

# Care profile of the elderly population in Emergency Care Units in the city of Rio de Janeiro

## *Perfil de atendimento de população idosa nas Unidades de Pronto Atendimento do município do Rio de Janeiro*

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DOI: 10.1590/0103-11042020125091

**ABSTRACT** In the current context of epidemiological transition, Emergency Care Units (UPA) have started to play a fundamental role in assisting the elderly population, with emphasis on diagnoses related to trauma, cardiovascular diseases and respiratory diseases. This study aimed to analyze the care provided to the elderly population in the UPA in the city of Rio de Janeiro between the years 2013 and 2015, taking into account the most prevalent diagnoses according to the International Classification of Diseases, the relative risk classifications each group of diseases and the outcomes after medical care. It was detected a higher prevalence of female visits, as well as a considerable increase in the number of diagnoses attended in the elderly over the years. It was observed that most of these elderly people were classified as Yellow risk, and most of the outcomes were discharged or referred to specialists. The health care network must prepare itself to increase the demands of this age group, being especially necessary to encourage the search for primary care in pursuit of prevention.

**KEYWORDS** Comprehensive health care. Health policy. Cardiovascular diseases. Respiratory diseases. Traumatology.

**RESUMO** No atual contexto de transição epidemiológica, as Unidades de Pronto Atendimento (UPA) passaram a exercer papel fundamental no atendimento à população idosa, com destaque para diagnósticos relacionados com trauma, doenças cardiovasculares e doenças respiratórias. Este trabalho teve como objetivo fazer uma análise do atendimento à população de idosos nas UPA do município do Rio de Janeiro entre os anos 2013 e 2015, levando em conta os diagnósticos mais prevalentes de acordo com a Classificação Internacional de Doenças, as classificações de risco relativas a cada grupo de doenças e os desfechos após o atendimento médico. Detectou-se maior prevalência de atendimentos do sexo feminino, assim como um aumento considerável no número de diagnósticos atendidos em idosos com o passar dos anos. Observou-se que a maioria desses idosos foi classificada como risco Amarelo, e a maior parte dos desfechos foi alta ou encaminhamento a especialistas. A rede de atenção à saúde deve preparar-se para o aumento das demandas desse grupo etário, sendo especialmente necessário um incentivo à procura pela atenção primária em busca da prevenção.

**PALAVRAS-CHAVE** Assistência integral à saúde do idoso. Política de saúde. Doenças cardiovasculares. Doenças respiratórias. Traumatologia.

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## Introduction

Demographic and epidemiological patterns in Brazil have undergone many changes over the years, albeit more slowly than in countries such as Europe. Until the 1940s, approximately, infectious and parasitic diseases still stood out in the epidemiological scenario of the Country as the leading cause of death for the population. These were, from that period, replaced by Noncommunicable Diseases and Aggravations (Dant), mainly chronic and degenerative diseases, with worsening, and external causes, such as accidents. Concomitantly with this fact, there is the introduction of technologies and medical assistance that allow the 'coexistence' with the disease for longer. These two associated factors corresponded to the increase in life expectancy of Brazilians, who have a social pyramid that is more intensely inverted each year of the population census, due to the increasingly important growth of the elderly population<sup>1</sup>.

Brazil is the fastest growing developing country in terms of population aging. According to data from the Brazilian Institute of Geography and Statistics (IBGE), the number of Brazilian elderly people represents about 8% of the population, and life expectancy has been increasing, reaching 72,86 years for men and 76,71 years for women. In the Northeast region, for example, the elderly population, in relation to the proportion, increased from 5.1% in 1991 to 7.2% in 2010, when the last demographic census of the Country<sup>2</sup> was conducted. With this, it becomes evident the need for greater attention to aspects related to the health of the elderly, in addition to the creation of strategies that meet this population growth in progress, which creates a context of pressure of demand mainly on the care systems emergencies, due to the now prevalent clinical conditions, demanding organizational and structural changes.

Among other reasons, due to this increase in demand, from the 2000s on, the national emergency policy in Brazil became a federal priority, initiating a process of regulation and standardization of emergency care in the sectors involved. Then, a National Emergency Care Policy (PNAU) was implemented, guided in particular by the Basic Operational Standards (Noas n° 01/2001 and n° 01/2002) and the organization of regionalized systems, the main one being the Ordinance n° 2.048, which illustrated the government's efforts to develop an emergency policy based on the precepts of constitutional legislation and the creation of the Unified Health System (SUS)<sup>3</sup>.

Since 2008, the Emergency Care Units (UPA) have been established in Brazil, which are fixed components of pre-hospital care that function as intermediate structures between primary care and hospital units, in order to reduce queues in hospitals emergencies, maintaining activity 24 hours a day, every day of the week. Currently, all the regulation of emergency care is regulated by the Consolidation Ordinances n° 3<sup>4</sup>.

Rio de Janeiro was the pioneer state in the implementation of UPA; and, currently, they represent an important point of access to the system, being classified in three different sizes according to the referenced population, the physical area, the number of available beds, the management of people and the capacity to serve. The requirements of the regulation marked the desired differentiation between the UPA and the former emergency rooms, producers of 'emergency consultations' with little resolution<sup>5</sup>. Currently, there are 509 UPA in Brazil, and 889 are under construction. In the state of Rio de Janeiro, there are 72 UPA in 35 municipalities. In the capital, there are 32 UPA, 26 of which are size III and 6 of size II<sup>6</sup>.

Medical assistance at the UPA work based on the reception and the risk classification, performed by nurses and nursing

technicians, according to the Manchester Triage System Protocol. According to this protocol, patients can be classified as risk: 'Red' (level 1), very serious cases in need of immediate care and risk of death; 'Orange', severe cases and significant risk of evolving to death; 'Yellow', cases of moderate severity that need medical attention, but without immediate risk; 'Green', less urgent cases without risk of evolution; 'Blue', non-urgent cases. The survival of the patient considered critical depends directly on the initial treatment, which ideally should be immediate and competent. Adequate screening is extremely important for clinically adequate care in the UPA.

The state of Rio de Janeiro has, in all its regions, overcrowded emergencies. Among the causes for this situation are: assistance to patients with outpatient problems, the precariousness of the basic service network, the geographical origin of the patients, the insufficiency of the regional hospital structure, social problems, the population's lack of knowledge about the purpose of emergency services, the population's trust in the hospital and internal management problems in these hospitals<sup>7</sup>.

It is possible to notice, therefore, that the reorganization of public health policies is essential to meet the growing demand. In addition, it is important to prepare health care systems to better meet the needs of physiological changes in the elderly, the main growing social stratum, especially taking into account the development of diseases typical of age, chronic with aggravating conditions, which motivate the elderly to seek emergency help.

Thus, this study aims to analyze the care of the elderly population in the UPA in the city of Rio de Janeiro between the years 2013 and 2015, taking into account the most prevalent diagnoses according to the International Classification of Diseases, the risk ratings for each group of diseases and outcomes.

## Material and methods

Information on medical assistance at the UPA in the state of Rio de Janeiro between the years 2013 and 2015 was provided by the Municipal and State Health Department.

The study population was the elderly seen at the UPA in the city of Rio de Janeiro. An individual over 60 years of age was considered elderly. The diagnoses were separated into groups of diseases, in order to define the three most prevalent groups among the elderly population.

Absolute frequencies were calculated according to sex, age group, risk classification and outcome, for the most prevalent diseases, determining a general observation of the flow of care in the UPA. The percentages of the most prevalent cases in relation to the total number of cases were also calculated.

The project was approved by the Research Ethics Committee of the Sergio Arouca/Oswaldo Cruz Foundation National School of Public Health (CEP/Ensp/Fiocruz), CAAE n° 47045215.5.0000.5240.

## Results

The percentage of elderly people assisted at the UPA in the city of Rio de Janeiro increased over the three years studied, regardless of the diagnosis obtained by each patient. In 2013, the total number of visits to the UPA in the municipality was 52.010, of which 6.378 were elderly, which corresponds to approximately 12.27% of the visits. In 2014, in turn, 55.186 visits were made in the municipal UPA, with 7.088 elderly people, which represents approximately 12.85% of the visits. In 2015, the municipal UPA assisted a total of 64.738 patients, of which 8.544 were elderly, that is, approximately 13.2% of the visits (*table 1*).

Table 1. Distribution of care in the Emergency Care Units of the city of Rio de Janeiro in the elderly by age group

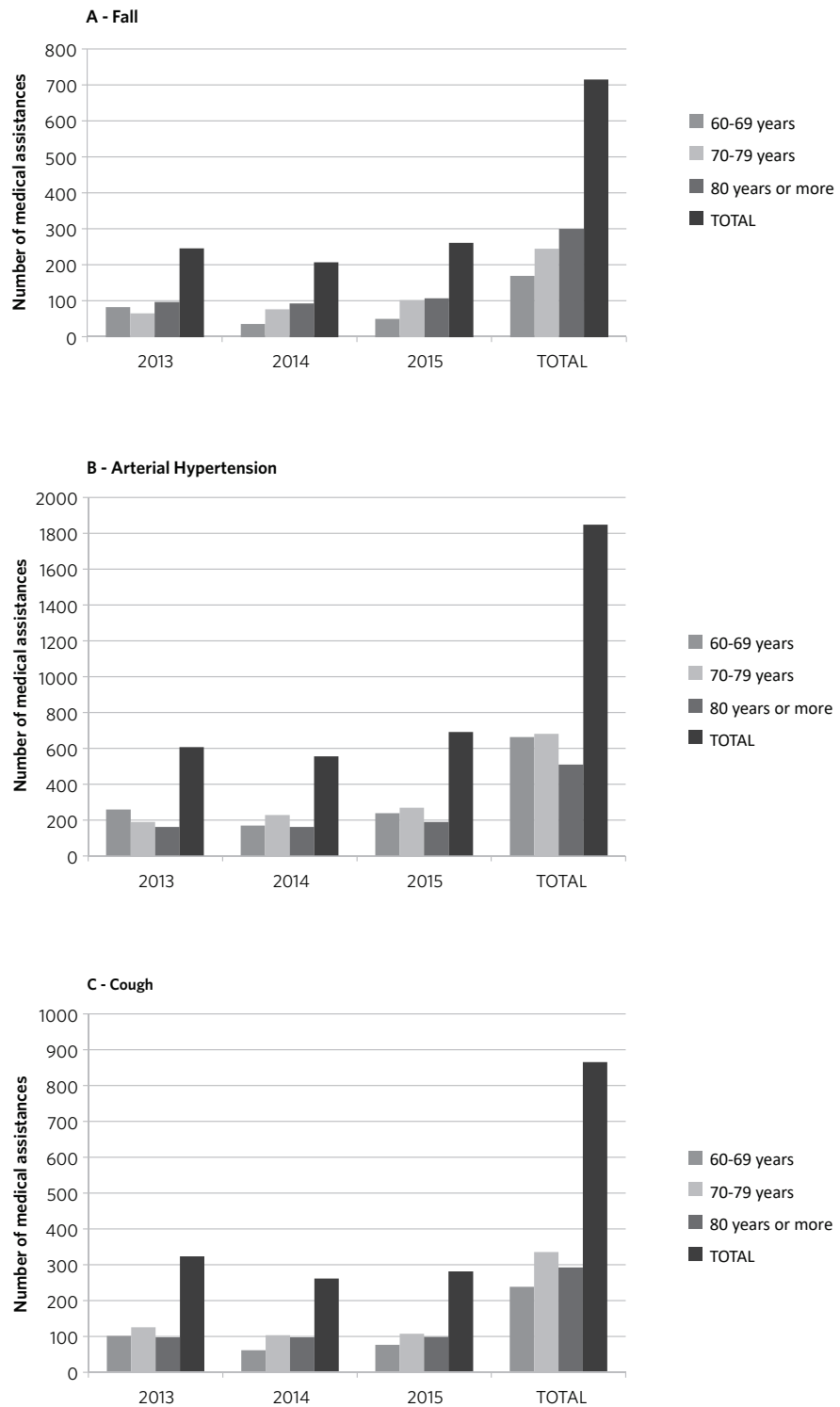
	Age range			Total
	60-69	70-79	80 or more	
<b>2013</b>				
Men	267	195	452	914
Women	450	410	702	1562
Total	717	605	1154	2476
<b>2014</b>				
Men	596	462	373	1431
Women	809	617	657	2083
Total	1405	1079	1030	3514
<b>2015</b>				
Men	665	510	341	1516
Women	993	759	738	2490
Total	1658	1269	1079	4006

Regarding the number of diagnoses detected in 2013, 2014 and 2015, it was possible to notice that the most prevalent were those related to trauma, cardiovascular diseases and respiratory diseases. In absolute value, respectively, there are: Trauma – 1020, 854, 1120; Cardiovascular Diseases – 757, 1391, 1417; Respiratory Diseases – 699, 1269, 1469. In addition, in all three years studied, there was a predominance of consultations and diagnoses in women. In 2013, the number of female patients was greater than the number of male patients, in a proportion of approximately 1,7 women for every 1 man, regardless of the age range. In 2014, this proportion was 1,45 women

to 1 man, regardless of the age range to which they refer, and in 2015, this proportion was 1,64 women to 1 man, regardless of the age range.

On the diagnoses of trauma, they are among them: accident of any kind, drowning, aggression of any origin, contusions, cuts, muscle distension, sprain and distension, fractures, injuries/wounds, dislocation, bite, falls, injuries, persons being run over and burns. The one that prevailed most in the three years of care under analysis was the 'fall', which corresponded to 708 cases of the 2,994 trauma diagnoses obtained (23.6%), with 244 cases in 2013 (34.4%), 205 in 2014 (28.9%) and 259 in 2015 (36.5%) (*figure 1*).

Figure 1. Distribution of the most prevalent diagnoses in Emergency Care Units by age group. 2013 to 2015



Regarding cardiovascular diseases, they constituted 3.565 diagnoses of the elderly between 2013 and 2015, namely: 'flutter' and atrial fibrillation, aneurysms, unstable angina, unspecified angina pectoris, atrioventricular block, bradycardia, hypertensive heart and kidney disease, pulmonary heart disease, hypertensive heart disease with and without heart failure, unspecified cardiovascular disease, embolism and thrombosis, ecchymosis, systemic arterial hypertension, high blood pressure without the diagnosis of systemic arterial hypertension, hypotension, acute myocardial infarction, acute transmural infarction, insufficiency cardiac, venous insufficiency, ischemia, sudden cardiac death, cerebrovascular diseases, stroke, cardiac arrest, tachycardia, palpitations, cardiogenic and hypovolemic shocks and unspecified chest pain.

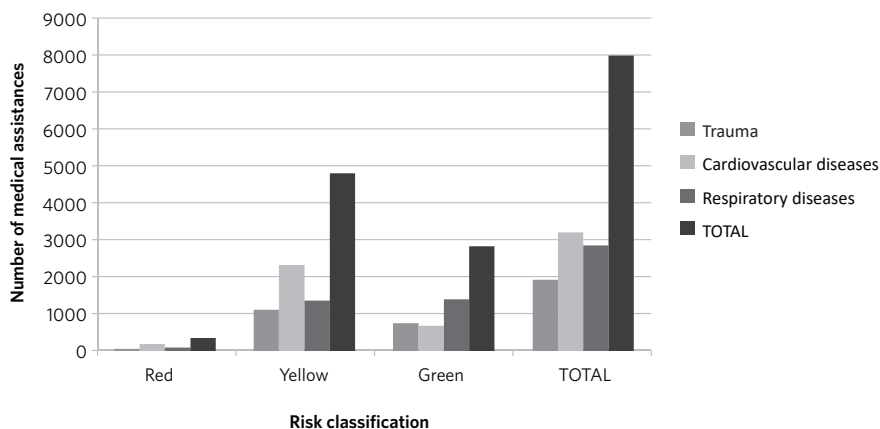
Among these diagnoses, 1.845 were Essential Systemic Arterial Hypertension (SAH), which corresponds to approximately 51.7% of this group of pathologies, emphasizing their relevance (*figure 1*). In 2013, 605 diagnoses of Essential SAH (32.7%) were registered, in 2014, 552 diagnoses (29.9%), and in 2015, 688 diagnoses (37.2%).

Considering now the Respiratory Diseases, there were 3.437 diagnoses referring to this group of diseases, being these: dyspnea, asthma, bronchopneumonia, bronchitis (acute and chronic), pleural effusion, chronic obstructive pulmonary diseases, chest pain

when breathing, infection acute upper respiratory tract, influenza, respiratory failure, nasopharyngitis, pneumothorax, pneumonia, tuberculosis, sinusitis, rhinitis, cough, allergies, bronchiolitis, emphysema and pharyngitis. The most prevalent among them was the diagnosis of 'cough', representing 25.1% of cases (or 865 cases). In 2013, 'cough' was attributed to 323 patients (37.3%), in 2014, to 261 patients (30.1%), and in 2015, to 281 patients (32.4%) (*figure 1*).

Regarding the risk classifications and outcomes for the elderly in the three diagnostic groups – trauma, cardiovascular diseases and respiratory diseases –, of the 8.012 cases classified over the three years of analysis, only 359 were classified as 'Red' risk (4.4% approximately), with 64 referring to trauma, 195 referring to cardiovascular diseases and 100 referring to respiratory diseases. In general, the largest number of patients was classified as 'Yellow' risk, that is, patients with critical or semi-critical status, totaling 4.811 of the 8.012 classified (60%). Of these, 1.117 corresponded to traumas, 2.330 corresponded to cardiovascular diseases and 1.364 corresponded to respiratory diseases. Regarding the 'Green' risk classification, that is, less urgent cases without risk of evolution, a total of 2.842 classifications (35.4%) were observed, among which 757 were related to trauma, 686 were related to cardiovascular diseases and 1.399 were related to respiratory diseases (*graph 1*).

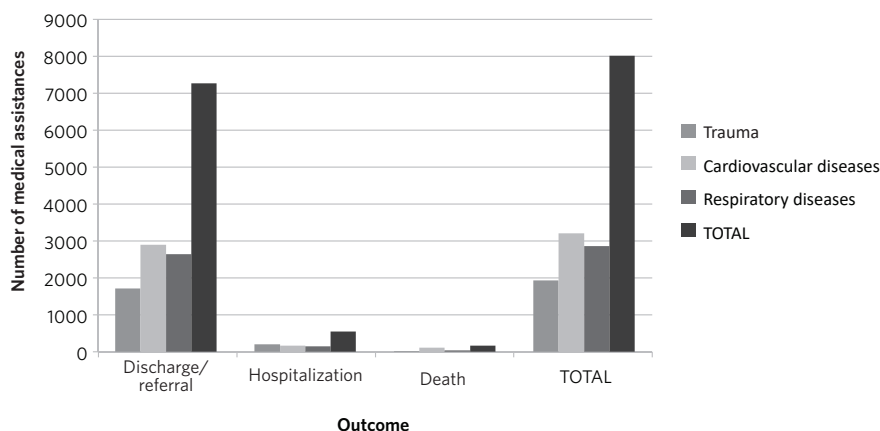
Graph 1. Risk classification by group of diseases in the elderly treated in Emergency Care Units in the city of Rio de Janeiro, 2013-2015



Regarding the outcomes that occurred in elderly patients according to diagnoses of the most prevalent diseases, three major groups were analyzed: 'discharge/referral', 'hospitalization', 'death'. Of the total of 8.012 patients seen at the UPA, 7.281 received 'discharge/

referral', which corresponds to 90.8% of the total outcomes. Of these, 23.6% were related to trauma (1,722 cases), 36.2% were related to cardiovascular diseases (2,908 cases) and 36.4% were related to respiratory diseases (2,651 cases) (graph 2).

Graph 2. Distribution of outcomes according to the diagnosis group in the elderly attended at the Emergency Care Units in the city of Rio de Janeiro between 2013-2015



Regarding the 'hospitalization' outcome, 555 patients were assigned to it, which corresponds to only 6.9% of the cases treated. Among these, 38% were related to trauma (211 cases), 32.6% were related to cardiovascular diseases (181 cases) and 29.3% were related to respiratory diseases (163 cases). Finally, only 176 patients received 'death' as an outcome, which corresponds to 2.1% of the cases seen, exposing a very low mortality profile for the diseases under study. Of these, 2.8% corresponded to trauma (5 cases), 68.1% corresponded to cardiovascular diseases (120 cases) and 28.9% corresponded to respiratory diseases (51 cases) (*graph 2*).

## Discussion

The implantation of UPA in the city of Rio de Janeiro had a significant expansion in 2010, a similar period in which the expansion of the Family Health Strategy (FHS) in the city occurred. Several reasons justified the expansion of the UPA, with the insufficiency of health services to attend emergency care being the main reason for its implementation<sup>8</sup>. The proportion of elderly people seen in this study is similar to that of other studies in Brazil<sup>3</sup> and Rio de Janeiro<sup>8</sup>.

Taking into account the general population of Brazil, research shows that, between 2006 and 2010, the year of the last demographic census, the elderly population represented 30.57% of the total population, which corresponds to an absolute value of 20.590.599 elderly people<sup>9</sup>. In Rio de Janeiro, 14.4% of the population is composed of elderly people, according to the Continuous National Household Sample Survey carried out by IBGE in 2016, which makes it the capital with the largest elderly population in the Country. Therefore, results acquired in this study are consistent with the current social context.

In relation to the main diagnoses, 'fall' is an unintended event that results in the individual's position changing to a lower level, in relation to his initial position. The loss

of muscle strength and the loss of postural balance lead to greater susceptibility to falls, mainly due to dizziness, vertigo and imbalance. It is also important to note that the prevalence of dizziness in people over 75 years of age is 80%, which leads to a greater number of traumas in the age group shown<sup>10</sup>.

Regarding Cardiovascular Diseases, its high prevalence can be justified by the fact that, over the years, the cardiovascular system undergoes changes, which make the elderly more susceptible to the acquisition of diagnoses in this group of diseases<sup>11</sup>. The changes inherent to aging make the individual more prone to SAH, which is the main chronic complication of this population group.

Respiratory diseases, in turn, are an important cause of morbidity and mortality among the elderly due to different factors, and they occur mainly in the most advanced age groups, with greater severity in patients who are bed-ridden<sup>12</sup>.

It was possible to realize that, despite the high prevalence of diagnoses of trauma, cardiovascular diseases and respiratory diseases among the elderly, the severity of the cases attended at the UPA for them, during this period, was not significant, which can be seen by the minority classified as 'Red' risk. The low prevalence of cases classified as severe is a common phenomenon in the different emergency services and has already been evidenced in the UPA<sup>3,8,13</sup>. With regard to the severity of the diagnoses analyzed, a study in the state of Rio de Janeiro indicated that hypertension and trauma were typical high-risk diagnoses and acute, medium-risk respiratory infections. The majority of 'discharge/referral' outcomes, although most are classified as 'Yellow' risk, may be due to the fact that this classification is made by the natural frailty arising from old age. This is a complex analysis, since each group of diseases includes very different diagnoses, making it difficult to predict the need for hospitalization or discharge and follow-up. However, national studies<sup>3,13</sup> and on Rio de Janeiro<sup>14</sup> have pointed out the risk that the



UPA, due to difficulty in accessing the hospital bed, may present alternative outcomes to hospitalization, such as discharge or death. A study in Rio de Janeiro showed that about 60% of the total requests for hospitalization that are not attended are discharged or die before reaching a hospital bed, transforming the UPA into inpatient units<sup>14</sup>. It is necessary to improve the level of integration between units that make up the Urgency and Emergency Care Network (RUE) as well as to expand and qualify the hospital rear<sup>14</sup>.

The difficulty in accessing the hospital bed does not occur only in the UPA, and has traditionally been described as a problem in hospital emergencies. This is an important issue for the discussion on access in Brazil<sup>15,16</sup>, and in the international literature the access block has been identified, that is, the impossibility of patients admitted to emergency services being transferred to an inpatient unit within a reasonable period of time<sup>17-20</sup>. The period from 4 hours to 8 hours for access to the hospital bed was identified as safe from the indication of hospitalization<sup>17</sup>. In China, a similar phenomenon is described, but with a marked concentration in the elderly population who remain for prolonged periods in observation rooms in emergencies<sup>21</sup>.

The findings of this study indicate that cardiovascular disease is an important cause of mortality among the elderly when compared to other groups of diseases, and it is worth noting, furthermore, that most of the risk factors associated with this type of diagnosis are changeable, as smoking and physical inactivity.

## Conclusions

UPAs present relevance in the care of the elderly, with an increasing trend over the

years since population aging triggers an increase in the demands for emergency services. In addition, the relevance of diagnoses related to traumas, cardiovascular diseases and respiratory diseases among the elderly population is undeniable, which should be taken into account in the development of new public policies necessary to accompany such specific population growth.

Population aging is a relatively recent phenomenon, which requires a strategy to adapt the health sector, as well as other public sectors and the population, to the particular needs of this growing group, in view of physiology and epidemiology completely differentiated from other social strata.

Thus, due to this intense flow of elderly people to the secondary health sector, it would be interesting to analyze the context of access of this population to the levels of primary care, in which reception and monitoring aimed at prevention and health promotion is expected, which could reduce the need for assistance in the UPA.

Some limits of the study were identified: lack of analysis the time for attendance and permanence in the UPA; absence of analysis of outcomes including clinical data; no correlation with other local indicators of the care network.

## Collaborators

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Received on 08/05/2019  
 Approved on 04/22/2020  
 Conflict of interests: non-existent  
 Financial support: non-existent