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Costs and effects of orthogeriatric co-management in older patients with an osteoporotic fracture in Belgium

Submission date
27/04/2023

Recruitment status
No longer recruiting

Registration date
17/07/2023

Overall study status
Completed

Last Edited
20/07/2026

Condition category
Injury, Occupational Diseases, Poisoning

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Osteoporotic fractures are a result of osteoporosis, when the bones become more fragile due to bone deterioration or low bone mass. Osteoporotic fractures are highly prevalent in our ageing population. In Belgium, the amount of osteoporotic fractures is estimated at 100,000 per year with major osteoporotic fractures (hip, pelvis, femur, forearm, shoulder, and vertebrae) accounting for almost half of these fractures. Osteoporotic fractures often lead to poor outcomes in these older persons due to complications, functional decline, institutionalization, poor quality of life, and death. Osteoporotic fractures also have a huge socio-economic impact related to hospitalizations, rehabilitation, and long-term care, and also professional and informal caregiver home care. As such, the costs during the first year after a hip fracture are very high with inpatient care as the main driver. The gold standard in Belgium (Royal Decree from 2007, updated in 2014) for the care for older patients admitted to non-geriatric wards is a mobile geriatric consultation team that acts upon request of the non-geriatric ward. However, evidence has shown that this care model has limited effects on patients outcomes. A more holistic approach by a multidisciplinary team based on the principles of comprehensive geriatric assessment has been shown to improve older patient outcomes and costs. Therefore, a shift is seen towards geriatric co-management. This type of care model has shown beneficial effects in multiple randomized controlled trials compared to the consultation model: shorter length of stay, lower death rates and readmissions. As such, the co-management model is the standard of care in several European countries (UK, Norway). Real-live data from European countries suggests indeed improved patient outcomes, however coming with a very high financial cost, questioning the cost-effectiveness of geriatric co-management. Hence, costs and reimbursement policies differ from country to country. Therefore it is highly relevant to compare the (cost)effectiveness of both models in the specific Belgian setting in order to guide policymakers in supporting management decisions.

Who can participate?
Patients aged 75 years and older who were hospitalized with a major osteoporotic fracture in Belgian hospitals in 2019.

What does the study involve?
The researchers will compare the consultation model (standard of care) with the orthogeriatric co-management model.
Standard of care is defined as surgical care with geriatric expertise that is available upon active request by the trauma team and includes the comprehensive evaluation of the patient by a geriatric nurse.
Orthogeriatric co-management is defined as systematic involvement by a geriatrician and geriatric team in addition to the involvement of the surgical team. As the geriatric care provided is systematic, it is considered proactive. This is in contrast to a reactive model where geriatric care relies on a question for advice posed by the orthopaedic team.

What are the possible benefits and risks of participating?
There are no immediate direct benefits or risks to those taking part.

Where is the study run from?
University Hospital at Leuven (Belgium)

When is the study starting and how long is it expected to run for?
August 2022 to July 2024

Who is funding the study?
KU Leuven (Belgium)

Who is the main contact?
Prof. Dr Marian Dejaeger
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Contact information

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Study information

Scientific Title
Orthogeriatric co-management vs standard of care: health technology assessment evaluation in older patients with an osteoporotic fracture in Belgium

Study objectives
It is hypothesized that on a nationwide level orthogeriatric co-management will be more effective compared to the current geriatric consultation model to reduce mortality and readmissions and that it will be more cost-effective from a payer perspective as well.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethics approval is not required. This is a retrospective study, which means that the Belgian law of 07/05/2004 on experiments on human persons is not applicable.

Primary study design
Observational

Study design
Retrospective population-based data-registry study

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Improving care for older patients with a fracture

Interventions
Standard of care:
Standard of care is defined as surgical care with geriatric expertise available upon active request by the trauma team and includes the comprehensive evaluation of the patient by a geriatric nurse (consultation model).

Orthogeriatric co-management:
Orthogeriatric co-management is defined as systematic involvement by a geriatrician and geriatric team in addition to the involvement of the surgical team. As the geriatric care provided is systematic, it is considered proactive. This is in contrast to a reactive model where geriatric care relies on a question for advice posed by the orthopaedic team.

Intervention Type
Behavioural

Primary outcome(s)
1. Effectiveness evaluation:
1.1. Mortality evaluation at 1 year after admission
2. Cost-effectiveness evaluation:
2.1. The survival time within 1 year will be estimated time in days from admission to the hospital
2.2. The costs included will be in-hospital costs (e.g., physiotherapy, imaging, hospitalization) and long-term costs during the first year after discharge (e.g., professional care at home, nursing home)
Data will be collected by the Intermutualistic Agency

Key secondary outcome(s)
1. Effectiveness evaluation:
1.1. Mortality evaluation at 30 days and 90 days after admission
1.2. The Inpatient length of stay will be the estimated time in days between discharge and admission
1.3. Return to pre-fracture living situation, specified as living at home or in a nursing home and compared to the living situation before admission
1.4. Hospital readmissions and emergency department visits evaluation within 30 and 90 days after discharge
Data will be collected by the Intermutualistic Agency

Completion date
01/07/2024

Eligibility

Key inclusion criteria
1. Patients aged 75 years and over on the day of admission
2. Admission to a listed Belgian hospital (information on the used care model and consent has been provided by representative medical doctors from listed hospitals)
3. Admission via the emergency department in case of arthroplasty of hip and/or shoulder
4. Reason for admission: major osteoporotic fracture (hip, pelvis, femur, shoulder, forearm, and vertebrae; the selection will be based on RIZIV nomenclature)
5. First admission to Belgian hospital in period: 01/01/2019 - 31/12/2019 (to avoid interference with the COVID-19 pandemic and to ensure full data availability)

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Senior

Sex
All

Total final enrolment
8302

Key exclusion criteria
1. Patients below 75 years of age on admission
2. Patients admitted to a Belgian hospital that is not on the list of included hospitals
3. Patients undergoing an arthroplasty of the hip and/or shoulder who were NOT admitted via the emergency department to ensure that a fracture was the reason for admission and treatment

Date of first enrolment
01/06/2023

Date of final enrolment
30/11/2023

Locations

Countries of recruitment
Belgium

Study participating centre
UZ Leuven
Herestraat 49
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Sponsor information

Organisation
KU Leuven

ROR
https://ror.org/05f950310

Funder(s)

Funder type
University/education

Funder Name
KU Leuven

Alternative Name(s)
Katholieke Universiteit Leuven

Funding Body Type
Private sector organisation

Funding Body Subtype
Universities (academic only)

Location
Belgium

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		14/07/2025	20/07/2026	Yes	No