

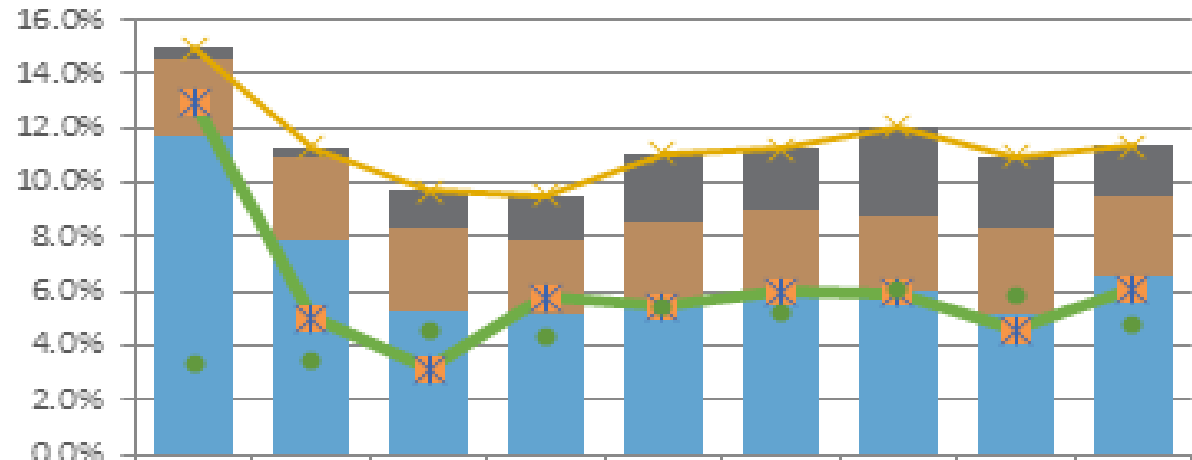


QUANTIFYING RISK, ENABLING OPPORTUNITY

Financial Impact of New Hospitals on Medical Schemes

Sarika Besesar
4 May 2017

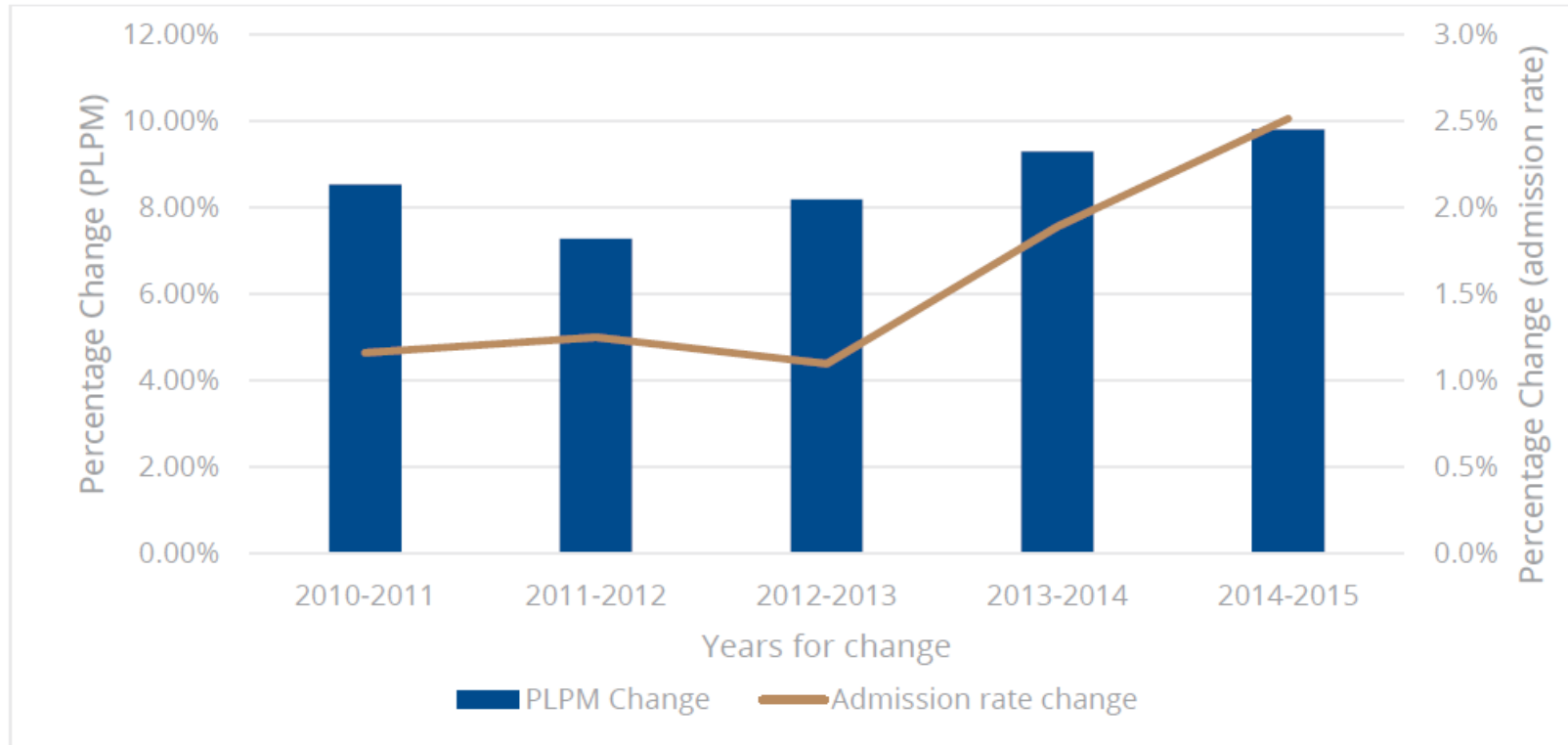
Plan Mix Adj. Claims Inflation 2008 - 2016



	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	Average '08-'16
Supply side impact	0.4%	0.4%	1.4%	1.7%	2.5%	2.3%	3.3%	2.7%	1.8%
Demand side impact	2.9%	3.1%	3.1%	2.7%	2.9%	3.0%	2.7%	3.1%	2.9%
Tariff increase	11.7%	7.9%	5.2%	5.2%	5.7%	6.0%	6.0%	5.2%	6.6%
CPI at Sep of prior year	13.0%	5.0%	3.1%	5.8%	5.4%	6.0%	5.9%	4.6%	6.1%
Total plan mix adjusted increase	15.0%	11.3%	9.7%	9.5%	11.1%	11.2%	12.1%	11.0%	11.4%
Utilisation	3.3%	3.5%	4.5%	4.4%	5.4%	5.2%	6.0%	5.8%	4.8%

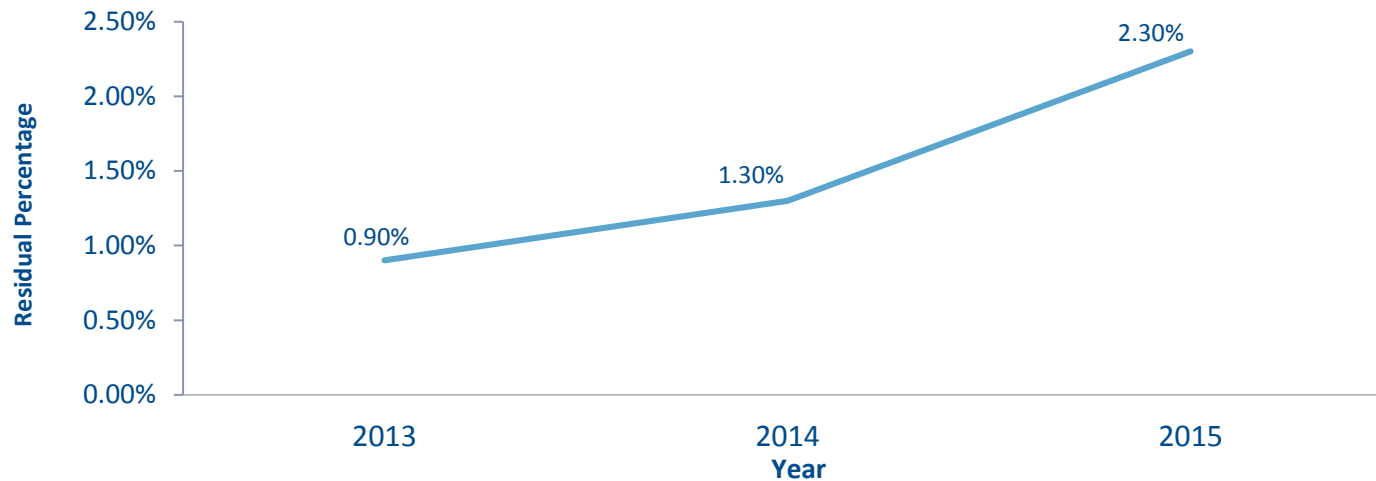
Supply side factors have increased considerably as a percentage of total claims inflation in recent years

Hospital claims and admission rates



Hospital utilisation has been one of the key drivers in the increase in claims inflation observed

Residual change in admission rate



After removing the demand side effects, there has been a considerable increase in hospital utilisation rates

Research Question

To quantify the financial impact of new private hospitals on medical schemes

Not a study aimed to identify if supply induced demand exists

Not a study aimed to quantify supply induced demand

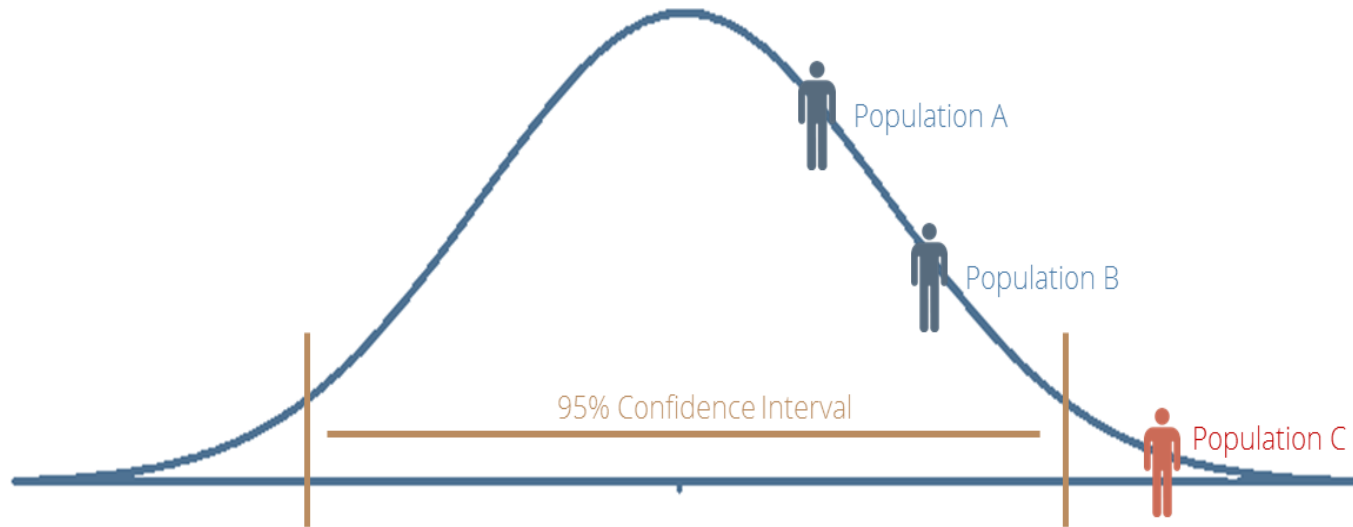
Methodology

Compared utilisation patterns prior and post a new facility in a region against a comparator population

Comparator population: region with no new facility, but same demographic profile

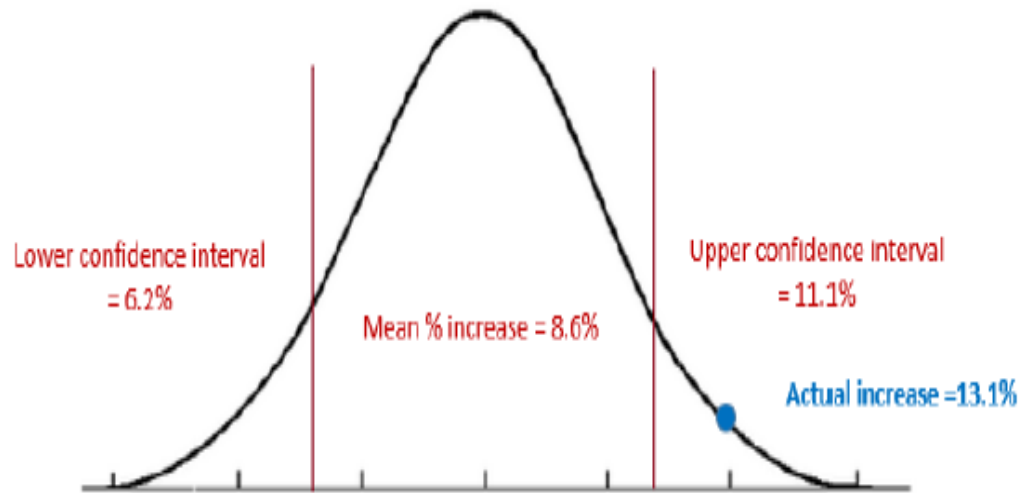
Comparator population randomly sampled several times to obtain a statistical distribution - bootstrapping

Methodology



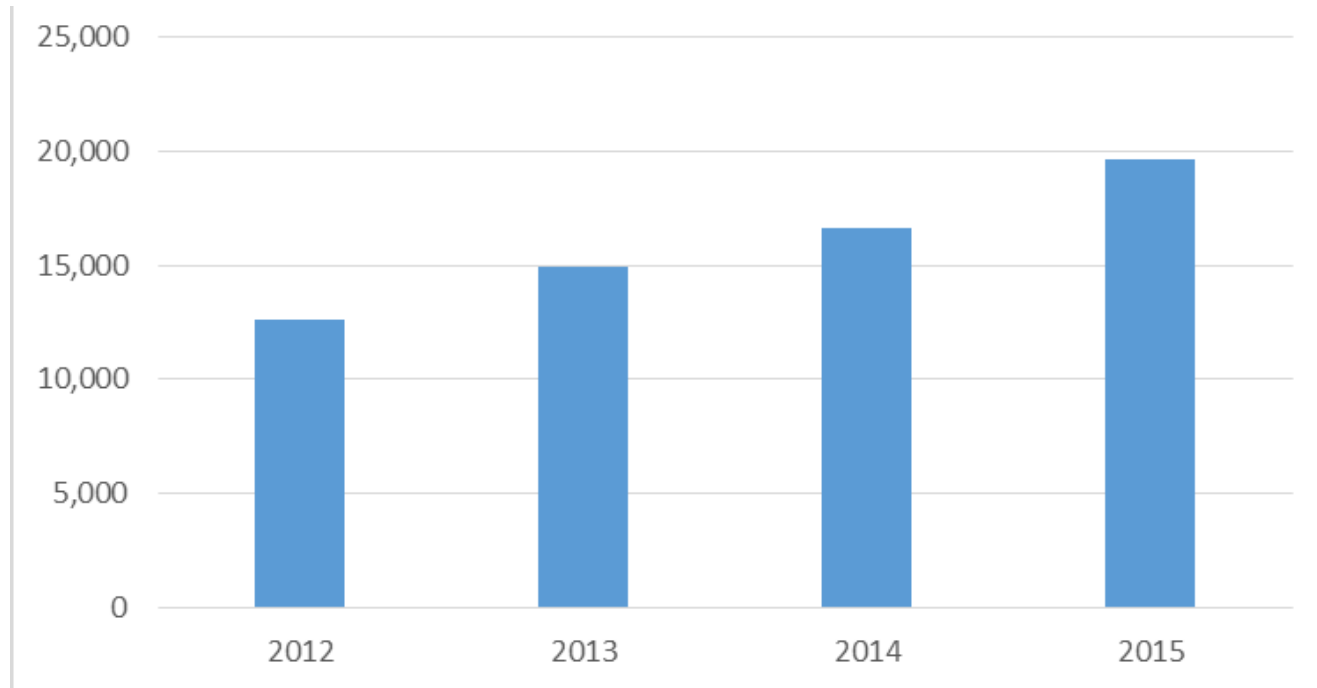
Central limit theorem: the distribution of the change in utilisation from random sampling will follow a normal distribution.
We can then assess if the change in utilisation in the new region is significantly different to the comparator population

Results: Example of a new hospital



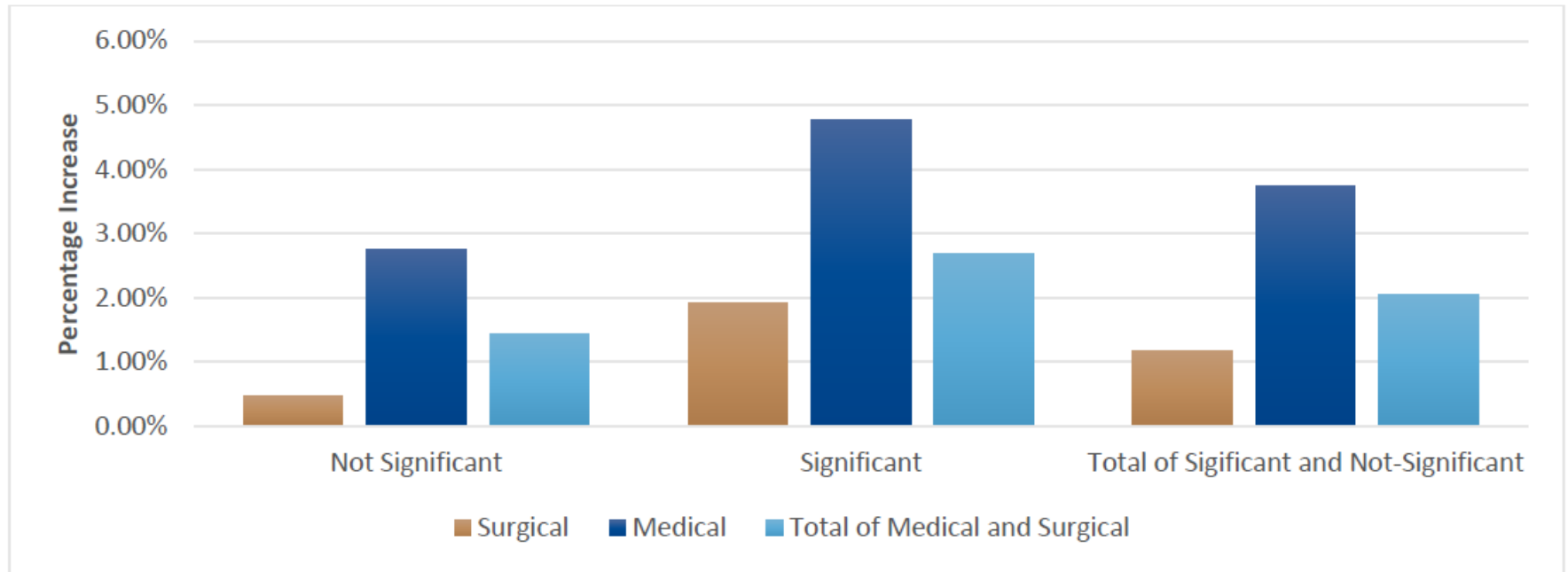
Hospital bed days increased by 13.1% from 734 to 831 bed days per 1000 lives in the region 12 months post the new facility opening
8,095 excess bed days were used in the region, equivalent to R54.13 million

Results: Example of a new hospital



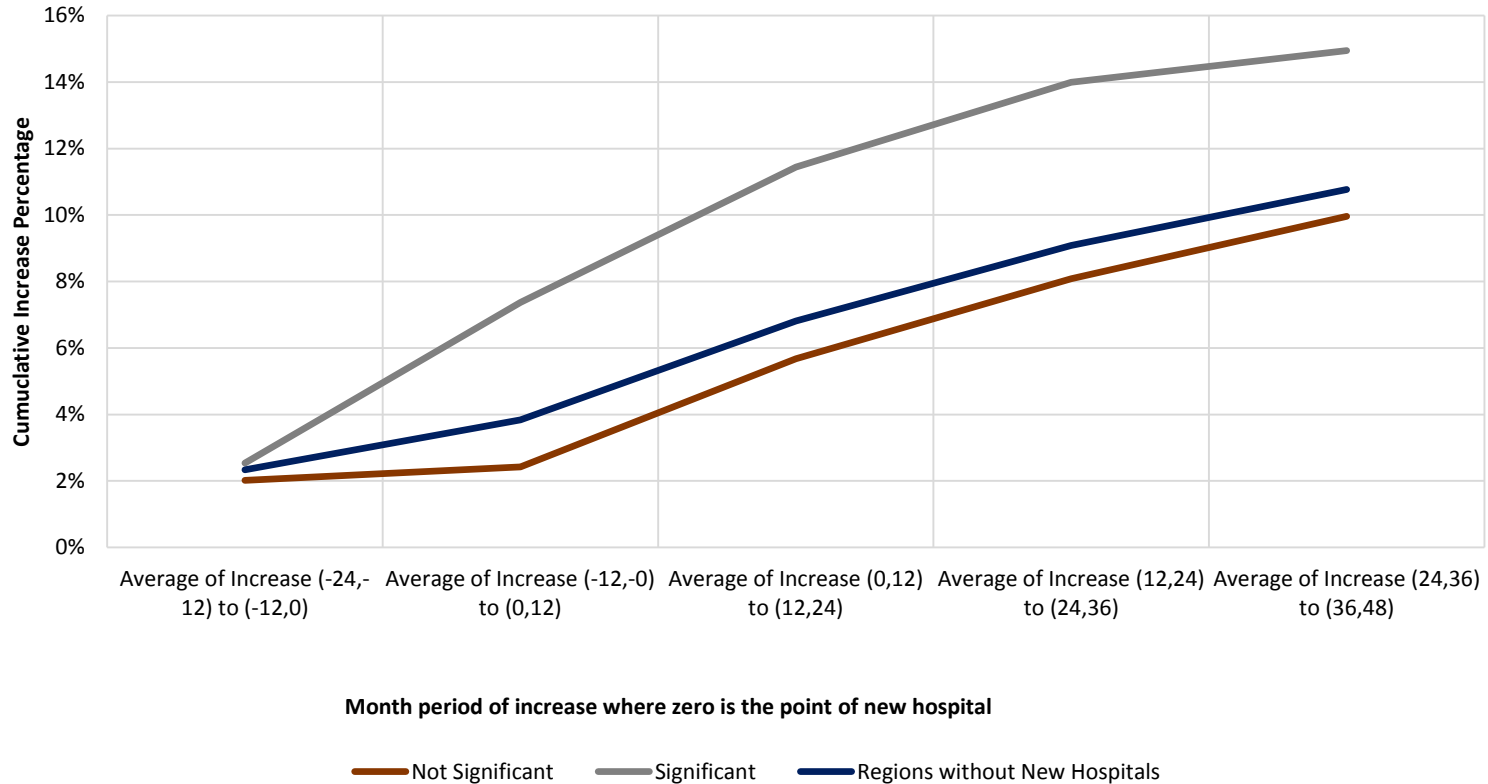
Increase in bed days at the facility increased significantly thereafter
Estimated that the cumulative excess cost was equivalent to R202million

Results: Increase in utilisation in regions with new facilities



12 out of the 18 regions with new facilities were found to have a statistically significant increase in utilisation, equivalent to R379million in extra claims
Increase in medical bed days higher than surgical bed days

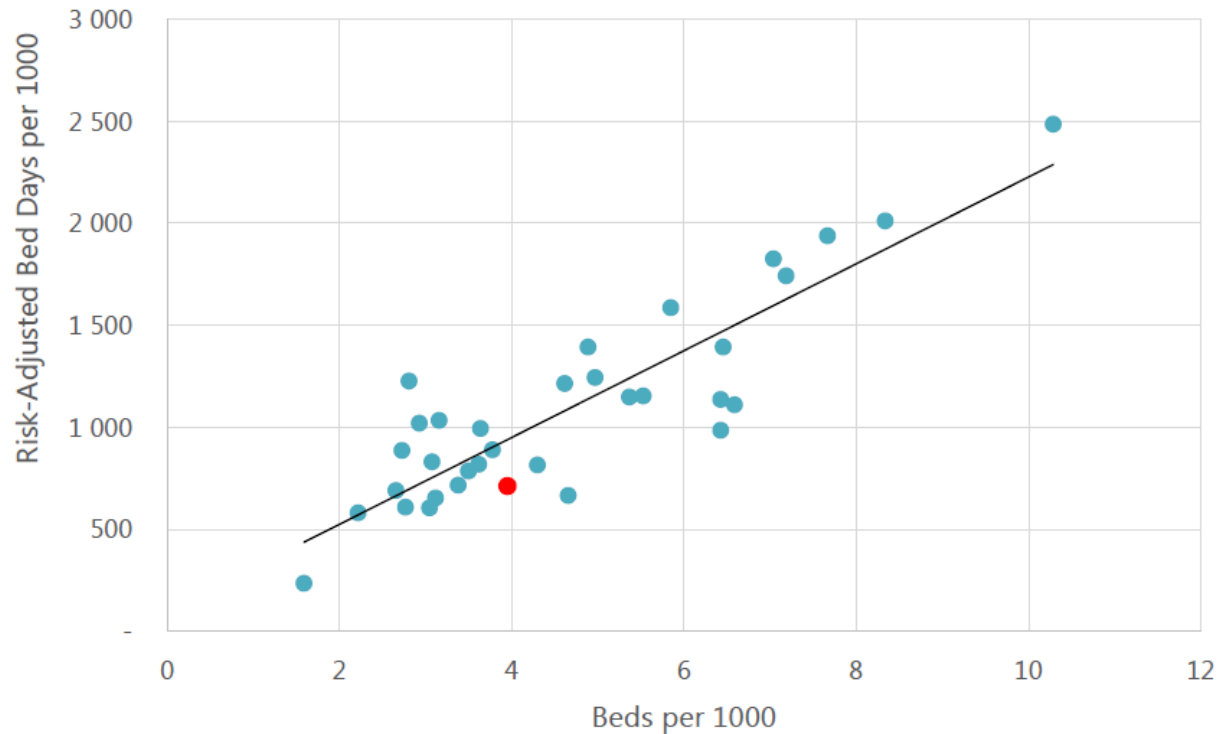
Results: Cumulative increase in total bed days per 1000 lives



The volumes of the new facility continue to grow for several years post opening.

This amounted to an additional R769 million in hospital claims

International correlation of hospital beds and utilisation



Source: Insight actuaries and consulting, International benchmarking of hospital utilisation

This correlation is observed internationally
Moving up this curve is threatening the sustainability of the industry

Conclusions and Recommendations

- This analysis showed an increase in utilisation after the introduction of new hospitals, over and above what can be explained by demographic factors
 - These increased utilisation were a result of increased admission rates, increased LOS, and an increase in medical (more discretionary) admissions
 - This trend is expected to continue as the occupancy rates for new hospitals reach optimal occupancy rates
 - Stakeholders need to work together to contain this healthcare inflation for the sustainability of our industry
 - Solutions should include:
 - Hospital licensing process should be more rigorous – impact on utilisation and the concomitant effect on the affordability of medical schemes should be considered
 - Hospital licensing process should be more transparent, with well defined criteria and needs analysis
 - Alternative reimbursement models to transfer risk to providers
 - Employment of doctors by private hospitals
 - Emphasis should be given to facilities that improve efficiencies – step down facilities, day surgery centres etc.
-