



ANALYSIS OF MEDICAL RECORDS IN PRIMARY HEALTH CARE SETTINGS IN PORTO ALEGRE

ANÁLISE DOS REGISTROS DE ATENDIMENTOS REALIZADOS NA ATENÇÃO PRIMÁRIA À SAÚDE EM PORTO ALEGRE

ANÁLISIS DE LOS REGISTROS DE CONSULTAS REALIZADAS EN LA ATENCIÓN PRIMARIA DE LA SALUD EN PUERTO ALEGRE

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RESUMO

Objetivo: Analisar os registros de atendimentos da APS a partir dos relatórios gerenciais do PEC e-SUS em seis unidades de saúde de uma Coordenadoria de Saúde de Porto Alegre, ao longo de um ano. **Métodos:** Trata-se de uma pesquisa transversal e retrospectiva baseada em dados do sistema gerencial PEC e-SUS, abrangendo 206.658 atendimentos registrados em 2023. **Resultados:** Há uma elevada sobrecarga da APS, evidenciada pela média de 2,9 atendimentos por pessoa, além de inconsistências nos registros, como a baixa utilização do Código Internacional de Assistência Primária e elevado percentual de informações não preenchidas. A predominância de atendimentos ao público feminino (65,2%) e a baixa adesão ao atendimento domiciliar (0,6%) também foram observadas. **Conclusões:** A APS desempenha uma atuação essencial na rede de saúde, mas enfrenta desafios relacionados à qualidade dos registros, capacitação profissional e sobrecarga do sistema, exigindo melhorias na padronização dos dados, qualificação das equipes e uso de tecnologias mais eficientes para aprimorar a assistência à população.

Descritores: Atenção Primária à Saúde; Registros Eletrônicos de Saúde; Prontuário Eletrônico; Enfermagem.

ABSTRACT

Objective: To analyze PHC medical records extracted from PEC e-SUS (Citizen's Electronic Health Record) management reports across six health units under the supervision of a Health Coordination Office in Porto Alegre over a one-year period. **Methods:** This is a cross-sectional, retrospective study using data from the PEC e-SUS management system, encompassing 206,658 medical encounters recorded in 2023. **Results:** PHC settings are subject to high patient load, averaging 2.9 visits per person, with prominent record-quality issues, including underuse of the International Classification for Primary Care and a high proportion of missing data. The study also noted a predominance of female users (65.2%) and very limited uptake of home-based care (0.6%). **Conclusions:** PHC is central to the healthcare network but continues to encounter challenges related to medical record quality, staff training, and service overload. These findings highlight the need to standardize data, enhance workforce capacity, and implement more efficient technologies to optimize care delivery to the population.

Descriptors: Primary Health Care; Electronic Health Records; Electronic Medical Record; Nursing.

RESUMEN

Objetivo: Analizar los registros de consultas de APS a partir de los informes gerenciales del sistema PEC e-SUS en seis unidades de salud pertenecientes a una Oficina Coordinadora de Salud de Puerto Alegre, en el transcurso de un año. **Métodos:** Trabajo de investigación transversal y retrospectivo basado en datos del sistema gerencial PEC e-SUS, abarcando 206.658 consultas registradas en 2023. **Resultados:** La APS presenta una elevada sobrecarga, evidenciada por la media de 2,9 consultas por persona, además de diversas inconsistencias en los registros, como la escasa utilización de la Clasificación Internacional de Atención Primaria y el elevado porcentaje de datos no completados. También se observó predominio de consultas de la población femenina (65,2%) y baja adhesión a visitas domiciliarias (0,6%). **Conclusiones:** La APS desempeña un rol esencial en la red de salud, pero enfrenta desafíos relacionados con la calidad de los registros, la capacitación profesional y la sobrecarga del sistema; eso exige mejoras en la estandarización de los datos, la cualificación de los equipos y el uso de tecnologías más eficientes para mejorar la asistencia provista a la población.

Descriptores: Atención Primaria de la Salud; Registros Electrónicos de Salud; Historia Clínica Electrónica; Enfermería.

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Current knowledge:

- Complete, high-quality PHC medical records are crucial for maintaining continuity of care and facilitating effective health management.
- Studies indicate recurring weaknesses in PHC electronic records, including incomplete entries and limited utilization of clinical classification systems.
- Ongoing gaps include effective PEC e-SUS system use, team capacity-building, and consistent data standardization.

Study contribution:

- The study demonstrates notable PHC overburden, with an average of 2.9 visits per person, revealing demand beyond the units' current capacity.
- The study underscores significant medical record inconsistencies, such as the underuse of ICPC-2 codes (International Classification of Primary Care, 2nd edition; Portuguese acronym: CIAP-2) and numerous records with incomplete fields, undermining management and continuity of care.
- Disparities in emergency reporting and data completeness across health units were identified, pointing to the need for staff training and upgrades to the PEC e-SUS system.

INTRODUCTION

Primary Health Care (PHC) is recognized as a priority entry point for users into the Brazilian Unified Health System (Portuguese acronym: SUS), providing care that addresses most health needs for residents in each territory. It aims to implement health-promotion initiatives, protection measures, disease-prevention actions, diagnosis, treatment, rehabilitation, harm reduction, and health maintenance at both individual and collective levels. Beyond these functions, PHC is recognized as the structuring axis within the care network due to its close connection with people's daily lives and its central role in coordinating care. It is guided by the Brazilian Unified Health System (Portuguese acronym: SUS) principles established in the National Policy for Primary Health Care⁽¹⁻³⁾, including universality, accessibility, continuity in care, integrality, accountability, humanization, and equity. Primary Health Care (PHC) also serves as the fixed pre-hospital segment within the Emergency and Urgency Care Network (Portuguese acronym: RUE)⁽⁴⁾.

PHC provides services ranging from monitoring life cycles, managing acute and chronic conditions, and delivering first-line care for urgent and emergency situations, to transferring/referring patients to other points in the health-care network, as needed⁽⁴⁾. PHC faces a wide range of health situations and problems – from minor cases to highly complex conditions –, which impose different workload degrees on their teams. Primary care teams are constantly involved in the everyday health-related dynamics of the communities they serve.

In this context, primary care teams' ability to receive and attentively address users' demands and needs, whether at home, in the community, or within the health unit is a critical aspect⁽³⁾. This should be reflected in PHC medical records, which must remain clear, accurate, and timely⁽⁵⁻⁷⁾. Records comprise information on events, health situations, care provided, referrals, and follow-up, and must be complete, objective, and concise, arranged to facilitate clear understanding and factual identification⁽⁸⁾.

Health records play a central role in managing health conditions at both individual and population levels⁽⁶⁾. At the individual level, medical records serve as the primary source of information on patients and their care, documenting clinical history, progression, and services provided. They also support decision-making, continuity of care, multiprofessional communication, and care transition to other services and levels within the health system. These records

also hold legal and confidential value. In this context, medical record completeness and quality directly influence patient safety and care efficiency⁽⁹⁾. At the population level, these records support epidemiological analyses, monitor health issues, and evaluate the quality of health services across different administrative levels^(6,10,11).

In Brazil, the implementation of the Citizen's Electronic Health Record (Portuguese acronym: PEC), integrated with the PHC e-SUS system, has become a fundamental tool for documenting information in Primary Health Care⁽³⁾. By incorporating information technologies into complex workflows, this system contributes to care continuity and coordination across the Health Care Network (Portuguese acronym: RAS). Efficient data storage and integration make it possible for management reports to guide teams, enhance strategic planning, and support public health decisions⁽¹¹⁻¹³⁾.

The PEC e-SUS system employs the International Classification of Primary Care, 2nd edition (ICPC-2, Portuguese acronym: CIAP-2) for documenting electronic health records. The system is structured around health issues and corresponding responses by the care team, and it can be used by any PHC professional, supporting multiprofessional collaboration in care delivery⁽¹³⁾. The ICPC-2 offers a structured approach to comprehending patients' reasons for seeking care, even when these concerns are not classified as diseases, rendering it particularly suitable for Primary Health Care by focusing on person-related issues rather than disease-based records. It also incorporates population morbidity and mortality indicators, unlike the International Classification of Diseases (ICD), which physicians are required to use, and which focuses primarily on disease diagnosis⁽¹⁴⁾.

Health records in medical charts serve as essential and legally mandated instruments for healthcare practice, documenting and supporting the quality of care provided. All health professionals are responsible for documenting their own clinical activities. Ensuring correct authorship for every medical record is essential.

Considering PHC's role as a component of the Emergency and Urgency Care Network (Portuguese acronym: RUE), medical record analysis sheds light on how emergency visits, referrals, and care outcomes are recorded. Additionally, medical record analysis sheds light on population needs, work processes, service organization, and aids public health management^(6,15-18).

A robust PHC system with well-organized services

significantly enhances health outcomes, promotes equitable access across care levels, and ensures efficient use of care network resources^(9,12,19), while reducing unnecessary referrals and preventing avoidable hospitalizations for conditions sensitive to primary care^(6,14,17).

The records also help identify challenges that need to be addressed (missing or nonspecific entries and high demand for services etc.)⁽¹⁰⁾. Persistent challenges include under-use of system functionalities, poor design, staff fatigue, incomplete or inconsistent records, missing information, and, in some cases, delayed entries, all of which hinder patient follow-up and compromise both care safety and management efficiency^(9,20). Additionally, structural limitations in health units, such as outdated computers, poor connectivity, and insufficient training for proper use of the PHC e-SUS system hinder its full utilization and increase the time required for service delivery^(13,19,21). These factors directly influence health action planning along with service supervision and evaluation^(6,21).

Given this context, this study aims to analyze primary health care service records based on management reports extracted from the PEC e-SUS system across six health units overseen by a Health Coordination Office in Porto Alegre over a one-year period. The study focuses on assessing record quality and completeness, urgent care delivery, referrals, and outcomes, along with potential inconsistencies that may affect regional health service management and delivery.

METHOD

This is a retrospective, cross-sectional study conducted in six primary health care units overseen by a Health Coordination Office in Porto Alegre. These units are in an area that serves a significant portion of the city population, marked by considerable social vulnerability, without Emergency Care Units (Portuguese acronym: UPA) and under substantial demand for Brazil's Mobile Emergency Care Service (Portuguese acronym: SAMU). For confidentiality purposes, the health units were designated as HU1, HU2, and so forth.

All individual care records from 2023 were included in the study. In March 2024, the study's data were collected by the research team linked to the project "Urgency and Emergency in Primary Health Care: Training Health Professionals and Organizing Health Units". The database was compiled in *Microsoft Excel*, including relevant variables and excluding any personal identifiers.

The results were presented as absolute and relative frequencies. A proportion equality test was applied to compare health units. Results with a p -value < 0.05 were considered statistically significant. The database was imported and analyzed with *IBM Statistical Package for the Social Sciences* (SPSS), version 25.0. The data were organized and presented systematically in tables.

This study adhered to all ethical guidelines established by Resolution No. 466/2012 of the National Health Council⁽²²⁾ and was approved by the Research Ethics Committees of the *Universidade Federal de Ciências da Saúde de Porto Alegre* and the Porto Alegre Municipal Health Department under protocol numbers 6.848.538 and 6.772.327,

respectively.

RESULTS

The analysis included 206,658 healthcare services provided by the health units in 2023, amounting to almost three times their registered population, as detailed in Table 1.

Table 1 - Number and rate of medical encounters provided by each health unit. Porto Alegre, RS, Brazil, 2023

Units	Encounters (%)	Population Registered	Encounter/Population Rate
HU1	22,091 (10.7%)	7,142	3.09
HU2	14,220 (6.9%)	10,981	1.29
HU3	25,343 (12.3%)	7,701	3.29
HU4	44,312 (21.4%)	12,931	3.43
HU5	51,688 (25.0%)	14,483	3.57
HU6	49,004 (23.7%)	16,642	2.94
Total	206,658 (100.0%)	69,880	2.96

Source: monthly reports created via the PEC e-SUS management module, 2023.

The analysis indicates that registered individuals had an average of 2.9 healthcare encounters, resulting in an encounter rate reaching 296% of the population.

Among all encounters, 65.2% were delivered to female patients, a trend consistent across all units. The age distribution was 51.7% for individuals aged 20 – 59 years, 28.1% for those 60 and above, 12.1% for ages 0 – 9, and 8.1% for ages 10 – 19.

Regarding location, encounters occurred at the Health Units in 99.3% of cases, with service coverage exceeding 98.6%. Home-based care represented 0.6% of all services delivered.

Regarding types of care, on-demand encounters predominated, accounting for 98.1% of all services provided. Initial listening sessions/guidance represented 1.5%, while urgent care services comprised 0.3%.

A comparison between the registered ICPC-2 codes (117,678) and the total encounters (206,658) delivered by the health units in 2023 reveals gaps in ICPC-2 documentation, as shown in Table 2.

Table 2 - Rate of encounters provided by each health unit based on the International Classification of Primary Care, 2nd edition (ICPC-2). Porto Alegre, RS, Brazil, 2023

Units	Encounters (%)	Registered ICPC-2*	ICPC-2/Encounter Rate
HU1 [#]	22,091 (10.7%)	13,166	0.60
HU2 [#]	14,220 (6.9%)	8,104	0.57
HU3 [#]	25,343 (12.3%)	12,763	0.50
HU4 [#]	44,312 (21.4%)	25,850	0.58
HU5 [#]	51,688 (25.0%)	29,196	0.56
HU6 [#]	49,004 (23.7%)	28,599	0.58
Total	206,658 (100.0%)	117,678	0.57

*ICPC-2 – International Classification of Primary Care, 2nd edition. [#]HU – Health Unit.

Source: monthly reports created via the PEC e-SUS management module, 2023.

Table 3 illustrates the ICPC-2 chapters most frequently applied during medical encounters.

Table 3 - Reasons for encounters according to the International Classification of Primary Care, 2nd edition (ICPC-2), per health unit. Porto Alegre, RS, Brazil, 2023

ICPC-2	HU1 (%)	HU2 (%)	HU3 (%)	HU4 (%)	HU5 (%)	HU6 (%)	TOTAL (%)
A	4,648 (35.3) ^a	4,194 (49.0) ^b	6,368 (49.9) ^b	13,445 (52.0) ^c	13,043 (42.7) ^d	16,457 (57.5) ^c	58,155 (48.7)
B	111 (0.8) ^a	37 (0.4) ^b	45 (0.4) ^b	94 (0.4) ^b	237 (0.8) ^a	98 (0.3) ^b	622 (0.5)
D	791 (6.0) ^a	314 (3.7) ^b	575 (4.5) ^{c,d}	1,191 (4.6) ^c	1,579 (5.2) ^d	924 (3.2) ^b	5,374 (4.5)
F	140 (1.1) ^a	51 (0.6) ^b	56 (0.4) ^{b,c}	115 (0.4) ^{b,c}	162 (0.5) ^b	96 (0.3) ^c	620 (0.5)
H	162 (1.2) ^{a,b}	71 (0.8) ^{a,c}	122 (1.0) ^{a,c}	370 (1.4) ^b	364 (1.2) ^{a,b}	218 (0.8) ^c	1,307 (1.1)
K	1,002 (7.6) ^a	782 (9.1) ^b	1,150 (9.0) ^b	1,181 (4.6) ^c	4,034 (13.2) ^d	1,888 (6.6) ^c	10,037 (8.4)
L	609 (4.6) ^a	270 (3.2) ^b	322 (2.5) ^{b,d}	487 (1.9) ^c	748 (2.4) ^d	537 (1.9) ^c	2,973 (2.5)
N	227 (1.7) ^a	171 (2.0) ^{a,b}	296 (2.3) ^b	447 (1.7) ^a	543 (1.8) ^a	325 (1.1) ^c	2,009 (1.7)
P	178 (1.4) ^a	254 (3.0) ^b	242 (1.9) ^c	515 (2.0) ^c	556 (1.8) ^c	205 (0.7) ^d	1,950 (1.6)
R	1,869 (14.2) ^a	575 (6.7) ^b	1,076 (8.4) ^c	2,989 (11.6) ^d	3,187 (10.4) ^e	3,509 (12.3) ^d	13,205 (11.1)
S	670 (5.1) ^a	279 (3.3) ^b	485 (3.8) ^b	907 (3.5) ^b	781 (2.6) ^c	1,069 (3.7) ^b	4,191 (3.5)
T	590 (4.5) ^a	389 (4.5) ^{a,c}	659 (5.2) ^{a,c}	691 (2.7) ^b	1,623 (5.3) ^c	969 (3.4) ^d	4,921 (4.1)
U	285 (2.2) ^a	147 (1.7) ^{a,b,d}	203 (1.6) ^{b,d}	431 (1.7) ^{b,c,d}	595 (1.9) ^{a,b}	397 (1.4) ^d	2,058 (1.7)
W	1,341 (10.2) ^a	780 (9.1) ^a	871 (6.8) ^b	2,038 (7.9) ^c	2,065 (6.8) ^b	1,058 (3.7) ^d	8,153 (6.8)
X	431 (3.3) ^a	194 (2.3) ^{b,c}	244 (1.9) ^b	758 (2.9) ^a	755 (2.5) ^c	617 (2.2) ^{b,c}	2,999 (2.5)
Y	98 (0.7) ^a	42 (0.5) ^{a,b}	45 (0.4) ^b	159 (0.6) ^a	241 (0.8) ^a	189 (0.7) ^a	774 (0.6)
Z	14 (0.1) ^{a,b}	10 (0.1) ^{a,b}	4 (0.0) ^a	32 (0.1) ^{a,b}	33 (0.1) ^{a,b}	43 (0.2) ^b	136 (0.1)

Note: Values within the same row bearing different letters indicate a significant difference ($p < 0.05$ – two-tailed equality test comparing column proportions).

Chapter description: A - General and unspecified; B - Blood, hematopoietic, lymphatic, and spleen; D - Digestive; F - Eye; H - Ear; K - Circulatory; L - Musculoskeletal; N - Neurological; P - Psychological; R - Respiratory; S - Skin; T - Endocrine/Metabolic and nutritional; U - Urological; W - Pregnancy, childbearing and family planning; X - Female genital; Y - Male genital; Z - Social problems.

Source: monthly reports created via the PEC e-SUS management module, 2023.

Regarding the most frequently used ICPC-2 chapters in medical encounters, chapter “A - GENERAL AND UNSPECIFIED” was predominant across all units, accounting for 48.7% of records. The second most common chapter overall was “R - RESPIRATORY” (11.1%); however, in units HU2, HU3, and HU5, the second most recorded chapter was “K - CIRCULATORY” (in HU2, this chapter tied with “W - PREGNANCY, CHILDBEARING, AND FAMILY PLANNING”, both at 9.1%). Finally, the least recorded ICPC-2 chapter across all units was “Z - SOCIAL PROBLEMS”, representing 0.1% of encounters (Table 3).

Regarding urgent care services, HU6 recorded the highest proportion, accounting for 58.9% of all urgent visits, followed by HU5, which registered 34.8% of the 546 consultations. HU2 recorded the fewest urgent care encounters, with just 4 documented in 2023. Urgent care rates are calculated per 10,000 inhabitants. HU5 was the only unit

that registered urgent visits in every month of the year. HU6 lacked records only in January; HU1 had no records in November and December; HU4 recorded urgent care solely in January, July, August, September, and December; HU2 recorded this type of service only in July, November, and December, while HU3 registered emergencies exclusively in May and November.

Regarding general data from the health units, the variable “kept under observation” was categorized as “yes”, “no”, or “not reported”. In most units, the option “not reported” predominated; only in HU3 and HU4 did the option “no” (indicating not kept under observation) prevail. The “yes” category, indicating that the patient was kept under observation, was the least frequent across all units, totaling only 25 encounters out of 206,658 in 2023 (Table 4).

Table 4 - Primary outcomes resulting from medical encounters across health units. Porto Alegre, RS, Brazil, 2023

Kept under observation	HU1 (%)	HU2 (%)	HU3 (%)	HU4 (%)	HU5 (%)	HU6 (%)	TOTAL (%)
Yes	0 (0)	0 (0)	0 (0)	10 (0) ^a	4 (0) ^a	11 (0) ^a	25 (0)
No	8,799 (39.8) ^a	6,634 (46.7) ^b	13,213 (52.1) ^c	25,062 (56.6) ^d	24,285 (47) ^b	20,749 (42.3) ^c	98,742 (47.8)
Not Reported	13,293 (60.2) ^a	7,586 (53.3) ^b	12,130 (47.9) ^c	19,240 (43.4) ^d	27,399 (53) ^b	28,244 (57.6) ^c	107,892 (52.2)

Note: Values within the same row bearing different letters indicate a significant difference ($p < 0.05$ – two-tailed equality test comparing column proportions).

Source: Monthly reports created via the PEC e-SUS management module, 2023.

Regarding the “conduct” variable, it should be noted that the e-SUS system allows multiple conduct options to be selected for a single encounter. As a result, the overall conduct count (225,751) is higher than the total encounters documented (206,658). Across all units, the most common outcome was discharge after the medical episode (78.9%), with returns for ongoing/scheduled care (14.2%) and scheduled appointments (5.3%) occurring less

frequently.

For referrals, the “not reported” category predominated, accounting for 98.6% of all encounters and ranging from 97.3% to 99.5% across units. Another notable outcome was same-day internal referral, representing 1.2% of all encounters and following the same distribution pattern as “not reported”, ranking as the second most frequent referral across units, with values from 0.4% to 2.4% per

HU. For specific referral destinations, such as “referred to Psychosocial Care Centers” (Portuguese acronym: CAPS), “referred to hospital”, “sent to home care”, or “intersectoral approach”, no significant differences were observed across units.

DISCUSSION

The analysis of medical records from health units revealed how the population accesses healthcare services, influenced by factors such as UBS/USF (Portuguese acronyms for Basic Health Unit/Family Health Unit) location, operating hours, walk-in availability, and urgent care reception, highlighting a situation that calls for careful consideration⁽²³⁾. The 206,658 encounters documented in 2023 demonstrate the substantial demand placed on PHC services while emphasizing their pivotal role in serving the population.

An average of almost three encounters per person, well above the registered population, indicates repeated use of services, possibly due to unresolved health issues, few alternative care pathways, or a predominantly physician-centered model⁽²⁴⁾. Continuous follow-up for users with chronic conditions also requires more frequent monitoring encounters, therapeutic adjustments, and preventive measures to avoid complications⁽²⁵⁾. Studies show that a well-structured PHC system can markedly reduce hospitalizations and chronic disease complications while meeting most population needs, thereby limiting unnecessary referrals and easing pressure on higher-complexity services^(6,26).

Another relevant aspect relates to users' profiles. Women accounted for most medical encounters (65.2%), reflecting long-standing evidence that they tend to seek healthcare more frequently than men. This finding is consistent with studies showing that women rely on PHC services more often. Culturally, they are socialized into caregiving roles, including self-care, household chores, and/or care directed toward others. The act of caring also carries social meanings linked to attentiveness, protection, and vulnerability, traits often associated with femininity. Self-care is also more actively directed/encouraged among women through initiatives, health programs, and public policies that reinforce this social construction, influencing how they interpret signs and symptoms and encouraging stronger participation in preventive actions. In contrast, men tend to seek healthcare only when symptoms become sufficiently restrictive to affect daily routines or, most prominently, when they prevent them from working^(27,28).

Moreover, most medical encounters occurred among individuals aged 20 to 59 (51.7%). In addition, biological factors linked to women's life cycles must also be considered, including menarche, reproductive planning, prenatal care, postpartum care, and menopause, all aligned with PHC programmatic actions.

This may be linked to the fact that this life stage increases people's exposure to work-related stress, emerging chronic illnesses, and further factors that influence health⁽²⁸⁾. Another important element discussed in some studies is the operating schedule for UBSs/USFs (Portuguese acronyms for Basic Health Unit/Family Health Strategy), which becomes a barrier for working individuals and helps clarify

why women in informal jobs or with more flexible schedules access PHC more frequently than men employed in industrial or construction sectors. Working men frequently associate PHC use with productivity loss or decreased income (among self-employed workers), which may partly explain absenteeism across health services⁽²⁷⁾.

PHC is also perceived as a service more oriented toward women, children, and older adults due to its service portfolio and the way the care environment is organized. Men tend to seek care in Emergency Care Units (Portuguese acronym: UPA) and in urgent and emergency settings, where they expect faster and more effective responses. Another major challenge faced by PHC is strengthening men's participation in healthcare practices⁽²⁷⁾.

The numbers also show that nearly all medical encounters took place within the health units themselves (99.3%), while home care services were minimal (0.6%). The limited availability of home visits (HV) in Primary Health Care highlights a persistent gap between SUS guidelines and daily team practice. Low adherence to home-based care may indicate operational challenges, such as inadequate team size for this type of service combined with bureaucratic overload and/or excessive walk-in demand, or even the lack of institutional transport that prevents or hinders teams from reaching more remote and/or peripheral areas. Safety issues in specific areas may play a role, but the low number of visits may likewise suggest that this modality is not sufficiently prioritized within PHC. However, home visits are a highly important strategy, especially for older adults and individuals with mobility difficulties⁽²⁹⁻³¹⁾. The drop in home visits may also reflect a shrinking Community Health Worker (Portuguese acronym: ACS) workforce, along with a shift in their responsibilities toward administrative tasks within Basic Health Units (Portuguese acronym: UBS)^(2,32).

Another highly important point highlights the need for complete medical records. On average, under 60% encounters showed a correctly registered International Classification for Primary Care (ICPC-2) code. This indicates that many patient charts were incomplete or inaccurate, a weakness that may directly compromise continuity of care⁽³³⁾. Without adequate documentation, the health team may miss valuable information about a patient's history, thereby compromising appropriate follow-up. This vulnerability in records has been described as a recurrent challenge in PHC services, interfering with epidemiological analysis and decisions grounded in concrete data⁽³⁾. Even with PEC e-SUS implemented throughout PHC, gaps in infrastructure and professional training may still compromise record quality and completeness. Equipment shortages, unstable connectivity, and weak integration between systems drive rework and extend data-entry time. In addition, limited ongoing training restricts professionals' ability to keep up with software updates^(30,35-37).

Another worrying aspect involves urgent care services. HU6 concentrated nearly 60% of these encounters, followed by HU5, with 34.8%. This pattern may reflect that these units are located in areas with limited access to emergency services, leading people to seek PHC settings even for cases that should be managed in Emergency Care Units. Differences in urgent care reporting among units likewise

signal that some cases may go unreported, hindering precise assessment of demand for this type of care.

Even though policies ensure mandatory reporting in certain situations, daily practice shows that many cases go undocumented. Factors behind underreporting include high workload, which can result in prioritizing immediate care over accurate case records; insufficient training or knowledge; insufficiently developed digital systems; and instances where reporting is erroneously seen as a complaint, particularly in cases of violence. Health professionals should understand that reporting medical cases, whether mandatory or voluntary, serves as a tool for assessing population profile and guiding prevention initiatives, control strategies, resource allocation, and policy planning^(38,39).

The high prevalence of “not reported” entries underscores a major weakness in medical documentation, compromising continuity of care and hindering effective healthcare management. Although system inconsistencies, disorganized workflows, and training gaps make documentation more difficult and often more time-consuming, these barriers do not eliminate the ethical and legal responsibility shared by all health professionals. Blank and unreported entries in any variable reveal critical shortcomings in medical record quality and completeness⁽⁸⁾. These gaps prevent effective monitoring in healthcare delivery and make it difficult to implement strategies that enhance service quality⁽⁴⁰⁾. Thus, management should prioritize continuous professional development, stronger information systems, and favorable working conditions, ensuring that professionals can document thoroughly and reliably what they recognize as a core element in healthcare practice.

In addition, it is important to note that PHC data analysis relies on management reports rather than detailed clinical records in patient charts, which increases the risk of errors and information gaps. However, for these reports to serve as effective tools in PHC management, they must reflect not only absolute numbers but also the accuracy and quality of the recorded information⁽⁴¹⁾. Standardized records, targeted team training for accurate data entry, and strengthened information systems are essential strategies to ensure that management reports become reliable instruments for planning and decision-making⁽⁴²⁾.

Considering these findings, it is evident that PHC plays a central role in sustaining and advancing population health. However, substantial challenges persist regarding service organization, the quality of clinical records, and the capacity to meet the high demand. Enhancing team training, investing in technologies that facilitate record completion,

and redistributing patient encounters more evenly may contribute to more efficient unit operation. Beyond numbers and statistics, these data reflect the real lives of people who rely on the Brazilian Unified Health System (Portuguese acronym: SUS) daily and should therefore be examined with empathy and ongoing commitment to strengthening healthcare delivery.

CONCLUSION

Analysis of medical records highlights PHC’s central role in addressing population demands while revealing ongoing challenges in management and reliable documentation. Overburdened health units, along with incomplete patient charts, directly compromise continuity of care and hinder efficient resource allocation. Therefore, to optimize health unit functioning and strengthen UBS/USF (Portuguese acronyms for Basic Health Units/Family Health Units) infrastructure, continuous professional training is essential to improve staff record-keeping and enhance electronic health systems.

It is essential to reinforce health teams’ role in improving clinical record quality, thus ensuring higher accuracy and safer patient care. Moreover, implementing user-friendly technological tools with mandatory fields, combined with integration across care levels, can improve PHC management efficiency. Although all health professionals share responsibility for medical records, the nursing team plays a strategic role in coordinating workflows and can significantly contribute to promoting safer and more consistent documentation practices.

CONFLICT OF INTERESTS

The authors declare no conflict of interests.

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USE OF ARTIFICIAL INTELLIGENCE

AI tools were exclusively used to support writing and review of the text, under strict supervision by the authors. AI was not employed to analyze the data, produce results or make scientific decisions. The authors assume full responsibility for the final version presented.

REFERENCES

1. Mattos JC de O, Balsanelli AP. A liderança do enfermeiro na atenção primária à saúde: revisão integrativa. *Enferm Foco*. 2019;10(4). <https://dx.doi.org/10.2167/5/2357-707X.2019.v10.n4.2618>
2. Ministério da Saúde (BR). Portaria nº 2.436, de 21 de setembro de 2017. Aprova a Política Nacional de Atenção Básica, estabelecendo a revisão de diretrizes para a organização da Atenção Básica, no âmbito do Sistema Único de Saúde (SUS) [Internet]. Brasília: Ministério da Saúde; 2017 [cited 2025 Feb 21]. Available from: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2017/prt2436_22_09_2017.html
3. Ministério da Saúde (BR). Acolhimento à demanda espontânea: queixas mais comuns na Atenção Básica [Internet]. Brasília: Ministério da Saúde; 2013 [cited 2025 Feb 21]. Available from: https://bvsms.saude.gov.br/bvs/publicacoes/acolhimento_demanda_espontanea_queixas_comuns_cab28v2.pdf
4. Ministério da Saúde. Portaria nº 1863, de 29 de setembro de 2003. Institui a Política Nacional de Atenção

- às Urgências, a ser implantada em todas as unidades federadas, respeitadas as competências das três esferas de gestão [Internet]. Brasília: Ministério da Saúde; 2003 [cited 2023 Apr 20]. Available from: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2003/prt1863_26_09_2003.html
5. Ministério da Saúde (BR). Manual para a Organização do Prontuário Eletrônico do Paciente [Internet]. Brasília: Ministério da Saúde; 2013 [cited 2025 Dec 09]. Available from: https://bvsms.saude.gov.br/bvs/publicacoes/manual_prontuario_eletronico_paciente.pdf
6. Celuppi IC, Mohr ETB, Felisberto M, Rodrigues TS, Hammes JF, Cunha CL, et al. Dez anos do Prontuário Eletrônico do Cidadão e-SUS APS: em busca de um Sistema Único de Saúde eletrônico. *Rev Saude Publica*. 2024;58:23. <https://doi.org/10.11606/s1518787.2024058005770>
7. Oliveira AT de, Andrade GP, Santos PRA dos, Pereira MCA. Prontuário eletrônico educacional em apoio ao ensino dos registros em saúde na atenção primária. *RECA* [Internet]. 2020 [cited 2026 Aug 03];1(2):1-31. Available from: <http://periodicos.unifacel.com.br/reca/article/view/2048>
8. Vasconcellos MM, Gribel EB, Moraes IHS de. Registros em saúde: avaliação da qualidade do prontuário do paciente na atenção básica, Rio de Janeiro, Brasil. *Cad Saúde Pública*. 2008;24(Sup 1):S173-S182. <https://doi.org/10.1590/S0102-311X2008001300021>. PMID: 18660902
9. Silva Júnior JNB, Guedes HCS, Januário DC, Silva ACO, Palha PF, Nogueira MF, et al. Unsatisfactory completeness of nurses' records in the medical records of users with tuberculosis. *Rev Bras Enferm*. 2022;75(3):e20210316. <https://doi.org/10.1590/0034-7167-2021-0316>. PMID: 34852125
10. Maria A, da Silva Rennó GA, Pinto Ribeiro Miranda R, Silva Gonzaga VA. Percepções e desafios no preenchimento dos prontuários entre profissionais da saúde na atenção primária. *Santé* [Internet]. 2023 [cited 2026 Aug 3];2(2):26-44. Available from: <https://periodicos.unidep.edu.br/sante/article/view/249>
11. Vasconcellos MM, Gribel EB, Moraes IHS. Registros em saúde: avaliação da qualidade do prontuário do paciente na atenção básica, Rio de Janeiro, Brasil. *Cad Saúde Pública*. 2008;24(Sup 1):S173-S182. <https://doi.org/10.1590/S0102-311X2008001300021>. PMID: 18660902
12. Toledo PP da S, Santos EMD, Cardoso GCP, Abreu DMF de, Oliveira AB de. Electronic Health Record: a systematic review of the implementation under the National Humanization Policy guidelines. *Cien Saude Colet*. 2021;26(6):2131-40. <https://doi.org/10.1590/1413-81232021266.39872020>. PMID: 34231725
13. Ferreira ES, Santana MM, Monteiro IS, Moreira KS. Registros, monitoramento e avaliação no e-SUS APS por cirurgiões-dentistas em um distrito sanitário de Recife/PE. *Rev Saude Redes*. 2023;9(3):4137. <https://doi.org/10.18310/2446-4813.2023v9n3.4137>
14. Gusso G. Classificação Internacional de Atenção Primária: capturando e ordenando a informação clínica. *Ciênc Saúde Colet*. 2020;25(4):1241-50. <https://doi.org/10.1590/1413-81232020254.30922019>
15. Mendes M da S. Demanda espontânea X demanda programada na equipe de saúde da família saúde e esperança no município de São João do Pacuí/MG [dissertation on the Internet]. Montes Claros: Universidade Federal do Triângulo Mineiro; 2017 [cited 2025 Dec 09]. Available from: <https://www.nescon.medicina.ufmg.br/biblioteca/imagem/MONICA-SILVA-MENDES.pdf>
16. Barreto JJS, Coelho MP, Lacerda LCX, Fiorin BH, Mocelin HJS, Freitas PSS. Registros de Enfermagem e os desafios de sua execução na prática assistencial. *REME – Rev Min Enferm* 2019;23:e-1234. <https://doi.org/10.5935/1415-2762.20190082>
17. Starfield B. Atenção primária: equilíbrio entre necessidades de saúde, serviços e tecnologia [Internet]. Brasília: UNESCO, Ministério da Saúde; 2002 [cited 2026 Aug 03]. Available from: <https://www.nescon.medicina.ufmg.br/biblioteca/imagem/0253.pdf>
18. Silva CBR, Lima DBS, Pontes Neto JG. Atenção básica no diagnóstico precoce de neoplasia maligna. *Rev Contemp*. 2024;4(6):e4859. <https://doi.org/10.56083/RCV4N6-195>
19. Almeida PF de, Medina MG, Fausto MCR, Giovanella L, Bousquat A, Mendonça MHM de. Coordenação do cuidado e Atenção Primária à Saúde no Sistema Único de Saúde. *Saúde Debate* [Internet]. 2023 [cited 2026 Aug 03];42(especial 1 set):244-60. Available from: <https://saudeemdebate.org.br/sed/article/view/585>
20. Silva Ísis de S, Sousa LFS de, Sousa JVA, Lima LGFB de, Xavier PB, Silva CRDV, Araújo AJ de, Uchôa SA da C. Avanços e Desafios para a Estruturação de uma Política de Saúde Digital no Brasil: uma Análise Documental. *R. G. Secr*. [Internet]. 2025 [cited 2026 Aug 03];16(9):e5201. Available from: <https://ojs.revi.stagesec.org.br/secretariado/article/view/5201>
21. Pinheiro ALS, Andrade KTS, Silva D de O, Zacharias FCM, Gomide MFS, Pinto IC. Health management: the use of information systems and knowledge sharing for the decision making process. *Texto Contexto Enferm*. 2016;25(3):e3440015. <https://doi.org/10.1590/0104-07072016003440015>
22. Conselho Nacional de Saúde (BR). Resolução no 466, de 12 de dezembro de 2012. Aprova as seguintes diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos; Revoga as (RES. 196/96); (RES. 303/00); (RES. 404/08) [Internet]. Brasília: CNS; 2012 [cited 2025 Feb 21]. Available from: <https://www.gov.br/conselho-nacional-de-saude/pt-br/atos-normativos/resolucoes/2012/resolucao-no-466.pdf/view>
23. Silva LHL, Oliveira KCP do N, Porciúncula M das NG, Cardoso DS dos A, Costa L de MC, Rozendo CA, et al. Barreiras de acesso à saúde na atenção primária: entre o enfrentamento e a superação. *Revista JRG*. 2024;7(14):e141043. <https://doi.org/10.55892/jrg.v7i14.1043>
24. Soares LS, Junqueira MA de B. A percepção sobre o acesso avançado em uma unidade unidade-escola de atenção básica à saúde. *Rev Bras Educ Med*.

- 2022;46(1):e031. <https://doi.org/10.1590/1981-5271v46.1-20210115>
25. Neves RG, Duro SMS, Nunes BP, Facchini LA, Tomasi E. Atenção à saúde de pessoas com diabetes e hipertensão no Brasil: estudo transversal do Programa de Melhoria do Acesso e da Qualidade da Atenção Básica, 2014. *Epidemiol Serv Saúde*. 2021;30(3):e2020419. <https://doi.org/10.1590/S1679-49742021000300015>
26. Vidal TB, Rocha SA, Harzheim E, Hauser L, Tesser CL. Modelos de agendamento e qualidade da atenção primária: estudo transversal multinível. *Rev Saúde Pública* 2019;53(38):1-10. <https://doi.org/10.11606/S1518-8787.2019053000940>. PMID: 31066816
27. Gutmann VLR, Santos D, Silva CD, Vallejos CCC, Acosta DF, Mota MS. Motivos que levam mulheres e homens a buscar as unidades básicas de saúde. *J Nurs Health*. 2022;12(2):e2212220880. <https://doi.org/10.15210/jonah.v12i2.2234>
28. McGonagle AK, Chosewood LC, Hartley TA, Newmann LS, Ray T, Rosenberg MA. Chronic Health Conditions in the Workplace: Work Stressors and Supportive Supervision, Work Design, and Programs. *Occup Health Sci* 2024;8:233-41. <https://doi.org/10.1007/s41542-024-00192-0>. PMID: 39811031
29. Rezende AC, Trujillo C, Amorim EL, Uchida KK, Trizote LGO, Silva RFG, et al. A eficácia da visita domiciliar no cuidado aos pacientes acamados: the effectiveness of home visits in the care of bedridden patients. *RESP*. 2023;1(2). <https://doi.org/10.59788/resp.v1i2.16>
30. Kuhn M, Bonato SV, Albrecht CAM, Olea PM. Atenção básica à saúde: uma análise das causas dos atendimentos e sua importância nas demandas da saúde. *OLEL*. 2024;22(6):01-25. <https://doi.org/10.55905/olel.v22n6-095>
31. Goulart EP, Moura ATMS de, Rafael R de MS, Edmundo KMB, Penna LHG. Visita domiciliar pela Estratégia Saúde da Família: limites e possibilidades no contexto da violência urbana no Rio de Janeiro. *Rev Bras Med Fam Comunidade*. 2021;16(43):2651. [https://doi.org/10.5712/rbmf.v16\(43\)2651](https://doi.org/10.5712/rbmf.v16(43)2651)
32. Kessler M, Thumé E, Facchini LA, Tomasi E. Prevalência do não recebimento de visita domiciliar pelo Agente Comunitário de Saúde no Brasil e fatores associados. *Ciênc Saúde Coletiva*. 2022;27(11):4253-63. <https://doi.org/10.1590/1413-812320222711.17072021>
33. Santos GD. *Prontuário Eletrônico do Cidadão: percepção da equipe de enfermagem da Atenção Primária à Saúde de Olinda – PE* [master's thesis on the Internet]. João Pessoa: Universidade Federal da Paraíba; 2023 [cited 2025 Feb 21]. Available from: <https://repositorio.ufpb.br/jspui/handle/123456789/32312>
34. Velloso R do A. *Implantação do prontuário eletrônico na atenção primária no sistema único de saúde: resultado do PMAQ-AB 2011 e 2014 - MG* [master's thesis on the Internet]. Belo Horizonte: Universidade Federal de Minas Gerais; 2019 [cited 2025 Feb 21]. Available from: <https://repositorio.ufmg.br/server/api/core/bitstreams/6faf76ed-4dfe-46c8-9500-419511261080/content>
35. Valdes G, Souza AS de. *Uso de prontuário eletrônico e parâmetros de acesso e acolhimento segundo dados do terceiro ciclo do PMAQ-AB*. *Ciênc Saúde Coletiva*. 2024;29(1):e04492023. <https://doi.org/10.1590/1413-81232024291.04492023>
36. Universidade Federal de Minas Gerais; Ministério da Saúde. *Qualidade de dados em registro de Atenção Primária à Saúde: curso para enfermeiros, médicos e odontólogos* [Internet]. Belo Horizonte: UFMG, MS; 2020 [cited 2025 Feb 21]. Available from: https://www.conasems.org.br/wp-content/uploads/2020/09/GUIA_EAD_Qualidade_dados_Nivel_superior.pdf
37. Hohenberger GF, Santana da Silva F, Schenk de Azambuja M. Challenges in the process of implementation of electronic health records in Primary Health Care in the state of Rio Grande do Sul, Brazil. *Saúde Redes*. 2024;10(1):4326. <https://doi.org/10.18310/2446-4813.2024v10n1.4326>
38. Reis ZSN, Oliveira JL, Senna MIB, Pagano AS, Asevedo R. *Registro de Saúde na APS: educação permanente para enfermeiros, médicos da equipe de saúde da família, cirurgiões-dentistas e equipes multiprofissionais* [Internet]. Belo Horizonte: Faculdade de Medicina da UFMG, Ministério da Saúde; 2024 [cited 2025 Dec 09]. Available from: <https://hdl.handle.net/1843/63487>
39. Oliveira AEF de, Araújo FLSM, Garcia PT. *Redes de atenção à saúde: rede de atenção às urgências e emergências no âmbito do Sistema Único de Saúde* [Internet]. São Luís: EDUFMA; 2018 [cited 2026 Aug 04]. Available from: <https://ares.unasus.gov.br/acervo/html/ARES/10272/1/Redes%20de%20Aten%C3%A7%C3%A3o%20%C3%A0s%20Urg%C3%A2ncias%20e%20Emerg%C3%A2ncias%20-%20978-85-7862-721-8.pdf>
40. Ferreira LL, Chivavone FBT, Bezerril MS, Alves KYA, Salvador PTCO, Santos VEP. Analysis of records by nursing technicians and nurses in medical records. *Rev Bras Enferm*. 2020;73(2):e20180542. <https://doi.org/10.1590/0034-7167-2018-0542>. PMID: 32074237
41. Borges MA. *Uma ferramenta para monitoramento de indicadores na gestão de saúde no município de Ribeirão Preto - SP* [master's thesis on the Internet]. Ribeirão Preto: Universidade de São Paulo; 2022. <https://doi.org/10.11606/D.17.2022.tde-06052022-165145>
42. Rangel JS. *A importância da qualificação dos registros nas salas de vacina: Ações de vigilância da cobertura vacinal no município de Arraial do Cabo - RJ* [master's thesis on the Internet]. Rio de Janeiro: Universidade do Estado do Rio de Janeiro; 2023 [cited 2026 Aug 03]. Available from: https://bdtd.ibict.br/vufind/Reco rd/UERJ_cdfd6d5a66313f67f4fc5ec54067b18e

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Data collection: Lima RL, Fraga AM.

Data analysis: Lima RL, Weis AH, Viegas K, Silva AD.

Data interpretation: Lima RL, Weis AH, Viegas K, Silva AD.

All authors are responsible for the textual writing and critical review of the intellectual content, the final version published, and all ethical, legal, and scientific aspects related to the accuracy and integrity of the study.



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