


Population characteristics and hospitalizations in New Zealand

2013- 2017

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Outline

- **Background and methodology**
 - **Insights of ED presentations and demographic factors**
 - **Insights of inpatient discharges and demographic factors**
 - **Projection of using hospital services**
 - **Conclusions**
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Background

- **Demographic factors have impact on the health of population**
 - **Age and gender patterns of disease and injury**
 - **Social determinants of health**
 - **Ethnicity, culture and using health services**
 - **Demographic changes in New Zealand population**
 - **Population growth**
 - **Birth rate and life expectancy, ageing population**
 - **Ethnic components in the population**
 - **Population characteristics and health services**
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Methodology

- **Data sources**
 - **The National Minimum Dataset for Hospital Inpatient Events (NMDS)**
 - **The National Non-Admitted Patient Collection (NNPAC)**
 - **Population projection provided by SNZ**
 - **Measurements of using hospital services**
 - **ED presentations**
 - **Events of inpatient discharges**
 - **Bed days of inpatient discharges**
 - **Prediction**
 - **Constant rate approach**
 - **Applied demographic factor specific rates in 2013 – 2017 to the population projected**
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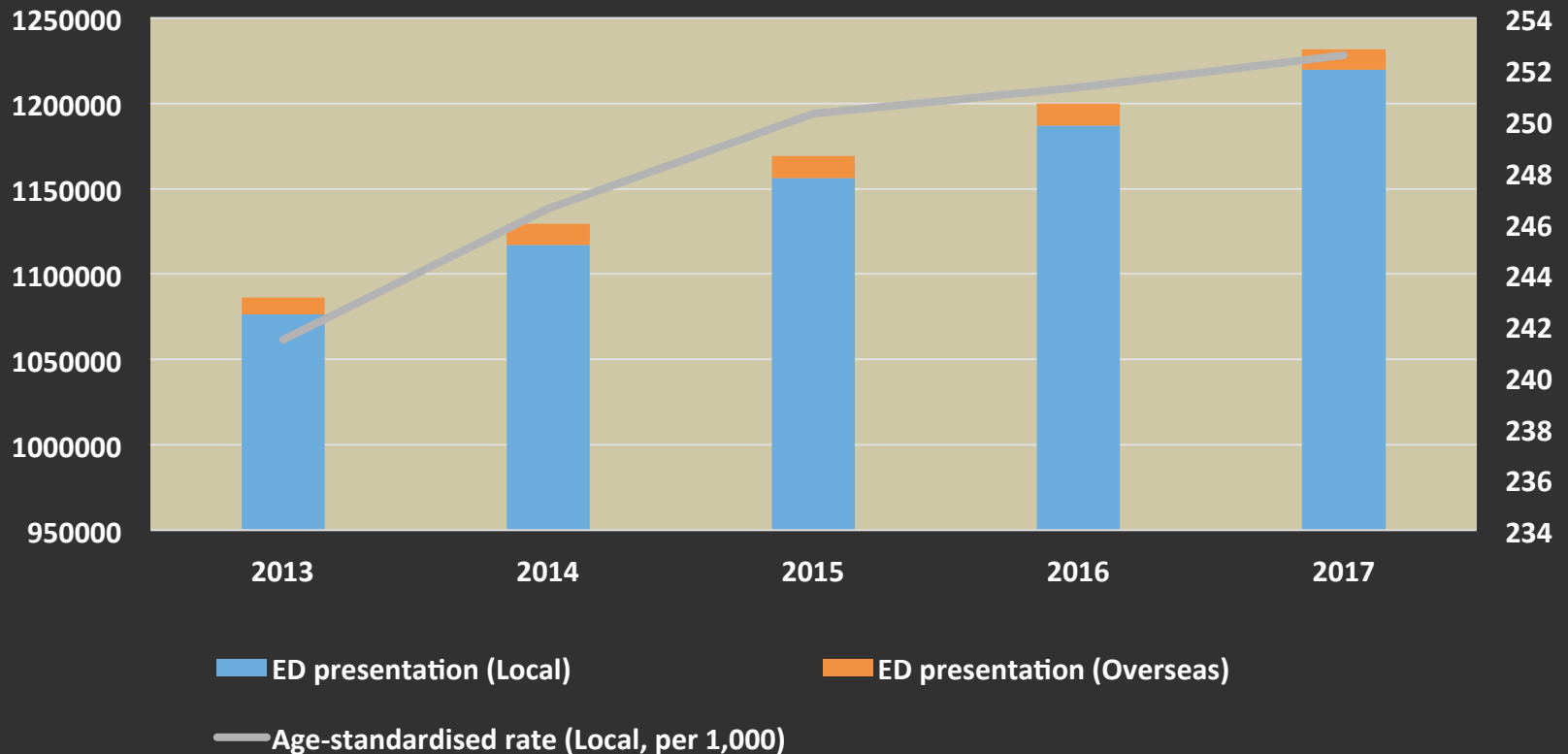
Emergency Department (ED) Presentations

2013 - 2017



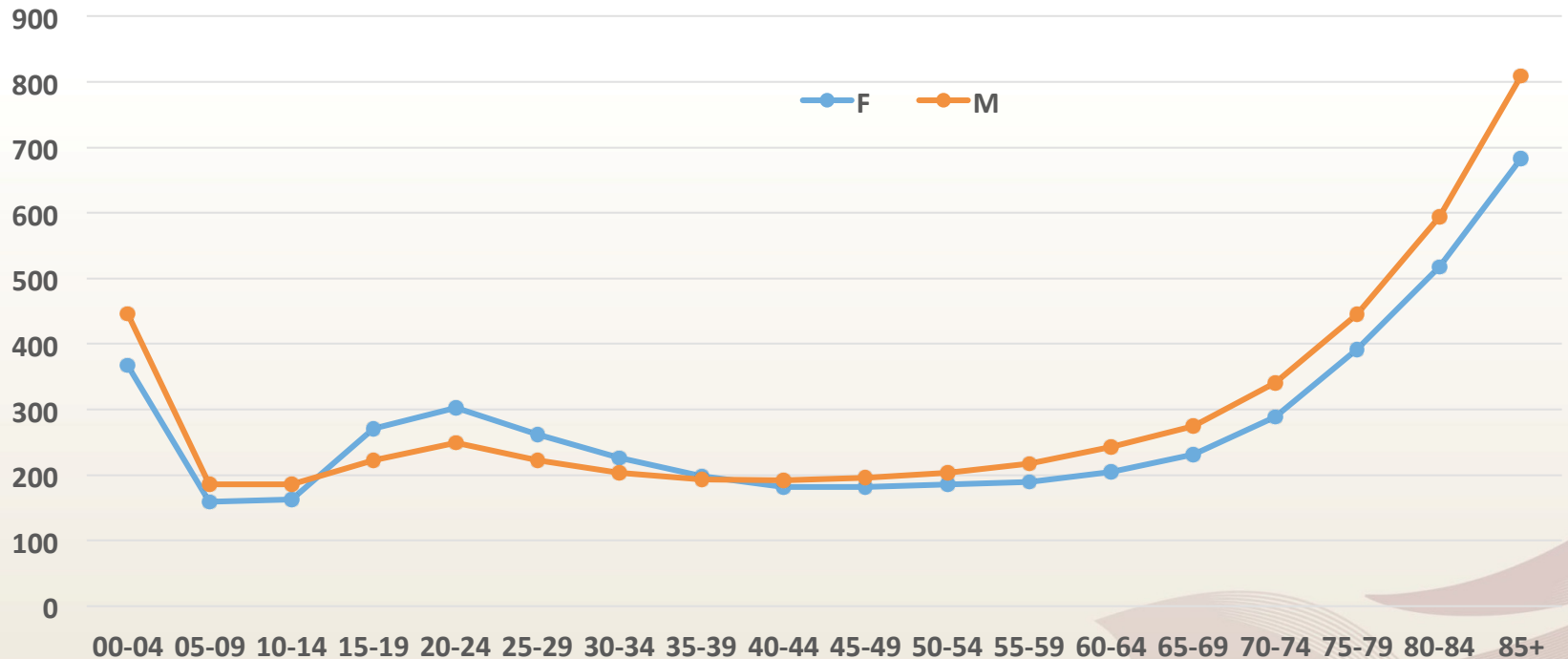
ED presentations - general

ED presentations and age-standardised rates, 2013 - 2017



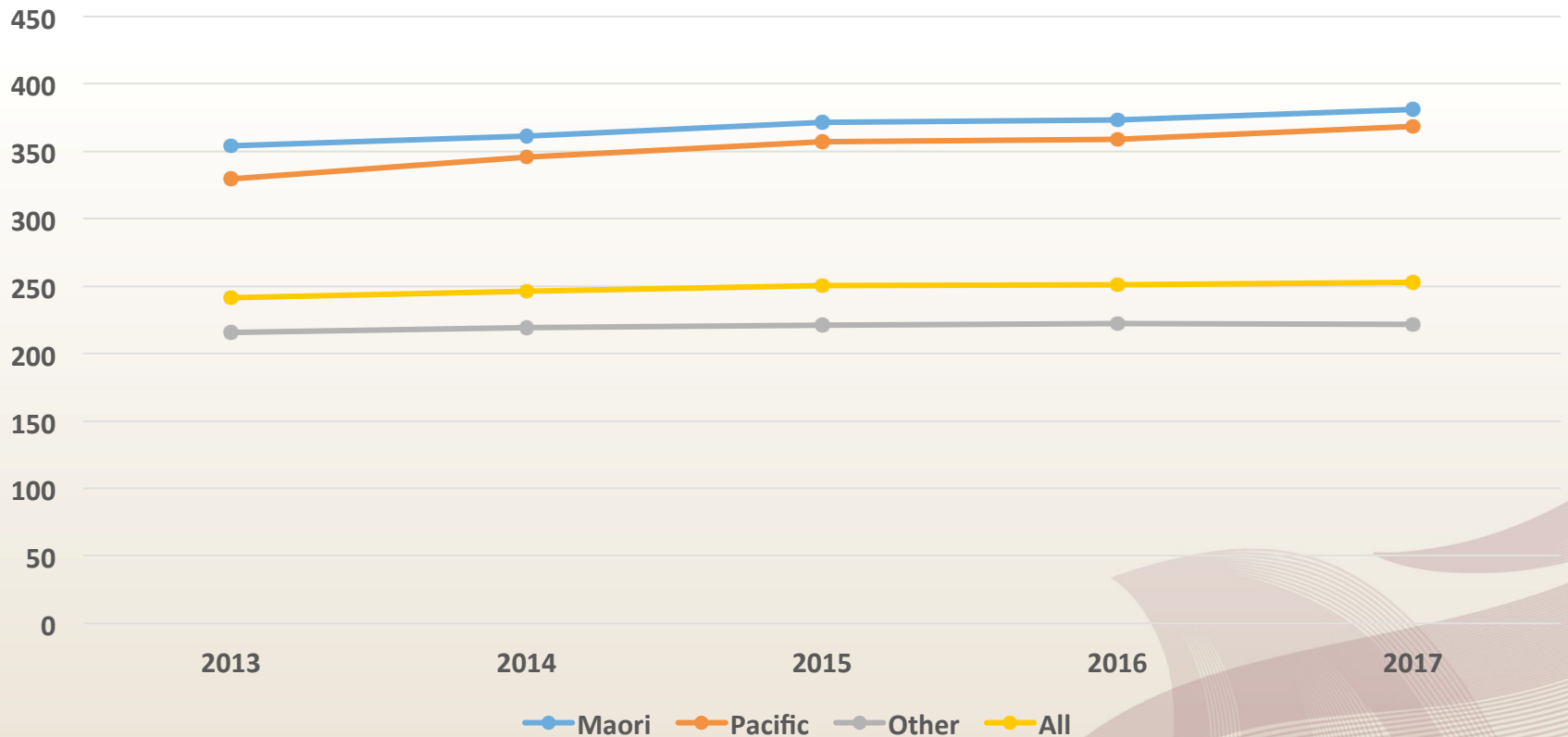
ED presentations – age specific rates

Age specific rates of all ED presentations (per 1,000 population), 2013 - 2017



ED presentations by ethnicity

Age-standardised rates of ED presentations (per 1,000 population) by ethnicity
2013 - 2017

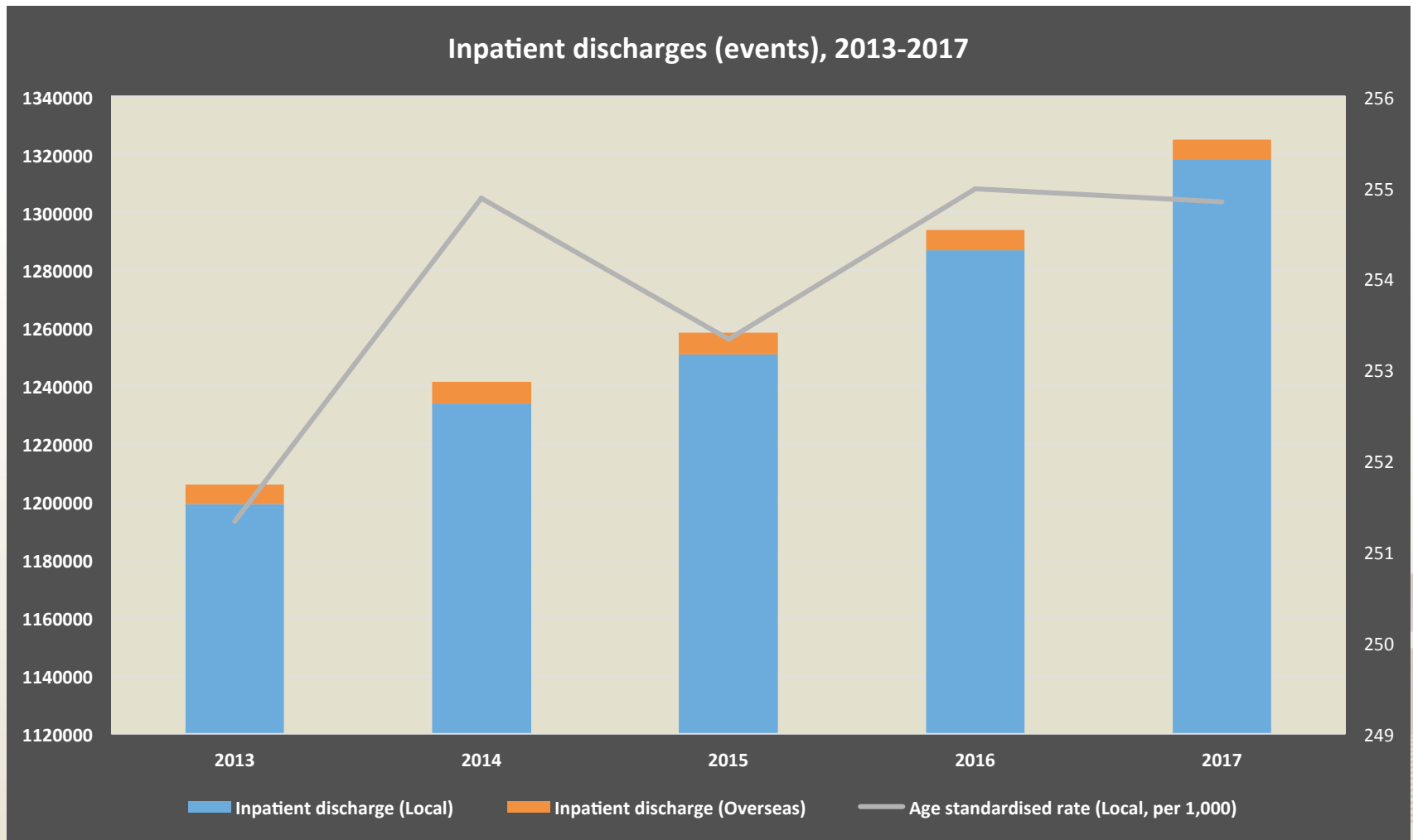


Hospital inpatient discharges

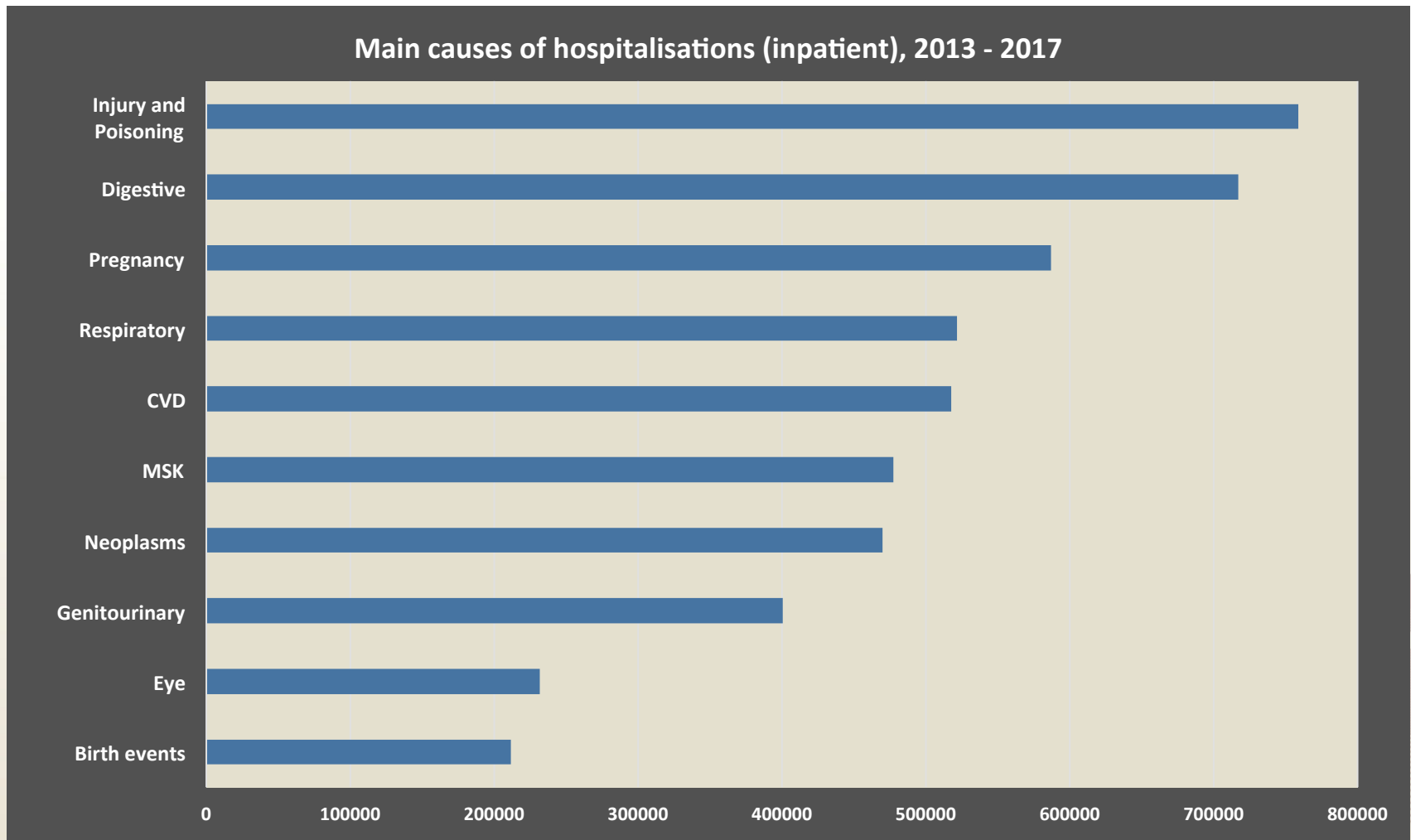
2013 - 2017



Inpatient discharges - general

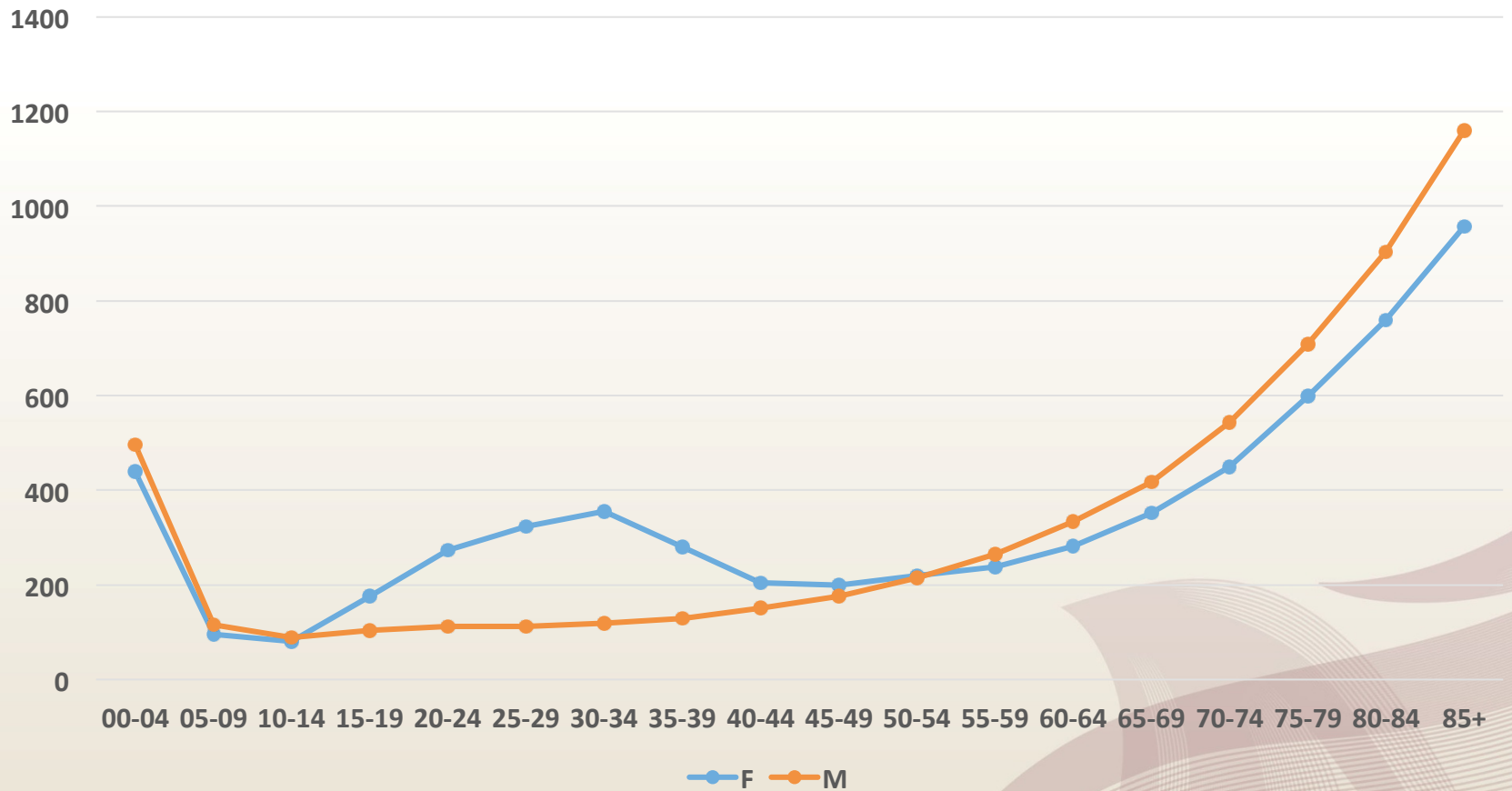


Main causes of hospitalization (inpatient) 2013 - 2017



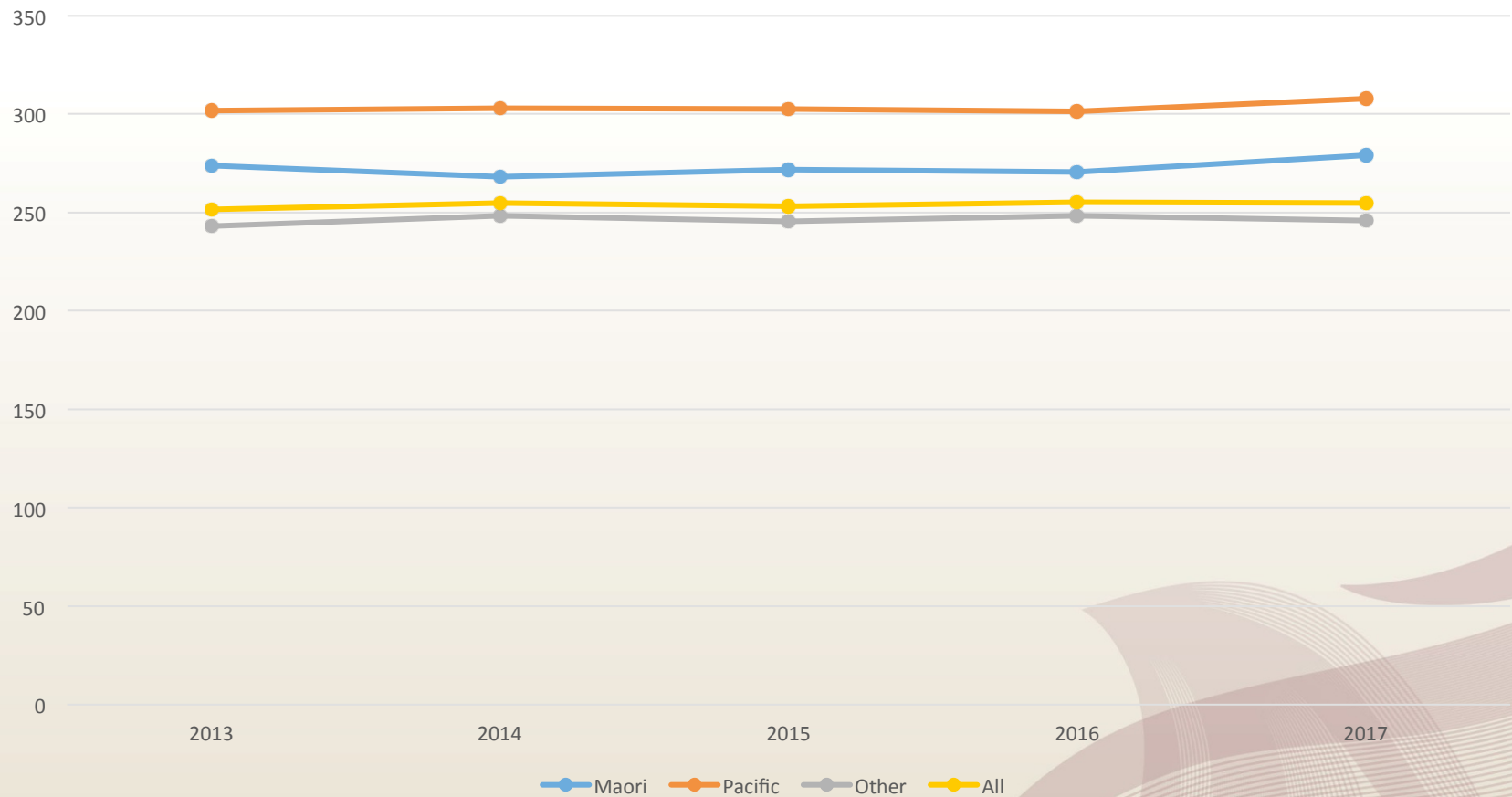
Hospitalisations (inpatient) – age specific rates

All hospitalisations - age specific rates (per 1,000 population), 2013 - 2017



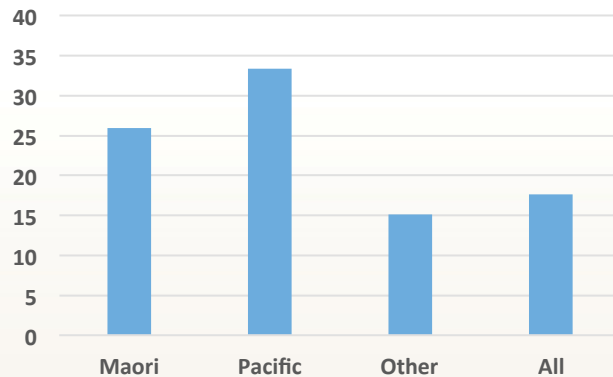
Hospitalisations (inpatient) by ethnicity

Age-standardised rates (per 1,000 population), inpatients by ethnicity

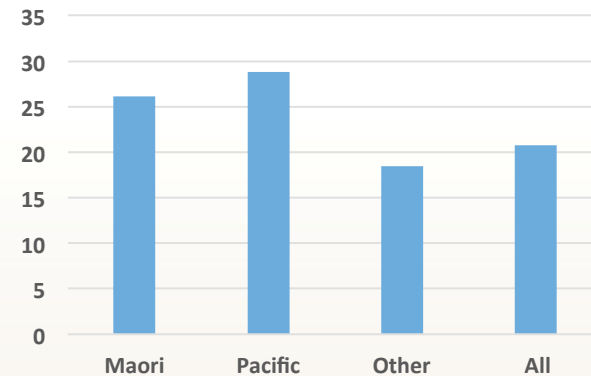


Ethnic differences by diagnostic group age-standardised rates (per 1,000 population), 2013 - 2017

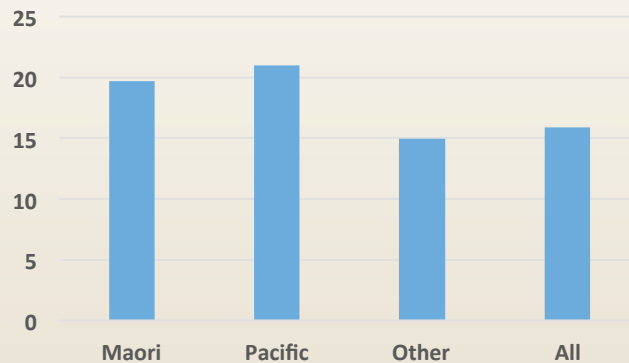
Respiratory conditions



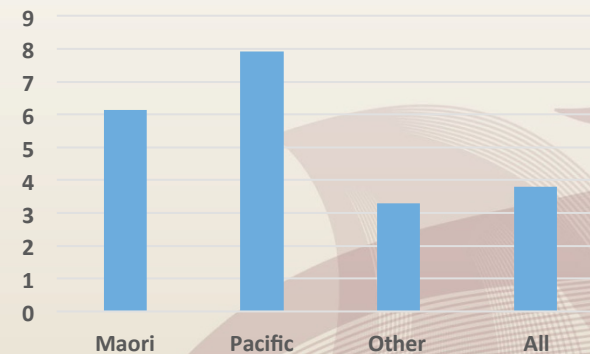
Pregnancy related conditions



CVD

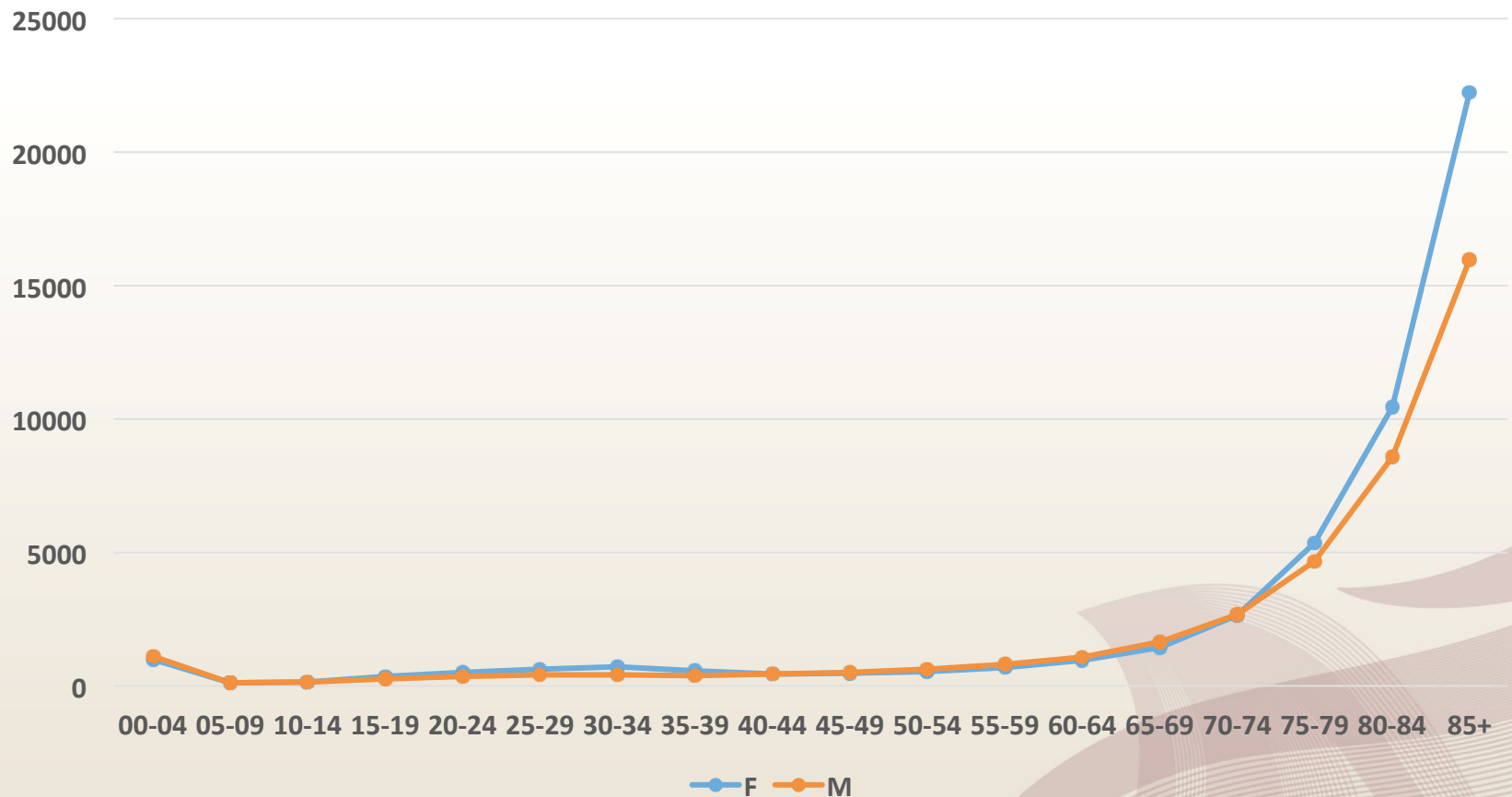


Endocrine, nutritional and metabolic diseases



Hospital beddays by age and gender

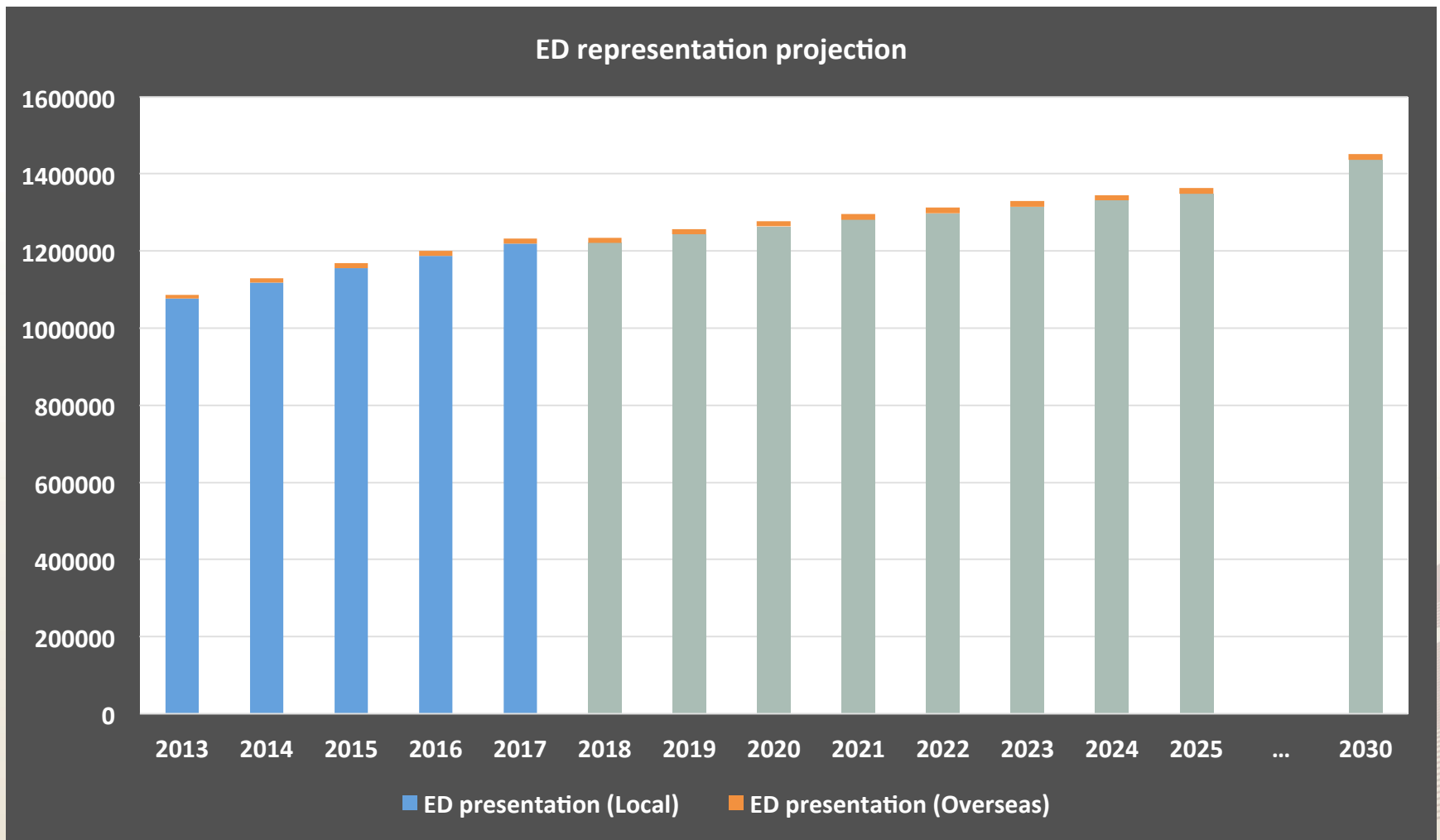
Hospital beddays per 1,000 population, 2013 - 2017



Projections



ED presentations – projections

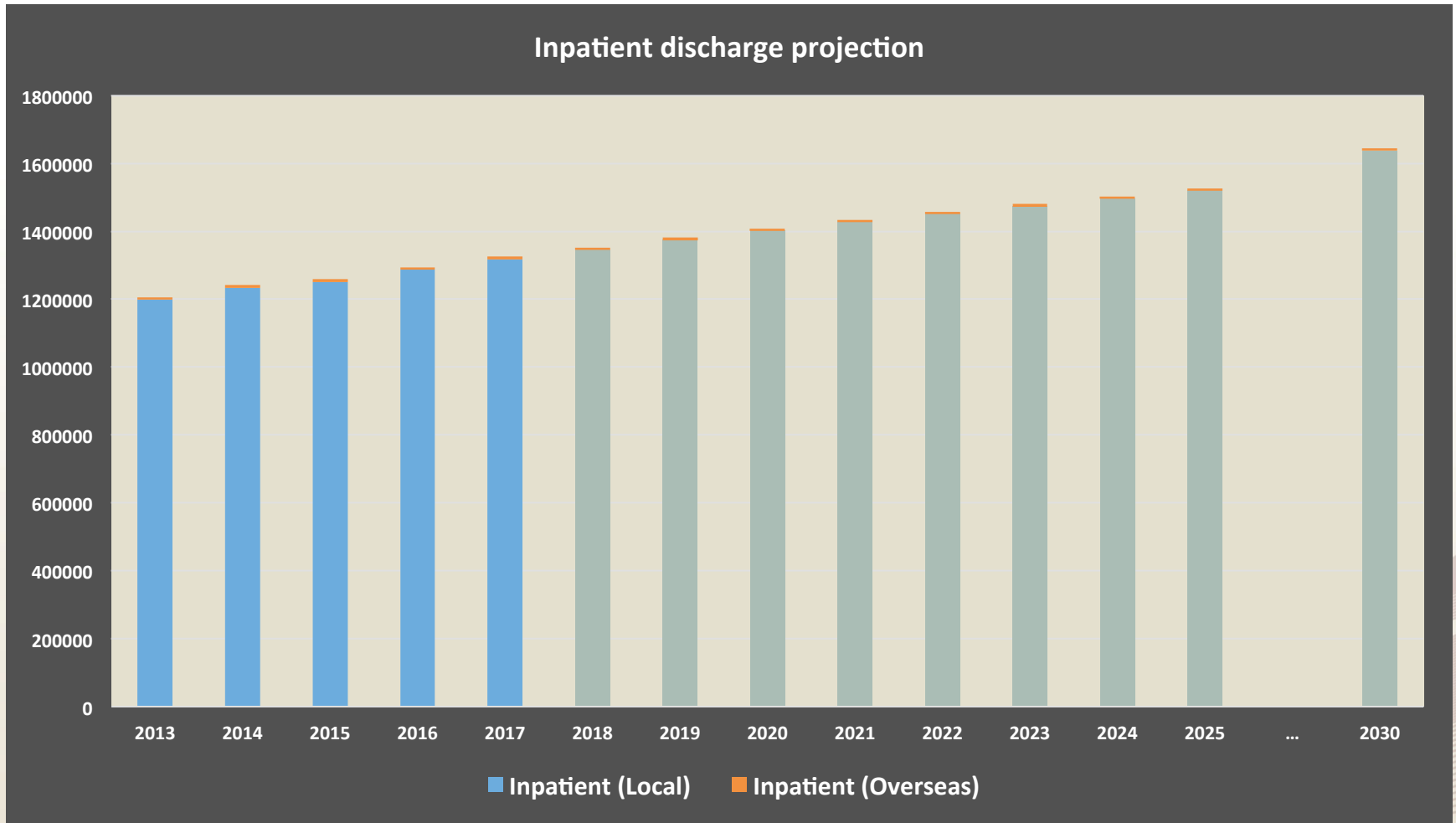


ED presentations- projection 2030

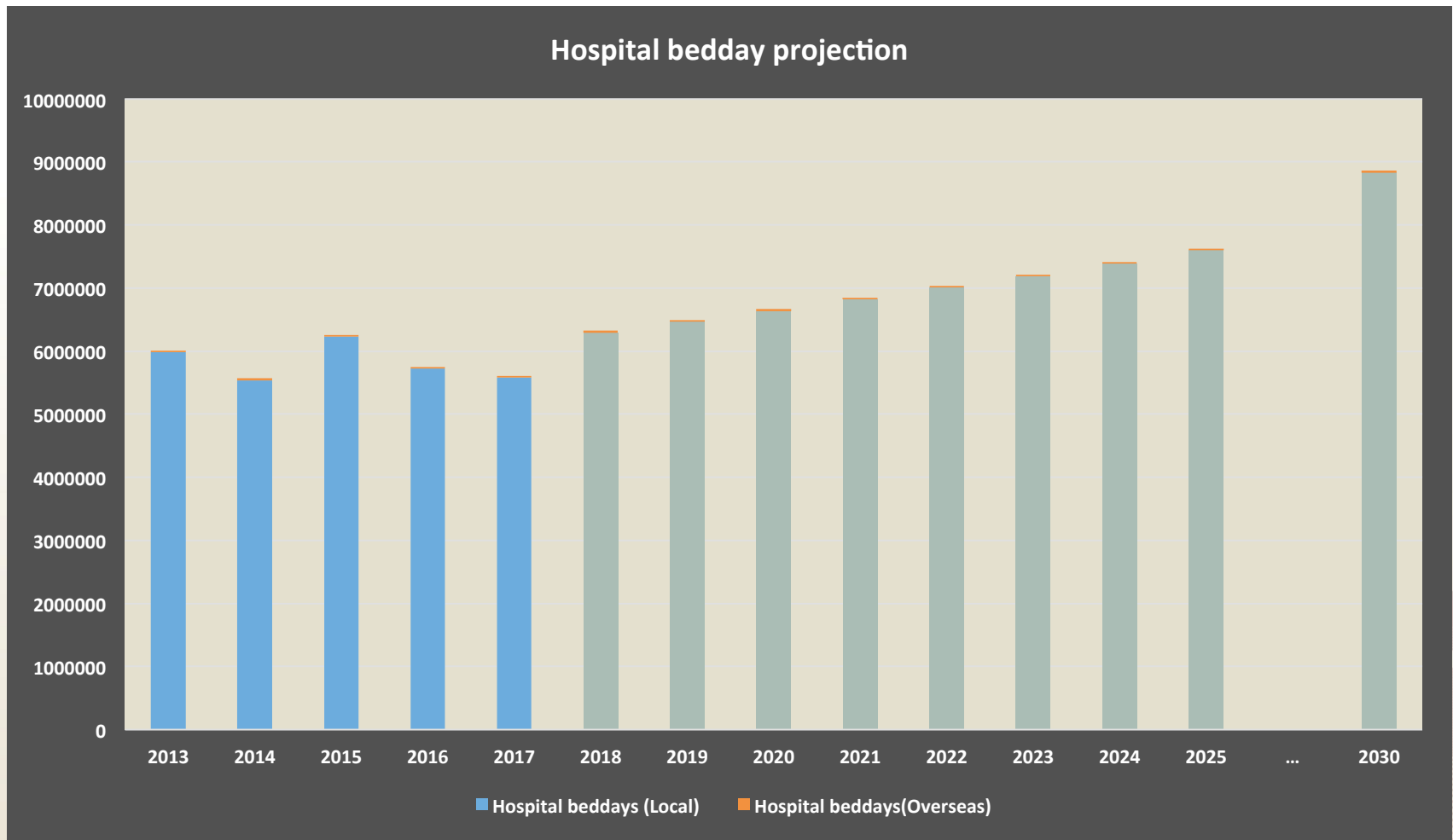
Compared with 2017:

- 1. 14% in population growth, vs 18% increasing in ED presentations.**
 - 2. More patients aged 65+(23% to 31%), especially from Maori and Pacific**
 - 3. Significant increase (25%) in Auckland region (3 DHBs)**
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Inpatient discharges – projection



Hospital beddays – projection



Hospital inpatients - projection 2030

Compared with 2017 :

- 1. 14% growth in population, vs 34% increase in discharges, and 58% increase in hospital beddays needed.**

 - 2. More patients aged 65+, from 32% to 42% in total population, Maori and Pacific patients aged 65+ increased by 90%**
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- 1. Auckland region (3 DHBs):**
 - Inpatient discharges increasing by 58%**
 - Beddays needed increasing by 69%**

Conclusions

- **Different patterns in using hospital services**
 - Age, gender, ethnicity
 - NZdep and regional variations
 - **Increasing needs in near future**
 - Increase demand in both ED presentations and inpatients
 - Patients at older ages, from different ethnical groups
 - **Policy development and service planning**
 - Closing gaps: e.g. preventing respiratory disease and services for dental-related conditions
 - Addressing future demand, e.g. Auckland region
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