

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

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<b>Registration date</b> 17/07/2023	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol <input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 17/04/2024	<b>Condition category</b> Injury, Occupational Diseases, Poisoning	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## 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?

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## Contact information

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**Additional identifiers****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.

**Study design**

Retrospective population-based data-registry study

**Primary study design**

Observational

**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

**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

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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**

The datasets generated during and/or analysed during the current study are not expected to be made available due to the privacy of the participants. Data will be collected by the Intermutualistic Agency (IMA). IMA collects insurance claims data covering the total Belgian population. IMA will host the data and make it available in a secured way to the researchers via a Trusted Third Party. After finishing the study and publication of the manuscripts, the data will be destroyed and will therefore not be available anymore.

**IPD sharing plan summary**

Not expected to be made available