

Workshop 1: Facilities market concentration and remedies

9TH APRIL 2019

Agenda

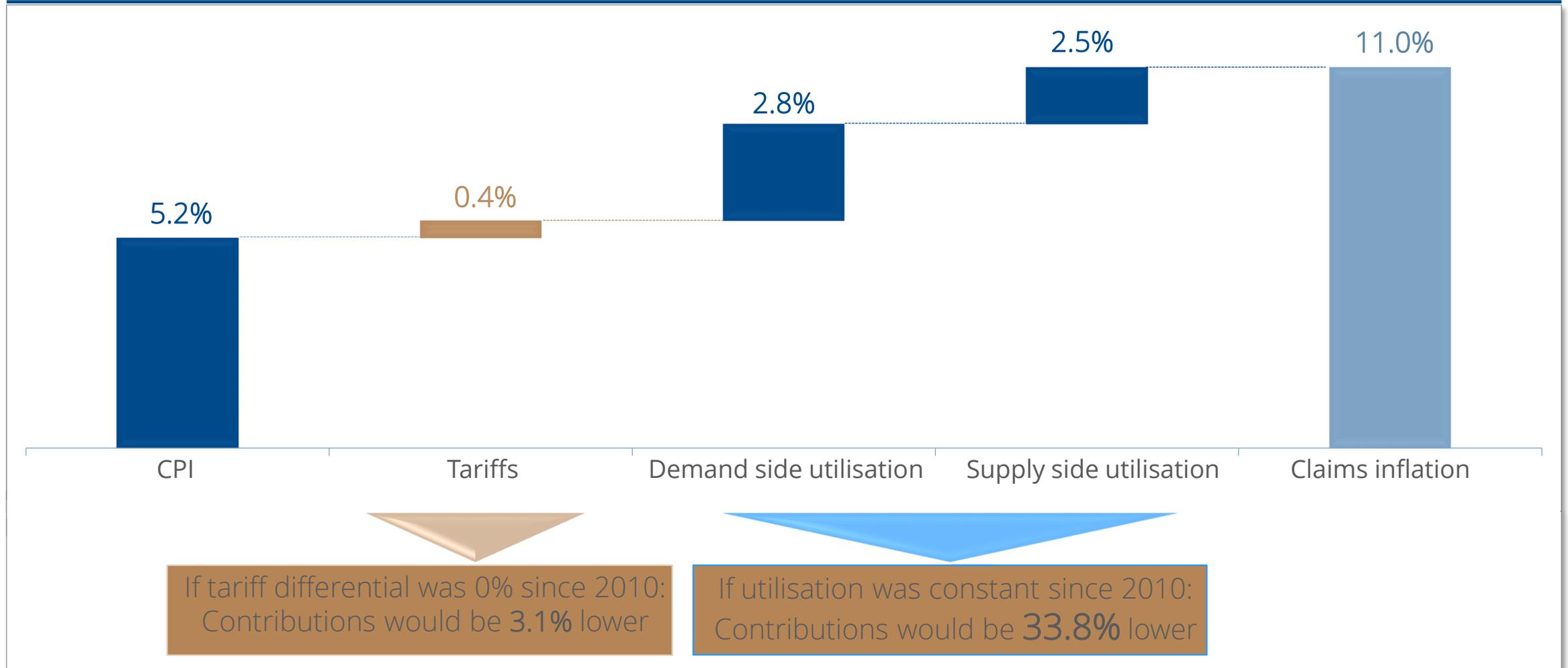


1. DHMS overall experience
2. Roemer's Law
3. DHMS experience when hospital beds increase
4. Co-ordinated licensing recommendations
5. Network principles
6. Concluding remarks

DHMS Experience 2010-2018

Increasing healthcare claims utilisation is the main driver

Average annualised inflation rates (2010 – 2018)



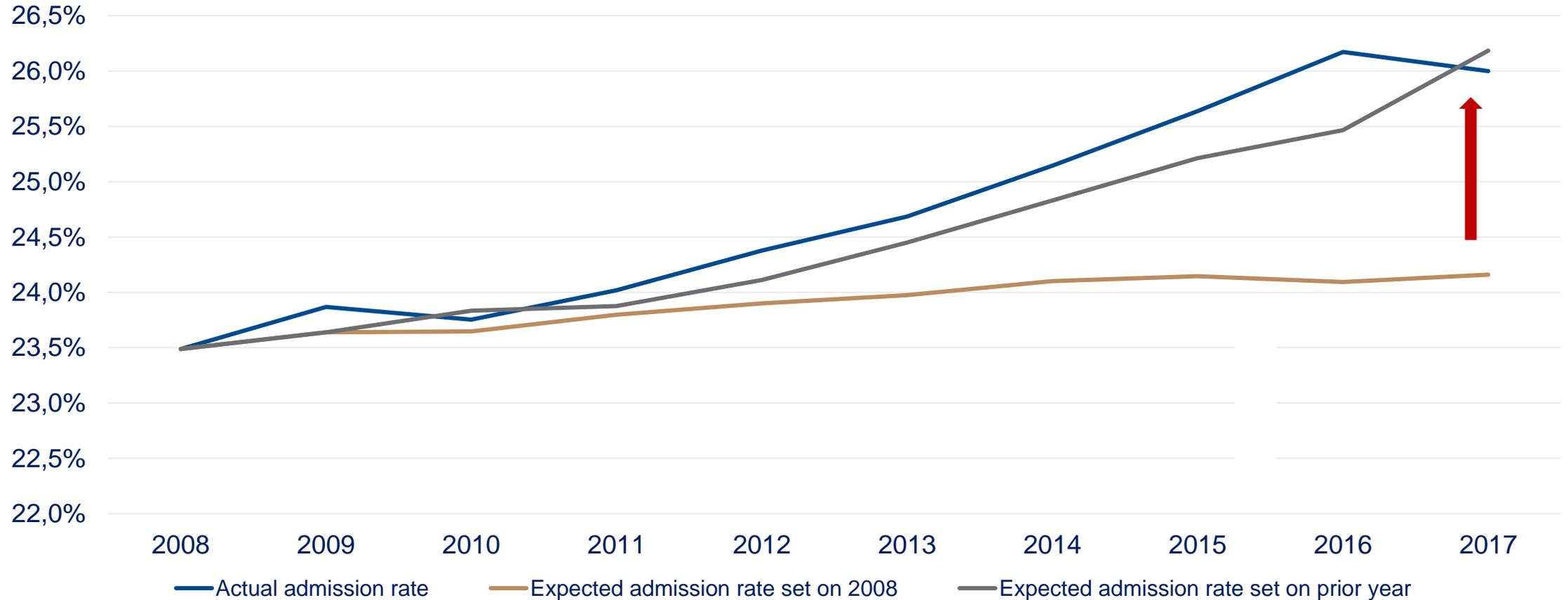
Note: Updated with 2018 data

DHMS Experience

Hospital admission rate over time



Admission Rate



- Actual hospital admission rates progressively exceed expected admission rates
- The “expected” figures indicate what the admission rate should have been, taking into account changes in plan mix, age, gender, chronic status and tariff structures

Roemer's law: “..in an insured population, a hospital bed built is a filled bed...” cited extensively



Bed Availability and Hospital Utilization: Estimates of the “Roemer Effect”

Paul B. Ginsburg and Daniel M. Koretz

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This article has been [cited by](#) other articles in PMC.

Abstract

Go to:

“Roemer’s Law,” the notion that an increase in the number of hospital beds per capita increases hospital utilization rates, is an important underpinning of efforts to control hospital construction through health planning. Attempts to measure the magnitude of the effect have yielded results ranging from no effect to a one-to-one relationship. The present study, by restricting its inquiry to Medicare patients and using a unique data base, avoids many of the shortcomings of earlier studies. This study concludes that an increase of 10 percent in hospital beds per capita would increase hospital utilization by Medicare enrollees by about 4 percent.

Factor decomposition of inter-prefectural health care expenditure disparities in Japan

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Policy Research Institute, Ministry of Finance, Japan

August 2014

The Association of Hospital Cost-Inefficiency With Certificate-of-Need Regulation

Michael D. Rosko, Ryan L. Mutter

First Published January 22, 2014 | Research Article | <https://doi.org/10.1177/1077558713519167>

Article Information

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Abstract

Certificate-of-need (CON) regulations can promote hospital efficiency by reducing duplication of services; however, there are practical and theoretical reasons why they might be ineffective, and the empirical evidence generated has been mixed. This study compares the cost-inefficiency of urban, acute care hospitals in states with CON regulations against those in states without CON requirements. Stochastic frontier analysis was performed on pooled time-series, cross-sectional data from 1,552 hospitals in 37 states for the period 2005 to 2009 with controls for variations in hospital product mix, quality, and patient burden of illness. Average estimated cost-inefficiency was less in CON states (8.10%) than in non-CON states (12.46%). Results suggest that CON regulation may be an effective policy instrument in an era of a new medical arms race. However, broader analysis of the effects of CON regulation on efficiency, quality, access, prices, and innovation is needed before a policy recommendation can be made.

The effect of hospital bed reduction on the use of beds: A comparative study of 10 European countries

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Capacity and Utilization in Health Care: The Effect of Empty Beds on Neonatal Intensive Care Admission

Seth Freedman

AMERICAN ECONOMIC JOURNAL: ECONOMIC POLICY

VOL. 8, NO. 2, MAY 2016

(pp. 154-85)

Associations among hospital capacity, utilization, and mortality of US Medicare beneficiaries, controlling for sociodemographic factors.

[E S Fisher](#), [J E Wennberg](#), [T A Stukel](#), [J S Skinner](#), [S M Sharp](#), [J L Freeman](#), and [A M Gittelsohn](#)

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Do More Hospital Beds Lead to Higher Hospitalization Rates? A Spatial Examination of Roemer’s Law

Paul L. Delamater , Joseph P. Messina, Sue C. Grady, Vince WinklerPrins, Ashton M. Shortridge

Published: February 13, 2013 • <https://doi.org/10.1371/journal.pone.0054900>

US and UK trends in hospital bed supply and utilisation

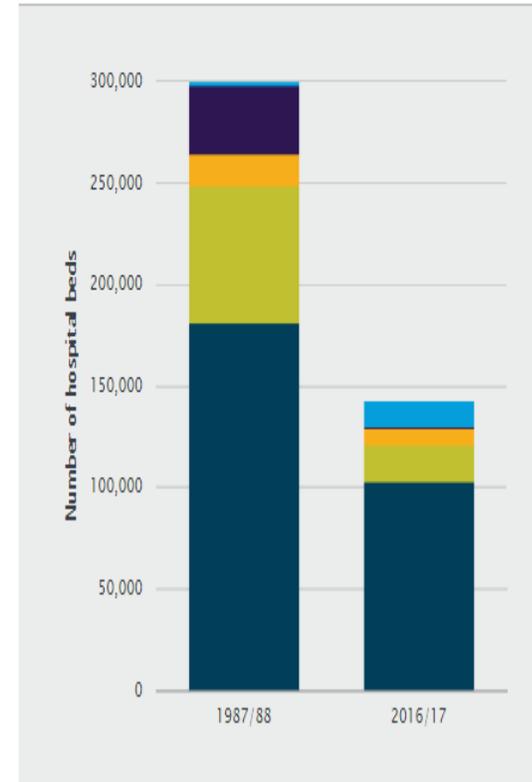


TABLE 15.2 Acute Care Hospital Bed Supply and Utilization, USA, 1970–2013

Facilities	1970	1980	1990	2000	2010	2013
Beds per 1,000 population	4.3	4.5	3.7	2.9	2.6	2.5
Discharges per 1,000 population	NA	175	125	113	116	NA
Average length of stay	NA	7.6	7.2	5.8	5.4	5.4
Total days of care per 1,000 population	NA	1303	819	558	554	NA
Percent occupancy	77	75	67	64	65	63
Outpatient surgeries % of total surgeries	NA	16.3	50.5	62.7	63.6	65.6

Note: Includes Acute care community hospitals; does not include federal hospitals. NA, data not available.
 Figures rounded
 Source: National Center for Health Statistics. Health, United States, 2015, Tables 89, 90, 91, 92, 93. Available at: <https://www.cdc.gov/nchs/data/abus/abus15.pdf>.

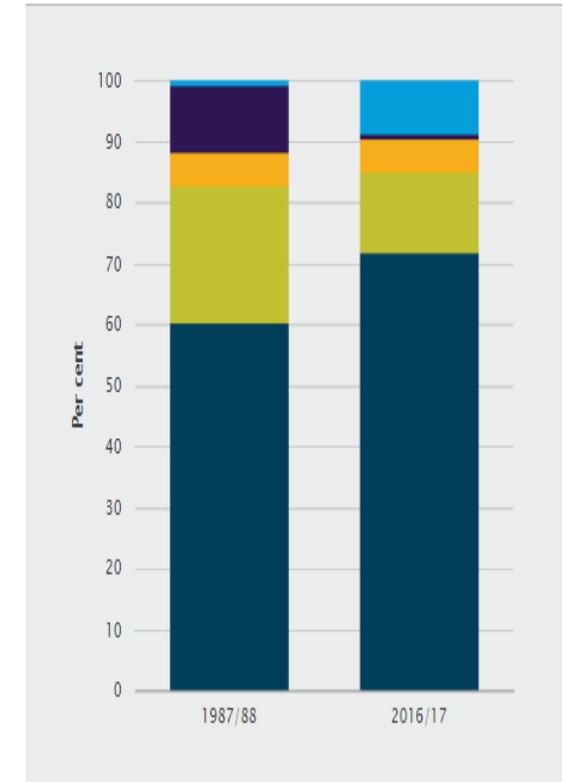
Figure 2: Different categories of beds as numbers in 1987/8 and 2016/17



Legend for Figure 2:
 ■ General and acute ■ Mental illness ■ Maternity
 ■ Learning disability ■ Day only

Source: NHS England 2017a

Figure 3: Different categories of beds as proportion of total in 1987/8 and 2016/17



Legend for Figure 3:
 ■ General and acute ■ Mental illness ■ Maternity
 ■ Learning disability ■ Day only

Source: NHS England 2017a

European trends in hospital bed supply and utilisation

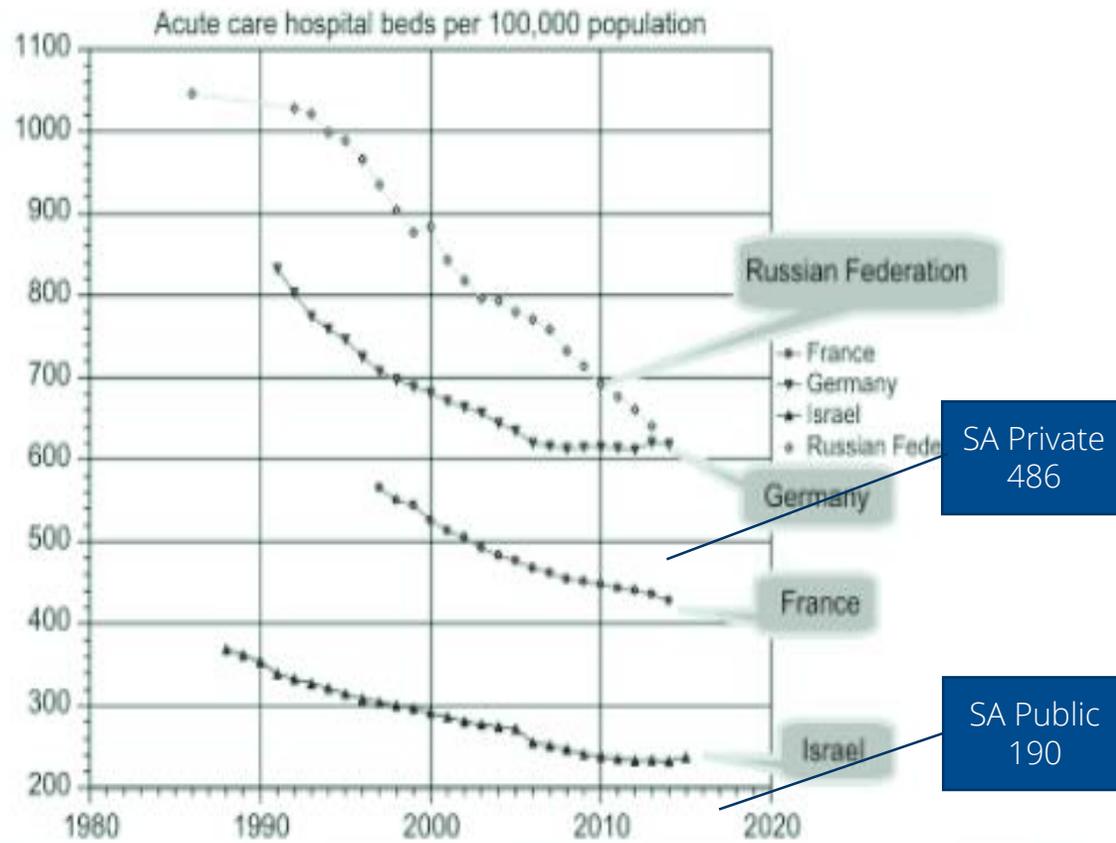
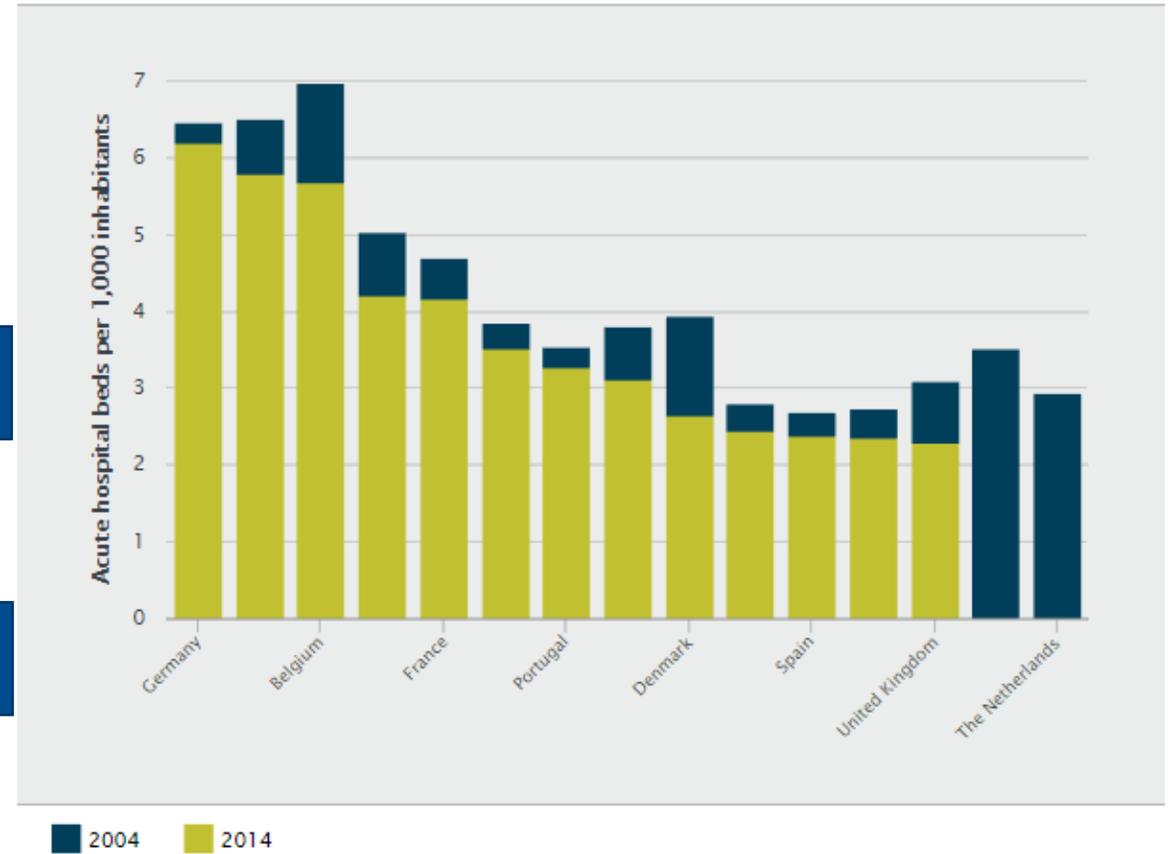


FIGURE 15.4 Acute care hospital beds per 100,000 population, selected countries, WHO European Region, 1985–2014. *Source: World Health Organization, European Region, Health for All Database, 2016. Available at: <http://data.euro.who.int/hfad/> (19 April 2017).*

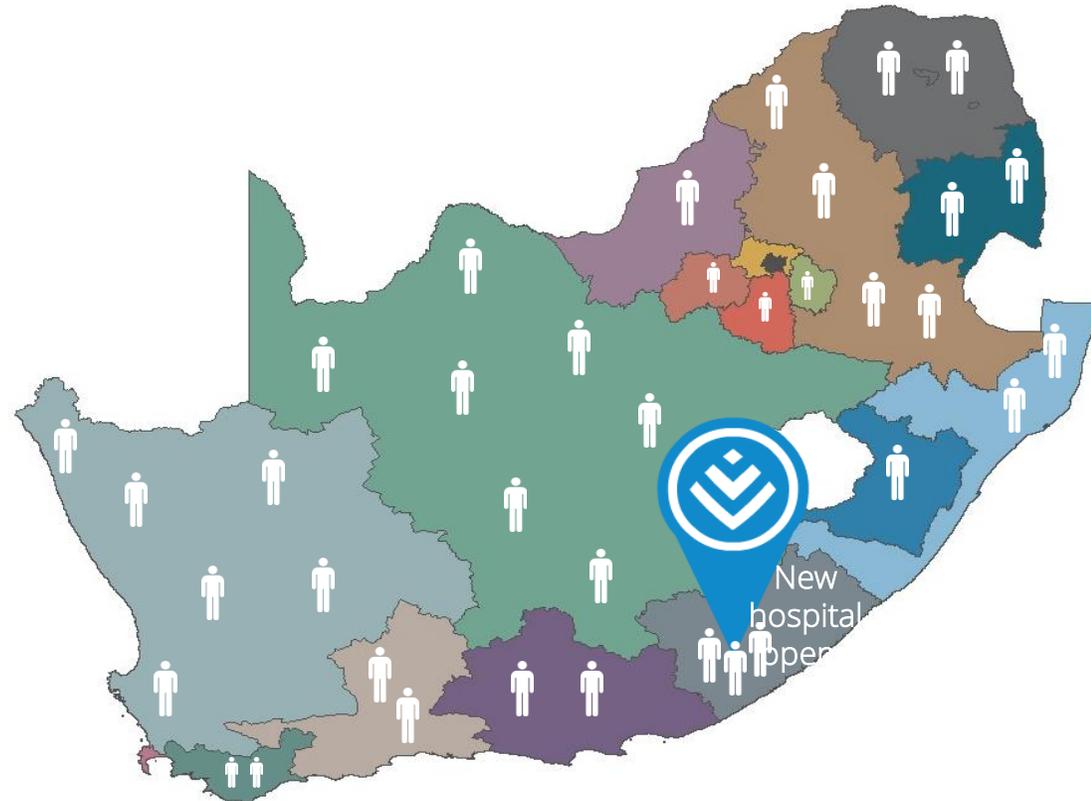
Figure 5: Number of acute hospital beds per 1,000 inhabitants in EU-15 countries, 2004 and 2014



Data source: OECD 2017

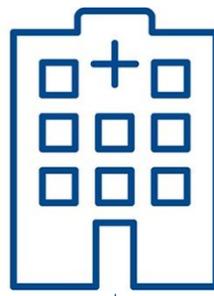
Note: 2014 data is not available for Italy and the Netherlands.

Quantifying the Financial Impact of New Hospitals



To understand how new hospitals have contributed to the residual cost experience, we need to look at the change in bed day utilization within the tertiary referral regions, then compare regions with new hospitals opening with regions that do not have new hospitals opening

Methodology



New Hospital Opens



12 months prior

12 months post



Members in Referral Region of the new hospital

VS.



Members outside Referral Region of the new hospital

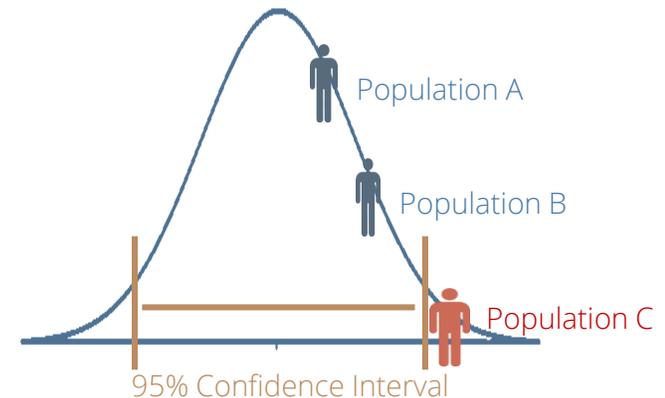
Risk Adjustment

Comparisons Metric
Bed days

Demographic profile considered:
Plan, age, gender and chronic profile

Random Forest Algorithm

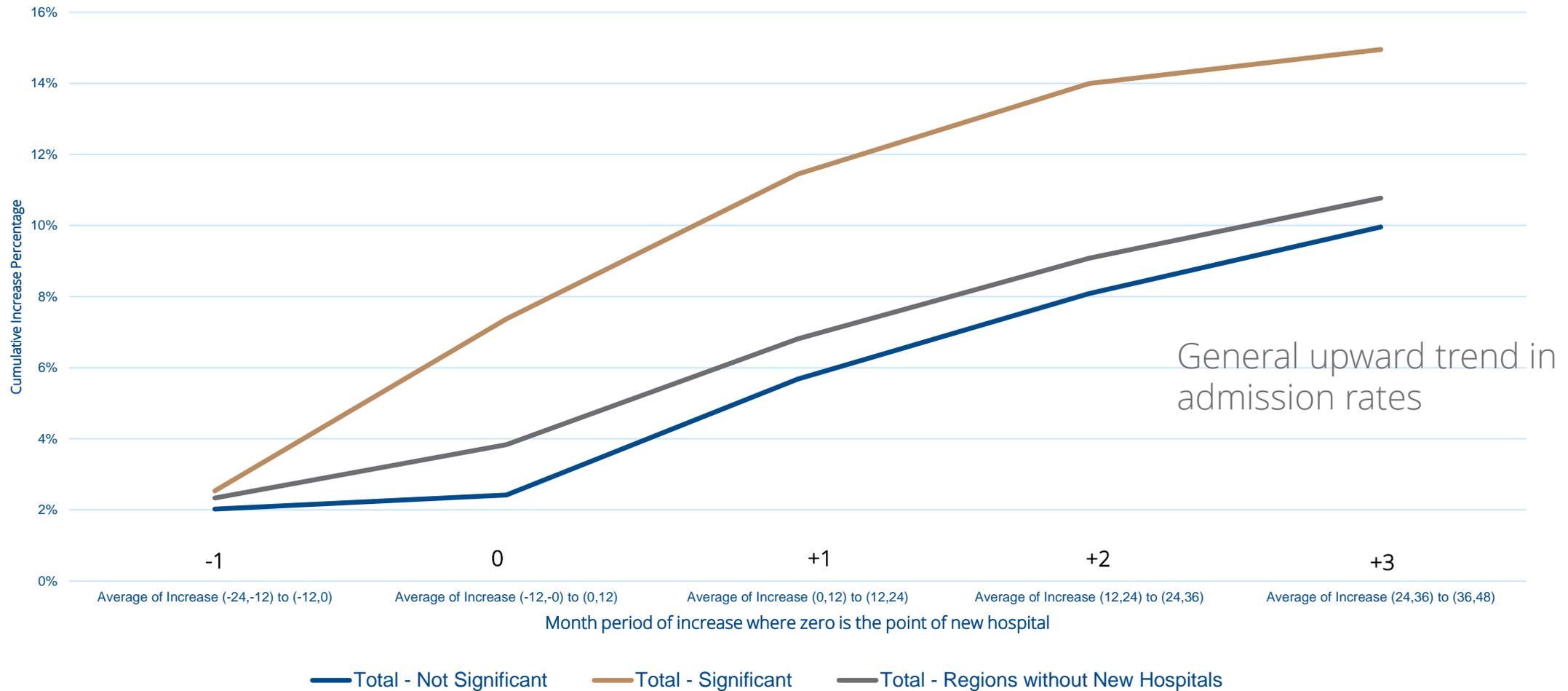
Compare benchmark distribution increase to actual increase: If the utilization change is statistically significantly different (95% CI), attribute excess bed day change over and above mean change of the comparator population as the financial impact of the new facility opening



Results of regional analysis



Cumulative increase in bed days per 1000 lives

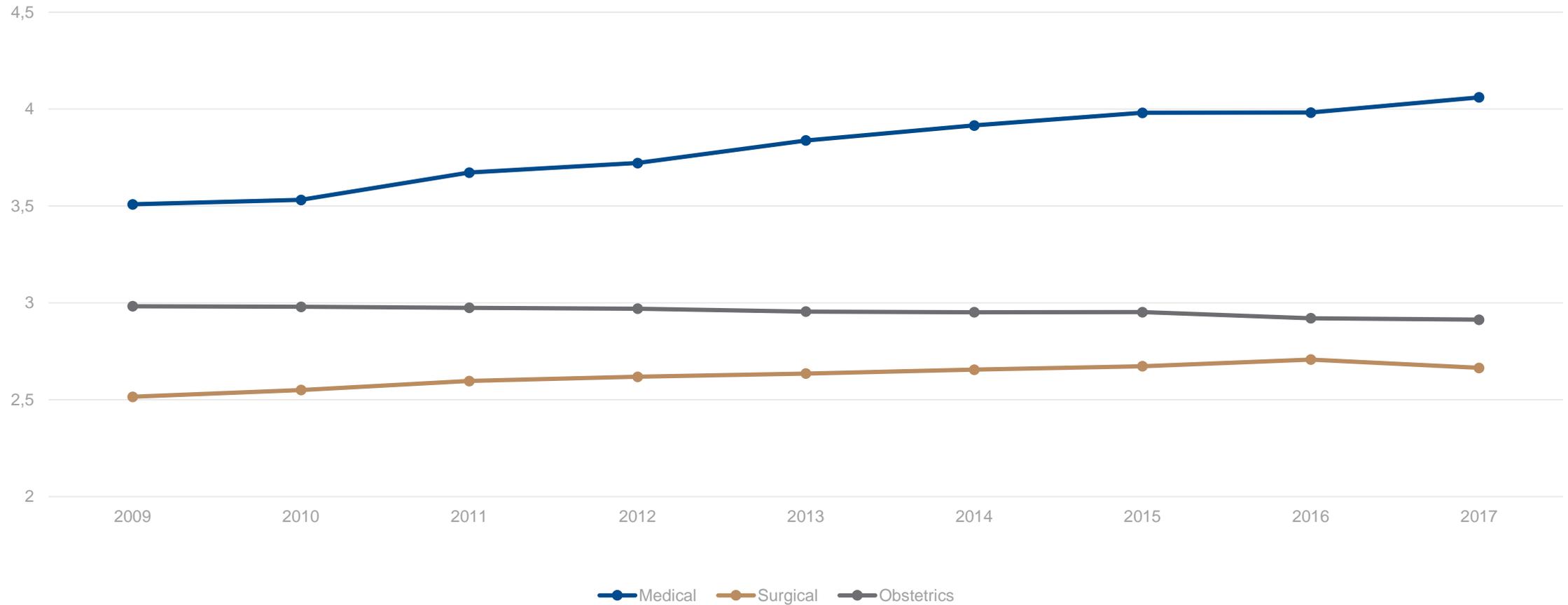


Utilisation levels in tertiary referral regions with new facilities continue to increase at higher rates compared to other regions after the first year of the facility opening

Length of stay trends (medical and surgical excl neo-natal)



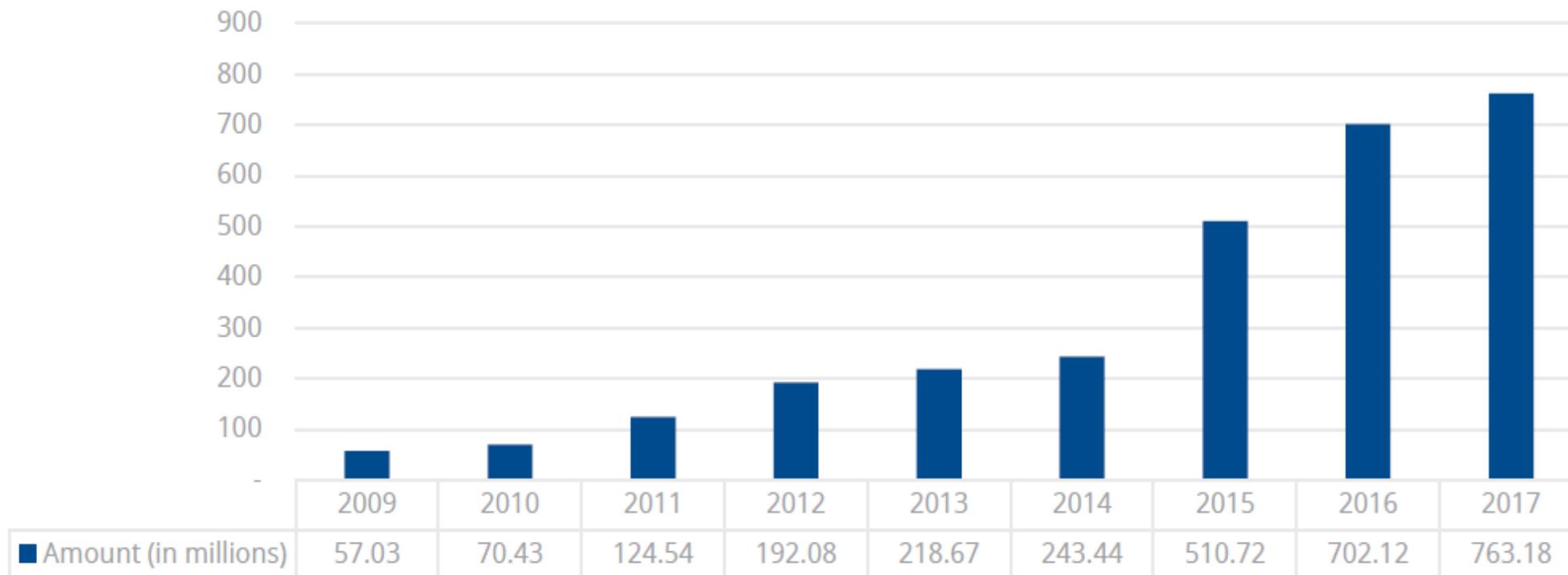
Average length of stay



Financial impact

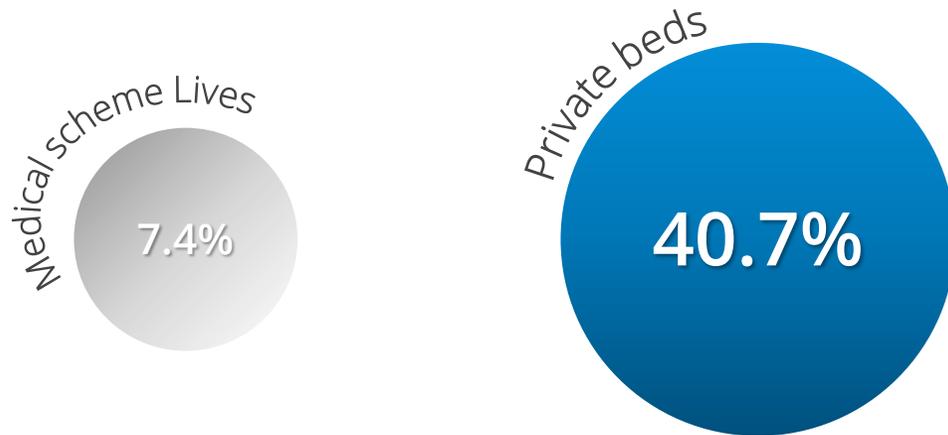
More hospital beds lead to higher admission rates and longer length of stay in the whole region. Over a 10 year period (2008 to 2018), the cumulative financial impact was an additional R 3.3 billion. **There is no evidence that this additional expenditure improved access to care or quality of care**

Amount (in millions)

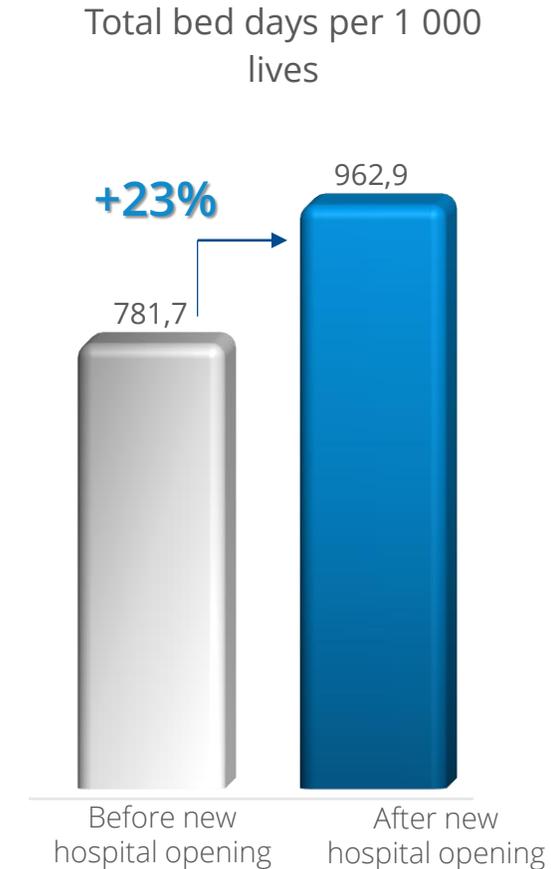


Another perspective of DHMS experience (2010-2016)

Growth of private hospital beds has outstripped the growth of the insured population.



Case study: KZN hospital opened September 2015



Co-ordinated licensing



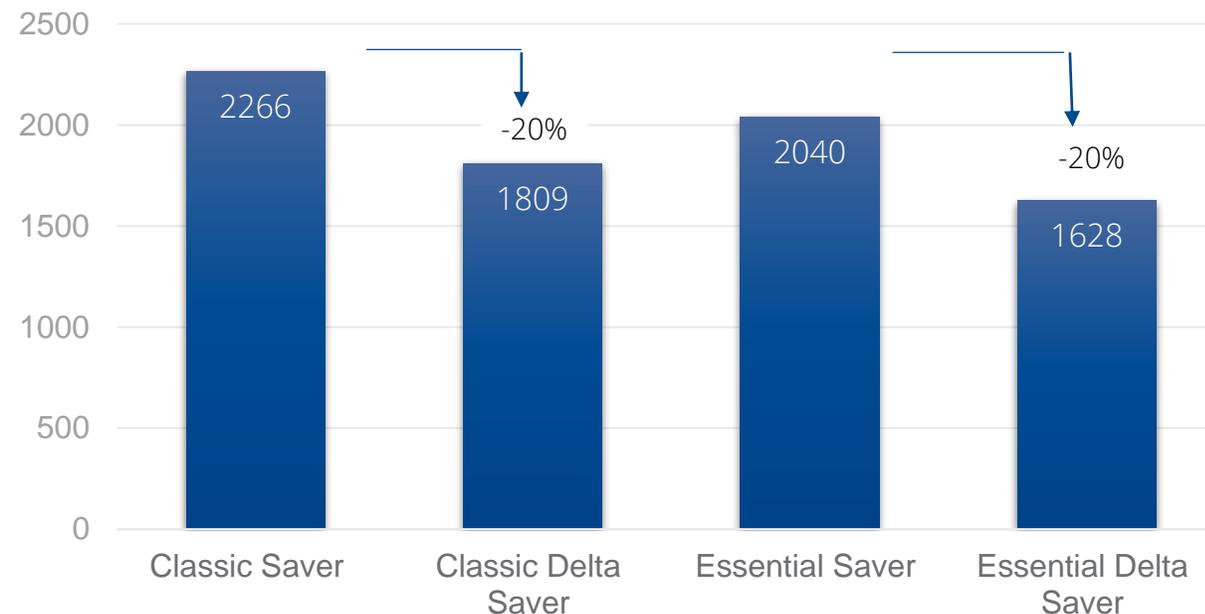
- Provisional HMI report recommends a centralised licensing framework informed by Certificate of Need criteria; and supported by prescribed reporting from the licenced establishments.
 - DH supports the proposed principles for **centralised licensing** and an approach based on a **scientifically sound methodology** and that is **implemented consistently** across the country.
 - Number of hospital beds **per risk adjusted capita** in a region more important than issues of market concentration or dominance.
- Additional factors to strengthen the application of a centralised licensing framework:
 - Consultative process
 - Accurate regional population data for **risk-adjusted needs analysis**
 - **Accurate assessment** of available healthcare supply **per region**
 - Review of PMB package to include more **value-based healthcare** at primary level
 - Mandatory reporting on **health outcomes**
 - Regulatory support for **alternative reimbursement mechanisms**
 - Ongoing **reporting and compliance** monitoring (OHSC)

Designated Service Provider (DSP) networks



- Tariff negotiation for hospitals, facilities and pathology should continue to be done through bilateral negotiations
 - Allows for competitive forces and contracting for value (quality measurements)
- Networks need to be structured to arrive at the correct balance of member access, healthcare quality and cost-effectiveness.
- Example: Network savings passed on to members for **Delta** options

Member contribution



Network principles – selected recommendations



1. **Transparency** of network agreements will be promoted by sharing information that includes pricing information
 - There is a risk of unintended consequences if pricing information is shared – more likely to increase prices than reduce them, and to undermine competition, with adverse consequences for members.
2. Networks constructed on an **open tender** basis
 - Useful tool - providers willing to commit to requirements – quality, cost and access
 - But there needs to be channelling of volume consistent with above principles for value to members
 - Leads to a more inclusive approach but needs to be balanced with associated costs
3. Amendments to **HPCSA rules**
 - Strongly supported. In order for network arrangements to reduce fragmentation of care, the HPCSA rules must be amended to permit doctor employment and global fees.
4. Facility and pathology DSP arrangements **limited to two years**, and subject to open tender processes.
 - Not clear that this constraint would benefit schemes or members
 - Removes flexibility and competitiveness from bilateral negotiations
5. Agree that **ARM expenditure** should be expanded (DHMS ARM spend in 2017 was 14% of total)

DH supports the promotion of alternative models of care

PARAGRAPH 30 OF PROVISIONAL REPORT



- Multidisciplinary team-based care
- Investing in models of care where appropriate providers provide primary care
- Re-affirming/strengthening the care co-ordinator role of GPs
- Investing into innovative delivery systems
- Employment of doctors in specific value-based quality-assured managed care service provision
- Designing alternative reimbursement models that shift more of the risk of excess utilisation onto providers
- Essential that HPCSA rules change to support ARMs

Subsequent experience



- Hospital expenditure for DHMS (paid claims)

	2015	2016	2017	2018	Change 2015-2018
Other	2.7%	2.7%	2.4%	2.4%	-0.4%
NHN	13.3%	14.3%	14.7%	15.4%	2.1%
Life, Netcare, Mediclinic	84.0%	83.0%	82.9%	82.2%	-1.7%

- Expansion of ARMs hampered by HPCSA rules
- DSPs / Networks play important role in countervailing power and promoting quality of care through contracting requirements
- Approaches for addressing concentration (in addition to licensing regime):
 - Addressing types of beds - reductions in acuity follows international trends
 - Facilitating ARMs that incorporate practitioners – does not necessarily mean employment
 - PMB at cost provisions create perverse incentives for practitioners to admit
 - Expand access to cover (PMB review and low cost cover mechanism)
 - Contracting to provide/enhance public sector capacity
- DH supports use of registered beds for analysis

Concluding observations



- Clear evidence of increasing effects of supply side factors (in addition to demand side factors)
- Non-proportional remedial measures can have unintended consequences
- Scientific approach to co-ordinated licensing required
- Monitoring outcomes vital for quality care
- Network approach appropriate for managing quality and driving cost efficiency
- Funders should be able to engage in bilateral arrangements with corporate healthcare providers
- Enforced open tenders and price transparency more likely to undermine competition and increase prices than to benefit consumers