

Barretos' county matrix support in public health - deployment and initial results

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Abstract

Aims: Brazil offers universal, integral and free healthcare to all its citizens through its Unified Health System (SUS). Within Brazil, the state of São Paulo has the most complex health network and comes closest to offering the comprehensive healthcare as per the guidelines of SUS. However, constraints to the system include a lack of integration and coordination between the basic healthcare network and specialty outpatient clinics, which hampers both proper access to specialties as well the return to basic care. This inefficiency feeds a pernicious cycle leading to waiting times for specialty care in excess of two years.

Methods: In this article we describe the step-by-step implementation of an institutional and matrix support system between specialties and primary care in the county of Barretos, São Paulo, Brazil.

Results: The initial results of this coordination and integration demonstrate the feasibility and excellent results such as the reduction in the need for referral to specialty clinics of up to 87%.

Conclusion: Matrix support improved significantly the medical care and potentially can reduce costs as well.

Abbreviations: Sistema Único de Saúde - SUS: Brazilian Unified Health System; SP: State of São Paulo; AMEs: Medical Ambulatory of Specialties; DRS-V: Regional Department of Health V; CROSS: Central Health Services Deals Regulation; RIC: Regional Interagency Colleges

Background

Data from the Brazilian Ministry of Health, indicate that the free primary medical care of public health service, is responsible for 75% of medical attention, serving more than 190 million people in the Brazilian Unified Health System (Sistema Único de Saúde - SUS) [1]. The State of São Paulo (SP) has the most complex health network in the country, which is closest to the guidelines of the SUS to offer comprehensive health care [2]. However, constraints still persist in the system. A portion of patients who need diagnostic procedures or specialized evaluations find difficulties in obtaining them in an adequate time [2-5]. Factors that contribute to the inadequate functioning of the system include the weak suppleness of Basic Care, which forwards for specialized clinics cases precipitately, without proper exploration, and the lack of integration / coordination between the basic network and the specialty outpatient clinics [2]. The lack of integration among the different levels of medical attention makes it difficult both to properly access the specialties and the return of the patients to the basic care. This represents an inefficient and pernicious cycle: basic

care refers inopportunistly the cases, patients do not return to the basic care attention, the unnecessary full schedule in medical specialties, lack of vacancies for new cases in the specialties, and an increased waiting queue. Not surprisingly, many countries consider secondary care represents an avoidable high costs for Public Health authorities, prejudicing the patients that overcharge the medical schedules. It is currently assumed that many of the secondary attentions provided could have been resolved in primary care optimizing the medical attention and reducing costs [6-10]. In the State of São Paulo, in order to address adequately some of these problems, it was implemented in 2007 the Medical Ambulatory of Specialties (AMEs).

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There are some remarkable cornerstones that guide and visibly distinguish them from the traditional outpatient clinics [4]:

i) the patients attended are obligatorily referred from the basic municipal health network of their area of coverage (spontaneous consultation demands are not met), which allows meeting the local needs and is essential to enable the subsequent counter-referrals; ii) the queries are necessarily pre-scheduled; iii) the profile of AME capacity and medical specialties care are defined by an agreement between the Municipal Health Secretariats (Collegiate of Municipalities associated to each AME), the hospitals of the region (for patient's necessities transfers between the AME's and these units, when necessary) and the Regional Department (which coordinates all technical process of defining these profiles and their subsequent adjustments); iv) the return or referral of the cases to the appropriate follow-up sites, in the basic network or in the high-complexity network, respectively; consequently, the AMEs have available places and technical resources to receive new cases. Barretos is a city in the interior of São Paulo, with a population estimated for the year 2018, of 121,3443. The municipality is integrated into the SUS. It is the headquarters of the Regional Department of Health V (DRS-V) of the State Department of Health, São Paulo (SP), which coordinates the health actions of 18 municipalities. In Barretos, after implantation of the AME's (one surgical AME in 2010, and another clinician AME in 2011), the number of referrals increased progressively. Partly, because of the high excellence pattern of the medical activities, satisfaction of users and credibility achieved by the Barretos AME's units [4]. Despite the principles that characterize AME's, their effective implementation remains difficult. For example, in the year 2015, there were 1807 patients waiting for the first consultation in Endocrinology, with a waiting time of 24 months. In some specialties, the waiting time for the first visit exceeded 1 year and in extreme cases, more than 2 years. Despite the good performance and results of the AME's, factors that contribute to the inadequate functioning of the system, as stated previously, remained. The AME's, per se, were not enough to support the atavistic and the emerging medical necessities. In this context, the proposal of matrix-support and reference team was evaluated to help solve the problems. Matrix-support is a proposed resource for organizing health work in Primary Care, contributing to the regulation of care networks by limiting the fragmentation of health care, consolidating clinical accountability and valuing interdisciplinary care [5]. It has been frequently emphasized the critical importance of integration of these actions, and that to achieve these goals the system should to sharing knowledge and responsibility for care, offering reciprocal support between primary, secondary and tertiary levels of health care [11-13]. Herein we report the implantation of the Matrix-support between the AME's of Barretos and the municipalities of its area with the objective of strengthening the Basic Attention and to improve the efficiency of AME's of Barretos and the Secondary Attention. Preliminary results, initially administrative, are also presented.

Methods

In 2014, the project started with meetings between professionals from AME-Barretos, DRSV and Regional Interagency Colleges (RIC) to carry out integration between primary and secondary care. The flowchart of the initial proposal of the maturation project between the DRS-V, the municipalities and AME-Barretos is presented in Annex 1. After reaching an agreement, visits were initiated in all 18 municipalities that comprise DRS-V, and their respective health units, to identify the representativeness of the needs of professionals, their expectations for improvement, reports of successful experiences. To accurately evaluate the realistic necessities, the employees of the health

units answered a questionnaire that had questions evaluating the degree of satisfaction regarding the physical structure, workflow of the health network and the care service. The questionnaire used is presented in Annex 2. These visits also counted on the participation of different representatives of the local management such as mayors, deputy mayors and secretaries of health. Additionally, there was also contact with the users of these services, randomly approached, in the waiting rooms while awaiting the consultations in their respective health units. The result of this survey was presented to the RIC committee and effectively started the execution phase. The implementation of the project, of voluntarily adherence characteristic, considered the demands of municipal regulatory centers, based on the number of patients that were being referred to specialists (AME's). Based on the needs identified and requested by the local teams and users of the Units, the joint work plan (defining the priorities) was drawn up. The pilot project began with three municipalities that first promptly demonstrated interest to participate; later, other municipalities were included. Progressively, were met with official requests from municipalities authorities, the training and management support of multidisciplinary teams, interface relationship with the Primary Care Units and AME's, and also defining the protocols of referrals and counter references. The initial difficulties of medical doctors' interest on the project development and support were noted. This occurred possibly due to fear of potential emerging criticism, insecurity or even due to turnover of doctors in public service. Thus, to overpass this preliminary limitation we planned and executed to activities for the professional teams with the following tasks: (i) Nursing staff training in the care of chronic wounds; (ii) The reception staff were trained in reception and humanization practices; (iii) Pharmacists were invited to trained as well, emphasizing their importance in guiding users regarding the correct use of medications; (iv) Trainings were proposed and directed to drivers for safe transportation and they also received guidance to improve ergonomics; (V) Technicians responsible for the regulation centers were trained on the CROSS (Central Health Services Deals Regulation) system, essential for reference and counter flow between the different levels of care health; (vi) Due to the importance of community health agents in the relationship with the territorial community of the FHT, it was crucial to empower them in their role; (vii) The team responsible for the hygienic procedures was guided on the best practices in cleaning materials, use of adequate products and conservation of materials on adequate environment; (Viii) From these successful experiences with the multidisciplinary teams was possible, as described below, collaborative work with doctors aiming clinical update on the most prevalent pathologies. Outcome verification: After one year of the project's beginning, a round-table meeting in the AME with the participation of health managers, primary care coordinators, nurses and care physicians from 4 municipalities, together with the managers of the AME and Matrix-support team, evaluated the progress of the project. It was discussed difficulties, strengths, successful experiences and suggestions to develop an effective work. Matrix-support was unanimously, and regionally, recognized as a relevant way to improve the relations of the various local health structures. A formal communication channel was created with email address and telephone number to discuss technical issues, discuss cases and strengthen priority classifications according to protocols. Additional partnerships and Dissemination of Matrix-support activities: In order to advance more comprehensively in the integration among all levels of medical attention, the first great partnership of the Matrix-support in the area of endocrinology was realized. It had been found that 85% of referrals to the specialist involved patients with diabetes mellitus and thyroid disease. The focus of this approach was, therefore, the treatment of these

pathologies, with emphasis in the guidelines of the SUS with its lines of care and medications available in the health network. After considered all territorial particularities, type of assistance need, and the volume of demand, associating also the updating of local professionals' skills and having informed the population about the function of the Basic Units of Health and the AME, a form of intervention was named as the "D-Day". Partnerships with two university institutions (University of Barretos - UNIFEB - Department of Pharmacy, and Department of Nutrition, Faculty of Medicine of Barretos - FACISB) participate actively in the realization of this step of the project. Professionals and students of these institutions constructed questionnaires and leaflets of nutritional guidelines as well as correct use of medications for their different administration routes. Patients and institutions involved Initially, it was decided to work with municipalities that presented 100% coverage of Family Health Strategies (FHS). The patients' referrals were redistributed by the local regulators to the corresponding FHS. Patients were invited to update the protocol tests according to their medical history and, from there, the real demand was evaluated, discarding those with duplicate referrals, those already deceased and those who had already been evaluated by a medical specialist. The patients invited, now with the updated exams, were examined in the same municipality where they received educational lectures in the waiting room. They had a preconsultation with pharmacists from the AME and the municipality and, in addition they received by the pharmacy staff information on the posology and storage of medicines. They also received a pre-consultation with the nutrition team involving students and teachers from the partners' institutions, together with the nutritionists of the municipality itself, evaluating the food realism of each patient. The nursing staff performed tests of the feet sensitivity with the help of medical students and did visual acuity assessment with the support of the AME ophthalmologist in order to diagnose possible complications of diabetes mellitus or other chronic diseases. On the same day, each patient was evaluated by the medical doctor of the municipalities with the collaboration of the endocrinologist of the AME. Once the procedures were defined, the patients went through post-consultation, with the pharmacist guiding the correct use of medications and the nutritionist guiding the best diet for each case. This event was also named the "Day D". With Day D, it was possible to identify patients who would need referrals to the AME specialist, while the others were already leaving with scheduled returns for reevaluations in their reference FHSs.

Results

The answers to the questionnaires, initially distributed to professionals and users, were analyzed. It was verified that the main needs were: (i) access to knowledge, updates in diagnosis and treatment of the main pathologies attended; (ii) support the internal management of the health unit and the municipal and regional networks; (iii) improve the communication between services and between professionals. Among the users, the main complaints were: (i) delay in access to care in both primary and specialty cares; (ii) quality of care and (iii) deficiency of care within the health unit. Based on the problems raised by the municipalities, personalized guidelines, workplace courses, lectures and training were created at AME-Barretos and there was also a monitoring of actions implemented through visits where complex cases were also discussed on a fortnightly basis. It was observed that the majority of referrals were for endocrinology and cardiology, specialties in which the resolution of primary care should be higher, since there are guidelines from the lines of care very well established by the Brazilian Ministry of Health. However, this did

not happen. The work with nursing was the first great success of the Matrix-support project. There were a large number of patients being treated at an AME outpatient clinic, which had a team with a nurse and a vascular surgeon involved. The nurses of the basic care of the municipalities of the region were invited to be trained to follow up with the patients' bandages at the local health unit. Work was also carried out with the managers to ensure that the material and medicines used in the AME were continued in the all municipalities involved. Thus, over time, the demand for the wound clinic in the AME, for example, was significantly reduced until the end of 2017. The nurses were also trained to perform preendoscopy and colonoscopy consultation in the municipality itself. Thus, patients began to come only for the exams, properly prepared, reducing the wear of two trips and reducing the cost to the health secretariats. Regarding Day D for endocrinology, of the 412 patients referred to the specialty, from the four initial municipalities, 351 were invited for consultations. This discrepancy is due to duplicity of referrals, death of some patients and insertion of some in other services; 323 attended the consultations, and after the multidisciplinary evaluation at day D, remained with the indication of referral to the specialty in the AME - Barretos; corresponding to 13.0% of the number of original referrals. The actions reduced substantially the demand for referrals to the secondary level of health, besides qualifying assistance provided to the population of the FHS. Table 1 shows the number of referrals for specialties in the AME - Barretos in the year 2015. In the area of endocrinology, in Table 2 for the year 2019, a reduction in the number of referrals of 87.83% was detected. This model of intervention proved to be successful and, to a certain extent, not yet tested in the public health network in centers not directly linked to academic matrices. This allowed us to replicate the experience with other clinical specialties. Cardiology has proven to be a specialty where the lines of care and guidelines of the Ministry of Health can potentially assist in the resolution of about 80% of cases. This number is not higher because the need for examinations prevails in some specific pathologies and these exams (such as exercise test, echocardiogram and Holter) are not directly accessible to basic care, thus requiring referrals to the AME centers. Between 2016 and 2017, two municipalities with high demand for cases for cardiology were identified. Updates were then made to attending physicians in local primary care and D-Days were promoted. From a total of 928 routing guides evaluated in each step already described, there was a resolution of 80.9%, avoiding additional interventions. Tables 1 and 2 show the reduction in the number of cases sent to the AME - Barretos between 2015 and 2019. The reduction in the number of endocrinology and cardiology referrals in this period was associated with an increasing number of number of referrals given to AME - Barretos patients, and returned to primary care (Table 3). The same process was possible with the specialty of Dermatology, replicating the D-Day model, and working with the demands of 4 municipalities, with a total of 621 cases analyzed, being the real need of the expert verified in only 7.9% of them. However, interesting fact in the case of dermatology is that the number of referrals in 2019 increased in relation to the period before Matrix-support, from 659 to 1292 (Tables 1 and 2). The other clinical fields maintained a large number of referrals and will be the focus of the next stages of the project.

Discussion

The preliminary results we achieved clearly demonstrated that the Matrix-support implementation is a very welcome process that share informations and constructive attitudes of medical care activity among professionals' teams of different levels of health attention with the purpose of establishing a matrix support for patients and professionals,

Table 1. Table 1 depicted the number of referrals from the municipalities of the DRS-V to the AME-Barretos before the implementation of Matrix-support program. The three outstanding areas (endocrinology, cardiology and dermatology) are the specialties submitted to the interventions

REPRESSED DEMAND - CONSULTATIONS AME (2015)															
CITY	NEUROLOGY	REUMATOLOGY	ENDOCRINOLOGY	CARDIOLOGY	GENERAL SURGERY	VASCULAR SURGERY	DERMATOLOGY	PHYSIOTHERAPY	CLINICAL GASTROENTEROLOGY	NEPHROLOGY	ORTHOPEDECS	OTORHINOLARYNGOLOGY	PNEUMOLOGY	PSYCHOLOGY	UROLOGY
ALTAIR	10	0	20	32	2	0	4	0	0	0	32	10	6	2	14
BARRETOS	438	0	1099	396	177	244	112	0	151	0	98	23	3	29	100
CAJOBI	2	0	80	50	10	20	30	0	4	2	10	10	5	0	10
COLINA	7	10	116	6	78	5	15	0	50	7	6	3	45	0	16
COLÔMBIA	10	0	25	6	25	10	10	0	50	0	15	10	25	5	30
GUAÍRA	0	2	0	0	2	0	0	0	2	45	0	0	0	0	0
GUARACI	5	0	50	2	0	0	100	0	15	0	0	10	5	0	100
SEVERÍNIA	10	8	47	5	25	0	20	0	11	8	10	15	15	0	13
JABORANDI	28	0	77	9	49	33	23	0	0	36	9	29	25	25	16
OLÍMPIA	0	4	0	4	4	0	10	0	4	0	0	0	0	0	10
TOTAL CGR-NORTE	510	24	1514	510	372	312	324	0	287	62	207	90	133	61	309
BEBEDOIRO	0	10	0	9	5	5	12	0	0	0	0	0	0	0	18
MONTE AZUL PAULISTA	10	30	40	10	30	40	45	50	40	15	30	20	20	0	45
TAIAÇU	0	0	3	0	10	0	0	0	5	0	5	0	5	0	0
TAIÚVA	5	0	15	0	3	2	0	0	4	6	12	4	2	2	5
TAQUARAL	0	0	32	0	13	0	0	0	17	0	14	0	0	0	0
TERRA ROXA	30	0	150	30	70	0	80	0	0	0	0	15	15	0	20
VIRADOURO	111	1	43	58	10	21	193	0	94	0	10	43	21	0	54
VISTA ALEGRE DO ALTO	5	3	10	30	5	1	5	0	4	0	30	10	2	3	10
TOTAL CGR-SUL	161	44	293	137	146	69	335	50	164	21	101	92	65	5	152
TOTAL GENERAL	671	68	1807	647	518	381	659	50	451	83	308	182	198	66	461

Table 2. Table showing the number of referrals from the municipalities of the DRS-V to the AME-Barretos after implementation of the Matrix-support program. The three highlighted areas (endocrinology, cardiology and dermatology) are the specialties submitted to the interventions

REPRESSED DEMAND - CONSULTATIONS (2019)															
	NEUROLOGY	REUMATOLOGY	ENDOCRINOLOGY	CARDIOLOGY	GENERAL SURGERY	VASCULAR SURGERY	DERMATOLOGY	PHYSIOTHERAPY	CLINICAL GASTROENTEROLOGY	NEPHROLOGY	ORTHOPEDECS	OTORHINOLARYNGOLOGY	PNEUMOLOGY	PSYCHOLOGY	
ALTAIR	11	2	3	4	1	6	36	0	2	24	8	1	0	19	
BARRETOS	91	0	0	24	2	2	0	0	1	0	0	0	0	8	
CAJOBI	0	46	10	0	2	0	178	0	0	1	199	14	0	15	
COLINA	32	32	26	1	5	2	27	73	14	7	28	20	0	78	
COLÔMBIA	167	12	28	0	32	1	94	25	2	146	166	54	0	74	
GUAÍRA	14	49	0	0	2	0	2	0	18	3	2	10	0	25	
GUARACI	41	53	63	0	16	7	190	55	17	1	138	26	0	127	
JABORANDI	96	3	4	2	25	3	205	0	0	70	13	5	0	69	
OLÍMPIA	16	214	5	4	7	8	15	4	0	27	11	2	0	255	
SEVERÍNIA	24	58	23	0	17	1	135	31	2	7	130	10	0	79	
TOTAL CGR-NORTE	492	469	162	35	109	30	882	188	56	286	695	142	0	749	
BEBEDOIRO	12	442	0	7	1	42	2	0	0	0	10	0	0	87	
MONTE AZUL PAULISTA	0	0	0	0	50	1	1	0	0	0	39	0	0	13	
TAIAÇU	4	0	0	0	0	0	1	0	0	0	1	0	0	5	
TAIÚVA	13	13	0	0	0	2	67	0	9	1	0	1	0	25	
TAQUARAL	1	0	0	0	1	1	0	2	0	11	0	0	0	8	
TERRA ROXA	86	0	27	5	1	0	118	1	0	0	0	0	0	1	
VIRADOURO	187	23	20	17	10	16	132	22	4	7	143	10	0	46	
VISTA ALEGRE DO ALTO	23	12	11	7	15	2	89	5	1	21	17	2	5	9	
TOTAL CGR-SUL	326	490	58	36	78	64	410	30	14	40	210	13	5	194	
TOTAL GENERAL	818	959	220	71	187	94	1292	218	70	326	905	155	5	943	

Table 3. Number of patients who were medical release from AME - Barretos over the years

Number of patients who were medical release		
Year	Endocrinology	Cardiology
2015	366	984
2016	457	1278
2017	576	1817
2018	619	2003

with evident benefits for both, based on constant dialogue to optimize the proactive actions in primary care system. The incentive to perform this work were the demands of the regulatory centers, generated by the number of patients who were waiting for consultations with specialists. The AME-Barretos Matrix-support project, was later transformed into a Center of Educational-Assistance Integration with emphasis on Matrix-support Strategies. It is a technical- scientific support activity, used with the aim of multiprofessional updating, aiming at valuing the primary care professionals, improving the interlocution and increasing the resoluteness of this level of health care. The Matrix-support project was clearly demonstrated a case-of-success in the areas of endocrinology and cardiology. The reduction in the number of referrals to the AME, together with the progressive increase in the number of AME medical release, reduced the waiting time for consultation with specialists in these fields, responding positively to a greater complaint from both primary care professionals and patients. Follow-up of patients with chronic diseases in Primary Care, closer to their home, besides allowing better control of the disease by providing a better relationship with the health team, avoids expensive and unnecessary transportation. In opposition, in dermatology, the number of referrals increased. This likely occurred due to the special characteristic of this specialty. While in endocrinology and cardiology, patients are usually carriers of chronic diseases, so they are the same patients who need continuous care, in dermatology, in general, patients present situations that need care occur in a punctual way. Thus, the increase in the number of referrals may mean better access to care compared to previous periods. Probably this area will need another kind of medical approach to better qualify and offer support to Primary Care professionals in dermatology, probably emphasizing skin lesions prevention activities. The review of the literature showed an analysis of the continuing education of these professionals and, in several countries, it was perceived that the service providers emphasized the importance of having clear policies in force on the interdisciplinary work of the team, clarity on the expectations of each one, systematic team meetings, open communication and a clear focus on patient care [11-13]. This interlocution aims to promote the organization of the work processes among all professionals of the Public Health Units teams, discussion of clinical cases and scientific and therapeutics updates, thus increasing the safety of professionals, thus reducing the number of unnecessary referrals to other levels of health care. The number of referrals from primary care to specialized care has been a challenge in many developed countries and ⁸⁻¹⁰, which trigger the implementation of many strategies, continuously been reevaluated to reduce unnecessary referrals, such as telephone patient screening; motivational lectures seeking to encourage the health team and the sending of specialized professionals to the communities, educating for self-care and doing population service [7]. Of note is the intervention model, D-Day, to improve the bond of these patients with their medical units and health workers, and to show, as well, that these professionals are integrated with the AME professionals, also improving trust in the team, valuing their skills. It is important to point out the full support of the managers of each municipality that made this process possible. This practice of integrating the health services

network has contributed to student learning and has reinforced the importance of good general professional training. The quality of the process largely depends on the Public Health Authorities commitment. After observing the results, the other municipalities progressively and spontaneously join to the Barretos Matrix-support project, including the largest city in the region, such as Barretos county itself. In addition, the integration promoted with professionals has become more frequent, creating the so-called Specialist Meeting, which consists of bringing together physicians from the different municipalities that work in basic care, with the authorization of the local manager, during their hours of care, to go to the AME or the Barretos Faculty of Medicine to update their medical skills in several specialties, attended in the AME or not, such as, for example, pediatrics and psychiatry. These updates had the participation of 35 physicians present at various times until now. The integration model built by the now Department of Matrix-support of AME Barretos has brought professionals from other places to meet and discuss the method. Professionals of São Paulo Universities were invited to discuss the project in a format of audit-meeting. Members of RICE University from North America, an international partner of Barretos Cancer Hospital also participate of a scientific meeting developing guidelines for health service users, such as a 3D model that demonstrates the evolution of peripheral diabetic disease, and model of optical glasses with different lenses that demonstrate the evolution of diabetic retinopathy. In convergence with the guidelines of the Brazilian government's education and health models, Matrix-support model became the catalyst for fundamental constructions in the Regional Health and Permanent Education Network of São Paulo State. Developed countries have improved primary health care and have strengthened the relationship between primary and secondary care through actions such as dissemination of referral guidelines; discussion of clinical cases and decision making promoted by professionals of both systems; feedback from the primary system to those of the secondary system. It can be identified that what was most effective was the active dissemination of guidelines, the involvement of secondary care consultants in educational activities for primary care clinicians, physicians obtaining second internal opinion prior to referral, as well as peer review and auditing [7-10]. During the realization of the Matrix-support project, it was possible to identify that many medical professionals who are active in primary health do not have specialization or residency in Family Health, a fact that is the opposite in developed countries that encourage the doctor's specialty for care in Family Health and promote this specialization that stimulate many professional of this expertise remain in the academy occupying research positions, others doing further specialization in some clinical field or still do masters and doctorates. In this project, is relevant to mention the enthusiastic participation of medical students, which stimulate their interest in the Public Health specialty. In conclusion, our data demonstrates the feasibility and the application of Matrix support implementation, as well as the benefits achieved - reduction of waiting times, increased capacity to receive patients referenced for secondary care and follow-up of patients with chronic diseases in Primary Care, closer to their home. Our hypothesis is that in addition to organizational benefits, such as access to specialized services, this method of promoting maturation brings clinical benefits to patients, for example, better glycemic control of DM patients. This will be the subject of future studies.

Consent for publication

All the authors consented the publication.

Availability of data and material

The data can be shared because confidentiality issues related to the administrative prerogatives of the AMEs.

Competing interests

None.

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Ethics approval and consent to participate

The present study did not involve patients directly or any confidential medical data investigation. We just analyzed the outcome of a program of medical care that was implemented in several ambulatories that we coordinate in order to improve the medical attendance in terms of rapidity and refers appropriately the patients for medical specialties. We just analyzed these outcomes.

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