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AI-assisted triage in elderly care and municipal home healthcare

Submission date
13/10/2025

Recruitment status
Recruiting

Registration date
19/12/2025

Overall study status
Ongoing

Last Edited
19/12/2025

Condition category
Other

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
Elderly care faces major challenges such as staff shortages, high workload, and increasing care needs. This study aims to evaluate whether an AI-assisted triage tool (Visiba Triage App) can improve the work environment, learning, and competence among care staff and nurses, while enhancing care quality and patient safety.

Who can participate?
Care staff and registered nurses (18+) working in selected municipal elderly care units (nursing homes and home care). Care recipients and their relatives will also be invited to provide feedback. There are no age or sex restrictions for staff participants.

What does the study involve?
The app will be introduced in two intervention units and compared with two similar units without the app. Staff will receive training and support. Data will be collected before, during (6 months), and one year after implementation through interviews, surveys, knowledge tests, and administrative records. Care recipients and relatives will complete questionnaires, and some will be interviewed. The researchers are only responsible for the evaluation; the intervention will be implemented regardless of the involvement of the researchers.

What are the possible benefits and risks of participating?
Participants may benefit from improved communication, decision support, and work processes. Risks are minimal and mainly relate to the time required for surveys and interviews. No medical treatments or side effects are involved.

Where is the study run from?
The University of Gävle, Sweden.

When is the study starting and how long is it expected to run for?
The study starts in 2025 and will run for approximately two years.

Who is funding the study?
The University of Gävle, Sweden.

Who is the main contact?
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Contact information

Type(s)
Public, Scientific, Principal investigator

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
Nil kn own

Protocol serial number
Nil known

Study information

Scientific Title
AI-assisted triage in elderly care and municipal home healthcare: work environment, well-being, competence, care quality, and patient safety

Acronym
AITECH-WCPS

Study objectives
The overall aim of this research project is to study the work environment, well-being, learning, and competence of nursing staff and registered nurses before, during, and after the implementation of the new triage tool, Visiba Triage App. Furthermore, the aim is to examine the new way of working, the system’s usability, assessments, resource utilization, as well as aspects of care quality and patient safety during the implementation of Visiba Triage App.

Ethics approval required
Ethics approval required

Ethics approval(s)
approved 25/08/2025, The Swedish Ethical Review Authority (Box 2110, Uppsala, 75002, Sweden; +4610475 08 00; registrator@etikprovning.se), ref: 2025-04189-01

Study design
Quasi-experimental design

Primary study design
Observational

Study type(s)
Other

Health condition(s) or problem(s) studied
Work environment, well-being, and quality of care and safety

Interventions
Visiba has developed an AI-based service, called Visiba Triage, which enables care staff to digitally respond to individualized questions regarding the care recipient's health status. When using Visiba Triage, accessed via the work phone, care staff answer a series of questions about the care recipient's situation and the reason for seeking care. Using AI, the system evaluates and analyzes the reported symptoms and generates follow-up questions based on the provided information. Once sufficient information has been collected, the case is forwarded to the responsible nurse, who receives a summary of the care recipient's condition along with suggestions for urgency level and possible differential diagnoses. Visiba Triage is classified as a medical device (Red Robin, CE-marked according to MDR Class IIa). The service is currently used in regional primary care, where patients or their relatives provide the information themselves, and the case is managed by healthcare professionals at the patient's primary care center. The service has also been implemented in, for example, the UK as part of the NHS111 offering. However, it has not previously been used in elderly care, making its application in this project entirely novel.
Gävle Municipality is responsible for introducing and implementing AI-assisted triage as part of its organizational development in elderly care. The research team is not involved in the implementation itself but has been invited to study and observe what happens within the organization during this process. The purpose of the research project is to evaluate and analyze the organizational, ethical, and practical implications of introducing AI-assisted triage. However, the decision to implement and the execution of the implementation are entirely under the authority of Gävle Municipality.
This means that research participants are not exposed to any intervention initiated by the research team; rather, the study observes a change that has already been decided by the organization. This distinction is important to correctly assess participant safety and to provide clear and transparent information to participants.

The study will include 100-150 patients or relatives in a questionnaire study where they rate and describe their opinions about the care they received. In addition, about 15 will be interviewed.

Staff participating in the study will take part in three data collections: before implementation of the app, and at 6 and 12 months after implementation. In addition, approximately 50 staff

members in the intervention group will be interviewed.
Patients or relatives participating in the study will answer study-specific questions about how they perceive the care when staff use the app (approximately 100–150 respondents). Furthermore, about 15 of them will also be interviewed once about their experiences.

Intervention Type
Device

Phase
Not Specified

Drug/device/biological/vaccine name(s)
Visiba Triage app

Primary outcome(s)
Work environment is measured with the Safety, Communication, Operational Reliability, and Engagement (SCORE)* scale (factors teamwork, learning environment, leadership, communication/collaboration, workload, development opportunities, participations in decision making, work life balance) and the Condition of Work Effectiveness Questionnaire (CWEQ) II (factors opportunities, information, resources, support, formal and informal power) before and approximately 12 months after implementation of the app. SCORE is also measured approximately 6 months after implementation of the app.

Key secondary outcome(s))
1. Well-being is measured using the Copenhagen Psychosocial Questionnaire (COPSOQ III) – health factor and SCORE – factors: burnout, resilience before and approximately 12 months after implementation of the app. Furthermore, The Brief index of affective job satisfaction, The Psychological empowerment scale (factors meaning, self-determination and impact) and from the Satisfaction with work questionnaires one factor of stress symptoms, study specific question about sick leave and whether they feel secure in their job role. All are measured before and approximately 12 months after implementation of the app. The question whether they feel secure in their job role is also measured approximately 6 months after implementation of the app.
2. Learning is measured using the thriving scale (factors learning and vitality) before, and approximately 6 and 12 months after the implementation of the app.
3. Competence is measured before and approximately 12 months after implementation of the app using The Psychological empowerment scale (factor competence), The Nurse Professional competence scale (six factors about different competence areas), and a study-specific knowledge test and study specific question about competence.
4. Care quality is measured before and approximately 12 months after implementation of the app using the Staff satisfaction with given care scale
5. Patient safety is measured before and approximately 12 months after implementation of the app using the SCORE factor safety climate
6. System usability is measured in the intervention group approximately 6 and 12 months after implementation of the app using the System usability scale (SUS)
7. Sick leave using study specific question before and approximately 12 months after implementation of the app and figures from the unit one year before and one year after the implementation of the app
8.Staff turnover using the Satisfaction with work questionnaire one question about turnover intention before and approximately 12 months after implementation of the app and figures from the unit one year before and one year after the implementation of the app

9. Resource usability data from the telephone system in use today and from the new AI triage app (number of calls/ or message in the app, time consumptions for the calls, content, and outcomes) before, during and 6 months after the implementation
10. Medical errors using the deviation system. Error reporting will be collected as text documents describing the event that prompted a report before, during and 6 months after the implementation

Completion date
31/12/2028

Eligibility

Key inclusion criteria
1. Employed as care staff or a registered nurse in either the intervention or comparison group.
2. Belong to units included in the study (approximately 154 care staff and 39 nurses in the intervention group; 161 care staff and 34 nurses in the comparison group).
3. Willing and able to provide informed consent for participation.

For patient/relative surveys:
Care recipient (or relative living in the same household) involved in an acute nurse contact during the study period at intervention or comparison units.

Participant type(s)
Health professional, Patient, Resident

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 years

Upper age limit
120 years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Staff who are on long-term leave (e.g., sick leave, parental leave) during the data collection period.
2. Individuals who do not provide informed consent.
3. Care recipients or relatives who are unable to complete questionnaires due to severe

cognitive impairment or language barriers without available support.
4. Care recipients or relatives who do not reside in the same household (for the relative survey component).

Date of first enrolment
20/10/2025

Date of final enrolment
31/12/2027

Locations

Countries of recruitment
Sweden

Study participating centre
University of Gavle
Kungsbäcksvägen
Gävle
Sweden
80266

Sponsor information

Organisation
University of Gävle

ROR
https://ror.org/043fje207

Funder(s)

Funder type
University/education

Funder Name
Högskolan i Gävle

Alternative Name(s)
University of Gävle, Gävle University College, HiG

Funding Body Type

Government organisation

Funding Body Subtype
Universities (academic only)

Location
Sweden

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available