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Implementation of the Howz health monitoring system in older people's homes following hospital admission

Submission date
14/10/2020

Recruitment status
No longer recruiting

Registration date
15/02/2021

Overall study status
Completed

Last Edited
04/03/2024

Condition category
Other

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

Plain English summary of protocol

Background and study aims
The aim of this study is to investigate whether monitoring older people’s daily routines by using an easy-to-install sensor kit can help them to feel better about their return to the community amid returning home after being discharged from hospital or having an acute episode of illness or injury. The study also investigates how this service could be used to improve upon the NHS clinical service and whether this technology could help support people in isolation during COVID-19. Information from the sensors provided will be used to identify people’s daily routines, and this information is available for the user to view as well as their family, friends as well as NHS Clinicians. It is predicted that the information received could help detect early signs of illness through pattern changes, allowing early action to be implemented to prevent things from getting worse.

Who can participate?
Older patients aged 55 and over with at least one long-term condition will be recruited from the Discharge Assessment Service at Salford Royal NHS Foundation Trust. Recruitment will initially focus on the intermediate care discharges, but there is the option to extend recruitment to admission prevention services and/or the wards if needed. Potential participants will be identified by NHS staff within the Discharge Assessment Service, who will review each individual's case to determine suitability for the study.

What does the study involve?
The research team will provide participants with an easy-to-install sensor kit which will collect information such as movement within the home; doors opening or closing and electricity use. The study will last about 3 months during which a member of the research team will be in contact with each participant on a weekly basis to review findings and discuss any changes in their health and wellbeing. Health questionnaires and assessments will be carried out at the start of the study, after 6 weeks and at the end of the study so that results can be compared with the results that the sensors collect.

What are the possible benefits and risks of participating?
By taking part, participants will be given the opportunity to gain insights into their health through the use of the Howz smart monitoring service. To avoid any potential for feelings of loss at the end of the study, participants will be given the opportunity to keep their kit and continue to receive the Howz monitoring service. Furthermore, all participants will be informed of the results of the study which might help to put their contribution to the study and to the research field into context. There are no anticipated risks for participants.

Where is the study run from?
Salford Royal NHS Foundation Trust (UK)

When is the study starting and how long is it expected to run for?
March 2020 to August 2022

Who is funding the study?
1. Health Innovation Manchester Momentum Fund (UK)
2. Intelesant Ltd (UK)

Who is the main contact?
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Contact information

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Public

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Integrated Research Application System (IRAS)
282472

Study information

Scientific Title
Implementation of the Howz health monitoring system in older people's homes following hospital admission: a feasibility study

Acronym
HfH

Study objectives
The purpose of this study is to find out whether monitoring older people's daily routine using an easy-to-install sensor kit can help them to feel better about living in the community after being discharged from hospital or having an acute episode of illness or injury, and how this can be used to improve the care provided by an NHS clinical service.

Removed 28/07/2021:
There is also interest in investigating whether this technology could support people during social isolation due to COVID-19.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 22/07/2021, East Midlands - Nottingham 2 Research Ethics Committee (The Old Chapel, Royal Standard Place, Nottingham, NG1 6FS, UK; +44 (0)207 104 8169, +44 (0) 2071048035, +44 (0)203 443 6294; nottingham2.rec@hra.nhs.uk), REC ref: 299642

Primary study design
Interventional

Study design
Single-centre interventional non-randomized feasibility study

Study type(s)
Other

Health condition(s) or problem(s) studied
Promoting independence in older adults with multi-morbidities

Interventions

Participants will be monitored by the Howz Home Care sensor system throughout the time they are receiving usual service level from the Discharge Assessment Service at Salford Royal NHS Foundation Trust, and then for 3 months after this service is withdrawn. Weekly calls will take place from the Howz research team to the participants throughout the monitored period. Outcome measures (ADLs, frailty, anxiety) will be collected at baseline, point of discharge and study completion. A semi-structured interview to assess participants' experience with the Howz monitoring service will also be conducted at the point of discharge and study completion.

Intervention Type
Device

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Howz Home Care sensor system

Primary outcome(s)
The feasibility and acceptability of the intervention, based on:
1. Volume and regularity of data generated by the Howz systems, measured using data completeness report and weekly summary charts at the end of the trial
2. The views/experiences of the Howz system by older people living in their own homes following a discharge from hospital, measured using qualitative interview at 3-month follow-up
3. The views/experiences of the Howz system by relatives/carers of older people following a discharge from hospital, measured using qualitative interview at 3-month follow-up

Key secondary outcome(s)
1. The feasibility of using a range of outcome measures will be assessed:
1.1. Activities of daily living measured using the Nottingham Activities of Daily Living Scale (participants only) at baseline, discharge and 3-month follow-up
1.2. Anxiety measured using the GAS-10 (participants only) at baseline, discharge and 3-month follow-up
1.3. Frailty measured using the Groningen Frailty Indicator (participants only) at baseline, discharge and 3-month follow-up
1.4. Caregiver wellbeing measured using the Caregiver Self-Assessment Questionnaire (relatives /carers only) at baseline, discharge and 3-month follow-up
2. Validation of the Howz system routine change algorithms using validation call to participants at weekly intervals throughout the intervention
3. Whether the Howz system can support people who may be self-isolating in relation to the COVID-19 pandemic, measured using qualitative interview and visit reports via participant calls at the end of the trial

Completion date
31/08/2022

Eligibility

Key inclusion criteria
Current inclusion criteria as of 28/07/2021:
Patients:
1. Aged 55 and above

2. Living with mild or moderate frailty (based on a score of 4, 5 or 6 on the Rockwood Clinical Frailty Scale)
3. Receiving input from the DAS at Salford Royal NHS Foundation Trust
4. Living alone or with one other older person (aged 55 and above)
5. Capacity to provide informed consent to participate in the study
6. Reasonable understanding of written and verbal English

Previous inclusion criteria:
Patients:
1. Aged 55 and above
2. Presence of at least one long-term condition
3. Living alone
4. Capacity to provide informed consent to participate in the study
5. Reasonable understanding of written and verbal English

Relatives:
1. Act in an informal caring role to the patient
2. Capacity to provide informed consent to participate in the study
3. Access to and ability to operate a digital device compatible with the Howz app
4. Reasonable understanding of written and verbal English

Staff:
1. Work within the Discharge Assessment Service at Salford Royal NHS Foundation Trust

Participant type(s)
Mixed

Healthy volunteers allowed
No

Age group
Mixed

Sex
All

Total final enrolment
23

Key exclusion criteria
Current exclusion criteria as of 28/07/2021:
Patients:
1. Aged 54 and below.
2. Not living with mild or moderate frailty (based on a score outside 4, 5 or 6 on the Rockwood Clinical Frailty Scale)
3. Not receiving input from the DAS at Salford Royal NHS Foundation Trust
4. Living with a younger person, or in a multi-occupancy household with two or more people
5. Presence of cognitive impairment which prevents the ability to provide informed consent
6. Does not understand written and verbal English
7. Receiving telehealth solutions (except pendant alarms, which are permitted)

Previous exclusion criteria:
Patients:
1. Absence of long-term conditions
2. Unable to mobilise without assistance
3. Receiving telehealth solutions (except pendant alarms which are permitted)
4. Presence of cognitive impairment which prevents an individual giving informed consent
5. Does not understand written and verbal English

Relatives:
1. Does not act in a caring role to the patient
2. Presence of cognitive impairment which prevents an individual giving informed consent
3. Does not understand written and verbal English
4. Does not have access to a digital device compatible with the Howz app

Date of first enrolment
01/08/2021

Date of final enrolment
06/05/2022

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Salford Royal NHS Foundation Trust
Salford Royal
Stott Lane
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M6 8HD

Sponsor information

Organisation
Salford Royal NHS Foundation Trust

ROR
https://ror.org/019j78370

Funder(s)

Funder type
Research organisation

Funder Name
Health Innovation Manchester

Funder Name
Intelesant Ltd

Results and Publications

Individual participant data (IPD) sharing plan
The data-sharing plans for the current study are unknown and will be made available at a later date

IPD sharing plan summary
Data sharing statement to be made available at a later date