

## Patient/Client Safety Structures and Processes in Home Care: A Cross-Sectional Online Survey

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| ARTICLE INFO  | ABSTRACT  |
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| <p><b>Article type:</b><br/>Research Paper</p>  | <p><b>Introduction:</b><br/>The complexity of home care is demanding in terms of patient/client safety. The aim of this study was to explore patient/client safety structures and processes within organizations providing home care during the reform of home care and the supervision of patient/client safety in Finland.</p>  |
| <p><b>Article History:</b><br/>Received: 07 Nov 2022<br/>Accepted: 07 Dec 2022</p>  | <p><b>Materials and Methods:</b><br/>A cross-sectional exploratory online survey for persons responsible for safety strategies at home care organizations (home nursing, hospital-at-home, home services).</p>  |
| <p><b>Key words:</b><br/>Client safety, Home care, Organizational culture, Patient safety, Quality improvement.</p>   | <p><b>Results:</b><br/>The majority of organizations (89%) had a patient/client safety plan, which included central safety strategies and responsibilities. However, the authority responsible for the various dimensions of patient/client safety varied. Regarding responsibility for the supervision of care personnel's surveys and reports of the hazardous and adverse events, a significant difference was seen between organizations providing both home nursing and social services versus only social services (94% vs. 49%, [CI 34%-64%] p &lt;.001). Patient and client centered measures varied from patient/client service and care consultation processes (81%) to patient/client safety observation rounds (24%). Care personnel were seen to have a function as Everyday safety "watchdogs" or "Safety whistleblowers", and employ a broad range of preventive and reactive methods for patient/client safety.</p> <p><b>Conclusion:</b><br/>Most organizations were seen to have well-established, organizational patient/client safety structures and processes. The methods used to identify, prevent, minimize, and report safety problems were mostly proactive, indicating an active, analytic, and learning safety culture. Current challenges included involving service users and new employees in safety processes to create a truly comprehensive and sustainable safety culture.</p> |
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## Introduction

The number of people worldwide receiving home care instead of institutional care is growing. Globally, home care is increasingly implemented as a solution to the increased health expenditure associated with aging populations, among which co-occurring medical conditions are common. The patient/client safety risks seen in home care contexts differ from those in institution-based care, e.g., household hazards or aggressive family members (1).

The incidence rate for patient/client safety incidents is 60% higher for non-institutional settings than in institutional settings (2). Adverse events in home contexts have been explored from the perspectives of patients (3,4), family caregivers (5), professionals (6,7), and occupational health concerns (8).

To our knowledge, patient/client safety structures and processes in the context of home nursing and home social services have not previously been explored from an organizational perspective, which is the aim of this study.

Throughout the world, enabling service for and providing professional care to aging populations while also balancing economic constraints is seen to be challenging. In Finland, the Ministry of Social Affairs and Health (9) is tasked with developing and supporting home nursing, hospital-at-home, and home social services, i.e., home care. Age-related gerastenia and/or illness(es) requiring nursing care form the bulk of most home care service usage in Finland. The complexity of home care, in which co-occurring health problems are often seen, is demanding in terms of patient/client safety.

In Finland, the manner through which home care is regulated is delineated in several laws. Concerning publicly funded home nursing services, it is stated in the Health Care Act (10) that:

“Local authorities shall provide their residents with access to home nursing. Home nursing shall comprise multidisciplinary health and medical care provided according to a treatment and care plan or on a temporary basis in the patient’s place of residence or home or in another comparable location. ... At-home hospital care shall comprise a more intense form of home nursing provided on a temporary

basis. At-home hospital care may comprise primary health care services, specialized medical care services, or both.” (section 25). Concerning the organization of home social services, it is stated in the Social Welfare Act (11) that municipalities are responsible for organizing these. Home social services are defined as, “[the] performance of or assistance with functions and activities related to housing, personal care and attendance, child care and upbringing, and other conventional functions and activities in normal daily life” (section 20). The provision of home social services is linked to “impaired functional capacity, family circumstances, overexertion, illness, childbirth, injury or other similar reasons, to persons in need of assistance in coping with the functions and activities [previously] referred to” (section 21). In section 6 of the Act on Private Health Care (12) and in section 8 of the Decree on Private Health Care (13) it is stated that when applying for permission to start a private health care organization, a self-monitoring plan must be included in the application. The National Supervisory Authority for Welfare and Health (14) also requires a self-monitoring plan. The requirements for self-monitoring are similar to the delineations on quality management and patient safety for publicly funded health care providers defined in section 8 of the Health Care Act (10) and the delineations on quality management and patient safety enforcement plan (13). Concerning social services, it is presupposed in the Social Welfare Act (11, 16-17). With regard to those agencies responsible for health and social care services in Finland, the Ministry of Social Affairs and Health (15) is tasked with drafting legislation on services and is responsible for the overall guidance of health and social care production. The National Supervisory Authority for Welfare and Health is tasked with coordinating the supervision of health and social care nationwide, while Regional State Administrative Agencies are primarily tasked with supervision on the regional level. On the municipal level, service supervision is carried out by the relevant municipal health and social care administration or corresponding body.

A historic health and social care reform is underway in Finland. From 2023, the responsibility for organizing public health care, social services and rescue services will be transferred from municipalities to Wellbeing Services Counties. Municipalities will remain responsible for promoting the health and wellbeing of their residents and the public sector will remain the organizer and primary provider of services. Private and third sector actors will be allowed to supplement public health and social services (<https://soteuudistus.fi/en/frontpage>). The Act on Organizing Healthcare and Social Welfare Services includes important provisions relevant to patient/client safety (18). Furthermore, an Act on the Supervision of Healthcare and Social Welfare Services will enter into force from 2023 and replace existing diverse laws relevant to supervision and self-monitoring.

As delineated in the Patient and Client Safety Strategy 2017-2021 (9), the first strategy to integrate health care and social services, there is a responsibility within both home nursing and home social services to promote and safeguard patient/client safety, involve patients/clients and their near-ones in safety work, and to undertake the systematic and pro-active analysis of safety risks, including that reports should be open to further analysis. The integration of health care and social services was referenced already in 2010 in the Health Care Act, in which it is stated that publicly funded primary and specialized care providers, "shall produce a plan for quality management and for ensuring patient safety. The plan shall include arrangements for improving patient safety in cooperation with social services". Further details relevant to the content of self-monitoring plans are delineated in the Decree of the Ministry of Social Affairs and Health on the Preparation of a Quality Management Plan and on How Patient Safety is Met (13):

- The person/s responsible for quality management and patient safety as well as the resources to achieve such;
- The principles and methods for human resources management that support quality management and patient safety;
- The methods through which staff can participate in the multidisciplinary

development of patient safety culture and learn from such;

- The methods through which new staff and student trainees are introduced into quality management and patient safety;
- The methods through which patients/clients and their near-ones can report quality or safety problems and the methods to support patients/clients and their near-ones following such;
- Documents related to quality management and patient safety;
- The methods to anticipate quality and patient safety problems and to identify and manage safety risks;
- The methods to identify and report hazardous and adverse events;
- The necessary cooperation between health and social care units regarding quality management and patient safety;
- The availability of services, the physical milieu where the service is provided, any eventual infections, medication, medical devices and/or staff;
- Staff competence and division of labor;
- Information systems, documentation, and information exchange within and between units.

As a concept, self-supervision is comparable to, e.g., self-monitoring, organizational control, governance, or internal control. Employers within health and social services bear the primary responsibility for supervising their own operations, for example employees, facilities, and equipment. Publicly funded health care units must have a plan for quality management and patient safety while private health care providers and all social service providers must have a self-monitoring plan. Private service providers' self-monitoring plan shall include descriptions of, e.g., the service provider's business idea as well as matters relating to staff competence, facilities, and patient safety. Private service providers must have a manager who is approved by the licensing authority and responsible for the specific service provider's health and social services and for ensuring that operations meet the requirements pursuant to law.

Patient/client safety as a concept is based on similar principles within the context of

both health and social care services. Within health care, the simplest definition of patient safety is the prevention of errors and adverse effects associated with health care. Over recent years, the definition of preventable harm caused has expanded to include physical, psychological, emotional, moral, economic, and/or societal harm to patients and/or the workforce as well as harm caused by inequities and/or lack of care for patients, families, and/or the workforce (cf. 1). In Finland, patient safety is defined as those principles and operative policies through which all health care professionals, units, and organizations safeguard patient safety within the context of health care – even encompassing illness prevention, diagnostics, care, and rehabilitation, as well as medication safety (19). Within the context of social services, client safety is defined as the way through which services are organized, produced, and implemented so that a client's physical, psychological, social, and/or economic safety are not endangered (20).

Within the context of home care, safety risks can include physical risks related to the actual home environment, e.g., poor hygiene, bad air quality, dangerous substances, or insufficient waste management, that may impact medication, nutrition, infection control, fall risk, clinical care, and/or care coordination (21). The most commonly recorded adverse events within the context of home nursing are healthcare-associated infections, falls, pressure ulcers (22), and medication errors (23). Other safety risk dimensions are emotional, including stress, trauma, and/or inconvenience related to care received or partially offered by a near-one (24), social networks and relationships that impact health, and functions related to activities of daily life (1,21). Patients'/clients' near-ones, pets, or neighbors can be aggressive, impacting both patient/client and workforce safety (25). Additionally, problems with technological solutions, e.g., issues related to the use of medical devices (4) and/or technology, e.g., service users' ability/training, information delivery within and/or between units (26), can contribute to safety risks. Even professionals' possible lack of necessary knowledge and skills in relation to the complexity of service users'

situations (21) can contribute to safety risks. Such risks may even affect the collaboration between professionals and patients'/clients' near-ones. In sum, categories of linked causes of safety risks include overlooking or ignoring individual fallibility, losing track of objectives, failure to follow standard operating procedures, and breakdowns in communication or teamwork (21).

## **Material and Methods**

### *Design and aim*

An exploratory cross-sectional online survey was undertaken from September 13, 2021, to February 18, 2022. The aim was to explore patient/client safety structures and processes within those organizations that provided home care (home nursing, hospital-at-home, home social services) during the transition period relevant to the reorganization/reform of home care and the supervision of patient/client safety in Finland. The study findings will be used to 1) contribute to an assessment of how the Patient and Client Safety Strategy 2017-2021 was implemented in Finland, which will in turn 2) serve as a baseline for further evaluation of the impact of the health and social care system reform, including new legislative demands relevant to the supervision and self-supervision of health and social care services providers. In addition, the results of this study 3) offer material for evaluation and comparison of patient/client safety structures and processes within home care on an international level, as this is the first study in the context of home care from an organizational perspective.

### *Settings and sample*

In Finland, home care consists of home nursing (health and nursing care), hospital-at-home services (specialized nursing and medical care), and home social services. Home care may be produced by municipal public health or social services organizations, private entrepreneurs (as publicly or privately funded services), or as a combination of these. The National Supervisory Authority for Welfare and Health supervises those organizations that provide home care services. As of autumn 2021, a total sample of 3 089 home care

organizations were identified from the National Supervisory Authority for Welfare and Health's Valveri register and The Finnish Institute for Health and Welfare register (Table 1).

**Table 1:** Number of home care organizations identified September 2021, n = 3 089.

|   |       |
|---|-------|
| Private home nursing, hospital-at-home    | 564   |
| Private home social services              | 2 098 |
| Public home nursing, home social services | 357   |
| Public hospital-at-home                   | 70    |

Those private home care organizations that only offered home care services as a compliment to, e.g., cleaning and/or hairdressing services, and those home care organizations that only offered pediatric or terminal care hospital-at-home services were excluded (n = 263). In September 2021, an online survey was sent to those persons responsible for patient/client safety management at the remaining 2 826 home care organizations, who were asked to complete the survey with their safety team, if applicable. Throughout the course of the research project, the World Medical Association Declaration of Helsinki: Ethical Principles for Medical Research Involving Humans (27) were followed. In accordance with the Finnish Advisory Board on Research Integrity TENK guidelines for ethical research, individual permission from the various included organizations was not considered necessary because the study encompassed patient/client safety professionals and/or organizational managers/leaders. A completed survey was taken as informed consent.

The response rate was low as of autumn 2021, most likely because of the ongoing COVID-19 pandemic, and a total of three reminders to complete the survey were sent out (October and November 2021, January 2022). In December 2021, a tentative analysis of the home care organizations in our sample was undertaken. This involved the systematic selection of every 50th organization up to a total of 50 organizations followed by telephone

contact to inquire whether an organization actually offered home care services or not. Of the 50 organizations contacted, 23 no longer offered home care services while two organizations were seen to have a different address than that which was listed in the Valveri register. Furthermore, it was found that many of the contacted home care organizations provided more than one service, e.g., home nursing and social services, or home nursing and hospital-at-home services. The actual target population was therefore estimated as 1 526 organizations (95% confidence interval (CI), 1 136-1 916).

#### *Data tools and collection*

Various elements from the Patient and Client Safety Strategy 2017-2021 and other acts and laws relevant to home care services described in the Background section were used to form the structure and content of the online survey. The survey was available in both Finnish and Swedish, the two main official languages in Finland. Most of the included questions were close-ended, with answers selected on a scale from 1-4: 1 (yes), 2 (no), 3 (partly), 4 (does not concern our organization). Six questions were open-ended. A mixed method design was used to broaden and deepen exploration of the subject matter. This included a quantitative section to explore the prevalence of certain organizational structures and processes, and a qualitative section to explore the content of each organization's patient/client safety plan as well as responsibilities and the methods used in patient/client safety management work.

The content validity and feasibility of the online survey were tested in a pilot data collection in June 2021 before the actual data collection period. Altogether, 27 persons working in home care were recruited (snowball sampling) to test the feasibility of the online survey and give comments about the structure, length, and content of it. There was no need to revise the online survey.

#### *Data analyses*

Microsoft Excel was used to process the data. The Desc Tools package (28) was used to produce CI proportions with R (R Core Team, 2022). All other quantitative data were analyzed using the IBM SPSS version

28 statistical software program. P-values  $\leq .05$  were considered statistically significant. All significance tests were performed as two-tailed. All reported Confidence Intervals were 95% CI. All percentages were calculated as valid percentages, i.e., missing data were excluded from those calculations.

No corrections for multiple testing were performed because the study was exploratory and the results should be confirmed accordingly through further research. In descriptive analyses, categorical variables were presented with percentages and partially with frequencies.

Missing data were not addressed. Qualitative, nominal scale variables were analyzed using the Chi-squared or Fisher's exact test and quantitative variables with at least interval scale were analyzed using the Mann-Whitney U test.

Main subgroup comparisons were performed between those organizations providing both home nursing and social services and those organizations only providing social services.

One researcher (AR) performed the statistical analyses. Deductive content analysis was used to analyze the qualitative data derived from the open-ended questions, i.e., the structure of analysis was operationalized based on previous knowledge (29), defined in this study as the diverse acts and laws relevant to home care (see Background section), the content of the Patient and Client Safety Strategy 2017-2021, and the obligatory content of a patient/client safety plan as delineated in the Decree of the Ministry of Social Affairs and Health on the Preparation of a Quality Management Plan and on How Patient Safety is Met.

Meaning units were identified, coded according to similar content and categorized (29). One researcher (HVR) performed the qualitative content analysis. The research team together conducted the integration of the results.

## Results

Of the total respondents ( $n = 115$ ), the majority selected the Finnish-language version of the survey ( $n = 107$ , 93%). Respondents either worked for

organizations that provided home social services ( $n = 42$ , 37%), provided home nursing and social services (41, 36%), provided home nursing (5, 4%), provided hospital-at-home services ( $n = 15$ , 13%), or provided all three services (home nursing, hospital-at-home, home social services) ( $n = 9$ , 8%). Alongside presentation of the overall data, we present findings specific to the comparison of two types of organizations: those providing both home nursing and social services (of which 58% were public organizations) versus those providing only social services (of which 76% were private organizations).

Of the organizational types ( $n = 112$ ), the number of home care visits undertaken annually varied from  $<1\ 500$  (34, 29%) to  $>3\ 000$  (69, 62%). Care personnel were primarily primary care nurses (90, 81%), Registered Nurses with a Bachelor's degree (76, 69%), or Registered Nurses with a Master's degree (17, 15%).

The prevalence of Registered Nurses with a Bachelor's degree was congruously higher for organizations providing both health care and social services (35/40 [88%, CI 74%-95%]) versus only social services (14/42 [33%, CI 21%-48%],  $p < 0.001$ , Chi-squared test). As seen from the compared sample, only a few of the respondents' professional titles were related to patient safety, e.g., Patient safety coordinator, Quality and development chief, Patient safety officer, Data protection officer. Most respondents were instead seen to hold various leadership positions within their organizations as a charge nurse responsible for overseeing home nursing services or as a director of operations.

Only one organization was seen to have a team that was responsible for patient/client safety. Respondents' educational background included universities of applied sciences ( $n = 42$ , 39%), higher education ( $n = 31$ , 28%), or college ( $n = 21$ , 19%). Respondents' work experience varied from  $<7$  years ( $n = 5$ , 5%), seven to 15 years ( $n = 18$ , 17%), 15 to 30 years ( $n = 45$ , 44%), to 30 years ( $n = 35$ , 34%). Work experience as a person responsible for patient/client safety varied from  $<1$  year (22%) to 30 years; 15% had held the position about 10 years (Median: 6 years). There were no

statistically significant differences (Mann-Whitney U Test) between the compared organizations regarding respondents' length of work experience.

The difference in the proportion of care personnel with a higher education was higher for organizations providing both home nursing and social services (44%) versus only social services (7%) ( $p < 0.001$ , Chi-squared test).

#### *Organizations' patient/client safety strategies and delineation of responsibilities*

In the overall data, 55% ( $n = 61$ ) of organizations were found to have a patient/client safety plan while 34% ( $n = 39$ ) were found to have a partial plan (total 89%); 52% ( $n = 58$ ) were publicly provided health care organizations, in which such a plan was presupposed. Of the compared organizations, a patient/client safety plan was more often found in organizations providing both home nursing and social services (93%) versus only social services (88%). Regarding the content of the plans, patient/client physical safety was addressed in 99 plans (86%), psychological safety in 97 (84%), social safety in 95 (83%), informational safety in 95 (83%), and economic safety in 67 (58%).

In the overall data, the responsible authority for the self-monitoring plan was delineated in most organizations' safety plans ( $n = 97$ , 84%).

Responsibility for supervision of care personnel's actions was even delineated in most patient/client safety plans ( $n = 88$ , 85%), more often in organizations providing both home nursing and social services (34/36 [94%, CI 82%-98%]) versus only social services (28/39, [72%, CI 56%-83%],  $p = 0.013$ , Chi-squared test). However, information relevant to the supervision of physicians' actions was only found in 49 (48%) patient/client safety plans. Also found was information relevant to the supervision of care personnel's

surveys and reports on hazardous and adverse events ( $n = 76$ , 75%), supervision of registered data ( $n = 90$ , 87%), supervision of safety surveys and patient/client reports ( $n = 83$ , 81%), and supervision of document safety ( $n = 85$ , 74%).

Regarding responsibility for the supervision of care personnel's surveys and reports on the hazardous and adverse events, a significant difference was seen between organizations providing both home nursing and social services (33/35 [94%, CI 81%-98%]) versus only social services (19/39 [49%, CI 34%-64%],  $p < 0.001$ , Chi-squared test). Information relevant to contract acquisition and management and purchased services was not so clearly defined between the compared organizations ( $n = 73$ , 72% vs.  $n = 74$ , 71%). As seen from the qualitative content analysis of the open-ended questions, various terms were used for the responsible authority and the delineation of responsibilities (Table 2).

Overlap was seen, especially regarding the responsible authority. Responses were grouped as Organization owner, Higher managerial level, Foreman/Expert, or the National Supervisory Authority for Welfare and Health.

Organization owner was identified as the authority mainly responsible for safety strategies at an organization, including most aspects of the patient/client safety plan. In the overall data, Organization owner and Higher managerial level were even equally identified as the authorities largely responsible for the Supervision of staff surveys and reports on hazardous and adverse events as well as the Supervision of safety surveys and patient/client reports. Higher managerial level was identified as the authority Responsible for safety culture, while Foreman/ Expert was identified as the authority Responsible for safety management.

**Table 2:** Results of the qualitative content analysis: listing of responsible authority and delineation of responsibilities in patient/client safety plans.

| Responsible authority  | Responsible for (categories)      | Responsibilities (codes)  |
|--|-----------------------------------|---|
| Organization owner<br>-Hospital district<br>-Wellbeing Services County<br>-County-City<br>-Private organization<br>-Respondent as entrepreneur             | Responsible for safety strategies | -Supervision of self-monitoring plan<br>-Supervision of safety surveys and patient/client reports<br>-Supervision of care personnel’s actions<br>-Supervision of staff surveys and reports on hazardous and adverse events<br>-Supervision of contracts<br>-Supervision of services purchased<br>-Supervision of registered data  |
| Higher managerial level<br>-Steering committee<br>-Supervisory board   | Responsible for safety culture    | -Planning of safety culture<br>-Guiding of safety culture<br>-Enabling of safety culture<br>-Monitoring of safety culture   |
| Foreman/Expert<br>-Team level<br>-Unit level<br>-Service manager<br>-Development manager<br>-Quality manager<br>-Sales director<br>-Head of administration | Responsible for safety management | -Instruction of care personnel<br>-Organization of safety work<br>-Sharing of resources<br>-Encouragement of open atmosphere and reporting<br>-Analysis of different process and outcome reports<br>-Analysis of reports on hazardous and adverse events and duty of care statements<br>-Processing of reports with care personnel<br>-Reporting to occupational health unit<br>-Ensuring that necessary revisions to safety protocols or instructions are made<br>-Monitoring of care personnel’s competence and skills<br>-Organizing opportunities for further education |
| National Supervisory Authority for Welfare and Health  | Responsible for safety control    | -Supervision of patient/client safety plan<br>-Supervision of document safety<br>-Supervision of registered data  |

Organization owner was most often identified as the authority responsible for the supervision of the different dimensions of the patient/client safety plan among those organizations providing only social services, whereas Higher managerial level or Foreman/Expert were most often identified among organizations providing both home nursing and social services. Further differences were even seen between the compared organizations (both home nursing and social services vs. only social services) regarding Supervision of contracts (13/25 [52%, CI 33%-70%] vs. 5/26 [19%, CI 9%-38%],  $p = 0.014$ ), Supervision of services purchased (15/24 [63%, CI 43%-79%] vs. 6/27 [22%, CI 11%-41%],  $p = 0.04$ ), Supervision of registered data (20/32 [63%, CI 45%-77%] vs. 9/27 [33%, CI 19%-52%]  $p < 0.001$ ), Supervision of document safety (13/25 [52%, CI 33%-70%] vs. 5/27 [19%, CI 8%-37%],  $p = 0.011$ ), Supervision of care

personnel’s actions (13/28 [46%, CI 30%-64%] vs. 6/29 [21%, CI 10%-38%],  $p = 0.039$ ) and Supervision of physicians’ actions (5/11 [46%, CI 21%-72%] vs. 1/15 [7%, CI 1%-30%],  $p = 0.054$ ) (Chi-square test and Fisher’s exact test).

*Patient/client safety methods*

Of the overall sample, patients/clients and patients’/clients’ near-ones were encompassed in only a few patient/client safety plans, although the methods through which patients/clients and near-ones could report quality or safety problems were defined. Most patient/client safety plans included information about patient/client service and care consultation processes ( $n = 93, 81\%$ ), reporting of maladministration ( $n = 91, 79\%$ ), and/or patient/client safety surveys ( $n = 88, 76\%$ ). Yet only 26% ( $n = 30$ ) encompassed patient/client councils. Furthermore, only 24% ( $n = 28$ ) of



patient/client safety plans included information about patient/client safety observation rounds. No statistically significant differences were seen between the compared organizational types.

Some patient/client safety plans encompassed information about near-ones' inclusion in service and care consultation processes (n= 94, 89%), duty of care statements (n= 76, 75%) and/or safety surveys (n= 67, 66%) – at least partially. Near-ones were more often included in patient/ client councils among organizations providing both home nursing and social services [15/38 [39%, CI 26%-55%] vs. 5/35 [14%, CI 6%-29%], p = 0.019, Fisher's exact test). Some patient/client safety plans included at least partial information about

the principles and methods for human resources management that support quality management and patient safety (n = 90, 86%), necessary human resources (n = 87, 84%), and/or supervision of care personnel's competence (n = 94, 90%). No statistically significant differences were seen between the compared organizational types for these variables. An emphasis on methods through which personnel can participate in the development of safety culture was discerned, with a focus on both proactive and reactive methods (Table 3). However, there were statistically significant differences between the compared organizational types, with organizations providing both home nursing and social services more likely to include such an emphasis.

**Table 3:** methods whereby care personnel participate in the development of safety culture.

| <i>Pro-active methods</i>  | <b>Organizations using such methods,% [95% CI](N total = 115)</b> | <b>Both home nursing and social services, % [95% CI] (N = 41)</b> | <b>Only social services,% [95% CI] (N = 42)</b> | <b>Organizational type comparison: Both home nursing and social services versus only social services; Fisher's exact test</b> |
|--|---|---|---|---|
| Resident Assessment Instrument indicators  | 45%[36%-55%]  | 66%[50%-79%]  | 22%[12%-38%]                                    | < 0.001   |
| Patient/client safety teams  | 42%[33%-52%]  | 51%<br>[36%-67%]  | 16%<br>[7%-30%]                                 | 0.001   |
| Patient/client safety/security walks   | 38%[29%-48%]  | 50%[35%-65%]  | 24%[13%-39%]                                    | 0.031   |
| Safety observation rounds  | 43%[34%-52%]  | 42%[28%-58%]  | 30%[17%-46%]                                    | 0.338   |
| Care personnel's safety feedback surveys   | 85%[77%-90%]  | 95%[83%-99%]  | 67%[51%-79%]                                    | 0.003   |
| Managerial review of safety issues   | 64%[54%-72%]  | 76%[61%-87%]  | 36%[23%-52%]                                    | < 0.001   |
| Planned safety control visits  | 62%[53%-71%]  | 74%[59%-85%]  | 41%[27%-57%]                                    | 0.006   |
| Reactive methods   |   |   |   |   |
| Care personnel's safety announcements  | 78%[69%-85%]  | 87%[73%-94%]  | 62%[46%-75%]                                    | 0.018   |
| Care personnel's duty of care statements   | 83%[75%-89%]  | 90%[76%-96%]  | 71%[56%-82%]                                    | 0.05  |
| "Whistleblower" statements   | 84% [76%-90%]   | 92%[79%-97%]  | 70%[55%-82%]                                    | 0.02  |
| HaiPro (web-based safety incident reporting and learning instrument, most frequently used commercial product in Finland; Awanic Ltd) | 67%[57%-75%]  | 82%[67%-91%]  | 35%[22%-51%]                                    | 0.001   |
| Reactive safety control visits   | 49%[39%-58%]  | 62%[46%-76%]  | 26%[15%-42%]                                    | 0.002   |

While information related to professional groups was not sought in the survey, from the replies to some open-ended questions it was nonetheless possible to discern that care personnel held a remarkable role in acting as *Everyday safety "watchdogs"*. This could include, among other things, undertaking initial patient/client home visits, observing patient/client home environment safety, observing patient/client (clinical) status, observing patients'/clients' near-ones' resources, conducting home environment safety mapping and assessments, conducting home environment medical device and safety wristband controls, controlling

medication lists and medication intake accuracy, discovering and inhibiting immediate safety risk scenarios, developing and revising safety and care/service plans, and/or developing and revising safety action instructions in collaboration with colleagues and foremen. It was also discernable that care personnel could even function as "*Safety whistleblowers*", e.g., contacting and/or consulting other professionals (physiotherapists, police, firemen, ambulance, acute care, ombudsman), reporting safety risks to others (colleagues, substitutes, student trainees, leaders within own organization), and/or making duty of care statements or

incident reports. Even discernable from the replies to the open-ended questions were the methods whereby care personnel/new employees/student trainees/substitutes were introduced into quality management and patient safety. This could include, among other things, *the non-systematic* (intermittent), *systematic* (monthly, semi-annually), or *joint/collaborative discussion* of received incident reports (duty of care statements made by care personnel, patients/clients and/or near-ones) during team meetings, which could facilitate joint analysis, learning through best/worst example, the development or revision of action(s) or instructions, furtherance of information to others, etc. Even the provision of situational initiation training for student trainees was found, but not how substitutes are involved in safety culture and safety work. Found in one reply was that one organization considered it to be very important that active safety work be made visible to all stakeholders (seen as

benchmarking), including the use of different channels to disseminate information: intranet, Internet, posters, flyers, educational calendar, providing information during staff recruitment, etc.

From the replies to the open-ended questions, it was even possible to discern information about the methods used to identify and manage safety risks in relation to various dimensions of patient/client safety; of note is that only respondents from those organizations offering home nursing or hospital-at-home services provided replies (10,14).

The categories that emerged from the qualitative content analysis describe the wide range of mainly proactive activities that care personnel engage in during home visits, including the identification and management of risks. The only category describing the leader’s role in identification and management of patient/client safety risks was noted in the category *Leading through knowledge* (Table 4).

**Table 4:** Results of the qualitative content analysis: methods to identify and manage safety risks in home nursing or in hospital-at-home

| Category               | Codes   |
|------------------------|---|
| Clinical instruments   | <p><i>The various non-patient-safety-specific instruments used to identify safety risks, including physical, psychological and social safety risks; patient/client functional capacity; complex clinical status and changes; risk for falling or stumbling; nutritional status.</i></p> <ul style="list-style-type: none"> <li>-Resident Assessment Instrument</li> <li>-Edmonton Symptom Assessment Scale</li> <li>-Geriatric Depression Scale</li> <li>-TUVA® functional ability meter</li> <li>-Consortium to Establish a Registry for Alzheimer’s Disease (CERAD) instrument</li> <li>-Becks Depression Inventory</li> <li>-Fall Risk Assessment Tool</li> <li>-Fall Risk for Older People</li> <li>-Short Physical Performance Battery</li> <li>-Braden scale</li> <li>-Mini Mental State Examination</li> <li>-Mini Nutritional Assessment</li> </ul> |
| Other clinical methods | <p><i>Continuous and structured client assessment, proactive observation of different safety risks</i></p> <ul style="list-style-type: none"> <li>-National Early Warning Score</li> <li>-Gerontological patient/client assessment</li> <li>-Proactive home or home rehabilitation visits</li> <li>-Listening to patients/clients and their near-ones</li> <li>-Taking vital signs and/or blood tests</li> <li>-Preparing or revising care plans</li> </ul>   |
| Collaborative methods  | <p><i>Direct collaboration with patients/clients and near-ones</i></p> <ul style="list-style-type: none"> <li>-Home visits before admission to home care</li> <li>-Telephone interviews before admission to home care</li> </ul> <p><i>Indirect collaboration with patients/clients and near-ones</i></p> <ul style="list-style-type: none"> <li>- Notices to patients’/clients’ near-ones</li> </ul> <p><i>Interprofessional collaboration</i></p> <ul style="list-style-type: none"> <li>-Possibility to contact a physician/physiotherapist/ nutrition expert/social worker, etc.</li> <li>-Documentation</li> </ul>   |

|  |  |
|--|--|
|  | -Interprofessional care meetings   |
|  | <i>Duty of care statements</i><br>-To health care unit<br>-To foreman  |
|  | <i>Creating reports on hazardous and adverse events</i><br>-HaiPro (web-based safety incident reporting and learning instrument, most frequently used commercial product in Finland; Awanic Ltd)   |
| Specific patient safety instruments or methods | <i>Using different checklists or criteria</i><br>-Checklist for safe home environment<br>-Criteria for safe discharge from hospital to home care   |
|  | <i>Analyzing of digital/virtual safety reports</i><br>-Gillie (clinical) alarm<br>-Number of falls<br>-Technical device failure reports  |
|  | <i>Monitoring of statistics</i><br>-Care personnel's use of hand disinfection<br>- Care personnel's use of gloves<br>-Care personnel's vaccinations<br>-Care personnel's licenses/permissions for different tasks<br>-Number of hospital-acquired infections |
| Leading through knowledge                      | <i>Systematically controlling and safeguarding care personnel's competency</i><br>-Organization of examinations and tests<br>-Organization of further education  |
|  | <i>Systematizing safety instructions</i><br>-How to preserve and/or transport blood samples from a home environment  |

In the overall data, descriptions of collaboration and/or the exchange of information between various health care and social care organizations and units/actors relevant to the improvement of patient/client safety were minimal. Categories that emerged from the qualitative content analysis of the open-ended questions included the *Reporting of safety issues during interprofessional meetings* (discussing specific patients/clients, reporting of patient safety incident reports at monthly meetings within clinical health care sector domains, addressing safety issues in specific business unit meetings), *Agreeing on documentation and report structures* (Introduction Situation Background Assessment Recommendations, National Early Warning Score, check-lists, epicrisis, medication lists), *Using same documentation systems for health care and social care organizations*, or, if such was lacking, *Additional work for patient/client safety* (asking for and/or scanning documents from another organization/unit, inter-unit telephone reports to guarantee care/service continuity). Further categories that emerged were *Asking the patient/client for informed consent to transfer information*

(compiling a report after requesting informed consent, filling in a consent (AGREE) form, asking for consent to document information into the national digital electronic health and social care data management system) and *Maintenance of information safety* (shielded telephone contact, encrypted e-mail, use of passwords).

### Discussion

In this cross-sectional study, patient/client safety structures and processes within those organizations that provided home care during the transition period relevant to the reform of home care services and the supervision of patient/client safety in Finland were explored.

To our knowledge, this is the first time that patient/client safety structures and processes in the context of home care have been explored from an organizational perspective. The number of patients/clients receiving home care instead of institution-based care is increasing, thus one can assume the need for the integration of health and social care services in other settings. Accordingly, the findings from this study can be considered internationally relevant and

can provide a base for comparisons. As seen in earlier research, the risk for patient/client safety incidents increases if services are localized outside an institution (2), especially because of poor service coordination (30).

From the overall data (n= 115 organizations), Organization owner and Higher managerial level emerged as the responsible authority for patient/client safety at an organization. Most of the home care organizations included in the data either provided both home nursing and social services (36%), which are typically led by an interprofessional team, or provided only social services (37%), which are primarily privately owned, i.e., have an owner or entrepreneur. Organization owner was identified as being mainly responsible for safety strategies at an organization (including most aspects of the patient/client safety plan), especially among organizations providing only social services. Organization owner and Higher managerial level were both identified as being largely equally responsible for the supervision of staff surveys, reports on hazardous and adverse events, as well as safety surveys and patient/client reports, whereas Higher managerial level was typically found among organizations providing both home nursing and social services (Table 2). Foreman/Expert was identified as being responsible for safety management whereas the National Supervisory Authority for Welfare and Health was identified as being responsible for external safety control. Accordingly, both internal and external quality controls were found to be encompassed in these categories, thereby yielding what can be considered comprehensive patient/client safety. Moreover, the manner in which patient/client safety is encompassed can be considered broader than “mere” clinical safety, which clinicians, pharmacists, and/or registered nurses traditionally provide (6).

However, responsibility overlap was even seen, especially for Supervision of care personnel’s actions, Supervision of safety surveys and patient/client reports, Supervision of staff surveys and reports on hazardous and adverse events, Supervision of registered data and Supervision of document safety. This may indicate the

existence of the unclear division of tasks (30) or the existence of “double-checking” processes among home care organizations. Organizations providing both home nursing and social services listed Supervision of care personnel’s actions and Supervision of staff surveys and reports on hazardous and adverse events more often than organizations providing only social services. The Supervision of contracts and Supervision of services purchased were not clearly defined in the responses from either type of organization and, if defined, Organization owner or Higher managerial level was listed. Such a division of tasks might constitute an ethical problem, i.e., if such tasks are not subject to external control from the National Supervisory Authority for Welfare and Health or Regional State Administrative Agencies.

During the data collection period (September 2021 to February 2022), nearly all the included organizations (89%) were seen to have a patient/client safety plan, which publicly funded primary and specialized care organizations, including those providing home nursing, are required by law to have (10). Even 88% of those organizations providing only social services, which are predominately private, were seen to have a patient/client safety plan. This may be linked to the outsourcing of services from publicly funded organizations to privately owned organizations; as noted previously, a patient/client safety plan is mandatory for publicly funded primary and specialized care organizations. Given the complexity of home care, in which simultaneous patient/client concerns are often seen, such findings can be considered positive. As seen in the Patient and Client Safety Strategy 2017-2021, organizations providing home nursing and social services are responsible for promoting and safeguarding patient/client safety (9). From January 2023, publicly funded primary and specialized care organizations will be required to have a self-monitoring plan, which should further increase and improve patient/client safety.

As seen from the data, the content of the included organizations’ patient/client safety plans was found to correspond well with that which is stipulated in current laws. Nevertheless, there was a greater focus on

patients'/clients' physical, psychological, social, and informational safety in comparison to economic safety, which was included in only about half of patient/client safety plans. This might indicate the existence of differences between how patient/client safety is defined within health care and social care. Individuals with complex or long-term conditions have been found to suffer from economic insecurity; thus, it would be important to include assessments of economic safety, not only to improve overall care but also to facilitate the integration of services and ensure comprehensive safety management.

The resources for quality management and patient/client safety were found to be quite well defined in patient/client safety plans and were found to correspond well with the stipulations set forth in the Decree of the Ministry of Social Affairs and Health on the Preparation of a Quality Management Plan and on How Patient Safety is Met (13). For example, regarding care personnel competence (90% of organizations), the principles and methods for human resources management that support quality management and patient safety (86% of organizations), and necessary human resources (84% of organizations). No statistically significant differences between the two compared organizational types were found. The methods used in home care organizations to identify, prevent, minimize, and report safety problems were mostly proactive, which indicates an active, analytic, and learning safety culture (Table 4). The methods through which personnel can participate in the development of safety culture were even found to include a clear focus on both proactive and reactive methods, e.g., Safety observation rounds, Care personnel's safety feedback surveys, Resident Assessment Instrument indicators, Care personnel's duty of care statements, and HaiPro. Statistically significant differences were found for both categories, in favor of organizations providing both home nursing and social services. Regarding patients'/clients' and near-ones' reporting of safety issues (Decree of the Ministry of Social Affairs and Health on the Preparation of a Quality Management Plan and on How Patient Safety is Met (13)), there was a lack

of clarity related to whether patients'/clients' inclusion in service and care consultation (89%), safety surveys (66%), patient/client councils (29%), and/or safety observation rounds (43%) were proactive or reactive measures. Nonetheless, reporting of maladministration was encompassed in 79% of the compared organizations' patient/client safety plans. No statistically significant differences between organizational types were found. A similar trend was seen regarding near-ones' inclusion in service and care consultation, safety surveys, and/or making of duty of care statements. As seen in earlier research, near-ones often bear responsibility not only for the management of multiple medications but even the administration of injections and/or intravenous medications. Organizations providing both home nursing and social services were found to include near-ones more often in patient/client councils than organizations providing only social services. Not only should patients'/clients' and near-ones' inclusion in safety management in home care contexts be developed, but also how substitutes and student trainees are encompassed in such work.

Organization Owner and/or Higher managerial level were identified as the authority responsible for the analysis of care personnel's incident reports and duty of care statements, which could be non-systematic, systematic, or joint/ collaborative discussions during team meetings. It is unknown whether team meetings were interprofessional or if substitutes and/or student trainees were included. Interprofessional learning activities have been found to improve patient safety. While some organizations provided situational initiation training for student trainees that included introduction to the patient/client safety plan, there was no mention of how substitutes were involved in safety culture and safety work.

To develop a truly comprehensive safety culture, it is essential that patients'/clients, substitutes, and student trainees be involved in safety work. As seen in earlier research, patient safety in home healthcare is dependent on adaptability on the managerial level and team members' ability

to adapt to varying conditions and behaviors so as to reduce safety risks (6).

The skilled and engaged personnel is the most valuable component of every organization. In this study, care personnel were found to bear clear responsibility in multiple dimensions of patient/client safety: before, during, and even after actual home visits. Care personnel were seen to function as Everyday safety “watchdogs” or “Safety whistleblowers” and employ a broad range of predominantly proactive and reactive measures (cf. Table 4) to identify, prevent, react to, and report safety risks and/or adverse events associated with changed or complex clinical situations, infections, falls, pressure ulcers, medication errors, malnutrition, poor social network, issues related to the use of medical devices, etc. (5, 22-24). Such clinical and collaborative processes (Table. 4) were often undertaken simultaneously, within a very short timeframe, and in challenging home environments (21,25).

Such tasks and processes can be considered challenging for Registered Nurses with a Bachelor’s degree - not to mention primary care nurses, who have a shorter professional education (cf. 21). Most home care recipients in Finland have age-related gerastenia and/or illness (es). Many unregulated care providers are performing tasks previously performed by regulated health professionals because of the current lack of health care professionals, with potential implications for patient safety. To ensure safe care, the use of Nurse Practitioners who lead and coordinate care teams or the use of Registered Nurses in home nursing is recommended. The legislation of self-monitoring within health and social care is not unique to Finland. In the United Kingdom, healthcare governance is referred to as clinical governance and defined as, “a system through which NHS organizations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish”.

This includes the monitoring of systems and processes so as to ensure patient safety and care quality throughout the entire healthcare system ([https:// www.](https://www.)

england. nhs. uk/mat-transfor- mation / matrons-handbook/ governance-patient-safety- and- quality/). In many other countries, e.g., the Nordic countries or the Netherlands, service providers are responsible for internal control, internal audits, self-control, and/or self-monitoring.

### *Limitations*

The online survey was validated in relation to content and feasibility, but not to structural validity, psychometric evaluation, face-validity, or discriminant validity, as personal information was purposefully not collected and there were no instruments of this kind in the literature. The included sample was relatively small. Altogether 3 089 home care organizations in Finland were identified from the Valveri and Finnish Institute for Health and Welfare registers. The online survey was sent to 2 826 organizations, yet only 115 surveys were completed, resulting in a 4,1% response rate as of autumn 2021.

Tentative sample analysis in December 2021 revealed that some organizations no longer offered home care services while other organizations provided more than one service, e.g., home nursing and social services, or home nursing and hospital-at-home services. Consequently, the actual target population was estimated as 1 526 organizations (CI 1 136-1 916), making the response rate 6% -10%.

Of the responding organizations, the majority were found to have well-established organizational patient/client safety structures and processes. Selection bias may have occurred; however, figures relating to the number of public and private home care services providers as found in this study are comparable to percentages found for the entire country. Moreover, this study was methodologically exploratory; thus, no multiple testing corrections were made. Further studies are required to confirm the findings.

### *Conclusion*

Patient/client safety structures and processes in the context of home care in Finland appear promising, and the health care sector appears to be well-prepared vis-à-vis legislative reform relevant to the

organization of home care and the supervision and self-monitoring of patient/client safety.

Current challenges include involving patients/clients, patients'/clients' near-ones, care personnel substitutes, and student trainees in safety processes to create a truly comprehensive and sustainable safety culture and increase (and/or ensure) home care personnel's competence.

Certain supervisory responsibilities must be clarified before it can be concluded that home nursing and social services are fully integrated in safety culture. The vision underlying the new Client and Patient Safety Strategy and its Implementation Plan for 2022–2026 is to, “make Finland a model country for client and patient safety in 2026 and to prevent avoidable harm”, based on four strategic priorities, expressed as, “together with clients and patients, thriving and competent professionals, safety first in all organisations, and improving what already exists” (<https://stm.fi/en/-/new-client-and-patient-safety-strategy-finland-aims-to-be-model-country-for-client-and-patient-safety-in-2026>). The findings presented here can be considered to indicate that the implementation of the strategy will be successful.

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