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ACCESS TO ULTRASOUND EXAM: THE REALITY OF ULTRASOUND IN THE CITY OF PELOTAS

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Abstract: Introduction: Ultrasound (US) is a widely used exam in medical practice, being used to screen numerous pathologies, in routine gynecological exams, to monitor fetal development during pregnancy, among others. Although this exam is highly requested by medical professionals, its access is not yet facilitated through the Unified Health System (SUS), as the waiting time for the user to be able to schedule and perform the exam is long. Objective: This article aims to carry out an analysis of the flow of outpatient access to ultrasound exams in the city of Pelotas-RS in 2022, addressing the main obstacles encountered in carrying out the exam by users of the health system and service providers. Methods: The functioning of the health system in relation to access to ultrasound examinations in the city of Pelotas was evaluated through data collected in hospitals that meet the demand for this service via SUS, and also in the Municipal Health Department. interviews with professionals involved in the process of carrying out this type of exam by the SUS in the municipality. Results: It was evaluated how contact is made with users to schedule and confirm exams and also analyzed the discrepancy between the supply of ultrasound per year recommended by the Ministry of Health and the real quantity offered to Pelotas and others 23 cities, resulting in a long waiting list for exams and their consequences. Conclusions: Despite being an exam of great importance for screening, diagnosis, and monitoring of various diseases, access to US exams by SUS users in the city of Pelotas is still very limited. Therefore, in order to minimize the impact on the waiting list, the availability of professionals trained to carry it out must be increased, as well as increasing the amount of US equipment in the city of Pelotas.

**Keywords:** Ultrasonography; Access to Health Services; Effective Access to Health Services.

### INTRODUCTION

Ultrasonography (US) is one of the most commonly requested diagnostic imaging tests in medical practice. The image of the human body is generated from beams of highfrequency sound waves that can be viewed in real time during the exam<sup>1</sup>. It has the advantage, in relation to other imaging exams, of not using ionizing radiation, in addition to not causing any side effects and the images can be observed in real time, allowing for an immediate diagnosis with early treatment guidelines when necessary. necessary, helping to cure and improve the quality of life of patients.

Ultrasound examination is also used to assist in the screening of some pathologies such as breast cancer, thyroid cancer and liver cirrhosis, and its rapid access is extremely important as it influences the treatment and prognosis of the disease. Furthermore, this is an allied exam for women, since transvaginal US is one of the main exams requested by gynecologists to evaluate changes in the female reproductive system or to perform routine gynecological evaluation. During pregnancy, periodic ultrasounds are recommended to monitor fetal development, confirm gestational age, early detection of twin pregnancies and fetal malformations<sup>7</sup>.

As it is a device that is relatively easy to transport, the availability of ultrasound would facilitate many diagnoses in emergencies and also in the monitoring of hospitalized patients if taken to the bedside. However, to use this equipment, a qualified doctor is required, and it is therefore a dependent medical examination, which makes its availability more limited, since, in most cases, only the radiologist has the appropriate experience to carry out the examination. exam and interpret it correctly<sup>10</sup>.

The use of US at the point of care can help in the accurate diagnosis of various diseases by a trained doctor, however, the lack of nonradiologist doctors able to provide this service makes it difficult to equate the diagnostic process with the demand for ultrasounds in the public network. of health<sup>8</sup>.

Although this exam is widely used in medical practice, its access is still not as easy through the Unified Health System (SUS), as it is necessary, in addition to a trained professional, a specialized request which will be evaluated by a regulatory center directed by the Municipal Health Department, so that the exam can then be approved. From this year, 2022, it will be recommended that the follow-up of the request approved by the management system migrates to Gercon, as this is a system for regulating specialized consultations of the SUS that organizes the waiting list according to the real need/ severity of the patient and which, thus, will implement one of the principles of the SUS (Unified Health System), which is equity<sup>3</sup>.

It can be seen that it is a time-consuming and bureaucratic process from requesting the exam to its approval for scheduling, but with this new strategy it is expected that the system will be more efficient and provide better assistance to the population. This long queue generates waiting time that often results in absenteeism and puts the patient's life at risk as there are still few cities in Rio Grande do Sul (RS) with the implementation of the Gercon system<sup>3,4</sup>.

Furthermore, the system has difficulty in providing continuity of care to the patient, since even in primary health care, which is a system designed for continuous and comprehensive patient care, it ends up being flawed due to the turnover of doctors and also the difficulty in communication between medium and high complexity systems, which can lead to unnecessary exams being requested and increasing the waiting list for those who really need them. Therefore, it is recommended that in order to have efficient requests it is necessary that, in addition to knowing the patient, the doctor needs to understand the environment in which he works, know the epidemiology of the region, the biopsychosocial profile and have a multidisciplinary team to assist in the conduct of this patient<sup>2</sup>.

Furthermore, the patient enters the waiting list for scheduling, which is done according to schedule availability, and when the procedure is finally approved and scheduled, the search for the patient also proves to be flawed, since it is done via telephone and often By not having updated patient data, whether due to a registration error or a change in user data, contact becomes unfeasible and the chance of carrying out the desired exam is lost.

There are also situations in which the exam is not carried out in cases of patient nonattendance, without prior notification for cancellation and rescheduling of the exam, due to the distance and difficulty of transportation, economic factor for transportation, lack of or error in preparing for carrying out the examination, such as fasting or administering medication<sup>5</sup> and also the lack of information and acceptability. The latter involves patients' expectations about the service to be provided, respect and care in care, the importance given to their complaints, as well as understanding medical explanations about their health status and care alternatives, which boils down to good interaction between the healthcare team and patients who are also influenced by previous experiences with healthcare services<sup>6</sup>.

In these cases, not carrying out the exam disrupts the progress of the waiting list, as the time could have been filled by another patient who would attend the exam and perform it correctly and as desired<sup>9</sup>.

Furthermore, many patients undergo the exam and do not show up to get the results, without continuing to monitor and treat illnesses when necessary<sup>9</sup>. Therefore, there may be delays in diagnosing diseases, progression of the disease due to failure in monitoring and treatment, which impacts the quality and life expectancy of patients, as well as generating financial losses for public health. This is due to the great demand that the SUS faces, in addition to a flawed system from requesting the exam to scheduling and carrying it out.

In accordance with the above, this work aims to analyze the flow of outpatient access to ultrasound exams in the city of Pelotas-RS, in the year 2022.

#### METHODS

Strategic basic research was carried out with the intention of delving deeper into the issue of access to US examinations, not focusing on any specific event, but rather on the population's general access to this type of examination. This research model is used to develop knowledge and data, with the aim of later using them to solve the problems reported in this article.

Furthermore, this article has an exploratory and explanatory nature, as it investigatively seeks the cause, effect, consequence and results of the data reported and discussed throughout the text. The study was carried out by collecting data in places where contracted exams are carried out in the city of Pelotas, which meet the demand for US via SUS (Unified Health System), and also in the city's SMS. Furthermore, research was carried out on the Ministry of Health (MS) website for better understanding and comparison during data collection.

To collect information about the exams, unstructured interviews were carried out with professionals, workers and managers involved in the US process by the SUS (unified health system) in Pelotas.

Finally, this article has a qualitative

approach, as it is a study carried out to analyze a work process for a population that needs to access exams and their results. That said, after data collection was carried out, further analysis was carried out, seeking to compare and relate information already described in the literature, aiming to reach the conclusion of this article.

#### RESULTS

The US exam request process begins during the consultation, according to the patient's needs. In a university outpatient clinic in Pelotas, at the end of the consultation, the patient is given a request for the exam on paper and instructed to take it to the reception desk at the location so that the request can be duly carried out by the reception staff through the AGHOS system, a system of health care and financial management and regulation used in the public health network of Pelotas.

In UBSs, this request via AGHOS is generally made by the health professional or health student who provided care to the patient. This system records the patient's personal data, as well as their contact telephone number, which must be duly confirmed so that there is efficient communication when scheduling the exam, in addition to the requested exam. Once requested at AGHOS, it is necessary for a medical professional from the Municipal Health Department (SMS) to interpret the requesting doctor's justification for carrying out the examination and then authorize and assess the urgency of carrying out the US. Therefore, knowing that the SMS doctor's assessment is made based only on the written justification at the time of requesting the exam, it is extremely important that when requesting an outpatient or UBS, the students and responsible doctors justify the need in detail and individually. of the US exam according to each patient, so that there is a correct assessment of the urgency of its

performance, thus having a fairer waiting list.

According to data collected through interviews with members of the Municipal Health Department of Pelotas, the waiting list for US has 12,747 requests made between January 1, 2019 and September 30, 2022, involving requests for full abdominal US, upper abdomen, urinary tract, joints, scrotum, vessel doppler, obstetric flow doppler, breasts, obstetric, gynecological pelvic, abdominal prostate, transrectal prostate, thyroid and transvaginal. Among these requests, breast US is the most requested, as shown in TABLE 1.

Total of the main US requests that are in the waiting queue*	9863		
Breast US	4101		
US of vessels with Doppler	3023		
Transvaginal US	1496		
Thyroid US	1243		

Table 1 - US exams on the waiting list to be carried out according to the SUS offer in Pelotas

\* The data was provided by SMS de Pelotas in accordance with requests for the period between January 1, 2019 and September 30, 2022.

> Source: Pelotas Municipal Health Department.

This significant number of requests on the waiting list is justified by the low number of exams offered by the contracted hospitals, namely the Teaching Hospital of ``Universidade Federal de Pelotas``, the `` Hospital Universitário São Francisco de Paula``, the Santa Casa de Misericórdia de Pelotas and the Hospital Beneficência Portuguesa, all four linked to SMS to carry out these exams.

It was reported that, currently, there are four monthly vacancies for vessel US, six for thyroid US and twenty for breast US. This demand for exams includes requests referring to health units in the city of Pelotas and 23 other cities that have Pelotas as a reference city for carrying out exams and treatments, namely Aceguá, Amaral Ferrador, Arroio do Padre, Arroio Grande, Bagé, Candiota, Canguçu, Capão do Leão, Cerrito, Cristal, Dom Pedrito, Herval, Hulha Negra, Jaguarão, Lavras do Sul, Morro Redondo, Pedras Altas, Pedro Osório, Pinheiro Machado, Piratini, Santana da Boa Vista, São Lourenço do Sul and Turuçu.

According to the care parameters of Ordinance 1631 of 2015, the SUS recommends that each resident consult a doctor, on average, 2 to 3 times a year, and that of the total number of consultations carried out in the year, 1% of these will be conducted by requesting the US exam. In the table below (TABLE 2) it is possible to understand more clearly how access, supply and also the real supply and demand for this exam are idealized by the system, in the municipality of Pelotas.

In the table above (TABLE 2.) it is possible to clearly analyze the low supply of US exams offered during the year, far below that recommended by the Ministry of Health (ORDINANCE, number: 1,101, OF JUNE 12, 2002) and having a high demand, with a long waiting list with a high number of tests requested, beyond what is expected when calculating the size of the population. A survey was also carried out of the number of US that are offered by each hospital that provides services for SMS in the city of Pelotas in the period between January 1, 2019 and September 30, 2022, which is divided into the two tables represented below (TABLE 3.1 and TABLE 3.2).

During the interview it was also mentioned that monthly meetings are held to monitor the contracting process with members of the SMS and linked hospitals to improve access to specialized consultations and exams, in addition to demanding that hospitals offer and perform exams in advance. contracted,

Characteristics	Total Population *	Average number of consultations/years of the population estimated by SUS*	Offer of US/year recommended by MS***	US offer ****	Total US requests in queue ****	the **
Pelotas	343.826	1.031.478	10.314	-	11081	
Pelotas and the other 23 cities	793.968	2.381.904	23.819	4520	12747	
	Table 2 - U	JS supply and demand for Pelo	otas and 23 other citie	es.		
	* According to	the Brazilian Institute of Geog	graphy and Statistics (	(IBGE)		
** The expected	average number recommen	er of consultations per patient ded by the SUS, based on 3 co	was calculated accor onsultations per perso	ding to on.	the proporti	on
*** The supply of is t	of US/year is cal the value recom	lculated based on the total num mended by the MS (Ordinance)	mber of consultations ce No. 1,101, of June 1	s/years, 12, 200	1% of this to 2).	otal
**** The data or	n the US numbe	ers offered were provided by Si 1, 2022 and September 3	MS and refer to the p 0, 2022	eriod b	oetween Janua	ary
***** The data of	on the requests	made were provided by SMS c 2019 and October 21,	le Pelotas for the peri 2022	od bet	ween January	r 1,
****** The separ SMS, w	rate quantity of rith only the tot	US numbers offered only for t al offered for Pelotas and the c	the city of Pelotas was other 23 cities being n	s not m nade av	ade available vailable	by
Hospital pro	oviding service	Obstetric Articula	tions Total abdomer	n Upp	per abdomen	Bre
UFPel Teac	hing Hospital	346 -	_		-	
Santa Cas	a de Pelotas	369 933	836		-	2

 Santa Casa de Pelotas
 369
 933
 836
 218

 ''Hospital Universitário São Francisco de Paula''
 136
 20
 65
 12
 37

-

Table 3.1 - Number of US offered to Pelotas and 23 other cities from January 1, 2022 to September 30,2022.

910

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Hospital providing service	Thyroid	Urinary tract	Transvaginal	Prostate	Scrotum	Pelvic	TOTAL
UFPel Teaching Hospital	-	-	74	-	-	-	420
Santa Casa de Pelotas	56	3	66	-	-	-	2481
`` Hospital Universitário São Francisco de Paula``	41	35	51	28	22	9	456
Hospital Beneficência of Pelotas	-	105	-	150	-	-	1165

## Source: Pelotas Municipal Health Department.

Table 3.2 - Number of US offered to Pelotas and 23 other cities from January 1, 2022 to September 30,

2022.

Source: Pelotas Municipal Health Department.

Hospital Beneficência at Pelotas

since the number of exams performed is lower than what was agreed in practically all types of US.

The hospitals at this meeting, as reported by the secretariat, claim a lack of trained professionals, a low price paid for the exam or technical problems with the equipment as justification for not carrying out the exams agreed with the SMS.

Due to this, SMS, in an attempt to reduce the waiting time for breast US scans, began offering a supplementary value to encourage compliance with this examination, positively impacting the progress of the queue.

To call patients to take the exam, SMS contacts them mainly via WhatsApp, or via telephone call in cases of elderly patients or those without access to technology. An SMS message is sent to patients in order to confirm that the contact belongs to the patient in question, confirm the exam to be carried out and request that the citizen respond to the message if they are still interested in taking the exam, since in the majority In most cases, a long time has passed since the request was made and it is common for patients to give up on the procedure or have already had it done privately. The latter is common in cases of obstetric US, an exam that has a high supply from hospitals and high demand, but many patients do not answer the SMS phone call or do not respond to a Whatsapp message, often due to the fact that they choose to undergo the exam. particularly due to the shorter waiting time.

If there is interest and the patient respond to the message, authorization for the exam is sent via WhatsApp, which the patient must present, via their cell phone, on the day of the exam. However, if there is no response to the message, the exam space is allocated to the next patient on the waiting list. In cases of contact via telephone call, the patient must go in person to the SMS to collect the authorization sheet in physical form to present on the day of the exam. In general, the exam takes place one month after the SMS contacts the patient. If this is unsuccessful via WhatsApp and phone call, the request remains pending and the next patient in line is contacted.

Respondents believe that contact with patients is effective. Due to the large number of people who go to the SMS, around four thousand people per month, at the reception of the secretariat building there is a server designed to update registration data such as telephone numbers, in addition to informing patients about their status on the exam waiting list. It is also worth highlighting that confirming or updating contact details in the AGHOS system can and must be done at UBSs and outpatient clinics at the time of consultations.

Another issue reported is the lack of updating of the AGHOS system by the responsible hospitals and doctors after carrying out the US exams, with no record of the results and, consequently, no updating of the waiting list. TABLE 4.

US in October 2022	Reques- ted	Autho- rized	Perfor- med
Transvaginal US	189	5	0
Obstetric US	72	55	0
US total abdomen	235	116	1

Table 4 - Failure to update the Aghos system regarding the performance of US exams in relation to the requested and authorized exams

> Source: Pelotas Municipal Health Department.

The monthly offers made available by hospitals are not fixed and are not always in accordance with the number of contracted exams. In some months, a greater number of exams are carried out to compensate for others in which this number was low and this is discussed and agreed at monthly meetings. There are special cases in which SMS negotiates with hospitals so that US can be performed on patients who need an urgent examination when the monthly slots have already been filled in advance.

The report of the US exam performed becomes another critical point when we talk about the SUS system, since, if there is a queue for appointments and overcrowding of the system in general for this type of service. Furthermore, as mentioned previously, there is a small number of doctors to work in this area of medicine, resulting in an overload of work for the few who intend to work in the area. Just as there are simple and easy diagnostic reports, there are others that take up more of the specialist's time, both when carrying out the exam and when finalizing the report.

Furthermore, it is extremely important to highlight that this is an operator-dependent imaging method, therefore, it is necessary that the professional carrying out the exam is able to generate reports in a clear and detailed manner, aiming for easy understanding by other professional colleagues. who work in the most diverse medical areas and will have to analyze what is described, aiming to treat the patient as quickly as possible in some situations. Furthermore, it is an exam that is difficult to interpret, both at the time it is being performed and when interpreting the image obtained later that will be attached to the report, thus corroborating the importance of a well-written report by the professional who performed the exam.

The reports are not always finalized after the immediate end of the exam. According to information obtained from health agents, the average time for a report to be ready is ten days, with variations being possible; If requested urgently, it is expected that this result will be delivered as quickly and in the shortest possible time.

When the report is finally finalized, it is

officially delivered in printed form, containing the signature of the specialist doctor. It is necessary for the patient to collect the test results in the same place where they took it; If the person is unable to show up to make the withdrawal, someone responsible, carrying a photo ID, is able to do so.

It is known that from this year, 2022, it will be recommended that the follow-up to the request approved by the management system migrate to the GERCON System and with this new strategy, greater efficiency of the system and better assistance to the population are expected. However, it was reported that in practice the transition from the AGHOS system to the GERCON system tends to be quite complicated, since there is a need to reevaluate the thousands of patients who are already on the waiting list via AGHOS, in addition to the transition of their records. and requests. SMS members believe that the system transition occurs early in cases of requests for specialized consultations, but that it takes longer in cases of requests for exams.

In an interview carried out at a hospital in Pelotas, which performs US examinations for the city and region, it was reported that it has four radiologists, in addition to a cardiologist who performs fetal and infantechocardiograms and a gynecologist who performs obstetric and transvaginal US. Weekly, from Monday to Friday, approximately four to five US are performed per day.

On some Saturdays, the hospital holds joint efforts that are scheduled by SMS to perform a large number of US, in order to alleviate the waiting list. However, in the joint effort held on 10/22/2022, the objective was to perform thirty US after all thirty patients had confirmed their presence in the exam when SMS got in touch, but only eighteen patients actually attended. It was reported that there is a specific day of the week in this hospital for transvaginal US and abdominal US, with the exception of joint efforts days. Total abdominal US is the most commonly performed in this hospital.

The AGHOS system updates the progress of exams as requested, authorized or performed. However, the US reports performed are made available in another system used by the hospital itself.

At the interviewed hospital, urgently requested US exams pass through the hospital's administrative department and are then taken to the doctor responsible for carrying out the exams, who analyzes and decides whether it is possible to pass the exam in front of the others in front.

Regarding confirmation of the exam with the patient, after contacting the SMS to confirm interest in taking the exam, a second contact with the patient is made, this time by the hospital itself, to confirm presence in the exams. This is done via telephone and if it is not possible to contact the patient, another is relocated in their place.

One of the doctors who works at this hospital reports that if more doctors had specific bedside US courses, the hospital's demand for internal US would decrease and this would open up more vacancies to perform external US.

# DISCUSSION

According to the data collected and presented previously in this article, there are several difficulties and flaws in the process of carrying out ultrasound examinations by the population of Pelotas and nearby cities, making it possible to perceive a reduced number of people who have access to this type of service.

According to data from IBGE (Brazilian Institute of Geography and Statistics) and DATASUS from 2009, the number of radiologists capable of performing US in the city of Pelotas totaled an average of 20.8 professionals for every 100 thousand inhabitants, considering the total number of the population in that year, when the study was carried out<sup>12</sup>. It is known that the demand for carrying out this type of exam is extremely high, which is why a total of 75 radiologists for all the inhabitants of Pelotas is insufficient and harmful to the population. Added to this reduced number of professionals, they are concentrated in the private network, delaying the population's service via SUS, increasing the waiting list.

Private care pays its employees better, which is one of the main factors that attract doctors to work in this environment. A study carried out between the years 2012-2013 concluded that these professionals from the private network earned up to three times more to perform the same imaging exam offered by the SUS, with one of the alternatives proposed by the government of Salvador being the use of the private network to complement the public system, aiming to reduce waiting lists for exams16. This way, the cost of the public system for maintaining US equipment and payroll for service providers, such as secretaries, cleaners and doctors, will reduce; and there will also be an increase in the number of exams available. This would be a method for cases where there are no imaging tests offered in the city or when the patient urgently needs US.

Furthermore, the Ministry of Health uses as a parameter a total need for 150 ultrasounds per 1,000 inhabitants per year<sup>13</sup>. If the total population of Pelotas in 2020 is considered, it would be necessary to carry out, more or less, a total of 51,470 US per year, a much higher number than what is evidenced in Pelotas. Furthermore, it must be taken into consideration, the fact that Pelotas is considered a reference for carrying out this exam by 23 other adjacent municipalities, bringing the total number of US that must be performed per year to 119,095, with, in reality, only 5,928 exams being carried out in the population of these 24 cities. Therefore, the glaring discrepancy between what is recommended by the public body and what is seen in public health in Pelotas is evident.

Another point that needs to be reviewed is in relation to the medical referral that reaches the SMS, as it is from this that the urgency for carrying out the exam will be decided. Therefore, the professional who assessed the patient's need to perform an US must be clear and direct, giving details of the comorbidities that affect this individual. Therefore, it is necessary to qualify referrals<sup>14</sup>, writing and using protocols for doctors, aiming to standardize and improve justification; This way, it will be possible to be more efficient when assessing the individual's real need to undergo the exam quickly, thus avoiding greater complications in their health situation and reducing the number of negative outcomes.

A positive fact to be highlighted in relation to what is happening in the city of Pelotas is in relation to the scheduling of exams. Most UBSs have a computerized system to access the AGHOS system, where appointments for specialized exams are made. In addition, outpatient clinics accredited for SUS care are also capable of scheduling through the same system. A reality far from what occurs in the city of São Paulo - SP, where it was necessary for the entire population to be referred to a specific UBS, as only it had access to the scheduling system; This not only resulted in patients having difficulty accessing more complex exams, but also overcrowded the unit with demand that could have been resolved in another way, making really necessary medical appointments unavailable<sup>14.</sup>

Currently, the AGHOS system is the system used throughout the municipality of Pelotas, but it will be gradually replaced by the GERCON system, which was developed by employees of SMS and the Data Processing Company in the Municipality of Porto Alegre (Procempa). This new system aims for greater equity in serving the population<sup>15</sup>, where it will be possible for the health units themselves to be able to register and classify requests as a priority. In addition, the system will have statistical information that seeks to assist doctors in taking appropriate actions<sup>15</sup>.

This reality is different from what happens in the city of São Paulo, where two independent systems coexist for scheduling appointments and exams<sup>14</sup>, This complicates access for the population and reduces the efficiency of the SUS. It is clear, then, the improvement that will occur when the entire state of Rio Grande do Sul standardizes and unifies the request management system for scheduling appointments and specialized exams.

In addition to the problems already described above, the dependence on facing a long waiting list to obtain health care presented itself as a problem highlighted in the perception of common sense when addressing the universality of access in the public health system <sup>17</sup>, Therefore, it is a barrier to be overcome so that the desired service can be achieved.

Although each health service is responsible for the care of a community delimited from the population of a municipality <sup>17</sup>, There is a need for patients to seek more specialized care, such as exams, far from their home, which generates travel and expenses that can be a reason for not having them performed. These public service difficulties make access to examinations difficult, generate absenteeism, delay diagnoses and, consequently, treatments, and may have negative outcomes such as the death of the patient.

It is known that the better structured the referral and counter-referral flow between health services, the greater their efficiency and effectiveness<sup>17</sup>. However, the presence of

obstacles to the implementation of this referral and counter-referral system in the city of Pelotas is evident. The difficulties encountered, such as low supply of US, failure to carry out the number of contracted exams, absenteeism, among others, result in deficiency in the SUS, and non-compliance with principles and guidelines, such as universality, completeness, equity, regionalization and hierarchy, as without the proper functioning of this system/ flow there is no guarantee of continuity of assistance<sup>17</sup>.

Thus, there is a need for a more effective offer of US exams in the city of Pelotas. To achieve this, there must be financial and technological investments on the part of SMS and contracted hospitals in the area of examinations, increasing the number of trained professionals working in the area through incentives for training and better remuneration. There must also be an increase in the number of exams carried out through investment in new equipment and maintenance of those already available<sup>15</sup>, which would reduce the waiting list for the US. There is also a need for a better geographical distribution of exam locations so that they cover the different communities in the city, facilitating access for patients and reducing absenteeism, positively impacting the quality and life expectancy of patients.

Due to the long waiting list, many patients give up both seeing a specialist and undergoing complementary exams<sup>14</sup>, either by resolving their problems or by searching for alternatives to carry them out, such as, for example, looking for private establishments to perform such services<sup>14</sup>. These currently have a certain relevance in the health area. In Salvador, for example, image exams have a significant demand in the private sector, and, in addition to this, there is still a high demand for these providers by the public system, which seeks in them a way to reduce their queues<sup>16</sup>.

# CONCLUSIONS

It is noted that US has numerous advantages over other types of exams, however, the difficulty in accessing this diagnostic tool for the population of the municipality of Pelotas and 23 other cities is clear. The barrier to access begins with the justification given when requesting the exam, since it will later be evaluated by doctors from the SMS itself; These professionals sometimes end up misinterpreting the degree of need for this type of exam for the patient, since the justifications are shallow and non-specific.

As for contact with the patient to confirm the exam, this is done both by the SMS and by the contracted hospitals, and is judged to be effective. However, users are not asked whether they have already taken the previously awaited exam privately, a reality that is not very frequent, given that the waiting time in the public network is long; Due to this failure in communication, some patients end up taking the exam twice and unnecessarily, disrupting the progress of the queue.

In this study, the discrepancy between the number of US recommended by the MS annually and the actual supply available in the city of Pelotas is also observed. This explains the significant number of patients on the waiting list to undergo this type of exam, and this issue deserves further study.

Despite having positive points in this study, as seen in terms of confirmation with the user to attend the exam, the urgency to increase the availability of trained professionals to perform US via SUS in the city of Pelotas is noticeable. Furthermore, it is necessary to increase the number of ultrasound equipment in good working order and also resolve any technical problems that may involve these devices more quickly. Thus, the impact on the waiting list will be minimized, making the number of US performed less distant from that recommended by the MS. It is concluded, then, that the US examination has a very important role, from screening for various pathologies to monitoring fetal development. Given the relevance of this exam, measures are needed to speed up access for the sick population to this service, aiming for early diagnoses and curative treatments, thus minimizing the occurrence of negative progression of pathologies or even death. Finally, if the problem exposed in this work were resolved, access to US examinations would be facilitated and the population of Pelotas would be better assisted.

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