






ORIGINAL ARTICLE

Perceived needs for team-based visits in Swedish child healthcare services exceed its existence—A mixed-methods study targeting healthcare professionals

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Abstract

Aim: To investigate both quantitatively and qualitatively the differences between participation in team-based visits (TBVs) and perceived needs for TBVs from the perspectives of healthcare professionals, in the context of the Swedish 3-tier national Child Healthcare programme.

Methods: A study-specific questionnaire, including multiple-choice questions with fixed and free-text response options, was developed, and used. To capture healthcare professionals' experiences and find explanations for the quantitative results in qualitative data, a convergent parallel mixed-methods study design was used. Descriptive statistics and McNemar's test were used to analyse the quantitative data, and content analysis was used to analyse the qualitative data.

Results: Healthcare professionals perceived the need for TBVs in the Swedish Child Healthcare Services (CHS) to a high extent. The largest difference between the perceived need for TBVs and experienced TBVs was for indications associated with psychosocial problems. The quantitative findings were explored by the qualitative findings. Both individual and organisational factors influenced TBVs.

Conclusion: Perceived needs for TBVs in Swedish CHS exceed its existence. Healthcare professionals require TBVs delivered by interprofessional teams, in line with proportionate universalism. Accordingly, organisational structures (e.g. colocation and clear instructions on how to distribute TBVs) and human resources (e.g. psychologists and social worker) are needed.

KEYWORDS

Child Healthcare Services, interprofessional teamwork, mixed method, proportionate universalism, team-based visits

Abbreviations: CHC, National Child Healthcare Centres; CHS, Child Healthcare Service; FC, Family Centres, NCHP, Child Healthcare Program; MCHU, Main Child Healthcare Units; TBV, Team-based visits.

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1 | INTRODUCTION

Globally, as well as in Sweden, there are persistent gaps and inequalities in health among children and coverage of Child Healthcare Services (CHS).^{1,2} Children's access to CHS could be secured and health inequalities could be reduced through provision of CHS by interprofessional teams within a framework of proportionate universalism—with universal services for all children and families and with targeted services for those with additional needs.^{1,3–5} Proportionate universalism implies CHS with a scale and intensity that are proportionate to the level of disadvantage.^{1,3–5}

In 2014, the Swedish National Board of Health and Welfare published new instructions, with the aim of contributing to evidence-based practice for equality and equity in the Swedish CHS. The instructions, together with a web-based national guide, constitute the Swedish Child Healthcare Program (NCHP).^{4,6,7} The NCHP, which has been inspired by United Kingdom, consists of a 3-tier indicator of needs used in CHS to facilitate identification of children that require additional support.^{6,8} The first tier in the Swedish NCHP contains universal interventions offered to all children to promote health and development. It also includes identification and evaluation of health determinants. The second tier and the third tier include targeted interventions, including extended and additional support provided to all children (0–6 years) on a needs basis. The targeted part consists of selective interventions (tier 2) as well as indicated interventions (tier 3) on a needs basis. The second tier includes interventions that strengthen the protective determinants of health, provided to children in risk groups or children with increased risks, that is, postnatal home visitation programme in areas with children at-risk of poverty.⁹ The third tier includes indicated interventions based on specific needs of a child or family. The whole NCHP refers to all children (0–6 years), and the child and the child's parents could 'walk between the tiers' and receive interventions on a needs basis.⁶

The Swedish NCHP includes team-based visits (TBVs) defined as physical meetings where different professionals, the child and his or her parents participate. Team-based visits are recommended as universal and targeted interventions and are considered important in order to meet the needs of the child and his or her family. Universal TBVs, with a nurse and a physician, are recommended for all children at specific ages (4 weeks, 6 months, 12 months, and 2.5–3 years). With regard to the previous instructions, there have been changes in physicians partaking in NCHP for all ages except for the visits at 6 months. The universal TBVs include specific surveillance, health promotion, ill health prevention and support for each age, in accordance with the NCHP. Universal TBVs take place at Child Healthcare Centres (CHCs) or Family Centres (FCs). Targeted TBVs are recommended for all children in need of additional support. Other professionals can take part in targeted TBVs, and targeted TBVs can also be conducted in other places, for example, the child's home.^{4,6} A previous study has shown that healthcare professionals participating in TBVs perceive goal fulfilment, and they meet the children's and family's needs to a greater extent than professionals that do not

Key Notes

- Team-based visits in the context of the Swedish National Child Healthcare Program should be explored from a healthcare professional's perspective to identify gaps between healthcare delivered and perceived needs.
- Perceived needs for team-based visits in Swedish Child Healthcare Service exceed its existence, especially in case of targeted team-based visits.
- To facilitate team-based visits within a framework of proportionate universalism, human resources and organisational structures are needed.

participate in TBVs.¹⁰ However, the distribution of TBVs in Swedish CHS is unequal.¹¹

It is important to create a person-centred care that meets the needs of the child and his or her family, and to deliver adequate care.¹² Interprofessional collaboration is considered essential for effective and high-quality care and to meet complex needs.^{13–15} How teams are designed depends on the task, as well as when and where the work is being performed.^{6,8} The team composition and function depend on the needs of the patient, as well as individual and organisational factors that facilitate or hinder TBVs.¹⁴ Challenges faced by professionals when meeting children and families 'face to face' are important in the development of team-based care.¹⁴ Drinka (2016) describes the need for both a top-down and a bottom-up perspective to develop interprofessional collaboration.¹³

According to Tell et al. (2018), successful implementation of programmes, such as the NCHP, must match the professional's consensus and perceived needs and be viewed as relevant by all.⁷ The Swedish National Board of Health and Welfare request scientific evidence for the methods used within the Swedish CHS.⁴ Since the implementation of the new instructions, which, together with a web-based national guide, constitute the NCHP in 2014, no studies have been found trying to understand how interprofessional teams work within a framework of proportionate universalism. According to Nelson et al. (2007) and Dominguez-Cancino et al. (2020), it is important to identify gaps between national programmes, healthcare delivered and perceived needs to reach the goals in healthcare service.^{12,16} Without that knowledge, there is a risk that there will continue to be gaps and inequalities in healthcare among children and coverage of CHS. However, studies relating to interprofessional collaboration call for a range of scientific approaches.¹⁷ A mixed-methods design offers powerful tools to investigate complex phenomena and provides valuable insights by integrating qualitative and quantitative approaches to generate new knowledge.¹⁷ Accordingly, a mixed-methods approach was considered to be a relevant design format for the current study, targeting the phenomenon and practice of TBVs.¹⁸ Thus, the aim of the present study was to investigate, both quantitatively and qualitatively, the differences between participation in TBVs and the perceived needs for TBVs from

the perspectives of healthcare professionals in the context of the Swedish 3-tier NCHP.

2 | MATERIAL AND METHODS

This study is part of a larger project that aims to investigate inter-professional teamwork from the perspectives of nurses, physicians and psychologists within Swedish CHS. Within the project, a study-specific questionnaire, in the form of a web-survey with fixed and free-text response options, was developed and distributed to all reachable nurses, physicians and psychologists ($n = 3552$) engaged in the CHS between October 2017 and February 2018. E-mail addresses were obtained by the CHS developers and managers in each region as well as by the National Psychologist Association. In total, 1119 responded to the questionnaire (response rate of 32%). Team-based visits were reported by 920 of the respondents, that is, those in focus in the present study.

2.1 | Design

A convergent parallel mixed-methods study design was used. According to Creswell and Clark (2011), a convergent design is when the researcher collects and analyses both quantitative and qualitative data from the same phase of the research process and then merges the two sets of results into an overall interpretation.¹⁹ Specifically, a data-validation variant of that design was applied,¹⁹ which validated and expanded the quantitative data from the survey through qualitative data.^{19,20} The purpose of combining methods was to obtain complementary data on the same topic and in this way capture the healthcare professionals' experiences and create a deeper understanding of the quantitative results in the qualitative data.

2.2 | Participants and setting

The setting for this study was the Swedish CHS, which are led by nurses, who collaborate closely with physicians and psychologists.² In addition, other professionals, such as speech therapist, dietician, physiotherapist, midwife, social worker, or other, can participate in interprofessional collaboration in CHS. The range of professionals can vary. However, the respondents in the current study ($n = 920$) included nurses (72.1%), physicians (22.1%) and psychologists (5.9%) from all healthcare regions in Sweden. Child healthcare services are provided at CHCs or FCs in separate facilities or in close connection to a healthcare centre. In FCs, the CHS are colocated with other child- and parental services.^{4,21} Parts of the CHS can be conducted in other places, that is, psychologist clinics, Main Child Healthcare Units (MCHU), healthcare centres, and Specialist CHS. The Swedish CHS are run by 21 regions, which are divided into 6 healthcare regions. **Table 1** shows the demographic characteristics of the study population, in total and per profession.

2.3 | Data collection

2.3.1 | Questionnaire

The questionnaire contained 3 parts, with a total of 13 core questions and follow-up questions. The questions had both fixed and free response options.

The first part of the questionnaire contained questions about characteristics of the respondents, as shown in Table 1. This part also included questions about workplace and Healthcare Region. The response options for the multiple-choice question regarding workplace were: CHC, FC, psychologist clinic, Main Child Healthcare Units (MCHU), healthcare centre, Specialist CHS and other.

The second part of the questionnaire contained questions about interprofessional teamwork. Information about the respondents' participation in TBVs was obtained from the multiple choice questions worded: 'Does your work in the CHS include any of the following team structures?' One response option was TBVs. There were also questions about indications for TBVs, the ages of the children at the TBVs and professionals' participation in TBVs. The multiple choice questions were: 'For what reasons do you participate in TBVs in your assignment?' 'For what ages, do you participate in TBVs?' and 'What professionals participate in TBVs?'

The third part of the questionnaire contained questions about the perceived need for TBVs. The questions were: 'On what indications do you think there is a need for TBVs within CHS?' The fixed response options were adoption, foster family, parental support, communication deviation, medical issues, newcomers (includes migrants and refugees), psychomotor development, regulatory difficulties, social vulnerability, specific age of the child and other indications. A follow-up question was posed for those who answered, 'specific age' worded: 'For what ages is there a need for TBVs?' The response options about the children's ages were: 4 weeks, 6 months, 12 months, 2.5–3 years and other ages. Knowledge about professionals with whom respondents might collaborate in TBVs was obtained with a question worded: 'What professionals are needed in TBVs on different indications?' The response options for the different indications were nurse, physician, psychologist, speech therapist, dietician, physiotherapist, midwife, social worker and other.

2.3.2 | Quantitative and qualitative data

Quantitative data were collected from the fixed response options. Of the 920 respondents participating in TBVs within CHS, 911 responded to the questions about the perceived need for TBVs (99% response rate). Qualitative data were obtained from free-text comments. More than one-third of the respondents (38%) gave free-text comments associated with the included questions (Table 1). Psychologists responded to comments (48%) to a slightly higher degree than nurses (38%) and physicians (32%). In total, the questionnaire generated 400 comments containing 7666 words. The answers provided in the free-text comment sections consisted of 1–6 sentences.

TABLE 1 Demographic characteristics of the study population and provision of free-text comments

	All		Nurses		Physicians		Psychologists	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
All	920	(100)						
Profession								
Nurse	663	(72)	663	(72)				
Physician	203	(22)			203	(22)		
Psychologist	54	(6)					54	(6)
Gender								
Female	850	(92)	657	(99)	141	(69)	52	(96)
Male	64	(7)	4	(1)	58	(29)	2	(4)
Other	6	(1)	2	(0)	4	(2)	0	(0)
Years in CHS								
<6	314	(34)	232	(35)	53	(26)	29	(54)
6–20	452	(49)	335	(51)	96	(47)	21	(39)
>20	154	(17)	96	(14)	54	(27)	4	(7)
Workplace								
Child Healthcare Centre	571	(62)	434	(65.5)	133	(66)	4	(7)
Family Centre	240	(26)	191	(28.8)	41	(20)	8	(15)
Other place	109	(12)	38	(5.7)	29	(14)	42	(78)
Healthcare region								
Uppsala Örebro	254	(28)	172	(26)	63	(31)	19	(35)
Stockholm	189	(20)	148	(22)	40	(20)	1	(2)
South	150	(16)	109	(16)	31	(15)	10	(19)
West	130	(14)	85	(14)	35	(17)	10	(18)
North	106	(12)	83	(12)	20	(10)	3	(6)
South east	91	(10)	66	(10)	14	(7)	11	(20)
	All		Nurses		Physicians		Psychologists	
Provided free-text comments	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Profession								
Yes	346	(38)	255	(74)	65	(19)	26	(7)
No	574	(62)	408	(71)	138	(24)	28	(5)
	All		CHC		FC		Other place	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Workplace								
Yes	346	(38)	219	(63)	81	(24)	46	(13)
No	574	(62)	352	(61)	159	(23)	63	(11)

2.4 | Data analysis

Quantitative data from the first and the second part of the questionnaire have been previously analysed and reported.^{10,11} Here, we focused on the qualitative data from the first and second part. In addition, we analysed quantitative and qualitative data from the third part of the questionnaire, that is, questions about the perceived need for TBVs as well as questions about professionals with whom respondents might collaborate in TBVs. In accordance with Creswell et al. (2011), quantitative and qualitative data were analysed separately using relevant methods.¹⁹

2.4.1 | Quantitative analysis

Descriptive statistics were used for sample characteristics. Statistical analyses of frequencies for participation in TBVs and the perceived needs for TBVs were performed and presented per profession. McNemar's test, which is suitable for matched data, was used to analyse differences between participation in TBVs and the perceived needs for TBVs on different indications. Data are presented per profession (nurse, physician and psychologist) and per workplace. The response options regarding workplace were: CHC, FC and other. Other workplaces included psychologist's clinic,

MCHU, healthcare centre and Specialist CHS. The response options for professions needed in TBVs were nurse, physician, psychologist, social worker speech therapist, dietician, physiotherapist, midwife, and other. In the analysis, other included: speech therapist, dietician, physiotherapist, midwife, and other.

For statistical analyses, we used IBM Statistical Package for the Social Sciences (SPSS) Statistics for Windows, Version 22.0 (IBM Corp).

2.4.2 | Qualitative analysis

The qualitative content analysis was inspired by Elo and Kyngäs.²² These steps were followed: (1) read all material to obtain an overall impression; (2) identify units of analysis relevant for the study; (3) make sense of the data; (4) open coding; (5) sort codes for each profession into predetermined areas associated with the study aims (experiences of participation in TBVs, perceived needs for TBVs, factors that can influence TBVs); (6) group codes into subcategories and categories; and (7) compare categories from all groups of professions and group under commonly identified main categories.²²

The analysis involved repeated reading and reflection during the entire analytic process. Subcategories, categories and main categories were named as close to the text as possible. The first, second and last author took part in the content analysis. Credibility was enhanced through discussions of the findings with all authors.^{23,24}

2.5 | Final data synthesis

The quantitative and qualitative results are presented separately under common headings but merged and discussed together in the discussion.¹⁹ The qualitative analysis is presented as Supporting Information.

2.6 | Ethical considerations

The questionnaire was reviewed and approved by the Regional Ethics Review Board in Uppsala, Sweden (Diary number 2017/356). All survey participants were informed, and consent was obtained by answering the web-based questionnaire. Confidentiality was ensured by sending the answers electronically directly to the survey tool, where the answers were encoded. All data collected were stored securely in electronic files for security, protection and research data confidentiality.

3 | RESULTS

3.1 | Participation in team-based visits and experiences of team-based visits

3.1.1 | Quantitative results

Among nurses and physicians, the most frequently reported indication for participation in TBVs was the specific age of the child. For

psychologists, the most frequent indication for participation in TBVs was parental support. (Table 2).

3.1.2 | Qualitative results

Universal and targeted team-based visits

Universal TBVs at certain ages were viewed as a basic component of the NCHP. However, both nurses and physicians reported that TBVs still existed at ages from an earlier NCHP. Targeted TBVs in cases with additional needs were performed at all ages. Nurses described that they had experiences of selective TBVs for specific groups, for example, for families in disadvantaged areas, foster families or first-time parents. Physicians described that they had experiences of TBVs indicated by findings from previous visits performed by a nurse or a team.

The professional role in team-based visits

In all 3 professional groups, it was considered that the core team consisted of a nurse and a physician, which could be extended to include psychologists or other professionals in CHS or other organisations. All professionals experienced that work within a CHS was mainly based on individual efforts separated from the teamwork. Nurses described provision of continuity through their regular individual contacts with the child and his or her family during the child's first year. The nurses coordinated with and involved other professionals and described TBVs as joint meetings with different professionals, the child and the family in the family's home, at CHC, at FC or elsewhere.

'My mission is to collaborate – to be the spider in the net'

Nurse, 1–5 years of work experience, working at a CHC.

From a physician's perspective, almost all work in a CHS was based on TBVs, typically together with a nurse.

'We work routinely together with the nurse at the CHS. Thus, we form a small team. Sometimes a psychologist is involved in the assessment'

Physician, >30 years of experience in CHS, working at CHC.

Physicians described that their role was to evaluate children's health and development together with a nurse, refer children to other services and to contribute with competence in medical and developmental issues. Physicians participated in TBVs indicated by medical issues.

Nurses experienced that the psychologists only participated in TBVs occasionally, and physicians described that they collaborated with psychologists through the nurses. The psychologists described that their participation depended on the demand and that their experience of TBVs within clinical CHS was limited. Psychologists participated in TBVs in the clinical CHS, mostly in collaboration with the nurse.

TABLE 2 Differences between participation in team-based visits (TBVs) by indication and perceived needs for TBVs in CHS presented per profession and per workplace. Analyses based on respondents participating in TBVs. Sorted by differences

	Participation in TBVs	Need for TBVs	Differences unit of %		McNemar's test
Per profession	% (n)	% (n)	[95% CI]		p
Nurses (N = 656)					
Foster family	10 (68)	47 (310)	-37	[-42, -32]	<0.001
Social vulnerability	47 (311)	73 (479)	-26	[-31, -20]	<0.001
New Arrivals	30 (195)	56 (366)	-26	[-31, -21]	<0.001
Adoption	6 (37)	28 (182)	-22	[-26, -18]	<0.001
Psychomotor development	56 (368)	74 (483)	-18	[-23, -12]	<0.001
Parental support	57 (375)	74 (488)	-17	[-22, -12]	<0.001
Communication deviation	47 (308)	61 (398)	-14	[-19, -8]	<0.001
Regulatory difficulties	46 (301)	58 (380)	-12	[-17, -7]	<0.001
Medical issues	66 (434)	75 (494)	-9	[-14, -4]	<0.001
Other	6 (36)	4 (25)	2	[-1, 4]	0.079
Specific ages ^a	83 (541)	55 (361)	28	[22, 32]	<0.001
Physicians (N = 201)					
Social vulnerability	23 (47)	64 (129)	-41	[-50, -31]	<0.001
Foster family	3 (6)	35 (71)	-32	[-40, -25]	<0.001
Parental support	28 (56)	59 (118)	-31	[-41, -21]	<0.001
Communication deviation	38 (76)	65 (130)	-27	[-37, -17]	<0.001
Adoption	3 (6)	28 (57)	-25	[-32, -18]	<0.001
New arrivals	33 (66)	55 (110)	-22	[-32, -12]	<0.001
Psychomotor development	59 (118)	78 (157)	-19	[-28, -10]	<0.001
Regulatory difficulties	37 (75)	53 (107)	-16	[-26, -6]	<0.001
Other	4 (7)	7 (14)	-3	[-8, 1]	0.118
Medical issues	76 (154)	74 (149)	2	[-6, 11]	0.533
Specific ages ^a	87 (176)	60 (122)	27	[18, 35]	<0.001
Psychologists (N = 54)					
New arrivals	9 (5)	37 (20)	-28	[-44,-12]	<0.001
Foster family	5 (3)	33 (18)	-28	[-43, -13]	<0.001
Social vulnerability	44 (24)	70 (38)	-26	[-45, -7]	0.007
Adoption	2 (1)	26 (14)	-24	[-37, -11]	<0.001
Medical issues	20 (11)	35 (19)	-15	[-32, 2]	0.096
Communication deviation	58 (31)	65 (35)	-7	[-26, 11]	0.344
Psychomotor development	57 (31)	57 (31)	0	[-19, 19]	1.000
Other	20 (11)	15 (8)	5	[-9, 20]	0.607
Regulatory difficulties	50 (27)	48 (26)	2	[-17, 21]	1.000
Parental support	67 (36)	43 (23)	24	[5, 43]	0.011
	Participation in TBVs	Need for TBVs	Differences unit of %		McNemar's test
Per workplace	% (n)	% (n)	[95% CI]		p
Child Healthcare Centre (N = 571, missing = 8)					
Foster family	9 (49)	44 (250)	-35	[-40, -30]	<0.001
Social vulnerability	36 (203)	70 (395)	-34	[-39, -28]	<0.001
Newcomers	28 (152)	54 (302)	-26	[-32, -21]	<0.001
Adoption	4 (24)	26 (147)	-22	[-26, -17]	<0.001
Parental support	48 (271)	69 (391)	-21	[-27, -15]	<0.001

TABLE 2 (Continued)

Per workplace	Participation in TBVs % (n)	Need for TBVs % (n)	Differences unit of % [95% CI]		McNemar's test p
Communication deviation	41 (230)	59 (333)	-18	[-24, -12]	<0.001
Psychomotor development	56 (315)	74 (415)	-18	[-23, -12]	<0.001
Regulatory difficulties	40 (228)	53 (301)	-13	[-19, -7]	<0.001
Medical issues	68 (381)	73 (409)	-5	[-10, 0]	0.027
Other	5 (27)	4 (22)	1	[-1, 3]	0.500
Specific ages ^a	84 (473)	55 (322)	29	[22, 33]	<0.001
Family Centre (N = 240)					
Foster family	8 (20)	43 (105)	-35	[-43, -28]	<0.001
Newcomers	39 (93)	65 (156)	-26	[-35, -17]	<0.001
Adoption	8 (18)	34 (81)	-26	[-33, -19]	<0.001
Social vulnerability	56 (134)	77 (184)	-21	[-29, -12]	<0.001
Psychomotor development	61 (147)	79 (190)	-18	[-26, -29]	<0.001
Parental support	60 (145)	75 (180)	-15	[-23, -6]	<0.001
Regulatory difficulties	55 (132)	68 (163)	-13	[-22, -4]	<0.001
Medical issues	69 (166)	80 (192)	-11	[-19, -3]	<0.001
Communication deviation	57 (136)	67 (161)	-10	[-19, -2]	0.002
Other	6 (13)	7 (16)	-1	[-6, 3]	0.678
Specific ages ^a	82 (191)	54 (128)	28	[18, 35]	<0.001
Other workplace ^b (N = 109, missing 1)					
Foster family	7 (8)	40 (44)	-33	[-44, -22]	<0.001
Adoption	2 (2)	23 (25)	-21	[-30, -12]	<0.001
Social vulnerability	41 (45)	61 (67)	-20	[-33, -7]	0.001
Communication deviation	45 (49)	63 (69)	-18	[-32, -5]	0.002
Newcomers	19 (20)	35 (38)	-16	[-27, -4]	0.002
Psychomotor development	51 (55)	61 (66)	-10	[-23, 3]	0.099
Medical issues	48 (52)	56 (61)	-8	[-22, 5]	0.136
Regulatory difficulties	40 (43)	45 (49)	-6	[-19, 8]	0.392
Parental support	47 (51)	53 (58)	-6	[-20, 7]	0.371
Other	13 (14)	7 (7)	6	[-1, 14]	0.167
Specific ages ^a	80 (53)	54 (38)	26	[13, 33]	<0.001

^aOnly nurses and physicians included.

^bOther workplace includes psychologist clinic, Main Child Healthcare Units (MCHU), healthcare centre and specialist CHS.

'As psychologists, we can, if necessary, be part of TBVs in CHS, but it does not happen that often'

Psychologist, 1–5 years of experience, working at a Psychologist Clinic.

3.2 | Perceived needs for team-based visits

3.2.1 | Quantitative results

For nurses, the most frequently reported indications with a perceived need for TBVs were medical issues. Correspondingly, physicians'

most frequently reported perceived needs for TBVs were in cases of psychomotor development, while psychologists' most frequently reported perceived needs for TBVs were in cases with social vulnerability. All professionals reported social vulnerability as an important indication for TBVs (Table 2).

All professions requested to have nurses for all types of TBVs. Physicians were perceived as needed in TBVs to a very high extent for medical issues, psychologists for regulatory difficulties and social workers on indications such as social vulnerability (Table 3). Most professionals (89%) reported speech therapists as needed in TBVs indicated by communication deviations. Physiotherapists was reported as needed for psychomotor development by 33%, and dieticians were reported as needed for regulatory difficulties by 26% of the professionals.

3.2.2 | Qualitative results

Team-based visits are motivated in several situations—for all involved respondents

All professionals described the need for more TBVs, especially in cases with complex needs, which required broader perspectives and support, as important.

'Team-based visits do not occur to the extent as we want...'

Physician, 6–10 years of experience, working at CHC and FC.

Consequently, nurses described the need for team-based home visits. Team-based visits were motivated, had benefits for all involved and were needed to enable the child's perspective.

'It always gets better with a good collaboration and knowledge from several professionals... More eyes in use'

Nurse, >30 years of experience, working at CHC.

Nurses and physicians considered that TBVs were needed to build confidence and empower the child and his or her family. Working in a team indicated that professionals from the CHS wanted the best for the child, and all professionals believed that working in a team simplified and improved communication between team members and the family.

'... easier for all professions and family to meet at once; the child and his or her family did not have to adapt to different activities and could more quickly get help with the problem. Better flow, better quality for the family and their child'

Nurse, 1–5 years of experience, working at a CHC.

However, in some situations, individual work and consultations were perceived as more effective. Nurses and physicians expressed that the needs of the child and his or her family should guide the number and type of team-based visits, rather than age. Psychologists requested more TBVs, with an increased focus on psychosocial problems.

Various preferences for the need for universal and targeted team-based visits

Universal TBVs, as well as targeted TBVs, were considered just as important by most respondents, but there were variations regarding when to perform them. Nurses and physicians described a need for universal TBVs in the beginning and at the end of the CHS-period, to summarise the CHS period with the child, family and health professionals involved. However, nurses and physicians perceived that having universal TBVs at the age of 3 years was redundant if no deviation or additional needs were discovered by the nurse in earlier

visits. Instead, targeted TBVs were preferred for children and families with greater needs.

'There is less of a need to have TBVs at key ages with all children... To collaborate and have teamwork around children and families with specific or additional needs is more important'

Nurse, 21–30 years of experience, working at a CHC.

On the other hand, other professionals thought that having an equal distribution of universal TBVs was a basis for promoting equity in children's health.

'Who can judge before the visit if it should be a TBV or not? ...It is at the meeting where knowledge can emerge about specific problems or deviations that results in action'.

Physician, >30 years of experience, working at a CHC and FC.

The indication for team-based visits should guide the team composition

Both physicians and psychologists described the need for a core team, comprising nurses and physicians. Universal TBVs with physicians and nurses were perceived as needed to enable an assessment of additional support and/or referrals. However, all professionals described that the purpose of the TBVs determined the team's composition.

'We need to be good at using all the competences needed based on the question'

Psychologist, 21–30 years of experience, working at a CHC and Psychologist Clinic.

All professionals described the importance of psychologists and social workers participating in TBVs.

3.3 | Differences between experiences of and perceived needs for team-based visits and influential factors for team-based visits

3.3.1 | Quantitative results

Identified differences between the respondents' actual participation in TBVs and their perceptions about on what indications TBVs were needed are presented in Table 2. Except for specific ages, nurses and physicians reported that they participated in TBVs to a significantly lower degree than they perceived there were needs. For nurses and physicians, the greatest differences between participation in TBVs and perceived needs for TBVs were seen for foster family and social vulnerability. For psychologists, the greatest differences between

TABLE 3 Need for professionals depending on indications for team-based visits (TBVs) in Child healthcare service sorted by professional affiliation

Indications for TBVs		Nurse		Physician		Psychologist		Social worker		Other ^a	
	n	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Psychomotor development											
All	638	608	(95)	565	(89)	421	(66)	24	(4)	287	(45)
Social vulnerability											
Profession											
Nurse	465	451	(97)	400	(86)	311	(67)	19	(4)	184	(40)
Physician	146	136	(93)	142	(97)	86	(59)	5	(3)	86	(59)
Psychologist	27	21	(78)	23	(85)	24	(89)	0	(0)	17	(63)
Medical assessment											
All	634	603	(95)	627	(99)	29	(5)	7	(1)	84	(13)
Profession											
Nurse	480	460	(96)	477	(99)	16	(3)	4	(1)	61	(13)
Physician	140	131	(94)	137	(98)	8	(6)	3	(2)	22	(16)
Psychologist	14	12	(86)	13	(93)	5	(36)	0	(0)	1	(7)
Communication deviation											
All	605	595	(98)	260	(43)	553	(91)	248	(41)	72	(12)
Profession											
Nurse	472	465	(98)	167	(35)	447	(95)	206	(44)	59	(13)
Physician	112	111	(99)	84	(75)	85	(76)	39	(35)	8	(7)
Psychologist	21	19	(90)	9	(43)	21	(100)	3	(14)	5	(24)
Parental support											
All	534	499	(93)	231	(43)	229	(43)	19	(4)	479	(90)
Profession											
Nurse	384	368	(96)	128	(33)	150	(39)	16	(4)	358	(93)
Physician	121	114	(94)	94	(78)	52	(43)	3	(3)	95	(79)
Psychologist	29	17	(59)	9	(31)	27	(93)	0	(0)	26	(90)

(Continues)

TABLE 3 (Continued)

Indications for TBVs		Nurse		Physician		Psychologist		Social worker		Other ^a	
n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Regulatory difficulties											
All	486	477	(98)	289	(59)	350	(72)	108	(22)	157	(32)
Profession											
Nurse	366	363	(99)	198	(54)	290	(79)	94	(26)	124	(34)
Physician	99	97	(98)	77	(78)	39	(39)	13	(13)	27	(27)
Psychologist	21	17	(81)	14	(67)	21	(100)	1	(5)	6	(29)
Newcomers											
All	464	455	(98)	425	(92)	147	(32)	150	(32)	78	(17)
Profession											
Nurse	352	345	(98)	324	(92)	113	(32)	124	(35)	60	(17)
Physician	100	98	(98)	93	(93)	26	(26)	18	(18)	13	(13)
Psychologist	12	12	(100)	8	(67)	8	(67)	8	(67)	5	(42)
Specific ages											
All	442	434	(98)	429	(97)	23	(5)	4	(1)	28	(6)
Profession											
Nurse	330	327	(99)	320	(97)	22	(7)	4	(1)	32	(11)
Physician	110	105	(95)	107	(97)	1	(1)	0	(0)	7	(12)
Psychologist	2	2	(100)	2	(100)	0	(0)	0	(0)	2	(14)
Foster Family											
All	368	342	(93)	181	(49)	245	(67)	278	(76)	41	(11)
Profession											
Nurse	294	278	(95)	131	(45)	193	(66)	233	(79)	32	(11)
Physician	60	54	(90)	46	(77)	41	(68)	35	(58)	7	(12)
Psychologist	14	10	(71)	4	(29)	11	(79)	10	(71)	1	(7)
Adoption											
All	232	223	(96)	188	(81)	140	(60)	80	(35)	35	(15)
Profession											
Nurse	173	168	(97)	141	(81)	106	(61)	62	(36)	28	(16)
Physician	50	47	(94)	44	(88)	26	(52)	15	(30)	6	(12)
Psychologist	9	8	(89)	3	(33)	8	(89)	3	(33)	1	(11)

TABLE 3 (Continued)

Indications for TBVs	Nurse		Physician		Psychologist		Social worker		Other ^a	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Other										
All	27	(93)	25	(74)	13	(48)	6	(22)	10	(37)
Profession										
Nurse	14	(100)	14	(71)	5	(36)	3	(21)	4	(29)
Physician	8	(100)	8	(100)	4	(50)	2	(25)	3	(37)
Psychologist	5	(60)	3	(100)	4	(80)	1	(20)	3	(60)

^aOther includes speech therapists, dietician, physiotherapist, midwife, etc.

participation in TBVs and perceived needs for TBVs were seen for newcomers and foster family (Table 2).

The size of the difference between the perceived need for TBVs and experiences of TBVs differed, depending on the respondents' workplace. Respondents working at CHCs experienced a larger difference between the perceived need for TBVs and experiences of participation in TBVs on indication of social vulnerability and parental support than respondents working at FC or elsewhere (Table 2).

3.3.2 | Qualitative results

Individual factors influencing team-based visits

Individual factors that could influence the performance of TBVs, according to the nurses and physicians, were complementary knowledge and experience, as well as attitude and interest in teamwork. Communication and willingness to learn from each other as well as knowing other professionals' competences and roles were described as important for TBVs. Psychologists described an openness for TBVs. However, some psychologists described that they had not been asked to participate in TBVs. One psychologist described that s/he was the one that took the initiative to participate in TBVs.

Organisational factors influencing team-based visits

All professional groups highlighted that organisational factors, such as access to other professionals within CHS, workplace, resources and time, as well as routines and continuity, could facilitate or hinder TBVs, especially TBVs for children and families with additional needs. Challenges that were faced by all professional groups included lack of organisational preparedness to include psychologists in TBVs. The psychologists expressed that TBVs were not included in their 'work description' or mission.

Nurses and physicians described existing standards and the national NCHP as factors that could influence TBVs. Furthermore, closeness to other professionals affected the teamwork in a positive way, while lack of continuity complicated teamwork. Physicians with experiences from both CHCs and FCs described that working at FCs was more beneficial for the purpose of organising TBVs.

4 | DISCUSSION

This mixed-methods study contributes with knowledge about nurses', physicians' and psychologists' experiences of and perceived needs for TBVs within Swedish CHS. The professionals perceived there were needs for universal and targeted TBVs delivered by interprofessional teams. The perceived needs for TBVs in Swedish CHS exceed its existence, especially in cases with complex needs. Psychologists and social workers were viewed as needed to a high extent in TBVs on indications such as social vulnerability, parental support and foster family placement. In addition, psychologists were perceived as needed largely for indications such as psychomotor development, regulatory difficulties, communication deviation,

adoption, as well as other unspecified indications. The qualitative data emphasise the importance of psychologists and social workers in TBVs and reflect the lack of these professionals' presence. Our findings show that healthcare professionals, to some extent, work in interprofessional teams within a framework of proportionate universalism in CHS. However, there are differences between the healthcare professionals' perceived need for the selective and indicated TBVs in the 3-tier NCHP and TBVs delivered. The results indicate that factors that hinder TBVs within the framework of universal proportionality mainly derive from organisational factors.

Nurses and physicians reported that they participated in TBVs at 'specific ages', to a significantly higher degree than they perceived there was a need. Despite that, most respondents perceived there was a need for universal TBVs to promote equity in children's health and to identify indications for additional support when needed. According to Boerma et al. (2018) and Oberkleid et al. (2013), the provision of CHS, including health promotion and ill health prevention, could help balance the differences in healthcare.^{1,3} Hence, universal TBVs with nurses, physicians, the child and his or her family constitute a basis for continuity and could have an important role for the targeted aspect of the NCHP as well. However, to fulfil the intentions of the 3-tier NCHP, selective and indicated TBVs must be offered when needed.

Respondents described a perceived need for more targeted TBVs in our study. In the 3-professional groups, there were significant differences between participation in TBVs and perceived needs for TBVs on indications related to psychosocial problems, such as social vulnerability, foster family placement, newcomers and adoption. The child's and the family's needs were described as more important than the child's age to determine if TBVs were needed. Although the 3-tier NCHP contains universal and targeted interventions based on the children's needs,^{6,7} children and families in need of extended support do not receive targeted TBVs to the extent that the professionals in the current study perceived as needed. According to Carey et al. (2015), universal and targeted TBVs could be combined to maximise the strengths of each, while forming a cohesive whole based on the children's needs and the principles of equality and equity.²⁵ However, individuals who are the hardest to reach could be the ones with the greatest needs, and selective and indicated interventions could be more difficult to distribute.^{25,26} However, in a Swedish example, where selective TBVs were performed through a home visitation programme in a disadvantaged area, the professionals found the programme to be in line with their professional intentions.⁹ Selected and indicated TBVs are perceived as important among health professionals, even though the second and the third tier of the 3-tier NCHP are not yet fully implemented.

Both the quantitative and the qualitative results highlight the need to have different professionals present in TBVs. To accomplish continuity, nurses were perceived as needed in almost all types of TBVs. Physicians and nurses were described as the core team. Drinka (2016) describes continuity and communication as important factors for team processes.¹³ Our result strengthens the importance

of nurses' cohesive function for the team process, as well as the necessity for a core team.

However, there were specified perceived needs for psychologists and social workers, and other professionals as well. The findings support the assumption that interprofessional teams are essential for meeting complex needs.^{13,14} Optimal teams are designed to meet individual needs of the patients.¹² Drinka (2015) describes the social context as an important factor for the team composition.¹⁴ Changes in the environment in which children are raised entail new threats to children's health and development. Increasingly, Swedish CHS focus on physical, mental and social well-being and address health problems associated with psychosocial factors.⁴ Internationally, interprofessional teamwork between healthcare professionals and social workers is described as a necessity^{1,15}; moreover, it has been found that access to social workers makes proportionate universalism real.²⁷ The shift to a psychosocial focus within Swedish CHS may explain the professionals' request for support from professionals within psychosocial areas. Hence, even though the core team in CHS historically consists of nurses and physicians, the complex needs that CHS professionals face require the involvement of psychologists and social workers, and other professionals.

The study is based on the healthcare professional's perspective, which is important in implementing processes.^{7,13,14} Successful implementation of TBVs, in the context of the Swedish 3-tier NCHP, requires that TBVs are matched with the perceived healthcare needs. Nelson et al. (2007) describe that organisations must understand the differences between what they provide, and the specific healthcare needed.¹⁶ The results show that individual and organisational factors both facilitated and hindered the use of TBVs and the fulfilment of the CHS mission.

The qualitative findings show that the healthcare professionals' attitudes can influence the realisation of TBVs. Healthcare professionals often work in complex environments, which are characterised by competing interests, inefficiencies and frustrations due to poorly operating processes.¹² However, our results pointed out that most of the professionals perceived a need for TBVs. To understand individuals' impact on TBVs and processes within the team, more in-depth studies are needed.

Our results showed that psychologists' and social workers' actual participation depended on organisational factors. Healthcare professionals described that organisational factors, such as access to other professionals within CHS could facilitate TBVs. Respondents who worked at CHCs described a larger difference between perceived needs for TBVs and experiences of TBVs on indication of social vulnerability and parental support than respondents who worked at FCs or elsewhere. In accordance with Dominguez-Cancino et al. (2020) professionals in our study considered that CHS must be organised in a way that facilitates interprofessional teams based on individual's needs.¹⁶ FCs could be a gateway to a variety of services in everyday practice.²⁷ Regardless of how a CHS is organised, access to psychologists and social workers, as well as other professionals must be considered.

In this study, the professionals described the existence of standards and a national NCHP as important for the performance of TBVs. Successful team interventions require a clear organisational philosophy with structures, co-organisation and utilisation of health resources with a focus on health determinants.^{14,16} National health policies need to be clearly translated into programmes to provide person-centred care by organising care processes that encourage interprofessional collaboration.¹⁶ The NCHP could be responsible for that function. However, the differences in the current study could be explained by the lack of clear instructions on how to distribute universal, selective and indicated TBVs.

4.1 | Methodological considerations

Since there was no pre-existing questionnaire, a study-specific questionnaire based on the theory and field research was developed by the research group, having adequate experiences. Face validity was assessed through consultation with several experts in CHS.^{10,11} For content validity, the questionnaire content was pilot tested and adjusted before its final release.²⁸

The study's credibility was strengthened by the representative distribution of respondents, as shown in Table 1. The study population is considered representative of the CHS staff in Sweden. Nonetheless, the fact that the majority of the respondents did not provide free-text comments could affect the credibility. Those respondents who provided comments, however, are representative of the professional groups and the workplaces (Table 1). Also, psychologists commented to a slightly higher extent, which could be explained by their different organisational form and role in TBVs. For example, psychologists do not take part in universal TBVs and could be organised under child psychiatry or habilitation.

In the free-text comments, the respondents described factors that can influence TBVs, which could explain the identified differences between participation in TBVs and perceived needs for TBVs. By using a convergent parallel mixed-methods study design, the qualitative results provided an in-depth understanding that strengthened the quantitative results. The comments also confirm that the respondents had understood the questions. Qualitative data help to validate the quantitative results.

Qualitative content analysis requires knowledge in the research area. The research group has complementary extensive experiences from CHS, research on teams, public health, caring sciences and paediatrics.^{23,24}

Finally, the findings from this study can be transferred to other settings. Transferability in this research project was obtained through the description of TBVs and the CHS-setting.

5 | CONCLUSIONS

This mixed-methods study points out that, from the perspectives of nurses, physicians and psychologists engaged in Swedish CHS, the

need for TBVs exceeds its actual existence. Our findings show that the healthcare professionals in CHS, to some extent, work in interprofessional teams within a framework of proportionate universalism. However, the results show gaps between TBVs, as described in the 3-tier NCHP and TBVs delivered, which might explain the continued inequalities in health among children and coverage of CHS.

According to the quantitative results, the largest differences between experiences of TBVs and perceived needs for TBVs were seen for targeted TBVs on indications such as social vulnerability, foster family placement and newcomers. There is also a need for other professionals to participate in TBVs, especially when there are complex needs. Results indicate an additional need for social workers and psychologists in targeted TBVs to realise proportionate universalism. The results also indicate that factors that hinder TBVs within the framework of universal proportionalism mainly derive from organisational factors and structures. To facilitate TBVs within a framework of proportionate universalism, organisational structures (e.g. colocation and clear instructions on how to distribute TBVs) and human resources (e.g. psychologists and social workers) are needed. To fully understand the processes in TBVs, as well as the factors that facilitate and hinder TBVs in line with proportionate universalism, there is a need for more in-depth studies.

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CONFLICT OF INTERESTS

The authors have no conflict of interests to declare.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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