SPEC study: evaluation of a technology-enhanced, integrated care model in nursing homes

Submission date
09/03/2015

Registration date
16/03/2015

Last Edited
17/05/2021

Recruitment status
No longer recruiting

Overall study status
Completed

Condition category
Other

[X] Prospectively registered

[X] Protocol

[ ] Statistical analysis plan

[X] Results

[ ] Individual participant data

Plain English summary of protocol

Background and study aims
Provision of quality care to frail older people at long-term care facilities is an important public health agenda in an aging society, but a challenging goal to achieve. Individualized care planning and ongoing care management are widely accepted as an effective approach to improving care quality and outcomes and achieving person-centered care; yet the evidence is still limited, especially for people with complex chronic conditions and also in Asia. To overcome this gap, we have developed a technology-enhanced, multidisciplinary, integrated care management model and named it Systems for Person-centered Elder Care (SPEC). In this study, we will find out whether the SPEC model is useful for older residents and their care staff in nursing homes.

Who can participate?
Older adults and care staff at participating nursing homes

What does the study involve?
Ten nursing homes will participate in the study. The intervention will be sequentially rolled out every 3 months to two nursing homes in a random order. Each participating nursing home will receive the intervention for about 6 months following a control period during which the usual care will be provided. The overall study will continue for 21 months. The intervention is a new integrated care model. An initial comprehensive geriatric assessment will be done for the participating older residents by a nurse-social worker pair. Based on identified care needs, multidisciplinary care planning and optional case conferences will be provided, and care will be coordinated with health professionals in the community. Ongoing care management and follow-up will be done, facilitated by a supporting information and communication system. Relevant training and support will be provided by the research team.

What are the possible benefits and risks of participating?
There may be no direct benefits from study participation, but study participants will contribute to a better understanding of whether the new geriatric care model will improve care, promote health and wellbeing of older residents, and empower care staff in nursing homes. There are no known risks associated with participation.

Where is the study run from?
This study is led by Seoul National University (SNU) and is run from 10 nursing homes located at major provinces in South Korea.

When is the study starting and how long is it expected to run for?
March 2015 to May 2017

Who is funding the study?
The Korean Ministry of Health and Welfare through the Korean Health Industry Development Institute (KHIDI)

Who is the main contact?
Prof. Dr Hongsoo Kim
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
N/A

Study information

Scientific Title
Effectiveness of a technology-enhanced, integrated care model for frail older adults in nursing homes: a stepped-wedge cluster randomized trial

Acronym
SPEC (Systems for Person-centered Elder Care)

Study objectives
The principal study question is whether the Systems for Person-centered Elder Care (SPEC), a technology-enhanced, integrated care model, as compared to usual care, will improve quality of care for frail older adults in nursing homes.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Seoul National University IRB, 23/01/2015, ref: 1410/002-018

Study design

Stepped-wedge cluster randomized trial

Primary study design

Interventional

Study type(s)

Quality of life

Health condition(s) or problem(s) studied

Chronic illness; functional health

Interventions

The Systems for Person-centered Elder Care (SPEC) study is a stepped-wedge cluster randomized trial to evaluate a technology-enhanced, integrated care model for frail seniors in long-term care facilities in South Korea. The SPEC is a new, person-centered, multidisciplinary, integrated care management model enhanced by technology, targeting older residents at risk for common geriatric conditions and problems. The SPEC model was guided by the Chronic Care Model (CCM) and the CCM-inspired Multidisciplinary Integrated Care (MIC) model tested at residential care homes in the Netherlands. The key elements of the multifaceted SPEC intervention are as follows:
1. Comprehensive geriatric assessment (CGA) and need/risk profiling of triggered common geriatric problems using a decision-support tool, promoting a whole-person approach
2. Individualized need-based care planning (CP) using standardized care protocols and checklists by nurse/social worker pair-led multidisciplinary care teams, with input from the patient/family regarding preferences and choices in order to promote their service engagement
3. Optional multidisciplinary case conference meetings for older people who are at high risk and have complex care needs
4. Coordination of care through collaboration with families, contracted physicians, and/or medical institutions
5. An information and communication system supporting and tracking the entire care management process, including CGA and CP, as described above; and also provision of tailored resources for care providers/managers and older adults/families. Education, training, and structured on- and off-line support will be provided.

Ten nursing homes will participate in the study. The intervention will be sequentially rolled out every 3 months to two nursing homes in random order. Each participating nursing home will receive the intervention for approximately 6 months following a control period during which the usual care will be provided. The overall study period will be about 21 months. The usual care will be provided during the control period.

Intervention Type

Other

Primary outcome(s)

Quality of care (composite score of quality indicators of the interRAI LTCF) [Time frame: baseline, 3 months, 6 months, and 9 months of participant enrollment]

Key secondary outcome(s))
1. Quality of care (individual quality indicators of the interRAI LTCF) [Time frame: baseline, 3 months, 6 months, and 9 months of participant enrollment]
2. Care needs (identified clinical action points using the interRAI LTCF) [Time frame: baseline, 3 months, 6 months, and 9 months of participant enrollment]
3. Functional health (the Bathel index; Mini-Mental Status Examination; Patient Health Questionnaire) [Time frame: baseline, 3 months, 6 months, and 9 months of participant enrollment]
4. Quality of life (EuroQol EQ5-D; interRAI HRQoL) [Time frame: baseline, 3 months, 6 months, and 9 months of participant enrollment], (interRAI Self-reported QoL) [Time frame: 3 months and 9 months of participant enrollment]
5. Patient satisfaction (Client Satisfaction Questionnaire) [Time frame: 3 months, and 9 months of participant enrollment]
6. Health care utilization (hospital admissions; emergency department visits) [Time frame: 21 months]
7. Cost parameters (direct and indirect cost) [Time frame: 21 months]
8. Process evaluation (mixed methods) [Time frame: 21 months]

Other measures: Care staff/organization
1. Empowerment (Psychological Empowerment Instrument) [Time frame: 3 months and 9 months]
2. Communication satisfaction (Communication Satisfaction Questionnaire) [Time frame: 3 months and 9 months]
3. Organizational commitment (Organizational Commitment Questionnaire) [Time frame: 3 months and 9 months]
4. Job satisfaction (Job Satisfaction Scale) [Time frame: 3 months and 9 months]
5. Technology/innovation acceptance (modified Technology Acceptance Model Questionnaire) [Time frame: 4 months and 9 months]

Completion date
31/05/2017

Eligibility

Key inclusion criteria
Institutions:
1. Nursing homes designated as long-term care institutions by the National Health Insurance Services in Korea
2. Nursing homes with at least 45 residents
3. Nursing homes that agree to participate

Residents:
1. Adults aged 65 or older
2. Older adults that agree to participate

Staff:
1. Staff working at the nursing homes involved in the study
2. Staff that agree to participate

Participant type(s)

Mixed

Healthy volunteers allowed

No

Age group

Senior

Sex

All

Total final enrolment

482

Key exclusion criteria

Institutions:
1. Nursing homes participating in any other intervention study(s)

Residents:
1. Participants who are unable to read or communicate in Korean
2. Older adults staying at a participating nursing home for less than 7 days
3. Older adults who are terminally ill or comatose
4. Older adults who are incapable of participating

Date of first enrolment

30/03/2015

Date of final enrolment

31/05/2017

Locations

Countries of recruitment

Korea, South

Study participating centre
Seoul National University Graduate School of Public Health

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Sponsor information

Organisation

Seoul National University

ROR

https://ror.org/04h9pn542

Funder(s)

Funder type

Government

Funder Name

The Korean Ministry of Health and Welfare through Korean Health Industry Development Institute (KHIDI)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	03/04/2021	25/02/2021	Yes	No
Results article		12/05/2021	17/05/2021	Yes	No
Protocol article	protocol	18/04/2017		Yes	No