



## PRIMIS case study

Date: 2024  
Themes: Quality Improvement, Data Specification and Evaluation  
Partners: Health Innovation Oxford & Thames Valley and NDORMS, University of Oxford  
Project: GRASP-Osteoporosis Rx

**Title: Improving patient outcomes through a quality improvement based medication adherence programme in primary care setting**

### Overview

An abstract on this project was jointly developed by PRIMIS, Health Innovation Oxford & Thames Valley and NDORMS, University of Oxford, and was submitted and accepted for the recent PRIMM UK and Ireland (Prescribing and Research in Medicines Management) annual scientific meeting.

### Full abstract

Improving patient outcomes through a quality improvement based medication adherence programme in primary care setting

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Background: Anti-osteoporosis medications (AOM) are highly effective in reducing the risk of fracture, yet adherence is poor<sup>1,2</sup> with approximately 50% of patients stopping taking their medication within the first year, and it is associated with a significantly increased risk of fracture. Primary care IT systems present an opportunity to identify, monitor and support AOM adherence, alongside quality improvement methodology to ensure sustainability.

Aim: To describe the impact of a primary care adherence program on AOM adherence rates and improvement in patient management and outcomes.

Methods: The program was developed in collaboration between the University of Oxford, PRIMIS and the Health Innovation Oxford & Thames Valley. It includes a GP clinical system-based search tool with an excel-based reporting dashboard, review template and quality improvement (QI) package. The search identified adults with a history of fracture when aged 50 years or older and a prescription for AOM in the previous 5 years, but no prescription for an oral AOM for more than 3 months or Denosumab for more than 6 months. The 8 participating practices could access online osteoporosis resources and



regular calls with the local secondary care lead. Each practice ran 5 reports between August 2021 and December 2022 to identify non-adherent patients requiring a medication review.

Results: The median practice size was 11 963 (range 4423–40 499). At baseline, there was significant variability between practices in the use of oral AOM (48%–70%) and Denosumab use (20%–32%) in the audit cohort. At the end of the project, QOF fragility fracture coding increased by 20.8%, with an additional 252 patients on AOM therapy which equates to 13 fewer fractures within the next 2 years. Despite the increase in the number of patients on treatment, there was a small increase in adherence to oral AOMs (62%–66%) and Denosumab (79%–84%) across the practices.

Conclusion: The project supported practices to identify and manage patients at risk of fragility fracture, and through QI to implement improvements in practice to address causes of non-adherence. Increases in coding, AOM prescribing and adherence were demonstrated, leading to improvements in patient outcomes. When extrapolated to a population of 1 million, the program's impact is an additional 32 266 patients benefitting from AOM and equates to 1162 avoided fractures, including 465 hip fractures, over 2 years. Using the reduction in hip fractures alone, this equates to a hospital cost saving of over £6.5 million over 2 years.

1. Warriner A, Curtis J. Adherence to osteoporosis treatments: room for improvement. *Curr Opin Rheumatol.* 2009;21(4):356–362.

2. Jaleel A, Saag K, Danila M. Improving drug adherence in osteoporosis: an update on more recent studies. *Therap Adv Musculoskelet Dis.* 2018;10(7):141–149.