

Home care and readmissions

Atenção domiciliar e reinternações

Atención domiciliaria y readmisiones

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Abstract

Introduction: The changes resulting from the demographic and epidemiological transition, with a consequent increase in life expectancy and the prevalence of non-communicable chronic degenerative diseases, raise the need for the development and implementation of public policies. Within the scope of the Brazilian Unified Health System (SUS), home care is configured as a substitutive or complementary health care modality, consisting of health promotion, disease prevention and treatment, and rehabilitation actions carried out at home, ensuring continuity of care and its integration into health care networks. Among its main tasks is to avoid hospital readmissions.

Objective: The objective of this work was to identify readmissions of patients followed up by a home care service (HCS) from June 2022 to May 2023, characterizing them in terms of cause and length of follow-up, in addition to defining the hospital readmission rate of the HCS and analyzing the socio-epidemiological profile of patients who were readmitted. **Methods:** This was a retrospective cross-sectional study, in which the service's medical records and database were reviewed in pursuit of the objectives described above. **Results:** Among the main findings, in a sample of 300 readmissions out of a total of 2,713 patients (readmission rate of 11.06%), the leading causes were infectious (128), neoplastic (38), and undefined symptoms (34). The remaining causes were less representative. The mean follow-up time by the HCS until readmission was 25 days. Twenty-six (8.67%) occurred within less than 48 hours of follow-up. **Conclusions:** The study enhances the understanding of the profile of patients followed up by an HCS that progressed to readmission. Identifying comorbidities associated with these readmissions – many of them related to primary care-sensitive conditions – reveals opportunities for interventions capable of strengthening home-based care and reducing potentially preventable hospitalizations.

Keywords: Home care services; Patient readmission; Continuity of patient care.

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Funding:

not applicable.

Ethical approval:

not applicable.

Informed consent form:

not applicable.

Provenance:

not commissioned.

Associate Editor:

Dr. Francisco Eduardo da Fonseca Delgado.

Peer review:

external.

Received: 10/06/2024.

Approved: 03/14/2026.

How to cite: Pereira LN, Peruzzo FS, Soares KG, Mestriner RJS. Home care and readmissions. Rev Bras Med Fam Comunidade. 2026;21(48):4524. [https://doi.org/10.5712/rbmfc21\(48\)4524](https://doi.org/10.5712/rbmfc21(48)4524)



Resumo

Introdução: Introdução. As mudanças decorrentes da transição demográfica e epidemiológica, com consequente aumento da expectativa de vida e da prevalência de doenças crônico-degenerativas não transmissíveis, suscitam a necessidade do desenvolvimento e da implementação de políticas públicas. No âmbito do Sistema Único de Saúde (SUS), a Atenção Domiciliar (AD) configura-se como uma modalidade de atenção à saúde de caráter substitutivo ou complementar, composta por ações de promoção da saúde, prevenção e tratamento de doenças e reabilitação realizadas no domicílio, assegurando a continuidade do cuidado e sua integração às redes de atenção à saúde. Entre suas atribuições, destaca-se a contribuição para a redução de reinternações hospitalares. **Objetivo:** O objetivo deste trabalho foi identificar as reinternações dos pacientes acompanhados por um Serviço de Atenção Domiciliar (SAD) no período de junho de 2022 a maio de 2023, caracterizando-as quanto a causa e tempo de acompanhamento, além de definir a taxa de reinternação hospitalar do SAD e analisar o perfil socioepidemiológico dos pacientes que reinternaram. **Métodos:** Trata-se de um estudo transversal retrospectivo, em que foram revisados os prontuários e banco de dados do serviço em busca dos objetivos descritos acima. **Resultados:** Entre os principais achados do estudo, numa amostra de 300 reinternações, em um total de 2.713 pacientes (taxa de reinternação de 11,06%), destacaram-se como as principais causas: infecciosas (128), neoplásicas (38) e sintomas não definidos (34). As demais causas foram menos representativas. O tempo médio de acompanhamento pelo SAD até a reinternação foi de 25 dias. Vinte e seis (8,67%) aconteceram com menos de 48h de acompanhamento. **Conclusões:** O estudo amplia o entendimento sobre o perfil dos pacientes acompanhados por um SAD que evoluem para reinternação. A identificação das comorbidades associadas a essas reinternações – muitas delas relacionadas a condições sensíveis à Atenção Primária – gera potencial de intervenções capazes de fortalecer o cuidado no domicílio e reduzir a ocorrência de hospitalizações potencialmente evitáveis.

Palavras-chave: Serviços de assistência domiciliar; Readmissão do paciente; Continuidade da assistência ao paciente.

Resumen

Introducción: Los cambios derivados de la transición demográfica y epidemiológica, con el consecuente aumento de la expectativa de vida y de la prevalencia de enfermedades crónicas no transmisibles, generan la necesidad de desarrollar e implementar políticas públicas. En el ámbito del Sistema Único de Salud (SUS) de Brasil, la Atención Domiciliar (AD) se configura como una modalidad de atención a la salud de carácter substitutivo o complementario, compuesta por acciones de promoción de la salud, prevención y tratamiento de enfermedades y rehabilitación realizadas en el domicilio, asegurando la continuidad del cuidado y su integración a las redes de atención a la salud. Entre sus principales atribuciones se encuentra la de evitar readmisiones hospitalarias. **Objetivo:** El objetivo de este trabajo fue identificar los reingresos de pacientes seguidos en un Servicio de Atención Domiciliar (SAD) desde junio de 2022 hasta mayo de 2023, caracterizándolos en términos de causa y tiempo de seguimiento, además de definir la tasa de reingreso hospitalario el SAD y analizar el perfil socioepidemiológico de los pacientes que reingresaron. **Métodos:** Se trata de un estudio transversal retrospectivo, en el que se revisaron las historias clínicas y la base de datos del servicio en búsqueda de los objetivos descritos anteriormente. **Resultados:** Entre los principales hallazgos, en una muestra de 300 reingresos de un total de 2.713 pacientes (tasa de reingreso del 11,06%), se destacaron como causas principales: infecciosas (128), neoplásicas (38) y síntomas no definidos (34). Las demás causas fueron menos representativas. El tiempo medio de seguimiento por el SAD hasta el reingreso fue de 25 días. Veintiséis (8,67%) ocurrieron con menos de 48 horas de seguimiento. **Conclusiones:** El estudio amplía la comprensión sobre el perfil de los pacientes atendidos por un Servicio de Atención Domiciliar (SAD) que evolucionan hacia el reingreso. La identificación de comorbidades asociadas a estos reingresos —muchas de ellas relacionadas con condiciones sensibles a la Atención Primaria— genera oportunidades de intervención capaces de fortalecer el cuidado en el domicilio y reducir la ocurrencia de hospitalizaciones potencialmente evitables.

Palabras clave: Servicios de atención de salud a domicilio; Readmisión del paciente; Continuidad de la atención al paciente.

INTRODUCTION

The changes resulting from the demographic and epidemiological transition, with the consequent increase in life expectancy and the prevalence of chronic-degenerative non-communicable diseases,¹ underscore the need for the development and implementation of public and health policies capable of meeting the population's demands.²

The expansion of Family Health Strategy has brought about significant improvements in the population's access to health services, while also reaffirming the importance of the home environment as a therapeutic space.³ It is within this context that home care emerges, a modality of care offered by the Unified Health System (SUS). According to Ordinance No. 3,005 of 2024 (a reformulation of Ordinance No. 963 of 2013), HC is a healthcare modality that serves as a substitute for, or a complement to, existing services. It is characterized by health promotion, disease prevention and treatment, and rehabilitation

activities delivered within the home setting, thereby ensuring continuity of care and integration with the Health Care Network (RAS).⁴

Home care services (HCS) may be provided by various teams, ranging from primary care teams to specialized HCS teams, depending on the specific needs of each patient, whether they involve stable chronic conditions, acute conditions, or conditions of greater complexity.⁵

One of the primary focuses of HCS teams is “dehospitalization,” a process that facilitates increased hospital bed turnover and optimizes financial and structural resources. Its objective is to accelerate the hospital discharge process and provide continuous care in the home setting for patients who meet specific, pre-established criteria. Furthermore, it seeks to reduce clinical complications and the risk of hospital-acquired infections, in addition to offering emotional support to the patient and their family, thereby establishing the fundamental role of the caregiver and emphasizing patient autonomy. It also facilitates the deinstitutionalization of patients admitted to secondary and tertiary care services, aims to prevent hospitalizations stemming from emergency room visits, and supports primary care teams.⁶⁻⁸

One of the possible outcomes following hospital discharge is hospital readmission, which may occur up to 30 days after discharge. In addition to increasing the risks associated with the hospital environment, such readmission is also linked to an elevated risk of iatrogenic complications.⁹ In this context, dehospitalization, the assurance of continuity of care, and integration into health care networks following hospital discharge, facilitated by an HCS, prove to be essential.

The HCS featured in this study serves a segment of the population in Porto Alegre, Brazil, the capital of the state of Rio Grande do Sul. It caters to a population of approximately 500,000 inhabitants and accepts referrals from any service within the municipality's RAS.¹⁰

This study was motivated by an understanding of the importance of this topic, as well as by the scarcity of research identifying the causes of hospital readmission among patients receiving care from an HCS. The primary objective was to identify patient readmissions occurring between June 2022 and May 2023. The specific objectives were to: analyze the sociodemographic profile of patients readmitted during the follow-up period; identify the most frequent causes of readmission; determine the readmission rate among the patients under care; and identify the duration of home care follow-up prior to readmission, as well as the specific day of the week and shift during which the readmission occurred. Thus, this study sought to expand the body of knowledge regarding home care and to inform the planning of care and management strategies, with a view to enhancing the quality of care provided and formulating plans to prevent hospital readmissions among patients under home care.

METHODS

The study conducted was a retrospective, cross-sectional investigation carried out through a quantitative analysis of proprietary databases belonging to a HCS affiliated with the Nossa Senhora da Conceição Hospital (Porto Alegre, Rio Grande do Sul), alongside qualitative data recorded in electronic health records. The HCS consists of five Multiprofessional Home Care Teams (EMADs) and one Multiprofessional Support Team (EMAP), and it serves the northern region of the municipality.

The inclusion criteria were: age over 18 years, current enrollment in the HCS, and having experienced a hospital readmission during the period from June 2022 to May 2023. The exclusion criteria were: age under 18 years, and readmissions involving patients monitored by the HCS who did not possess a Hospital Admission Authorization (AIH) within the HCS – a document required to formalize the patient's affiliation

with the service. The HCS utilizes the same electronic health record system as the hospital to which it is affiliated; therefore, the issuance of an AIH is mandatory for home-based admission within said service.

Data were collected through an analysis of patient records, in which the documentation of care provided by professionals served as the basis for identifying the established variables, and through the HCS's readmission database, which lists the names of all patients who experienced hospital readmissions. Registration details, such as the National SUS Card number, date of birth, age, sex, race/skin color, occupation, educational level, and address, were collected directly from the registration data contained within the electronic health records. To identify the admission date, duration of care, patient comorbidities, and date of hospital readmission, as well as the specific time and shift during which it occurred, the medical entries within each patient's record were analyzed. The daily shifts during which readmissions occurred were defined according to the HCS's work shifts: the morning shift encompasses the hours from 7:00 a.m. to 1:00 p.m.; afternoon, from 1:00 p.m. to 7:00 p.m.; and night, from 7:00 p.m. to 7:00 a.m. the following morning.

To determine the causes of readmission, the descriptions in the HCS discharge notes and the corresponding International Classification of Diseases (ICD) codes at discharge were examined. In cases where patients were readmitted to the same hospital to which the HCS is affiliated, the ICD code from the AIH associated with the emergency admission was also analyzed.

The Charlson Comorbidity Index (CCI),¹¹ a classic predictor of mortality that assigns distinct weights to 19 pathologies, is widely used to estimate prognosis based on the degree of comorbidity^{12,13} and has been studied by various authors as a predictive variable for hospital readmission.¹²⁻¹⁶ In the present study, the index was derived from routine entries in the patient medical records, completed by the attending physician at the time of the patient's enrollment in the HCS.

The tabulation and analysis of the collected data were performed using Microsoft Excel and Statistical Product and Service Solutions (SPSS) software. The study was approved by the Ethics Committee (CAAE: 74867423.5.0000.5530).

RESULTS

During the period from June 2022 to May 2023, a total of 320 readmissions were identified among patients monitored by the HCS. Of these, 19 readmissions were excluded from the sample because they involved patients monitored by the pediatric team who were under 18 years of age. One additional readmission was also excluded from the sample because of the absence of an AIH record within the HCS system. The final study sample consisted of 300 readmissions during the period analyzed, drawn from a total of 2,713 adult patients monitored during that time.

The hospital readmission rate during the months studied was 11.06%. The mean age of the patients at the time of the 300 readmissions was 67.42 years. Of those who were readmitted, 52.66% (158) were female, and 47.33% (142) were male (Table 1). Regarding race/color, 76.33% (229) identified as White, 17.33% (52) as Black, and 6.33% (19) as Brown (Table 1). As for educational attainment, 6% (18) had no formal education; 20% (60) had completed grades 1 through 4 of elementary school (Elementary I); 22.33% (67) had completed grades 5 through 8 of elementary school (Elementary II); 10.33% (31) had completed high school; 2.66% (8) held a completed higher education degree; 0.33% (1) had incomplete higher education; and 38.33% (115) had no record of educational attainment in their medical charts (Table 1). Twenty-six readmissions occurred within the first 48 hours of home care, equivalent to 8.67%

of the total. The median duration of follow-up by HCS was 25 days, and the mean was 58.65 days. The highest number of readmissions for a single patient was 7. The mean CCI was 5.32.

Table 1. Socio-epidemiological data on patients readmitted during follow-up by a home care service between June 2022 and May 2023. Brasil, 2023.

Race/skin color			Sex			Education		
White	229	(76%)	Female	158	(53%)	No education	18	(6%)
Black	52	(17%)	Male	142	(47%)	Elementary I, Grades 1-5	6	(2%)
Brown	19	(6%)				Elementary II, Grades 6-9	67	(22%)
						High school	31	(10%)
						Some college	1	(<1%)
						Bachelor's	8	(3%)
						Not specified	115	(38%)
Total	300		Total	300		Total	300	

Source: Prepared by the authors.

The causes, described in Table 2, were divided into the following groups:

- Infectious,
- Cardiovascular,
- Neurological,
- Gastrointestinal,
- Neoplastic,
- Metabolic,
- Musculoskeletal,
- No defined cause/Symptoms (in the case of referrals for readmission due to symptoms only and not due to a presumed diagnosis), and
- Others (causes that do not fall into the previous groups).

Table 2. Frequency, Charlson Index, mean follow-up time (days), and mean age (years) by causes of readmission in patients followed by a home care service between June 2022 and May 2023. Brasil, 2023.

Cause	Readmissions		Charlson index	Time of follow-up	Mean age
Infectious	128	42.67%	5.30	24.00	69.37
Neoplastic	38	12.67%	6.55	25.50	58.39
No cause indicated	34	11.33%	5.35	18.50	67.96
Neurological	21	7.00%	4.62	66.00	65.27
Others	18	6.00%	4.11	31.00	60.79
Metabolic	17	5.67%	5.65	25.00	72.25
Cardiovascular	16	5.33%	5.25	31.50	73.67
Gastrointestinal	14	4.67%	4.93	20.00	69.17
Cause not specified	13	4.33%	4.54	34.00	68.16
Fracture	1	0.33%	7	66.00	90.89
Total	300				

Source: Prepared by the authors.

In 4.33% (13) of the readmissions, no reason for the readmission was recorded (Table 3). Finally, Table 3 presents the specific causes identified within the remaining groups.

Regarding the day of the week, out of the 300 readmissions: 16.66% (50) occurred on Mondays, 17.33% (52) on Tuesdays, 14.33% (43) on Wednesdays, 12.66% (38) on Thursdays, 19.66% (59) on Fridays, 9.33% (28) on Saturdays, and 9.66% (29) on Sundays; for 0.33% (1) of the cases, it was not possible to identify the day of the week on which the readmission occurred. Regarding the time of day of readmissions, 21% (63) occurred in the morning, 29.66% (89) in the afternoon, 19% (57) at night, and for 30.33% (91) of the patients, it was not possible to identify the time of day.

DISCUSSION

The main findings of the study included a total of 300 hospital readmissions among adult patients monitored by HCS during the period from June 2022 to May 2023; this figure corresponds to an 11.06% readmission rate out of the 2,713 adult patients monitored by HCS during that same period. The leading causes of readmission were identified as infectious conditions (128 cases), neoplastic diseases (38 cases), and undefined symptoms (34 cases). The mean duration of HCS monitoring prior to readmission was 25 days, with 26 (8.67%) of the readmissions occurring after less than 48 hours of monitoring.

One of the primary objectives of home care is to prevent unnecessary hospitalizations⁸. However, it is acknowledged that a subset of patients monitored via home care services will eventually require hospital readmission. The study revealed a lack of robust published research analyzing the causes of hospital readmissions among patients served by HCS affiliated with the “Melhor em Casa” (Better at Home) Program in Brazil. In this regard, the present study was pioneering in its exploration of this topic. The discussion is grounded in both national and international literature addressing similar themes related to home care and hospital readmissions.

Given the vast demographic diversity and the varying organizational models of HCS, whether differentiated by local population health profiles or by the political-administrative characteristics of the municipalities involved,¹⁷ it is pertinent to note that the specific HCS evaluated in this study possesses a unique organizational structure: it is registered with and physically housed within a tertiary-level hospital, from which it receives a significant proportion of its patient referrals. This specific characteristic is not necessarily representative of other HCSs operating in Brazil, including those located in state capital cities.

Carnaúba et al.¹⁸ (2017) observe that the typical patient profile within a specific HCS in Maceió consists predominantly of individuals with neurological disorders who do not require high-complexity procedures or specialized medical equipment. Rajão and Martins¹⁹ (2020), regarding the origin of home hospitalizations in Brazil between 2008 and 2016, showed that 54.5% of patients originated from primary care, while 23% originated from hospitals. Johann et al.²⁰ (2020) in turn, in an analysis of the patient profile served by an HCS in Curitiba, cite that 76% of patients originated from primary care.

In accordance with Ordinance No. 3,005, dated January 2, 2024, which stipulates that hospital referrals should account for more than 70% of admissions in municipalities with over 500,000 inhabitants, it was identified that, during the study period, 73.2% of new patients admitted to the HCS evaluated in this study were referred from a hospital. With a view to ensuring safe dehospitalization and care transitions, and to prevent adverse events in the immediate post-discharge period, the HCS evaluated is organized to ensure that the initial assessment by the EMAD is conducted on the first business day following hospital

discharge. Consequently, the readmission rate identified within the first 48 hours of home care was 8.6% of the total number of readmissions.

The majority of studies identified in the literature evaluated readmissions within a timeframe ranging from seven days post-discharge²¹ to as long as three months,²²⁻²⁵ and consequently, this limited the feasibility of comparing readmission rates with those found in the current study. Only one Brazilian study, conducted within a home care setting in Maceió and previously cited herein, was identified as presenting a comparable timeframe; that study reported a hospital readmission rate of 24% among patients monitored between January 2011 and December 2015¹⁸. It is noteworthy that the readmission rate observed in the Maceió HCS is more than double that of the HCS evaluated in the present study.

The literature identifies cardiovascular diseases as the primary cause of hospital readmission, followed by respiratory system diseases, neoplasms, and diseases of the digestive tract and nervous system, albeit with varying frequencies.^{21,23,25} In the present study, it is believed that cardiovascular causes are encompassed within the “No defined cause” category, the third-largest group of causes identified, as this category includes the symptoms most frequently associated with cardiovascular diseases, such as pain, dyspnea, and altered level of consciousness. Consistent with the findings of other studies, neoplasms were also identified as a significant cause of hospital readmission in this study. Consistent with Borges et al.²¹ (2008), the primary comorbidities associated with the underlying disease in the HCS patients in question were hypertension, diabetes mellitus, smoking, chronic renal failure, ischemic heart disease, sequelae of stroke, and chronic obstructive pulmonary disease (COPD), among others.

In line with one of the objectives of home care, namely the avoidance of unnecessary hospitalizations, a meta-analysis demonstrated a reduction in hospital readmission rates among patients with chronic diseases who received home-based follow-up from a nursing team or a physician.²⁶ Furthermore, there is an inverse correlation between the frequency of visits by Home Health Care teams and the need for hospital readmission, particularly regarding visits by physical therapists and among patients with greater functional limitations. Additionally, the study analysis revealed that readmissions occurred in 11.5% of patients, with an average follow-up period of 20 days.²⁷

The patient profile in the present study consists of elderly individuals with multiple comorbidities (evidenced by a high CCI—an average score greater than 4 across all groups), with a high rate of hospital-based referral, including prior stays in intensive care units and the use of invasive devices. Consistent with these findings, Cramer and Fonager¹⁴ identified a high CCI and a history of hospital-based care as risk factors for readmission among patients receiving parenteral treatment via home care services.

It is well established that this patient profile carries a higher predisposition to infectious complications within the home setting, including the development of new cases of sepsis.²⁸ Bowles et al.²⁸ (2020) demonstrated that patients who have survived a septic episode are twice as likely to require hospital readmission within 30 days compared to patients who have not experienced sepsis. They also note that up to 32% of readmissions occur within a timeframe of one week or less. Home visits conducted within 48 hours on a weekly basis may reduce the likelihood of readmission by up to 7%.²⁸

In this regard, the cohort studied by Gadre et al.¹⁵ (2019) identified the following as predictors associated with increased 30-day readmissions among patients diagnosed with sepsis: the presence of diabetes, heart failure, discharge to institutional care, an CCI score ≥ 2 , and a hospital length of stay exceeding 3 days.¹⁵ Other studies have also identified a positive correlation between the CCI score and increased readmissions among elderly patients in emergency settings,¹² as well as readmissions due to heart failure¹³ and COPD.¹⁶

As anticipated by the authors of the current study, the primary group of causes for readmission was the “Infectious” group. Within this category, it is noteworthy that cases of sepsis (53) accounted for 41.4% of all infectious causes, a finding that corroborates the aforementioned studies.

Readmissions due to neoplastic complications also stood out. In this group, the transition of care, one of the pillars of home care, ensures integration across different levels of care, thereby guaranteeing continuity of care.⁷

Among the most frequent causes, prominent examples include cancer patients with symptoms uncontrolled at home (uncontrolled oncologic pain, seizures, dyspnea, bleeding), as well as those whose general condition deteriorated due to disease progression. Such causes for readmission were also identified in another study that followed oncology patients for six months at a specialized cancer hospital in the United States.²⁹

It must be emphasized that there are also patients who did not wish to die at home and/or opted for the hospital as their place of care, in accordance with advance directives previously discussed with the care team. Hospital care may, in various contexts – especially during the final months of life and in cases of metastatic cancer – be necessary for the patient’s quality of life, and the support provided therein should be optimized.^{30,31}

Inadequate data entry in the electronic health records was one of the study’s limitations. For instance, gaps were identified in the completion of demographic information—particularly in the “educational attainment” field, resulting in the absence of this information for nearly 40% of the patients analyzed. Beyond demographic data, a lack of standardization in the recording of clinical information was observed—a weakness that hinders the collection of high-quality data for management, research, and, ultimately, the improvement of home care services. The difficulties encountered during the course of this research align with the poor quality of medical record-keeping highlighted by Lotufo and Duarte³² (1987), Modesto et al.³³ (1992), Scochi³⁴ (1994), and Cavalcante et al.³⁵ Vasconcellos et al.³⁶ (2008), in turn, point out that medical records serve as a criterion for evaluating the quality of healthcare service delivery, as well as a resource for research and professional training.

Given that the de-hospitalization of patients is one of the primary objectives of home care, it is evident that addressing the issue of hospital readmissions is fundamental to enhancing the quality of care provided by HCS. Some studies have already demonstrated that post-discharge home-based interventions have a positive impact on patients’ health and can reduce hospital readmissions.^{26,37,38,39} However, there are also conflicting results in other studies.^{9,40,41} The findings of the present research contribute to contextualizing these data within the national context; nevertheless, the need to expand research on this topic remains evident, in order to enhance home care and the planning of effective strategies to ensure safe hospital discharge.

CONCLUSION

The results presented facilitate a better understanding of patients who undergo readmission. This study sought to foster discussion regarding hospital readmission, specifically their causes and the socio-epidemiological and clinical profile of patients within an HCS.

It is worth noting that the profile identified here may not necessarily align with that of other services elsewhere in the country; however, recognizing these characteristics, in addition to enabling greater integration between home care and other points within the health care network – whether hospitals or

primary care – represents a crucial step toward planning more effective measures aimed at reducing such hospital readmissions through home care interventions.

In this regard, the “Melhor em Casa” (Better at Home) Program aims to ensure safe hospital discharge, patient readjustment to the home environment, and the training of caregivers. Furthermore, by serving as a care transition tool bridging different levels of complexity within Health Care Networks, the program acts as a key coordinator; it proves fundamental for ensuring the continuity of care pathways within the home setting and, ultimately, for preventing subsequent hospitalizations.⁴²

A significant proportion of the comorbidities identified as risk factors associated with readmissions are directly linked to Hospitalizations for Conditions Sensitive to Primary Care (ICSAP).⁴³ Identifying these conditions, many of which are also amenable to home-based care interventions, creates opportunities for action aimed at reducing ICSAP rates and may pave new avenues for home care practice.

CONFLICT OF INTERESTS

Nothing to declare.

AUTHORS' CONTRIBUTIONS

LNP: Conceptualization, Investigation, Writing – original draft, Writing – review & editing. FSP: Conceptualization, Investigation, Writing – original draft, Writing – review & editing. KGS: Data curation, Formal analysis, Funding acquisition, Investigation, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – review & editing. RJSM: Formal analysis, Methodology, Resources, Software, Supervision, Validation, Visualization, Writing – review & editing.

REFERENCES

1. Silva Júnior AG. Modelos Tecnoassistenciais em Saúde: O debate no Campo da Saúde Coletiva. 2ª ed. São Paulo: Editora Hucitec; 2006.
2. Silva NRG, Gurgel-Junior GD, Sá DA, Silva VL, Moreira RS. Satisfação dos cuidadores e dos idosos usuários do Programa Melhor em Casa. *Rev Saúde Pública*. 2022;56:34. <https://doi.org/10.11606/s1518-8787.2022056003759>
3. Nogueira RP. A segunda crítica social da Saúde de Ivan Illich. *Interface*. 2003;7(12):185–90. <https://doi.org/10.1590/S1414-32832003000100022>
4. Ministério da Saúde (BR). Portaria n° 963 de 27 de maio de 2013 - Redefine a Atenção Domiciliar no âmbito do Sistema Único de Saúde (SUS) [Internet]. Brasília: Diário Oficial da União; 2013 [accessed on Jul 31, 2023]. Available at: https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2013/prt0963_27_05_2013.html.
5. Ministério da Saúde (BR). Atenção Domiciliar [Internet]. Gov.br, [data desconhecida] [accessed on Jul 31, 2023]. Available at: <https://www.gov.br/saude/pt-br/composicao/saes/dahu/atencao-domiciliar>.
6. Duarte YAO, Diogo MJDE. Atendimento Domiciliar: Um Enfoque Gerontológico. São Paulo: Atheneu; 2005.
7. Feuerwerker LCM, Merhy EE. A contribuição da atenção domiciliar para a configuração de redes substitutivas de saúde: desinstitucionalização e transformação de práticas. *Rev Panam Salud Pública*. 2008;24(3):180–8.
8. Ministério da Saúde (BR). Gabinete da Ministra. Portaria GM/MS N° 3.005, de 2 de janeiro de 2024. Altera as Portarias de Consolidação n°s 5 e 6, de 28 de setembro de 2017, para atualizar as regras do Serviço de Atenção Domiciliar (SAD) e do Programa Melhor em Casa (PMeC) [Internet]. Brasília: Diário Oficial da União; 2024 [accessed on Jan 5, 2024]. Available at: <https://www.in.gov.br/web/dou/-/portaria-gm/ms-n-3.005-de-2-de-janeiro-de-2024-535816012>.
9. Coffey A, Leahy-Warren P, Savage E, Hegarty J, Cornally N, Day MR, et al. Interventions to Promote Early Discharge and Avoid Inappropriate Hospital (Re)Admission: A Systematic Review. *Int J Environ Res Public Health*. 2019;16(14):2457. <https://doi.org/10.3390/ijerph16142457>
10. Secretaria Municipal de Saúde. Serviço de Atenção Domiciliar - Melhor em Casa – POA [Internet]. Porto Alegre: Prefeitura de Porto Alegre; [data desconhecida] [accessed on Jan 22, 2024]. Available at: https://lproweb.procempa.com.br/pmpa/prefpoa/sms/usu_doc/programa_melhor_em_casa.pdf

11. Charlson ME, Pompei P, Ales KL, MacKenzie CR. A new method of classifying prognostic comorbidity in longitudinal studies: development and validation. *J Chronic Dis*. 1987;40(5):373–83. [https://doi.org/10.1016/0021-9681\(87\)90171-8](https://doi.org/10.1016/0021-9681(87)90171-8)
12. Bahrmann A, Benner L, Christ M, Bertsch T, Sieber CC, Katus H, et al. The Charlson Comorbidity and Barthel Index predict length of hospital stay, mortality, cardiovascular mortality and rehospitalization in unselected older patients admitted to the emergency department. *Aging Clin Exp Res*. 2019;31(9):1233–42. <https://doi.org/10.1007/s40520-018-1067-x>
13. Wei D, Sun Y, Chen R, Meng Y, Wu W. The Charlson comorbidity index and short-term readmission in patients with heart failure: A retrospective cohort study. *Medicine (Baltimore)*. 2023;102(6):e32953. <https://doi.org/10.1097/md.00000000000032953>
14. Cramer S, Fonager K. Risk factors of 30-days re-hospitalization after Hospital at Home in a cohort of patients treated with parenteral therapy. *Eur J Intern Med*. 2014;25(10):895–9. <https://doi.org/10.1016/j.ejim.2014.10.018>
15. Gadre SK, Shah M, Mireles-Cabodevila E, Patel B, Duggal A. Epidemiology and Predictors of 30-Day Readmission in Patients With Sepsis. *Chest*. 2019;155(3):483–90. <https://doi.org/10.1016/j.chest.2018.12.008>
16. Buhr RG, Jackson NJ, Kominski GF, Dubinett SM, Ong MK, Mangione CM. Comorbidity and thirty-day hospital readmission odds in chronic obstructive pulmonary disease: a comparison of the Charlson and Elixhauser comorbidity indices. *BMC Health Serv Res*. 2019;19(1): 701. <https://doi.org/10.1186/s12913-019-4549-4>
17. Castro EAB, Leone DRR, Santos CM, Neta FCCG, Gonçalves JRL, Contim D, et al. Organização da atenção domiciliar com o Programa Melhor em Casa. *Rev Gaúcha Enferm*. 2018;39:e2016-0002. <https://doi.org/10.1590/1983-1447.2018.2016-0002>
18. Carnaúba CMD, Silva TDA, Viana JF, Alves JBN, Andrade NL, Trindade Filho EM. Clinical and epidemiological characterization of patients receiving home care in the city of Maceió, in the state of Alagoas, Brazil. *Rev Bras Geriatr Gerontol*. 2017;20(3):352–62. <https://doi.org/10.1590/1981-22562017020.160163>
19. Rajão FL, Martins M. Atenção Domiciliar no Brasil: estudo exploratório sobre a consolidação e uso de serviços no Sistema Único de Saúde. *Ciênc Saúde Coletiva*. 2020;25(5):1863–77. <https://doi.org/10.1590/1413-81232020255.34692019>
20. Johann DA, Cechinel C, Carvalhal TFT do, Benatto MC, Silva GP da, Lara JA de. Atenção domiciliar no Sistema Único de Saúde: perfil de pacientes assistidos. *Semin Ciênc Biol Saúde*. 2020;41(1):83–94. <https://doi.org/10.5433/1679-0367.2020v41n1p83>
21. Borges FK, Soliman F, Pires DO, Seligman R. Reinternação hospitalar precoce: avaliação de um indicador de qualidade assistencial. *Rev HCPA*. 2008;28(3):147–52.
22. Zamir D, Zamir M, Reitblat T, Zeev W, Polishchuk I. Readmissions to hospital within 30 days of discharge from the internal medicine wards in southern Israel. *Eur J Intern Med*. 2006;17(1):20–3. <https://doi.org/10.1016/j.ejim.2005.10.004>
23. Maurer PP, Ballmer PE. Hospital readmissions--are they predictable and avoidable? *Swiss Med Wkly*. 2004;134(41–42):606–11. <https://doi.org/10.4414/smw.2004.10706>
24. Chambers M, Clarke A. Measuring readmission rates. *BMJ*. 1990;301(6761):1134–6. <https://doi.org/10.1136/bmj.301.6761.1134>
25. Martín RB, Martínez JM, Canteli SP, Rodrigo JG, Jiménez MC, Villa JS, et al. Estudio retrospectivo de los reingresos precoces de un servicio de Medicina Interna. *Rev Clín Esp*. 2000;200(5):252–6. [https://doi.org/10.1016/S0014-2565\(00\)70624-2](https://doi.org/10.1016/S0014-2565(00)70624-2)
26. Arsenault-Lapierre G, Henein M, Gaid D, Le Berre M, Gore G, Vedel I. Hospital-at-home interventions vs In-hospital stay for patients with chronic disease who present to the emergency department: a systematic review and meta-analysis. *JAMA Netw Open*. 2021;4(6):e2111568. <https://doi.org/10.1001/jamanetworkopen.2021.11568>
27. Wang J, Liebel DV, Yu F, Caprio TV, Shang J. Inverse dose-response relationship between home health care services and rehospitalization in older adults. *J Am Med Dir Assoc*. 2019;20(6):736–42. <https://doi.org/10.1016/j.jamda.2018.10.021>
28. Bowles KH, Murtaugh CM, Jordan L, Barrón Y, Mikkelsen ME, Whitehouse CR, et al. Sepsis survivors transitioned to home health care: characteristics and early readmission risk factors. *J Am Med Dir Assoc*. 2020;21(1):84–90.e2. <https://doi.org/10.1016/j.jamda.2019.11.001>
29. Saunders ND, Nichols SD, Antiporda MA, Johnson K, Walker K, Nilsson R, et al. Examination of unplanned 30-day readmissions to a comprehensive cancer hospital. *J Oncol Pract*. 2015;11(2):e177–81. <https://doi.org/10.1200/jop.2014.001546>
30. Numico G, Cristofano A, Mozzicafreddo A, Cursio OE, Franco P, Courthod G, et al. Hospital admission of cancer patients: avoidable practice or necessary care? *PLoS One*. 2015;10(3):e0120827. <https://doi.org/10.1371/journal.pone.0120827>
31. Manzano JGM, Gadiraju S, Hiremath A, Lin HY, Farroni J, Halm J. Unplanned 30-day readmissions in a general internal medicine hospitalist service at a comprehensive cancer center. *J Oncol Pract*. 2015;11(5):410–5. <https://doi.org/10.1200/jop.2014.003087>
32. Lotufo M, Duarte EC. Avaliação dos serviços de saúde do Município de Cáceres, MT (Brasil): contribuições à programação local. *Rev Saúde Pública* 1987;21(5):427–38. <https://doi.org/10.1590/S0034-89101987000500008>
33. Modesto MG, Moreira EC, Almeida-Filho N. Reforma sanitária e informação em saúde: avaliação dos registros médicos em um distrito sanitário de Salvador, Bahia. *Cad Saúde Pública*. 1992;8(1):62–8. <https://doi.org/10.1590/S0102-311X1992000100008>
34. Scochi MJ. Indicadores da qualidade dos registros e da assistência ambulatorial em Maringá (Estado do Paraná, Brasil), 1991: um exercício de avaliação. *Cad Saúde Pública*. 1994;10(3):356–67. <https://doi.org/10.1590/S0102-311X1994000300015>
35. Cavalcante MEPL, Santos MM, Toso BRGO, Vaz EMC, Lima PMVM, Collet N. Melhor em casa: caracterização dos serviços de atenção domiciliar. *Esc Anna Nery*. 2022;26:e20220001. <https://doi.org/10.1590/2177-9465-EAN-2022-0001pt>
36. 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(Suppl 1):S173–S82. <https://doi.org/10.1590/S0102-311X2008001300021>

37. Jeppesen E, Brurberg KG, Vist GE, Wedzicha JA, Wright JJ, Greenstone M, et al. Hospital domiciliar para exacerbações agudas de doença pulmonar obstrutiva crônica. *Cochrane Database Syst Rev.* 2012;(5):CD003573. <https://doi.org/10.1002/14651858.CD003573.pub2>
38. Utens CMA, Goossens LMA, Smeenk FWJM, Mólken MPMHRV, Vliet MV, Braken MW, et al. Early assisted discharge with generic community nursing for chronic obstructive pulmonary disease exacerbations: results of a randomised controlled trial. *BMJ Open.* 2012;2(5):e001684.
39. Finlayson K, Chang AM, Courtney MD, Edwards HE, Parker AW, Hamilton K, et al. Transitional care interventions reduce unplanned hospital readmissions in highrisk older adults. *BMC Health Serv Res.* 2018;18(1):956. <https://doi.org/10.1186/s12913-018-3771-9>
40. O'Connor M, Bowles KH, Feldman PH, St Pierre M, Jarrín O, Shah S, et al. Frontloading and intensity of skilled home health visits: a state of the science. *Home Health Care Serv Q.* 2014;33(3):159–75. <https://doi.org/10.1080/01621424.2014.931768>
41. Shepperd S, Iliffe S, Doll HA, Clarke MJ, Kalra L, Wilson AD, et al. Admission avoidance hospital at home. *Cochrane Database Syst Rev.* 2016;9(9):CD007491. <https://doi.org/10.1002/14651858.CD007491.pub2>
42. Brasil. Ministério da Saúde. Secretaria-Executiva. Superintendência Estadual do Ministério da Saúde no Rio de Janeiro. Desospitalização: reflexões para o cuidado em saúde e atuação multiprofissional. Brasília: Ministério da Saúde; 2020. 170 p.
43. Alfradique ME, Bonolo PF, Dourado I, Lima-Costa MF, Macinko J, Mendonça CS, et al. 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 Saúde Pública.* 2009;25(6):1337–49. <https://doi.org/10.1590/S0102-311X2009000600016>