

what reasons actors have for their behaviours [17]. Qualitative methods are also appropriate to investigate how the context affects the outcomes [18, 19]. It is critical to understand how systems are used, instead of only how systems are designed and intended to be used since ‘plans and situated action’ may differ [20].

Our approach was as follows. After the nurses on the ward and unions had been informed about the study, we showed up at the OD in periods we had been informed as usually not too hectic to get interviews. There, we asked at the nurses’ station whether the nurses on duty were willing to be interviewed. We completed six individual interviews. Three of these were with participants who had used the phones through the entire trial period, while three were with nurses who had quickly put the phones away. The interviews were semi-structured. The interviewer was the first author of this article. The interviews were recorded and transcribed.

- How do you use the phone system? In which situations and for what purpose?
- Changes the phone the way you perform your daily work; is it improved or does it cause problems or troubles?
- Do you know whether the other nurses use it differently?
- Can you sum up the positive and negative changes that the phones make in your work?
- Can you describe the changes in information and communication flow?

Box 2. Main questions from the interview guide.

Furthermore, a focus group interview was conducted with the senior charge nurse and other nurses. The reason for the focus group was the feedback in the individual interviews about problems with the technology, and that the problems had led some of the nurses to stop using the phone system. At most, eight nurses were present, while some had to leave or they were ‘to and from’ because of work. The first and last author conducted and made notes during the group interview.

We explored the empirical data using a content analysis to break them down into categories relevant to this study [21]. The data were categorised in two main groups. One group included the benefits that the nurses experienced with the system. The other group included the different kinds of problems they experienced. Furthermore, we coded the empirical material in the following categories: savings of time, fewer interruptions and less messages to remember.

The results section presents quotes both from those who used the phone system through the entire period (quotes marked 1, 2 and 6) and from those who did not (quotes marked 3, 4 and 5).

Log Data

Log data on each user has been collected from the introduction of the phone system in December 2016. From these logs, we extracted the usage on every user between January 1st. and February 10th using Structured Query Language (SQL) for querying the log database.

The logs identified the usage of the system, such as how many messages and phone calls were performed at which date and at what time of day.

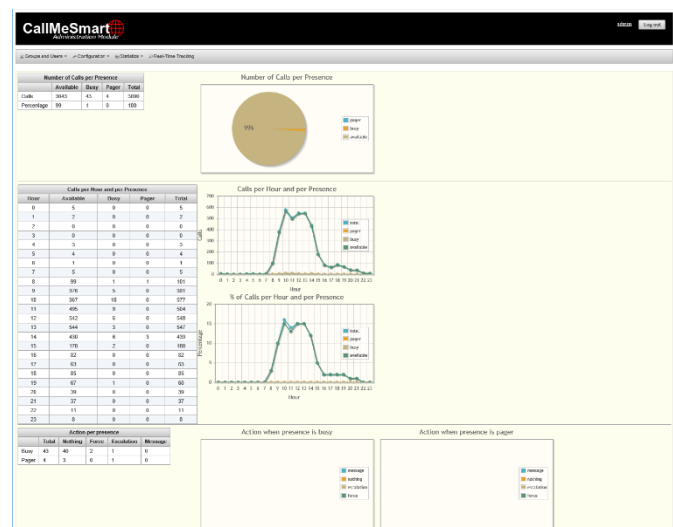


Figure 3. Screen dump from the administrator module of the phone system (Web-based), showing statistics from the usage—calls, messages, availability, missed calls and so on

Ethics

Our project does not cause any risk to patients and does not include any activity that requires approval from the Regional Committees for Medical and Health Research Ethics (REC). (helseforskning.etikkom.no/ikbViewer/page/reglerogrutiner/soknadsplikt/sokerek?p_dim=34998&_ikbLanguageCode=us) Neither is our project subject for notification to Data Protection Official for Research since it does not process personal data (www.nsd.uib.no/personvern/en/index.html).

Results

This section presents the results from the interviews about the nurses’ experiences from their use of the phone system at the OD. Furthermore, it presents data from the phone logs regarding the use of both the message and call service.

The Nurses’ Experiences on Using the Phone System

In this section, we present the benefits and problems that the nurses experienced while using the system. It also presents the nurses’ wishes for improvement.

Benefits

When asked for the most important change that came with the phones, a nurse answered, ‘I saved time because I didn’t have to search for people - to convey messages - or to tell everybody in the group that the meeting starts at 11.15, not at 11.’ (4) The informants emphasised that by using the phone system they can save ample amount of time since they do not have to search for the colleagues that they need to contact.

