



PREVALENCE, INCIDENCE, AND OUTCOMES OF MULTIPLE MYELOMA PATIENTS USING ELECTRONIC HEALTH RECORDS AND NATURAL LANGUAGE PROCESSING

INSIGHTS FROM THE CIMMA STUDY

Johnson & Johnson

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INTRODUCTION

CHALLENGES IN REAL-WORLD MM DATA

- Outdated, inconsistent, and incomplete data
- Key clinical info buried in unstructured EHRs text
- Difficult to analyze burden treatment patterns and outcomes

SOLUTION: CLINICAL NATURAL LANGUAGE PROCESSING (cNLP)

- Extracts structured and unstructured clinical data
- Provides accurate, actionable insights into routine MM care

CONCLUSIONS

Multicenter, clinical natural language processing (cNLP)-based analysis of 270 M Spanish electronic health records (EHRs) shows a stable national multiple myeloma (MM) burden.

Prevalence and incidence rise sharply from age ≥60.

First line was dominated by PI-based regimens; second line by daratumumab-containing regimens, aligning with guidelines.

Real-world progression and overall survival remained suboptimal.

Findings highlight the need for more effective, personalized therapies and illustrate the utility of large-scale cNLP to identify gaps and optimize care.

KEY TAKEAWAY

Large-scale cNLP applied to routine EHRs yields robust real-world insights into multiple myeloma.

The study confirms a stable overall burden that intensifies with age and delineates prevailing treatment patterns.

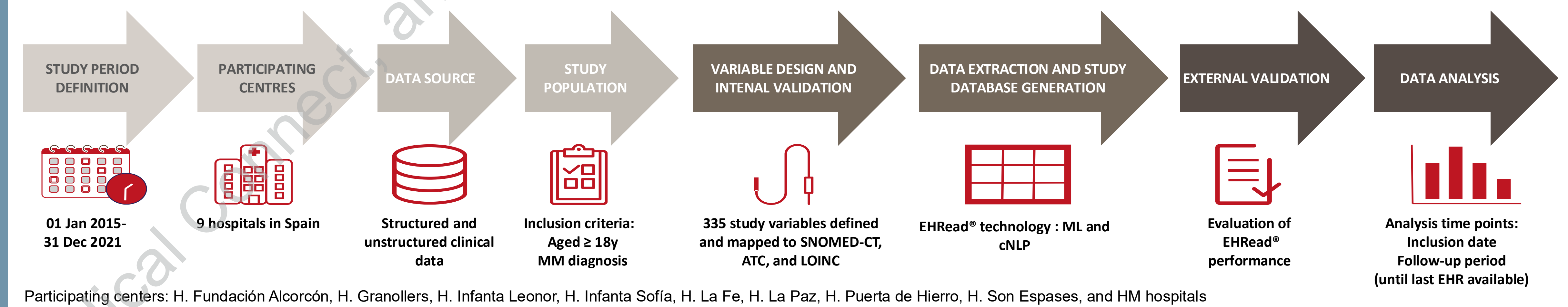
It reveals actionable care gaps amenable to technology-enabled, more personalized and effective management.

AIM

Unlock Real-World Insights in Multiple Myeloma (MM)

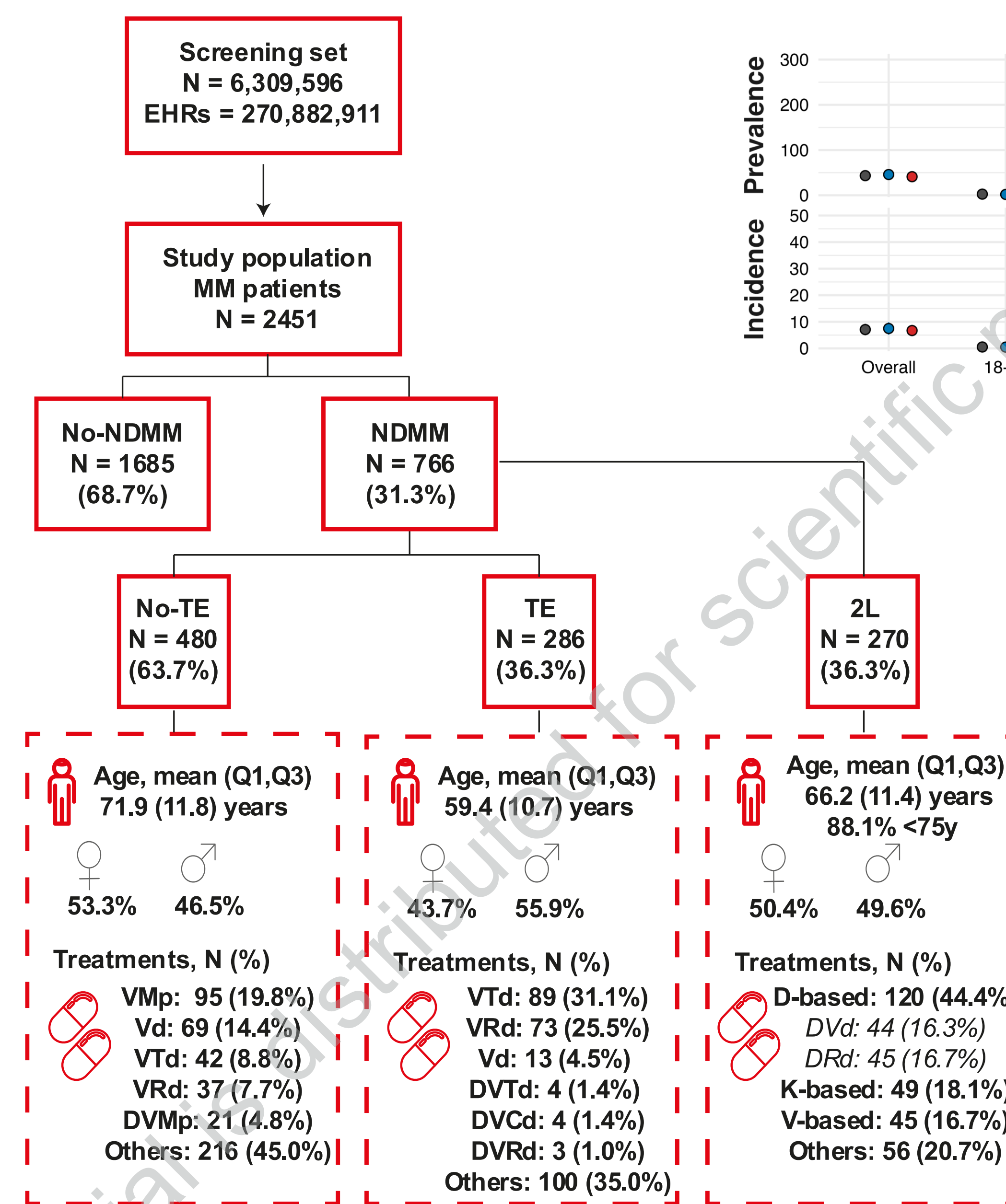
- Define crude and age-adjusted prevalence/incidence by year, sex, and age group
- In newly diagnosed MM patients (NDMM), assess transplant eligibility and 1L/2L treatments
- Measure 2-year PFS and OS from diagnosis

METHODS

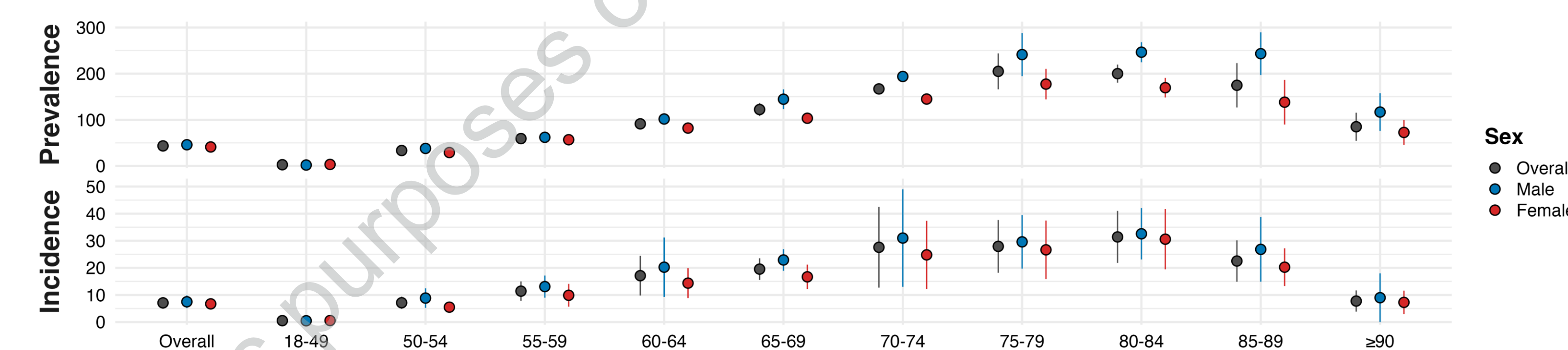


RESULTS

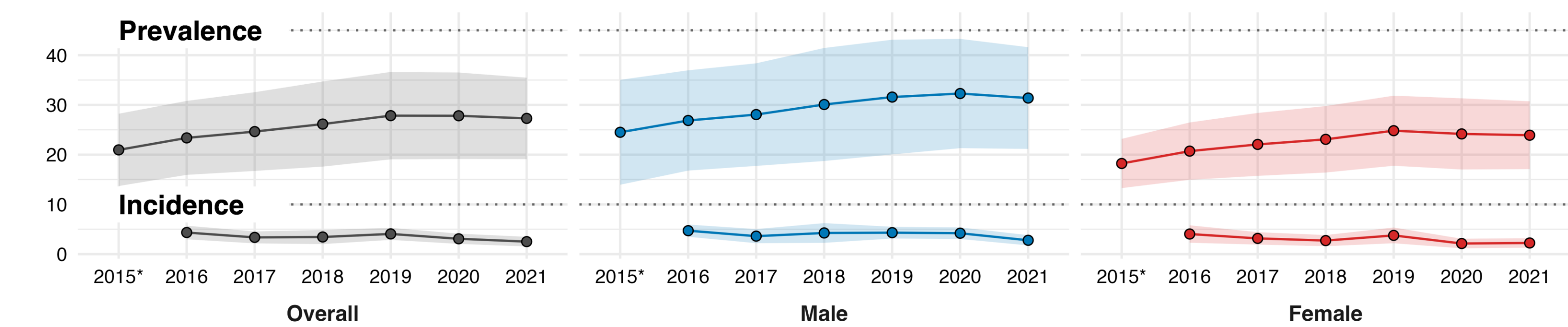
1. Study Population Flowchart



2. Crude Prevalence and Incidence Rates by Age and Sex in MM Patients

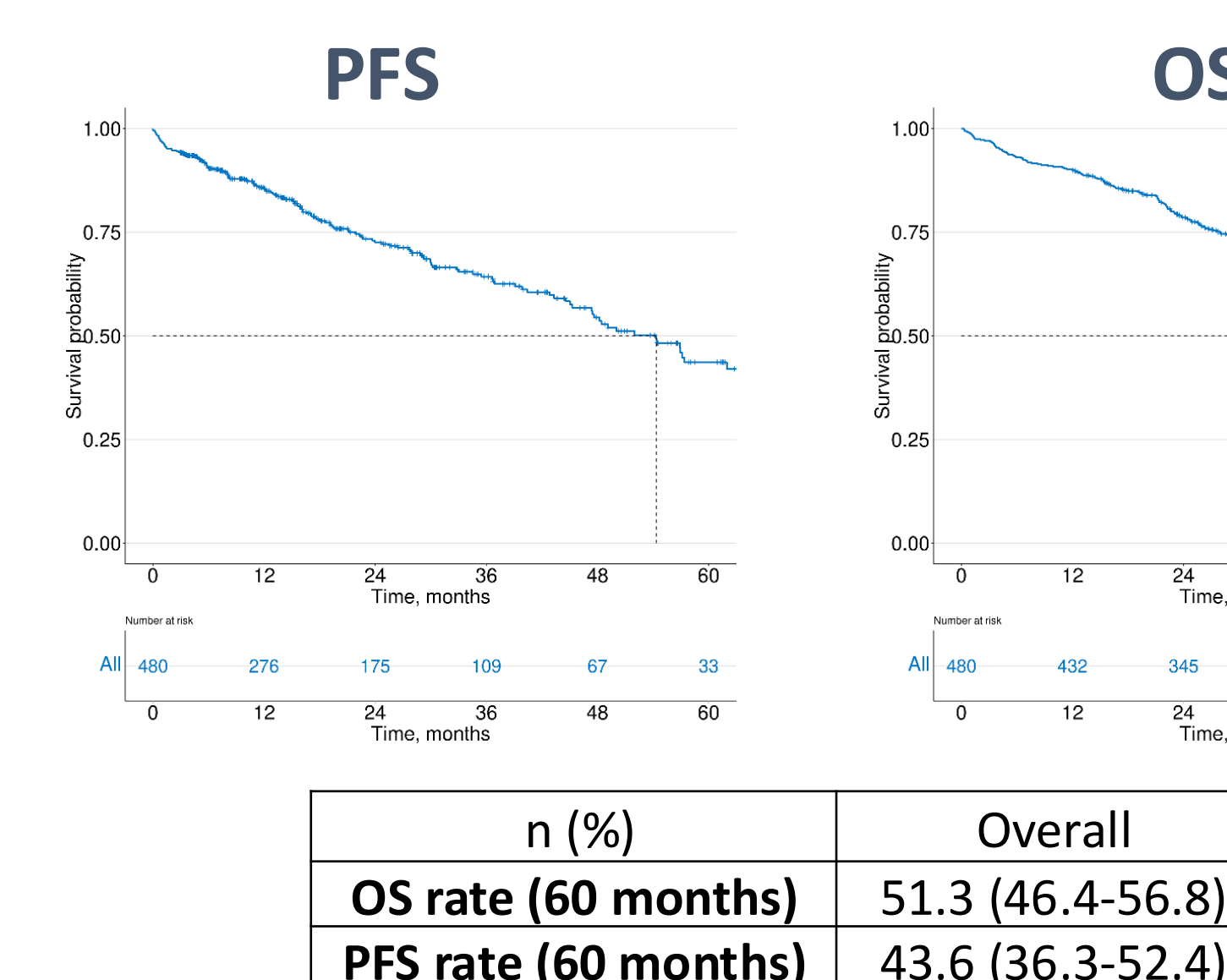


3. Age-adjusted Prevalence and Incidence Rates by Age and Sex in MM Patients

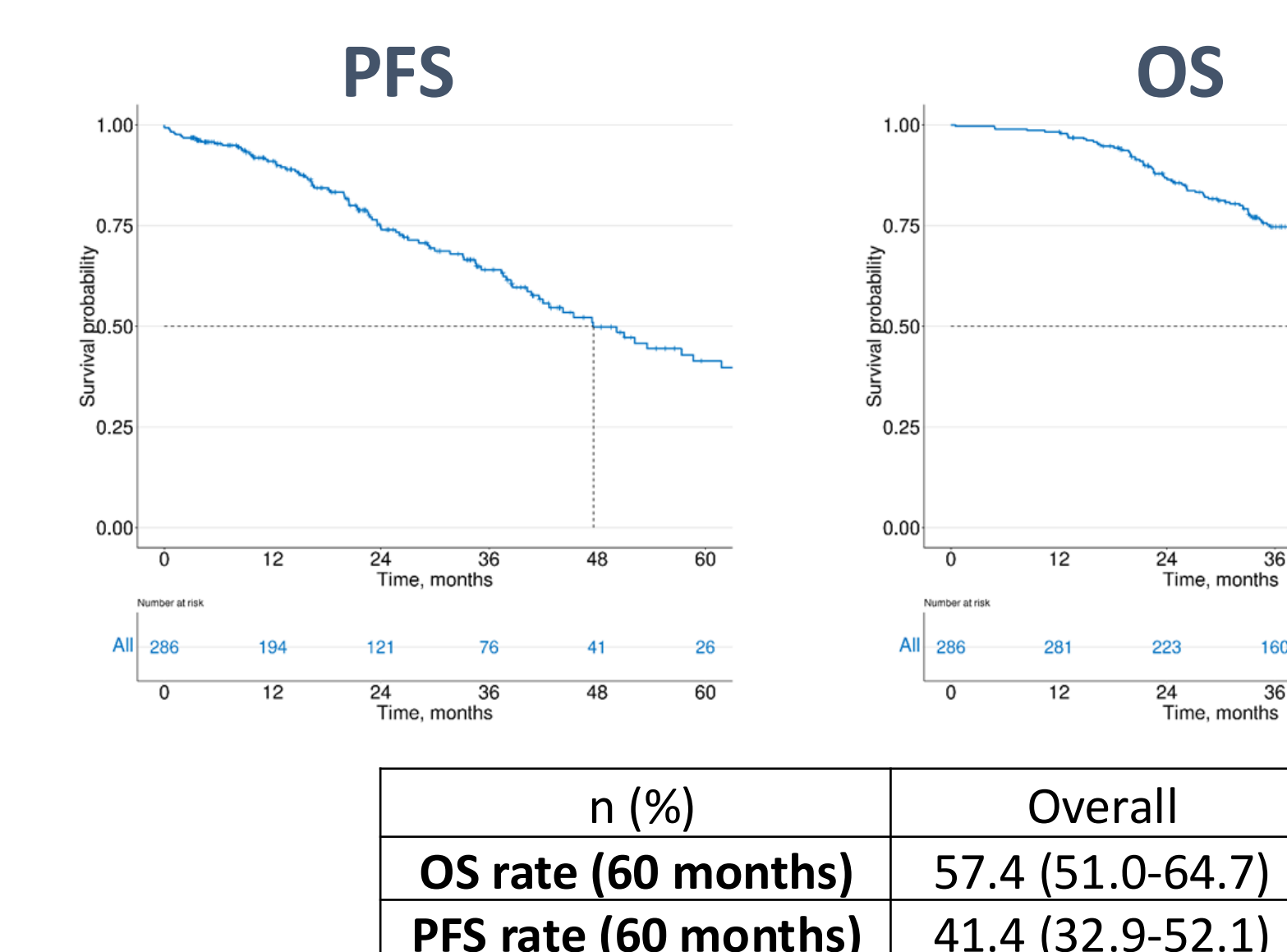


4. Patient Outcomes

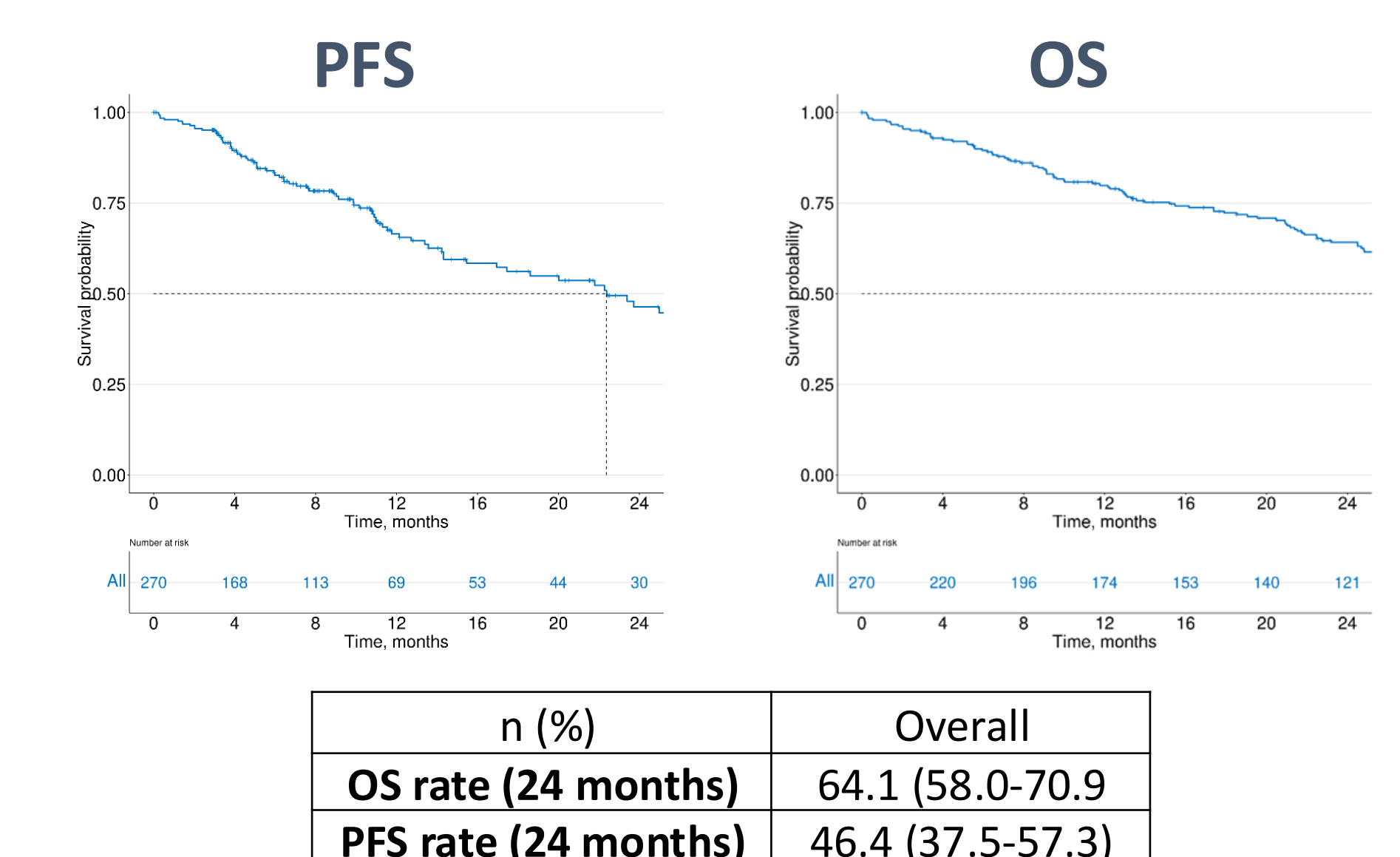
NDMM Non-TE Patients



NDMM TE Patients



NDMM 2L Patients



Please scan QR code

Poster

Narrated poster video

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Abbreviations: 1L: first-line treatment; 2L: second-line treatment; D-based: daratumumab-based treatment; DRd: daratumumab, lenalidomide, and dexamethasone; DVCd: daratumumab, bortezomib, cyclophosphamide, and dexamethasone; DVd: daratumumab, bortezomib, and dexamethasone; DVMp: daratumumab, bortezomib, melphalan, and prednisone; DVRd: daratumumab, bortezomib, lenalidomide, and dexamethasone; DVTd: daratumumab, bortezomib, thalidomide, and dexamethasone; EHR: electronic health records; K-based: carfilzomib-based treatment; ML: machine Learning; MM: multiple myeloma; NLP: natural language processing; NDMM: newly diagnosed multiple myeloma; OS: overall survival; PFS: progression-free survival; TE: transplantation eligible; V-based: bortezomib-based treatment; Vd: bortezomib and dexamethasone; VMp: bortezomib, melphalan, and prednisone; VRd: bortezomib, lenalidomide, and dexamethasone; VTd: bortezomib, thalidomide, and dexamethasone;