Único de Referencia y Contrarreferencia (SURCO). In spite of the modalities, they are all indicative of a system for patient referral in their healthcare environments. Argentina, Colombia and Peru do not have a consolidated national referral system; rather they work at an institutional level. In the same token, neither Costa Rica, Argentina or El Salvador have a precise legal framework, however, their Healthcare Ministries are working in the creation of integrated networks of services that will allow controlled flow of patients through the different levels of care.

The Role of the Family Physician as "gateway" to the health system of each country

Nine of the 16 surveyed countries indicated the mandatory pre-review by a Family Physician or a General Practitioner prior to other specialists access and further hospital services. Access to specialized medical services without involving the Family Doctor or General Practitioner is acceptable in Argentina, Colombia, El Salvador, Nicaragua, Peru, Paraguay and Venezuela (Table 2).

Table 2. The Family Physician as a gateway to the health system

1st Level Mandatory Clinical Review	Bolivia, Brazil, Chile, Costa Rica, Cuba, Mexico, Panama, Puerto Rico and Dominican Republic
They can Access further Specialty levels	Argentina, Colombia, El Salvador, Nicaragua, Peru, Paraguay and Venezuela

Regionalization and patients' office assignment for the Family Medicine Specialists and the General Practitioners

About regionalization and patient population assignment per each Family Doctor or General Practitioner, we found that in 11 of the 16 questioned countries there is a reported associated geographical distribution of the office attached population (Bolivia, Brazil, Chile, Costa Rica, Cuba, El Salvador, Mexico, Paraguay, Puerto Rico, Dominican Republic and Venezuela). The shared indexes included variations ranging from 1,500 patients in Cuba; 2500 in Mexico and the Dominican Republic and more than 10,000 patients in the case of Bolivia in different health institutions. This data is not available in the case of Argentina, Colombia, Nicaragua, Panama and Peru, as it has not been possible to carry out this regionalization process, or it has only been partially accomplished.

R&CRPMS at the inter-institutional level

In three of the 16 researched countries the actual inter referral of patients cannot be done (Bolivia, El Salvador and Dominican Republic). In the remaining 13, it may be performed under different referral mechanisms such as administrative cooperation agreements or subrogated payments for rendered services (Table 3).

Table 3. Overview of the Referral and Counter-Referral Patient Management System (R&CRPMS) in Latin America

Country	Levels of Medical Health Care in LA	Fam Med location in the Health Care Levels	Teaching	R&CRPMS	Legal Frame	FAM as gateway for other Health Care Services	Assigned Patient Population per Office	Inter-Institutional R&CRPMS	Electronic Record Availability
Argentina	3	1st & 2nd	Yes	Not in all the country	No	No		SI	No
Bolivia	3	1st & 2nd	Yes	Yes	Yes	Yes	5000	No	No
Brazil	3	1st	Yes	Yes	Yes	Yes		Yes	Certain Areas Only
Chile	3	1st & 2nd	Yes	Yes	Yes	Yes		Yes	Yes
Colombia	3	1st & 2nd	Yes	Yes	Yes	No		Yes	Certain Areas Only
Costa Rica	3	1st, 2nd & 3rd	Yes	Yes	Yes	Yes		Yes	Certain Areas Only
Cuba	3	1st	Yes	Yes	Yes	Yes	1500	Yes	No
El Salvador	3	1st & 2nd	Yes	Yes	No	No		No	No
Mexico	3	1st & 2nd	Yes	Yes	Yes	Yes	2500	Yes	Yes
Nicaragua	3	1st & 2nd	Yes	Yes	Yes	No		Yes	No
Panama	3	1st	No	Yes	Yes	Yes		Yes	Yes
Paraguay	3	1st & 2nd	Yes	Yes	Yes	No		Yes	No
Peru	3	1st & 2nd	Yes	Yes	Yes	No		Yes	No
Puerto Rico	3	1st, 2nd & 3rd	Yes	Yes	Yes	Yes		Yes	Yes
Dominican Republic	3	1st & 2nd	Yes	Yes	Yes	Yes	2500	No	Certain Areas Only
Venezuela	3	1st	Yes	Yes	Yes	No		Yes	No

In 15 of the 16 countries (except Colombia), the processes are very similar. There is a basic need to send a patient from the primary care level to a given hospital, either for further medical care or for studies with equipment that does not exists at the initial level of care. Most of the countries (except Venezuela and El Salvador) agreed that must they fill a Referral form (either in a printed or an electronic version), stating the patient data, specialty interconsultation request and referral justification. In Paraguay, the applicant physician, through a telephone conference to the referral hospital physician, presents the patient. Mexico's delegates indicated that it is mandatory to comply with all the diagnostic protocols in each specialty (lab tests and Xrays). In their case the referrals must be authorized by the Leader of the Consultation Section that is sending the patient Senior Consultant.

Who is responsable for the patient referral?

In all the 16 countries, the responsible referral professional is the General Practitioner, or a Family Medicine Specialist. Although, it is important to mention that in Bolivia, Chile, Cuba, Mexico, Paraguay, Puerto Rico, Dominican Republic and in some regions of Brazil, there are other professionals responsible for validating and authorizing the request for the patient referral to a second level of care.

Referral and Counter-Referral Patient Management System (R&CRPMS) control mechanisms in the health care units

In only four of the 16 surveyed countries, a set and well-defined group of control measures between the hospital received referral patients and the primary office patients or home unit counter-referrals were observed. From a general overview, the structured control mechanisms from Chile, Cuba, Mexico and Panama are summarized below:

Chile: all referral processes must be entered to the SIDRA platform; which involves patient transcript data electronic recording. This system allows a monitoring process of referral and counter-referral between the 2nd and 3rd level of care, allowing to identify waiting and allocation of hours on behalf of the patients care. In addition, integration meetings between PHC managers, secondary care managerial staff, and Quality referral analysts are done.

Cuba: there are two instances, the first one is through the Assessment Committee for Quality in Hospitals and PHC and the second one is through Integration Meetings in which PHC managers joint the secondary care staff and the referral and counter-referral process is analyzed.

Mexico: In each of the different health institutions, Referral and Counter-referral control areas had been set. The do monitor patient registrations at their arrival to the hospital and departure to their base clinic of Family Medicine as counter-referral. They verify the correct filling of the registration forms and the reception of the prescribed pharmaceutical treatments. In addition, the grading of the quality indicators in the referral and counter-referral processes are of importance to achieve the certification of the medical care units in each of their healthcare levels.

Panama: The referral transfer made by Family Medicine Specialist or an Internal Medicine deputy must be confirmed and accepted in the hospital through the Department of Medical Records and Health Statistics.

Management of electronic medical record in the first level healthcare units

Of the reviewed 16 countries, a group of seven (Argentina, Bolivia, Cuba, El Salvador, Nicaragua, Paraguay and Venezuela) reported not to have this tool in their first level of care. Different degrees of progress in the widespread use of this instrument was reported by the other nine countries. The most consolidated ones seem Chile, Mexico, Panama and Puerto Rico. Brazil, Peru, Colombia, Dominican Republic and Costa Rica have it available in certain regions of their countries.

Electronic management systems for patient referral and counter-referral in Latin America

Electronic institutional managerial systems for patient referral (i.e. medical appointment control) and subsequently counter-referral are currently being developed. According to our survey, none of the countries has set it as a standard practice. Only five countries recognized a partial level of usage: Chile works through its Information System for Assistance Network (SIDRA), Panama efforts are done through their Social Security Fund (CSS) and some health centers in the capital city organized by their Health Ministry. Only the Mexican Social Security Institute (IMSS) uses it in Mexico and Peru's response in this matter is dealt through the Social Health Insurance (EsSalud).

Use of diagnostic protocols or clinical practice guidelines for patient referral

Ten out of the sixteen countries reported having diagnostic protocols or clinical practice guidelines: Bolivia, Chile, Cuba, Colombia, Costa Rica, El Salvador, Mexico, Nicaragua, Panama and the Dominican Republic.

R&CRPMS effectiveness: defined as counter-referred percentage of patients in relation to the referral numbers

Most countries do not have accurate data precise on the detailed percentage of counter-referred patient numbers. Still, it is noticeable that countries who have control mechanisms report the highest general percentages between the referred patients and those who returned to their clinics; as we could analyze in the case of Chile, Cuba and Mexico.

R&CRPMS Monitoring Committees in the medical units

We found that 10 countries have R&CRPMS Monitoring Committees in various health institutions. Cuba, Mexico, Puerto Rico and Peru have them on a national widespread scheme. Other countries such as Bolivia, Brazil, Colombia, Costa Rica, Nicaragua and Panama have them on an irregular pattern.

First Healthcare Level Physicians shared profile among the countries in the region

In countries like Cuba, Chile, Mexico and Paraguay, most of the primary care units of are served by General Practitioners and Family Medicine doctors. In countries such as Brazil and Peru, the makeup of the group depends on the geographical region. In the other countries as is the case of Argentina, Bolivia, El Salvador, Costa Rica, Nicaragua, Panama, Puerto Rico, Dominican Republic and Venezuela; we can find the presence of even other specialties as Pediatricians, Obstetricians-Gynecologists, Internists or Psychiatrists, Ophthalmologists and Dermatologists, etc. In the case of Colombia Family Physicians are not found on the first level of care, they can be located from the second level also collaborating with other medical specialists.

Accreditation processes of the quality of medical units and R&CRPMS

Only five of the researched countries included benchmark measurement and counter-referral in the accreditation processes of their healthcare units (Chile, Colombia, Cuba, Mexico and Peru.

Home care programs by the Family Physician and/or Family Health team

It is gratifying that in spite of the mentioned difficulties, in 15 of the 16 countries different types of home healthcare are developed. In most cases provided by the Family Doctor or even by the General Practitioner, and in other circumstances by different actors of the basic family health team. In this regard, the country with no home care is Nicaragua.

Discussion and Conclusions

This research allowed us to confirm that the figure of the Family Medicine Specialist is present in the 16 countries surveyed and in the 3 levels of healthcare. They perform a variety of functions, primarily aimed at the clinical and administrative areas, less frequently in educational activities and research.

R&CRPMS is available and functional in 16 countries. Its greatest efficiency is the patient referral from first to second and from second to third level of care. However, the greatest difficulties are observed in the counter-referral, which limits the feedback for primary care physicians, and even those in the second level.

It is worrisome that some countries have incongruent health models, which do not follow any political discourse or own government promoted reforms. Even in the type and number of Family Medicine specialized professionals in Primary Care, do not comply with the international agencies recommendations.[1,5,6]

As mentioned at the beginning, the quality evaluating processes of the health care units, include among its indicators R&CRPMS effectiveness and efficiency indexes. However, in recent years global health forums has promoted the Certification Quality Accreditation of health facilities to improve medical practice.[1,2]

Latin American countries have made progress in their gradual implementation incorporating into their systems the quality assessment of medical practice, the monitoring committees formation; the diagnostic and treatment protocols creation; feedback meetings between the different levels of care; etc.

Countries with higher R&CRPMS effectiveness and efficiency indexes, are those who have achieved more consolidation in their accreditation processes of the quality of health services.

Finally, the working group recommends the following strategies for strengthening R&CRPMS in the region:

- Increase and improve the quality of training programs for specialists in Family Medicine.
- Ensure the presence of Family Medicine Specialists working in the primary care level, in the clinical area, management, teaching and research, which will increase the capacity response of the medical units.
- Establishing certification and recertification of the Quality of medical units at all three levels of care, incorporating indicators of effectiveness and efficiency of R&CRPMS.
- Implement single electronic record systems, allowing data portability and sharing in different health institutions and linked to R&CRPMS in the three levels of care.

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