

ORIGINAL ARTICLE

Evaluating the Baby@Home program: Early discharge strategies for (pre)term infants are safe and benefit health outcomes

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Abstract

Aim: Prolonged hospitalisation in the neonatal intensive care unit (NICU) can emotionally tax newborn infants and their families, resulting in developmental adversities and inadequate parent–infant bonding. This study aimed to assess the feasibility and value of the Baby@Home program in reducing prolonged hospital stays.

Methods: This is a retrospective cohort study of 26 infants from a tertiary neonatology department, using qualitative data (gathered through interviews with parents ($n=15$) and professionals ($n=5$)) and quantitative data (retrieved from medical records and the Luscii application).

Results: Our study included 26 newborn infants. 76% were premature, born at an average term of 35 weeks and 2 days. During the study period, all infants thrived, and only two adverse events occurred (an allergic reaction and respiratory incident necessitating readmission). Interviews were conducted based on six major themes concerning the feasibility and value of the program. Despite the challenges of application utilisation, the program's overall value was evident.

Conclusion: The Baby@Home program effectively facilitated early discharge, promoted family reunification, and yielded favourable safety and health outcomes. Innovative solutions such as Baby@Home have the potential to pave the way for more sustainable and patient-centred care models.

KEYWORDS

(pre)term infant, early discharge, health and developmental outcomes, home monitoring, parental engagement

1 | INTRODUCTION

Prematurity is birth before 37 weeks of gestational age (GA).¹ One out of 10 infants are born preterm worldwide, before 37 weeks of gestation, according to 2020 data from the World Health

Organization. These infants encounter complications due to their prematurity.^{2,3} Consequently, the majority of premature infants are hospitalised in a neonatal intensive care unit (NICU) until the monitoring of vital parameters is no longer necessary and specific psychological milestones are achieved, such as respiratory stability,

Abbreviations: NICU, neonatal intensive care unit.

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thermoregulation control, and reaching a critical weight and a full oral feeding ability. The attainment of full oral feeding ability, typically between 34 and 36 weeks of gestation, often serves as the primary criterion for discharge.^{3,4} The mean NICU admission is approximately 17 days,⁵ but it can reach several months.⁶ The transition from gavage feeding to oral feeding increases the duration of NICU admissions, especially in extremely premature infants (28–32 weeks of gestation¹).⁶

Prolonged NICU admission negatively impacts infants, parents, and their families, resulting in psychological distress and inadequate parent–infant bonding.⁷ This may elicit developmental adversities and diminish parental confidence, especially at discharge.⁷ Additionally, the NICU's disruptive environment, characterised by noise and bright lights, has the potential to negatively impact the infant's hearing, vision, and motor coordination, hampering growth and development.^{3,8} Prolonged hospitalisation is also associated with an increased risk of hospital-acquired infections.^{3,8} In the long term, protracted postnatal hospitalisation and parental stress seem to be related to the infant's vulnerability and cognitive and behavioural development.^{7,9} This emphasises the critical need for comprehensive and supportive interventions throughout neonatal care.

A promising solution to minimise prolonged NICU admission could be delivering virtual medical healthcare and support using telemedicine.¹⁰ This model of healthcare support is based on the premise that successful early discharge can be achieved if adequate medical telemedicine is provided. Early discharge programmes may benefit the infant's development while decreasing parental stress and healthcare costs.^{3,11} However, there have also been doubts about this development, as early discharge probably slightly increases the number of infant readmissions within 28 days for neonatal morbidity; however, great variety was found between countries.¹²

In 2020, the Wilhelmina Children's Hospital, a tertiary full-service children's hospital in Utrecht, the Netherlands, initiated the “Baby@Home” neonatal early discharge program to reduce postnatal hospital stays. This study assesses whether the Baby@Home neonatal early discharge program yields comparable clinical outcomes and reduces parental stress compared to traditional postnatal hospitalisation for (pre)term infants.

2 | METHODS

2.1 | Study design

This was a single-centre explorative study carried out at the Wilhelmina Children's Hospital, a full-service children's hospital located in Utrecht, the Netherlands, from August 2022 to February 2023. The cohort consisted of newborn infants who participated in the Baby@Home program in 2022, their parents, and the medical professionals who were involved in the Baby@Home program. Participants were recruited through total population sampling.

To be eligible for the Baby@Home program, newborn infants needed to weigh at least 1800 g, maintain temperature stability

Key notes

- Prolonged hospitalisation negatively impacts infants and their parents by causing psychological distress and inadequate parent–infant bonding, which may lead to developmental adversities and diminish parental confidence, especially at discharge.
- The Baby@Home program effectively facilitated early discharge, promoted family reunification, and yielded favourable safety and health outcomes.
- The workload and utilisation of a new application posed challenges for parents and professionals, necessitating repeated process evaluations to ensure successful implementation.

outside the incubator, tolerate full enteral feedings, and no longer require monitor observation. Parents must have recently engaged in the Baby@Home program, within the past 2–3 weeks. They were also required to be fluent in spoken and written Dutch and reside within approximately 30 km of the hospital. Healthcare professionals engaged in the Baby@Home program were included. Exclusion criteria included cases involving postnatal depression or a stress or anxiety disorder in parents. Written informed consent was obtained from participating parents.

2.2 | The Baby@Home program

The Baby@Home program facilitates early hospital discharge for infants by utilising a mobile application provided by Luscii Healthtech (Luscii Healthtech BV, Amsterdam, the Netherlands). This app enables communication between parents and healthcare professionals, exchanging information on the infant's health, nutrition, and growth. The app can be downloaded from Apple or Google Play Store and requires an internet connection. Parents receive access to the Luscii app and daily reminders to enlist health-related data upon discharge. Parents can ask a healthcare professional questions or request telephone contact with the hospital. During each shift, one nurse with experience in the Baby@Home program monitored the measurements in the Baby@Home app. In case of deviated measurements, the nurse contacts the parents and the paediatrician.

In addition, parents engage in scheduled weekly telephone consultations, ensuring the infant's health at home. If required, in-hospital appointments can be arranged. App integration into infants' electronic patient files (EPD) provides seamless medical data accessibility by healthcare professionals.

Besides preparation and education about the Baby@Home program and the application, parents are provided with personalised instructions and training concerning enteral feeding in the lead-up to ultimate discharge with the Baby@Home program, with attention

paid to potential risks and areas of concern regarding the infant's health, nutrition, and growth. Furthermore, a home care facility (Thuiszorg) is involved in each case and provides all the materials and support.

2.3 | Data collection

The study employed a mixed-methods approach, utilising both qualitative and quantitative data. Qualitative analysis aimed to grasp the perspectives of parents and healthcare professionals on the value and feasibility of the Baby@Home program. Semi-structured interviews were conducted by a qualified independent researcher. Parents were contacted within 2 weeks after leaving the Baby@Home program, and interviews were held within 3–6 weeks in the parents' preferred setting (online or at home). Interviews were guided by a topic list based on feasibility: implementation, demand, acceptability, practicality, and integration. The number of interviews depended on saturation, indicating that additional interviews would not alter conclusions.^{13,14} Healthcare professionals were interviewed, focusing on their experiences with the Baby@Home program, its value, feasibility, and application dashboard in daily practice.

Retrospective quantitative data were collected from the patient's medical records (MetaVision, iMDsoft, Israel) and system data of the "Baby@Home" application (Luscii Healthtech, Utrecht, the Netherlands). Study variables included patients' characteristics (gender, gestational age of birth, birth weight, and Apgar Score), admission reasons (prematurity and issues arising from prematurity, that is infection, respiratory issues, hypoglycaemia, hyperbilirubinaemia, and congenital disorders), healthcare utilisation during Baby@Home, and app-use details such as parental activity, sufficiency, and challenges.

2.4 | Statistical analysis

Interviews were recorded with consent, transcribed verbatim, and analysed through NVivo software (QRS International). For reliability and validity, we conducted an in-depth analysis of the interviews using Braun and Clarke's inductive thematic analysis, a method encompassing six distinct phases: immersion in data, initial coding, organising codes into themes, refining themes, distilling essence and providing definitions, and seeking illustrative exploration.^{13–15}

The researchers iteratively moved between the phases to ensure thorough exploration. For transparency, an audit trail, a detailed log-book of all interpretations and choices, was maintained, and an independent reviewer assessed data interpretations. The final themes described the Baby@Home program's value and feasibility.

Statistical analysis was carried out independently by two researchers, using descriptive statistics in SPSS version 26 (IBM Corp., New York, USA). To delineate patient characteristics, data were presented as means (SD), medians [interquartile ranges (IQR)], and

proportions or absolute numbers. An independent sample test was employed to examine whether there was an association between patient characteristics and healthcare utilisation.

2.5 | Ethical considerations

The study was not subject to the Dutch Medical Research Involving Human Subjects Act. Therefore, the NedMec Medical Research Ethics Committee provided a waiver for ethical approval in Utrecht, the Netherlands (document number 22/596). The parents provided permission for the interviews, and the use of the data was obtained.

3 | RESULTS

3.1 | Participation in Baby@Home

A total of 26 infants were included in the Baby@Home program after a mean NICU stay of approximately 8 days, ranging from 3 to 51 days. Among them, 76% were premature, born at an average term of 35 weeks and 2 days, requiring medical support for various issues, such as infections (30%) and the necessity for respiratory support (25%). Other common prematurity-related problems included hyperbilirubinaemia, hypoglycaemia, congenital disorders, and feeding difficulties. The remaining 24% of the study population were born at term, defined as 37–42 weeks of gestation, and were admitted mainly due to being small for gestational age (80%) or a suspected or proven infection (20%).

Participating infants were primarily admitted to Baby@Home because they needed tube feeding or closer monitoring alongside nutritional support, for example, because of congenital disorders or infections (Table 1). Their median program participation was 11 days, during which they gained 339 g on average, resulting in a mean weight of 3028 g at the end of the program.

TABLE 1 Characteristic of infants included in the Baby@Home program in 2022 (n = 26).

	n (%)	Median	Min–max
Male	19 (73%)	–	–
Premature	20 (76%)	–	–
Gestational age at birth (weeks)	–	36	25+3–41+3
Birth weight (grams)	–	2627	635–3760
Weight at start of B@H (grams)	–	2695	2078–3570
Weight at end of B@H (grams)	–	3053	2350–3780
Weight increases during B@H (grams)	–	313	95–560
Duration of B@H (days)	–	11	6–27

Abbreviation: NICU, neonatal intensive care unit.

The parents of 10 infants took part in the study. In five cases, this was just the mother, and in the other five cases, both parents took part (Table 2). Five healthcare professionals participated, including two nurses directly involved in Baby@Home and three physician assistants. All interviews were conducted online and lasted approximately 45–60min each.

3.2 | Complications and readmissions

Two complications were reported, which necessitated readmission but ultimately were not severe: an allergic reaction to tube patches and a respiratory issue. In the latter case, excess mucus, probably due to the tube's malposition, resulted in respiratory issues and was quickly resolved.

3.3 | Developing the themes

During the interviews, both parents and professionals shared their experiences with the Baby@Home program, leading to the identification of six themes. The first three themes revolved around the parents' perspective, highlighting the sense of security, attachment to the infant, and the importance of rest. These aspects illuminated the program's significance in fostering a secure environment for both parents and their newborn infants. Conversely, the latter three themes delved into the practical aspects of the program, focusing on program workload, app utilisation, and opportunities for program improvement. These insights provided valuable perspectives on the feasibility of implementing and integrating the program into daily life, both from the standpoint of parents and professionals involved.

Throughout the discussions, it became evident that the program's impact remained consistently valuable, regardless of the practical considerations. This holistic understanding underscored the enduring importance of the Baby@Home program in supporting families during the early stage of parenthood (Figure 1).

3.3.1 | Sense of security

The Baby@Home program offered parents security and valuable support (quote 1). Some parents were initially hesitant, especially if it was their first child (quote 2), but many found that the program boosted their confidence (quote 3). It guided nurse consultations and hands-on experience in infant care at home. As time passed, parents gained self-confidence and readiness to transition out of the program, continuing to care for their infant independently.

Quotes obtained from interviews with parents and professionals

Quote number	Quote
1	"The nurses were available at any time. If you had a question or anything, you could always call. There is always a sense of security."

Quote number	Quote
2	"Without the Baby@Home programme I wouldn't have dared to take him home."
3	"We were doing all the measurements, I could see that he was growing... It gave me a grip on the situation. I could see for myself that he was on the right track."

3.3.2 | Gaining attached to your infant

Being together as a family was a key motivation for parents joining the Baby@Home program, especially when they had other children at home. Having their infant at home made them feel more like parents (quote 4), fostering attachment and allowing them to connect and grow in their role. Separation from their infant was heartbreaking for some.

Mothers could develop a stronger attachment with their infant at home, unlike during hospitalisation, where rooming-in was not always an option. Some felt they were not truly parents until they were at home, free to care for their infant in their own way (quote 5). Leaving the clinical environment and normalising the situation were essential steps for some parents to embrace their role as parents thoroughly (quote 6).

Quotes obtained from interviews with parents and professionals

Quote number	Quote
4	"Baby@Home was fantastic because we got our baby home well over a week earlier. Otherwise, we would just have to drive back and forth to the hospital for a week longer. The feeling of being parents came at home. So, we became his parents a week earlier."
5	"A department has its own routines and rhythm, and you must fit in... Later I thought, maybe I should have asked more actively, or been more assertive, but it actually didn't occur to me. Really feeling his mother came when we were at home."
6	"I felt equipped to take care of him. In the hospital, it was all so clinical. I had the need to go home and have a normal infant. At home a became a mother. I could open my heart."

3.3.3 | Finding rest

Going home allowed parents to leave the busy hospital environment, promoting mental and physical recovery (quote 7). It also allowed them to avoid potential transfers to other hospitals due to bed shortages, easing uncertainty (quote 8). Although the homecoming was often stressful and exciting, it brought peace. Parents described travelling between home and the hospital as a survival mode. While at home, they found space for mental and physical recovery (quote 9).

TABLE 2 Demographics of interviewed parents and their infant.

#	Gender infant	Infants' GA	Birth weight (g)	MC, HC, or NICU	Duration B@H (days)	Parent(s) ^a	Parents' age (M; F) ^b	First child
1	M	36+0	2565	NICU; MC	10	Mother	41	No
2	M	35+1	2104	MC	16	Father	28	Yes
3	M	41+3	2624	HC ^c	10	Both	31; 34	Yes
4	F	37+2	2200	MC	11	Both	36; 44	Yes/No ^d
5	M	40+3	3104	MC	8	Mother	26	Yes
6	M	37+2	2146	MC	14	Both	31; 34	Yes
7	M	34+4	3034	HC ^c	10	Both	31; 35	No
8	M	35+6	2545	MC	9	Mother	39	No
9	M	36+4	1850	NICU; MC	7	Both	38; 32	Yes
10	M	36+6	2770	NICU; MC	13	Mother	35	No

Abbreviations: B@H, Baby@Home program; F, female; GA, gestational age; HC, high care; M, male; MC, medium care; NICU, neonatal intensive care unit; PA, physician assistant.

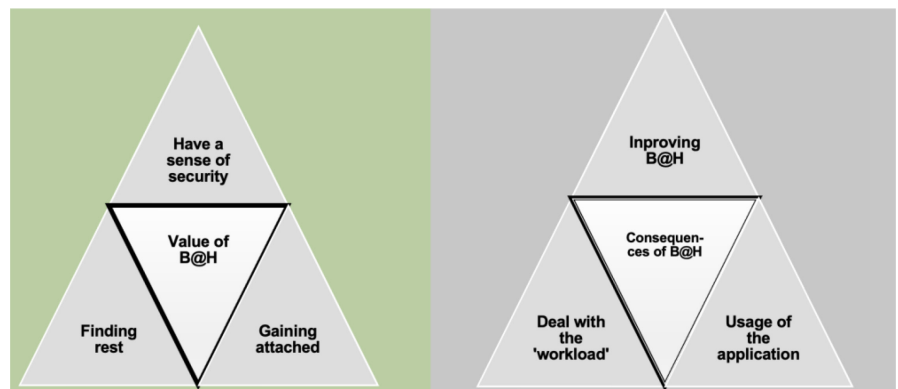
^aParent(s) = who took part in the interview.

^b(M; F) = age of mother; age of father.

^cAdmission on HC because of lack of room on MC.

^dYes/No = first child for mother, but not for father.

FIGURE 1 Thematic triangle. The triangle displays the relationship between the themes within the “centre” of the value of the Baby@Home program and, on the other side, the consequence of the Baby@Home program. Both are separate unaffected entities, although they are parts of the same “coin.”



Quotes obtained from interviews with parents and health professionals

Quote number	Quote
7	"We have experienced that as very pleasant when we went home. That you have your own stuff around you again. Your own home gives you more peace of mind."
8	"It was great that we had the opportunity to go home with Baby@Home. Certainly, because they had indicated several times that if they had no longer a bed available at a certain point, then [name infant] was the first to be transferred. And I didn't really like that, it caused a lot of stress."
9	"It was very complicated [traveling between hospital and home]. When [name infant] got home I really felt like I had run a marathon for 6 days. I was completely broken physically. I was physically unable to do almost anything for 2 days."

3.3.4 | The “workload” of the program

The parents indicated that returning home with their baby was a mix of excitement, joy, and stress. The moment of discharge from the hospital was often experienced as abrupt and unexpected. Information about the Baby@Home program and app utilisation was usually provided at the last minute; thereby, the program's specifics were unclear to them. Besides this, parents indicated that it was challenging to report all physical measurements about their infant's well-being and health in an app rather than the usual notebook and to keep track of them subsequently (quotes 10–12).

Quotes obtained from interviews with parents and health professionals

Quote number	Quote
10	"In that respect I may also be phlegmatic that I think: yes, it is as it is, I will follow, I must, so to speak. It's not a choice whether I can or not, you must."

Quote number	Quote
11	"Only was so busy with nutrition. I breastfed. And then I was expressing breastmilk for the bottle. And then give that bottle and then give the probe feeding and breastfeed. And weigh in between. That was a bit too much for the mother, to be honest."
12	"We actually had a standard writing pad. And if something happened, we put a check mark somewhere and then at the end of the day... end of those 24h, I could fill it in completely in the application. It was kind of crazy that you had to keep track of it all, but I also thought it gave a kind of insight."

Through discussions with healthcare professionals, a nuanced understanding emerged regarding the integration of the Baby@Home applications into their practice. It became evident that several challenges hindered its seamless utilisation. Many professionals struggled with navigating the app, citing their limited experience as a barrier. Technical issues further complicated matters, consuming valuable time and contributing to increased workloads (quote 13). In addition, the provision of clear guidance on app usage to parents proved challenging due to time constraints, often leaving parents without comprehensive information about the program (quote 14). Furthermore, the juggling act of balancing clinical responsibilities alongside Baby@Home activities presented a persistent challenge. The urgency inherent in clinical care frequently took precedence, relegating Baby@Home activities to the sidelines (quote 15).

Quotes obtained from interviews with parents and health professionals

Quote number	Quote
13	"Direction in policy and initiative really lie with the nurse and not with the Physician Assistants. For example, I do not know when a parent should be called again. I rely on the professionalism of the nurse in this."
14	"The introduction of Baby@Home is sometimes under pressure. Then parents are sent to quickly home, without a process of working towards discharge. And that is a pity and causes more parental stress I think."
15	"Calling parents is difficult: there is no room near to the unit available and it takes a lot of time. You also have 3 clinical infants as well... That takes a lot of time, and we don't always have that time as nurses. Then you must rush conversations."

3.3.5 | Utilisation of the application

Most parents expressed dissatisfaction about app utilisation, due to practical limitations, such as only being able to add feedings once per 24h (quote 16). Moreover, the application could not record breastfeeding within a bottle (quote 17). Some parents resorted to messaging measurements instead of using the app. Parents also

received unnecessary notifications for missing values. A few parents suggested that the program could work without the app, emphasising the role of interactions with healthcare professionals over app reliance (quote 18).

Quotes obtained from interviews with parents and health professionals

Quote number	Quote
16	"We are digitally skilled, so in that sense, we eventually figured it out, but yes, actually 2 days after we were home the application was really a kind of working. But I think gosh, the app, it should be supportive enough to, yes, to overcome all that right away."
17	"The application was therefore not completely tailored, it contained a number of measurements were not necessary, and for example the combination of nutrition, then you could not properly store that in the application."
18	"The conversation, the communication with the doctors and with the nurses. That's what I liked best. Not so much the application."

3.3.6 | Improving Baby@Home

While most parents appreciated the Baby@Home program and valued the guidance from healthcare professionals (quote 19), they had concerns about its feasibility and the application's usability. Despite receiving some initial information, parents expressed the need for more detailed and tailored information about the program's process. They also offered suggestions for improving the application (quote 20), with the most common request being the ability to record individual feedings instead of cumulative measurements.

Quotes obtained from interviews with parents and health professionals

Quote number	Quote
19	"For the opportunity itself, so for the possibility that you can join Baby@Home and go home earlier, yes for me just a 10 [grade]. 100 percent. Are there any improvements that can be made to the program? Certainly. Sure, yes. And for me those are mainly in the glimpse of what can it look like, how does such a process work, how does such a program work and ..., a better app to support you with that because you are already quite busy."
20	"Because at some point it [application] also closed. So, if you hadn't filled it in yet then it was closed. You could no longer fill out information from that day. And then you were already a day behind it, so to speak. That is inconvenient and should be changed."

Healthcare professionals valued the Baby@Home program, emphasising its potential benefits for premature or term infants' growth and feeding at home. They provided feedback and suggestions for

enhancement (quote 21), including adding video calls. A key recommendation was allocating dedicated time for nurses to deliver Baby@Home care and further education to handle the unique aspects of monitoring infants with parental input. Professionals also highlighted the importance of considering mothers' physical and mental well-being, especially in cases of pregnancy complications such as haemolysis, elevated liver enzymes, and low platelet count (HELLP) syndrome (quote 22). Early sharing of program and application information was deemed crucial for parental preparation. However, all professionals considered the decision to offer the Baby@Home program as a well-considered and safe choice (quote 23). Additionally, physician assistants recognised opportunities to expand the program's indications, potentially including infants with hyperbilirubinaemia and antibiotic treatment.

Quotes obtained from interviews with parents and health professionals

Quote number	Quote
21	"It is especially important to ask good questions. For this you need a certain expertise. Otherwise, you think too quickly that something is wrong. For example, parents say: he moans very much. And I think oh is he failing respiratory? But then it turns out that he is doing this because he is pooping."
22	"I think we really need to be aware that it's intensive for parents. The program takes time and energy. There are really mothers who don't have the energy for that after a C-section or HELLP syndrome. We must be and remain aware of this."
23	"We do look very critically at the indication [of the infants that qualify for the program]. That is why it is safe care. In other hospitals, these children may just go home. You make the transition safely and that adds something."

4 | DISCUSSION

Our study on the value and feasibility of the Baby@Home program underlined the potential benefits of early discharge for infants and their families. We observed reduced hospital stays without significantly increasing readmission rates or adverse infant health outcomes. This aligns with prior research, suggesting that, when appropriately implemented and supported, early discharge programmes can be safe and effective for both the infant and the family.^{3,11,16} A critical insight from our study was that the program may have been implemented too quickly, and more proper preparation and education are needed. Information about the program and app utilisation was often provided at the last minute, resulting in a lack of clarity regarding the program's specifics. This underscored the necessity for better preparation to align the program with the desires and needs of parents and professionals so that technical challenges do not undermine the program's benefits.

For example, early discharge programmes aim to foster family unity and promote infant development and the well-being of both parents and the infant.^{3,11,17} Previous studies on the impact of NICU admission on parents have shown that the emotional and physical detachment experienced during the hospital stay exacerbates difficulties in transitioning to a home environment. Spence et al. reported that parents reported sentiments of grief concerning the temporal separation from their infants. The analysis indicates that the incapacity to participate in caregiving routines can result in a lack of parental self-efficacy and bonding issues.¹⁷ In our study, parents made similar statements.

Furthermore, once at home, nurses can assist parents in caring for their infants using telemedicine, especially when they are stressed or lack confidence as their baby's discharge approaches. Telemedicine can increase parental involvement and confidence, potentially reducing parental stress. This finding aligns with the result of Robinson et al., which indicates that parents found telemedicine helpful in providing proper care to their infants. However, it is worth noting that specific early discharge programmes may burden families, potentially leading to increased parental stress levels and complications.¹¹ In our study, some parents reported challenges related to the application's workload and utilisation. This may be related to the deficiencies mentioned in the implementation of the application.

4.1 | Strengths and limitations

Our study's design enhances its quality, augmenting numerical data with interviews to offer a comprehensive understanding of the Baby@Home program. Another noteworthy aspect of our study is the substantial information the participating parents provided concerning the application's use and potential improvements. For instance, our analysis emphasises the significance of offering comprehensive instructions and information concerning the application's utilisation, as parents frequently noted inadequate guidance. We consider this in-depth analysis highly valuable and strongly recommend that any similar program undertake such an analysis.

We acknowledge that the study population is a potential limitation of our study. Nonetheless, this study population is representative of the broader population, and we anticipate similar outcomes for an expanded study population. Further quantitative research with a more diverse sample or developed parameters may provide more comprehensive insights into the broader applicability of early discharge programmes.

We consider the feedback obtained from parents and caregivers to be precious in improving the Baby@Home program, and we will implement this feedback to optimise the project. In this regard, the first steps have been taken. For example, we improved the quality of questions regarding the health parameters in the application. We also initiated a service that helps the nursing staff with the parent initiation of the project, especially in downloading and documentation. Furthermore, in collaboration with Lusci Healthtech, steps have already been taken to improve and optimise the application.

5 | CONCLUSION

In conclusion, the Baby@Home early discharge program demonstrates promising results in terms of safety and health outcomes. However, it is essential that such programs align with parents' desires and needs and that their implementation includes proper preparation and education for parents and professionals to decrease workload and application-related challenges. If so, innovative solutions such as Baby@Home can pave the way for more sustainable and patient-centred care models.

AUTHOR CONTRIBUTIONS

Iza Stekelenburg: Writing – original draft; methodology; investigation; conceptualization; data curation; resources; formal analysis; visualization. **Daniel C. Vijlbrief:** Conceptualization; investigation; funding acquisition; methodology; validation; visualization; writing – review and editing; software; project administration; data curation; supervision; resources. **Agnes van den Hoogen:** Conceptualization; funding acquisition; writing – review and editing; visualization; methodology; software; formal analysis; project administration; data curation; supervision; resources. **Barbara Peels:** Conceptualization; validation; writing – review and editing; project administration. **Wendela de Lange:** Methodology; writing – review and editing; investigation; conceptualization; data curation; formal analysis.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare.

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