Title	Prolia® Persistence in Post-menopausal Women With Osteoporosis, Over 70 Years, at Increased Risk of Facture, Treated in Routine Clinical Practice in Bulgaria
Version Identifier of the Final Study Report	20160302
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Active Substance	Denosumab
Medicinal Product	Prolia®
Procedure Number: approval number	BDA: №НИП-0009/28.06.2017 EC: №КИ-41/16.05.2017.
Marketing Authorization Holder(s)	Amgen Europe B.V. Minervum 7061 NL-4817 ZK Breda The Netherlands
Research Question and Objectives	The purpose of this study is to estimate persistence with Prolia® in Prolia® treated at increased risk of fracture postmenopausal women, aged > 70 years, at 12, 18 and 24 months in real life clinical practice in Bulgaria. Objective is to estimate the proportion of patient at increased risk of fracture on Prolia® treatment for 2 years. Demographic and clinical characteristics in - increased risk of fracture women >70 years with osteoporosis and treated with Prolia® will be described.
Country of Study	Bulgaria
Author	[redacted]

Marketing Authorization Holder(s)

Marketing Authorization Holder(s)	Amgen Europe B.V. Minervum 7061 NL-4817 ZK Breda The Netherlands
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1. ABSTRACT

- **Title**

Persistence of treatrment with Prolia® in post-menopausal women with osteoporosis, over 70 years of age, at increased risk of fracture, treated in routine clinical practice in Bulgaria

- **Keywords**

Osteoporosis, high risk women fragility fracture, persistence to treatment

- **Rationale and Background**

Persistence of treatment with Prolia® has been demonstrated to be the highest among published European studies. However, the population treated with Prolia® in Bulgaria appears to be youngest with average age of 63.4 years. There are no data available to date in postmenopausal osteoporosis (PMO) at increased risk of fracture on Prolia® (ie >70 years).

- **Research Question and Objectives**

The purpose of this study is to assess persistence with Prolia® in Prolia treated post-menopausal women with osteoporosis, aged >70 years, at increased risk of fracture, at 12, 18 and 24 months in real life clinical practice in Bulgaria. Secondary objectives are to describe the population, changes in BMD and safety in patients over 70 years and treated with Prolia®.

- **Study Design**

This is a national retrospective and prospective observational study based on routine clinical data collected retrospectively from medical records. Eligible patients after signing the informed consent form (ICF) were followed for 24 months.

- **Setting**

The study was conducted in 14 representative sites (endocrinology or rheumatology centers) situated in 8 cities scattered across Bulgaria.

- **Subjects and Study Size, Including Dropouts**

The study enrolled 250 postmenopausal women > 70 years of age at increased risk of fracture, with or without previous fracture, referred by orthopedic, neurology or hospital settings to endocrinology and rheumatology centers to be diagnosed with osteoporosis and treated with Prolia®. An increased risk of fracture patient followed available online DXA tool criteria.

- **Variables and Data Sources**

Exposures were assessed for patients who receive at least one injection of Prolia® prior to enrolment. The exposure time was set as the time from the index (start of Prolia® treatment/pre-enrolment injection date) to either the date of of Prolia® discontinuation or end of patient follow up (24 months) whichever occured earlier.

- **Results**

The primary endpoint of persistence (defined as ≤ 60-day gap in refills) at 12, 18, and 24 months was achieved by 98.0%, 92.4%, and 84.4% of patients, respectively. Median BMD T-score improved at each of the locations over time. A total of 6 fractures were experienced by 5 patients (2%). Four ADRs were reported in patients at any time following the first injection of denosumab, none of which was considered related to denosumab: breast cancer, pancreatic cancer, ischemic stroke, and cardiopulmonary failure.

- **Discussion**

In this prospective observation cohort study in patients with osteoporosis at high risk of fracture treated with denosumab in clinical practice in Bulgaria, we observed a high rate of persistence with 84% of patients remaining on treatment at 24 months. Improvements in BMD T-score at all locations along with a sizable proportion of patients reaching treatment targets of T-score -2.5 and -1.5 suggest that denosumab is effective in treating patients at high risk of fracture in clinical practice.