

## Accessibility and care pathways for children admitted to hospital for ambulatory care sensitive conditions

Harley Medawar Leão (<https://orcid.org/0000-0002-7960-0214>)<sup>1</sup>

Antônio Prates Caldeira (<https://orcid.org/0000-0002-9990-9083>)<sup>1</sup>

**Abstract** *The aim of this study was to analyze health service accessibility and the care pathways of children admitted to hospital for ambulatory care sensitive conditions (ACSCs). A cross-sectional study was conducted of a random sample of children hospitalized over a period of one year in a town in the north of Minas Gerais, Brazil. The Primary Care Assessment Tool Child Edition, adapted and validated for use in Brazil (PCAT-CE), was used to assess accessibility and interviews were conducted with the children's carers to determine the pathway taken to hospitalization. Of the 376 pediatric hospitalizations assessed, 109 (28.9%) were classified as ACSC admissions. Health service accessibility and utilization scores were low for both the ACSC and non-ACSC groups. No statistically significant differences ( $p < 0.05$ ) were found between the two groups. The care pathways reveal that most families visited hospitals as the first service and that visits to other health services were frequent. Well over half (63.3%) of the families of children admitted for ACSCs did not seek primary health services at any time. Accessibility was poor among the study group, regardless of the reason that led to hospitalization. The care pathways reveal an irregular pattern of service utilization for children admitted for ACSCs, suggesting a fragile health care network.*

**Key words** *Access to health services, Primary Health Care, Children's health*

<sup>1</sup> Programa de Pós-Graduação em Ciências da Saúde, Universidade Estadual de Montes Claros. Campus Universitário Professor Darcy Ribeiro s/n, Vila Mauriceia. 39401-089 Montes Claros MG Brasil. antonio.caldeira@unimontes.br

## Introduction

In recent decades, Brazil has witnessed substantial improvements in maternal and child health indicators<sup>1</sup>. Many of these improvements have been attributed to improved access to health services through the expansion of the country's *Estratégia Saúde da Família* or Family Health Program (FHP)<sup>2</sup>. However, a number of challenges remain, including *high rates of preterm* births and neonatal mortality, low rates of breastfeeding, and persistence of congenital syphilis<sup>1</sup>.

Hospitalization is an important issue in child health care because of the cost implications of hospital admission, family suffering, and health inequalities, with hospital admission rates being higher among children from poor families<sup>3</sup>. Part of admissions are due to shortcomings in ambulatory care. In this regard, the provision of adequate and timely treatment at the first level of care can avoid the clinical deterioration of the patient and reduce admissions for ambulatory care sensitive conditions (ACSCs)<sup>4</sup>.

ACSC lists present conditions that could be better managed by primary health care (PHC) teams and rates of admissions for ACSC may be considered an indicator of poor access to health services and/or poor care quality<sup>4</sup>. Recent evidence suggests that there is an association between ACSC admission rates and the expansion of FHP teams<sup>5-7</sup>. However, the majority of studies show ecological correlations, meaning that it is not possible to affirm unequivocally that the reduction in rates of admissions for ACSCs is due solely to the expansion of FHP teams. Certain factors that influence patterns of health service use are outside the scope of PHC, thus making it more difficult to assess the influence of the FHP as a determinant of ACSC admissions<sup>8,9</sup>.

Admissions for ACSCs among children are primarily due to acute conditions and questions therefore arise as to the capacity of PHC teams to avoid such admissions<sup>10</sup>. A study in the Northeast Region of Brazil reported that the proportion of hospitalizations due to the main groups of causes of sensitive conditions remained stable or increased despite an expansion of FHP teams, therefore suggesting that admissions are influenced by other factors<sup>11</sup>.

An analysis of the literature shows that there a number of gaps in knowledge of the association between ACSC admissions and improved access to health services through the FHP. One of these gaps is the need to obtain a fuller understanding of the path taken by children and their families

from the onset of illness to hospitalization, referred to as the clinical pathway.

The assessment of clinical pathways is different to the evaluation of therapeutic itineraries, which takes an eminently qualitative approach, analyzing cultural aspects and social representations of the health-illness process. These evaluations often fail to consider questions such as access, service utilization, and patient-specific factors<sup>12</sup>. Studies of care pathways can therefore help enhance care by pointing out deficiencies along the pathway, bearing in mind that ACSC admissions are undesirable preventable outcomes. The objective of this study was to analyze accessibility and clinical pathways for children admitted to hospital for ACSCs.

## Methods

We conducted a cross-sectional study of a representative sample of pediatric hospital admissions over a period of one year in a town in the Southeast of Brazil. In 2017, the town had a population of approximately 400,000 inhabitants, 80 pediatric hospital beds in two public hospitals, and coverage of the FHP was over 80%.

The study population was defined as hospitalized children aged between zero and 10 years living in the town accompanied by parents/responsible persons during data collection. Children from other towns and whose companions were aged under 18 years were excluded.

The sample size was calculated based on the number of pediatric beds and admissions over the last year in both hospitals using a 95% confidence level, margin of error of 5%, and estimated ACSC admission prevalence of 40%. We added 10% to the minimum estimated sample size to account for possible losses and refusals, resulting in a final sample of 375 hospitalizations.

The data collection instrument was devised to obtain information on sociodemographic characteristics (age, sex, skin color, education, income, and town of origin), care (diagnoses, admissions history, services and professionals visited by the patient, and the patient's health records), and "accessibility" and "primary care service utilization". The items regarding accessibility and service utilization were taken from the Primary Care Assessment Tool Child Edition, adapted and validated for use in Brazil (PCAT-CE). The PCAT-CE assesses essential and derivative attributes of primary care on a scale of zero to 10, where a score of 6.6 is considered satisfac-

tory<sup>13</sup>. The essential attribute used by this study was “first contact access”, which consists of the dimensions “accessibility” (with six questions) and “utilization” (with three questions).

The clinical diagnoses were collected from the patient’s health records and coded according to the International Classification of Diseases, Tenth Revision (ICD-10). They were then classified into two groups (ACSCs and non-ACSCs) according to the Brazilian list of ambulatory care sensitive conditions<sup>6</sup>. The final list of ACSCs includes 20 groups of diagnoses and was elaborated by a group of health professionals, managers, and researchers<sup>4</sup>.

The sample of hospitalized children was selected using simple random sampling. The data was collected during hospital visits made in intervals of an average of seven days by a previously trained team consisting of a nurse and two nursing students. All children that met the inclusion criteria identified on each visit were selected. The data was collected between June 2016 and August 2017. This time period was used to avoid selection bias potentially caused by seasonal variations in disease. For quality control purposes, 20 randomly selected participants were reinterviewed to verify data reliability.

The data were analyzed using IBM SPSS (Statistical Package for the Social Sciences) version 22.0 for Windows. The proportions of the characteristics of each group (ACSCs and non-ACSCs) were compared using Pearson’s chi-square test, while the mean accessibility scores and other means were compared using the Mann–Whitney U test. Data normality was tested using the Kolmogorov–Smirnov test. A significance level of 0.05 was adopted for all tests.

A detailed interview was conducted with the person responsible for each child to identify all points of health care visited and the time interval between the onset of the first symptoms and admission. Based on the results of these interviews, we developed a flow diagram of the care pathways of the children admitted to hospital for ACSCs. The clinical pathways were assessed to identify cases referred by the FHP and those who sought hospital services directly without referral.

The study was approved by Montes Claros State University’s Research Ethics Committee and by the participating hospitals’ Teaching and Research Centers. All participants signed an informed consent form.

## Results

Of the 376 pediatric hospitalizations assessed, 109 (28.9%) were classified as ACSC admissions. The main causes of the admissions were “bacterial pneumonia” (45.9%), “kidney and urinary tract infections” (14.7%), “infectious gastroenteritis and complications” (11.0%), and bronchitis/asthma (11.0%).

In both groups, the responsible person was predominantly the child’s mother and the large majority of the mothers were aged between 20 and 39 years and lived with the child’s father. Only a small percentage of the fathers and mothers had at least 12 years of education and two-thirds of the families reported having an income of less than two minimum salaries. The only statistically significant difference between the groups was the percentage of male children, which was higher in the non-ACSCs group ( $p=0.003$ ) (Table 1).

No significant differences were found in the mean time interval (in days) between the onset of symptoms and the first time that the patient visited health services and between the onset of symptoms and hospital admission between the two groups. The mean accessibility and utilization scores were below 6.6 and no statistically significant differences in scores were found between the groups (Table 2).

With regard to assessment of accessibility and utilization (Table 3), the only item that showed a statistically significant difference between the groups was difficulty getting medical care ( $p=0.045$ ), with a larger percentage of respondents in the non-ACSC group reporting difficulties.

The analysis of the care pathways of hospitalized children who visited the FHP as the last service before admission showed that 53.8% were referred for ACSCs and 56.5% for non-ACSCs.

Figure 1 presents a synthesis of the care-seeking pathways reported by the respondents for ACSC admissions, revealing that most families visited hospitals as a first service (56.0%) and around one-third (32.1%) visited primary care centers. The findings also show that families frequently sought various services before hospitalization. PHC services were visited at some point during the care pathway up to hospitalization in 36.7% of the cases of ACSCs.

**Table 1.** Sociodemographic characteristics of hospitalized children by classification of ambulatory care sensitive conditions. Montes Claros-MG, 2016/2017.

Characteristics	ACSCs* (n=109)		Non-ACSCs** (n=267)		p-value***
	(n)	(%)	(n)	(%)	
Main carer					0,067
Mother	93	85.3	211	79.0	
Father	10	9.2	22	8.2	
Outthers	6	5.5	34	12.7	
Mother's age (years)					0,631
<20	9	8.3	27	10.1	
20-39	97	89.0	218	81.6	
≥40	3	2.7	22	8.2	
Mother's education level (years)					0,120
≤8	25	23.0	99	37.1	
9-11	69	63.3	133	49.8	
≥12	13	11.9	25	9.4	
Without information	2	1.8	10	3.7	
Mother's marital status					0,244
Married/stable union	62	56.9	141	52.8	
Single/divorced	31	28.5	70	26.2	
Without information	16	14.6	56	21.0	
Father's age (years)					0,080
<20	3	2.7	11	4.1	
20-39	90	82.6	189	70.8	
≥40	12	11.0	48	18.0	
Without information	4	3.7	19	7.1	
Father's education level					0,492
≤8	33	30.3	108	40.4	
9-11	52	47.7	102	38.2	
≥12	10	9.2	15	5.6	
Without information	14	12.8	42	15.7	
Father lives at home					0,474
Yes	78	71.6	181	67.8	
No	31	28.4	86	32.2	
Number of people living at home					0,319
≤3	29	26.6	70	26.2	
4-5	62	56.9	133	49.8	
>6	18	16.5	64	24.0	

it continues

## Discussion

The findings show that the rate of admissions for ACSCs was high, suggesting that primary child care in the region studied is compromised. The percentage reported by the present study is lower than that reported by a previous study in the same town using the same methodology, which may be due to the expansion of coverage by family health teams<sup>10</sup>. Studies using an ecological ap-

proach have revealed that there has been a fall in the rate of admissions for ACSCs in recent years in Brazil, demonstrating that this reduction is associated with the expansion of the FHP<sup>5-7</sup>.

It is reasonable to assume that improved access results in the delivery of more timely care, thus having a positive impact on health indicators such as hospital admissions. Some authors have also highlighted that, in addition to improved access, the care model adopted by the FHP involves

**Table 1.** Sociodemographic characteristics of hospitalized children by classification of ambulatory care sensitive conditions. Montes Claros-MG, 2016/2017.

Characteristics	ACSCs* (n=109)		Non-ACSCs** (n=267)		p-value***
	(n)	(%)	(n)	(%)	
Family income (minimum salaries)†					0,779
≤1	48	44.0	128	47.9	
1.1-2	37	33.9	82	30.7	
>2.0	15	13.7	31	11.6	
Without information	9	8.4	26	9.7	
Child's sex					0,003
Male	41	37.6	145	54.3	
Female	68	62.4	122	45.7	
Child's age (years)					0,744
≤1	40	36.7	110	41.2	
1.1-3	31	28.4	43	16.1	
>3,1	38	34,9	114	42,7	
Child's skin color					0,210
White	28	25,7	51	19,1	
Brown/Black	76	69,7	203	76,0	
Yellow/Indigenous	5	4,6	13	4,9	

\*ACSCs: admissions for ambulatory care sensitive conditions; \*\*Non-ACSCs: admissions for non-ambulatory care sensitive conditions; \*\*\*Pearson's chi-squared test. †Minimum salary at the time of study: R\$ 937.00 (US\$ 301.29).

Source: Elaborated by the authors.

**Table 2.** Comparison between time intervals and PCAT scores for hospitalized children by classification of ambulatory care sensitive conditions. Montes Claros-MG, 2016/2017.

Characteristics	ACSCs* (n=109)		Non-ACSCs** (n=267)		p-value***
	Média	DP	Média	DP	
Time interval (days)					
Between onset of symptoms and first appointment	0.85	1.46	2.22	8.30	0.975
Between onset of symptoms and hospitalization	6.99	12.72	10.80	26.18	0.772
PCAT scores					
Accessibility	4.65	1.81	4.81	1.86	0.362
Utilization	6.57	2.48	6.49	2.84	0.391

\*ACSCs: admissions for ambulatory care sensitive conditions; \*\*Non-ACSCs: admissions for non-ambulatory care sensitive conditions; \*\*\* Mann-Whitney U test.

Source: Elaborated by the authors.

a change in clinical practices, resulting in more effective care, especially for patients with chronic conditions<sup>14</sup>. However, other studies stress that the use of admissions for ACSCs as an indicator of resolvability in PHC should be viewed with caution because it does not take into account socioeconomic factors linked to condition severity or specific aspects of the hospital admission process<sup>15-18</sup>.

The factors influencing admissions for ACSCs are complex and encompass patient-specific factors (socioeconomic deprivation) and factors

relating to medical practice (lack of continuity of care) and hospital care (increased availability of hospital beds). Moreover, the rate of admission for ACSCs may vary depending on frequency of very short-stay admissions, inappropriate referrals, limited care options, bed availability, and government targets, making admissions for ACSCs "provision sensitive"<sup>9,19</sup>.

The two dimensions used to assess first contact access received unsatisfactory scores<sup>13</sup>. No association was found between these scores and

**Table 3.** Carers' assessment of first contact access (utilization and accessibility) in primary care services, Montes Claros (MG), 2016/2017.

First Contact Access		ACSCs		Total	P-value
		Sim	Não		
<b>Utilization</b>					
When your child needs a general checkup ("routine appointment"), do you go to the FHP before going to other health services?	Yes	87	204	291	0.473
	No	22	63	85	
When your child has a new health problem, do you go to the FHP before going to other health services?	Yes	58	158	216	0.288
	No	51	109	160	
When your child has to see a specialist, does the FHP have to give him/her a referral?	Yes	74	176	250	0.713
	No	35	91	126	
<b>Accessibility</b>					
When the FHP is open and your child gets sick, would someone from there see you the same day?	Yes	57	151	208	0.451
	No	52	116	168	
Do you have to wait a long time or talk to too many people to make an appointment in the FHP?	Yes	54	110	164	0.139
	No	55	157	212	
Is it easy to get an appointment for your child for a general checkup ("routine appointment") in the FHP?	Yes	65	152	217	0.630
	No	44	115	159	
Once you get to the FHP, do you have to wait more than 30 minutes before your child is checked by the doctor or nurse?	Yes	79	174	253	0.171
	No	30	93	123	
Is it difficult to get medical care for your child in the FHP when you think it is necessary?	Yes	61	119	180	0.045
	No	48	148	196	
When the FHP is open, can you get advice quickly over the phone if you need to?	Yes	20	54	74	0.678
	No	89	213	302	

Source: Elaborated by the authors.

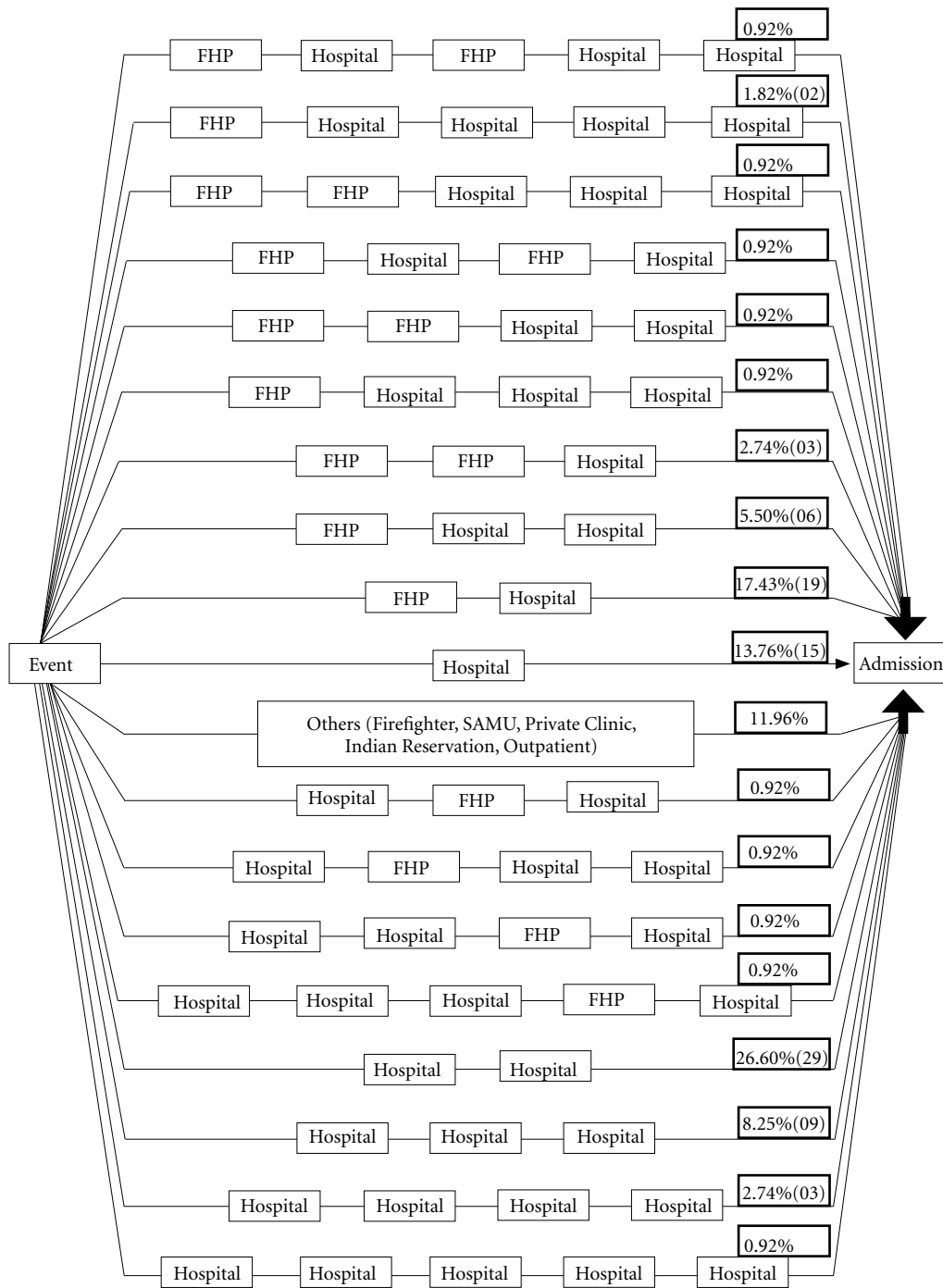
type of classification of hospitalizations (ACSCs and non-ACSCs). To improve services, it is essential to recognize the limitations of ACSCs as an indicator of care quality and examine the influence of other factors on admission for ACSCs in this age group. The fact that no difference was found in access and utilization scores between the two groups means that we cannot confirm that these variables determine the effectiveness of FHP teams in avoiding hospitalizations.

The findings show that there was a statistically significant association between difficulty in getting medical care and admissions for ACSC. Difficulty in getting an appointment in the FHP may lead the family to seek other types of services, decharacterizing the organization of the service network and overburdening hospital services. Studies have also shown that difficulty in getting an appointment means that patients have to travel to other services, particularly hospital services<sup>20,21</sup>. Patients who seek treatment in hospitals and emergency departments, services that do not fall within primary care, are less likely to receive continuity of care. Seeking other services therefore undermines affiliation with the primary

care source and comprehensiveness and leads to a lack of accountability and continuity.

A strong and resolute primary care service requires facilitated access, whereby patients affiliated to care facilities are able to get an appointment when they need it scheduled according to the availability of the care team and patient. Other studies have highlighted deficiencies in access and quality issues in children's health services provided by the FHP and that the population tends to place more value on urgent care services over primary care<sup>22,23</sup>.

A study conducted in the south of Brazil using the PCAT reported that higher primary care quality scores in a setting with predominantly poor quality services that were not tailored to treat chronic conditions did not influence the rate of admissions for ACSCs<sup>24</sup>. A systematic review concluded that the association between increased coverage of the FHP and lower rates of admissions for ACSCs was not clear, demonstrating a lack of consensus in the literature and suggesting that the effect of the coverage of FHP in the country may be overestimated due to limited technical capacity and staff shortages<sup>25</sup>.



**Figure 1.** Flow diagram of the care pathways reported by the families of children hospitalized for ambulatory care sensitive conditions. Montes Claros-MG, 2017.

Source: Elaborated by the authors.

The data presented show that there were no significant differences between the groups in time intervals between the onset of symptoms and first contact with health services and admis-

sion to hospital. This shows that conditions that result in preventable hospitalizations are not being diagnosed and treated in a timely manner, as highlighted by other studies<sup>15</sup>. This reinforces the importance of obtaining a better understanding the pathways followed by families from the onset of symptoms to admission to hospital.

Our findings show that the situation is inconsistent with the model proposed by the health care network, with a low percentage of families seeking PHC services for all types of health problems. A study conducted in the United States assessing outpatient appointments before admission of children to hospital found similar results, with almost one-third of children not having had an outpatient appointment in the seven days prior to admission for ACSCs<sup>26</sup>. The fact that the majority of families of children admitted to hospital for ACSCs in the present study did not seek the FHP is an important problem, demonstrating that access to hospital services does not occur necessarily through primary care services, meaning that PHC is not fulfilling its role as coordinator of health care flow<sup>27</sup>.

The low percentage of families seeking FHP teams may be related to difficulties arising from opening hours, local factors, and factors related to health team work processes aimed at simultaneously meeting spontaneous demand and that of non-priority groups. However, it may also due to the personal choice of families to seek other services as the point of entry to the system based on past experiences and higher expectations in relation to resolvability<sup>28</sup>.

The pathways identified by this study suggest that families seem not understand the organization of the health system, demonstrating weak affiliation and lack of coordination of care by PHC services. Moreover, they seem to have little understanding of attributes such as continuity of care and comprehensiveness in the context of PHC, which are aspects that were reported by a previous study highlighting the need to promote greater adherence to these attributes of PHC by FHP teams<sup>29</sup>.

Our findings regarding the clinical pathways taken by the families also point to the need to discuss the quality of the care delivered by primary care services. In this regard, studies have shown

that services where quality is less than ideal appear not to have an impact on admissions for ACSCs<sup>28</sup>. When all possible options open to the patient are not exhausted at the first level of care before referral to more complex levels, stages in the healthcare process end up being “skipped”, pointing to the failure of existing flows<sup>29</sup>. In these cases, the accountability of health professionals with patients, together with increased commitment, results in measures that are better tailored to patient needs.

Another question raised by this study is the apparent overprovision of hospital care. The unnecessary hospitalization of cases that could have been treated in primary care services leads to an interruption or discontinuity of primary care, which, to a certain degree, contributes to the aggravation of the disease. However, this question is beyond the scope of this study and demands further research.

The determinants of admissions for ACSCs during childhood are complex and include patient-specific factors and factors related to the first level of care and hospital admission trends<sup>18</sup>. The findings of this study show that the indicator admissions for ACSCs during childhood reveals the lack of organization of the health network in ensuring the continuity of quality children’s health care.

This study has some limitations affecting the interpretation and generalization of the findings. First, despite being random and representative, the sample was restricted to only one town and to public hospitals. Second, during data collection, the participating hospitals’ pediatric units were undergoing refurbishment, resulting in the transferal of short-stay admissions to the emergency departments, which were not included in the analysis. However, the results are relevant and consistent with the literature, suggesting the need for a differentiated approach towards admissions for ACSCs during childhood.

In conclusion, accessibility of primary care for children requires improvement, regardless of the reason for admission to hospital. In addition, the pattern of service utilization by the families of the children admitted for ACSCs was irregular and this indicator suggests that there is a lack of continuity of quality children’s health care.



## Collaborations

All authors contributed equally to this study.

## References

1. Leal MC, Szwarcwald CL, Almeida PVB, Aquino EML, Barreto ML, Barros FC, Victora CG. Saúde reprodutiva, materna, neonatal e infantil nos 30 anos do Sistema Único de Saúde (SUS). *Cien Saude Colet* 2018; 23(6):1915-1928.
2. Aquino R, Oliveira NF, Barreto ML. Impact of the Family Health Program on infant mortality in Brazilian municipalities. *Am J Public Health* 2009; 99(1):87-93.
3. Matijasevich A, Cesar JA, Santos IS, Barros AJD, Dode MASO, Barros FC, Victora CG. Internações hospitalares durante a infância em três estudos de base populacional no Sul do Brasil: tendências e diferenciais. *Cad Saude Publica* 2008; 24 (Supl. 3):S437-S443.
4. Alfradique ME, Bonolo PF, Dourado I, Lima-Costa MF, Macinko J, Mendonça CS, Oliveira VB, Sampaio LFR, Simoni C, Turci MA. Internações por condições sensíveis à atenção primária: a construção da lista brasileira como ferramenta para medir o desempenho do sistema de saúde (Projeto ICSAP — Brasil). *Cad Saude Publica* 2009; 25(6):1337-1349.
5. Pinto Júnior EP, Aquino R, Medina MG, Silva MGC. Effect of the Family Health Strategy on hospitalizations for primary care sensitive conditions in infants in Bahia State, Brazil. *Cad Saude Publica* 2018; 34(2):e00133816.
6. Carvalho SC, Mota E, Dourado I, Aquino R, Teles C, Medina MG. Hospitalizations of children due to primary health care sensitive conditions in Pernambuco State, Northeast Brazil. *Cad Saude Publica* 2015; 31(4):744-754.
7. Pinto LF, Giovanella L. Do Programa à Estratégia Saúde da Família: expansão do acesso e redução das internações por condições sensíveis à atenção básica (ICSAB). *Cien Saude Colet* 2018; 23(6):1903-1913.
8. Pazó RG, Frauches DO, Molina MCB, Cade NV. Modelagem hierárquica de determinantes associados a internações por condições sensíveis à atenção primária no Espírito Santo, Brasil. *Cad Saude Publica* 2014; 30(9):1891-1902.
9. Botelho JF, Portela MC. Risco de interpretação falaciosa das internações por condições sensíveis à atenção primária em contextos locais, Itaboraí, Rio de Janeiro, Brasil, 2006-2011. *Cad Saude Publica* 2017; 33(3):e00050915.
10. Caldeira AP, Fernandes VBL, Fonseca WP, Faria AA. Internações pediátricas por condições sensíveis à atenção primária em Montes Claros, Minas Gerais, Brasil. *Ver Bras Saude Mater Infant* 2011; 11(1):61-71.
11. Barreto JOM, Nery IS, Costa MSC. Estratégia Saúde da Família e internações hospitalares em menores de 5 anos no Piauí, Brasil. *Cad Saude Publica* 2012; 28(3):515-526.
12. Cabral ALLV, Martínez-Hemández A, Andrade EIG, Cherchiglia ML. Itinerários terapêuticos: o estado da arte da produção científica no Brasil. *Cien Saude Colet* 2011; 16(11):4433-4442.
13. Brasil. Ministério da Saúde (MS). Secretaria de Atenção em Saúde. Departamento de Atenção Básica. *Manual do instrumento de avaliação da atenção primária à saúde: Primary Care Assessment Tool - Pcatool – Brasil*. Brasília: MS, 2010.

14. Macinko J, Dourado I, Aquino R, Bonolo PDF, Lima-Costa MF, Medina MG, Mota E, Oliveira VB, Turci MA. Major expansion of primary care in Brazil linked to decline in unnecessary hospitalization. *Health Aff (Millwood)* 2010; 29(12):2149-2160.
15. Santos VCF, Ruiz ENF, Roese A, Kalsing A, Gerhardt TE. Internações por condições sensíveis a atenção primária (ICSAP): discutindo limites à utilização deste indicador na avaliação da Atenção Básica em Saúde. *RECIIS* 2013; 7(2):1-16.
16. Melo MD, Egry EY. Social determinants of hospitalizations for ambulatory care sensitive conditions in Guarulhos, São Paulo. *Rev Esc Enferm USP* 2014; 48(esp.):129-136.
17. Nedel FB, Facchini LA, Bastos JL, Martín-Mateo M. Conceptual and methodological aspects in the study of hospitalizations for ambulatory care sensitive conditions. *Cien Saude Colet* 2011; 16(1):1145-1154.
18. Busby J, Purdy S, Hollingworth W. How do population, general practice and hospital factors influence ambulatory care sensitive admissions: a cross sectional study. *BMC Family Practice* 2017; 18(1):67.
19. Lima SAV, Silva MRF, Carvalho EMF, Cesse EAPC, Brito ESV, Braga JPR. Elementos que influenciam o acesso à atenção primária na perspectiva dos profissionais e dos usuários de uma rede de serviços de saúde do Recife. *Physis: Rev Saude Colet* 2015; 25(2):635-656.
20. Santos CTB, Andrade LOM, Silva MJ, Souza MF. Percurso do idoso em redes de atenção à saúde: um elo a ser construído. *Physis* 2016; 26(1):45-62.
21. Campos RTO, Ferrer AL, Gama CAP, Campos GWS, Trapé TL, Dantas DV. Avaliação da qualidade do acesso na atenção primária de uma grande cidade brasileira na perspectiva dos usuários. *Saúde debate* 2014; 38(n. esp.):252-264.
22. Finkler AL, Viera CS, Tacla MTGM, Toso BRGO. O acesso e a dificuldade na resolutividade do cuidado da criança na atenção primária à saúde. *Acta Paul Enferm* 2014; 27(6):548-553.
23. Magalhães ALA, Morais Neto OL. Desigualdades intraurbanas de taxas de internações por condições sensíveis à atenção primária na região central do Brasil. *Cien Saude Colet* 2017; 22(6):2049-2062.
24. Gonçalves MR, Hauser L, Prestes IV, Schmidt MI, Duncan BB, Harzheim E. Primary health care quality and hospitalizations for ambulatory care sensitive conditions in the public health system in Porto Alegre, Brazil. *Fam Pract* 2016; 33(3):238-242.
25. Bastos ML, Menzies D, Hone T, Dehghani K, Trajman A. O impacto da estratégia brasileira de saúde da família sobre condições sensíveis à atenção primária selecionadas: uma revisão sistemática. *PLOS One* 2017; 12(8):e0182336.
26. Uscher-Pines L, Pines J, Kellermann A, Gillen E, Mehrotra A. Deciding to visit the emergency department for non-urgent conditions: a systematic review of the Literature. *Am J Manag Care* 2013; 19(1):47-59.
27. Toso BRGO, Ross C, Sotti CW, Brisch SV, Cardoso JM. Profile of children hospitalizations by primary care sensitive conditions. *Acta sci Health Sci* 2016; 38(2):231-238.
28. Leão CDA, Caldeira AP, Oliveira MMC. Atributos da atenção primária na assistência à saúde da criança: avaliação dos cuidadores. *Rev Bras Saude Matern Infant* 2011; 11(3):323-334.
29. Gawryszewski ARB, Oliveira DC, Gomes AMT. Acesso ao SUS: representações e práticas de profissionais desenvolvidas nas Centrais de Regulação. *Physis* 2012; 22(1):119-140.

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