Treatment pattern of osteoporosis in postmenopausal women using OMOP CDM : a multi-center study

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INTRO
- Osteoporosis is a skeletal disease characterized by weakened bones and a higher fracture rate.
- There are mainly two types of osteoporosis medications: antiresorptives (Antiresorptive agents include selective estrogen receptor modulators (SERMs), bisphosphonates (BPs), and denosumab (Dmab)) and osteogenesis promoters (recombinant human parathyroid hormone 1-34 (rhPTH)).
- Dmab, a novel anti-osteoporosis drug, is known to provide better adherence than BPs. However, changes in routine clinical practice remains elusive.

OBJECTIVE
- This study aimed to evaluate changes in the treatment patterns of osteoporosis medication in postmenopausal women over the past decade following the approval (2017) and insurance coverage (2019) of denosumab (Dmab), a novel anti-osteoporosis drug.
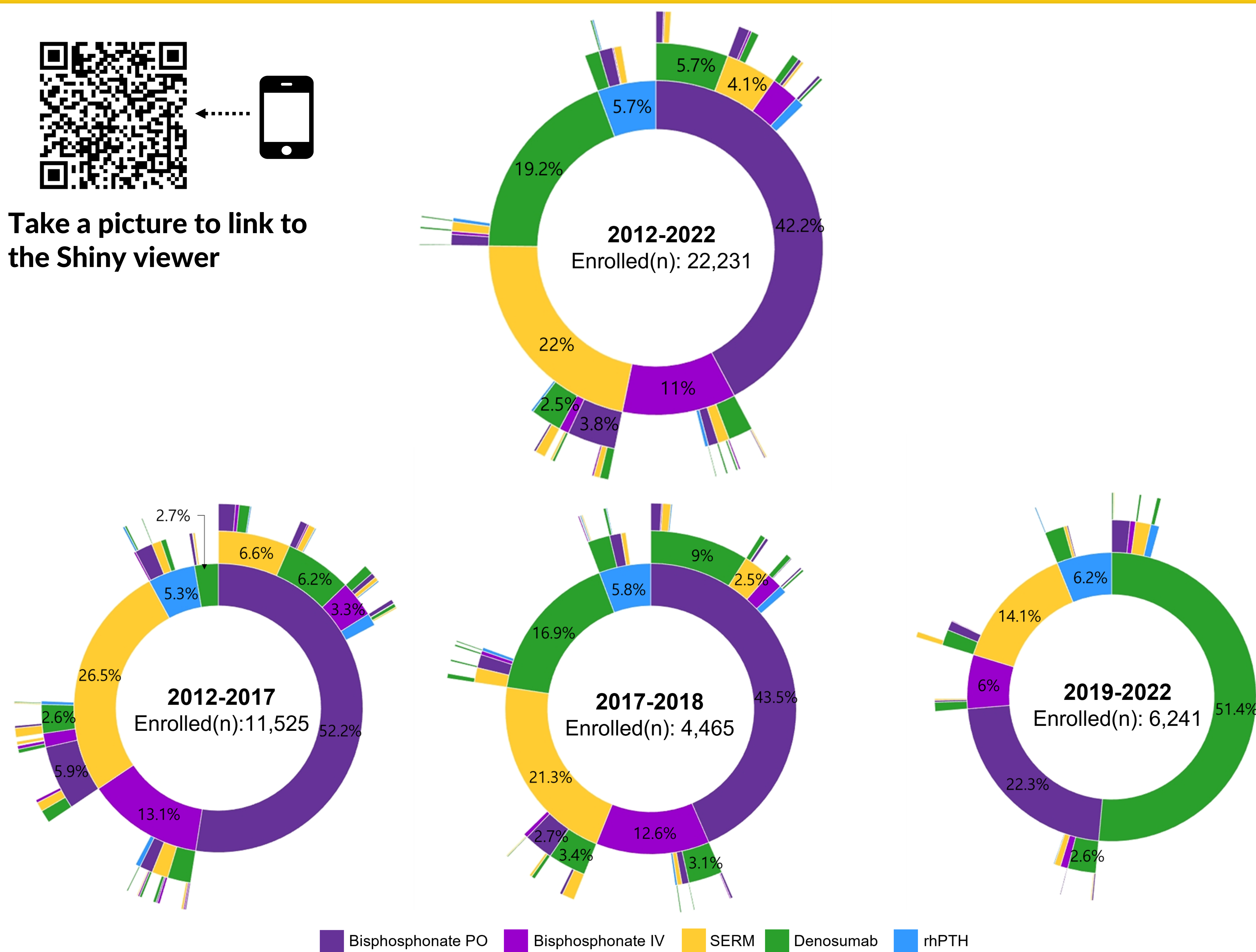
METHODS
- This study used two OMOP-CDM databases from Severance Hospital and Inha University Hospital.
- The population of interest includes: 1) 50+ women and 2) patients with osteoporosis diagnosed between 2012 and 2022.
- To account for the approval and insurance coverage of Dmab, patients were divided into three groups based on their diagnoses: 2012-2017, 2017-2018, 2019-2022.

This is ongoing research. Treatment Pathways has changed since the introduction of novel drug (Denosumab) on the Korean market.

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Bisphosphonate PO   Bisphosphonate IV   SERM   Denosumab   rhPTH

METHODS(Cont.)
- Medication cohort was defined that a group patients receiving SERM, BP (dose type, PO or IV), Dmab, and rhPTH after the first diagnosis of osteoporosis as each.
- The treatment pathway was executed using ATLAS.

RESULTS
- *This is ongoing research.* Total 22,231 postmenopausal women with osteoporosis were treated with osteoporosis medications.
- Bisphosphonates (BPs) were the most used medication (65.3%) in 2012-2017 but with gradual increase of Dmab use and decrease of BPs use, Dmab became the most common medication (51.4%) in 2019-2022.
- The most common second-line medication after BPs was Dmab, while the most common second-line medication after Dmab was oral BPs.

CONCLUSION
- Our study of postmenopausal women with osteoporosis revealed a shift in the sequential use of medications since the approval of Dmab, with a gradual increase in its use both as first-line and second-line.
- In future research, we aim to investigate the global trends in anti-osteoporosis medications use and compare the effectiveness of Dmab versus BPs.

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