

Home hospitalization as a safe and well-accepted new approach: a retrospective cross-sectional study at a level II hospital

João Pedro Valente^{1*}, André Garrido^{1,2}, Andreia Fiúza Ribeiro^{1,2}, Guida Fernandes^{1,2},
Helena Ribeiro da Silva^{1,2}, and Helena Cristina Loureiro^{1,2}

¹Pediatric Unit; ²Pediatric Home Hospitalization Unit. Child and Youth Department, Unidade Local de Saúde Amadora/Sintra - Hospital Professor Doutor Fernando Fonseca, E.P.E., Lisbon, Portugal

Abstract

Introduction and Objectives: Pediatric home hospitalization (PHH) is a promising alternative to conventional inpatient care for selected acute pediatric conditions. This study aims to describe our first year of experience and to evaluate the safety, efficacy, and quality of care provided by the Pediatric Home Hospitalization Unit (PHHU) in a level II hospital in Lisbon. **Methods:** A retrospective cross-sectional study was conducted, including all patients admitted to the PHHU between June 2023 and May 2024. Data was obtained from clinical records and from caregiver satisfaction surveys administered prior to admission and following discharge. Statistical analyses were performed using IBM SPSS Statistics software (version 29.0.0, IBM Corp., Armonk, NY, USA). **Results:** There was a total of 211 admissions (60.7% male; median age 4.1 years). Infectious diseases were the most common reason for admission (78.7%), particularly deep neck and skin/soft tissue infections, all treated at home with intravenous antibiotics (54.2% using continuous infusion systems). Other reasons included sickle cell disease crises (6.2%) and initial diabetes management (6.2%). The median length of stay was 2.5 days. Eleven patients required readmission to hospital. Caregiver feedback was highly positive: 87% found the workload to be the same or lower than expected; 81% reported less disruption to daily routines ($p < 0.05$); and 95% noted improvements in at least one domain of child well-being. While 77% anticipated an excellent experience, 92% reported it exceeded expectations ($p < 0.05$). Most (86.4%) preferred home care, and 97% would opt for PHH again. **Discussion:** PHH proved to be a safe, effective model with high caregiver satisfaction. These results support the potential for the broader adoption of PHH, enhancing pediatric care and family-centered outcomes.

Hospitalização domiciliária como uma abordagem nova, segura e bem aceite: um estudo retrospectivo transversal num hospital de nível II

Resumo

Introdução e Objetivos: A hospitalização domiciliária pediátrica (HDP) constitui uma alternativa promissora ao internamento convencional para determinadas patologias agudas em idade pediátrica. Este estudo tem como objetivo descrever a experiência do primeiro ano de funcionamento e avaliar a segurança, eficácia e qualidade dos cuidados prestados pela Unidade de Hospitalização Domiciliária Pediátrica (UHDP) de um hospital de nível II em Lisboa. **Métodos:** Estudo descritivo e retrospectivo, realizado com todos os doentes admitidos na UHDP entre junho de 2023 e maio de 2024. A recolha de dados baseou-se

*Correspondence:

João Pedro Valente

E-mail: joao.valente@ulsasi.min-saude.pt

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em registos clínicos e questionários de satisfação preenchidos pelos cuidadores antes da admissão e após a alta. A análise estatística foi realizada com recurso ao SPSS (versão 29.0.0, IBM Corp., Armonk, NY, USA). **Resultados:** Houve um total de 211 admissões (60.7% do sexo masculino; idade mediana de 4,1 anos). As patologias infecciosas foram as mais prevalentes (78.7%), destacando-se as cervicais profundas e cutâneas/tecidos moles, todas tratadas com antibioterapia endovenosa no domicílio (54.2% com sistemas de infusão contínua). Seguiram-se manifestações agudas de doença falciforme (6.2%) e diabetes inaugural (6.2%). A mediana de dias de internamento foi 2.5. Onze doentes necessitaram de reinternamento hospitalar. A satisfação dos cuidadores foi elevada: 87% consideraram a carga de trabalho igual ou inferior à expectável; 81% referiram menor impacto nas rotinas diárias ($p < 0.05$); e 95% notaram melhorias em pelo menos um domínio do bem-estar da criança. Embora 77% antecipassem uma experiência excelente, 92% referiram que esta foi superada ($p < 0.05$). A maioria (86.4%) preferiu o domicílio e 97% voltariam a recorrer à HDP. **Discussão:** A HDP demonstrou-se um modelo seguro e eficaz, com elevada aceitação pelos cuidadores. Estes resultados sustentam o seu potencial para uma implementação mais ampla, promovendo cuidados centrados na criança e na família.

Keywords: Home hospitalization. Pediatric. Therapeutic. Satisfaction. Caregivers.

Keypoints

What is known

- Home hospitalization is an outpatient care model where patients transition from traditional inpatient care to receiving the same treatment at home.
- In pediatric care, illness and hospitalization represent a crisis, mainly due to children's limited coping mechanisms for stress.
- Hospital admission should only occur when a child's condition cannot be managed at home or day hospitals (the Charter of the Rights of Children in Hospital).

What is added

- This is a pioneering project at the national level, with no published data available from Portugal to date. Our study reveals that the PHH model may provide high-quality health-care, optimizing family and hospital resources, offering early hospital discharge, and minimizing the impact on family dynamics.
- The PHH model demonstrates its safety and effectiveness in managing different pathologies and treatments when inclusion criteria are met.
- PHH has shown great results that support its viability, supporting the potential for its national and global expansion.

Introduction

In healthcare, we face the challenge of ensuring quality and excellence in care while addressing the negative effects inherent to hospitalization. To meet this challenge, new care delivery models have emerged, often redefining the roles of hospitals and outpatient care. Home hospitalization is one such outpatient care model where patients transition from traditional inpatient care to receiving the same treatment at home.^{1,2} Furthermore, studies reveal that this hospitalization model has proven to be effective, safe, and efficient, while also contributing to an improved quality of life for patients, their families, and caregivers.^{3,4,5}

In pediatric care, illness and hospitalization represent a crisis, mainly due to children's limited coping mechanisms for stress. Additionally, removing a child from their familiar environment increases their vulnerability.^{1,6} Therefore, as stated in the Charter of the Rights of Children in Hospital, hospital admission should only occur when a child's condition cannot be managed at home, in outpatient clinics, or day hospitals.⁷ Keeping children in their family environment is often more

beneficial than conventional hospitalization, whenever the clinical situation allows this to happen.² In line with the concept of humanization and aiming to improve the quality of care, new international pediatric hospitalization models have emerged based on the proven benefits seen in adult care, showing similarly positive results.^{2-4,6} However, no national data has been published to date.

Pediatric home hospitalization (PHH) is therefore defined as an alternative care model for children with acute or exacerbated chronic conditions, ensuring the continuity of therapeutic interventions in the home setting, as long as the specific clinical, social, and geographic criteria are met.^{1,2,8}

The aim of this study is to describe our experience and to evaluate the efficacy, safety, and perceived quality of care provided during the first year of Pediatric Home Hospitalization Unit (PHHU) activity.

Methods

We conducted a retrospective cross-sectional, descriptive, and quantitative study of the patients admitted to the PHHU from a level II hospital in Lisbon

during its first 12 months of activity (June 1, 2023 to May 31, 2024). We also analyze the children's and caregiver's experience on PHH.

Patients

Out of all the children referred to the PHHU, only those who met the inclusion criteria and none of the exclusion criteria (Supplementary Table 1). were admitted for continued care through home hospitalization.

When a potential candidate is identified in the pediatric ward, the attending physician meets with the PHHU team members to jointly review the inclusion and exclusion criteria. Once the criteria are met, the family is informed and given the option to proceed with home-based care. The caregiver and, when appropriate, the child/adolescent sign the informed consent, accepting PHH and participation in this study. The medical and nursing teams provide the necessary training to caregivers, ensuring they can correctly administer treatments at home and solve simple problems with the catheter and infusion system. Every case is assessed by the social worker to ensure the necessary social criteria are present for incorporation into the program.

The PHHU operates on-site from 8 a.m. to 11 p.m., with nighttime support provided by the lead pediatric ward nurse via telephone, who coordinates with the on-call internal pediatric physician if necessary, ensuring 24/7 coverage. Home visits are scheduled based on medication schedules and clinical monitoring needs: two to three visits each day by the nursing team, one of which includes a physician. On weekends and public holidays, only nursing visits are conducted, with cases discussed with the internal pediatric physician when necessary. A follow-up telephone call is conducted 24 to 72 hours after discharge to assess the child's clinical status, ensure treatment adherence, reinforce caregiver training, and clarify any remaining questions.

It should be noted that, to date, no children have been admitted to home hospitalization with continuous cardiorespiratory telemonitoring. Blood samples were collected at home, while other examinations and specialist consultations were conducted during hospital visits, after which patients returned home to continue hospitalization.

Data collection

Demographic data was collected, including patient age, sex, diagnosis, procedures/treatments, length of hospitalization, hospital visits (for examinations, treatments, or consultations with other specialties), hospital

returns (defined as the need for a return to a conventional inpatient setting following a period of home hospitalization), and readmissions (defined as patients who were readmitted within a month after being discharged from the PHHU).

During the first year of PHHU activity, all admitted families received a pre-admission questionnaire addressing their reasons for accepting home hospitalization and their expectations regarding the process. A post-discharge questionnaire was also provided to evaluate their experience and satisfaction. Both questionnaires were answered by the caregivers.

Analysis

The data was reviewed retrospectively from an internal database. Relative and absolute frequencies were calculated for qualitative variables. Quantitative variables were analyzed using measures of central tendency and dispersion, including median, minimum, and maximum values. The responses from questionnaires were analyzed, and statistical evaluation was performed using SPSS (version 29.0.0, IBM Corp., Armonk, NY, USA), applying the Wilcoxon test. A p value of < 0.05 was considered statistically significant.

Results

Patients

During the study period, there was a total of 265 referrals to the PHHU, resulting in 211 admissions, corresponding to 196 patients, with a median age of 4.1 years (minimum of 12 days; maximum of 17.7 years). The distribution by sex and age group, and the reasons for non-admission to the PHHU, are presented in [table 1](#).

Hospitalization

We observed a median hospitalization duration of 2.5 days (minimum of one day; maximum of 17 days), totaling 811 days of home hospitalization among the admitted patients. There were 1706 home visits.

Diagnoses

Among the admitted patients, infectious diseases were the most common diagnoses, particularly deep neck infections and skin and soft tissue infections. Among non-infectious conditions, acute manifestations of sickle cell disease and inaugural type 1 diabetes predominated. [Table 2](#) details the distribution of

diagnoses at admission and the number of hospitalizations of patients with chronic conditions.

Treatments, complementary diagnostic means, visits to hospital, and hospital returns

The main treatments and care involved antibiotic therapy, analgesia, education (especially in type 1 diabetes – involving children, parents, grandparents, other family members, and even teachers), and motor rehabilitation. All the patients with an infectious pathology were treated with intravenous antibiotic therapy, 90 (54.2%) of whom were on ambulatory infusion systems. There were four patients with an epicutaneous catheter and one with a central venous catheter, and no catheter complications were recorded.

Some admitted patients required scheduled hospital visits for complementary diagnostic examinations or specialist consultations. Table 3 summarizes these episodes.

There were 11 (5.2%) hospital returns (i.e., transfers from home hospitalization to conventional hospitalization), all of which were admitted to the pediatric ward. None required intensive care or presented clinical deterioration (Table 3).

There were five readmissions after discharge from the PHHU: two infants with poor weight progression (previously admitted with a urinary tract infection); one with exacerbation of anemia and one with pneumonia (in two patients with sickle cell disease, previously admitted with a splenic sequestration); and one urinary tract infection (in a chronic patient with uropathy and multiple urinary tract infections).

Satisfaction

In total, 196 caregivers responded to the pre-admission questionnaire, and 184 to the post-discharge questionnaire.

Caregivers mainly agreed to being incorporated into the PHHU for health-related reasons and for the comfort of home. Table 4 shows the detailed distribution.

Most caregivers anticipated an equal or lower workload and less disruption of daily routines compared to hospital care, which was confirmed after discharge. Satisfaction exceeded expectations, with nearly all caregivers willing to repeat PHHU if needed (Table 5).

In terms of children's comfort, sleep, eating, play, and hygiene, 95% felt PHHU was better than the hospital in at least one domain, matching pre-admission expectations (Table 6).

Table 1. Characterization of patients admitted to the PHHU (sex and age) and reasons for the non-admission of patients

Admitted patients	
Sex	n (%)
Male	119 (60.7%)
Age group (distribution)	
0-3 years	76 (38.8%)
0-6 months	27 (13.8%)
6-12 months	6 (3.1%)
12-24 months	25 (12.8%)
2-3 years	18 (9.2%)
3-6 years	37 (18.9%)
6-9 years	33 (16.8%)
9-12 years	16 (8.2%)
12-15 years	21 (10.7%)
15-18 years	13 (6.6%)
Non-admitted patients (reasons)	
Reasons	n (%)
They do not meet the clinical criteria (clinical instability or comorbidities not manageable at home)	18 (33.3%)
Decline of the home hospitalization model	15 (27.8%)
They do not meet geographic criteria	5 (9.2%)
Lack of a caregiver capable of providing care	5 (9.2%)
Inadequate housing conditions	4 (7.4%)
Treatments unfeasible in the PHHU	4 (7.4%)
Lack of available slots	3 (5.7%)
Total	54

PHH: pediatric home hospitalization.

Discussion

The first home hospitalization unit in Portugal was established in 2015, focusing on adult care.³ This model quickly confirmed the international data that was already known, demonstrating multiple advantages by providing a personalized approach tailored to the individual reality of each patient in their usual environment, proving to be a valid alternative to conventional hospital admission, leading to the rapid expansion of similar units across the country.⁵

PHH provides a personalized approach tailored to the individual realities of each child or adolescent within their family home environment. This hospitalization

Table 2. Diagnoses at admission to the PHHU and their division into infectious and non-infectious pathologies and the number of hospitalizations of chronic patients in the PHHU

Infectious pathologies	n (%)
Deep neck	41 (19.4%)
Skin and soft tissue	35 (16.6%)
Urinary tract	29 (13.7%)
Respiratory tract	28 (13.3%)
Gastrointestinal tract	14 (6.6%)
Occult bacteremia	9 (4.3%)
Bone and/or joint	7 (3.3%)
Central nervous system	3 (1.5%)
Total	166 (78.7%)
Non-infectious pathologies	n (%)
Acute manifestations of sickle cell disease	13 (6.2%)
Type 1 diabetes	13 (6.2%)
Post-operative care	4 (1.9%)
Lower respiratory diseases	2 (0.9%)
Neurological diseases	2 (0.9%)
Constipation	2 (0.9%)
Nephrotic and nephritic syndromes	2 (0.9%)
Others	7 (3.4%)
Total	45 (21.3%)
Chronic disease	Number of hospitalizations
Sickle cell disease	35 (16.6%)
Type I diabetes	13 (6.2%)
Uropathy	7 (3.3%)
Neurological disease	2 (0.9%)
Inflammatory bowel disease	1 (0.5%)
Total	58 (27.5%)

model aims to ensure timely and safe care while maintaining continuity of treatment focused on the patient's needs, thereby promoting the patient's well-being and recovery.⁹ In contrast with other studies, where most patients were children between the ages of three and six years,^{2,10-12} our study found that a significant proportion of patients were between zero and three years old (38.8%). This demonstrates that this hospitalization model is suitable even for very young children, for

Table 3. Characterization of hospitalizations in the PHHU: scheduled visits to the hospital and hospital returns

Scheduled visits to the hospital	Number of episodes
Assessment by subspecialty	16
Imaging tests	10
Motor rehabilitation	4
Total	30
Hospital returns	Number of patients
Clinical worsening	6 (2.8%)
Non-compliance with admission criteria	2 (0.9%)
Scheduled for surgery/invasive tests	2 (0.9%)
Caregiver decision	1 (0.6%)
Total	11 (5.2%)

Table 4. Responses to the question "Reasons for accepting incorporation into the PHHU"*

Reasons for accepting incorporation into the PHHU	n (%)
For my child's health	77 (40.5%)
For the comfort of being at home for my child and the rest of the family	58 (30.5%)
Because of the complexity it adds to our family dynamic to have my child hospitalized	24 (12.6%)
Because this was the advice of the medical team	20 (10.5%)
Because it makes it easier to balance family help with work	7 (3.7%)
Because of the financial burden of having my child hospitalized	4 (2.2%)

*Caregivers could select more than one option. There was a total of 190 responses.

whom continuing care in their family environment may be especially beneficial. By receiving care in their own environment, they experience reduced external stress and disruption.⁶ Moreover, this model may help maintain daily family routines, namely the breastfeeding of younger siblings, which can otherwise be disrupted due to the hospitalization of the sick sibling.

The median length of hospital stay, at 2.5 days, aligns with the literature, which reports medians ranging from two to four days.^{2,10-12}

The principal findings suggested that home care during the acute phase is particularly important for infectious pathologies,^{2,8,13} as also observed in our unit, where these were the most common diagnoses at admission (78.7%).

Table 5. Evaluation of the caregiver's expectation (based on the response to the pre-admission questionnaire) versus their actual experience (based on the response to the post-discharge questionnaire)

Variables	Expectation	Actual experience	p
Workload	n (%)	n (%)	
More	23 (11.7%)	24 (13.0%)	0.932
Equal	108 (55.1%)	106 (57.6%)	
Less	53 (27.1%)	52 (28.3%)	
No response	12 (6.1%)	2 (1.1%)	
Affects daily routine			
More	19 (9.7%)	10 (5.4%)	0.007
Equal	38 (19.4%)	26 (14.1%)	
Less	130 (66.3%)	148 (80.5%)	
No response	9 (4.6%)	0	
Overall view of the PHHU			
1 = Poor	0	0	< 0.01
2 = Weak	0	0	
3 = Average	3 (1.5%)	0	
4 = Good	44 (22.4%)	14 (7.6%)	
5 = Excellent	144 (73.5%)	168 (91.3%)	
No response	5 (2.6%)	2 (1.1%)	
Overall, how will the child/adolescent feel at home?			
Better	160 (81.6%)	159 (86.4%)	0.466
Equal	28 (14.4%)	24 (13.1%)	
Worse	1 (0.5%)	0	
No response	7 (3.5%)	1 (0.5%)	

Most chronic diseases have episodes of exacerbation, and this hospitalization model has also proven to be effective in such cases.

Sickle cell disease is a chronic condition that can lead to multiple hospitalizations,^{14,15} which may significantly impact patients' lives and family dynamics, and PHH may address their needs within their home environment. In type 1 diabetes, these benefits are even more pronounced, as PHH can play a crucial role in empowering caregivers to manage this chronic disease in their own environment while involving other adults responsible for the child's care.^{10,11} As concerns uropathy, all seven admissions were due to urinary tract infections in the same child, reflecting a significant reduction in hospital readmissions for this chronic condition. This underscores the significant

impact that home hospitalization can have on children with chronic diseases, their families, and their daily routines.

Regarding scheduled visits to the hospital, these are essential for providing the best continuation of care for our children and adolescents. Effective scheduling requires constant communication and discussion with other specialties, who are invited to provide input on decisions regarding the transfer to the PHHU and to maintain follow-up during hospitalization at home.

Our results suggest that home care can be seen as effective and secure, as shown in other studies.^{2,8,13} There were 5.2% returns and 2.4% readmissions – similar to other studies, which report rates ranging from 3% to 13%.^{2,7,16,17} In every case, readmission was due to clinical reasons that were different to the first

Table 6. Evaluation of the child/adolescent's expectation (based on the response to the pre-admission questionnaire) versus their actual experience (based on the response to the post-discharge questionnaire) from the caregiver's perspective

Variables	Expectation	Actual experience	p
Comfort	n (%)	n (%)	
Better	158 (80.6%)	157 (85.3%)	0.869
Equal	21 (10.7%)	19 (10.3%)	
Worse	2 (1.0%)	0	
No response	15 (7.7%)	8 (4.4%)	
Sleep	n (%)	n (%)	
Better	150 (76.5%)	156 (84.8%)	0.796
Equal	25 (12.8%)	16 (8.7%)	
Worse	1 (0.5%)	4 (2.1%)	
No response	20 (10.2%)	8 (4.4%)	
Food	n (%)	n (%)	
Better	131 (66.8%)	143 (77.7%)	0.145
Equal	47 (24.0%)	33 (17.9%)	
Worse	0	0	
No response	18 (9.2%)	8 (4.4%)	
Play	n (%)	n (%)	
Better	156 (79.6%)	156 (84.8%)	0.131
Equal	18 (9.2%)	13 (7.1%)	
Worse	1 (0.5%)	0	
No response	21 (10.7%)	15 (8.1%)	
Hygiene	n (%)	n (%)	
Better	122 (62.2%)	121 (65.8%)	0.799
Equal	51 (26.1%)	51 (27.7%)	
Worse	0	0	
No response	23 (11.7%)	12 (6.5%)	

hospitalization and did not reveal clinical worsening. More than half of the cases involved chronic patients.

In terms of caregivers' experiences, 80.4% of caregivers felt that this model disrupted their daily routine less than expected, compared to conventional hospitalization ($p = 0.007$). Our findings align with other studies, which report that the primary satisfaction factors were increased opportunities for children to continue their schoolwork and for parents to continue to work, and more time spent with family.^{7,18} Although reported by only 13% in our study, it is important to note that there were caregivers describing a greater workload with

home hospitalization. Even though we did not analyze this data, this is significant, as it may indicate signs of fear, fatigue, and anxiety related to caring for a sick child at home.¹⁹ Thus, it is important to prepare and involve parents in the care process from the time of admission, to enhance their ability to provide care and recognize warning signs. Future studies could further explore the demographic and psychosocial characteristics of caregivers and develop more targeted support strategies.

Also, 86.4% of caregivers felt that they were better at home than in conventional hospitalization. Home

care facilitates a continuation of normal life for the children and their families, with psychosocial benefits.^{20,21} Analyzing caregivers' perspectives on how children/adolescents experienced this hospitalization model, in areas such as comfort, sleep, eating, and hygiene, 95% felt PHHU was better than the hospital in at least one domain, with no cases where caregivers felt the experience was worse than anticipated. These results may be linked to the aforementioned benefits, including greater privacy and comfort, as well as improved sleep and appetite.¹⁹⁻²¹

Finally, the fact that 97% of respondents would opt for this model again, if needed and if the admission criteria were met, helps validate home hospitalization as a safe alternative to conventional inpatient care. With an adequate team and support for patients and their families, early hospital discharge can lead to better financial management for the hospital without compromising patient care.¹³ This is also expected to contribute, on the one hand, to a decrease in nosocomial infections and, on the other, to a reduction in hospitalization-related costs.⁵

Future studies should explore the broader socioeconomic impact of PHH – not only on families and health-care systems, but also on society at large. Particular attention should be given to how this model may contribute to reduced parental work absenteeism, as well as to the different experiences of caregivers across different family structures and cultural backgrounds. It would also be important to investigate healthcare professionals' perspectives regarding this model. The multidisciplinary team's views on operational challenges and benefits would be a valuable complement.

Looking ahead, there are many opportunities for progress. Since most admissions are related to infectious diseases, it may be beneficial to consider direct referrals and admissions from the Emergency Department or Short-stay Observation Units, ensuring proper clinical and social assessment. To enable this development, it is essential to consider the consistent diagnostic profiles admitted to the PHHU and to monitor their progression, in order to identify conditions that present linear clinical behavior and are eligible for home hospitalization from the outset. At the same time, the direct involvement of a social worker for admitted cases will be necessary. For all of this to be feasible, it is crucial that all physicians are familiar with the PHHU admission protocol.

Limitations

The main limitations of our study include: (1) it is a descriptive and retrospective study, therefore the outcomes of different pathologies in home hospitalization compared to conventional hospitalization were not analyzed. A prospective, comparative study would be essential to determine the superiority or equivalence of the PHHU in terms of clinical outcomes; (2) a notable aspect of the study was the participants' willingness to complete the surveys, as well as the different methods of survey administration. The initial questionnaire was completed in the hospital, whereas the second questionnaire was administered after the acute home-hospitalization period. The assurance that medical care would continue may have contributed to the higher response rate for the first survey. Additionally, the questionnaires were not translated into other languages, which may limit their completion and comprehension. In a multicultural society, this may limit the participation of non-Portuguese-speaking caregivers, thereby affecting the generalizability of the results.

Conclusion

While the benefits of home hospitalization in adults are well-established, pediatric experiences remain underexplored in international literature. With this hospitalization model, it was possible to provide high-quality healthcare, improve access to care, optimize family and hospital resources, minimize the impact on family dynamics, and involve caregivers in the child's care in a home environment, ensuring comfort, satisfaction, and greater humanization of care. In this study, the PHH model demonstrates its safety and effectiveness in managing different pathologies and treatments when inclusion criteria are met. The positive reception from caregivers further supports its viability, supporting the potential for its national and global expansion. This study highlights PHH's strong caregiver acceptance, with most willing to repeat it if needed. These findings also suggest the potential for broader implementation to enhance patient and family comfort and care during hospitalization, for example, with the expansion of admissions from the Pediatric Emergency Department, as the team's learning curve progresses.

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Author contributions

All the authors declare that they have made a substantial contribution to the manuscript, meeting the established requirements: significant and direct intellectual contribution to the design and development of the article; participation in data analysis and interpretation; involvement in manuscript writing, revision of versions, and critical review of content; approval of the final version; and agreement to be accountable for the accuracy and integrity of the entire paper.

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Conflicts of interest

All authors declare that they have no conflicts of interest related to this paper.

Ethical considerations

Protection of human subjects and animals. The authors declare that no experiments on humans or animals were performed for this research.

Confidentiality, informed consent, and ethical approval. The authors have followed their institution's confidentiality protocols, obtained informed consent from all patients, and secured approval from the Ethics Committee. SAGER guidelines have been followed as applicable to the nature of the study.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing or creation of the content of this manuscript.

Supplementary data

Supplementary data are available at DOI: 10.24875/PJP.25000026. These data are provided by the corresponding author and published online for the benefit of the reader.

The contents of supplementary data are the sole responsibility of the authors.

References

1. Detollenaere J, Van Ingelghem I, Van den Heede K, Vlayen J. Systematic literature review on the effectiveness and safety of paediatric hospital-at-home care as a substitute for hospital care. *Eur J Pediatr*. 2023;182(6):2735–57.
2. Cabrera López IM, Agúndez Reigosa B, Adrados García S, Villalobos Pinto E, Cano Fernández J, Jiménez García R, et al. Home-hospital care for children with acute illnesses: A 2-year follow-up study. *J Paediatr Child Health*. 2022;58(6):969–77.
3. Pinheiro C, Pires C, Romeiro J, Ramos S, Charepe Z. The experience of children and family in pediatric home hospitalization: A systematic review of qualitative evidence. *J Pediatr Nurs*. 2024;78:e124–32.
4. Aasen L, Johannessen AK, Ruud-Knutsen I, Werner A. Negotiating safety and responsibility in caregiving to children receiving hospital-at-home: A Norwegian study of parents and homecare nurses' experiences. *Health Soc Care Community*. 2022;30:e5326–e5335.
5. Cunha V, Escarigo MC, Correia J, Nortadas R, Correia Azevedo P, Beirão P, et al. Hospitalização Domiciliária: Balanço de um Ano da Primeira Unidade Portuguesa. *Med Interna*. 2017;24(4):290–5.
6. Bsiri-Moghaddam K, Basiri-Moghaddam M, Sadeghmoghaddam L, Ahmadi F. The concept of hospitalization of children from the view point of parents and children. *Iran J Pediatr*. 2011;21(2):201–8.
7. European Association for Children. Promoting children's rights and needs in healthcare [Internet]. 2022 [cited 2025 Apr 24]. Available from: www.each-for-sick-children.org
8. Middel B, Cooper C, Wheeler DM, Boss T, Piper S. Specialist home-based nursing services for children with acute and chronic illnesses (review). *Ned Tijdschr Evid Based Pract*. 2007;5(5):125–7.
9. Parab CS, Cooper C, Woolfenden S, Piper SM. Specialist home-based nursing services for children with acute and chronic illnesses (review). *Cochrane Database Syst Rev*. 2013;6:1–31.
10. Mounin J, Castets S, Galon-Faure N, Jegou M, Reynaud R. Hospital-based home care for young children newly diagnosed with type 1 diabetes: Assessing expectations and obstacles in families and general practitioners. *Arch Pediatr*. 2019;26(6):324–9.
11. Clapin H, Hop L, Ritchie E, Jayabalan R, Evans M, Browne-Cooper K, et al. Home-based vs inpatient education for children newly diagnosed with type 1 diabetes. *Pediatr Diabetes*. 2017;18(7):579–87. doi:10.1111/pedi.12466
12. Patel S, Green H. Outpatient parenteral antimicrobial therapy in children. *Curr Infect Dis Rep*. 2019;21:17.
13. Young NL, Barden W, McKeever P, Dick PT, Tele-HomeCare team. Taking the call-bell home: A qualitative evaluation of Tele-HomeCare for children. *Health Soc Care Community*. 2006;14(3):231–41. doi:10.1111/j.1365-2524.2006.00615.x
14. Chennapragada SS, Thevuthasan S, Savani S, Goyal S, Singh V, Ramphul K, et al. Characteristics and trends of hospitalizations for sickle-cell related complications. *Blood*. 2023;142(Suppl 1).
15. Kidwell K, Albo C, Pope M, et al. Characteristics of sickle cell patients with frequent emergency department visits and hospitalizations. *PLoS One*. 2021;16(2):e0247324.
16. Sandweiss DR, Mundorff MB, Hill T, et al. Decreasing hospital length of stay for bronchiolitis by using an observation unit and home oxygen therapy. *JAMA Pediatr*. 2013;167(5):422–8.
17. Sriskandarajah S, Ritchie B, Sluggett JK, Reynolds JG. Safety of nurse- and self-administered paediatric outpatient parenteral antimicrobial therapy. *Antibiotics (Basel)*. 2020;9(11):761. doi:10.3390/antibiotics9110761
18. Bryant PA, Katz NT. Inpatient versus outpatient parenteral antibiotic therapy at home for acute infections in children: A systematic review. *Lancet Infect Dis*. 2018;18(2):e45–54.
19. Batlle A, Thió-Henestrosa S, Boada I, et al. Attending pediatric acutely ill patients at home: Families' socioeconomic characterization, expectations, and experiences. *BMC Pediatr*. 2022;22(1):679.
20. Tibergh I, Carlsson KS, Carlsson A, Hallström I. Metabolic control, healthcare satisfaction and costs 1 month after diagnosis of type 1 diabetes: A randomised controlled trial of hospital-based care vs. hospital-based home care. *Pediatr Diabetes*. 2012;13(8):625–31.
21. Pian J, Klig JE. Acute pediatric home hospital care. *Pediatrics*. 2020;145(6):e20190074.