Telehealth integration with ambulatory regulation center in the state of Ceará: an experience report

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Abstract

Introduction: The Telehealth aims to expand and improve the Primary Health Care resolution, focusing on expanding the scope of actions offered by the Family Health Strategy (FHS) teams from support for health care and permanent education for the teams. The integration of Telehealth to the Ambulatory Regulation Center offers the possibility of joining education actions in service to meet the needs of the population. Objective: The objective of this article is to report an experience of integration of Telehealth with an ambulatory regulation center in the state of Ceará. Method: The actions of the project are carried out from a flow elaborated for the ambulatory regulation through Telehealth. The 2018 data were analyzed, among the insertions in the UNISUSWEB system. Results: 54,406 requests were regulated with a priority, an average of 4,533 per month. The list of specialties such as mastology, urology and dermatology were zeroed as to the status waiting for regulation. In 2018, a total of 60,766 regulated requests were added plus the pending issues, thus, for the period presented the difference of 3,360 requests as pending. Conclusion: The integration of Telehealth made it possible to speed patients who needed more attention, qualified the requests through the support of medical specialists, found possibilities for improvements in relation to the regulation system and the State itself, supported clinical decisions and strengthened Primary Health Care as the main door of the user in the other health services.
Keywords: Telehealth; Government regulation; Primary Health Care.

Resumen

Integración del telesalud con la central de regulación ambulatoria en el estado en Ceará: un relato de experiencia.
Introducción: Telesalud busca expandir y mejorar la resolución de la Atención Primaria en Salud, teniendo como foco ampliar el alcance de las acciones ofrecidas por los equipos de la Estrategia Salud de la Familia (ESF) a partir del apoyo a la atención a la salud y de educación permanente para los equipos. La integración del Telesalud a la Central de Regulación Ambulatoria ofrece la posibilidad de unir acciones de educación en servicio a la atención de las necesidades de la población. Objetivo: El objetivo de este artículo es relatar la experiencia de la integración del Telesalud con la central de regulación ambulatoria en el estado en Ceará. Metodo: Las acciones del proyecto se realizan a partir de un flujo elaborado para la regulación ambulatorial por medio del Telesalud. Se analizaron los datos del año 2018, entre las solicitudes insertadas en el sistema UNISUSWEB. Resultados: Se regularon con un grado de prioridad 54.406 solicitudes, una media de 4.533 solicitudes por mes. La fila de las especialidades como mastología, urología y dermatología se puso a cero, en cuanto al estado aguardando regulación. Se contabilizó en 2018, 60.766 solicitudes reguladas más las pendencias, por lo que se tiene para el período presentado la diferencia de 3.360 solicitudes como pendiente. Conclusión: La integración del Telesalud posibilitó dar celeridad a los pacientes que necesitaban una mayor atención, calificó las solicitudes a través del apoyo de médicos especialistas, encontró posibilidades de mejoras en relación al propio sistema de regulación y al Estado, apoyó las decisiones clínicas y fortaleció la Atención Primaria en Salud como principal puerta de entrada del usuario en los demás servicios de salud.
Palabras-clave: Telesalud; Regulación gubernamental; Atención Primaria a la Salud.

Resumo

Integração do telessaúde com a central de regulação ambulatorial no estado no Ceará: um relato de experiência.
Introdução: O Telessaúde busca expandir e aprimorar a resolutividade da Atenção Primária em Saúde, tendo como foco ampliar o escopo das ações ofertadas pelas equipes da Estratégia Saúde da Família (ESF) a partir do apoio à atenção à saúde e de educação permanente para as equipes. A integração do Telessaúde à Central de Regulação Ambulatorial oferece a possibilidade para unir ações de educação em serviço ao atendimento das necessidades da população. Objetivo: O objetivo deste artigo é relatar a experiência da integração do Telessaúde com a central de regulação ambulatorial no estado no Ceará. Método: As ações do projeto são realizadas a partir de um fluxo elaborado para a regulação ambulatorial por meio do Telessaúde. Foram analisados os dados referentes ao ano de 2018, dentre as solicitações inseridas no sistema UNISUSWEB. Resultados: Foram reguladas com um grau de prioridade 54.406 solicitações, uma média de 4.533 solicitações por mês. A fila das especialidades como mastologia, urologia e dermatologia foi zerada, quanto ao status aguardando regulação. Contabilizou-se em 2018, 60.766 solicitações reguladas acrescidas as pendências, assim sendo, tem-se para o período apresentado a diferença de 3.360 solicitações como pendência. Conclusão: A integração do Telessaúde possibilitou dar celeridade aos pacientes que necessitavam de uma maior atenção, qualificou as solicitações através do apoio de médicos especialistas, encontrou possibilidades de melhorias em relação ao próprio sistema de regulação e ao Estado, apoiou as decisões clínicas e fortaleceu a Atenção Primária em Saúde como principal porta de entrada do usuário nos demais serviços de saúde.
Palavras-chave: Telessaúde; Regulação governamental; Atenção Primária à Saúde.

Introduction

The Family Health Program (FHP) emerged as a strategy for reorienting the care model, based on basic care. It is assumed that the new models of care come from a historical social moment, where the technicist/hospital-centered model does not correspond to the health needs of the population and the changes of the modern world. The FHP presents itself as a new health strategy, with the family as the focus of attention and not only the sick individual, introducing a new vision in the process of health intervention[1].

In 2006, the FHP ceased to be a program and became a permanent strategy in basic health care, precisely because the program has a fixed time and strategy is permanent and continuous[2].

The Basic Care has a special and challenging mission, since it is the preferred entrance door of the Unified Health System (UHS). It has a privileged space for managing the care of people and fulfills a strategic role in the care network, serving as a basis for its planning and for the realization of integrality. Primary Health Care (PHC) [3] is articulated with other points of the Health Care Network (HCN), according to Consolidation Ordinance No. 2, of September 28th, 2017. To do so, it is necessary that PHC be resolutive, clinical capacity and incorporation of light, light-hard and hard (diagnostic and therapeutic) technologies.

In the perspective of the incorporation of strategies to make health of quality and efficiency, the National Policy of Permanent Education in Health[4] that deals with the formation and development for the Unified Health System. The Permanent Education in Health (PEH) articulates the needs of the health services, the possibilities of development of professionals, the resolving capacity of health services and social management over public health policies.

According to Ceccim[5] PEH corresponds to in-service Education when related to the contents, instruments and resources for the training submitted to a project of changes of the actions provided in a given time and place. It can correspond to Continuing Education, when building professional staff or professional investment at a specific time and place.

The Permanent Education in Health should guide the development initiatives of professionals and strategies for transforming health practices. From the perspective of PEH and the incorporation of technologies, the Telehealth Brazil Networks in Primary Care was created, which is a component of the Basic Health Units Requalification Program (BHU) and integrates Permanent Health Education actions and health care support with the use of tools and technologies of information and communication. Through Telehealth, efforts are being made to strengthen and improve the quality of primary care services in the Unified Health System (UHS).

Telehealth aims to expand and improve the resoluteness of PHC, focusing on broadening the scope of actions offered by the Family Health Strategy (FHS) teams, based on support for health care and permanent education for the teams[6]. For this, the renewal of the learning methodologies in the daily work of the teams is essential. The integration of Telehealth to the Ambulatory Regulation Center offers the possibility to unite actions of education in service to meet the needs of the population, as suggested by Ceccim[5].

The article does not have an ethics committee opinion since all the data used were secondary. It is characterized as an Experience Report of the technical team of the Nucleus of Telehealth of the Secretary of Health of the State of Ceará, aiming to report the experience of the integration of Telehealth with the ambulatory regulation center in the state of Ceará.

Method

Telehealth

Telehealth is a powerful tool for reaching the precepts of the National Primary Care Ordinance (NPCO)[3] and the Federal Citizen's Constitution[7] of 1988. The program accompanies with singularity and similarity e-health as services that evidence the use of resources for distance communication.

E-health, presents itself as an emerging field of medical information, to the organization and transmission of health services and information using the internet and similar technologies. This new field includes a new way of working, attitude and relationship through network access[8].

In the twenty-first century, several professions have used e-health resources, motivated by expanding access to technological equipment, the speed of information processing, the possibilities of working with demographic, epidemiological and production data that broaden the clinical perspectives and assist in the development of best practices in the health area, whether directed to the organization of health services or to the qualification of care provided to users. E-health is not a tool restricted to medical professionals, it can be used by all health professionals[9]. However, there is concern among
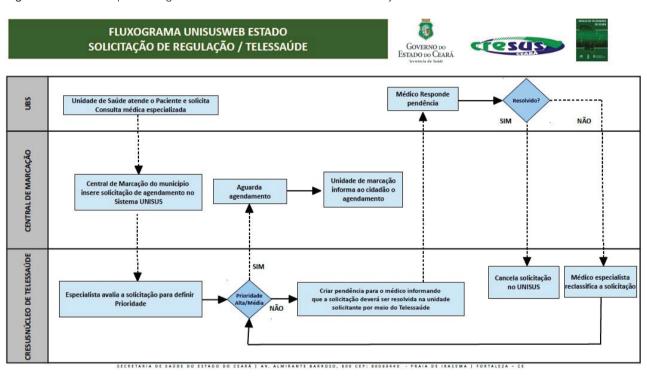
professionals about the cost of using tools related to information and communication technologies. According to Melo[10] it is expected that these tools are self-sustaining and to evaluate its effectiveness, in addition to user satisfaction.

The new NPCO brings as a tool to strengthen PHC the Telehealth articulated to clinical decisions and processes of access regulation. The use of referral protocols are management and care tools, since they guide the decisions of the BUH professionals and are a reference for the evaluation of the requests by the doctors of the regulatory centers.

Regarding the new NPCO, the State of Ceará, on October 20, 2017, approved a Project for the Integration of Telehealth to the Integrated Center of Regulation in the Bipartite Inter-agency Commission (BIC). The main objective of the project is the reduction of requests (referrals) in the Regulation System. The actions of the project are carried out from a flow (Figure 1) prepared for outpatient regulation through Telehealth. Regulatory actions started with five specialties in which three of these specialties were chosen according to the high judicial demand (urology, otorhinolaryngology and orthopedics) and the other two due to the core of Telehealth already count on the specialists (hematology and dermatology). The nucleus concluded the year 2018 with five other specialties: mastology, gynecology, obstetrics, rheumatology and gastroenterology.

Figure 1 - Flow of outpatient regulation of Telehealth in the UNISUSWEB System:

FLOW CHART UNISUSWEB STATUS REQUEST FOR REGULATION / TELEHEALTH

Source: Telehealth/SESA

According to the flow (figure 1), the patient is admitted to the Basic Health Unit of his region for consultation with the medical professional. From the need, the BHU doctor makes a referral request to a professional specialist. This forwarding request is entered by the Call Center in the UNISUSWEB system. When inserting into the system, the specialist doctor linked to Telehealth will analyze and classify the priority of the request, which may be high, medium or low priority, according to the protocol of the specialty.

Following the order of priority, if the request is classified as a low priority, the Telehealth specialist doctor will add a pending in the UNISUSWEB system so that from the interaction between medical professionals, the case is resolved in the primary care or, if necessary, reclassified and regulated. It is important to note that when placing a pending case in UNISUSWEB, only the BHU doctor can view and respond following the code of ethics of the Federal Medical Council.

If the request is classified with high or medium priority, the patient will wait for the appointment and, upon being scheduled, BHU will inform the patient.

Ambulatory Regulation

Regulation has as its main concept to express the intentionality of the act and to exercise its capacity, its power instituted or in dispute. Regulatory is understood as the act of normalizing in rules that same intentionality, that is, the process of regulation is subordinated to the main process of regulating[11].

Considering the need to ensure the organization of networks and care flows, promoting the equity of access to health services, comprehensive and qualified care was instituted the National Policy for Regulation of the Unified Health System. Health regulation, in a generic way, deals with both regulation and the actions and techniques that ensure compliance with them[12]. The policy is structured in three dimensions of action, the regulation of health systems, the regulation of health care or assistance regulation, and the regulation of access to care.

Article 197 of the 1988 Citizen Constitution states that "health actions and services are of public relevance, and it is incumbent upon the public authority to dispose, under the terms of the law, of their regulation, supervision and control, and their execution shall be done directly or through third parties and also by natural or legal person under private law". The UHS follows the logic of the predominance of the use of outpatient care and this has been the focus of greater attention in programs that aim to optimize resources for health. PHC offers the resolution of many health problems with the best cost-effectiveness.

International agencies have moved towards a consensus that the outpatient clinic should be focused on PHC, providing accessibility to services, coordinating the use of the health system by the user, and the comprehensive and longitudinal approach to care. Surveys on family health strategy in Brazil point to a large extension of the population with access to the system[13].

The regulation of care is related to the capacity to equate adequate responses to existing demands, promoting access to services and enabling health care. It also includes evaluation and planning of actions, providing management with operational regulatory intelligence. Santos and Merhy[12]

point to the execution of the daily actions of the operation of the system to put into practice what was defined by macro-regulation.

In Ceará[14], in terms of state and municipal regulation, the UNISUSWEB system launched in 2014 is used, bringing technological and functional aspects of the latest generation, operating via the internet, with all processes and units interconnected in real time, with systematized information for decision-making and effective control of scheduling of ambulatory procedures of medium and high cost and complexity.

UNISUSWEB aggregates concepts of speed and agility in the treatment of State care regulatory information, as well as interconnecting all public health provider structures in a single network. Thus, the integration of Telehealth with the regulatory center fulfills the role of reducing the number of referrals to the secondary and tertiary care from all the support of the specialized medical professionals of Telehealth, optimizing costs with displacements and personnel.

Important points to make about the UNISUSWEB system is the status that a request can meet: waiting for regulation, awaiting regulation pending and awaiting regulation pending response. All requests that have a high, medium or low priority are called a regulated request.
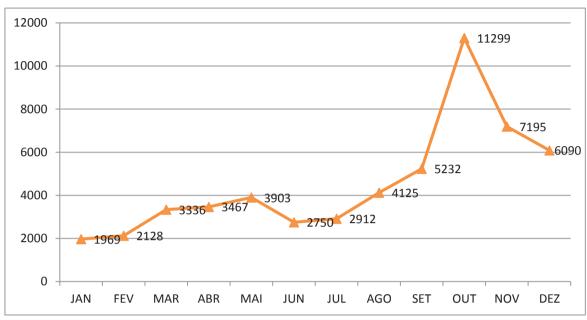
Results and Discussions

From the integration and reorganization of the processes of classification of referrals, the core of Telehealth of the Health Department of the state of Ceará produced monthly reports on requests for referrals to specialized care. Thus, we present below the requests regulated by specialties related to Telehealth in the period of 2018.

Table 1 - Number of requests regulated by specialties, according to the month. Ceará, 2019.

SPECIALTIES	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
Orthopedics	528	954	1.507	653	710	484	298	689	683	884	322	944	8.656
Gastroenterology	0	0	0	0	0	26	41	24	25	29	17	23	185
Urology	288	142	159	150	132	115	298	301	719	1.056	1.493	450	5.303
Mastology	231	95	540	348	661	549	574	573	769	1.045	664	993	7.042
Urology	0	0	0	896	919	678	428	226	390	826	1.080	1.109	6.552
Otorhinolaryngology	0	113	319	250	372	259	545	426	876	1.052	1.178	889	6.279
Urology	236	142	291	36	79	106	129	184	83	146	144	38	1.614
Dermatology	568	594	420	959	683	208	181	765	440	4.815	1.649	949	12.231
Gynecology – Obstetrics	108	17	90	157	259	264	344	580	401	576	263	619	3.678
Hematology	10	71	10	0	69	6	24	97	0	0	6	76	369
Rheumatology	0	0	0	18	19	55	50	260	846	870	379	0	2.497
Total	1.969	2.128	3.336	3.467	3.903	2.750	2.912	4.125	5.232	11.299	7.195	6.090	54.406

Source : UNISUSWEB

Graph 1 - Total requests regulated per month in the year 2018. Ceará, 2019.

Source : UNISUSWEB

During 2018, 54,406 (fifty-four thousand, four hundred and six) requests were entered into the UNISUSWEB system, an average of 4,533 (four thousand, five hundred and thirty-three) requests per month. Of the specialties that presented a greater number of regulations were urology, dermatology and orthopedics. In the specialty of urology there are three professionals acting due to the high demand of requests, including judicializations. A doctor specifically regulates the line of the municipality of Fortaleza, the second urologist doctor regulates the municipalities of Macro Fortaleza, except Fortaleza, and the third urologist doctor regulates Macro Fortaleza, including the municipality of Fortaleza. Macro Fortaleza is made up of 84 municipalities. It is noteworthy that some specialties were not part of Telehealth since the beginning of the year, so there are no regulated applications. The list of specialties such as mastology, urology and dermatology have been "zeroed", ie, the existing requests in the "waiting for regulation" status are only of the daily insertions.

There are three urology specialties on the table because there are three urologists in Telehealth. The gynecology and obstetrics specialties are put together in the UNISUSWEB system so the table is drawn in this way.

An immeasurable achievement was to zero the list of patients classified as high priority in the regulation system in the specialties of mastology and urology, that is, there are

no patients classified in this category waiting for consultation for a period longer than 15 days.

Telehealth presents as a goal of regulation with pending, a maximum term of one week after the insertion of the request. The pending is a notification that was created from the flow so that the BHU doctor completes the request for referral, this pending response must be answered and after being answered by the BHU medical professional, the Telehealth specialist has the term of up to 72 hours useful to respond, as recommended in the Telehealth/Ministry of Health manual[6].

When adding the amount of pending issues, we recorded 60,766 (sixty thousand, seven hundred and sixty-six) requests, thus, we have for the period presented the difference of 3,360 pending applications.

Two relevant points: 1) the number of regulations and pending is according to the current situation of the request, ie if the request is pending and only after the response of the pendency the specialist doctor is regulated, was contacted only as a regulation and not as a pendency and a regulation; 2) if there was an interaction between the doctors where several pending were added, only one pending will be counted, since the accounting is from the request and not by the amount of pending in a single request.
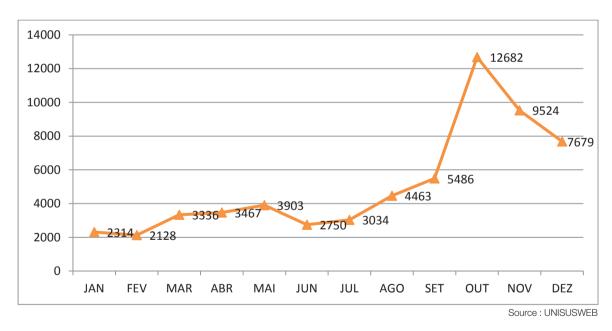
Thus, it is noted that the amount of pending issues generated in the report is underreported.

Table 2 - Number of regulated requests adding regulations with pending specialties, according to the month, in the year 2018.

SPECIALTIES	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
Orthopedics	528	954	1.507	653	710	484	298	689	683	885	322	944	8.657
Gastroenterology	36	0	0	0	0	26	65	74	83	103	46	58	491
Urology	292	142	159	150	132	115	298	301	719	1.213	1.731	533	5.785
Mastology	257	95	540	348	661	549	574	576	772	1.079	708	1.160	7.319
Urology	151	0	0	896	919	678	430	228	397	933	1.209	1.267	7.108
Otorhinolaryngology	111	113	319	250	372	259	583	650	1.017	1.816	2.144	1.493	9.127
Urology	236	142	291	36	79	106	129	187	84	156	168	43	1.657
Dermatology	572	594	420	959	683	208	181	766	457	4.877	2.436	1.379	13.532
Gynecology Obstetrics	121	17	90	157	259	264	344	580	401	624	294	719	3.870
Hematology	10	71	10	0	69	6	24	97	0	0	7	83	377
Rheumatology	0	0	0	18	19	55	108	315	873	996	459	0	2.843
Total	2.314	2.128	3.336	3.467	3.903	2.750	3.034	4.463	5.486	12.682	9.524	7.679	60.766

Source : UNISUSWEB

Graph 2 - Number of requests regulated by adding regulations pending specialties, according to the month, in the year 2018.

Source : UNISUSWEB

One point much discussed by experts was the lack of data and detailing in patient referral, from actual allowances to request a consultation with the specialist or an examination. The lack of details about the need for referral or the request for the exams make the regulation more time-consuming, since it requires the insertion of pending procedures for interaction with the BUH doctor. Unfortunately the amount of requests in these situations is in large majority.

In this sense, we can see the reduction of inadequate referrals to service providers, causing harm to the institutions, the patient, other patients and the municipality. The detailing of the referral is fundamental, because, even with the appropriate priority, it allows scheduling for the correct provider, which enhances the pertinent patient care, well-being and improvement regarding UHS satisfaction.

Conclusion

The integration project has made possible the proximity of the manager and the medical professional of the BHU in the purpose of solving the requests from the pending created in the UNISUSWEB system by the specialists of Telehealth. The detailing of the request allows the regulation in a coherent and equitable way and that allows the medical specialist to regulate the request with a degree of priority that the patient really needs.

The benefits of integration are innumerable, permeate the work processes until the reduction of health costs, it makes possible the regulation of the queue by a specialist doctor, which makes possible the more qualified regulation of the requests inserted in the system, it facilitates the orientation of the patient with the most adapted to specialized institutions, enhances and promotes the visualization of patients with high priority, favors the elaboration and follow-up of protocols, articulation of the expansion of scales (vacancies), promotes permanent education through the interaction between the specialist doctor and the physician of the BHU , supports the clinical decisions of BHU physicians in the specialties signed, reduces the time of regulation and scheduling of requests and promotes equity in health.

Based on the assumption of the reduction of health costs and the expansion of the clinical resolution of Primary Health Care through regulation with the support of specialist physicians with the use of information and communication technologies, it will reduce costs with patient transportation and probably, costs with exams, because they would be scheduled and/or requested only the exams that really are necessary.

Integration has transformed regulation by specialty, made it possible to speed up the scheduling queues in some specialties and even more to "zero" the queue of requests. This fact demonstrates the power that the insertion of communication and information technologies in health care processes. In addition, integration strengthens PHC as the user's main gateway to other health services.

References

1. Rosa WAG, Labate RC. Programa Saúde da Família: a construção de um novo modelo de assistência. Rev Latino-Am Enfermagem. 2005 Nov-Dez;13(6):1027- 34.

2. Portal Educação. Enfermagem e o PSF: do PSF ao ESF [internet]. Brasil: Portal Educação; data desconhecida [acesso em 2019 Jan 16]. Disponível em: https://www.portaleducacao.com.br/conteudo/artigos/enfermagem/enfermagem-e-o-psf-do-psf-ao-esf/5290

3. Ministério da Saúde (BR), Secretaria de Atenção à Saúde, Departamento de Atenção Básica. Política Nacional de Atenção Básica. Brasília: Ministério da Saúde, 2017.

4. Ministério da Saúde (BR). Política Nacional de Educação Permanente em Saúde. Brasília: Ministério da Saúde, 2007.

5. Ceccim RB. Educação Permanente em Saúde: desafio ambicioso e necessário. Interface (Botucatu); 2005 Fev;9(16):161-77.

6. Ministério da Saúde (BR). Manual de Telessaúde para Atenção Básica, Universidade Federal do Rio Grande do Sul. Brasília: Ministério da Saúde, 2012.

7. Ministério da Saúde (BR). Constituição Cidadã. Brasília: Ministério da Saúde, 1988.

8. Pagliari C, Sloan D, Gregor P, Sullivan F, Detmer D, Kahan JP, Oortwijn W, Macgilivray S. What is eHealth (4): A scoping exercise to map the field. J Med Internet Res. 2005 Jan-Mar [access in 2019 Jan 15];7(1):e9. Available on: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1550637/ DOI: 10.2196/jmir.7.1.e9 In: Pubmed; PMID: 15829481; PMCID: PMC1550637

9. Norris AC. Essentials of telemedicine an Telecare. England: John Wiley & Sons, 2002.

10. Melo MCB, Silva SEM. Aspectos conceituais em telessaúde. In: Santos AF, Souza C, Alves HJ, Santos SF, orgs. Telessaúde - Um instrumento de suporte assistencial e educação permanente. Belo Horizonte: Editora UFMG; 2006. p. 17-31.

11. Ministério da Saúde (BR). Política Nacional de Regulação do Sistema Único de Saúde. Brasília: Ministério da Saúde, 2008.

12. Santos FP, Merhy EE. A regulação pública da saúde no Estado brasileiro: uma revisão. Interface (Botucatu). 2006 Jun;10(19):25-41.

13. Campos FE, Haddad AE, Wen CL, Alkmim MBM. Telessaúde em Apoio a Atenção Primária à Saúde no Brasil. In: Alaneir de Fátima dos Santos; Cláudio de Souza; Humberto José Alves; Simone Ferreira dos Santos. (Org). Telessaúde: Um Instrumento de Suporte Assistencial e Educação Permanente. Belo Horizonte: UFMG; 2006. v. 1, p. 59-74. 5

14. O Estado. SESA lança novo projeto de gestão da regulação assistencial. Disponível em: Acesso em: 22 de janeiro de 2019.