

Management system for a reference hospital

Sistema de gestão para um hospital de referência

Sistema de gestión para un hospital de referencia

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ABSTRACT

Objective: to know the profile and demand of urgency and emergency referred to the high complexity service before and after the implementation of a regulation system. **Methodology:** retrospective study conducted by statistical analysis of administrative reports from the Hospital de Clínicas de Botucatu, considered two periods between 2015 and 2018. The number of patients was 8,921 before and 10,450 after the implementation of regulation. The study was approved by the institution's Research Ethics Committee. **Results:** there was a prevalence of resident population of the municipality of Botucatu, male with a mean age of 40 years, who entered the service due to fracture, trauma, heart disease and stroke with a mean time of regulation of 1 hour, 43 minutes and 48 seconds. **Conclusion:** referrals classified as minimum urgency accounted for 55.1% of requests, 12.5% of referrals were counter-referenced. Knowledge of flow and demand contributes to patient regulation. **Descriptors:** Health services accessibility; referral and consultation; nursing; health status indicators.

RESUMO

Objetivo: conhecer o perfil e demanda de urgência e emergência encaminhadas ao serviço de alta complexidade antes e após a implantação de um sistema de regulação. **Metodologia:** estudo retrospectivo realizado por análise estatística de relatórios administrativos do Hospital de Clínicas de Botucatu, considerados dois períodos entre 2015 e 2018. O número de pacientes do foi de 8.921 antes e 10.450 após a implantação da regulação. O estudo foi aprovado pelo Comitê de Ética em Pesquisa da instituição. **Resultados:** observou-se prevalência da população residente do município de Botucatu, do sexo masculino com média de idade de 40 anos, com entrada no serviço devido a fratura, trauma, afecções cardíacas e acidente vascular cerebral com tempo médio de regulação de 1 hora, 43 minutos e 48 segundos. **Conclusão:** encaminhamentos classificados como urgência mínima representaram 55,1% das solicitações, 12,5% dos encaminhamentos foram contrarreferenciados. O conhecimento do fluxo e demanda contribui para a regulação do paciente. **Descritores:** Acesso aos serviços de saúde; encaminhamento e consulta; enfermagem; indicadores básicos de saúde.

RESUMEN

Objetivo: conocer el perfil y la demanda de urgencia y emergencia referidos al servicio de alta complejidad antes y después de la implementación de un sistema de regulación. **Metodología:** Estudio retrospectivo realizado mediante análisis estadístico de informes administrativos del Hospital de Clínicas de Botucatu, considerado dos períodos entre 2015 y 2018. El número de pacientes fue de 8.921 antes y 10.450 después de la implementación de la regulación. El estudio fue aprobado por el Comité de Ética en Investigación de la institución. **Resultados:** prevaleció la población residente del municipio de Botucatu, hombre con una edad media de 40 años, que ingresó al servicio por fractura, trauma, enfermedad cardíaca y accidente cerebrovascular con un tiempo medio de regulación de 1 hora 43 minutos y 48 segundos. **Conclusión:** Las referencias clasificadas como urgencia mínima representaron el 55.1% de las solicitudes, el 12.5% de las referencias fueron contrarreferenciadas. El conocimiento del flujo y la demanda contribuye a la regulación del paciente. **Descritores:** Accesibilidad a los servicios de salud; derivación y consulta; enfermería; indicadores de salud.

INTRODUCTION

Regulation and access are still considered important challenges in the constitution of the Regional Health-Care Networks (RRAS) and in the consolidation of the Unified Health System (SUS). Such challenges are permeated by the forms of communication between services, which contribute to user access.

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In Brazil, there is interdependence in the health-care system between the public and private sectors¹. Such interdependence is influenced by technological development as well as by the unpredictability of events that interfere with service supply and demand, and, in order to balance that relationship, regulation is essential².

The referral and counter-referral system in Latin America usually has three care-provision levels. The first provides generalist care that achieves greater efficiency with the possibility of referrals between the first, second and third levels, and the difficulties related to counter-referrals limit the feedback among professionals³.

The relevance of the study lies in its contribution to management by learning about the role of regulation in a health-care region. For further clarification, we will address regulation aspects in São Paulo state and the administrative role of the Regional Department of Health (DRS), which is an administrative division of the State Department of Health and, therefore, responsible for coordinating activities at the regional level and for promoting intersectoral articulation, with municipalities and civil-society organizations, according to Decree DOE no. 51.433, as of December 28, 2006⁴.

São Paulo state is divided into 17 macroregions, each of which is a Regional Health Department (DRS) numbered in Roman numerals. They aggregate the regions and organize actions according to complexity in health care. *Hospital das Clínicas* (HC) is part of DRS-VI, composed of 5 health regions: Bauru, Avaré (Vale do Jurumirim), Jau, Lins and Botucatu (*Polo Cuesta*). The latter is the largest city in *Polo Cuesta* and concentrates the referral services in this region⁵.

The main objective of the study^{6,7} was to learn about the functioning and profile of the urgency and emergency demand referred to a high-complexity service before and after a regulation system.

LITERATURE REVIEW

Health regulation is an absolute necessity in the Unified Health System (SUS), through which agreements between municipalities and regions of the federated unit are operated⁶. In August 2010, with Decree no. 56.061, the São Paulo State Health Service Provision Regulation Center (CROSS) was created by the State Department of Health, with competence to manage regulation and make information concerning the situation of hospitals for pre-hospital regulation available in real time⁷, thus establishing a management instrument that enables the optimization of resources and health outcomes^{8,9}. Subsequently, the inner regions of São Paulo state started to work with the CROSS computerized system in October 2016.

Regulation actions are an important part of SUS so as to guarantee access according to the principles of integrality, equity and universality¹⁰. Learning about, monitoring and analyzing its operation becomes fundamentally important, as that represents the possibility of analyzing the profile of service and its demand in order to correct failures and undertake follow-up actions. Investing in consistent regulation systems that assist in the processes of management of vacancies available for SUS is essential. Therefore, studies on that subject are relevant in the current scenario.

METHODOLOGY

Retrospective study¹¹, developed from the Internal Regulation Center of Botucatu HC, with data referring to the municipalities in *Polo Cuesta*.

The hospital receives medium- and high-complexity referrals from 68 municipalities linked to the Regional Health Department (DRS VI). Among them are the 13 municipalities that comprise the *Polo Cuesta* region, which is located in the Midwestern region of São Paulo state and belongs to RRAS 09, the object of this study¹².

To adjust the flow of health-care actions according to supply and demand, SUS has a regulation center constituting its interface through the Internal Regulation Center (NIR), which determines the complexity profile and provides appropriate therapeutic resources for diagnostic, outpatient-care and hospitalization support as well as other types.

The regulation service under study was implemented in 2016, with 24-hour operation and a team of doctors, nurses and administration assistants.

Three municipalities, Pratânia, Areiópolis and Pereiras, are not regulated directly to HC because users are given secondary care in another health service, which refers them to the tertiary level.

Regulation comprises the arrival of requests through the online regulation portal for urgent and emergency cases, which are analyzed by the regulatory nurse. The nurse contacts the requested specialties and accepts the referrals for evaluation or denies non pertinent requests. Only the institution of origin can cancel a request in case referral is no longer needed, and CROSS regulatory physicians can refer patients as *zero vacancies*, a term which determines immediate referral

to the nearest referral unit for evaluation, considering the severity of the case (example 1: a patient with ST-elevation myocardial infarction and enzyme alteration; example 2: a patient with signs of stroke (S) in the window period; example 3: a child with traumatic brain injury (TBI) showing alarm signs; example 4: an accident victim with polytrauma and major bleeding). In these cases, the agreements established at DRS VI are respected and there is not a list for them.

A vacancy is considered a *zero vacancy* by taking into account the severity of the patient's condition; however, such condition is not previously established, but it depends on the assessment by the regulator, which is why we included the previous examples.

Data collection comprised two distinct periods: the first was from March 2015 to September 2016, prior to the implementation of the CROSS system, and the second was after its implementation, as from October 2016, together with the internal system of HC-UNESP and the Internal Regulatory Center (NIR).

For sample composition, statistical calculations were made based on care demand, and the sample was randomly drawn.

Software Excel® and the Statistical Package for the Social Sciences (SPSS®) were used. Relative and absolute frequencies were performed, with a proportion test to compare care demand and specialty distribution in the two data collection periods, considering $p < 0.05$ as the level of significance.

The R program, version 2.10.1, was used considering the number of patients from *Polo Cuesta* $N = 8,921$ (before) and $N = 10,450$ (after) regulation implementation. A random sample ($n = 369$) was obtained by drawing on the R program, version 2.10.1R, corrected by the finite population, using 50% prevalence with 95% confidence to evaluate whether any counter-referrals occurred. Discussion was supported by the theoretical framework Health Regulation at SUS¹³.

The project was approved by the Research Ethics Committee of the Botucatu Medical School (Process 2.668.391/2018). By considering that this is a quantitative, retrospective study, whose data collection was based on administrative reports from the service, the Consent Form was waived.

RESULTS

Before and after the implementation of the CROSS platform, care provision to residents in the city of Botucatu represented approximately 85%. The predominant age group was 15 to 65 years old, with approximately 82%. The remaining 18% comprised patients from 0 to 15 years old.

Care demand by municipality before and after the platform implementation is shown in Table 1, in this order. The population of each municipality is also presented.

TABLE 1: Care demand by municipality from March 2015 to September 2016 and from October 2016 to April 2018.

MUNICIPALITIES	Population	Mar 2015 - Sept 2016		Oct 2016 - Apr 2018		p value
		No.	%	No.	%	
Anhembi	6,215	2,630	0.75	2,622	0.85	0.2843
Areiópolis	11,020	2,763	0.79	2,733	0.88	0.4219
Bofete	9,282	4,129	1.17	3,794	1.22	0.0212
Botucatu	115,606	273,649	77.75	264,503	85.33	0.2758
Conchas	17,638	4,320	1.23	4,418	1.43	0.0096
Itatinga	23,342	7,364	2.09	7,049	2.27	0.515
Laranjal Paulista	28,240	2,377	0.68	2,453	0.79	0.0258
Pardinho	5,393	4,242	1.21	4,296	1.39	0.0352
Pereiras	7,454	1,790	0.51	1,666	0.54	0.2585
Porangaba	9,779	2,326	0.66	2,517	0.81	0.0001
Pratânia	4,274	1,815	0.52	1,664	0.54	0.1144
São Manuel	42,200	11,649	3.31	10,625	3.43	<0.0001
Torre de Pedra	2,365	1,275	0.36	1,636	0.53	<0.0001

Botucatu, São Manuel and Itatinga were the municipalities with the highest referral demand. Based on the proportion test, an increase in requests and in the number of care-provision events was observed after CROSS implementation. For the municipalities of Areiópolis, Itatinga, Pratânia, Pereiras, Anhembi and Botucatu, there was no significant difference for the otorhinolaryngology specialty ($p > 0.05$), as shown in Table 2, which lists the specialties

that provided initial care at the emergency hospital. The concentrations of care-provision events at the Adults'/Municipal Emergency Hospital (PSA), Children's Emergency Hospital (PSI) and Women's Emergency/Maternity Hospital were respectively 40.13%, 22.73% and 8.38% before the implementation of the CROSS platform. After it, the concentrations were, respectively, 41.73%, 21.71% and 8.04%.

It is noteworthy that PSA and PSI refer patients to the Referred Emergency Hospital (PS-R), located in the hospital for specialty care, if necessary.

TABLE 2: Distribution of specialties before (March 2015 to September 2016) and after (October 2016 to April 2018) CROSS implementation.

SPECIALTIES	Mar 2015 - Sept 2016		Oct 2016 - Apr 2018		p value
	No	%	No	%	
Chest surgery	895	0.25	800	0.23	0.006
Heart surgery	151	0.04	177	0.05	0.0003
General surgery	9,903	2.81	10,015	2.94	<0.0001
Plastic surgery	392	0.11	435	0.13	<0.0001
Vascular surgery	2,634	0.75	2,962	0.87	<0.0001
General internal medicine	22,856	6.48	22,695	6.66	<0.0001
Infectious diseases	4,148	1.18	4,128	1.21	<0.0001
Neurosurgery	2,483	0.71	2,079	0.61	0.019
Neurology	3,608	1.03	4,090	1.2	<0.0001
Dentistry	10	0	36	0.01	<0.0001
Ophthalmology	9,325	2.65	9,444	2.77	<0.0001
Orthopedics	10,718	3.05	8,723	2.56	0.004
Otorhinolaryngology	6,387	1.81	5,070	1.49	0.3891
Women's emergency	29,515	8.38	27,185	8.04	<0.0001
General on-duty care	11,474	3.26	6,471	1.9	<0.0001
Adults' emergency	141,331	40.13	141,065	41.73	<0.0001
Children's emergency	80,039	22.73	10,849	21.71	<0.0001
Psychiatry	2,808	0.08	3,558	1.04	<0.0001
Referral Pediatrics Emergency Hospital (PS-R)	9,393	2.67	10,849	3.17	<0.0001
Urology	3,640	1.03	4,062	1.19	<0.0001

The most common diagnostic hypotheses were: fractures, appendicitis, abdominal pain to be clarified, angina, infarction, anemia and dyspnea. As regards, clinical diagnoses, those most often found were related to the specialties of orthopedics, general surgery and internal medicine/cardiology.

The male population, with an average age of 40 years, from unclassified regions, was noteworthy with 57.88%, and the mean regulation time was 1 hour, 43 minutes and 48 seconds.

Counter-referred requests corresponded to 12.5% of the sample and the reasons were related to: the patient's not needing tertiary service, since the clinical pattern could be established at the institution of origin; the need to complete prescribed medication at the institution of origin; the patient's being under palliative care; and the proximity of family members.

The dental service is not a specialty requested by urgent or emergency regulation. In case, an evaluation is needed, the specialty requests interconsultation; however, if the regulator deems it necessary, he/she may request a joint assessment. Subsequent data refer to the period after CROSS implementation, as they were unavailable in the previous system.

In total, there were 10,450 regulated requests referring to the *Polo Cuesta* region. The number of requests concluded as denied, accepted, cancelled, and *zero vacancy* are described in Table 3, per month, after the implementation of the CROSS platform.

During this period, there was a greater demand for the specialties of ophthalmology, orthopedics and general internal medicine.

From the total number of accepted requests, the largest presence of male patients was observed. The diagnostic hypotheses found were related to limb fracture followed by trauma, heart disorders (which include acute myocardial infarction (AMI), atrioventricular block, bradycardia, unstable angina and angina pectoris and others) and stroke (S), respectively.

Table 3: Distribution of regulated requests from October 2016 to April 2018.

MONTHS	ACCEPTED	DENIED	CANCELLED	ZERO VACANCY
OCT	218	09	40	00
NOV	355	34	32	03
DEC	388	16	26	04
JAN	435	43	35	06
FEB	428	52	42	14
MAR	473	62	33	17
APR	407	51	28	16
MAY	408	48	33	15
JUNE	372	57	27	12
JULY	403	33	24	14
AUG	134	34	24	19
SEPT	406	49	31	21
OCT	424	48	44	09
NOV	446	37	31	17
DEC	517	67	21	18
JAN	554	70	27	16
FEB	498	71	36	10
MAR	749	88	23	11
APR	1,067	80	23	17
Total	8,682 (83.1%)	949 (9.1%)	580 (5.5%)	239 (2.3%)

The usual reasons for denying non-pertinent cases were: the institution of origin had the requested resource; no need for tertiary service; the case could be conducted in a less complex service.

The usual reasons for cancellation were: the institution of origin resolved the case using its own resources/facilities; after reevaluation, the patient improved and no longer required tertiary service; and patient sought private service.

Of the referrals ordered by CROSS as *zero vacancies*, 77.73% were sent to the hospital on the same day and up to two days after the record was concluded, and 22.27% did not reach the hospital, the reasons for which are unknown, since no information was returned as to that regard.

There was a 28.87% predominance of regions that did not have a numerical classification showing the resolution priority for their referred patients, as determined by CROSS. Such regions were, thus, classified as zero (0), which corresponds to the color gray and means that no period of time is defined for regulation. The cities that were not classified by color were: Torre de Pedra, Porangaba, Pardiniho and Bofete.

The meaning of each present number is interpreted as follows:

- 1: Emergency- To be solved in 30 minutes/Red;
- 2: Urgency- To be solved in 3 hours/Orange;
- 3: Low-priority urgency- To be solved in 6 hours/Blue; and
- 4: Minimum-priority urgency- Case to be reevaluated/Green

The frequency of requests from October 2016 to April 2018, according to color classification, was 2.69% for emergency cases, 16.88% for urgency cases, 25.42% for low-priority urgency cases and 26.14% for minimum-priority urgency cases.

DISCUSSION

In agreement with the results presented, studies show that 85% of overcrowding results from care provision to low-complexity patients whose needs could be met at the primary level. This is associated with a socioeconomic factor and points to the inadequate use of urgency/emergency services^{14,15}. Those studies also show that males have a prevalence of behaviors that put their safety at risk, and they play a significant role in morbimortality profiles^{16,17}.

Thus, it is observed that humanistic nursing through empathic understanding and active listening in the primary network enables adequate referral to more complex services, and risk classification provides greater safety to users and the staff, respecting the established flow and agreements^{13, 18,19}.

According to Resolution no. 2.077/14 by the Federal Council of Medicine, it is considered that patients are entitled to a clinical destination within 24 hours, namely discharge; hospitalization or an observation bed in cases of need for nursing procedures; interconsultation for specialties and complementary tests²⁰. The average period of time taken to complete requests was 1 hour, 43 minutes and 48 seconds, and seasonality was observed for the following specialties: ophthalmology, general internal medicine and orthopedics.

In Chile, it was concluded that the older population had higher priority during screening, with a frequency of 52.29%²¹, while in the United Kingdom, it was shown that younger adults were more often reported in non-urgent care provision, which agrees with the results obtained²².

In Norway, the reasons for patients to seek primary care services in non-emergency conditions were analyzed. According to reports by the screening staff, the diagnoses most commonly made were abdominal pain, with urgency level classified by the color yellow, and chest pain, most often classified by the color red. These data are similar to the hypotheses presented²³.

Brazil has a Mobile Emergency Care Service (SAMU), which is important in helping to refer patients to services of adequate complexity²⁴. The scarcity of hospital beds is related to overcrowding resulting from *zero-vacancy* referrals, and overcoming this problem involves the federal and state government levels²⁵.

In 2013, the Internal Regulation Centers (NIRs) were created through the National Hospital Care Policy. These centers have contributed to the continuous improvement of flows by promoting efficiency in the use of hospital capacity; however, they must be supported by managers and institutions in order to ensure proper referral by respecting agreements and improving professionals' training so as to guarantee efficient regulation²⁶⁻²⁸.

The regulation center and the referral and counter-referral network seek cooperative and agreed regionalization, making the use of resources and referral qualification more efficient¹³.

Learning about the referral demand will be useful for planning strategies and interventions that can contribute to user regulation and flow.

CONCLUSION

Males from the city of Botucatu, followed by São Manuel and Itatinga, predominate in the demand for urgent/emergency services; there is seasonality for the specialties of ophthalmology, internal medicine, obstetrics and pediatrics.

The mean regulation time was of 1 hour, 43 minutes and 48 seconds; the municipalities that do not undergo classification and requests with minimum-priority urgency corresponded to a frequency of 55.1% of the total, and the percentage of counter-referred patients (12.5%) was low.

It was impossible to quantify the justifications for the cases that were denied, cancelled or referred as *zero vacancies* since information was missing in the system, which can be a limitation to this topic of analysis.

Strategic planning is essential to enable the bed-occupation flow, as it reduces its scarcity. It is also important to understand the complexity of health-care networks and respect the dynamism of demands and needs. The role played by managers is relevant to the smooth functioning of the flow aiming at integrality in care provision networks.

REFERENCES

1. Viacava F, Oliveira RAD, Carvalho CC, Languardia J, Bellido JG. SUS: Oferta, acesso e utilização de serviços de saúde nos últimos 30 anos. *Ciênc. saúde coletiva*. 2018 [cited 2017 Nov 12]; 23(6):1751-62. DOI: <http://dx.doi.org/10.1590/1413-81232018236.06022018>.
2. Zocratto KBF. Mercado da saúde: uma análise da oferta e demanda. *Rev. MADE*. 2014 [cited 2018 Nov 12]; 12: 154-64. Available from: <http://www.revista.amde.org.br/index.php/ramde/article/view/262>.
3. Fernández MA, Roo JP, Irigoyen AC, Blanco SL, Edward AB, Juárez VT. Referral and counter-referral patient management systems in latin america: care coordination mechanisms and the role of family and community medicine. *Rev. bras. med. fam. comun*, 2016 [cited 2017 nov 25]; 11(Suppl 2): 37-45. Available from: <https://rbmfc.org.br/rbmfc/article/download/1384/805>.
4. Governo Estadual (SP) Decreto nº 51.433, de 28 de dezembro de 2006. Cria unidade na Coordenadoria de Regiões de Saúde, da Secretaria da Saúde, altera a denominação e dispõe sobre a reorganização das Direções Regionais de Saúde e dá providências correlatas. *Diário Oficial, Estado de São Paulo*, 29 dez. 2006. Seção I, p. 1. DOE-I 29/12/2006, p. 1.
5. Hospital das Clínicas - Faculdade de Medicina de Botucatu. História, os primórdios do HC. [cited 2016 Ago 10]. Available from: <http://www.hcfmb.unesp.br/quem-somos/>.

6. Nascimento AAM, Damasceno AK, Silva MJ, Silva MVS, Feitoza AR. Health regulation: applicability to the concretion of the unified health system management pact. *Cogitare enferm.* 2009 [cited 2017 Nov 28]; 14(2): 346-52. Available from: https://www.nesc.ufg.br/up/19/o/texto_debate_prof_nelson-regula_o_em_saude.pdf.
7. Governo Estadual (SP) Decreto nº 56.061, de 2 de agosto de 2010. Cria, na Coordenadoria de Serviços de Saúde, da Secretaria da Saúde, a Central de Regulação de Oferta de Serviços de Saúde- CROSS e dá providências correlatas. *Diário Oficial, Estado de São Paulo*, 3 ago. 2010. Seção I, p. 1. Available from: <https://www.al.sp.gov.br/repositorio/legislacao/decreto/2010/decreto-56061-02.08.2010.html>.
8. Alves MLF, Guedes HM, Martins JCA, Chianca TCM. Reference and counter reference network for emergency care assistance in a municipality in the countryside of Minas Gerais - Brazil. *Rev. Med. Minas Gerais.* 2015 [cited 2018 Ago 23]; 25(4): 469-75. DOI: <http://www.dx.doi.org/10.5935/2238-3182.20150110>.
9. Ribas DRT. Apresentação: central de regulação de ofertas de serviços de saúde [slide], 2016; 22 slides, color. [cited 2017 Mar 07]; Available from: http://www.saude.pr.gov.br/arquivos/File/ACS/oficina_rede_maepr.pptx.
10. Ministério da Saúde (Br) Secretaria de Atenção à Saúde. Departamento de Regulação, Avaliação e Controle de Sistemas. Diretrizes para a implantação de complexos reguladores. Brasília, DF: Ministério da Saúde, 2006 [cited 2017 Ago 10]. Available from: http://bvsmis.saude.gov.br/bvs/publicacoes/pacto_saude_volume6.pdf.
11. Bordalo AA. Estudo transversal e/ou longitudinal. *Revista Paraense de Medicina.* 2006 [cited 2018 Ago 23]; 20(4). DOI: <http://scielo.iec.gov.br/pdf/rpm/v20n4/v20n4a01.pdf>.
12. Fundação oncocentro de São Paulo. *Caracterização da assistência oncológica nas redes regionais de atenção à saúde no estado de São Paulo. RRAS 09 – DRS Bauru (Regiões de Saúde: Vale do Jurumirim, Bauru, Jaú, Lins e Polo Cuesta).* 2014 [cited 2018 Jun 16]; 6-27. Available from: http://www.saude.sp.gov.br/resources/ses/perfil/profissional-da-saude/destaques//boletim_assist_oncol_rras_6.pdf.
13. Acosta AM, Lima MADS. Frequent users of emergency services: associated factors and reasons for seeking care. *Rev. latinoam. Enferm.* (Online), 2015 [cited 2018 Jul 27]; 23(2): 337-44. DOI: <http://dx.doi.org/10.1590/0104-1169.0072.2560>.
14. Uscher-Pines L, Pines J, Kellermann A, Gillen E, Mehrotra A. Emergency department visits for nonurgent conditions: systematic literature review. *Am. J. Manag. Care*, 2013 [cited 2018 Mai 27]; 19(1): 47-59. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23379744>.
15. Arruda GO, Marcon SS. Health risk behaviors of men from the southern Brazil. *Texto & contexto enferm.* 2018 [cited 2018 Jul 22]; 27(2): e2640014. DOI: <http://dx.doi.org/10.1590/0104-070720180002640014>.
16. Silva AV, Santos I, Kestenberg CCF, Caldas CP, Berardinelli LMM, Silva LPS. On-call listening: an application of Humanistic Theory in the clinical nursing process. *Rev. enferm. UERJ* [Internet], 2018 [cited 2019 Out 31]; 26: e33586. DOI: <http://dx.doi.org/10.12957/reuerj.2018.33586>.
17. Pagliotto LF, Souza PB, Thomazini JO, Ortega ABA, Vavra SMF. Risk classification inside an urgency and emergency unit of São Paulo countryside. *Cuid. Art. Enferm.* 2016 [cited 2018 Feb 12]; 10(2): 148-55. Available from: <http://www.webfipa.net/facfipa/ner/sumarios/cuidarte/2016v2/148-155.pdf>.
18. Gomes R, Nascimento EF, Araújo FC. Why do men use health services less than women? Explanations by men with low versus higher education. *Cad. Saúde Pública.* 2007 [cited 2018 Out 31]; 23(3): 565-74. DOI: <http://dx.doi.org/10.1590/S0102-311X2007000300015>.
19. Freitas RJM, Pereira MFA, Lima CHP, Melo JN, Oliveira KKD. Violence against nursing professionals in the embracement sector with risk classification. *Rev. gaúch. Enferm.* 2017 [cited 2018 Jan 28]; 38(3): e62119. DOI: <http://dx.doi.org/10.1590/1983-1447.2017.03.62119>.
20. Conselho Federal de Medicina. Resolução CFM nº 2.077/14. Dispõe sobre a normatização do funcionamento dos serviços hospitalares de urgência e emergência, bem como do dimensionamento da equipe médica e do sistema de trabalho. [cited 2018 Set 09]. Available from: <https://portal.cfm.org.br/images/PDF/resolucao2077.pdf>
21. Granda MBM, Gutiérrez GG, Fernández MF, Jaurrieta JJS. Impact of the elderly patient in the emergency department. *Rev. Esp. Geriatr. Gerontol.* 2018 [cited 2018 Abr 25]; 53 (3): 145-48. DOI: <https://doi.org/10.1016/i.regg.2017.08.003>.
22. O'KEEFE C, Mason S, Jacques R, Nicholl J. Characterising non-urgent users of the emergency department (ED): a retrospective analysis of routine ED data. *PLoS ONE.* 2018 [cited 2018 Jun 19]; 13 (2). DOI: <https://doi.org/10.1371/journal.pone.0192855>.
23. Raknes G, Hunskaar S. Reasons for encounter by different levels of urgency in out-of-hours emergency primary health care in Norway: a cross sectional study. *BMC Emergency Med.* 2017 [cited 2018 Feb 19]; 17(19): 17-19. DOI: <https://doi.org/10.1186/s12873-017-0129-2>.
24. Oliveira GN, Oca RSC, Campanharo CRV, Okuno MFP, Lopes MCBT, Batista REA. Assessment and triage: waiting time of low severity users. *Rev. Enferm. UFSM.* 2016 [cited 2018 Ago 24]; 6(1): 21-28. DOI: <http://dx.doi.org/10.5902/2179769218911>.
25. O'DWYER G, Konder MT, Reciputti LP, Macedo C, Lopes MGM. Implementation of the Mobile Emergency Medical Service in Brazil: action strategies and structural dimension. *Cad. Saúde Pública* (Online). 2017 [cited 2018 Mar 24]; 33(7): e00043716. DOI: <http://dx.doi.org/10.1590/0102-311x00043716>.
26. Soares VS. Analysis of the internal bed regulation committees from hospitals of a southern Brazilian city. *Gestão e economia em saúde – Einstein.* 2017 [cited 2018 Jun 17]; 15 (3): 339-43. DOI: <http://dx.doi.org/10.1590/s1679-45082017gs3878>.
27. Juliani C, Macphee M, Spiri W. Brazilian specialists' perspectives on the patient referral process. *Healthcare* (Basel). 2017 [cited 2018 Jul 28]; 5(4). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5371910/pdf/healthcare-05-00004.pdf>.
28. Fassarella CS, Silva LD, Camerini FG, Barbieri-Figueiredo MC. Organizational indicator of safety culture in a university hospital. *Rev. enferm. UERJ*, Rio de Janeiro, 2019; 27:e34073. DOI: <http://dx.doi.org/10.12957/reuerj.2019.34073>.