Nurses use and ways of understanding web-based national guidelines for child healthcare

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Abstract

The national *Rikshandboken* (RHB) for child healthcare is a web-based guideline for child healthcare in Sweden containing knowledge and methodological guidance, and a national child healthcare program in the process of being implemented. The aim of this study was to examine child healthcare nurses use and ways of understanding the national web-based *Rikshandboken*. A mixed-method study with sequential explanatory design in two phases was used; a web-survey with descriptive statistics was followed with telephone interviews with phenomenographic analysis. The study showed variations in use and contributed deeper knowledge of child healthcare nurses' ways of understanding the unit RHB whose varied parts interact with each other. To be reliable, useful and relevant for nurses in their specific contexts, *Rikshandboken* must be kept updated and involve the end-users in the development process. With access to technical devices and optimal use of the possibilities with information and communication technology, *Rikshandboken* can be a resource of continuing learning, a tool in everyday work and a possible determinant to an equal child healthcare. The study contributes with valuable knowledge when designing web-based national guidelines for healthcare, making them useful and relevant for the end-users.

Keywords: child healthcare nurses, national guidelines, information and communication technology, mixed method, phenomenography

Background

Information and communication technology (ICT) has the potential to improve accessibility to guidelines (1), even if the effectiveness isn't entirely clear (2). The web is a form of ICT often used for guidelines in healthcare. Web-based national guidelines for personnel in child healthcare (CHC) in Sweden is *Rikshandboken* (RHB) (www.rikshandboken-bhv.se). This unit integrates knowledge support,

methodological guidelines and a national CHC program. The CHC program is in the process of being implemented in county councils and regions. The implementation of web-based guidelines could be a challenge and is affected by various factors related to the ICT solution itself, the context in which it should be used and the user's individual characteristics (2–5). Thus, for a successful implementation, a bottom-up approach with end-user's involvement is crucial to make web-based guidelines relevant for those it is intended to serve (3–5). Accordingly, follow-up studies of CHC personnel's use and ways of understanding RHB are essential in the development and implementation process of web-based guidelines in healthcare.

Implementation of web- based guidelines

Swedish CHC nurses need to stay abreast of new knowledge, be able to work in accordance with current CPG and have access to timely information (6, 7). The goal of CPG is to reduce variability and to decrease the gap between research and current practice by translating research and expert opinions and recommendations in everyday work for professionals (8, 9). Traditional printed guidelines are resource intensive and become quickly outdated while web-based guidelines have the potential to improve accessibility and credibility by keeping them continuously reviewed, updated and widely disseminated (1, 2, 10). Implementation of ICT and guidelines in healthcare are influenced by various factors (3–5). From an organisational perspective, key components for successful adoption in healthcare include management engagement and support, structural and electronic resources and a supportive culture and environment with implementation facilitators (3–5). From an end-user´s perspective, content, format, usability and easy access are crucial factors in the acceptance and use of ICT (4, 5). The web-based guidelines must match professional consensus and needs and be seen as relevant by all (3–5). Attitudes and perceptions could be both a barrier and facilitator for the use of ICT and guidelines (3–5). Review studies show that the end-user´s involvement in development and a strong bottom-up approach reduce the discrepancies between the functionality of the system and the ease of use (3, 4). However, web-based guidelines are often not implemented effectively (2, 3); an essential prerequisite for designing web-based guidelines for healthcare is to examine and follow the needs and abilities of potential users as well as the context of use (2, 4).

Child healthcare

In Sweden, CHC is an important health promotion setting as it provides universal and targeted interventions. The coverage is close to 100% for children 0-5 years age. CHC aims to contribute to the children´s physical, mental and social health by promoting children´s health and development, preventing illness, identifying problems early and initiating actions to counteract such problems (11). CHC includes health examinations, health guidance, vaccinations and parental support at CHC centres and via house calls. The work at the CHC centres is led by CHC nurses, who are specialists in either primary healthcare or paediatric care. Each county council/region runs a main CHC unit (MCHCU) with at least a chief medical officer and a CHC coordinator (11). Their responsibility is to facilitate the

implementation of the web-based RHB, including the national CHC program, improve the local CHC through education and support, monitor children´s health, conduct evaluations and develop methods for CHC (12, 11). CHC should be built equally on current guidelines, best available evidence, proven experience, patient preferences; evidence-based practice (11). Lack of equality and equity in Swedish CHC (13, 14) led to a new national CHC program, published on RHB in 2015 (12).

The web-based RHB

RHB was established in 2005 as a pass-word protected, knowledge and methodological support for personnel in CHC, encompassing the Swedish earlier national CHC-program. A study of CHC nurses' usage of RHB, conducted in 2013 (15), showed that RHB was widely used but regional differences and nurse's experiences in their profession affected its use. Since 2015, the new national CHC program has been a part of the updated RHB also containing knowledge and methodological guidance adapted to the CHC program aiming to contribute to an equal and equitable CHC and evidence-based practice. RHB also contains links to regional documents and websites in different county council/regions. Since 2012, RHB has been mobile compatible and open accessed produced by Inera AB, owned by the Swedish Association of Local Authorities and Regions in charge to coordinate and develop digital services for citizens, professionals and decision makers. The editors at RHB are supported by an editorial board consisting of representatives from the MCHCUs. The new CHC program is in the process of implementation in all county councils and regions, but the adoption is affected by local circumstances (12). According to Rogers (5), CHC nurses could be in different stages of the adoption process of a web-based RHB. Their varied experiences, perceptions and needs are valuable to study in order to deepen the knowledge about how web-based guidelines best can be a useful support. Therefore, the aim of this study was to examine CHC nurses use and ways of understanding RHB.

Methods

Study design

A mixed-methods study with a sequential explanatory design in two phases was conducted following four procedural steps (16). A web survey (17) was conducted in the first quantitative phase to get an overall picture of CHC nurse's use and experiences of RHB, and it was analyzed with descriptive statistics. In Phase Two, based on the results in Phase One, a qualitative interview guide was constructed for telephone interviews, which was analysed using a phenomenographic approach (18). The qualitative results were used to explain the quantitative results in more depth for the purpose of complementarity (16).

Phase One: The web survey

As a first step, an information letter with an invitation to participate and a link to a web survey was sent to 95 CHC nurses (Figure 1) representing 20 of 21 county councils/regions in Sweden. They participated in an earlier study of RHB (13) and left their consent to be invited for a new study. Seventy of the CHC nurses were still working in CHC and 46 of them, from 15 county councils/regions, responded the web survey after three reminders. A

web questionnaire (17), created in the online survey tool Textalk Web Survey (Textalk AB, Mölndal, Sweden) was used. The questionnaire contained 16 questions with structured response options, including single, multiple choice and scale questions (17). It consisted of five parts: socio-demographic and clinical characteristics of CHC nurses, their use of and accessibility to RHB, their experience of support and usability as well as development areas to improve RHB. Several questions in the questionnaire were taken or based on a website usability measurement instrument (19), which strengthened the construct validity. The pilot test identified weaknesses and provided critical reflections, which required minor changes in the questionnaire to strengthen the validity. Each questionnaire was coded with an identification number. The web survey was conducted during four months in 2017. It was analyzed in Textalk Web Survey and Microsoft Excel using descriptive statistics with proportion analysis and crosstabs (20).

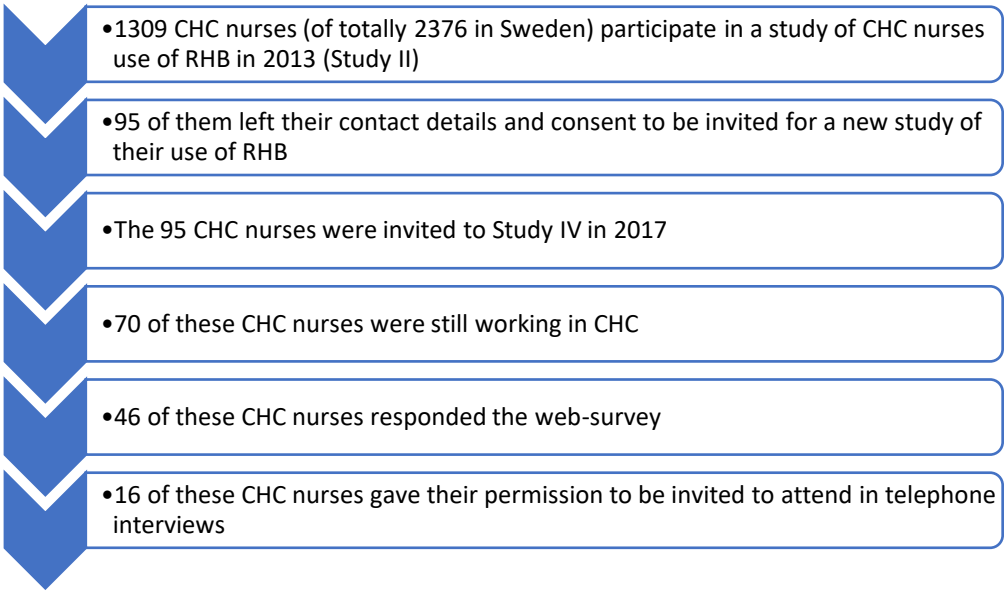

Figure 1. The sampling procedure.

Phase Two: The telephone interviews

Semi-structured interviews with open-ended questions, a common data collection method in sequential explanatory design and in phenomenographic research (16, 18) was chosen to gain insight into CHC nurses varied ways of understanding RHB. In the web survey, the respondents gave their contact details and permission to be invited to a follow-up telephone interview; 16 CHC nurses accepted and gave consent to participate. They represented different county councils/regions and had different background variables and could thereby contribute to a rich and varied picture of experiences and understandings of RHB. Unfortunately, one of the interviews couldn't be used due to a technical error during recording. In the second step, the web survey results were used to create a semi-structured interview guide (21) including open-ended questions about the CHC nurses´ perceptions of the use of RHB in their everyday work, RHB as a web-based guide, requests

for support, opportunities to influence RHB and wishes of improvements. A pilot test of the interview guide and the technological equipment led to minor changes. In the third step, the telephone interviews were carried out in between 16 to 40 minutes with a median duration of 26 minutes. They were conducted two months after the web survey, were audio-taped and then transcribed verbatim.

Phenomenographic analysis (18) was chosen in Phase Two as the focus was to describe variations in how CHC nurses perceive and understand RHB. Phenomenography is based on the assumption that a phenomenon can be understood by a group of people in a limited number of ways and each way of understanding expresses the relation between the subject and the phenomenon (18). The analysis was carried out according to the procedure of Larsson and Holmström (22). Each interview transcript was read and re-read to gain an overall impression of the data. Preliminary descriptions of each respondent's way of perceiving and understanding RHB was marked and summarized. Thereafter, the preliminary descriptions from all respondents were compiled, re-read and compared for similarities and differences. Similar statements were grouped into preliminary descriptive categories after a comparison to establish the boarders between them. To strengthen credibility and transparency, an overview of the phenomenographic analysis with regard to categories, statements and participating CHC nurses are presented as well as direct quotes from the interviews (Table 1). Finally, five descriptive categories emerged that constituted an outcome space (22). Figure 2 depicts the categories and the internal relationships between them. All authors had access to the data and were involved in the analysis process to reduce the risk of subjectivity. Findings in every step of the analysis were discussed and reflected upon by two of the authors to find consensus.

Table 1. Overview of phenomenographic analysis with regard to categories, statements, and participating CHC nurses (n=15)

Categories of descriptions and perceptions	No. of statements	Participants id-numbers
A tool that must be useful and relevant		
• Content that meets user needs	11	1, 3, 6, 10, 13–15
• Obtain the users views	10	1-2, 5, 7-8, 10, 13-15
• Develop and use of the possibilities with ICT	38	2-3, 5-15
A resource that must be reliable		
• Feel confident	9	1, 4, 6, 9, 11,13, 15
• Keep updated with current recommendations	16	1, 3, 8–11, 14–15
A resource for learning		
• Own learning	34	2, 4-5, 7-8, 10-15
• Supporting others learning	32	1–2, 4, 6, 9, 11, 13
• Learning together	8	3, 6–14
A tool in everyday work		
• Practice of use	28	2, 4-5, 7-8, 10-15
• Changes of use	9	1–2, 4, 6, 9, 11, 13
• Time aspects	15	3, 6–14
Contributing determinant to an equal CHC		
• National equivalence	15	1, 3, 7-11,13-15
• Regional differences	9	3, 5, 8-9, 14-15

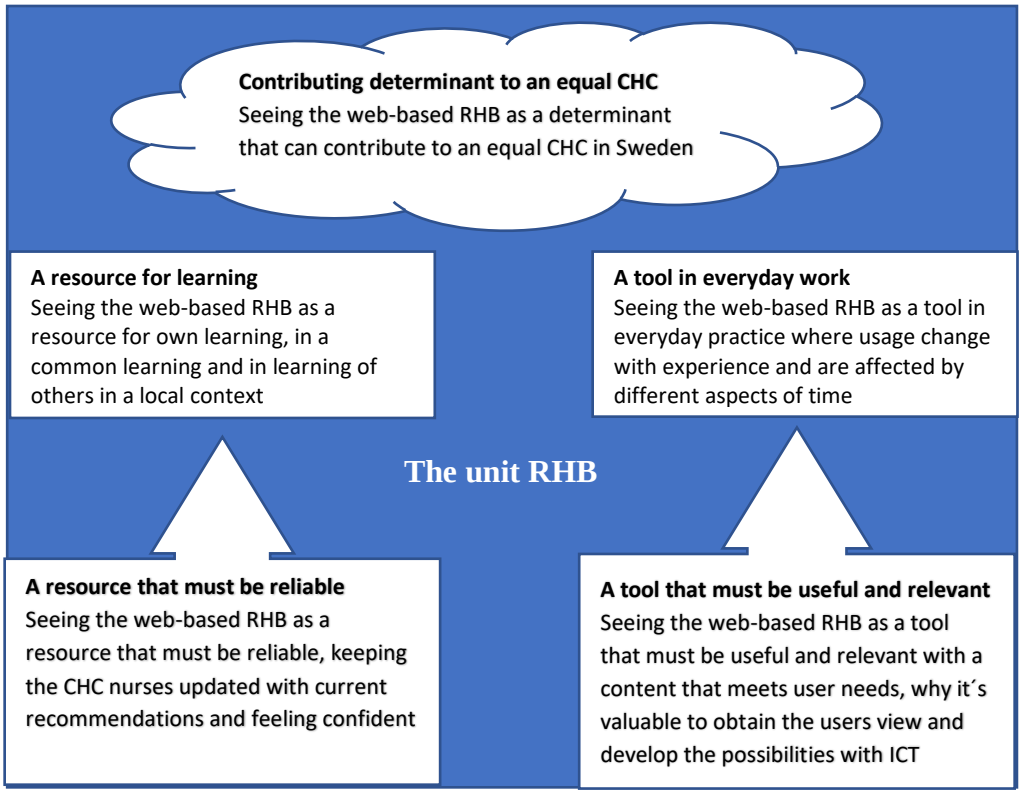

Figure 2. The outcome space; Ways of understanding RHB among CHC nurses.

Ethical considerations

An ethical self-evaluation was made, and an advisory statement was obtained from the Ethical Review Committee of the Southeast for the two different phases in the study (Dnr. EPK 442–2017, Dnr. EPK 451–2017). Basic ethical requirements for individual protection; confidentiality, information requirements, consent requirements and use requirements were considered (23). Before both phases in the study, the participants received a letter with information about the study, confirming confidentiality and voluntary participation, which could be terminated at any time. Informed consent was obtained for each phase of the study separately. Before the interview began, the information was repeated, and the participant was asked for consent.

Results

Phase One: The web survey

The questionnaire was answered by 46 CHC nurses, from 16 of 21 county councils/regions, a response rate of 66%. Only one of the respondents was male thus, no gender comparison could be made. A majority, 72%, of the respondents were 31 to 60 years of age, and their experiences as a CHC nurse ranged from less than five years to more than 20 years. Fifty-seven percent of the respondents stated that the national CHC program was totally

implemented in their county council/region; 39% reported that it was partially implemented, and 4% did not know. RHB was used via computer by all the CHC nurses in varying frequencies—from several times per week to several times per day (65%), several times a month to once a week (26%), once a month or less (9%). RHB was used via smartphone once a month or less by 26% of the CHC nurses. Seventy-four percent had no access to smartphones via their employer, and 22% used their own private smartphone at work. There was no significant difference in usage frequency or use of technical devices between age groups or years of experience.

The results showed that most of the respondents were satisfied with RHB´s usability, content and design (Table 2). Almost all, 46 respondents (93%), felt that they could trust the content. Fewer CHC nurses, 31 (67%), considered that RHB contained needed information, and 11 (24%) considered the structure difficult to overlook. The questions about development and improvements (Table 3) showed that the CHC nurses considered that RHB need to develop information about new research relevant to CHC and different support for learning (Table 3). Searchability and interactivity were also factors considered in need of development to improve RHB. Nearly half of the CHC nurses considered that they need access to RHB via smartphones at work as well as time allocated at work to use RHB.

Table 2. CHC-nurses' satisfaction with usability, content and design of RHB

Satisfaction with usability, content and design	Agree completely or largely (n= 46), % (n)
RHB almost always contain the information that is needed	67 (31)
Technical assistance is needed to use RHB	11 (5)
RHB is likeable	83 (38)
There are things that are not consistent in RHB	13 (6)
RHB is designed so the content is easy to access	65 (30)
It is difficult to find requested information	26 (12)
Trust that the information on RHB is correct	93 (43)
The structure is difficult to overlook	24 (11)
The information is pedagogical and easy to interpret	78 (36)
RHB should be more interactive (such as movies, animations, pop-ups, audio, music)	44 (20)
Overall, satisfied with RHB	70 (32)

Table 3. Factors considered by CHC-nurses need to be developed to improve RHB

Factors at RHB	Considered have needs or large needs of development (n=46) % (n)
Website search function	63 (29)
Website interactivity (such as movies, animations, pop-ups, audio, music)	50 (23)
Information about new research relevant to CHC	59 (27)
E-learning	57 (26)
Pedagogical materials	70 (32)

Phase Two: The telephone interviews

In the phenomenographic analysis, five different ways of understanding RHB were identified among the CHC nurses: as a tool that must be useful and relevant, as a resource that must be reliable, as a learning resource, as a tool in everyday work, and as a contributing determinant to an equal CHC (Figure 2). The CHC nurses' variations of understanding RHB are presented in the outcome space in how they are related to each other: prerequisites needed for using RHB, how it is used in learning and in everyday work in a local context, and as a contributing determinant in a national context. All descriptive categories interact with each other and together they give variations of understanding RHB as a unit.

A tool that must be useful and relevant

Content that meets user needs, to obtain the users views and to develop and use the possibilities with ICT were seen as important for a useful and relevant tool. Nurses with this way of understanding felt that the content must cover the complexity in CHC from situations in everyday work as well as in more rare situations. They felt that RHB should to be regularly evaluated and developed in dialogues with the CHC nurses, so it would be relevant and useful for them. This is proposed to be done through surveys, reference groups, mail, web-meetings and via the county councils MCHCUs. The understanding forming this category was that RHB as a web-based solution creates opportunities that could not be possible if the guidelines were printed. Some criticism emerged asserting that the website structure was similar to a traditional book, with long sections of text, which could make it difficult to find information. Better use of the possibilities with ICT in the design was suggested to improve RHB. Even if the technique could pose challenges, nurses with these ways of understanding perceived that ICT is necessary to accept and learn. A prerequisite for using RHB was that the structure and search function make it easy to find timely information. Direct links from the medical journals to relevant information was suggested to make RHB more accessible and useful. Lack of access to technical devices, such as smartphones and tablets at work, affected usage and RHB was mainly used via computer at CHC centre and to a lesser extent during house calls. *Dialogue is important…Our work is changing…There should be time allocated for those who work with*

RHB to meet us and discuss thoughts and ideas…We are working at the CHC centre and meet current issues (1).

A resource that must be reliable

To feel confident and to be kept up to date with current recommendations were important prerequisites for using RHB described in this category. Instead, as before, asking colleagues or random search on Google, RHB was seen as a resource that could offer information based on evidence and proven experience. It was expressed that the content must comply with the authorities and follow changes in the national CHC program. If something in the content was found wrong or wasn't updated, confidence was lost and information was searched for from other websites instead. To be assured that the information is updated with new references and dates was perceived as important for credibility. *Articles, new knowledge…That the content is updated. It is necessary. That you can feel that you can trust it. That you dare trust it (9).*

A resource for learning

Different kinds of learning were the focus in this category of understandings: the nurse's own learning, learning together and supporting others learning. This category proved to be the strongest with the most number of statements. RHB was understood as a resource, together with the MCHCUs, for new knowledge, to get old knowledge confirmed and to get methodological support. Access to methodological guidance related to a specific health visit in the national CHC program, in-depth knowledge on specific topics and information about new research was expected by respondents with this way of understanding. RHB was used, read and discussed together with colleagues in common learning, in the learning of students and new colleagues and to show managers the complexity of CHC. It was also used as a second opinion to reflect on together with families. Making RHB more interactive with photos, audio recordings, videos, webinars and discussion forums for learning were suggested to improve this category of understanding. *In many CHC centres, you are not allowed to participate in so much education. And I think if there were webinars and e-learning on RHB…introduction courses and information about conferences...I mean, everything is recorded and available at YouTube today. You should access this via RHB. It would be the future for RHB* (15).

A tool in everyday work

The focus in this category was the ways of understanding RHB as a tool in everyday work: the practice of use, different aspects of time and changes of use. RHB was used in practice before a meeting with a family at the CHC centre or a house call, during and after the health visits, in telephone consulting and in parent groups. Different aspects of time were shown to affect the use of RHB in everyday work regarding lack of time to use it as well as the managements and nurse's responsibility to allocate time. RHB was seen as a 'time saver' as it is web-based and not printed, and the importance of finding requested information quickly when it is needed was highlighted. Nurses with this way of understanding described how the use of RHB was changing with increasing time in the profession. For novices, RHB

was used frequently in everyday work while with more experienced nurses, it was used more seldom on unusual issues and to read about updates and new research. Respondents with this way of understanding considered that content must meet both novice´s and experienced CHC nurse´s needs. *I used it more when I was novice then I do today. When I was new, I used it before almost every health visit…Now I don't use it at the same way, but I still use It frequently. Now I know what I shall do, I have it in my head. Now I use it when I want to check special issues, to read about changes or to show anyone else* (2).

A contributing determinant to an equal CHC

Focus in this category was the ways of understanding RHB as a contributing determinant to a national equivalence and to reduce regional differences in CHC. The fact that the national CHC program, knowledge and methodological guidance are embedded in RHB was seen as important to reach an equal CHC in Sweden. Information aimed at CHC personnel on many different websites, as authorities and county councils/regions own websites, was considered confusing especially if they were contradictory to the content on RHB. The links from RHB to county councils/regions websites was perceived by CHC nurses in this category as contributing with valuable local information and material but also to unequal CHC. It was suggested that the regional documents be as few as possible and that their content should be considered national if they were relevant in all county councils/regions. *Sometimes we have different routines in our county councils, and it is important that there not are too many. They can´t take over so all have own routines even though we have RHB. Then there may be times when it is needed, but the aim must be coherence for the country* (8).

Integration of Phase One and Phase Two

In the fourth step in the explanatory design procedure (16), the results from the web survey and the telephone interviews were summarized regarding the ways the qualitative findings with variations of understanding help explain and complete the quantitative result. In the web survey, 67% of the CHC nurses agreed completely or largely with the assertion that RHB always contains the information they need. The interviews solidified that RHB must be useful and relevant for the CHC nurses in their work, with the content they need; thus, they must be involved in development and improvement of RHB. Even if two-thirds of the respondents in the web survey agreed completely or largely with the assertion that RHB is designed so the content is easy to access, CHC nurses varied in their ways of understanding RHB and revealed a dissatisfaction with structure and design, suggesting better use of the possibilities with ICT to improve RHB.

Almost all the CHC nurses in the web survey said they trusted the information on RHB. The collective way of understanding RHB as a resource that must be reliable confirmed these statements and the importance of being able to rely on RHB being updated with current recommendations and based on evidence and proven experiences. More than half of the respondents in the web survey considered that information about new research needed to be developed on RHB and requested a more interactive RHB for learning. The telephone

interviews revealed an understanding of learning as a significant part of CHC nurses work and their expectations of RHB as a resource for continuing learning.

The web survey showed that RHB was used to a different extent by CHC nurses according to their county councils/regions, but there were no differences between the age groups or range of experience groups. CHC nurses also desired that time be allocated for using RHB at work. In the interviews, the collective way of understanding RHB as a tool in everyday work revealed that the way CHC nurses use RHB changed with increased experience. CHC nurses with this way of understanding perceive that a shared responsibility with the manager and themselves is needed to allocate time to use RHB. RHB as a 'time-saver' was also revealed in the interviews because it is web-based and not printed. The web-survey showed that there are still regional differences in Swedish CHC, but the collective way of understanding RHB as a determinant to an equal CHC revealed an intention to reduce these.

Discussion

The aim of this mixed-method study was to examine CHC nurses use and ways of understanding RHB. The results of Phase One showed an overall picture of the CHC nurses use of RHB while Phase Two revealed variations of ways of understanding RHB in more depth. The outcome space showed a complex view of use and ways of understanding RHB and how the different categories interact with each other. Learning and development appears in relation to all categories. It is a need to be aware of this interaction, thus it implies that it is not possible to only make differences and development in one of the categories without affecting the others. Changing the content and structure of and access to RHB is not enough. The prerequisites in the local context for CHC nurses to use it must exist, and only then can RHB be a contributing determinant to an equal CHC. The importance of strong anchorage, facilitating factors and intermediate actors in the local context when implementing web-based guidelines is clear (3,4,5,12). It was emphasized that the content in RHB must cover the complexity in CHC and therefore CHC nurses requested dialogue and participation in the development of RHB, a prerequisite for making the web-based guidelines useful and relevant for them. The result is consistent with previous studies (3, 5), showing that nurses must have an active role in development and implementation process of web- based guidelines for successful adoption. Therefore, in further development of RHB, it is essential to pay attention to how the CHC nurses can best be involved in the process of improving the web-based guidelines.

The CHC nurses almost always used RHB via a desktop at the CHC centre. RHB was more seldom used via other technical devices, such as smartphones and tablets, and RHB was used to a lesser extent during house calls. The result differs from studies showing that the most common way to access the Internet in Sweden, 2017, was via smartphone (24) and the use of smartphones in healthcare has generally increased (25). Access to RHB via smartphone can enable CHC nurses to use their guidelines even if a desktop is not available, for example, in parent groups and during house calls. A possible consequence of having no smartphone at work is that CHC nurses cannot reach needed methodological and

knowledge support and fully do their work as ICT tools are necessary in providing accessible and safe healthcare (10, 26). Technical devices used and managed in optimal ways improve nurses working conditions and save time (10). The use of RHB was stated to save time for CHC nurses, but lack of time allocated as a supportive factor for using RHB also emerged. Access to electronic resources, a supportive environment, management engagement and support are key components for successful implementation of web-based guidelines (3, 5). Even if national decisions and policies, such as the Swedish National Strategy for eHealth (26), state the need for healthcare personnel to have access to well-functioning electronic decision support, changes must be made in the local context to make differences for the CHC- nurses in their everyday work.

The CHC nurses' collective understanding of RHB as a resource for learning complies with earlier studies of CHC nurses use of RHB (12,15) where access to research, pedagogical materials, instructional videos, discussion forums and e-learning were suggested as improvements of RHB. According to the Swedish Society of Nursing (6), CHC nurses should be able to educate individual and groups of parents, students and colleagues. Therefore, it is necessary to create local conditions for nurses to conduct such education. ICT can be utilized for teaching and learning in different ways, create opportunities for flexible, efficient learning in healthcare and offer a time-and cost-effective alternative method of education (27, 28). ICT has been shown to support nurses continued learning and professional development (10). The CHC nurses' needs and requests for learning and the role of RHB to improve the use of existing knowledge and to facilitate more effective acquisition of new knowledge need to be reflected in further development of RHB.

An overall category of understanding was RHB as a contributing determinant to an equal CHC and national equivalence. The interviews revealed varied ways of understanding the value of the county councils/regions websites and regional differences. They can contribute to local information but may also lead to unequal CHC. Tell et.al 2018 (12) found the ambivalence of CHC coordinators regarding parts in the new CHC program and to shutting down their local guidelines in favour of RHB. As the MCHCUs have shown to be the most commonly used source of knowledge and methodological guidance for CHC nurse´s work (15) and are important facilitators in the implementation of RHB (12), these are dilemmas need to struggle with in county councils/regions. According to Wallby (14), varied interventions are needed to get an equitable CHC, but they must not be at the expense of universal efforts. He also stresses the importance of clear national guidelines to ensure universal, selective and indicated interventions in CHC. (14). As the web-based guidelines aims to reduce variability in practice (8-9), this knowledge is valuable to consider in the development of RHB, how to match professional consensus and needs and how RHB best can contribute to both an equal and equitable CHC (11, 14).

This study was conducted as a mixed-method study. According to Creswell (16), a combination of two methods can provide a better understanding than a singular method can, strengthening each study and minimizing the weaknesses. A limitation of the study is

that the questionnaire was answered by 46 CHC nurses, too small a sample for drawing conclusions from statistical analyses or generalizing the result. The nurses were all those who had given their consent to be invited, which could be seen as a weakness since it was not a randomized sample. Fifteen telephone interviews were conducted in this study. According to Larsson and Knutsson-Holmström (22), 20 participants are sufficient to identify different perceptions of phenomena. Thus, a strength is that the CHC nurses represented all health care regions, have used RHB since at least 2013, worked during the implementation of the new national CHC program, which give a broad view of experiences. The interviews were rich and gave a varied picture of experiences with RHB. The use of purposeful sampling is common in explanatory studies to show the range of different perspectives in a group of people (16). It is not claimed that the findings can be applied to CHC nurses in general but the variation in ways to understand RHB in a group of CHC nurses. As CHC nurses in Sweden have heterogeneous education and the same working context, it might increase the transferability of findings to similar contexts. The primary author has 12 years' experience as a CHC coordinator including involvement in the editorial board at RHB, which could be both a strength and a challenge in the research process. To ensure trustworthiness, every step in the study was discussed and reviewed by the three other authors.

Conclusions

The study, with both a web-survey and telephone interviews contribute a deeper knowledge of CHC nurses´ use and ways of understanding RHB whose varied parts interact with each other. To be reliable, useful and relevant for nurses in their specific contexts, RHB must be continuously updated and involve the end-users in the development process. Access to technical devices and optimal use of the possibilities with ICT, the national web-based RHB can be a resource for continuing learning, a tool in everyday work and an essential contributing determinant to an equal CHC. The study contributes valuable knowledge regarding designing web-based guidelines for healthcare, making it useful and relevant for those it is intended to serve. Further studies regarding how the varied categories of RHB could be developed to improve and strengthen RHB and contribute to an equal and equitable CHC and evidence-based practice are suggested.

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