Health and Social Care in the community   WILEY

Communication and information exchange between primary healthcare employees and volunteers – Challenges, needs and possibilities for technology support

Erica Fredriksen PhD, Candidate[1] | Santiago Martinez PhD, Associate Professor[2] | Carl E. Moe PhD, Professor[2] | Elin Thygesen PhD, Professor[1]

[1]Faculty of Health and Sport Sciences, University of Agder, Kristiansand, Norway

[2]Faculty of Social Sciences, University of Agder, Kristiansand, Norway

Correspondence
Erica Fredriksen, Faculty of Health and Sports Sciences, University of Agder, PB 422, 4604 Kristiansand, Norway.
Email: erica.fredriksen@uia.no

Abstract

In light of the challenges posed by an ageing population and tighter public budgets, governments worldwide are seeking innovative ways of improving health service delivery. Volunteers can contribute to such improvement, but this requires effective coordination and communication between volunteers and healthcare employees. In this case study, conducted in two Norwegian municipalities during September–October 2017, the aim was to understand how collaboration and coordination is carried out between several stakeholders: volunteers, volunteer family members of healthcare service users and healthcare employees. Our results show that daily cooperation was largely unsystematic, and stakeholders employed various informal communication procedures. Recruitment of volunteers was based on word of mouth and was coordinated by telephone and email. All processes were paper based, including contracting and confidential agreements. This unsystematic approach resulted in uncoordinated activities characterised by time-consuming processes, with no quality assurance. We concluded that stakeholders would benefit from a technology solution that supports more systematic processes of recruitment, management and monitoring. This article outlines the challenges and needs for information exchange and communication between stakeholders. Furthermore, it describes possible functionality in a digital system that can address these needs, and hence improve coordination, quality of services and resource use.

KEYWORDS

coordination, healthcare services, technology, volunteer, volunteer centre

1 | INTRODUCTION

In European countries, older populations are growing, and their needs are increasing (NOU 2011:11, 2011). This coincides with a

reduction in public budgets, posing challenges in providing health services of sufficient quality across Europe. In this context, sustainability and cost-effectiveness requires new approaches to community-based services. Among possible new methods of organising

healthcare services, one alternative would be to increase volunteer involvement (The Royal Culture & Church Ministry, 2006–2007; NOU 2011:11, 2011).

There are several definitions of voluntarism; for the purposes of this study, voluntarism is defined as "any activity in which time is given freely to benefit another person, organization, group, or cause" (Liu, Ching, & Wu, 2017, p. 531). Voluntarism can be categorised as formal or informal. Formal voluntarism is defined as uncoerced, marginally compensated work that is structured by an organisation and addresses a specific need; informal voluntarism is generally understood to involve helping friends and neighbours or caregiving (Sellon, Chapin, & Leedahl, 2017).

In the healthcare sector, collaboration and coordination between healthcare services and volunteers is necessary to ensure the rational use of resources for older adults (Ervik & Lindèn, 2017). However, previous research has shown that cooperation can be challenging (Grudinschi et al., 2013; Lorentzen & Tingvold, 2018; Solbjør, Ljunggren, & Kleiven, 2014) for reasons that include fragmented services and deficits in management and strategies for action (Grudinschi et al., 2013). Communication and coordination deficits also cause serious problems (Andfossen, 2016; Lorentzen & Tingvold, 2018; Solbjør et al., 2014). On that basis, management of collaboration between healthcare services and volunteers should focus on high service quality and how resources and capabilities can interact more efficiently to create social value (Grudinschi et al., 2013). In that regard, there is a need to understand whether and how technology can support more effective organisation of volunteers.

Volunteer coordinators must manage diverse information about their volunteers, including demographic, contact and scheduling details (Voida, Harmon, & Al-Ani, 2011), and innovative technologies and new ways of working afford opportunities for improved interaction (The Royal Health & Care Department, 2014–2015). However, as volunteer coordinators often have little or no training in information systems, many have created their own unique "homebrew" databases, which fail to fully exploit the benefits technology can provide. Noting this issue, Voida et al. (2011) called for more needs-adapted and flexible information systems to support the coordination of volunteers in smaller organisations. However, there is little research on the digital technology required to support such coordination and collaboration.

This study addresses information exchange and communication between healthcare employees and volunteers and gives suggestions of information system requirements that might contribute to better coordination of volunteers.

The research questions are as follows.

> RQ1: How does do healthcare employees and volunteers communicate and exchange information?

> RQ2: What are the challenges and needs in the information exchange and communication processes, and how might information technology support these processes?

What is known about this topic

- Voluntary assistance can help to address the needs of the ageing populations. Voluntary assistance can help to address the needs of the ageing populations, in engaging older people in social activities, volunteers are an important resource for healthcare services
- In engaging older people in social activities, volunteers are an important resource for healthcare services. Coordination of volunteers is challenging and there is little experience with information systems and technology

What this paper adds

- In-depth knowledge about communication and information exchange between healthcare employees and volunteers in southern Norway. Findings indicate that coordination of volunteers in healthcare services is hampered by informal communication, unsystematic processes and uncontrolled access to information.
- Outline of technology support needs for communication with and coordination of volunteers in primary healthcare services. Outline of technology requirements to support needs for communication with and coordination of volunteers in primary healthcare services

2 | METHODS

2.1 | Design

To investigate the information exchange and communication of the target population, we used a qualitative case study approach, addressing three specific cases. This approach is applied to gain an in-depth understanding of the experiences and needs (Stake, 1978), in the communication and information exchange between different stakeholders in primary healthcare and identify their views on how technology might support those needs. The data were collected by means of focus group interviews, which facilitate conversation and help to identify new issues of relevance to the research question (Malterud, 2017).

2.2 | Setting

All three cases were in healthcare settings and were chosen because they involve volunteers in the daily practice to participate in social activities with elderly people. The three different cases will give an in-depth understanding of the communication

TABLE 1 Description of cases being studied

Case	Location type	Description	Purpose
#1	Wards for people with dementia at two different nursing homes in municipality 1.	Institutions certified as "Joy of Life" nursing homes by the national non-governmental organisation, "The Joy of Life for Seniors" (in Norwegian: "Livsglede for eldre").	With support from the government, this organisation has established a national certification scheme where nursing homes can be certified as Nursing Homes of Joy by meeting specific criteria. The criteria include a systematic approach for providing meaningful activities for seniors. The nursing homes engage volunteers to participate in activities with ageing residents.
#2	Two-day centres for seniors connected to the two nursing homes from municipality 1.		Volunteers helping with various social activities at the day centres.
#3	Activities related to the project, "Active social environment for older adults" (in Norwegian: Aktivt seniornettverk, ASEE) in municipality 2.		The purpose of the project was to prevent loneliness, passivity and social withdrawal among older adults living at home. Healthcare services and the volunteer centre cooperated to promote activity, participation, social community and to offer meeting places for lonely older people to be involved in activities with volunteers.

and information exchange. The three cases were situated in two medium-sized municipalities in Norway as described in Table 1. The study formed part of In For Care (Interreg North Sea Region, 2016). Informal care and voluntary assistance: Innovation in service delivery in the North Sea Region (Journal-ID: 38–2–12–16), a project funded by the European Regional Development Fund. The goal of the In For Care project is to optimise informal and formal networks for innovative service delivery in the public sector. As members of the project consortium, the two participating municipalities will implement and test a digital solution for volunteer coordination and collaboration.

2.3 | Participants

Snowball sampling was used to recruit participants. Managers from the two municipalities, and recruited healthcare employees representing the three cases. These healthcare employees participated in the study, but they also helped us recruit participants who worked as volunteers at the different settings and one patient. Due to the nature of the patient groups, only one patient participated in one of the focus groups, but patients were instead represented through participation of

relatives. The focus groups consisted of between four and eight participants, and three of the authors were present (see Table 2).

2.4 | Data collection

Data were collected from five focus groups conducted during September–October 2017. The purpose was to explore a range of views rather than to achieve consensus, and the open atmosphere encouraged participants to express differing opinions (Kvale & Brinkmann, 2009). Their interactions provided the primary data. A semi-structured interview guide helped so that different perspectives would emerge during the discussion (Malterud, 2017), keeping participants focused on the topic while allowing the group to explore the subject from as many angles as they wished (Kvale & Brinkmann, 2009). The interview guide addressed such topics as how cooperation was organised in the municipalities, how it could be improved, and whether and how technology might assist communication and information exchange. The interviews lasted between 60 and 90 min and were held in a setting considered neutral for all stakeholders, with no interruptions or external influences. All interviews were recorded and transcribed verbatim by the authors; notes were also taken throughout.

TABLE 2 Configuration of focus groups

Description of participants (Number)	Case 1 – two focus group interviews. Participants from two nursing homes in M1	Case 2 – two focus group interviews. Participants from two day centres in M1	Case 3 – one focus group interview. Participants from a volunteer centre in M2
Healthcare employees (1–7)	3	4	
Volunteer centre managers (8–11)	1	1	2
Municipality managers (12)			1
Volunteers (13–18)		5	1
Relatives (19–23)	4	1	
Patient (24)			1

Note: M1, municipality 1; M2, municipality 2.

2.5 | Data analysis

The analysis followed Fleming, Gaidys, and Robb's (2003) Gadamerian approach. Based on the hermeneutic circle, this method facilitated in-depth understanding through several rounds of dialogue with participants and subsequent analysis of the transcribed text. Importantly, the analysis took account of the authors' preconceptions about the topic, and the authors discussed these. According to Fleming et al. (2003), this discussion enables researchers to understand the phenomenon and to transcend the horizon of their own existing understanding. The analysis consisted of four steps (Fleming et al., 2003); the first of these was to identify stakeholder utterances that reflected the meaning of the text as a whole. To that end, the text was carefully read several times by the research team to gain an understanding of the whole, keeping an open mind, as this reading would influence their understanding of every other part of the text (Fleming et al., 2003). Second, the text was imported to NVivo software, version 11 (QSR International Pty Ltd, Melbourne, Vic., Australia), for analysis. Every sentence and section were investigated to expose its meaning and to enhance understanding. During this process, different themes emerged, providing a rich and detailed overall understanding. Third, each sentence and section were related to the meaning of the whole, so expanding the overall sense of the text (Fleming et al., 2003). Finally, passages were identified that seemed representative of the understanding shared by the research team and participants in relation to communication and information exchange experiences, success factors and challenges (Fleming et al., 2003). At the end of the process, the research team met with participants and presented scenarios based on the findings to validate the researchers' understanding. All authors participated actively in all phases of the analysis.

2.6 | Ethical considerations

All data from the case studies have been managed to ensure confidentiality and anonymity. Ethical considerations were respected throughout, and approval (54985/3/HIT) was secured from the Norwegian Science Data Services. The research was designed and implemented according to the Declaration of Helsinki (Bates & Robert, 2006) and the common principles of clinical research (World Medication Association, 2013). All participants provided signed informed consent before participating in the study. They were informed that participation was voluntary, that they could withdraw at any time and that all relevant information and data would be destroyed in that event. Participants were also informed that all information about them would remain confidential and anonymous in compliance with the GDPR data protection requirements (European Commission, 2018).

3 | FINDINGS

The results reported below relate to three different cases in two municipalities (see Table 1). Two of the cases related to the coordination of volunteers to support activities in nursing home wards and in day centres in one municipality. In the other municipality, the case related to engaging volunteers in social activities for older people living at home. The first of four results sections provides an overview of the process of involving volunteers. The second section addresses characteristics of information exchange and communication in the interaction between healthcare services and volunteers, and the third section concerns related challenges. Finally, the fourth section presents participants' suggestions regarding how technology might be used to support information exchange and communication.

3.1 | Involvement of volunteers: an overview

While employees at the participating nursing home primarily approached patients' relatives as potential volunteers, employees at the day centre and volunteer centre worked in most cases with volunteers who were not family members. In general, volunteers contributed to daily tasks and events. In the Active Social Environment for Older Adults (ASEE) project, volunteers primarily engaged in one-to-one interactions with people who needed social contact. Volunteer centres in both municipalities were independent of healthcare services.

The management of volunteers involved four elements: recruitment, registration, reception and coordination. Recruitment was by word of mouth or through social media. In the ASEE project, volunteers were recruited primarily from the social network of health service users. Volunteers in municipality 1 were partly coordinated by healthcare service employees and partly by the volunteer centre (depending on the volunteers' connections), resulting in separate registers of contact information. Social activities and events in the municipalities were variously organised by nursing homes, volunteer centres and volunteer organisations, resulting in several channels for information and updates. Stakeholders' varying competence and experience with technology meant that information about activities was also provided in different formats: verbally or via text message, social media, written notice or nursing home message board.

Documentation procedures also differed across the three cases. In the wards and day centres, routines for documenting activities were informed by the criteria for "Life of Joy" homes, requiring reporting of these experiences on the municipal electronic health record. No documentation was required at the volunteer centre or for the ASEE project.

3.2 | Information management in the interaction between healthcare services and volunteers

The analysis revealed three themes related to information exchange and communication between healthcare services and volunteers: informal communication, unsystematic processes and uncontrolled access of information.

Informal communication: Recruitment commonly involved informal and verbal communication: "There is a lot of word-of-mouth talk about us; someone talks to someone, and they pass it on, and it spreads like that" (C1M1). As one volunteer commented, "I made contact through my friend and asked if they needed voluntary assistance 1 or 2 days a week […]" (C2V16).

When recruiting new volunteers, employees conducted face-to-face meetings to identify tasks that would align with individual interests and competences.

Unsystematic processes: In all three cases, communication and coordination were unsystematic and ineffective. Employees said that there were no well-established routines for communication, coordination, or recruitment of volunteers between the institutions. For example, a day centre manager was unsure how many volunteers they had and whether they should be counted in groups or separately. In one municipality, nursing homes and volunteer centres had their own separate lists of volunteers – either paper-based or in Excel or MS Word files – and these lists were not synchronised. Because it was time consuming for managers to keep them updated, the lists were incomplete, which contributed to the lack of overview: *"It is a bit of a hassle; I have not registered all the volunteers because of a lack of time […]"* (C3VM10).

Nevertheless, there was a high level of coordination and interaction among volunteer centres, healthcare services and voluntary organisations in relation to organising events. All employees were responsible for organising activities and cooperated in disseminating the relevant information. Events were described in brochures published by the municipality that provided an overview of activities and arrangements. *"I collect information from all the other institutions and organize it in a common calendar […]"* (C2VM9). Employees involved in this task said that it took substantial work and time to coordinate events, noting that a paper-based brochure was impossible to change once printed.

As nursing home employees found it difficult to define the kind of help they needed from volunteer and volunteer relatives, volunteers had no real overview of relevant tasks. In this regard, one sports club volunteer suggested that the day centre should send them a list of tasks or requirements:

> I think we need a list of tasks that are specified according to when help is needed. I think we can find some way to contribute for every type of arrangement, but we have to know when and where to make a plan. (C2V13)

In addition, employees in municipality 1 had no established system for follow-up conversations, which some volunteers occasionally needed (although others did not). According to some informants, employees were sometimes casual when meeting new volunteers, who would prefer to get acquainted with the location and to receive clear instructions. *"It would be much easier to come as a volunteer if you knew what to do"* (C2V14), but employees had no established routines in this regard.

Uncontrolled access of information: Lack of routines and systems for registration and documentation affected the organisation of information. Contracts, confidential agreements and police certificates of good conduct were mostly paper based, and in all three cases, documents were stored in managers' offices: *"They are on a shelf, and when someone quits, I take them and put them in a drawer […]"* (C2HE). As employees also worked from home and sometimes took documentation with them, there was unsecured storage of volunteer contracts, which might contain sensitive information: *"It is on my kitchen counter"* (C3VM11). Employees felt it was time consuming to change their ways of working.

3.3 | Implications of the identified challenges

The nature of stakeholder communication and interaction meant that employees spent time on paperwork and administration that might have been spent caring for service users. As one day-centre manager told us, *"All the time I spend on such things is time that I could have spent with elderly users"* (C2HE7). Employees found it time consuming to communicate verbally or by written notes to all patients, volunteers and relatives who volunteered, or to ensure that everybody had received the information. Managers at the volunteer centre referred to the many unnecessary inquiries that were not addressed to the right person or organisation, and much of their time was spent relaying this information to the correct recipients.

3.4 | Possibilities for technology in the interaction between healthcare services and volunteers

In all three cases, there was discussion of the possibilities for using technology. The patient who participated in case 3 was not technology literate and told us she would be unable to use such applications or solutions. Some participants expressed satisfaction with the existing approach to communication and information exchange. As one relative said, *"I believe more in interaction between people... to make inputs in a system, I already feel the hair standing up on the back of my neck."* (C1R19).

However, employees and volunteers felt that technological support could help to resolve challenges related to providing an overview of activities, coordinating the distribution of information, communicating more efficiently and storing documentation. Participants offered a number of suggestions about how technology could ease and systematise communication and information exchange (see Table 3).

Recruitment: Volunteers noted a need for digital solutions for registration and submission of interests. They also wanted easy-to-use functionalities to log their absences and to unregister as a volunteer.

Overview: Employees wanted an overview of volunteers, the organisations they cooperated with, and related contact information, as well as improved interaction between the volunteer centres and healthcare institutions: *"It would be fantastic if we had a*

TABLE 3 Technology functionalities

Main features	Specific features	Participant group that made the suggestion
Volunteer recruitment	- Sign in - Registration withdrawal - Preparation (e.g. e-learning)	- Volunteers - Volunteers - Employees/volunteers
Overview	- Contact information of volunteers - Contact information of collaborators and administrators - List of upcoming activities and events - Record absences - Reminders: e.g. activities and follow-up tasks	- Employees - Employees - Employees/volunteers
Activities	- Shared planning of new activities and events (access to shared calendar) - Updates of activities - Matching (overview of activities and volunteers' interests)	- Employees - Employees/volunteers - Employees/Volunteers
Information management	- Document storage - Implemented activities and contribution by volunteers (e.g. easy 'sign-out' for volunteers, tasks completed)	- Employees - Employees/volunteers

common digital program with an overview of events […] and the possibility to perform updates" (C1HE1). Volunteers wanted an easy-to-use system for contacting employees and for reminders about follow-up conversations.

Activities: One of the main priorities identified by participants was a calendar for employees containing information about different activities. They also expressed interest in systems that would enable institutions to post last-minute programme changes, support activity assignment for volunteers and match users and volunteers according to their interests. Solutions were also required for urgent tasks, such as contacting volunteers at short notice. Volunteers also suggested a list of available tasks they could opt for, but they also wanted to be able to propose tasks. As one volunteer suggested:

> *Maybe there should be a section called 'What would you like to contribute?' Then, people could think outside the box […] rather than always performing predetermined tasks assigned by employees. (C2V13)*

Information management: Participants identified a need for secure storage of documentation such as contracts, confidential agreements and police certificates of good conduct. They also suggested a simplified sign-out system for volunteers when an activity was completed, and it was considered important for any technology solution to protect privacy and sensitive user information.

4 | DISCUSSION

In this study of information exchange and communication in the interaction between healthcare employees and volunteers in primary health services in three cases, the needs identified across the three cases were fairly similar. At the day centre and the volunteer centre,

collaboration mainly involved general volunteers while those at the nursing homes were mainly patients' relatives. According to Andfossen (2016), different groups may have links to the care recipient, including informal caregivers who have a social relationship with the recipient (e.g., family members, next of kin, friends, neighbours), as well as independent volunteers who may be organised or unmanaged.

Managing volunteers mainly involved recruitment, registration, reception and coordination in all three cases. Information flow and communication between healthcare services and volunteers were characterised by informal, unsystematic and uncontrolled access of information, and these characteristics and their implications are discussed in detail below.

In all three cases, interactions between employees and volunteers were informal, especially in relation to recruitment. Several studies have reported that recruitment of volunteers occurs informally through personal contact such as word of mouth and informal networking (Centre for Research on Civil Society & Voluntary Sector, 2017; Stirling, Kilpatrick, & Orpin, 2011), as personal contact is known to be effective for recruitment purposes (Cnaan & Cascio, 1998; Watts & Edwards, 1983). Participants in this study noted the importance of the first recruitment meeting as an opportunity for employees to build a personal relationship with the volunteer. Previous research has also noted the importance of this first meeting for healthcare employees for clarifying roles and gathering sufficient information to decide whether the volunteer is a good fit for the tasks in question (Skaar, Fensli, Flateland, & Söderhamn, 2017).

Our findings also reveal a lack of systematic processes in all three cases, with few routines for communication and coordination. The lack of routines and the prevalence of informal communication between organisations and volunteers led to time-consuming, uncoordinated activities. For example, when different stakeholders cooperated on a calendar of all activities, synchronisation of the information and dissemination to the public proved problematic. Employees considered it time consuming

to provide information through multiple channels and favoured a system that would provide an overview of all available activities in the municipality.

Voida et al. (2011) reported that volunteer coordinators create their own "homebrew" databases using personal office applications. This poses information management challenges related to local spread sheets, emailing clients and paper-based records. Grudinschi et al. (2013) characterised the use of resources for information exchange between care service suppliers as ineffective. In municipality 1 in our study, employees found it difficult to define tasks they needed volunteers' help with. In turn, volunteers wanted clear instructions, noting that it was easier to volunteer when they knew where to go and what to do. However; technology cannot always replace the need for human interaction, and volunteers wanted to be met in the first instance by an employee and shown around. Previous research has also reported challenges related to communication, role clarification and the need for follow-up (MacLeod, Skinner, & Low, 2012; Söderhamn, Flateland, Fensli, & Skaar, 2017). In general, effective communication is essential, and volunteers expect to be informed about relevant organisational and task-related issues (Jamison, 2003). According to Lorentzen and Tingvold (2018), a lack of communication and information exchange between employees and volunteers can create friction among stakeholders.

In all three cases in this study, employees reported that contracts and confidential agreements were paper based and stored in their offices, and some employees had information stored locally on their computer in the form of MS Excel spread sheets. In both municipalities, a lack of systematic procedures for coordination and documentation made it difficult to control processes. Employees lacked any overview or sufficient information (such as the total number of volunteers) on which to base decisions. Many participants knew nothing about the overall outcome of the interaction with volunteers (e.g. user satisfaction, quality of service, who does what), and few studies have explored how the coordination of volunteers affects documentation requirements and bureaucratic workloads (Studer & von Schnurbein, 2013). In that context, data protection, secure communications and availability of information are critical issues for easy and flexible communication, coordination and documentation (European Commission, 2018).

The present findings confirm a need for flexible solutions for working with documentation outside the office while also ensuring that contracts and agreements are stored safely and electronically. It seems likely that cooperation between primary healthcare service employees and volunteers would benefit from clear procedures that ensure security for all parties (Fensli, Skaar, & Söderhamn, 2012). Appropriate electronic storage and communication would need to comply with existing confidentiality and data protection regulations (European Commission, 2018) for public services.

The main implication of our findings is that unsystematic processes and uncontrolled access of information means that time is wasted on paperwork and administration instead of on delivering

service to the users. It follows that the information flow between organisations and volunteers would benefit from technology-based solutions, although not at the expense of informal contact. Appropriate use of information and communication technology can enhance systematisation and security, but for optimal effect, these systems must be based on the needs of users (Borycki & Kushniruk, 2008).

Volunteer coordinators must manage a range of information about volunteers that includes demographic, contact and scheduling details. In this study, information handling was found to be demanding, and employees lacked effective systems for this purpose. Pestoff (2012) argued that information technology is important in the coproduction of public services to facilitate greater interaction between public agencies and citizens, and Burt and Taylor (2003) noted the potential of information and communication technologies to transform voluntary organisations through knowledge management, organisational learning and reconfiguration of relationships.

The participants in our study identified, in particular, a need for technology to support recruitment processes, to overview volunteers and activities, to convey information about activities and for information management. Recruitment was considered especially important, and participants highlighted the need for some means of electronic contact for potential volunteers. This aligns with previous findings that ease of communication supports the ability to reach out, maintain contact and share knowledge (Andersson, Magnusson, & Hanson, 2015). In addition, enhancing electronic messaging by email and SMS may enable staff to reach more contacts in a shorter time (Andersson et al., 2015) and to log all processes in a structured way.

Another issue that emerged from the three cases concerned the availability of information about activities, organising these in a shared calendar and the use of technology to assist coordination within and among organisations. Uryan, Matusitz, and Breen (2012) showed that digital systems can enhance interorganisational relationships or networks, but this technology must be user friendly, and all information should be kept in one place (Christie et al., 2018).

According to Voida, Harmon, and Al-Alani (2012), working with volunteers and coordinating them involves specific characteristics that must be considered when developing technological solutions, including relevant stakeholders, diversity and fluidity of informational needs and work contexts. Management activities are commonly characterised by constraints on time, funding and expertise, often in settings with no consistent or predictable information infrastructure. This means that systems must be accessible from multiple locations, whether through mobile, web based or other technologies (Voida et al., 2012). There is also some evidence (e.g., Eimhjellen, 2014) that face-to-face and internet communication is not an either-or phenomenon, as internet use can increase face-to-face interaction in voluntary organisations.

Some participants indicated that they were satisfied with current practices for communication and information exchange and

felt there was no need for change. In this regard, it is important to ensure that the introduction of technology responds to real needs and actually improves practices in the relevant areas. For example, in their study of the role of mobile applications in recruiting, managing and retaining volunteers in non-profit organisations, Chui and Chan (2019) found that ease of signing up as a volunteer through a mobile app increased last-minute dropouts and no shows. They noted that technology-based solutions do not ensure volunteer quality and accountability, as volunteering also involves issues such as ethics, social skills and responsibility. They concluded that existing screening processes for volunteers should still be conducted face to face and are unlikely to be replaced by technology, which aligns with our own findings. In general, volunteers who are engaged in what they do are more likely to increase service quality and overall organisational performance (Chui & Chan, 2019).

According to Voida et al. (2011), volunteer coordinators were concerned that technology-based solutions would attract too many volunteers rather than targeting those truly interested in the organisation's mission. Coordinators were also concerned that it would be time consuming to prepare so many volunteers and that they would lose control of the recruiting and scheduling process. However, many volunteer management priorities could benefit from technological support in terms of reduced administrative burden and strategic targeting and maintenance of links with volunteers.

All necessary steps were taken to ensure this study's validity. Informants in the five focus groups represented key stakeholders (volunteers, relatives who volunteered and employees), but only one patient participated in a focus group interview, as the nature of the patient group made it difficult for project managers in the two municipalities to recruit patient/users. For that reason, the findings are limited to the immediate context. However, the similarity of findings across the three cases suggests that this research may be generalisable to other settings (both in Norway and other countries) where different organisations communicate with and coordinate volunteers to provide primary healthcare services.

5 | CONCLUSION

This study identified communication and information exchange needs of health service employees and volunteers, including patients' relatives and general volunteers. The research contributes new knowledge about communication and coordination processes among these stakeholders regarding engagement in social activities with ageing patients in southern Norway. We found that much of the existing communication is informal in character and lacks systematic coordination. This is time consuming for employees, who consequently have less time to spend with service users. Both volunteers and relatives who volunteered would benefit from a more systematic approach to information exchange and communication, and the findings indicate that a technology-based solution that addresses these challenges can strengthen (rather than replace) human interaction. Future research should implement and test technology-based tools to support information exchange and communication among healthcare organisations, volunteer organisations and volunteers to further clarify challenges and success criteria.

ORCID

Erica Fredriksen https://orcid.org/0000-0001-7230-7050

REFERENCES

Andersson, S., Magnusson, L., & Hanson, E. (2015). The use of information and communication technologies to support working carers of older people – A qualitative secondary analysis. *International Journal of Older People Nursing*, *11*, 32–43. https://doi.org/10.1111/opn.12087

Andfossen, N. B. (2016). The potential for collaborative innovation between public services and volunteers in the long-term sector. *The Innovation Journal: Public Sector Innovation Journal*, *21*(3), 1–21.

Bates, P., & Robert, G. (2006). Experience-based design: From redesigning the system around the patient to co-designing services with the patient. *Quality and Safety in Health Care*, *15*(5), 307–310. https://doi.org/10.1136/qshc.2005.016527

Borycki, E. M., & Kushniruk, A. W. (2008). Where do technology-induced errors come from? Towards a model for conceptualizing and diagnosing errors caused by technology. In *Human, social, and organizational aspects of health information systems* (pp. 148–166). Pennsylvania: IGI global.

Burt, E., & Taylor, J. A. (2003). Information and communication technologies reshaping voluntary organizations? *Nonprofit Management and Leadership*, *11*(2), 131–143. https://doi.org/10.1002/nml.11201

Centre for Research on Civil Society and Voluntary Sector. (2017). Norsk Frivillighet: Utviklingstrender og samfunnseffekter. Avslutningsrapport for Senter for forskning på Sivilsamfunn og frivillig sektor 2013–2017, [Trends and Society Impacts. Final Report of the Centre for Research on Civil Society and Voluntary Sector 2013–2017]. Retrieved from: file:///C:/Users/ericaf08/Downloads/Avslutningsrapport_Nett%20(2).pdf

Christie, H. L., Bartels, S. L., Boots, L. M. M., Tange, H. J., Verhey, F. R. J., & de Vugt, M. E. (2018). A systematic review on the implementation of eHealth interventions for informal caregivers of people with dementia. *Internet Interventions*, *13*, 51–59. https://doi.org/10.1016/j.invent.2018.07.002

Chui, C.-H.-K., & Chan, C. H. (2019). The role of technology in reconfiguring volunteer management in nonprofits in Hong Kong: Benefits and discontents. *Nonprofit Management and Leadership*, *2019*(30), 89–111. https://doi.org/10.1002/nml.21369

Cnaan, R. A., & Cascio, T. A. (1998). Performance and commitment. *Journal of Social Service Research*, *24*(3–4), 1–37. https://doi.org/10.1300/J079v24n03_01

Eimhjellen, I. S. (2014). Internet communication: Does It strengthen local voluntary organizations? *Nonprofit and Voluntary Sector Quarterly*, *43*(5), 890–909. https://doi.org/10.1177/0899764013487996

Ervik, R., & Lindèn, T. S. (2017). Samhandling mellom kommunen og frivillig sektor i eldreomsorgen. [Collaboration between the municipality and voluntary sector for elderly care]. Centre for. Research on Civil Society and Voluntary Sector. Bergen/oslo. Retrieved from, https://brage.bibsys.no/xmlui/bitstream/handle/11250/2475847/VR_2017_8_Rapport_V3.pdf?sequence=2&isAllowed=y

European Commission. (2018). 2018 reform of EU data protection rules. Retrieved from: https://ec.europa.eu/commission/priorities/justice-and-fundamental-rights/data-protection/2018-reform-eu-data-protection-rules_en

Fensli, M., Skaar, R., & Söderhamn, U. (2012). Frivilligsentral og offentlig omsorg- Samhandling til brukerens beste. [Voluntary services and public care services- interaction in the patient's best interest] (vol. *2*, pp. 74–86). Nordisk Sygeplejeforskning, [Nordic Nursing research], no 1-2012.

Fleming, V., Gaidys, U., & Robb, Y. (2003). Hermeneutic research in nursing: Developing a Gadamerian-based research method. *Nursing Inquiry*, *10*, 113–120. https://doi.org/10.1046/j.1440-1800.2003.00163.x

Grudinschi, D., Kaljunen, L., Hokkanen, T., Hallikas, J., Sintonen, S., & Puustinen, A. (2013). Management challenges in cross-sector collaboration: Elderly care case study. *The Innovation Journal: Public Sector Innovation Journal*, *18*(1), 1–22.

Interreg North Sea Region. (2016). Informal care and voluntary assistance: Innovation in service delivery in the North Sea Region (In for care). European Regional Development Fund. Retrieved from https://interreg.no/prosjektbank/in-for-care/

Jamison, I. B. (2003). Turnover and retention among volunteers in human service agencies. *Review of Public Personnel Administration*, *23*(2), 114–132. https://doi.org/10.1177/0734371X03251662

Kvale, S., & Brinkmann, S. (2009). *Det kvalitative forskningsintervju [Qualitative research interview]* (2nd ed.). Oslo, Norway: Gyldendal.

Liu, E. S. C., Constance, W. L., Ching, C. W. L., & Wu, J. (2017). Who is a volunteer? A cultural and temporal exploration of volunteerism, *Journal of Human Behavior in the Social Environment*, *27*(6), 530–545. https://doi.org/10.1080/10911359.2017.1295715

Lorentzen, H., & Tingvold, L. (2018). Frivillig innsats: Hindre i omsorgssektoren [Volunteering: Obstacles in the care sector]. *Tidsskrift for Omsorgsforskning*, *4*(2), 120–131. https://doi.org/10.18261/ISSN.2387-5984-2018-02-08

MacLeod, A., Skinner, M. W., & Low, E. (2012). Supporting hospice volunteers and caregivers through community based participatory research. *Health and Social Care in the Community*, *20*(2), 190–198. https://doi.org/10.1111/j.1365-2524.2011.01030.x

Malterud, K. (2017). *Kvalitative forskningsmetoder for medisin og helsefag. [Qualitative research methods for medicine and health sciences]*, (4th ed.). Oslo, Norway: Universitetsforlaget.

NOU 2011:11. (2011). Innovation in care services. Official Norwegian reports NOU 2011:11 chapter 1, 2 and 3. Retrieved from: https://www.regjeringen.no/contentassets/5fd24706b4474177bec0938582e3964a/en-gb/pdfs/nou201120110011000en_pdfs.pdf

Pestoff, V. (2012). Co-production and third sector social services in europe: some concepts and evidence. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, *23*(4), 1102–1118. https://doi.org/10.1007/s11266-012-9308-7

Sellon, A. M., Chapin, R. K., & Leedahl, S. N. (2017). Engaging nursing home residents in formal volunteer activities: A focus on strengths. *Ageing International*, *42*, 93–114. https://doi.org/10.1007/s12126-016-9252-8

Skaar, R., Fensli, M. M. F., Flateland, S. M., & Söderhamn, U. (2017). Helsepersonells erfaringer og tanker om bruk av frivillige i palliativ omsorg. [Health professionals experiences and thoughts on the use of volunteers in palliative care]. *Nordisk Tidsskrift for Helseforskning*, *1*(13), 1–17. https://doi.org/10.7557/14.4075

Söderhamn, U., Flateland, S., Fensli, M., & Skaar, R. (2017). To be a trained and supported volunteer in palliative care- a phenomenological study. *BMC Palliative Care*, *16*, 18. https://doi.org/10.1186/s12904-017-0193-0

Solbjør, M., Ljunggren, B., & Kleiven, H. H. (2014). Samarbeid mellom frivillig sektor og kommunale tjenester på pleie- og omsorgsfeltet. En kvalitativ studie. [Collaboration between voluntary sector and the municipality health and care services. A qualitative study]. *Nordic Journal for Health Research*, *1*(14), 43–55. https://doi.org/10.7557/14.3009

Stake, R. E. (1978). The case study method in social inquiry. *Educational Researcher*, *7*(2), 5–8. https://doi.org/10.3102/0013189X007002005

Stirling, C., Kilpatrick, S., & Orpin, P. (2011). A psychological contract perspective to the link between non-profit organizations management practices and volunteer sustainability. *Human Resource Development International*, *14*(3), 321–336. https://doi.org/10.1080/13678868.2011.585066

Studer, S., & von Schnurbein, G. (2013). Organizational Factors Affecting Volunteers: A Literature Review on Volunteer Coordination. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, *24*, 403–440. https://doi.org/10.1007/s11266-012-9268-y

The Royal Culture- and Church Ministry. (2006–2007). Volunteer for all. (Report from the Storting number 39). Retrieved from: https://www.regjeringen.no/contentassets/68b20a00c377479c98d8bac4c4e38cf6/no/pdfs/stm200620070039000dddpdfs.pdf

The Royal Health and Care Department. (2014–2015). The primary health and care services of tomorrow- localised and integrated. (Meld st. 26 Report to the Storting. Summary). Retrieved from, https://www.regjeringen.no/contentassets/d30685b2829b41bf99edf3e3a7e95d97/en-gb/pdfs/stm201420150026000engpdfs.pdf

Uryan, Y., Matusitz, J., & Breen, G. M. (2012). Improving quality of life for seniors: new governance tools. *Ageing Internationl*, *37*(3), 318–337. https://doi.org/10.1007/s12126-010-9080-1

Voida, A., Harmon, E., & Al-Ani, B. (2011). Homebrew databases: Complexities of everyday information management in Nonprofit Organizations. CHI '11 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (pp. 915–924). New York, NY: ACM.

Voida, A., Harmon, E., & Al-Ani, B. (2012). Bridging Between Organizations and the Public: Volunteer Coordinators´ Uneasy Relationship with Social Computing. CHI `12, Proceedings of the SIGCHI Conference on Human Factors in Computing Systems Vol. (pp. 1967–1976). New York, NY: ACM.

Watts, A. D., & Edwards, P. K. (1983). Recruiting and retaining human service volunteers: An empirical analysis. *Nonprofit and Voluntary Sector Quarterly*, *12*(3), 9–22. https://doi.org/10.1177/089976408301200304

World Medication Association. (2013). World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. *Journal of the American Medical Association*, *310*(20), 2191–2194. https://doi.org/10.1001/jama.2013.281053