

# Inpatient bed capacity requirements in Ireland in 2023: Evidence on the public acute hospital system

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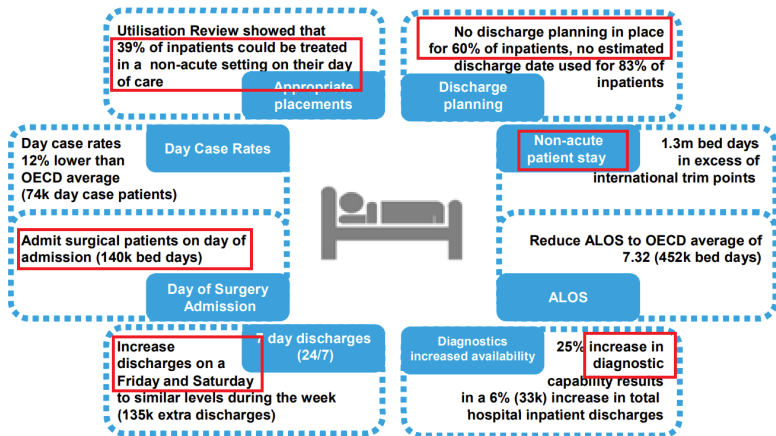
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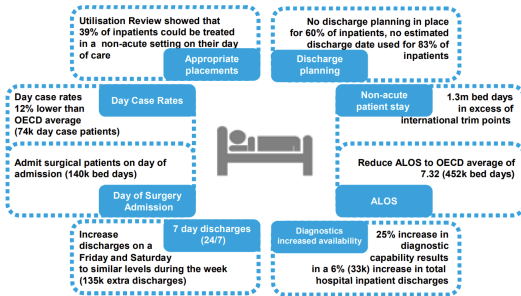
<sup>2</sup>Trinity College Dublin

**IHCA Conference - 30th September 2023**



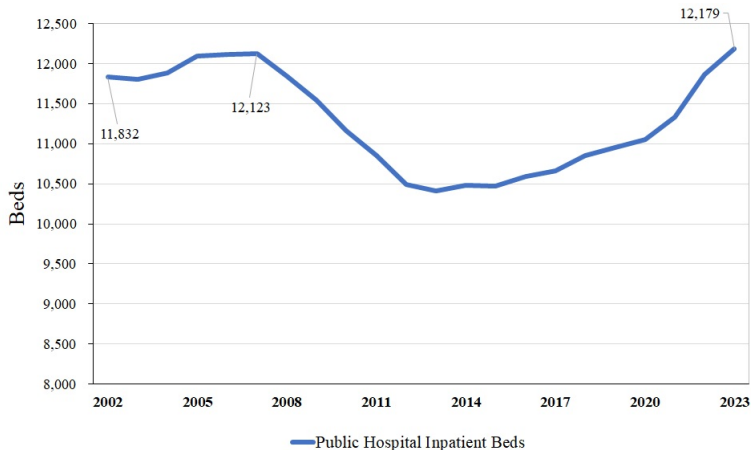
# Hospital Bed Capacity Plans





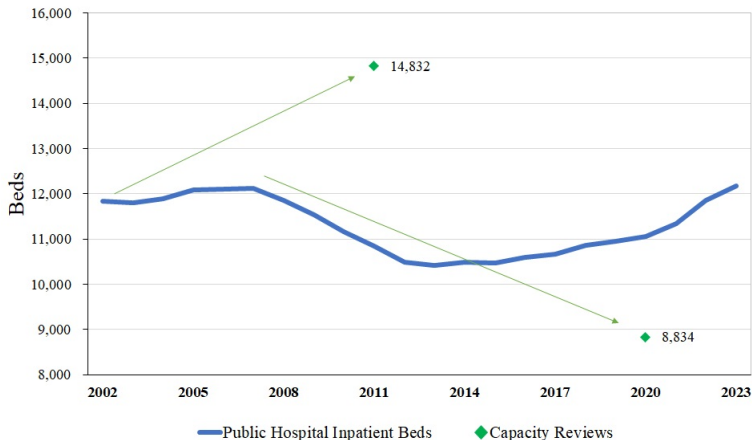
- Source: *"Acute hospital bed capacity review: a preferred health system in Ireland to 2020"* - **published 7th September 2007**
- Hospital capacity challenges remain the same

# Public Hospital Inpatient Bed Trends



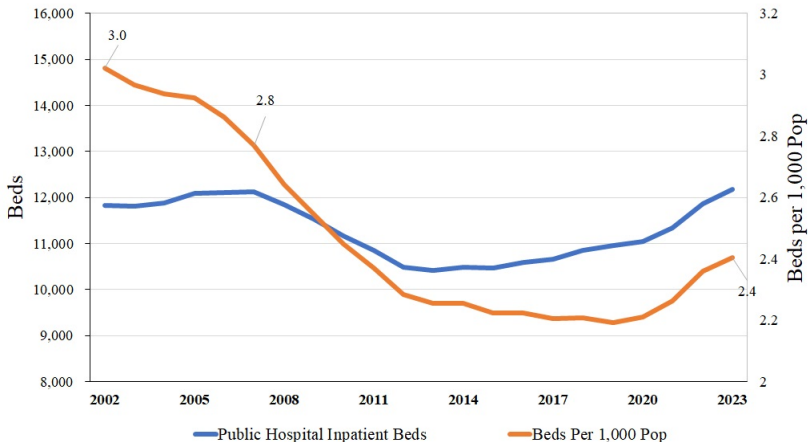
- Large reductions in bed capacity during recession
- Increases in bed capacity in recent years

# Public Hospital Inpatient Bed Trends



- 2002 Bed Capacity Review estimated need for 3,000 *more* beds by 2011
- 2007 Review '*preferred system*' would require 3,000 *fewer* beds by 2020

# Public Hospital Inpatient Bed Trends



- Meanwhile the Irish population grew by >30%. Beds per capita reduced

## Reality

- *OECD Economic Survey of Ireland* highlighted
  - o low levels of capital investment in health infrastructure
  - o low numbers of hospital beds
  - o occupancy rates above international safety standards
- Long waiting times, elective cancellations, trolleys, ED wait times

## Implications

- High mortality, poor in-hospital outcomes, staff welfare risks (Keegan, 2020; Madsen et al., 2014; Bosque-Mercader & Siciliani, 2022)

## Research Question

- Estimate public hospital inpatient bed requirements in 2023

## Projection model for health and social care demand & expenditure

- Funded through Research Programme in Healthcare Reform agreed between Department of Health and ESRI
- Aims to provide evidence for medium-term planning
- Develops baseline utilisation by age/sex for acute & non-acute services
- Projects demand in the future using 4 key assumptions
  - o population growth (fertility, migration\*, mortality)
  - o change in population age structure
  - o healthy ageing (life expectancy and health)
  - o **Other:** unmet demand, substitution, efficiency
- Flexibility to transform demand projections into capacity and workforce projections.

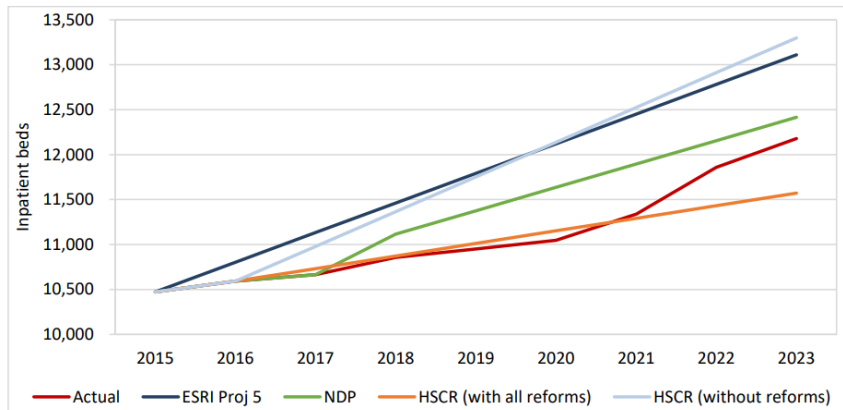
\*Hippocrates links with NiGEM & COSMO macroeconomic models



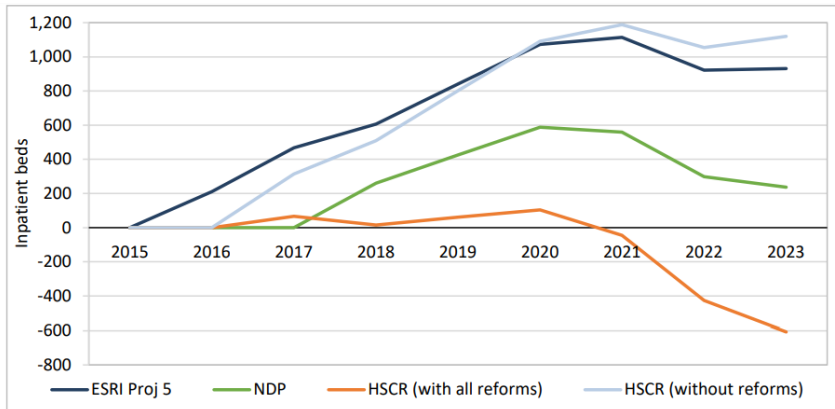
## Sources

- ESRI's *"How many beds? Capacity implications of hospital care demand projections in the Irish hospital system, 2015-2030"* (Keegan et al., 2018)
  - o Hippocrates projections across 6 scenarios using 2015 activity
  - o Scenario presented assumes convergence to 85% occupancy
- 2018-2031 Health Service Capacity Review (HSCR)
  - o Projection *with & without* reforms on improving health/wellbeing, chronic illness management, patient flow (85% occupancy)
- National Development Plan 2018-2027
  - o "Midpoint" between HSCR *with & without* reforms scenarios

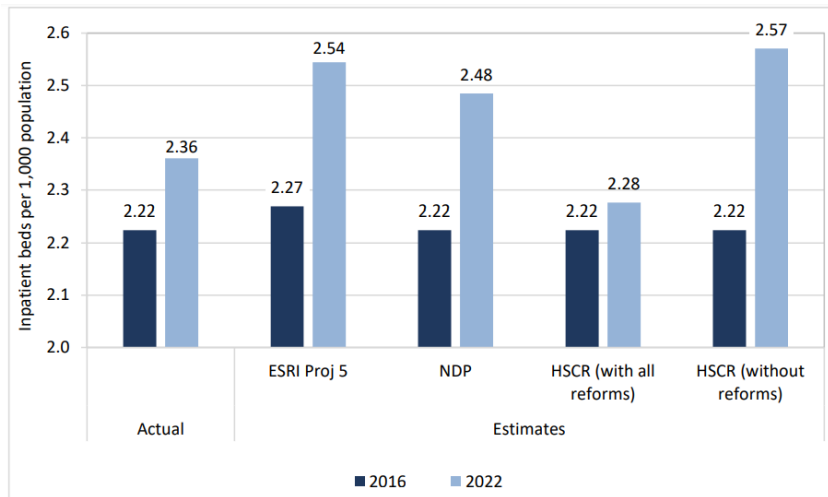
# Results: Inpatient Bed Projections



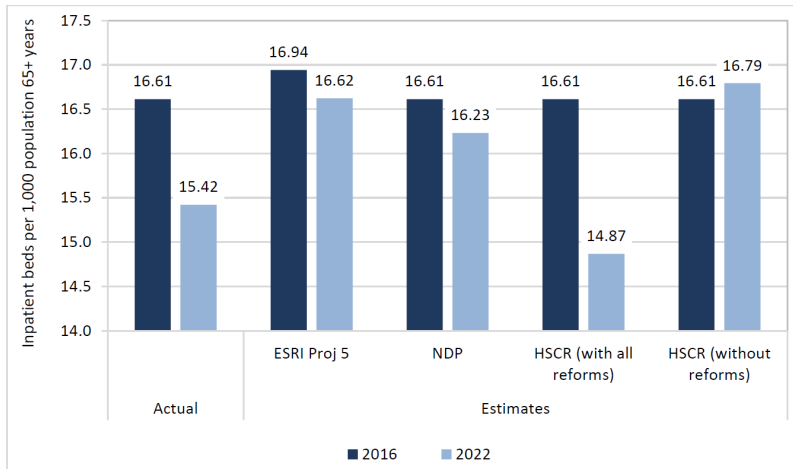
# Results: Inpatient Bed Deficits



# Results: Inpatient Beds per 1,000 pop



# Results: Inpatient Beds per 1,000 pop (65+)



## Results must be considered in the context of infrastructure, workforce (clinical and non-clinical), and overheads

- **Demographics:**
  - o 300+ additional beds required per annum
  - o 2% population growth equals 30% in 14 years
- **Workforce:** Hippocrates model used to examine workforce requirements in public hospitals
  - o Workforce requirements driven by underlying projected demand [function of growing/ageing population]
  - o Projections: 90-120 additional consultants per annum
- **Capital costs** of public hospital inpatient bed >€375,000
- Eventually the marginal additional bed requirements equate to additional wards (and hospitals?)

## Transferring care into community

- Sláintecare recommends for care provision in the least complex settings
- Social care reduces delayed transfers of care (Walsh et al., 2021)
- Chronic disease management, ICPOP/ECCs, better GP access to diagnostics reduce hospital use

## Caution required

- Literature questions quick substitution away from hospital care, especially without **extensive** investment in community care
- Targets reflect overly optimistic assumptions
- Poor **Health Information Systems** further affect patient care pathways
- **Reality:** Strain on both hospital and non-hospital sectors